Pharmacists in Selected Provinces and Territories in Canada, 2008

Spending and Health Workforce

Canadian Institute for Health Information
Institut canadien d'information sur la santé

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CIHI's vision is to help improve Canada's health system and the well-being of Canadians by being a leading source of unbiased, credible and comparable information that will enable health leaders to make better-informed decisions.

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About the Canadian Institute for Health Information

The Canadian Institute for Health Information (CIHI) collects and analyzes information on health and health care in Canada and makes it publicly available. Canada's federal, provincial and territorial governments created CIHI as a not-for-profit, independent organization dedicated to forging a common approach to Canadian health information. CIHI's goal: to provide timely, accurate and comparable information. CIHI's data and reports inform health policies, support the effective delivery of health services and raise awareness among Canadians of the factors that contribute to good health.

For more information, visit our website at www.cihi.ca.

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Deputy Minister, Department of Health, New Brunswick

Acknowledgements

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We would like to express our appreciation to the regulatory authorities and national associations.

- Alberta College of Pharmacists
- Canadian Association of Chain Drug Stores
- Canadian Pharmacists Association
- Canadian Society of Hospital Pharmacists
- College of Pharmacists of British Columbia
- Government of the Northwest Territories
- Manitoba Pharmaceutical Association
- National Association of Pharmacy Regulatory Authorities
- New Brunswick Pharmaceutical Society
- Newfoundland and Labrador Pharmacy Board
- Nova Scotia College of Pharmacists
- Ontario College of Pharmacists
- Ordre des pharmaciens du Québec
- Prince Edward Island Pharmacy Board
- Saskatchewan College of Pharmacists
- Yukon Government

We also wish to extend our thanks and gratitude to all pharmacists who care for Canadians.

This report represents the work of CIHI staff within the Health Human Resources department. The core project team responsible for the development of this report includes

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Please note that the analyses and conclusions in the present document do not necessarily reflect those of the individuals or organizations mentioned above.

Executive Summary

Highlights from *Pharmacists in Selected Provinces and Territories in Canada, 2008*

For 2008, the Pharmacist Database (PDB) included data from Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Saskatchewan, Alberta, British Columbia and the Northwest Territories.

Supply

- There were 29,010[i] pharmacists in Canada in 2008.[ii] This represented an increase of 8.1% between 2006 and 2008.
- In the jurisdictions participating in the PDB, there were 20,807 registered pharmacists in 2008. This number includes data from Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Saskatchewan, Alberta, British Columbia and the Northwest Territories.
- From the participating jurisdictions, Nova Scotia followed by P.E.I had the highest supply per population, at 116 and 114 pharmacists per 100,000 population, respectively. The Northwest Territories and Ontario had the lowest supply of 46 and 76 pharmacists per 100,000 population, respectively.

Demographics

- The majority of pharmacists were female (59.0%). Gender distribution varied slightly by province. The highest percentage of female pharmacists was in Nova Scotia (69.1%), followed by New Brunswick (66.4%). The lowest percentage was in Newfoundland and Labrador (51.3%), followed by B.C. (56.5%).
- A comparison of various health professions indicated a higher proportion of female pharmacists (59.0%) when compared with doctors (33.8%),[iii] but a lower proportion of women in the workforce when compared with nurses (93.7%),[iv] occupational therapists (92.2%)[v] and physiotherapists (78.4%).[vi]
- Data suggests that the proportion of females was higher among younger pharmacists and the proportion of males was higher among older pharmacists. Almost 70% of pharmacists older than 60 were male. In contrast, almost 75% of pharmacists younger than 30 were female.

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i. Pharmacist Database and Health Personnel Database, Canadian Institute for Health Information.
ii. According to the National Association of Pharmacy Regulatory Authorities, the supply of registered pharmacists in Canada reached a level of 31,011 in 2008.
iii. Scott's Medical Database, 2007, Canadian Institute for Health Information.
iv. Nursing Database, 2007, Canadian Institute for Health Information.
v. Occupational Therapist Database, Canadian Institute for Health Information.
vi. Physiotherapist Database, Canadian Institute for Health Information.

- The majority (56.7%) of pharmacists were between age 30 and 50.
- The average age of pharmacists in the participating jurisdictions was 43.3. Ontario had the oldest pharmacists, with an average age of 44.7, followed by Saskatchewan at 43.2. The youngest were in the Northwest Territories, with an average age of 38.4, followed by New Brunswick at 41.2.
- Pharmacists (43.3) tended to be younger than doctors (49.6)[vii] and nurses (45.1)[viii] but were older than other health professionals, like occupational therapists (38.4)[ix] and physiotherapists (41.4).[x]

Education[xi]

- Most (94.6%) pharmacists had a baccalaureate degree as their current level of education. The remainder had a PharmD (2.1%), diploma (1.9%), master's (1.2%) or doctorate (0.2%) in pharmacy.
- Fewer than five percent (4.6%) of the pharmacists in the workforce were classified as new graduates, of which 71.5% were female.
- The age at which pharmacists graduated went up in the last 15 years. Among the pharmacists who graduated 15 years ago, more than 70% were younger than 25 at graduation; in recent years (0 to 4 years ago), fewer than 50% were younger than 25 at graduation.
- Most new graduates (92.7%) tended to work as staff pharmacists, which was considerably higher than the rest of the workforce (63.0%).[xii]

Employment[xi]

- Most pharmacists worked for a single employer in 2008 (80.5%), while 15.4% had two employers and 4.1% had three employers.[xiii]
- Almost two-thirds (63.0%) of pharmacists worked as staff pharmacists, while 31.0% worked as pharmacy owners/managers.
  - The position occupied by a pharmacist varied by gender. Only 19.9% of female pharmacists (versus 46.9% of male pharmacists) were employed as pharmacy owners/managers. Conversely, 73.8% of female pharmacists worked as staff pharmacists, compared to only 47.5% of male pharmacists.

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vii. Scott's Medical Database, 2007, Canadian Institute for Health Information.
viii. Nursing Database, 2007, Canadian Institute for Health Information.
ix. Occupational Therapist Database, Canadian Institute for Health Information.
x. Physiotherapist Database, Canadian Institute for Health Information.
xi. Education, employment and geography findings include data from Newfoundland and Labrador, P.E.I., Nova Scotia, Ontario, Saskatchewan, Alberta, B.C. and the Northwest Territories unless otherwise specified.
xii. Findings include data from P.E.I., Ontario, Saskatchewan, Alberta, B.C. and the Northwest Territories.
xiii. Findings include data from Newfoundland and Labrador, P.E.I., Nova Scotia, Ontario, Saskatchewan, Alberta and B.C.

- Younger pharmacists (age 20 to 29) tended to be employed as staff pharmacists (83.9%), compared with pharmacists age 40 to 49 (57.2%).
- Staff pharmacists tended to work fewer hours than pharmacy owners/managers. Nearly three-quarters (73,0%) of pharmacy owners/managers worked more than 40 hours per week, compared to only 35.7% of staff pharmacists.

- More than three-quarters (75.6%) of employed pharmacists worked in a community pharmacy; 18.3% worked in hospitals and other health care facilities. However, there was provincial variation to these ratios.[xiv]
  - Place of work for pharmacists varied by gender. Of the pharmacists working in a community pharmacy, 53.7% were female. Of the pharmacists working in the hospital setting, 76.2% were female.

Geography and Mobility[xi]

- Most (88.2%) employers of pharmacists in Canada were located in urban areas, while 11.8% were located in rural and remote areas. This ratio varied by jurisdiction; populous jurisdictions like Ontario (93%) and B.C. (91.8%) had more pharmacists employed in urban areas. Less populous jurisdictions, such as the Northwest Territories and Newfoundland and Labrador, had only 60% and 61.1% of pharmacists in urban areas, respectively.

xiv. Findings include data from Newfoundland and Labrador, P.E.I., Nova Scotia, Ontario, Alberta, B.C. and the Northwest Territories.

About This Report

This is the third edition of *Pharmacists in Selected Provinces and Territories in Canada*. It will provide the reader with the most recent statistics on the pharmacist workforce, including information on demographic, geographic, educational and employment dimensions. Analyses are supplemented with detailed information about the data collection process, pertinent limitations of the current data and an explanation of the analytical methods.

This report is intended for use by all levels of government, as well as researchers, stakeholders and advocacy groups, private and public organizations, media and pharmacists as a source of data on the pharmacist workforce in Canada. The information contained in this report is one of the key requirements for effective human resource planning in the health care sector.

In this report, CIHI presents information on the pharmacist workforce and the pharmacist profession as a distinct health provider group. For 2008, this publication includes

- A data analysis section for 2006 to 2008 Pharmacist Database information;
- A section for provincial/territorial highlights, profiles and health region analyses; and
- A comprehensive Methodological Notes section.

We hope that this report will prove to be a useful foundation for those involved in human resources planning for pharmacists throughout Canada.

Want to Know More?

Highlights and the full text of *Pharmacists in Selected Provinces and Territories in Canada, 2008* are available free of charge in English and French on the CIHI website at www.cihi.ca.

Other Pharmacist Database (PDB) documents that may be of interest

- *Data Dictionary*
- *Data Submission Specifications Manual*
- *Privacy Impact Assessment*

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About the CIHI Pharmacist Database

In order to determine the number of health professionals required in any jurisdiction, it is necessary to understand the current supply and how that supply is changing.

Since 2006, the Pharmacist Database (PDB) has collected information on the supply and distribution, demographics, geography, education and employment of pharmacists in selected provinces and territories in Canada.

PDB Data Providers

The provincial regulatory authorities and territorial governments are the primary data collectors for the PDB.

In 2008, all provincial regulatory authorities and territorial governments except those in Quebec, Manitoba, Nunavut and the Yukon participated in the PDB. Where possible, information on the supply and demographics of the workforce in these jurisdictions has been provided by the CIHI Health Personnel Database (HPDB).

The PDB Data Providers

Province	Data Provider
N.L.	Newfoundland and Labrador Pharmacy Board
P.E.I.	Prince Edward Island Pharmacy Board
N.S.	Nova Scotia College of Pharmacists
N.B.	New Brunswick Pharmaceutical Society
Que.	Did not participate
Ont.	Ontario College of Pharmacists
Man.	Did not participate
Sask.	Saskatchewan College of Pharmacists
Alta.	Alberta College of Pharmacists
B.C.	College of Pharmacists of British Columbia
Y.T.	Did not participate
N.W.T.	Government of the Northwest Territories
Nun.	Did not participate

Official registration with the provincial regulatory authorities and territorial governments requires the completion of a registration form on an annual basis, in either written or electronic format. Registration forms typically contain details with respect to personal information, education credentials and employment history. The collection of these specific pieces of information tends to be common across jurisdictions. Other information collected on the form may vary according to the bylaws and business needs of the respective provincial regulatory authorities/territorial governments.

The administrative data collected by provincial regulatory authorities/territorial governments is well suited to informing health human resource planning and management in Canada. Collecting and collating this data provide a unique opportunity to examine aggregate information about pharmacists registered in Canada, which is essential to identifying supply-based issues for future health human resources planning.

In consultation with provincial regulatory authorities/territorial governments and other stakeholders, CIHI developed a standardized set of data elements to capture supply-based information on the pharmacist workforce in Canada. These data elements cover demographic, geographic and distribution characteristics, as well as education and employment details. From this consultation, a data dictionary containing specific information on the development process, data elements and associated values, as well as definitions and rationale for collection, was created.

The *Pharmacist Database Data Dictionary* is available for download on the CIHI website at www.cihi.ca.

Under the agreement with CIHI, a portion of the administrative information collected by the provincial regulatory authorities/territorial governments is submitted to CIHI on an annual basis. CIHI and the regulatory authorities/territorial governments jointly review the new data and apply rigorous principles of data quality assurance. Once data quality assurance is complete, CIHI adds the new data to the PDB for analysis and reporting. Over time, this information will provide a historical record of changes in the supply of the pharmacist workforce on a year-to-year basis.

Note

CIHI figures on pharmacists will not be the same as figures published by provincial regulatory authorities/territorial governments for the following reasons:

a. **Collection period**—the statistics typically released by provincial regulatory authorities/territorial governments include all registrations received during the 12-month registration period. In contrast, CIHI collects data as of October 1 of the data collection year. In consultation with provincial regulatory authorities/territorial governments, this point-in-time data collection was established to ensure timely and comprehensive information in spite of the different registration periods.

b. **Reference population—**for the PDB, provincial regulatory authorities and territorial governments submit data for active registrations received during the registration year. The active total presented in this report represents the number of pharmacists deemed eligible to work by the regulatory authority in that particular jurisdiction in that year. Specifically, active registration includes those registration categories that authorize a registrant, based on the assessment and issuance by a regulatory authority or territorial government, to engage in professional practice, as defined by the relevant laws, regulations and/or policies associated with a specific jurisdiction. Information on inactive registrants is not submitted to CIHI for the PDB.

c. **Exclusions from CIHI data—**active registrants fall into five categories: employed in pharmacy, employed in other than pharmacy seeking employment in pharmacy, employed in other than pharmacy and not seeking employment in pharmacy, unemployed and seeking employment in pharmacy and unemployed and not seeking employment in pharmacy. For this publication, CIHI removes unemployed registrants falling into any of the latter four categories, as well as those pharmacists for whom information on the data element *employment status* is missing or *unknown*.

d. **Other exclusions from CIHI data—**CIHI statistics might not include pharmacists who are on leave (for example, maternity/paternity leave) as of October 1 of the data collection year.

e. **CIHI editing and processing—**the CIHI database is not simply an amalgamation of data from the provincial regulatory authorities/territorial governments. When data files are submitted, CIHI attempts to remove those records for pharmacists who may be registered with more than one provincial regulatory authority and/or territorial government. For example, when a pharmacist has employment in both Alberta and British Columbia, she or he is required to register with both colleges. These registrants are called secondary registrations or interprovincial duplicates. This duplicate information is removed by CIHI according to the methodology described in the Methodological Notes section of this publication in order to avoid double-counting and to more accurately reflect the primary jurisdiction of employment.

f. **Data quality processes—**some jurisdictions perform their data quality review at the end of their registration period. As CIHI receives the data in October for the data collection year, it is possible that some of the data quality activities of some jurisdictions are not yet completed. As a result, at the time of data submission, a jurisdiction may have records for which the information is unknown for some data elements. Although every reasonable effort is made to acquire the information at the time of data submission, the correction may not be reflected in the CIHI database.

CIHI's Definition of the Pharmacist Workforce in Canada

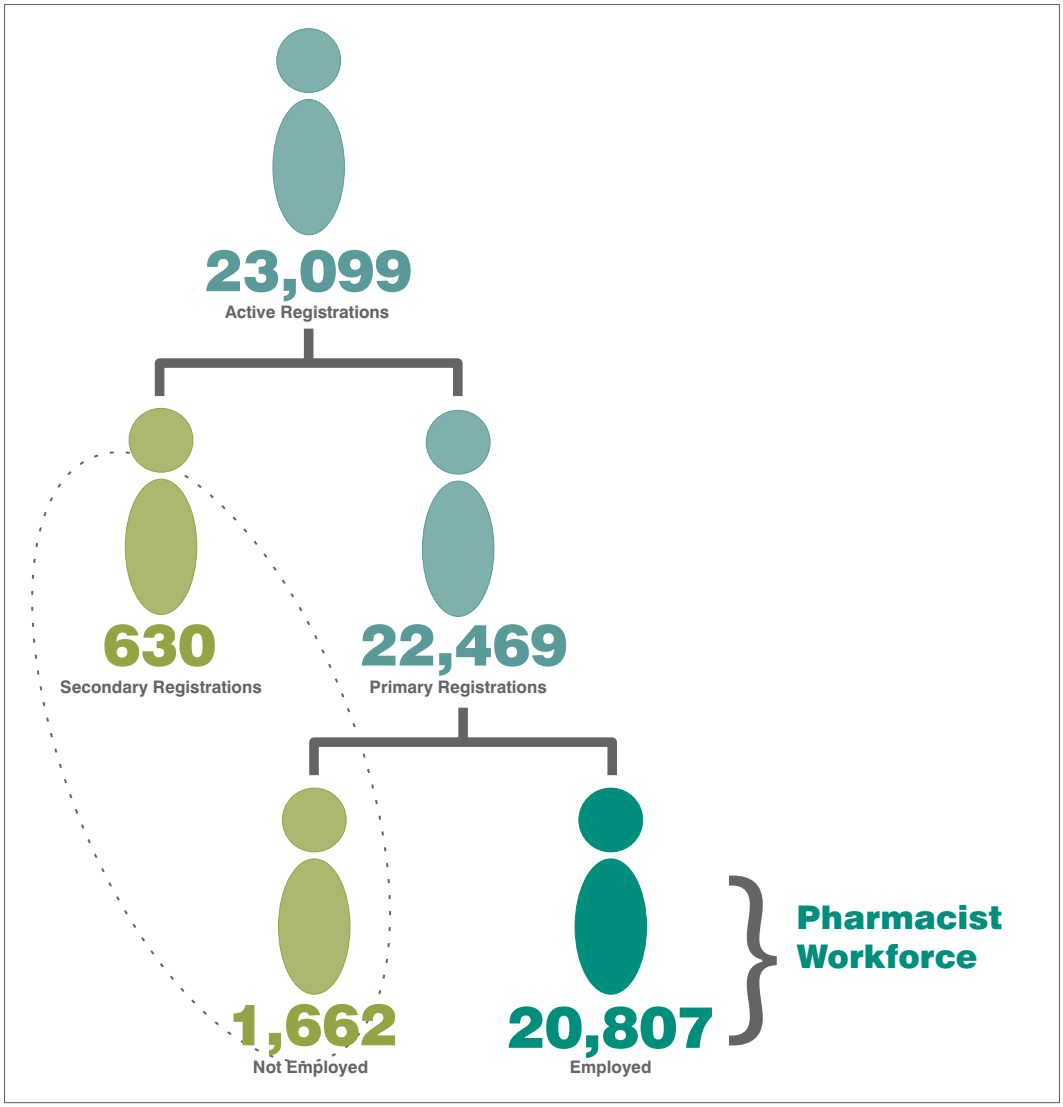
In this CIHI publication, "pharmacist workforce" is defined as the total number of pharmacists holding active registrations[xv] in Canada who are employed and are not considered secondary registrations[xvi] or interprovincial duplicates. For more detailed information on the inclusion and exclusion criteria, please see the Methodological Notes.

For the 2008 pharmacist workforce information submitted by **participating** provincial regulatory authorities and territorial governments in Canada (excluding Quebec, Manitoba, the Yukon and Nunavut), 630 (2.7%) secondary registrations were removed and 1,662 (7.2%) registrations were removed because the registrants were not employed (see Figure 1).

xv. Active registrations: provincial regulatory authorities/territorial governments provided data to CIHI for the PDB for those pharmacists who held an active membership for 2008. This includes those specific membership categories authorizing a member as eligible to work in the particular jurisdiction in the particular year.

xvi. Secondary registrations: this group includes pharmacists who maintain provincial registration while living outside of Canada or whose *province of residence* and/or *province of primary employment* is in a Canadian jurisdiction that is different from the *province of registration*.

Figure 1 Defining the CIHI PDB Pharmacist Workforce, 2008



Notes
Data from Quebec, Manitoba, the Yukon and Nunavut was not available.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.
Source
Pharmacist Database, Canadian Institute for Health Information.

A Closer Look at the Employment Status of Registered Pharmacists

Almost all (91.8%, or 21,195) of the registrants were employed in pharmacy, 0.6% (139) were employed in other than pharmacy, 5.0% (1,160) were unemployed and the *employment status* was *unknown* for 2.6% (605) (see Table 1).

Table 1 Total Number of Active Registered Pharmacists by Employment Status, 2006 to 2008

	2006		2007		2008	
	Count	Percent	Count	Percent	Count	Percent
Employed in the Profession of Pharmacy	18,175	87.7	19,379	91.9	21,195	91.8
Employed in Other Than the Profession of Pharmacy, Seeking Employment in the Profession of Pharmacy	19	0.1	45	0.2	47	0.2
Employed in Other Than the Profession of Pharmacy, Not Seeking Employment in the Profession of Pharmacy	36	0.2	82	0.4	92	0.4
Unemployed and Seeking Employment in the Profession of Pharmacy	1,003	4.8	801	3.8	1,134	4.9
Unemployed and Not Seeking Employment in the Profession of Pharmacy	28	0.1	26	0.1	26	0.1
Unknown	1,452	7.0	743	3.5	605	2.6
Total Records Received	**20,713**	**100.0**	**21,076**	**100.0**	**23,099**	**100.0**

Notes

Total for 2008 includes data from Newfoundland and Labrador, P.E.I., Nova Scotia, New Brunswick, Ontario, Saskatchewan, Alberta, B.C. and the Northwest Territories. Data from Quebec, Manitoba, the Yukon and Nunavut was not available.

Total for 2007 includes data from Newfoundland and Labrador, P.E.I., Nova Scotia, New Brunswick, Ontario, Saskatchewan, Alberta, B.C., the Yukon and the Northwest Territories. Data from Quebec, Manitoba and Nunavut was not available.

Total for 2006 includes data from P.E.I., Nova Scotia, Ontario, Saskatchewan, Alberta, B.C., the Yukon and the Northwest Territories. Data from Newfoundland and Labrador, New Brunswick, Quebec, Manitoba and Nunavut was not available.

For 2008 and 2007, data for all pharmacists submitted by the New Brunswick Pharmaceutical Society was included as *employed in the profession of pharmacy,* as *employment status* was not available.

There was an improvement in data quality in Nova Scotia, Alberta and B.C. from 2006 to 2008. In Nova Scotia, 99% of pharmacists reported their *employment status* in 2008, which represents an increase of 27% over 2006. In Alberta, 99.2% of pharmacists reported their *employment status*, which represents an increase of 6.1% over 2006.

In B.C., 90.2% of pharmacists reported their *employment status*, which represents an increase of 9.9% over 2006.

The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.

What Is a Pharmacist?

Pharmacists are regulated health professionals who assist their clients with medications in order to safely achieve desired health outcomes at home, in the community and in hospitals. They research and work collaboratively with other health care providers to deliver optimal health care solutions through effective use of health care products and services. By incorporating best care principles that are patient-centred, outcome-oriented and evidence-based, their professional practice emphasizes drug therapy management of diseases and symptoms and the promotion of wellness and disease prevention.

Responsibilities/Activities

Duties of a pharmacist can include the following:

- Reviewing medications and collaborating with patients/clients and other health care providers to ensure optimal therapy for each patient's/client's disease state;
- Setting therapeutic goals with patients/clients;
- Reviewing prescriptions for appropriate therapy;
- Educating patients and other health care professionals on the administration, uses and effects of medications, drug incompatibilities and contraindications;
- Advising patients/clients on selection and use of non-prescription medication;
- Leading or participating in research into the development of new drugs, improvement of patient/client outcomes or pharmaco-economic evaluation of drug therapy;
- Formulating and testing new drug products;
- Coordinating clinical investigations of new drugs;
- Controlling the quality of drug products during production;
- Developing informational materials on the uses and properties of particular drugs;
- Providing information services about drug products and pharmacotherapy; and
- Evaluating the labelling, packaging and advertising of drug products.

Pharmacists supervise and may also perform technical tasks such as compounding and/or dispensing pharmaceutical products, maintaining medication profiles of patients and registries of poisons, narcotics and controlled drugs, ensuring proper storage of vaccines, serums, biologicals and other pharmaceutical products and ordering/maintaining a stock of pharmaceutical supplies.

Practice Setting

In general, pharmacists specialize as community, institutional, government or industrial practitioners. Community pharmacists own and/or practise in community pharmacies, while institutional pharmacists practise as part of a team of health care professionals serving individual patients in hospitals, long-term care facilities and other health care institutions. Government pharmacists work in areas such as drug plan management, regulatory and professional affairs and research, while industrial pharmacists participate in the research, development, manufacturing and sales of pharmaceutical products.

Chapter 1

Supply

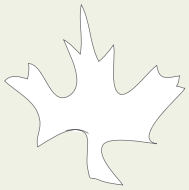
There were 29,010 pharmacists in Canada in 2008. This represented an increase of 8.1% between 2006 and 2008. Over the same period, the Canadian population increased at a pace of 2.3%.[1] All jurisdictions except Newfoundland and Labrador and the Northwest Territories experienced a gain in supply from 2006.

How many pharmacists were there in **Canada**?

Participating Provinces: CIHI Pharmacist Database

Non-Participating Provinces: CIHI Health Personnel Database

Supply of Pharmacists, 2006 to 2008



	Canada
2006	26,835
2007	28,495
2008	29,010

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia‡	New Brunswick
2006	585†	141	788	625†
2007	592	155	1,002	668
2008	571	161	1,093	692

	Quebec	Ontario	Manitoba	Saskatchewan
2006	6,790†	9,309	1,155†	1,027
2007	7,057†	9,779	1,152†	1,142
2008	6,937†	9,813	1,205†	1,138

	Alberta‡	British Columbia‡	Yukon	Northwest Territories	Nunavut
2006	3,197	3,151	29	22	16†
2007	3,444	3,435	30	22	17†
2008	3,566	3,753	39†	20	22†

Notes

† Data from the CIHI Health Personnel Database (HPDB). The Quebec, Manitoba and Nunavut data for 2006, 2007 and 2008, the Yukon data for 2008 and the Newfoundland and Labrador and New Brunswick data for 2006 was taken from the HPDB, which collects this information from the National Association of Pharmacy Regulatory Authorities and reports the number of active registered pharmacists. Therefore, the data for Quebec, Manitoba and Nunavut may include different membership categories for registrants. The HPDB data in this figure is useful for some purposes but should be used within the limitations noted in the Methodological Notes section of *Canada's Health Care Providers, 1997 to 2006, A Reference Guide*.

‡ The increase in supply may be partially attributed to an improvement in data quality in Nova Scotia, Alberta and B.C. from 2006 to 2008. In Nova Scotia, 99% of pharmacists reported their employment status, which represents an increase of 27% over 2006. In Alberta, 99.2% of pharmacists reported their employment status, which represents an increase of 6.1% over 2006. In B.C., 90.2% of pharmacists reported their employment status, which represents an increase of 9.9% over 2006.

For 2007 only, aggregate data for the New Brunswick pharmacists presented in this figure was provided by the New Brunswick Pharmaceutical Society and may include different membership categories for registrants.

For 2008 only, data for all pharmacists submitted by the New Brunswick Pharmaceutical Society and, for 2007, data for all pharmacists submitted by the Newfoundland and Labrador Pharmacy Board and the New Brunswick Pharmaceutical Society was included as *employed in the profession of pharmacy*, as *employment status* was not available.

CIHI data will differ from provincial regulatory authority and territorial government statistics due to the CIHI collection, processing and reporting methodology.

The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Sources

Pharmacist Database and Health Personnel Database, Canadian Institute for Health Information.

Supply of Pharmacists

Table 2 Pharmacist Workforce by Count, Percent and per 100,000 Population by Province or Territory of Registration, 2006 to 2008

	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nun.	Canada
Count														
2006	585†	141	788	625†	6,790†	9,309	1,155†	1,027	3,197	3,151	29	22	16†	26,835
2007	592	155	1,002	668	7,057†	9,779	1,152†	1,142	3,444	3,435	30	22	17†	28,495
2008	571	161	1,093	692	6,937†	9,813	1,205†	1,138	3,566	3,753	39†	20	22†	29,010
Percent Distribution														
2006	2.2	0.5	2.9	2.3	25.3	34.7	4.3	3.8	11.9	11.7	0.1	0.1	0.1	100
2007	2.1	0.5	3.5	2.3	25.9	34.3	4.2	4.0	12.1	12.1	0.1	0.1	0.1	100
2008	2.0	0.6	3.8	2.4	23.9	33.8	4.2	3.9	12.3	12.9	0.1	0.1	0.1	100
Supply per 100,000 Population														
2006	115	102	84	84	89	73	98	104	94	73	90	51	52	82
2007	117	112	107	90	92	76	96	114	98	79	92	51	54	86
2008	112	114	117	93	89	76	100	112	99	85	117	46	70	87

Notes

† Data from the CIHI Health Personnel Database (HPDB). Quebec, Manitoba and Nunavut data for 2006, 2007 and 2008, Yukon data for 2008 and Newfoundland and Labrador and New Brunswick data for 2006 was taken from the HPDB, which collects this information from the National Association of Pharmacy Regulatory Authorities and reports the number of active registered pharmacists. Therefore, the data for Quebec, Manitoba and Nunavut may include different membership categories for registrants. The HPDB data in this table is useful for some purposes but should be used within the limitations noted in the Methodological Notes section of *Canada's Health Care Providers, 1997 to 2006, A Reference Guide*.

For 2008, data from Quebec, Manitoba, the Yukon and Nunavut was not available.

For 2007 only, aggregate data for the New Brunswick pharmacists presented in this table was provided by the New Brunswick Pharmaceutical Society and may include different membership categories for registrants.

For 2008 only, data for all pharmacists submitted by the New Brunswick Pharmaceutical Society and, for 2007, data for all pharmacists submitted by the Newfoundland and Labrador Pharmacy Board and the New Brunswick Pharmaceutical Society was included as *employed in the profession of pharmacy,* as *employment status* was not available.

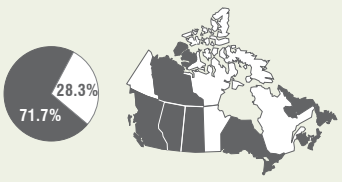
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Population statistics are from Statistics Canada (*Quarterly Demographic Estimates*, 2, 4 [March 26, 2009], catalogue no. 91-002-X).

CIHI data will differ from provincial regulatory authority and territorial government statistics due to the CIHI collection, processing and reporting methodology.

Sources

Pharmacist Database and Health Personnel Database, Canadian Institute for Health Information; and Statistics Canada.



2008 Supply Data Availability

Chapter 2
Demographics

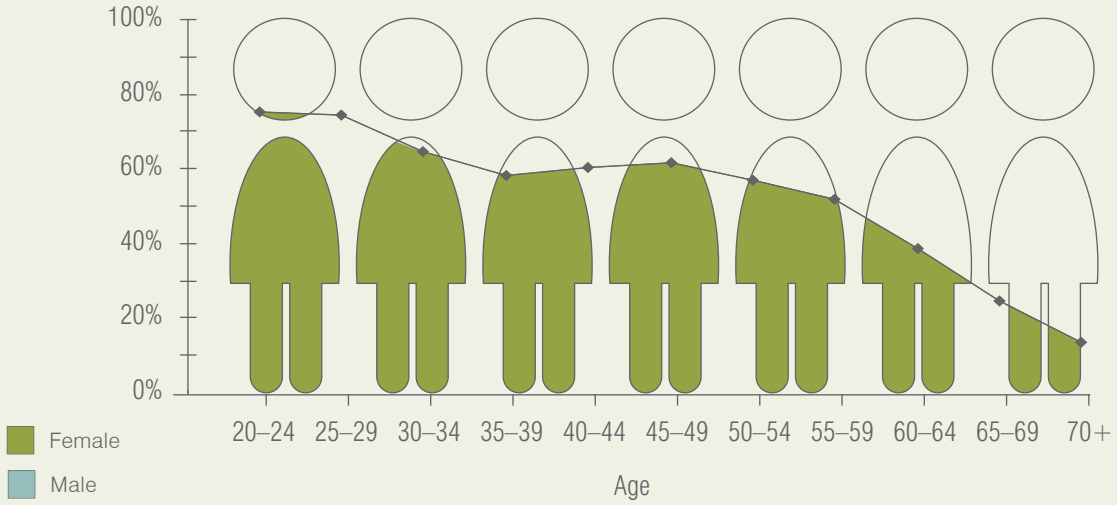
Feminization of the pharmacist workforce became more pronounced. The profession of pharmacy, traditionally composed of men, is now seeing a higher proportion of women entering the profession. In fact, 71.3% of new graduates[xvii] were female.

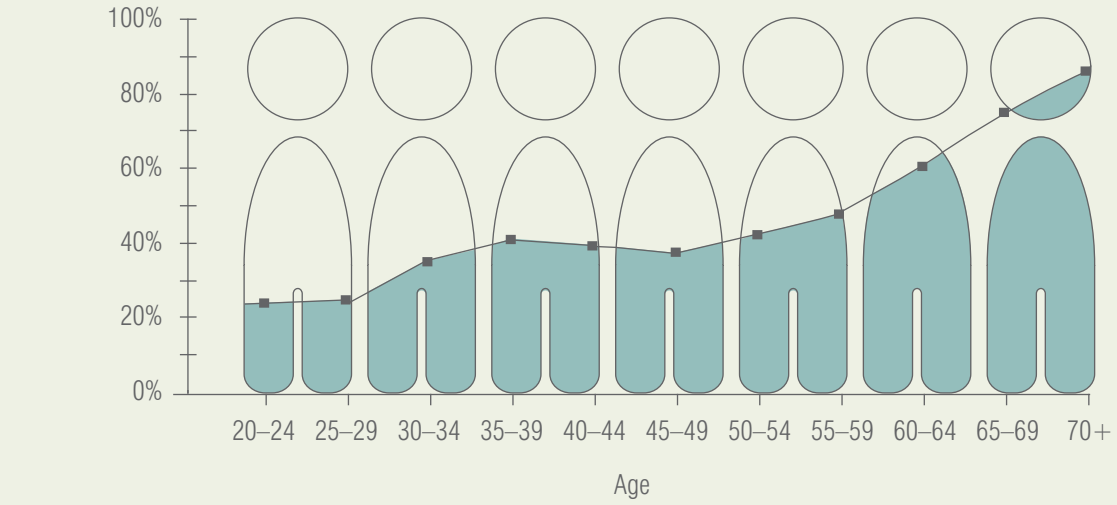
Has the **gender composition** of the pharmacist workforce **changed** over time?

In general, a higher proportion of younger pharmacists was female (74.9% of those age 30 and younger), while older pharmacists were mostly male (69.2% of those age 60 and older). A similar pattern was observed within most participating provinces for those 30 and younger. For pharmacists 60 and older, in Newfoundland and Labrador and P.E.I., all (100%) pharmacists were male.

xvii. Pharmacists whose *year of graduation for basic education* is either 2007 or 2008.

An Increasing Number of Women Entered the Pharmacist Workforce in Recent Years



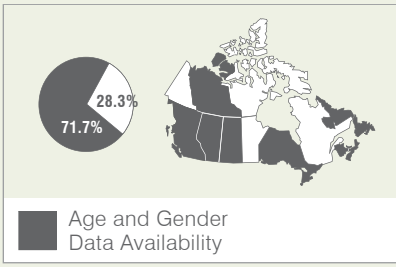


Notes

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
For 2008, data for all pharmacists submitted by the New Brunswick Pharmaceutical Society was included as *employed in the profession of pharmacy*, as *employment status* was not available.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *gender*: total (1, <0.1%).
Percentage *unknown* for *year of birth*: total (2, <0.1%).
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.



Demographic Characteristics of the Pharmacist Workforce

Table 3 Pharmacist Workforce by Gender and Selected Province or Territory of Registration, 2008

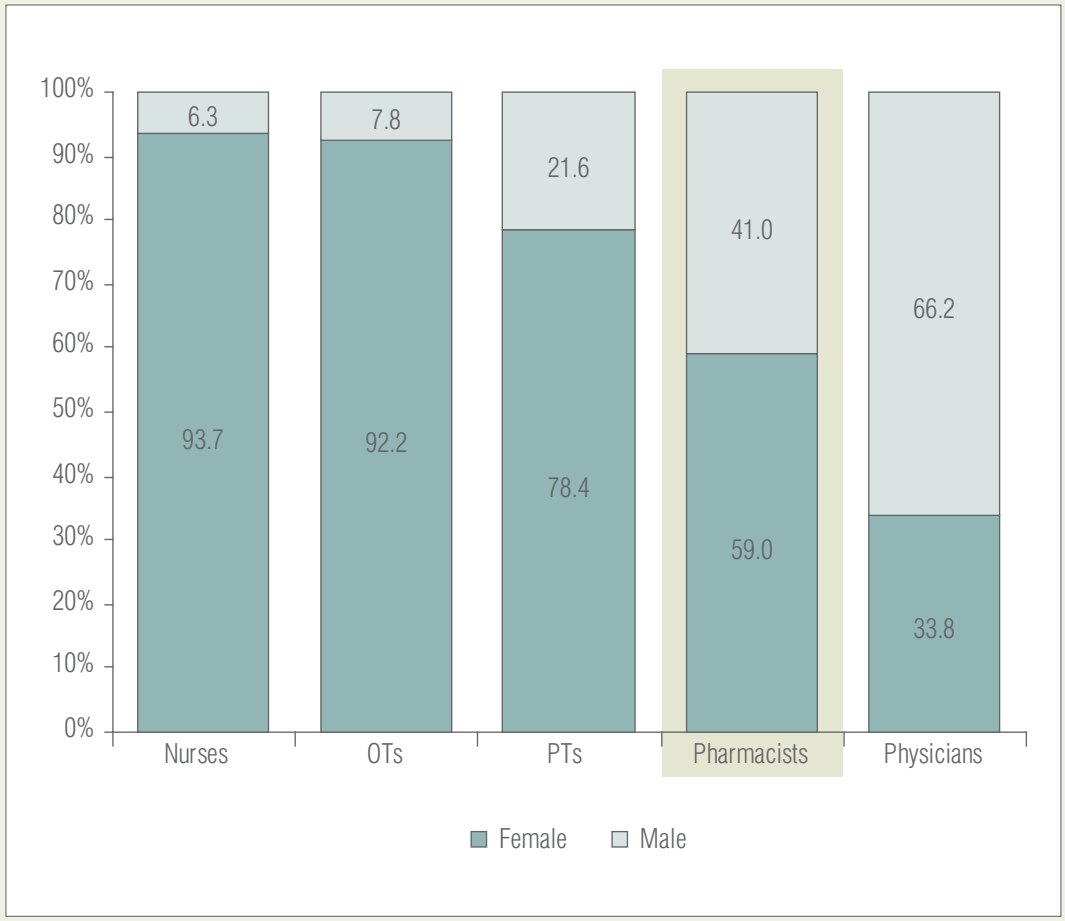
	Female		Male		Total
	Count	Percent	Count	Percent	
N.L.	293	51.3	278	48.7	571
P.E.I.	103	64.0	58	36.0	161
N.S.	755	69.1	338	30.9	1,093
N.B.	459	66.4	232	33.6	691
Ont.	5,583	56.9	4,230	43.1	9,813
Sask.	715	62.8	423	37.2	1,138
Alta.	2,229	62.5	1,337	37.5	3,566
B.C.	2,119	56.5	1,634	43.5	3,753
N.W.T.	12	60.0	8	40.0	20
Total	**12,268**	**59.0**	**8,538**	**41.0**	**20,806**

Notes
Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
For 2008, data for all pharmacists submitted by the New Brunswick Pharmaceutical Society was included as *employed in the profession of pharmacy*, as *employment status* was not available.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *gender*: New Brunswick (1, 0.1%), total (1, <0.01%).
CIHI data will differ from provincial regulatory authority and territorial government statistics due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.
Source
Pharmacist Database, Canadian Institute for Health Information.

Cross-Profession by Gender

The pharmacist workforce had a balance of males and females compared to the other professions.

Health Professionals by Gender



(see notes on next page)

Notes

Regulated Nurses
Statistics for nurses are based on 2007 data.
In 2007, the College of Registered Nurses of Manitoba submitted aggregate tables for *gender*.
Regulated nurses include registered nurses, licensed practical nurses and registered psychiatric nurses.

Occupational Therapists (OTs)
The Canada total includes Quebec.
The Quebec data presented in this figure was obtained from the Health Personnel Database, which reports the number of active registered OTs (2008 data as of March 31, 2009). Therefore, the data for Quebec may include different membership categories for registrants. The Quebec data in this figure is useful for some purposes but should be used within the limitations noted in the Methodological Notes section of *Canada's Health Care Providers, 1997 to 2006, A Reference Guide*.
Manitoba Health provided aggregate totals for *gender* for registrants in Manitoba.
The results do not include data for which responses were *unknown*.
Count and percentage *unknown* for *gender*: total (1, 0.01%).

Physiotherapists (PTs)
Yukon data was not available.
Regulatory data was not available from the Northwest Territories and Nunavut, as there were no licensing authorities in these territories.
Aggregate data for Nova Scotia was provided by the Nova Scotia College of Physiotherapists and includes full, defined and temporary registration types, as well as out-of-province, inactive and non-practising registrants as defined by the college.
Manitoba Health provided aggregate totals for *gender* for registrants in Manitoba.
The results do not include data for which responses were *unknown*.
Count and percentage *unknown* for *gender*: total (4, <0.1%).

Pharmacists
Data from Quebec, Manitoba, the Yukon and Nunavut was not available.
For 2008, data for all pharmacists submitted by the New Brunswick Pharmaceutical Society was included as *employed in the profession of pharmacy*, as *employment status* was not available.
The results do not include data for which responses were *unknown*.
Count and percentage *unknown* for *gender*: total (1, <0.01%).

Physicians
Statistics for physicians are based on 2007 data.
Excludes residents and non-licensed physicians who requested that their information not be published as of December 31 of the reference year.
Includes physicians in clinical and/or non-clinical practice.

CIHI data will differ from provincial and territorial statistics due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Sources

Nursing Database, Occupational Therapist Database, Physiotherapist Database, Pharmacist Database, Scott's Medical Database and Health Personnel Database, Canadian Institute for Health Information; Manitoba Health; and Nova Scotia College of Physiotherapists.

Table 4 Pharmacist Workforce by Gender and 10-Year Age Groups, Selected Province or Territory of Registration, 2008

	N.L.	P.E.I.	N.S.	N.B.	Ont.	Sask.	Alta.	B.C.	Total
Count of Pharmacists									
Female									
20–29	69	18	134	75	685	140	445	399	**1,965**
30–39	90	43	236	163	1,656	231	679	614	**3,712**
40–49	101	27	222	134	1,724	157	564	602	**3,531**
50–59	33	15	147	81	1,167	154	440	409	**2,446**
60+	0	0	16	5	351	33	101	95	**601**
Total	**293**	**103**	**755**	**458**	**5,583**	**715**	**2,229**	**2,119**	**12,255**
Male									
20–29	21	*	24	**	231	35	136	190	**637**
30–39	70	13	109	76	1,078	98	432	428	**2,304**
40–49	79	18	84	62	1,105	96	363	420	**2,227**
50–59	65	**	73	**	1,038	96	255	403	**1,930**
60+	43	12	48	29	778	98	151	193	**1,352**
Total	**278**	**58**	**338**	**232**	**4,230**	**423**	**1,337**	**1,634**	**8,530**
Percentage of Pharmacists									
Female									
20–29	23.5	17.5	17.7	16.4	12.3	19.6	20.0	18.8	**16.0**
30–39	30.7	41.7	31.3	35.6	29.7	32.3	30.5	29.0	**30.3**
40–49	34.5	26.2	29.4	29.3	30.9	22.0	25.3	28.4	**28.8**
50–59	11.3	14.6	19.5	17.7	20.9	21.5	19.7	19.3	**20.0**
60+	0.0	0.0	2.1	1.1	6.3	4.6	4.5	4.5	**4.9**
Male									
20–29	7.6	*	7.1	**	5.5	8.3	10.2	11.6	**7.5**
30–39	25.2	22.4	32.2	32.8	25.5	23.2	32.3	26.2	**27.0**
40–49	28.4	31.0	24.9	26.7	26.1	22.7	27.2	25.7	**26.1**
50–59	23.4	**	21.6	**	24.5	22.7	19.1	24.7	**22.6**
60+	15.5	20.7	14.2	12.5	18.4	23.2	11.3	11.8	**15.8**

Notes

* Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 4.
** Value suppressed to ensure confidentiality; cell value is 5 or greater.
Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
For 2008, data for all pharmacists submitted by the New Brunswick Pharmaceutical Society was included as *employed in the profession of pharmacy*, as *employment status* was not available.
Findings from the Northwest Territories were suppressed due to small cell sizes.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *gender*: New Brunswick (1, 0.1%), total (1, <0.1%).
Percentage *unknown* for *year of birth*: New Brunswick (2, 0.3%), total (2, <0.1%).
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.

Age Distribution

The percentage of pharmacists younger than age 30 outnumbered those who were age 60 or older in every province except Ontario. Ontario had the highest proportion of older pharmacists and the lowest of younger pharmacists.

Table 5 Pharmacist Workforce by 10-Year Age Groups and Average Age, Selected Province of Registration, 2008

	20–29		30–39		40–49		50–59		60+		Total	Average Age
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent		
N.L.	90	15.8	160	28.0	180	31.5	98	17.2	43	7.5	571	42.0
P.E.I.	22	13.7	56	34.8	45	28.0	26	16.1	12	7.5	161	41.9
N.S.	158	14.5	345	31.6	306	28.0	220	20.1	64	5.9	1,093	41.8
N.B.	93	13.5	239	34.6	196	28.4	128	18.6	34	4.9	690	41.2
Ont.	916	9.3	2,734	27.9	2,829	28.8	2,205	22.5	1,129	11.5	9,813	44.7
Sask.	175	15.4	329	28.9	253	22.2	250	22.0	131	11.5	1,138	43.2
Alta.	581	16.3	1,111	31.2	927	26.0	695	19.5	252	7.1	3,566	41.5
B.C.	589	15.7	1,042	27.8	1,022	27.2	812	21.6	288	7.7	3,753	42.5
Total	**2,624**	**12.6**	**6,016**	**28.9**	**5,758**	**27.7**	**4,434**	**21.3**	**1,953**	**9.4**	**20,785**	**43.3**

Notes

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
For 2008, data for all pharmacists submitted by the New Brunswick Pharmaceutical Society was included as *employed in the profession of pharmacy*, as *employment status* was not available.
Findings from the Northwest Territories were suppressed due to small cell sizes.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *year of birth*: New Brunswick (2, 0.3%), total (2, 0.01%).
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

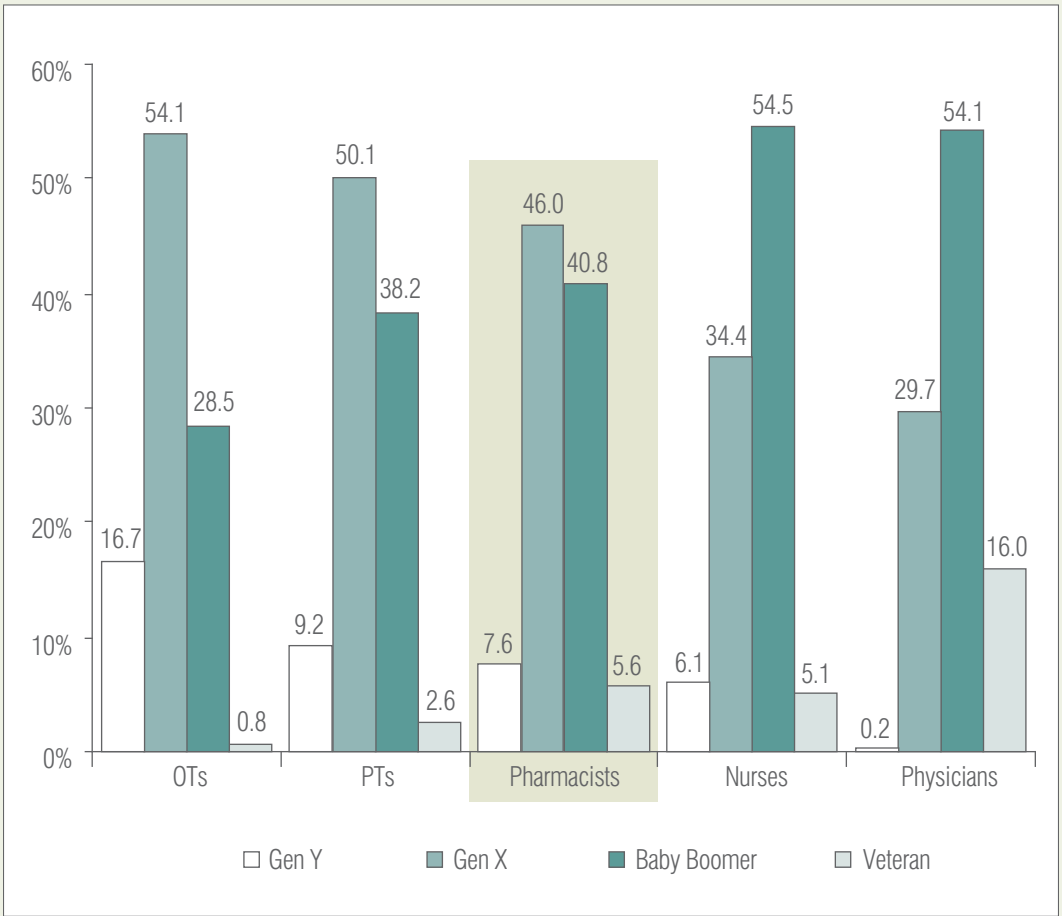
Source

Pharmacist Database, Canadian Institute for Health Information.

Cross-Profession by Age

When compared with other health care providers, pharmacists had a balance of older and younger generations. They were not quite as young as the rehabilitation professionals (occupational therapists and physiotherapists) but were slightly younger than their nursing and physician counterparts.

Health Professionals by Age



(see notes on next page)

Notes

Veteran: Born between 1922 and 1945.
Baby Boomer: Born between 1946 and 1964.
Generation X: Born between 1965 and 1980.
Generation Y: Born after 1980.

Occupational Therapists (OTs)

Canada total includes Quebec.
The Quebec data presented in this figure was obtained from the Health Personnel Database, which reports the number of active registered OTs (2008 data as of March 31, 2009). Therefore, the data for Quebec may include different membership categories for registrants.
The Quebec data in this figure is useful for some purposes but should be used within the limitations noted in the Methodological Notes section of *Canada's Health Care Providers, 1997 to 2006, A Reference Guide.*
Manitoba Health provided aggregate totals for five-year age bands for registrants in Manitoba.
Quebec data is based on five-year age bands and therefore does not provide exact matches to the year of birth ranges for each generation.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *age*: total (18, 0.2%).

Physiotherapists (PTs)

Nova Scotia and Yukon data was not available.
Regulatory data was not available from the Northwest Territories and Nunavut, as there were no licensing authorities in these territories.
Manitoba data was not available for generational age groups.

Pharmacists

Data from Quebec, Manitoba, the Yukon and Nunavut was not available.
For 2008, data for all pharmacists submitted by the New Brunswick Pharmaceutical Society was included as *employed in the profession of pharmacy*, as *employment status* was not available.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *age*: total (2, 0.01%).

Regulated Nurses

Statistics for nurses are based on 2007 data.
Non-response for *year of birth* (percent of RN workforce): total (36, <0.1%).
In 2007, the College of Registered Nurses of Manitoba submitted aggregate tables for age groups.
Regulated nurses include registered nurses, licensed practical nurses and registered psychiatric nurses.

Physicians

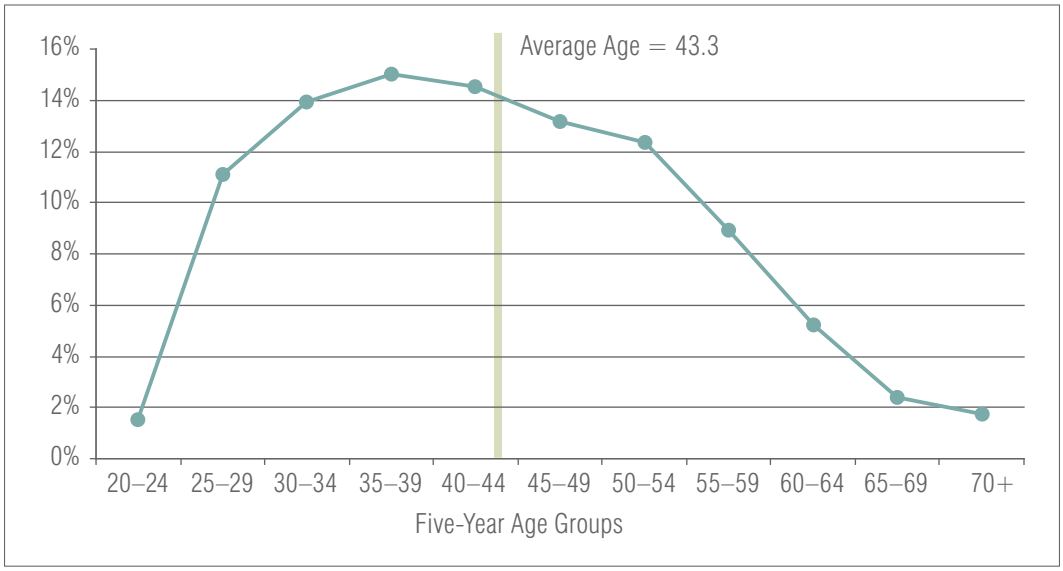
Statistics for physicians are based on 2007 data.
Excludes residents and non-licensed physicians who requested that their information not be published as of December 31 of the reference year.
Includes physicians in clinical and/or non-clinical practice.
For those physicians for whom date of birth was not available, ages were calculated using *year of MD graduation* with *age at MD graduation* equal to 25 years.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *age*: total (445, 0.7%).

CIHI data will differ from provincial and territorial statistics due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Sources

Health Personnel Database, Occupational Therapist Database, Physiotherapist Database, Pharmacist Database, Nursing Database and Scott's Medical Database, Canadian Institute for Health Information; and Manitoba Health.

Figure 2 Pharmacist Workforce by Five-Year Age Groups and Average Age, 2008



Notes

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
For 2008, data for all pharmacists submitted by the New Brunswick Pharmaceutical Society was included as *employed in the profession of pharmacy*, as *employment status* was not available.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *year of birth*: total (2, 0.01%).
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
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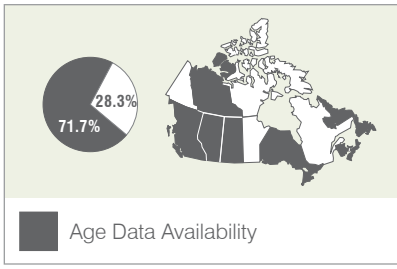
Source

Pharmacist Database, Canadian Institute for Health Information.

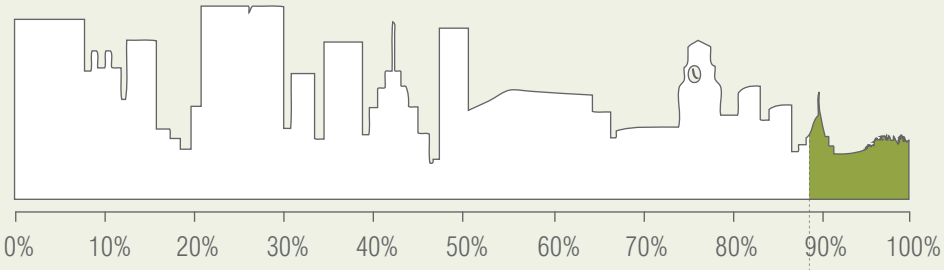


Chapter 3
Geography

Canadian pharmacists were concentrated in urban areas. Most (88.2%) pharmacists worked in the urban areas where 75% of the Canadian population resided. About one-tenth (11.8%) of pharmacists worked in rural and small-town areas, where a quarter of the population resided.[2]

Did **pharmacists** follow the **urban/rural** distribution of the **Canadian population**?

Urban, Rural and Remote Distribution

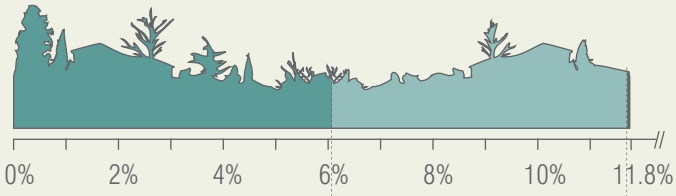


Urban

88.2%

Other

11.8%



Remote

6.1%

Rural

5.7%

Territories

<0.1%

Notes

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick, as *postal code of primary employment* was not collected/submitted.
Not stated and *unknown* responses were removed from the above analysis.
Not stated indicates that the *postal code of primary employment* was not provided.
Unknown indicates that the *postal code of primary employment* was provided but did not match with the Postal Code Conversion File (PCCF) from Statistics Canada.
Percentage *unknown* for *postal code of primary employment*: total (159, 0.8%).
Percentage *not stated* for *postal code of primary employment*: total (367, 1.8%).
Postal code of primary employment data was assigned to urban, rural and remote categories using the March 2008 release of Statistics Canada's PCCF. The urban, rural and remote categories are based on a classification scheme developed by Statistics Canada.
CIHI data will differ from provincial regulatory authority and territorial government statistics due to the CIHI collection, processing and reporting methodology.
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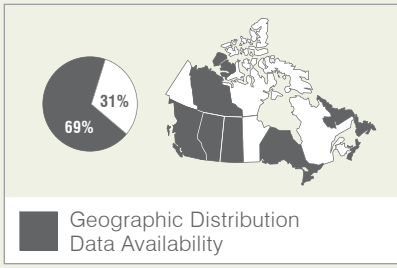
Sources

Pharmacist Database, Canadian Institute for Health Information; and Statistics Canada.



Urban/Rural Distribution

Table 6 Count, Percentage and per 10,000 Population of Pharmacists in Urban and Rural/Remote Regions, by Province or Territory of Registration, 2008

	Urban			Rural and Remote Areas		
	Count	Percent	Per 10,000 Population	Count	Percent	Per 10,000 Population
N.L.	321	61.1	16.6	204	38.9	6.5
P.E.I.	117	74.1	21.9	41	25.9	5.0
N.S.	675	70.8	16.5	279	29.2	5.5
Ont.	9,031	93.0	9.3	681	7.0	2.7
Sask.	805	74.6	15.7	274	25.4	6.0
Alta.	2,996	85.1	12.5	526	14.9	5.9
B.C.	3,324	91.8	10.2	295	8.2	3.5
N.W.T.	12	60.0	6.7	8	40.0	3.4
Total	**17,281**	**88.2**	**10.5**	**2,308**	**11.8**	**4.1**

Notes

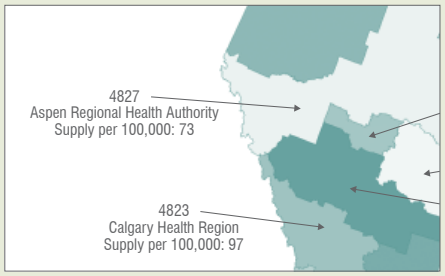
Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick, as *postal code of primary employment* was not collected/submitted.
For the Northwest Territories, the *rural and remote* classification also includes the *territories* classification.
Not stated and *unknown* responses were removed from the above analysis.
Not stated indicates that the *postal code of primary employment* was not provided.
Unknown indicates that the *postal code of primary employment* was provided but did not match the Postal Code Conversion File (PCCF) from Statistics Canada.
Percentage *unknown* for *postal code of primary employment*: Newfoundland and Labrador (5, 0.9%), P.E.I. (2, 1.2%), Nova Scotia (8, 0.7%), Ontario (91, 0.9%), Saskatchewan (3, 0.3%), Alberta (35, 1.0%), B.C. (15, 0.4%), total (159, 0.8%).
Percentage *not stated* for *postal code of primary employment*: Newfoundland and Labrador (41, 7.2%), P.E.I. (1, 0.6%), Nova Scotia (131, 12.0%), Ontario (10, 0.1%), Saskatchewan (56, 4.9%), Alberta (9, 0.3%), B.C. (119, 3.2%), total (367, 1.8%).
Postal code of primary employment data was assigned to urban, rural and remote categories using the March 2008 release of Statistics Canada's PCCF.
The urban, rural and remote categories are based on a classification scheme developed by Statistics Canada. For more information see the Methodological Notes section.
Urban/rural population statistics are based on 2006 census data from Statistics Canada (catalogue no. 97-550-XWE2006002, released July 12, 2007).
CIHI data will differ from provincial regulatory authority and territorial government statistics due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Sources

Pharmacist Database, Canadian Institute for Health Information; and Statistics Canada.

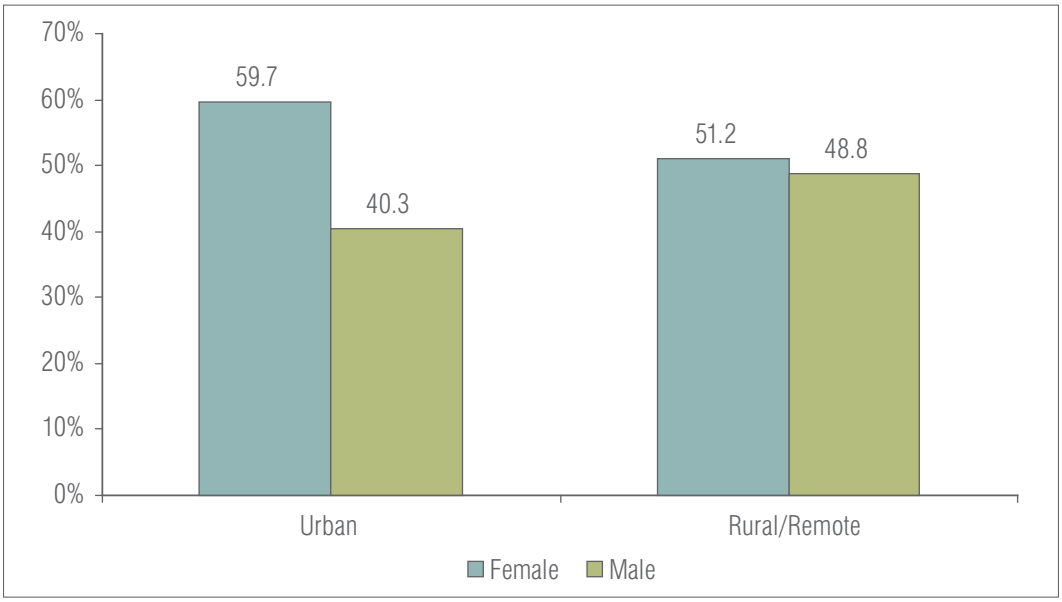
Health Regions—New This Year!

Supply data by health region is included for the first time in this year's report! Please refer to the provincial profiles section at the back of this report for details.



Demographic Characteristics of the Pharmacist Workforce Employed in Urban Versus Rural/Remote Areas

Figure 3 Pharmacist Workforce by Urban and Rural/Remote Distribution by Gender, 2008



Notes
Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick, as *postal code of primary employment* was not collected/submitted.
For the Northwest Territories, the *rural and remote* classification also includes the *territories* classification.
Not stated and *unknown* responses were removed from the above analysis.
Not stated indicates that the *postal code of primary employment* was not provided.
Unknown indicates that the *postal code of primary employment* was provided but did not match the Postal Code Conversion File (PCCF) from Statistics Canada.
Percentage *unknown* for *postal code of primary employment*: total (159, 0.8%).
Percentage *not stated* for *postal code of primary employment*: total (367, 1.8%).
Postal code of primary employment data was assigned to urban, rural and remote categories using the March 2008 release of Statistics Canada's PCCF. The urban, rural and remote categories are based on a classification scheme developed by Statistics Canada.
Please review the Methodological Notes for more comprehensive information.
CIHI data will differ from provincial regulatory authority and territorial government statistics due to the CIHI collection, processing and reporting methodology.
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Sources
Pharmacist Database, Canadian Institute for Health Information; and Statistics Canada.

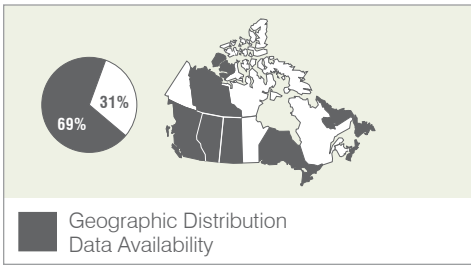

Table 7 Pharmacist Workforce by Urban and Rural/Remote Distribution by 10-Year Age Groups, 2008

Age Groups	Urban	Rural/Remote
20–29	12.5	11.2
30–39	29.1	26.0
40–49	27.9	27.1
50–59	21.4	22.5
60+	9.1	13.2

Notes

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick, as *postal code of primary employment* was not collected/submitted.
The urban, rural and remote categories are based on a classification scheme developed by Statistics Canada.
Please review the Methodological Notes for more comprehensive information.
Not stated and *unknown* responses were removed from the above analysis.
Not stated indicates that the *postal code of primary employment* was not provided.
Unknown indicates that the *postal code of primary employment* was provided but did not match with the Postal Code Conversion File (PCCF) from Statistics Canada.
Percentage *unknown* for *postal code of primary employment*: total (159, 0.8%).
Percentage *not stated* for *postal code of primary employment*: total (367, 1.8%).
Postal code of primary employment data was assigned to urban, rural and remote categories using the March 2008 release of Statistics Canada's PCCF.
CIHI data will differ from provincial regulatory authority and territorial government statistics due to the CIHI collection, processing and reporting methodology.
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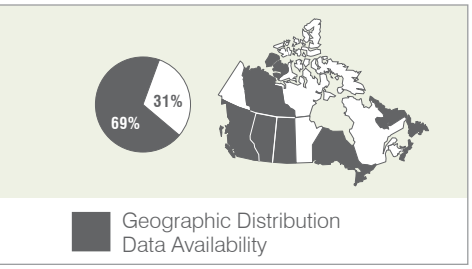
Sources

Pharmacist Database, Canadian Institute for Health Information; and Statistics Canada.



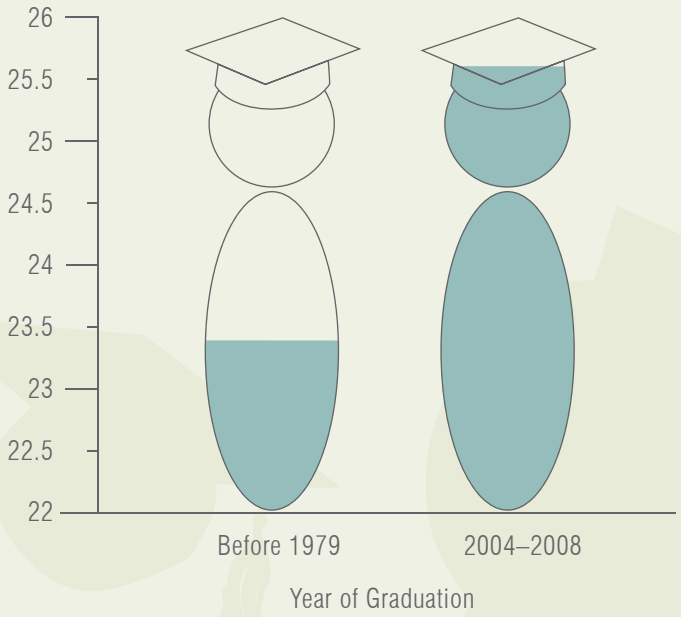
Chapter 4
Education

Pharmacists who recently entered the workforce were older than those who graduated 30 years ago. Among the pharmacists who graduated 30 years ago, more than three-quarters graduated between age 17 and 24. Among the pharmacists who graduated 0 to 4 years ago, less than half were between age 17 and 24. The average age of pharmacists graduating in the last four years was 25.6, whereas the average age of pharmacists graduating 30 years ago was 23.4.

Recent **pharmacy grads** were **older** when they entered the **workforce.**

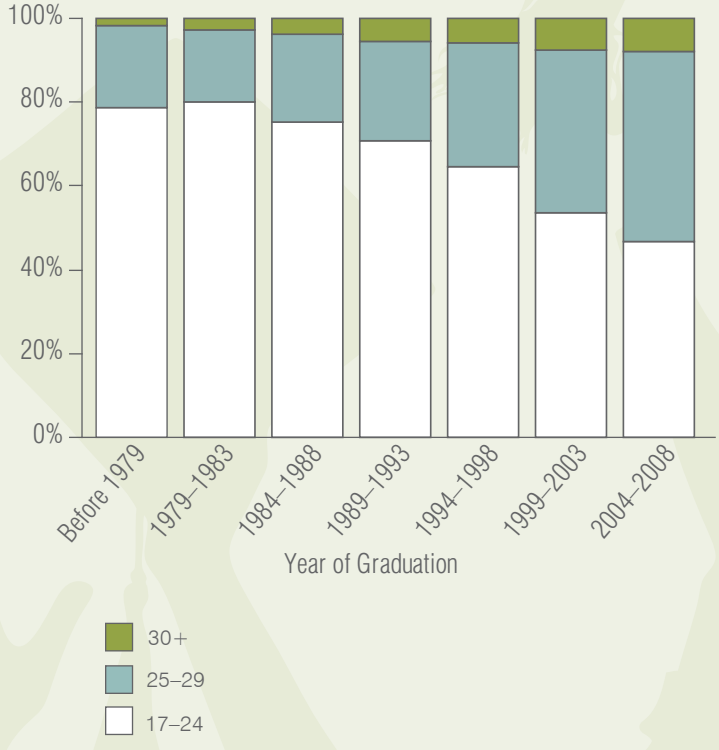
Average Age at Graduation

From Basic Education in Pharmacy



Age at Graduation

From Basic Education in Pharmacy

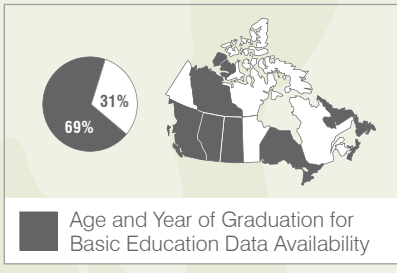


Notes

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick, as the *year of graduation for basic education in pharmacy* was not collected/submitted.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *year of graduation for basic education in pharmacy*: total (37, 0.2%).
CIHI data will differ from provincial and territorial data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.



Current Level of Education in Pharmacy

Table 8 Pharmacist Workforce Current Level of Education, 2006 to 2008

	2006		2007		2008	
	Count	Percent	Count	Percent	Count	Percent
Diploma	107	0.6	166	0.9	384	1.9
Baccalaureate	16,047	97.5	18,223	96.3	18,991	94.6
Master's	107	0.6	189	1.0	244	1.2
PharmD	195	1.2	327	1.7	424	2.1
Doctorate	7	0.0	23	0.1	37	0.2
Total	**16,463†**	**100**	**18,928‡**	**100**	**20,080§**	**100**

Notes

† 2006 includes data from P.E.I., Ontario, Saskatchewan, Alberta, B.C. and the Northwest Territories. Data for Newfoundland and Labrador, New Brunswick, Quebec, Manitoba and Nunavut was not available.

‡ 2007 includes data from P.E.I., Nova Scotia, Ontario, Saskatchewan, Alberta, B.C. and the Northwest Territories. Data from Quebec, Manitoba and Nunavut was not available. Findings do not include Newfoundland and Labrador, New Brunswick and the Yukon, as the *level of education* was not collected/submitted.

§ 2008 includes data from Newfoundland and Labrador, P.E.I., Nova Scotia, Ontario, Saskatchewan, Alberta, B.C. and the Northwest Territories. Data for Quebec, Manitoba, the Yukon and Nunavut was not available. Findings do not include New Brunswick as the *level of education in pharmacy* was not collected/submitted.

Current level of education in pharmacy represents the highest and the most recently acquired level of education in pharmacy reported by the registrant.

The results do not include data for which responses were *unknown*.

Percentage *unknown* for *level of current education in pharmacy*, 2008: total (35, 0.2%).

Percentage *unknown* for *level of current education in pharmacy*, 2007: total (51, 0.3%).

Percentage *unknown* for level of *current education in pharmacy*, 2006: total (384, 2.3%).

CIHI data will differ from provincial regulatory authority or territorial government data due to the CIHI collection, processing and reporting methodology.

The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

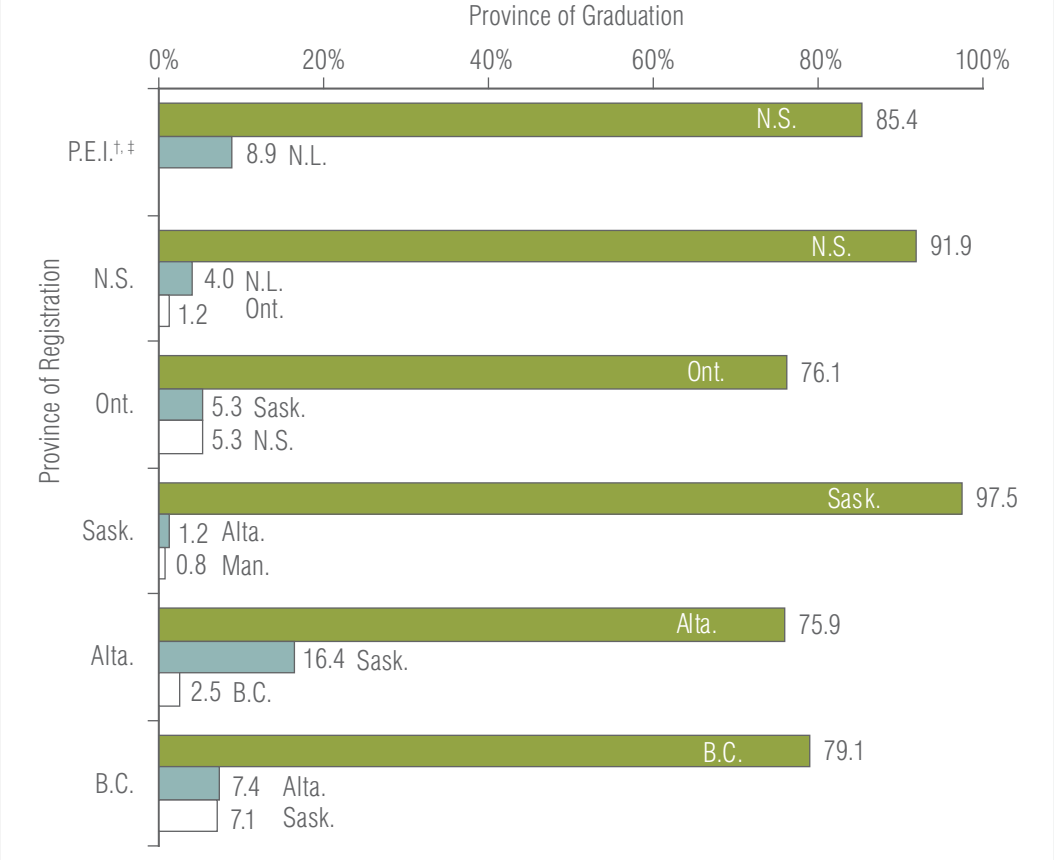
Pharmacist Database, Canadian Institute for Health Information.

Current Level of Education Data Availability for 2008

Top Three Provinces of Graduation by Province of Registration

By examining the top three provinces of graduation for each jurisdiction, it is clear that provinces draw the majority of their pharmacists from their home schools. Saskatchewan had the highest retention of graduates at 97.5%; other pharmacists within the Saskatchewan workforce graduated from Alberta (1.2%) and Manitoba (0.8%).

Figure 4 Pharmacist Workforce by Province of Registration and Top Three Provinces of Graduation for Selected Provinces, 2008



Notes

† P.E.I., New Brunswick, the Yukon, the Northwest Territories and Nunavut do not have a graduate program in pharmacy.

‡ Only the top two provinces of graduation were used for P.E.I. due to small cell sizes.

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.

Findings do not include New Brunswick, as *university of graduation for basic/highest education in pharmacy* was not collected/submitted.

Findings do not include Newfoundland and Labrador due to a high proportion of missing values.

Data from the Northwest Territories is suppressed due to small cell sizes.

Percentage *unknown* for *university of graduation for current education in pharmacy*: Nova Scotia (6, 0.6%), Ontario (66, 0.7%), Saskatchewan (26, 2.3%), B.C. (501, 13.4%), total (599, 2.9%).

CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.

The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

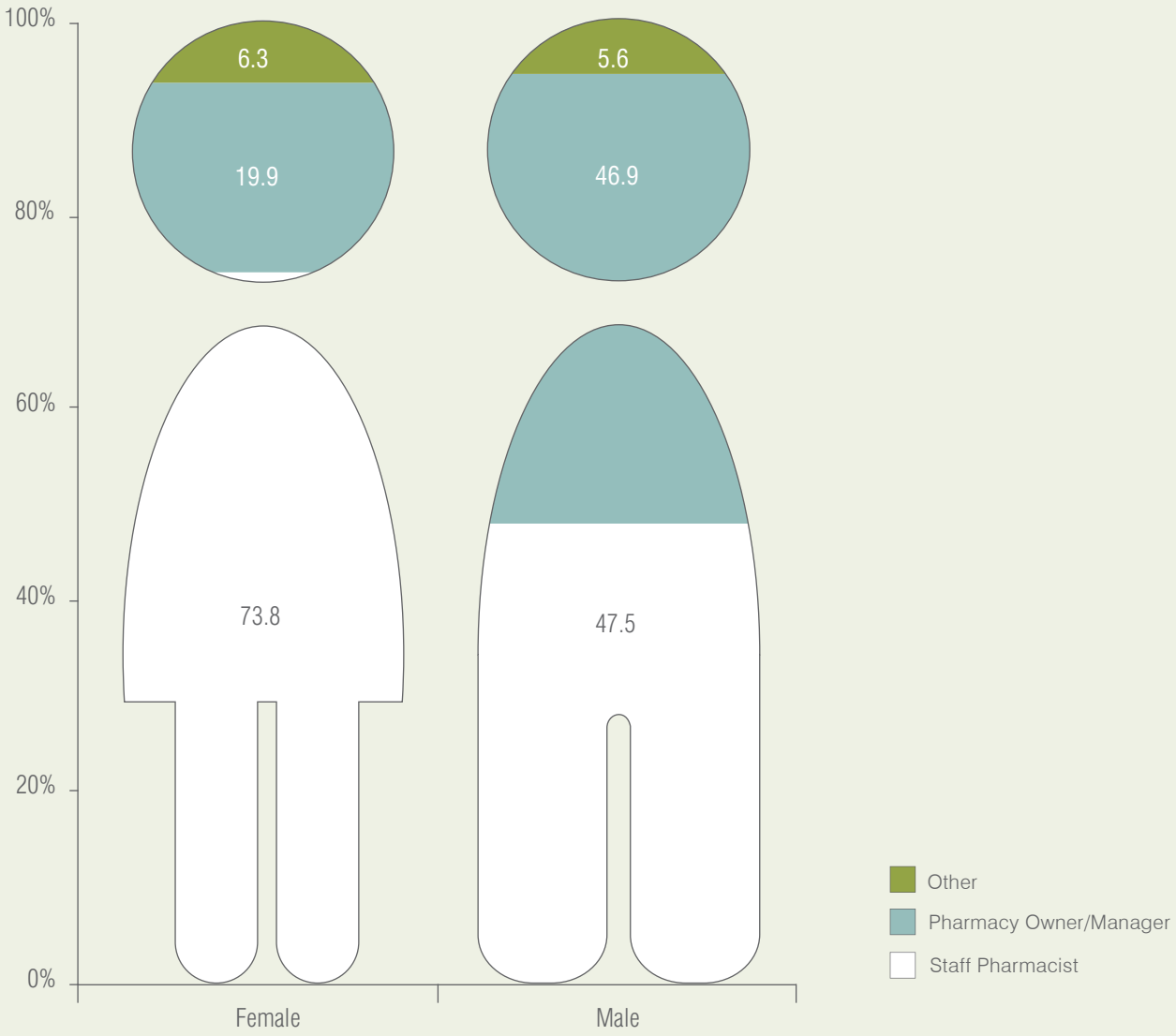
Pharmacist Database, Canadian Institute for Health Information.

Chapter 5
Employment

The proportion of male pharmacists employed as pharmacy owners/managers was more than double that of female pharmacists. Female pharmacists tended to work as staff pharmacists. Also, more than 70% of new graduates entering the workforce were female, and most (92.7%) of the new graduates were employed as staff pharmacists.

More **men** were pharmacy **owners/managers** than **women.**

Gender Differences in the Role of Pharmacists

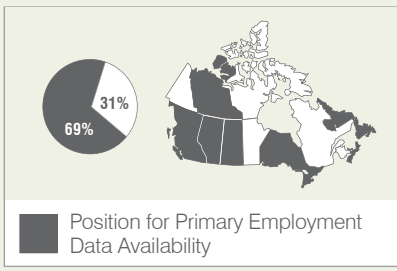


Notes

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick, as *employment position* was not collected/submitted to CIHI for 2008.
Results do not include data for which responses were *unknown*.
Percentage *unknown* for *position for primary employment*: total (553, 2.7%).
Primary employment—the employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours worked.
Pharmacy owner/manager—pharmacy owner with a major role in the day-to-day operation of a pharmacy, although may include some direct client service provision.
Pharmacy manager—major role is in the day-to-day operation of a pharmacy combined with significant direct client service provision.
Staff pharmacist—major role is the direct delivery of pharmacist services to clients.
Other—includes director of pharmacy, institutional leader/coordinator, pharmacist consultant, educator, researcher, industrial pharmacist and other positions not otherwise specified.
The CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

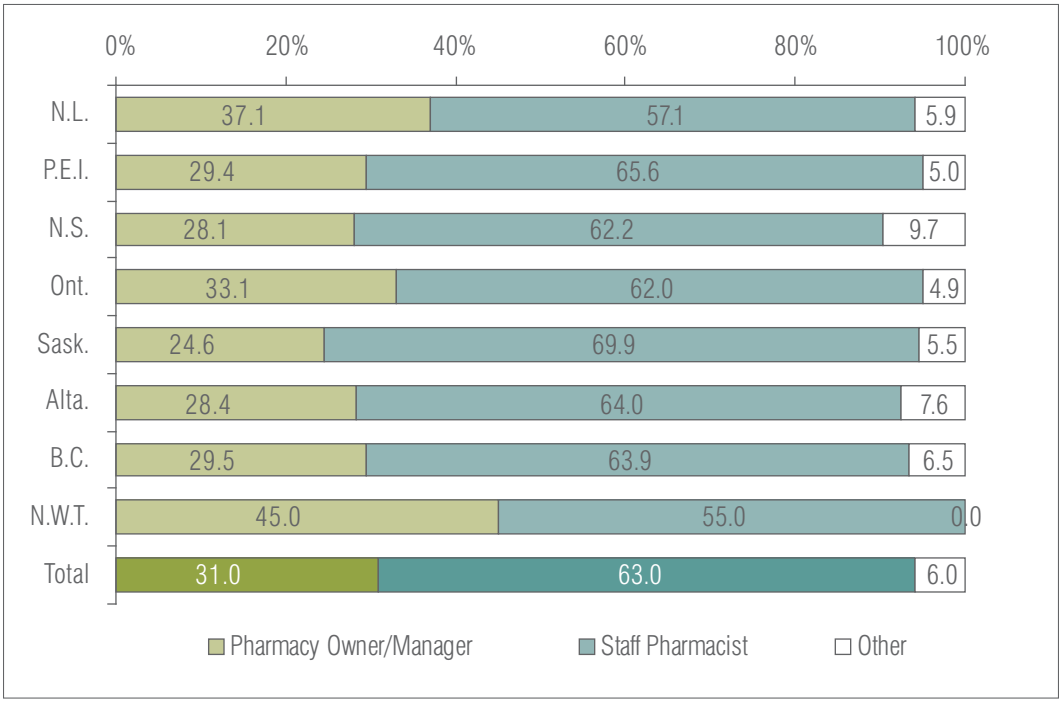
Source

Pharmacist Database, Canadian Institute for Health Information.



Employment Position

Figure 5 Pharmacist Workforce by Employment Position for Primary Employment, Selected Province of Registration, 2008



Notes

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick, as *employment position* was not collected/submitted to CIHI for 2008.
Results do not include data for which responses were *unknown*.
Percentage *unknown* for *position for primary employment*: Newfoundland and Labrador (42, 7.4%), P.E.I. (1, 0.6%), Nova Scotia (60, 5.5%), Ontario (20, 0.2%), Saskatchewan (139, 12.2%), B.C. (291, 7.8%), total (553, 2.7%).
Primary employment—the employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours worked.
Pharmacy owner/manager—pharmacy owner with a major role in the day-to-day operation of a pharmacy, although may include some direct client service provision.
Pharmacy manager—major role is in the day-to-day operation of a pharmacy combined with significant direct client service provision.
Staff pharmacist—major role is the direct delivery of pharmacist services to clients.
Other—includes director of pharmacy, institutional leader/coordinator, pharmacist consultant, educator, researcher, industrial pharmacist and other positions not otherwise specified.
The CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.

Demographic Characteristics of the Pharmacist Workforce Employed as Staff Pharmacist Versus Pharmacy Owner/Manager

Table 9 Pharmacist Workforce by Gender and Selected Employment Positions for Primary Employment, Selected Province of Registration, 2008

	Staff Pharmacist					Pharmacy Owner/Manager				
	Female		Male		Total	Female		Male		Total
	Count	Percent	Count	Percent		Count	Percent	Count	Percent	
N.L.	181	59.9	121	40.1	302	76	38.8	120	61.2	196
P.E.I.	77	73.3	28	26.7	105	21	44.7	26	55.3	47
N.S.	485	75.4	158	24.6	643	155	53.4	135	46.6	290
Ont.	4,057	66.8	2,014	33.2	6,071	1,188	36.7	2,051	63.3	3,239
Sask.	536	76.8	162	23.2	698	96	39.0	150	61.0	246
Alta.	1,656	72.6	626	27.4	2,282	420	41.5	593	58.5	1,013
B.C.	1,505	68.0	708	32.0	2,213	333	32.6	690	67.4	1,023
Total	**8,497**	**69.0**	**3,817**	**31.0**	**12,314**	**2,289**	**37.8**	**3,765**	**62.2**	**6,054**

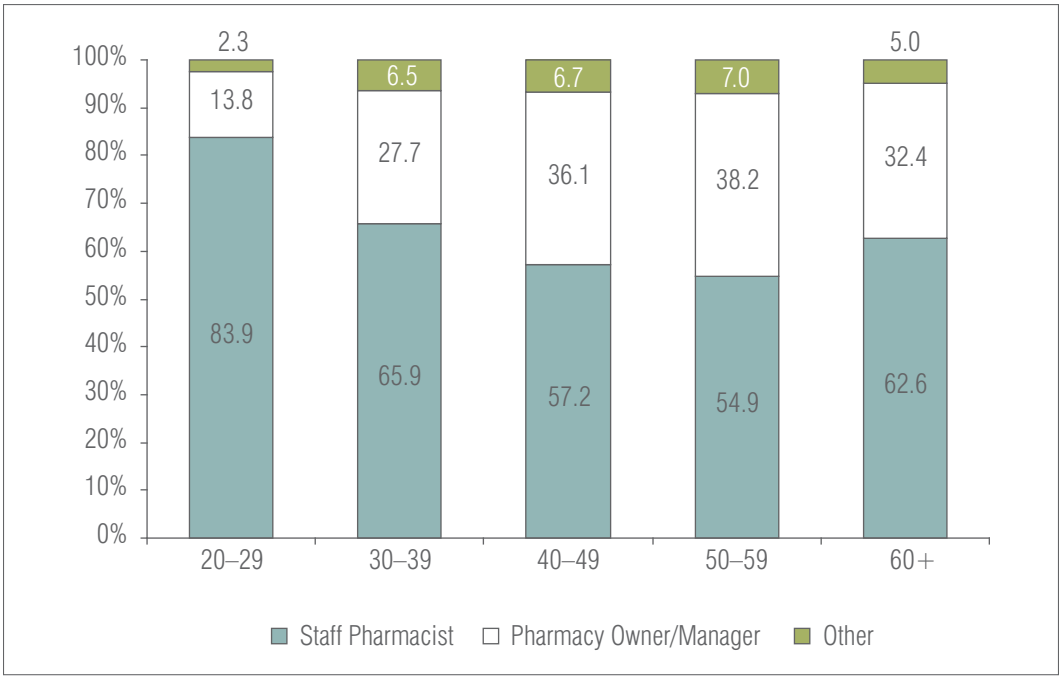
Notes

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick, as *employment position* was not collected/submitted to CIHI for 2008.
Data from the Northwest Territories is suppressed due to small cell sizes.
Results do not include data for which responses were *unknown*.
Percentage *unknown* for *position for primary employment*: Newfoundland and Labrador (42, 7.4%), P.E.I. (1, 0.6%), Nova Scotia (60, 5.5%), Ontario (20, 0.2%), Saskatchewan (139, 12.2%), B.C. (291, 7.8%), total (553, 2.7%).
Primary employment—the employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours worked.
Pharmacy owner/manager—pharmacy owner with a major role in the day-to-day operation of a pharmacy, although may include some direct client service provision.
Pharmacy manager—major role is in the day-to-day operation of a pharmacy combined with significant direct client service provision.
Staff pharmacist—major role is the direct delivery of pharmacist services to clients.
The CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.

Figure 6 Pharmacist Workforce by 10-Year Age Groups and Employment Position for Primary Employment, 2008

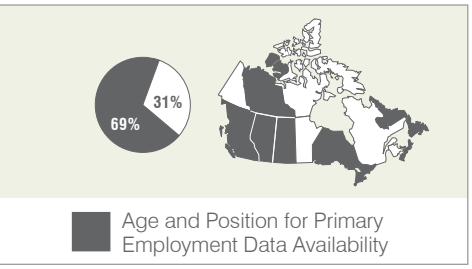


Notes

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick, as *employment position* was not collected/submitted to CIHI for 2008.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *position for primary employment*: total (553, 2.7%).
Primary employment—the employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours worked.
Pharmacy owner/manager—pharmacy owner with a major role in the day-to-day operation of a pharmacy, although may include some direct client service provision.
Pharmacy manager—major role is in the day-to-day operation of a pharmacy combined with significant direct client service provision.
Staff pharmacist—major role is the direct delivery of pharmacist services to clients.
Other—includes director of pharmacy, institutional leader/coordinator, pharmacist consultant, educator, researcher, industrial pharmacist and other positions not otherwise specified.
The CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

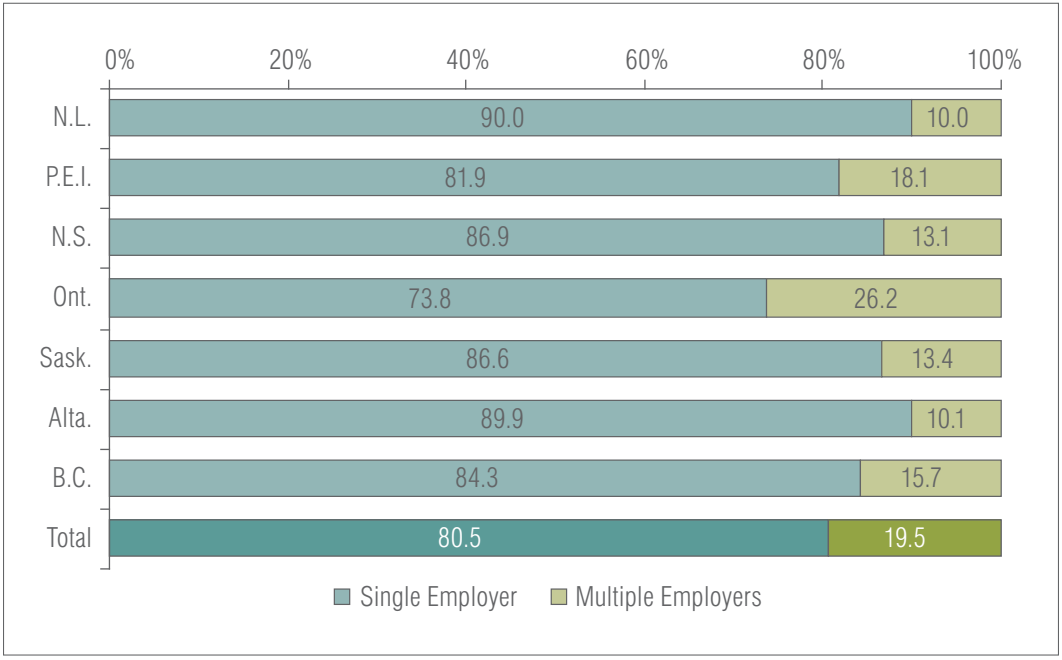
Pharmacist Database, Canadian Institute for Health Information.



Single Versus Multiple Employers

Pharmacists tended to have a higher proportion of multiple employers than the general Canadian workforce. Where multiple job holders in Canada accounted for 5.3% of the general workforce,[3] 19.5% of the pharmacist workforce worked multiple jobs.

Figure 7 Pharmacist Workforce by Number of Employers, Selected Province of Registration, 2008

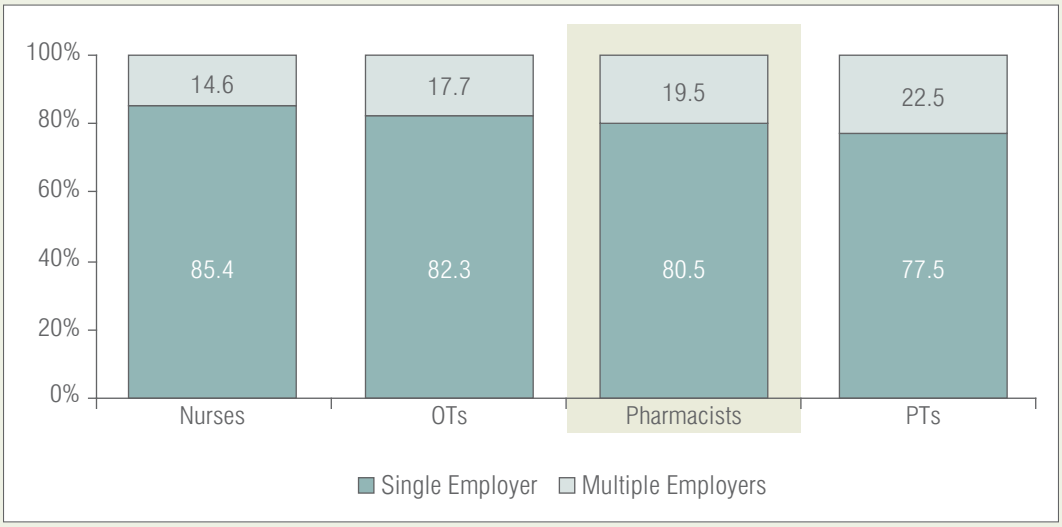


Notes
Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick and the Northwest Territories, as primary and/or secondary and third employment information was not collected/submitted.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *number of employers*: Newfoundland and Labrador (41, 7.2%), P.E.I. (1, 0.6%), Nova Scotia (56, 5.1%), Saskatchewan (1, 0.1%), B.C. (20, 0.5%), total (119, 0.6%).
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.
Source
Pharmacist Database, Canadian Institute for Health Information.

Cross-Profession by Multiple Employers

Similar to other health care providers, 19.5% of pharmacists worked for more than one employer.

Health Professionals by Multiple Employers



Notes

Regulated Nurses
Statistics for nurses are based on 2007 data.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for multiple employment status: total (1,075, 0.3%).
Regulated nurses include registered nurses, licensed practical nurses and registered psychiatric nurses.

Occupational Therapists (OTs)
Quebec data was not available.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for multiple employment status: total (2, <0.1%).

Pharmacists
Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick and the Northwest Territories, as primary and/or secondary and third employment information was not collected/submitted.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for multiple employment status: total (119, 0.6%).

Physiotherapists (PTs)
Nova Scotia and Yukon data was not available.
Regulatory data was not available from the Northwest Territories and Nunavut, as there were no licensing authorities in these territories.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for multiple employment status: total (64, 0.4%).

CIHI data will differ from provincial and territorial data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of the PDB data.

Sources
Nursing Database, Occupational Therapist Database, Pharmacist Database and Physiotherapist Database, Canadian Institute for Health Information.

Table 10 Pharmacist Workforce by Number of Employers and Gender, 2008

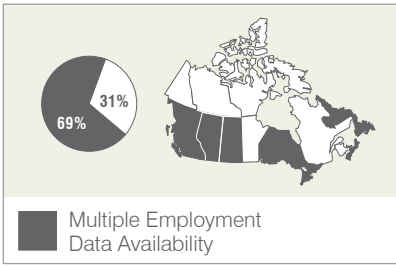
	Single		Multiple		Total
	Count	Percent	Count	Percent	
Female	9,622	82.1	2,104	17.9	11,726
Male	6,463	78.3	1,787	21.7	8,250
Total	**16,085**	**80.5**	**3,891**	**19.5**	**19,976**

Notes
Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick and the Northwest Territories, as primary and/or secondary and third employment information was not collected/submitted.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *number of employers*: total (119, 0.6%).
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.
Source
Pharmacist Database, Canadian Institute for Health Information.

Table 11 Pharmacist Workforce by Number of Employers and 10-Year Age Groups, 2008

	Single		Multiple		Total
	Count	Percent	Count	Percent	
20–29	2,113	85.4	362	14.6	2,475
30–39	4,645	80.9	1,099	19.1	5,744
40–49	4,415	79.5	1,135	20.5	5,550
50–59	3,416	79.6	878	20.4	4,294
60+	1,496	78.2	417	21.8	1,913
Total	**16,085**	**80.5**	**3,891**	**19.5**	**19,976**

Notes
Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick and the Northwest Territories, as primary and/or secondary and third employment information was not collected/submitted.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *number of employers*: total (119, 0.6%).
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.
Source
Pharmacist Database, Canadian Institute for Health Information.



Employment Category

Table 12 Pharmacist Workforce by Employment Category for Primary Employment, Selected Province of Registration, 2008

	Permanent Employee		Temporary or Casual Employee		Self-Employed		Total
	Count	Percent	Count	Percent	Count	Percent	
N.L.	441	83.4	35	6.6	53	10.0	529
P.E.I.	146	91.3	8	5.0	6	3.8	160
N.S.	896	86.7	49	4.7	88	8.5	1,033
Sask.	840	79.2	68	6.4	153	14.4	1,061
Alta.	2,987	83.8	196	5.5	383	10.7	3,566
B.C.	3,024	87.9	245	7.1	173	5.0	3,442
Total	**8,352**	**85.1**	**603**	**6.1**	**856**	**8.7**	**9,811**

Notes

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Data from the Northwest Territories was suppressed due to small cell sizes.
Findings do not include New Brunswick, as *employment category* was not collected/submitted to CIHI for 2008.
Findings do not include Ontario, as the Ontario College of Pharmacists was unable to identify the *employment category* and indicated that 100% of active registrants were *permanent employees* in its data submission to CIHI.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *employment category for primary employment*: Newfoundland and Labrador (42, 7.4%), P.E.I. (1, 0.6%), Nova Scotia (60, 5.5%), Saskatchewan (77, 6.8%), B.C. (311, 8.3%), total (491, 4.8%).
Primary employment—the employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours worked.
Permanent employee—status with employer is permanent with an indeterminate duration (no specified end date) of employment and guaranteed or fixed hours of work per week.
Self-employed—a person engaged independently in the profession, operating his or her own economic enterprise. The individual may be the working owner of an incorporated or unincorporated business or professional practice, or an individual in a business relationship characterized by a verbal or written agreement(s) in which the self-employed individual agrees to perform specific work for a payer in return for payment.
Temporary employee—status with employer is temporary with fixed duration of employment, based on a defined start and end date and guaranteed or fixed hours of work per week.
Casual employee—status with employer is on an as-needed basis, with employment that is not characterized by a guaranteed or fixed number of hours per week.
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.

Place of Employment

Table 13 Pharmacist Workforce by Place of Employment for Primary Employment, Selected Province of Registration, 2008

	Hospital and Other Health Care Facility		Community Pharmacy		Health-Related Industry/ Manufacturing/ Commercial		Other		Total
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	
N.L.	93	17.5	405	76.4	*	*	**	**	530
P.E.I.	27	16.9	124	77.5	0	0.0	9	5.6	160
N.S.	171	16.5	795	76.7	14	1.4	57	5.5	1,037
Ont.	1,707	17.4	7,432	75.8	634	6.5	38	0.4	9,811
Alta.	718	20.1	2,629	73.7	28	0.8	191	5.4	3,566
B.C.	720	19.4	2,840	76.7	**	**	**	**	3,705
Total	**3,436**	**18.3**	**14,225**	**75.6**	**687**	**3.7**	**461**	**2.5**	**18,809**

Notes

* Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 4.
** Value suppressed to ensure confidentiality; cell value is 5 or greater.
Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings from New Brunswick and Saskatchewan were not included, as *place of employment* was not collected/submitted to CIHI for 2008.
Findings from the Northwest Territories were suppressed due to small cell sizes.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *place of employment for primary employment*: Newfoundland and Labrador (41, 7.2%), P.E.I. (1, 0.6%), Nova Scotia (56, 5.1%), Ontario (2, 0.02%), B.C. (48, 1.3%), total (148, 0.8%).
Primary employment—the employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours worked.
Hospital and other health care facilities—this category also includes rehabilitation facilities, mental health facilities and residential care facilities.
Community pharmacy—retail setting where drugs and related products are distributed primarily through direct contact with clients.
Health-related industry/manufacturing/commercial—a health-related industry whose focus of activities is not the direct delivery of health care services but rather health-related products, services and/or sales (medical device companies, pharmaceutical companies, insurers, etc.).
Other—includes other pharmacy, group professional practice/clinic, community health centre, other community-based pharmacist practice, postsecondary educational institution, association/government/para-governmental, community pharmacy corporate office and other place of employment not otherwise specified.
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.

Table 14 Pharmacist Workforce Employed in Hospitals Versus Community Pharmacies for Primary Employment by Gender, Selected Province of Registration, 2008

	Community Pharmacy					Hospital				
	Female		Male		Total	Female		Male		Total
	Count	Percent	Count	Percent		Count	Percent	Count	Percent	
N.L.	199	49.1	206	50.9	405	51	54.8	42	45.2	93
P.E.I.	76	61.3	48	38.7	124	20	74.1	7	25.9	27
N.S.	532	66.9	263	33.1	795	129	75.4	42	24.6	171
Ont.	3,792	51.0	3,640	49.0	7,432	1,355	79.4	352	20.6	1,707
Alta.	1,542	58.7	1,087	41.3	2,629	545	75.9	173	24.1	718
B.C.	1,491	52.5	1,349	47.5	2,840	519	72.1	201	27.9	720
Total	**7,632**	**53.7**	**6,593**	**46.3**	**14,225**	**2,619**	**76.2**	**817**	**23.8**	**3,436**

Notes

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings from New Brunswick and Saskatchewan were not included, as *place of employment* was not collected/submitted to CIHI for 2008.
Findings from the Northwest Territories were suppressed due to small cell sizes.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *place of employment for primary employment*: Newfoundland and Labrador (41, 7.2%), P.E.I. (1, 0.6%), Nova Scotia (56, 5.1%), Ontario (2, 0.02%), B.C. (48, 1.3%), total (148, 0.8%).
Primary employment—the employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours worked.
Hospital and other health care facilities—this category also includes rehabilitation facilities, mental health facilities and residential care facilities.
Community pharmacy—retail setting where drugs and related products are distributed primarily through direct contact with clients.
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.

Table 15 Pharmacists Employed in Hospitals and Community Pharmacies for Primary Employment by 10-Year Age Groups, Selected Province of Registration, 2008

	N.L.	P.E.I.	N.S.	Ont.	Alta.	B.C.	Total
Count of Pharmacists							
Hospital							
20–29	13	*	**	193	119	103	**428**
30–39	33	10	56	576	208	190	**1,073**
40–49	29	9	50	494	208	226	**1,016**
50–59	18	*	**	347	152	170	**687**
60+	0	*	**	97	31	31	**165**
Total	**93**	**27**	**171**	**1,707**	**718**	**720**	**3,436**
Community Pharmacy							
20–29	63	19	109	683	448	471	**1,793**
30–39	103	43	256	1,935	822	793	**3,952**
40–49	132	32	222	2,117	660	747	**3,910**
50–59	69	19	152	1,729	495	591	**3,055**
60+	38	11	56	968	204	238	**1,515**
Total	**405**	**124**	**795**	**7,432**	**2,629**	**2,840**	**14,225**
Percentage of Pharmacists							
Hospital							
20–29	14.0	*	**	11.3	16.6	14.3	**12.5**
30–39	35.5	37.0	32.7	33.7	29.0	26.4	**31.2**
40–49	31.2	33.3	29.2	28.9	29.0	31.4	**29.6**
50–59	19.4	*	**	20.3	21.2	23.6	**20.0**
60+	0.0	*	**	5.7	4.3	4.3	**4.8**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Community Pharmacy							
20–29	15.6	15.3	13.7	9.2	17.0	16.6	**12.6**
30–39	25.4	34.7	32.2	26.0	31.3	27.9	**27.8**
40–49	32.6	25.8	27.9	28.5	25.1	26.3	**27.5**
50–59	17.0	15.3	19.1	23.3	18.8	20.8	**21.5**
60+	9.4	8.9	7.0	13.0	7.8	8.4	**10.7**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

(see notes on next page)

Notes

* Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 4.
** Value suppressed to ensure confidentiality; cell value is 5 or greater.
Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings from New Brunswick and Saskatchewan were not included, as *place of employment* was not collected/submitted to CIHI for 2008.
Findings from the Northwest Territories were suppressed due to small cell sizes.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *place of employment for primary employment*: Newfoundland and Labrador (41, 7.2%), P.E.I. (1, 0.6%), Nova Scotia (56, 5.1%), Ontario (2, 0.02%), B.C. (48, 1.3%), total (148, 0.8%).
Primary employment—the employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours worked.
Hospital and other health care facilities—this category also includes rehabilitation facilities, mental health facilities and residential care facilities.
Community pharmacy—retail setting where drugs and related products are distributed primarily through direct contact with clients.
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

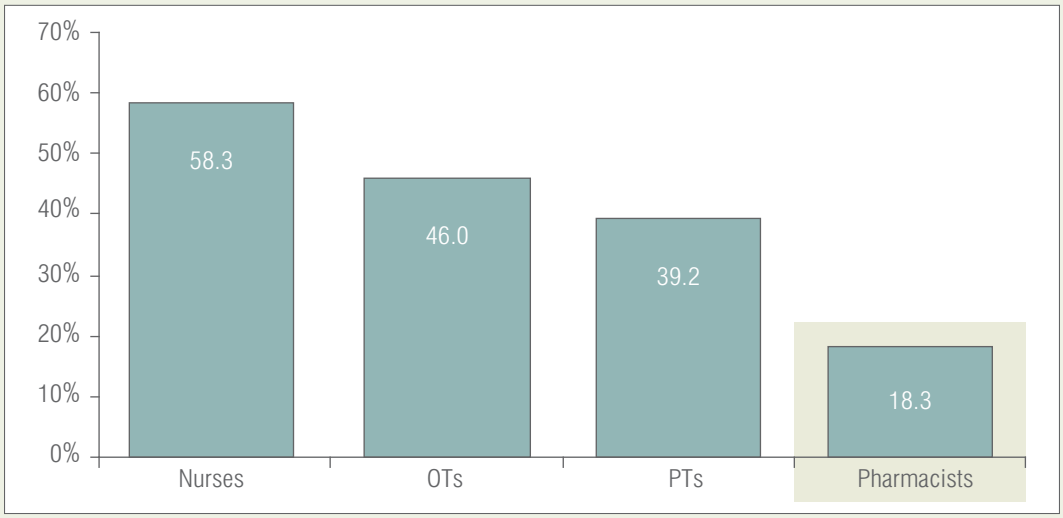
Source

Pharmacist Database, Canadian Institute for Health Information.

Cross-Profession by Hospital Place of Work

Compared to many other health professions, a lower proportion of pharmacists was likely to work in a hospital setting. This is due to the fact that more than three-quarters of the pharmacist workforce was employed in a community pharmacy setting.

Health Professionals by Place of Work—Hospital



(see notes on next page)

Notes

Regulated Nurses
Statistics for nurses are based on 2007 data.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *place of work*: total (3,122, 0.9%).
Hospital includes data from *hospitals* (general, maternal, pediatric, psychiatric), *mental health centres* and *rehabilitation/convalescent centres*.
Regulated nurses include registered nurses, licensed practical nurses and registered psychiatric nurses.

Occupational Therapists (OTs)
Quebec data was not available.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *employer type*: total (58, 0.7%).
Hospital includes *general hospital*, *rehabilitation hospital/facility* and *mental health hospital/facility*.

Physiotherapists (PTs)
Nova Scotia data was not available.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *place of employment*: total (216, 1.3 %).
Hospital includes *general hospital*, *rehabilitation hospital/facility* and *mental health hospital/facility*.

Pharmacists
Data from Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings from New Brunswick and Saskatchewan were not included, as *place of employment* was not collected/submitted to CIHI for 2008.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *place of employment*: total (148, 0.8%).
Hospital includes *rehabilitation facility*, *mental health facility* and *residential care facility*.

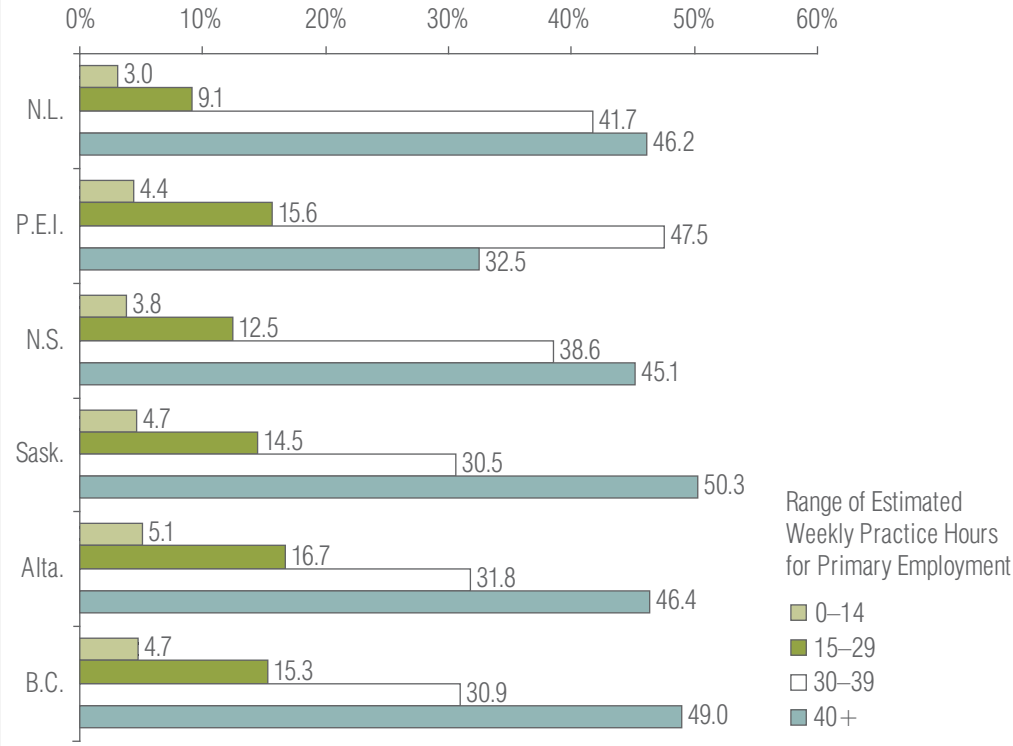
CIHI data will differ from provincial and territorial data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of the PDB data.

Sources

Nursing Database, Occupational Therapist Database, Physiotherapist Database and Pharmacist Database, Canadian Institute for Health Information.

Range of Estimated Weekly Practice Hours

Figure 8 Pharmacist Workforce by Range of Estimated Weekly Practice Hours for Primary Employment, Selected Province of Registration, 2008



Notes

Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings from New Brunswick and Ontario were not included, as *range of estimated weekly hours of work* was not collected/submitted to CIHI for 2008.
Findings from the Northwest Territories were suppressed due to small cell sizes.
The results do not include data for which responses were *unknown*.
Primary employment—the employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours worked.
Percentage *unknown* for *range of estimated weekly hours of work*: Newfoundland and Labrador (77, 13.5%), P.E.I. (1, 0.6%), Nova Scotia (74, 6.8%), Saskatchewan (87, 7.6%), B.C. (360, 9.6%), total (599, 5.8%).
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.

Chapter 6
In Focus

New Graduates

Table 16 Number of Graduates of Accredited Programs in Pharmacy by School of Graduation, Canada, 1998 to 2008

School	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
N.L.											
Memorial University	31	36	38	40	35	32	37	35	36	20	18
N.S.											
Dalhousie University	62	62	66	64	62	50	59	88	83	87	87
Que.	229	243	252	206	191	232	251	323	188	179	337
Université Laval	114	120	103	99	97	112	135	138	188§	179§	184
Université de Montréal	115	123	149	107	94	120	129	185	..	..	153
Ont.											
University of Toronto	129	109	122	111	117	119	132	165	170	183	237
University of Waterloo†	–	–	–	–	–	–	–	–	–	–	–
Man.											
University of Manitoba	49	46	42	47	48	47	43	45	49	43	51
Sask.											
University of Saskatchewan	74	71	74	75	65	..	72	80	73	85	113
Alta.											
University of Alberta	96	99	104	104	95	98	93	97	102	115	135
B.C.											
University of British Columbia‡	122	130	135	123	129	127	121	145	132	125	149
Canada	**792**	**796**	**833**	**770**	**742**	**705**	**821**	**978**	**833**	**837**	**1,127**

Notes

.. Information not available.
– Data not applicable or does not exist.
† New school opened in January 2008.
‡ University of British Columbia 2001–2002 data came from the College of Pharmacists of British Columbia; in 2005, there was an increase in graduates due to an increase in enrolment numbers; this includes graduates from the master's degree program.
§ Includes graduates from diploma, master's degree and PhD programs.

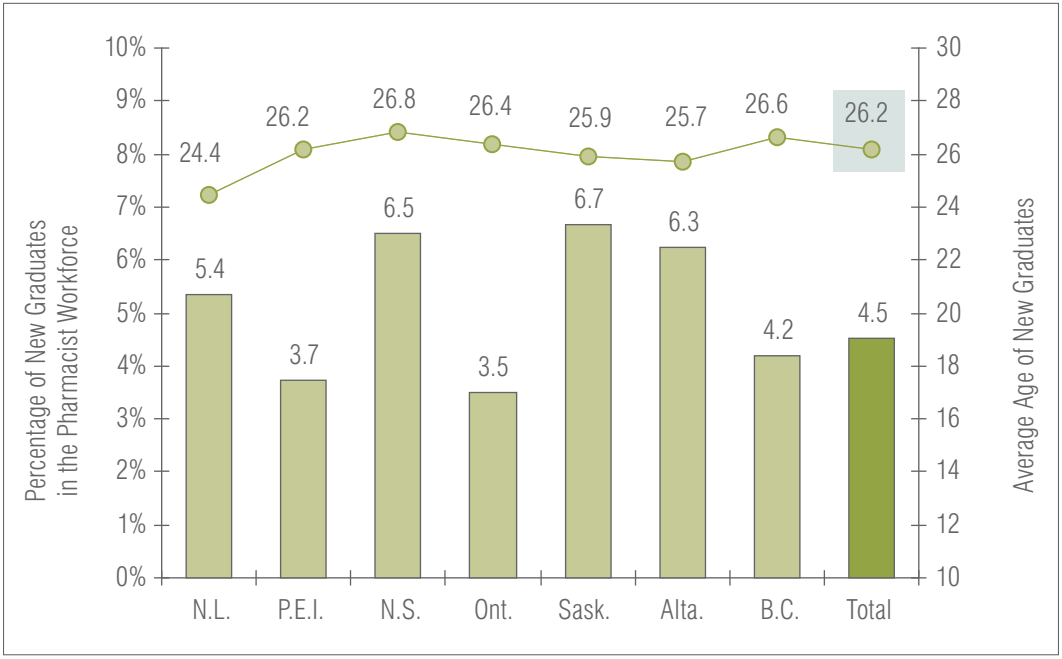
1998 to 2005: provided by Health Personnel Database, which reports the graduates from accredited pharmacy programs in Canada.

Data in this table should be used within the limitations noted in the Methodological Notes section of *Canada's Health Care Providers, 1997 to 2006, A Reference Guide.*

Sources

1998 to 2005: Health Personnel Database, Canadian Institute for Health Information;
2006 to 2008: Pharmacy Examining Board of Canada.

Figure 9 New Graduates in the Pharmacist Workforce, Selected Province of Registration, 2008



Notes

New graduates: graduates have a year of graduation for basic education of 2007 or 2008.
Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick because the *year of graduation for basic education* was not collected/submitted.
Northwest Territories data was suppressed due to small cell sizes.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *year of graduation for basic education*: Newfoundland and Labrador (30, 5.3%), Nova Scotia (3, 0.3%), Ontario (3, <0.1%), B.C. (1, 0.03%), total (37, 0.2%).
CIHI data will differ from provincial regulatory authority or territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.

Pharmacists were considered new graduates if they graduated in 2007 or 2008.

Demographic Characteristics of New Graduates

Almost three-quarters (71.3%) of new graduates were female. This ratio was higher than that of the entire workforce, where only 59% were female.

Table 17 New Graduates by Gender, Selected Province of Registration, 2008

	N.L.	N.S.	Ont.	Sask.	Alta.	B.C.	Total
Count of New Graduates							
Female	22	52	256	60	150	102	**642**
Male	7	19	88	16	73	55	**258**
Total	29	71	344	76	223	157	**900**
Percentage of New Graduates							
Female	75.9	73.2	74.4	78.9	67.3	65.0	**71.3**
Male	24.1	26.8	25.6	21.1	32.7	35.0	**28.7**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Notes

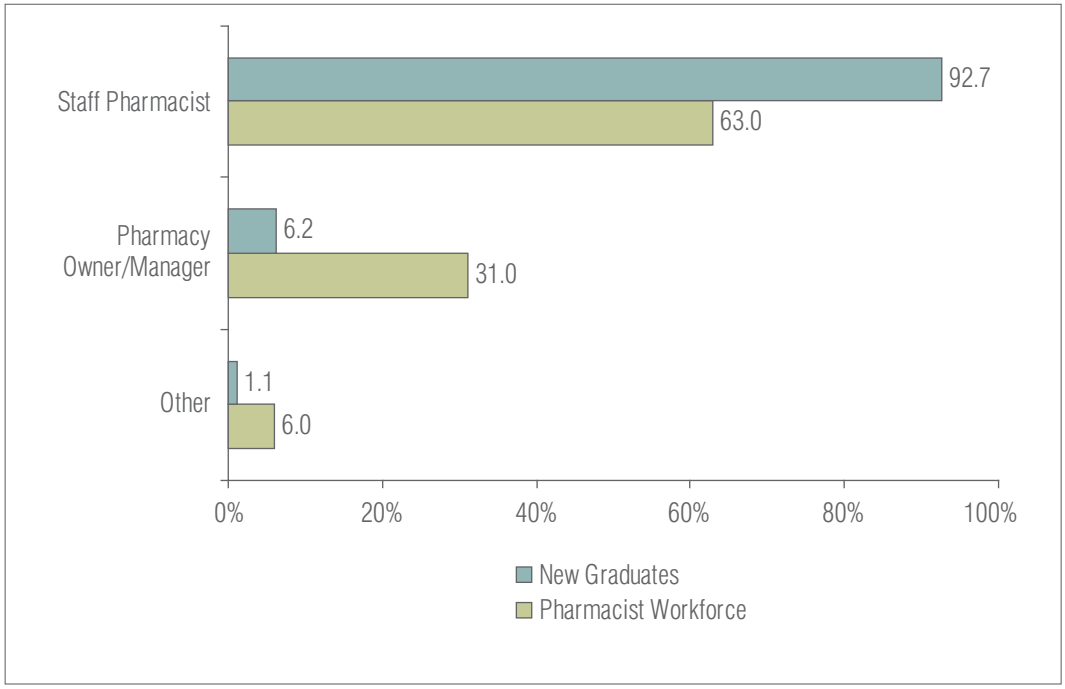
New graduates: graduates have a *year of graduation for basic education* of 2007 or 2008.
Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick because *year of graduation for basic education* was not collected/submitted.
P.E.I and Northwest Territories data was suppressed due to small cell sizes.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *year of graduation for basic education*: Newfoundland and Labrador (30, 5.3%), Nova Scotia (3, 0.3%), Ontario (3, 0.03%), B.C. (1, <0.1%), total (37, 0.2%).
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.

Primary Employment Position for New Graduates

Figure 10 New Graduates by Employment Position for Primary Employment, 2008

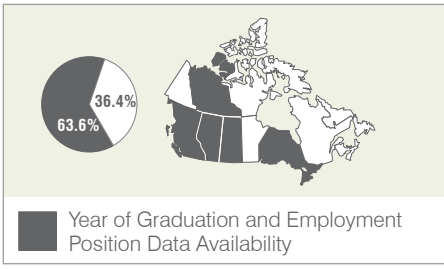


Notes

New graduates: graduates have a *year of graduation for basic education* of 2007 or 2008.
Data for Quebec, Manitoba, the Yukon and Nunavut was not available.
Findings do not include New Brunswick because *year of graduation for basic education* was not collected/submitted.
Findings for *position of primary employment for new graduates* do not include Newfoundland and Labrador and Nova Scotia due to a high proportion of missing values.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *year of graduation for basic education*: total (37, 0.2%).
Percentage *unknown* for *position of primary employment for new graduates:* total (16, 2.0%).
Percentage *unknown* for *position of primary employment for entire workforce*: total (553, 2.7%).
Primary employment—the employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours worked.
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.

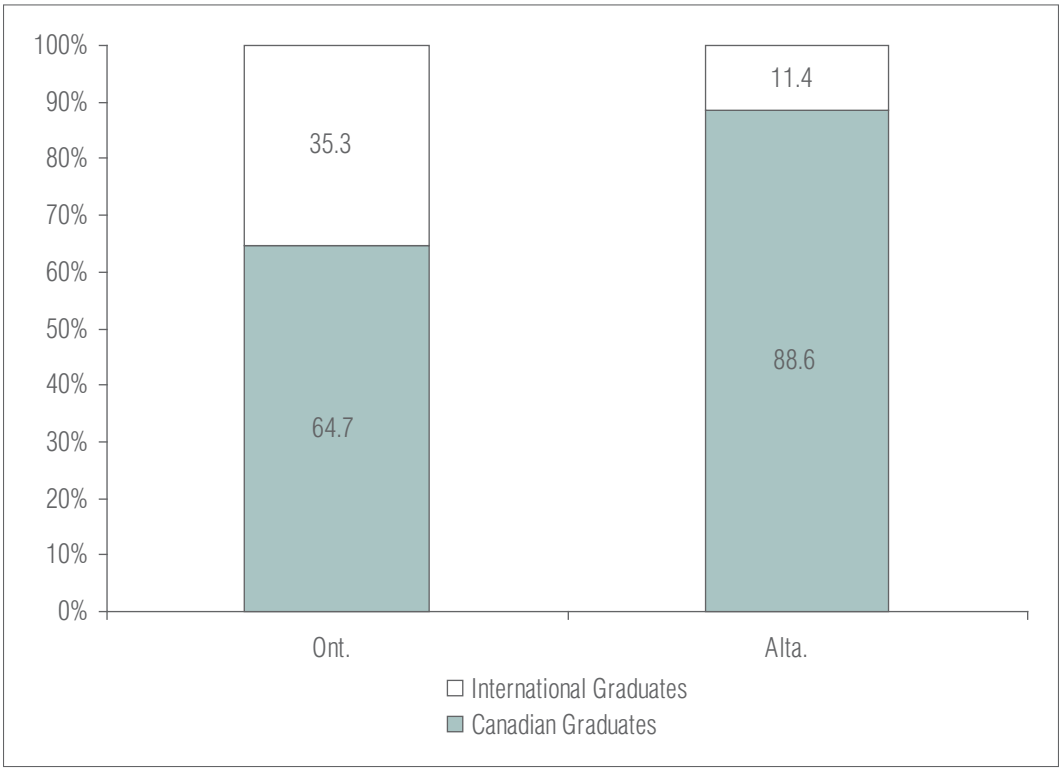


Internationally Educated Pharmacists

To monitor the Canadian-educated/internationally educated composition of the pharmacist workforce, the pharmacist database captures the Canadian university name or country of graduation.

At this time, only Alberta and Ontario provide information regarding country of graduation to CIHI. The section below reports on internationally educated pharmacists registered in Alberta and Ontario only.

Figure 11 Internationally Educated Pharmacists, Selected Province of Registration, 2008



Notes
A pharmacist with a *country of graduation for basic education in pharmacy* other than Canada is denoted as an internationally educated pharmacist. Therefore, the total number could also include Canadian citizens who studied abroad.
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *country of graduation for basic education*: Ontario (50, 0.5%), Alberta (1, <0.1%).
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.
Source
Pharmacist Database, Canadian Institute for Health Information.

Top Five Countries of Graduation

Most internationally educated pharmacists in Alberta and Ontario graduated from Egypt, followed by the United Kingdom and the United States.

Table 18 Top Five Countries of Graduation for Internationally Educated Pharmacists, Selected Province of Registration, 2008

Top Five Countries	
Alberta	Ontario
Egypt: 16.2%	Egypt: 22.1%
U.K.: 12.3%	U.S.: 19.6%
Pakistan: 9.8%	U.K.: 11.0%
U.S.: 8.6%	India: 8.9%
India: 8.1%	Philippines: 4.7%

Notes

A pharmacist with a *country of graduation for basic education in pharmacy* other than Canada is denoted as an internationally educated pharmacist. Therefore, the total number could also include Canadian citizens who studied abroad.

The results do not include data for which responses were *unknown*.

Percentage *unknown* for *country of graduation for basic education*: Ontario (50, 0.5%), Alberta (1, <0.1%).

CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.

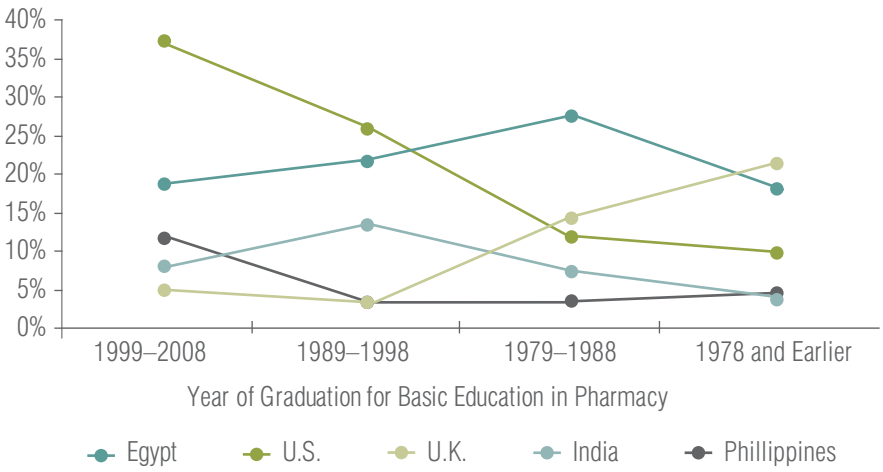
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.

Source

Pharmacist Database, Canadian Institute for Health Information.

For Ontario, the country of graduation for internationally educated pharmacists changed over time. Although Egypt and the U.S. are currently the top countries of graduation, 30 years ago the majority of internationally educated pharmacists graduated from universities in the United Kingdom.

Figure 12 Top Five Countries of Graduation for Internationally Educated Pharmacists in Ontario by Year of Graduation for Basic Education, 2008



Notes
The results do not include data for which responses were *unknown*.
Percentage *unknown* for *country of graduation for basic education*: Ontario (50, 0.5%).
CIHI data will differ from provincial regulatory authority and territorial government data due to the CIHI collection, processing and reporting methodology.
The Methodological Notes provide more comprehensive information regarding the collection and comparability of PDB data.
Source
Pharmacist Database, Canadian Institute for Health Information.

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Provincial/Territorial Highlights and Analyses

2008 Highlights for Pharmacists in Newfoundland and Labrador

Supply

- There were 571 pharmacists employed in the profession in Newfoundland and Labrador in 2008.
- Similar to the other Atlantic provinces (P.E.I. and Nova Scotia), Newfoundland and Labrador had a higher supply of pharmacists per population, at 112 pharmacists per 100,000 population.

Demographics

- The percentage of female pharmacists in Newfoundland and Labrador was the lowest, at 51.3%, of all the participating provinces (59.0%).
- Pharmacists in Newfoundland and Labrador had an average age of 42.0.
- Newfoundland and Labrador had the second highest percentage of pharmacists in the 40-to-49 age group (31.5%) and the lowest percentage in the 20-to-29 age group (15.8%).

Education

- Newfoundland and Labrador had one university program in pharmacy (Memorial University).
- Newfoundland and Labrador had the lowest proportion (56.9%) of pharmacists with their current level of education as baccalaureate, compared to other provinces.
- Just more than five percent (5.4%) of the Newfoundland and Labrador pharmacist workforce were classified as new graduates.
- Like most other provinces, Newfoundland and Labrador had a higher percentage of new pharmacist graduates that were female (75.9%).

Employment

- Newfoundland and Labrador had the lowest percentage of pharmacists with multiple employment (10.0%), compared to other provinces.
- Newfoundland and Labrador had the second-highest percentage of pharmacists with temporary/casual employment (6.6%), compared to other provinces.
- Newfoundland and Labrador had a higher percentage of its pharmacist workforce working as a pharmacy owner/manager (37.1%).
- Newfoundland and Labrador had the lowest percentage of pharmacists working fewer than 30 hours a week (12.1%), compared to the other provinces in the report.

Geography and Mobility

- Among the provinces, Newfoundland and Labrador had the lowest percentage (61.1%) of pharmacist employers located in urban areas.

2008 Newfoundland and Labrador Pharmacist Workforce Provincial Profile

		Newfoundland and Labrador			
		2007		2008	
Pharmacists Employed in Pharmacy		–		571	
Gender	Male	–	–	278	48.7%
	Female	–	–	293	51.3%
	Missing Values	–	–	0	0.0%
Average Age	Years	–		42.0	
10-Year Age Groups	20–29	–	–	90	15.8%
	30–39	–	–	160	28.0%
	40–49	–	–	180	31.5%
	50–59	–	–	98	17.2%
	60–69	–	–	39	6.8%
	70–79	–	–	*	*
	80+	–	–	*	*
	Missing Values	–	–	0	0.0%
Urban Versus Rural	Urban	–	–	321	56.2%
	Rural	–	–	65	11.4%
	Remote	–	–	139	24.3%
	Territories	–	–	0	0.0%
	Missing Values	–	–	46	8.1%
Current Level of Education in Pharmacy	Diploma	–	–	221	38.7%
	Baccalaureate	–	–	308	53.9%
	Master's	–	–	*	*
	PharmD	–	–	**	**
	Doctorate	–	–	0	0.0%
	Missing Values	–	–	30	5.3%
New Graduates	No	–	–	512	89.7%
	Yes	–	–	29	5.1%
	Missing Values	–	–	30	5.3%
Multiple Employment Status	Single Employer	–	–	477	83.5%
	Multiple Employers	–	–	53	9.3%
	Missing Values	–	–	41	7.2%
Employment Category	Permanent	–	–	441	77.2%
	Temporary	–	–	5	0.9%
	Casual	–	–	30	5.3%
	Self-Employed	–	–	53	9.3%
	Missing Values	–	–	42	7.4%
Place of Employment	Hospital and Other Health Care Facility	–	–	93	16.3%
	Community Pharmacy	–	–	405	70.9%
	Other Pharmacy	–	–	0	0.0%
	Group Professional Practice/Clinic	–	–	*	*
	Community Health Centre	–	–	0	0.0%
	Other Community-Based Pharmacist Practice	–	–	0	0.0%
	Postsecondary Educational Institution	–	–	11	1.9%
	Association/Government/Para-Governmental	–	–	12	2.1%
	Health-Related Industry/Manufacturing/Commercial	–	–	*	*
	Community Pharmacy Corporate Office	–	–	*	*
	Other	–	–	*	*
	Missing Values	–	–	41	7.2%
Position	Director of Pharmacy	–	–	8	1.4%
	Pharmacy Owner/Manager	–	–	196	34.3%
	Pharmacy Manager	–	–	0	0.0%
	Institutional Leader/Coordinator	–	–	*	*
	Staff Pharmacist	–	–	302	52.9%
	Pharmacist Consultant	–	–	*	*
	Educator	–	–	8	1.4%
	Researcher	–	–	0	0.0%
	Industrial Pharmacist	–	–	0	0.0%
	Other	–	–	10	1.8%
	Missing Values	–	–	42	7.4%

(cont'd on next page)

Health Region Code	Health Region Name	Population Estimate	Pharmacist Count	Per 100,000 Population
1011	Eastern Regional Integrated Health Authority	295,975	344	116
1012	Central Regional Integrated Health Authority	94,191	80	85
1013	Western Regional Integrated Health Authority	78,592	73	93
1014	Labrador-Grenfell Regional Integrated Health Authority	37,517	23	61
	Missing Values	–	51	–

Notes

– Data not applicable or does not exist.
* Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 4.
** Value suppressed to ensure confidentiality; cell value is 5 or greater.

Missing Values

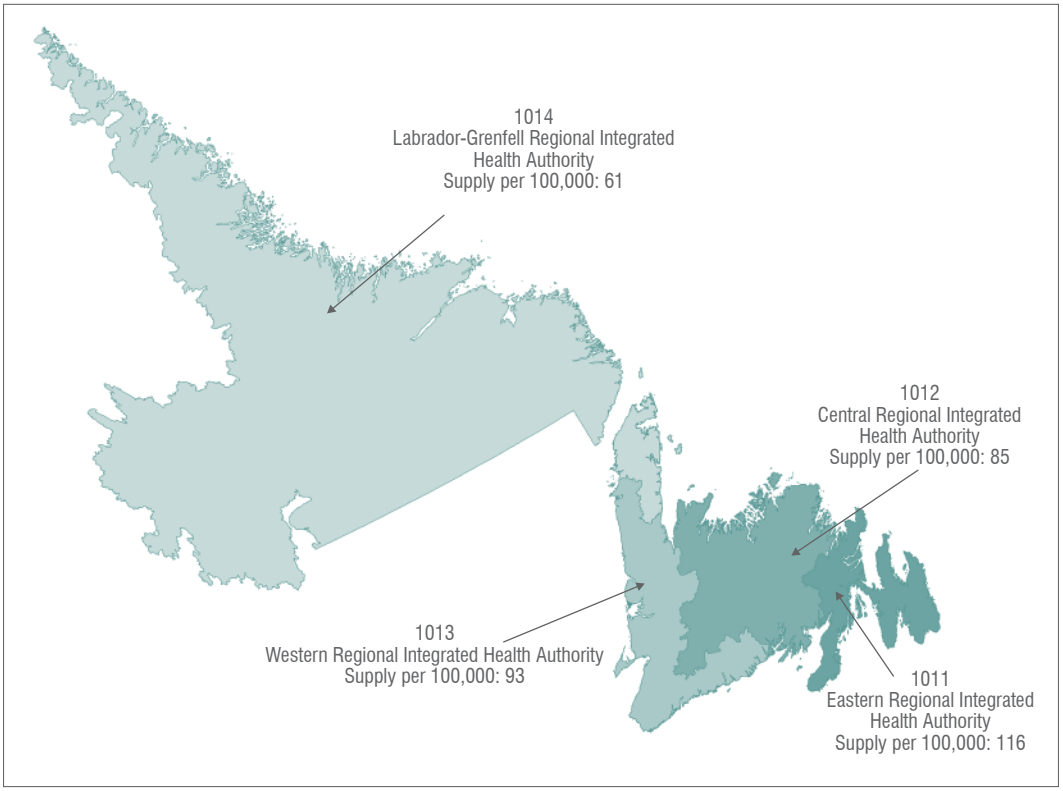
Missing values are values attributed in instances where a data provider is unable to provide information for a registrant for a specific data element. There are three situations which correspond to the following CIHI missing values: *not collected* means that the information is not collected by the data provider on the registration form or that a data provider cannot submit the information; *unknown* indicates that the information was not provided by the registrant; and *not applicable* states that the data element is not relevant to the situation of the registrant. For example, if a pharmacist resides in the U.S., *province of residence* is *not applicable*.

Postal code data was assigned to urban, rural and remote categories using the July 2006 and April 2007 release of Statistics Canada's Postal Code Conversion File.
Employment category, *place of employment* and *position* refer to *primary employment*.
Totals may not sum to 100 percent due to rounding.
Statistics released by CIHI will differ from statistics released by provincial regulatory authorities and territorial governments due to CIHI's collection, processing and reporting methodologies.
Additional methodological information is available upon request by sending an email to pdb@cihi.ca.
The population estimates used in this publication are based on the annual (calendar year) preliminary post-censal (PP) estimates of the population counted on July 1, 2007, Canada, provinces and territories (catalogue no. 91-213-SCB, file AS0107.xls), Statistics Canada.

Sources

Pharmacist Database, Canadian Institute for Health Information; and Statistics Canada.

2008 Newfoundland and Labrador Pharmacist Workforce Supply per 100,000 Population by 2007 Health Region Classification



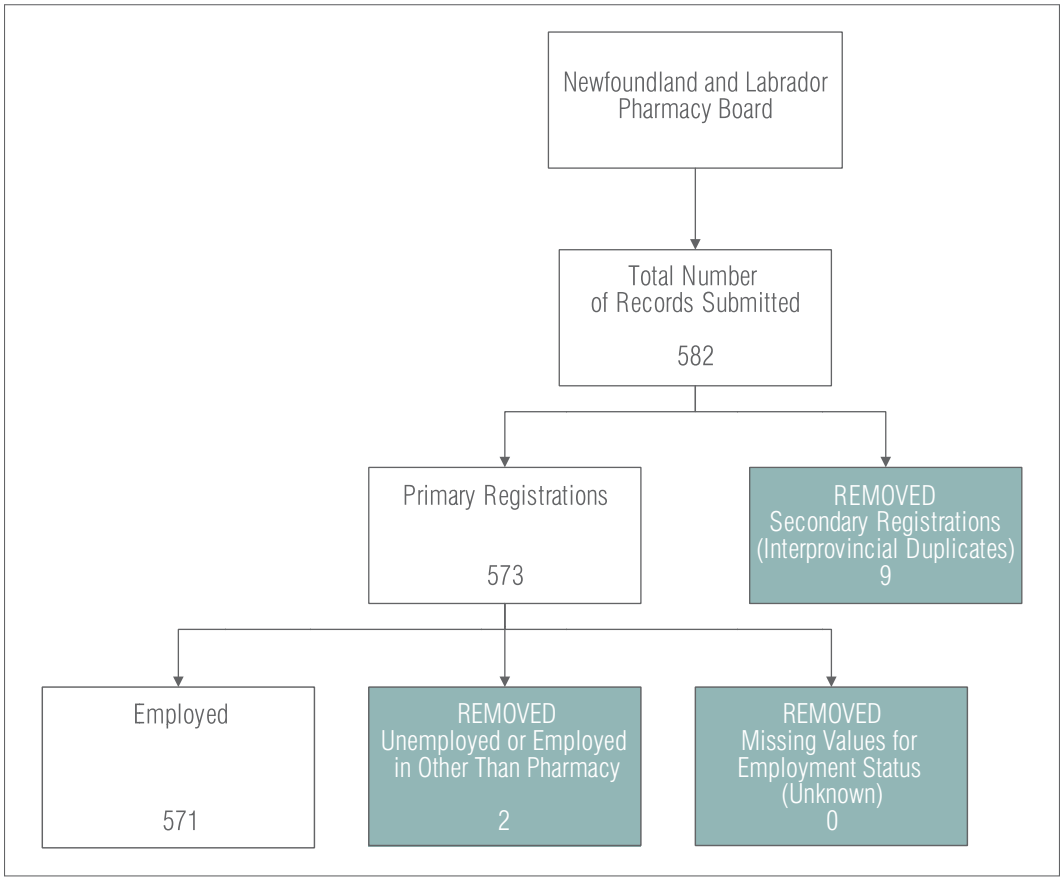
Note

The population estimates used in this publication are based on the annual (calendar year) preliminary post-censal (PP) estimates of the population counted on July 1, 2007, Canada, provinces and territories (catalogue no. 91-213-SCB, file AS0107.xls), Statistics Canada.

Sources

Pharmacist Database, Canadian Institute for Health Information; and Statistics Canada.

2008 Data Flow From the Newfoundland and Labrador Pharmacy Board to CIHI



2008 Highlights for Pharmacists in Prince Edward Island

Supply

- From 2006 to 2008, the pharmacist workforce in P.E.I. grew by 14.2%, reaching a total of 161 pharmacists registered and employed in the province.

Demographics

- P.E.I. had a higher percentage of female pharmacists in its workforce (64.0%) than the other participating jurisdictions.
- Pharmacists in P.E.I. had an average age of 41.9.
- P.E.I. had a higher proportion (48.5%) of younger pharmacists (younger than 40).

Education

- P.E.I. did not offer any university programs in pharmacy.
- The majority (91.3%) of pharmacists in P.E.I. had a baccalaureate as their current level of academic credential in pharmacy.
- Most (85.4%) pharmacists in P.E.I. graduated from Dalhousie University.
- P.E.I. had one of the lowest proportions (3.7%) of new graduates of all the jurisdictions in the report.

Employment

- P.E.I. had the second-highest percentage of pharmacists with multiple employers (18.1%), compared to other provinces.
- The majority (91.3%) of pharmacists in P.E.I. had permanent employment.
- P.E.I. had a higher proportion (65.6%) of pharmacists working in the position of staff pharmacist.
- Compared to other jurisdictions, P.E.I. had the highest proportion (77.5%) of pharmacists working in a community pharmacy setting and one of the lowest proportions (16.9%) working in a hospital setting.
- P.E.I. had the highest proportion (47.5%) of pharmacists working between 30 and 39 hours a week and the lowest proportion (32.5%) of pharmacists working more than 40 hours, compared to the other provinces.

Geography and Mobility

- P.E.I. had the largest proportion (24.1%) of pharmacists working in rural areas of the provinces/territories in the report.

2008 Prince Edward Island Pharmacist Workforce Provincial Profile

		Prince Edward Island			
		2007		2008	
Pharmacists Employed in Pharmacy		155		161	
Gender	Male	56	36.1%	58	36.0%
	Female	99	63.9%	103	64.0%
	Missing Values	0	0.0%	0	0.0%
Average Age	Years	41.4		41.9	
10-Year Age Groups	20–29	25	16.1%	22	13.7%
	30–39	53	34.2%	56	34.8%
	40–49	41	26.5%	45	28.0%
	50–59	23	14.8%	26	16.1%
	60–69	**	**	**	**
	70–79	*	*	*	*
	80+	*	*	*	*
	Missing Values	0	0.0%	0	0.0%
Urban Versus Rural	Urban	117	75.5%	117	72.7%
	Rural	**	**	**	**
	Remote	*	*	*	*
	Territories	0	0.0%	0	0.0%
	Missing Values	2	1.3%	3	1.9%
Current Level of Education in Pharmacy	Diploma	**	**	**	**
	Baccalaureate	143	92.3%	147	91.3%
	Master's	*	*	*	*
	PharmD	0	0.0%	*	*
	Doctorate	0	0.0%	0	0.0%
	Missing Values	0	0.0%	0	0.0%
New Graduates	No	144	92.9%	155	96.3%
	Yes	11	7.1%	6	3.7%
	Missing Values	0	0.0%	0	0.0%
Multiple Employment Status	Single Employer	129	83.2%	131	81.4%
	Multiple Employers	26	16.8%	29	18.0%
	Missing Values	0	0.0%	1	0.6%
Employment Category	Permanent	139	89.7%	146	90.7%
	Temporary	7	4.5%	*	*
	Casual	*	*	**	**
	Self-Employed	**	**	6	3.7%
	Missing Values	0	0.0%	1	0.6%
Place of Employment	Hospital and Other Health Care Facility	23	14.8%	27	16.8%
	Community Pharmacy	122	78.7%	124	77.0%
	Other Pharmacy	*	*	*	*
	Group Professional Practice/Clinic	0	0.0%	0	0.0%
	Community Health Centre	0	0.0%	0	0.0%
	Other Community-Based Pharmacist Practice	*	*	*	*
	Postsecondary Educational Institution	0	0.0%	0	0.0%
	Association/Government/Para-Governmental	**	**	**	**
	Health-Related Industry/Manufacturing/Commercial	0	0.0%	0	0.0%
	Community Pharmacy Corporate Office	*	*	*	*
	Other	0	0.0%	0	0.0%
	Missing Values	0	0.0%	1	0.6%
Position	Director of Pharmacy	0	0.0%	0	0.0%
	Pharmacy Owner/Manager	21	13.5%	20	12.4%
	Pharmacy Manager	25	16.1%	27	16.8%
	Institutional Leader/Coordinator	*	*	*	*
	Staff Pharmacist	102	65.8%	105	65.2%
	Pharmacist Consultant	*	*	**	**
	Educator	*	*	0	0.0%
	Researcher	0	0.0%	0	0.0%
	Industrial Pharmacist	0	0.0%	0	0.0%
	Other	*	*	*	*
	Missing Values	0	0.0%	1	0.6%

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Health Region Code	Health Region Name	Population Estimate	Pharmacist Count	Per 100,000 population
1101	Kings County	18,508	11	59
1102	Queens County	74,863	103	138
1103	Prince County	45,256	42	93
	Missing Values	–	5	–

Notes

– Data not applicable or does not exist.
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Postal code data was assigned to urban, rural and remote categories using the July 2006 and April 2007 release of Statistics Canada's Postal Code Conversion File.
Employment category, *place of employment* and *position* refer to *primary employment*.
Totals may not sum to 100 percent due to rounding.
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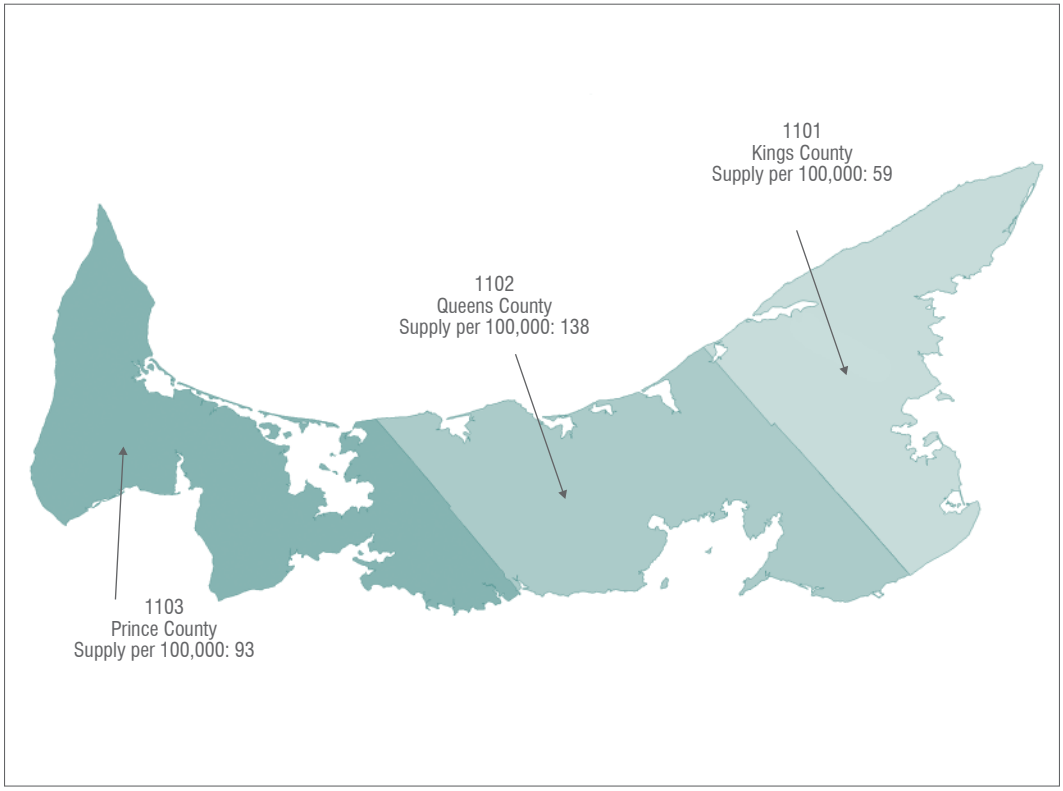
The population estimates used in this publication are based on the annual (calendar year) preliminary post-censal (PP) estimates of the population counted on July 1, 2007, Canada, provinces and territories (catalogue no. 91-213-SCB, file AS0107.xls), Statistics Canada.

Sources

Pharmacist Database, Canadian Institute for Health Information; and Statistics Canada.

2008 Prince Edward Island Pharmacist Workforce Supply per 100,000 Population by 2007 Health Region Classification



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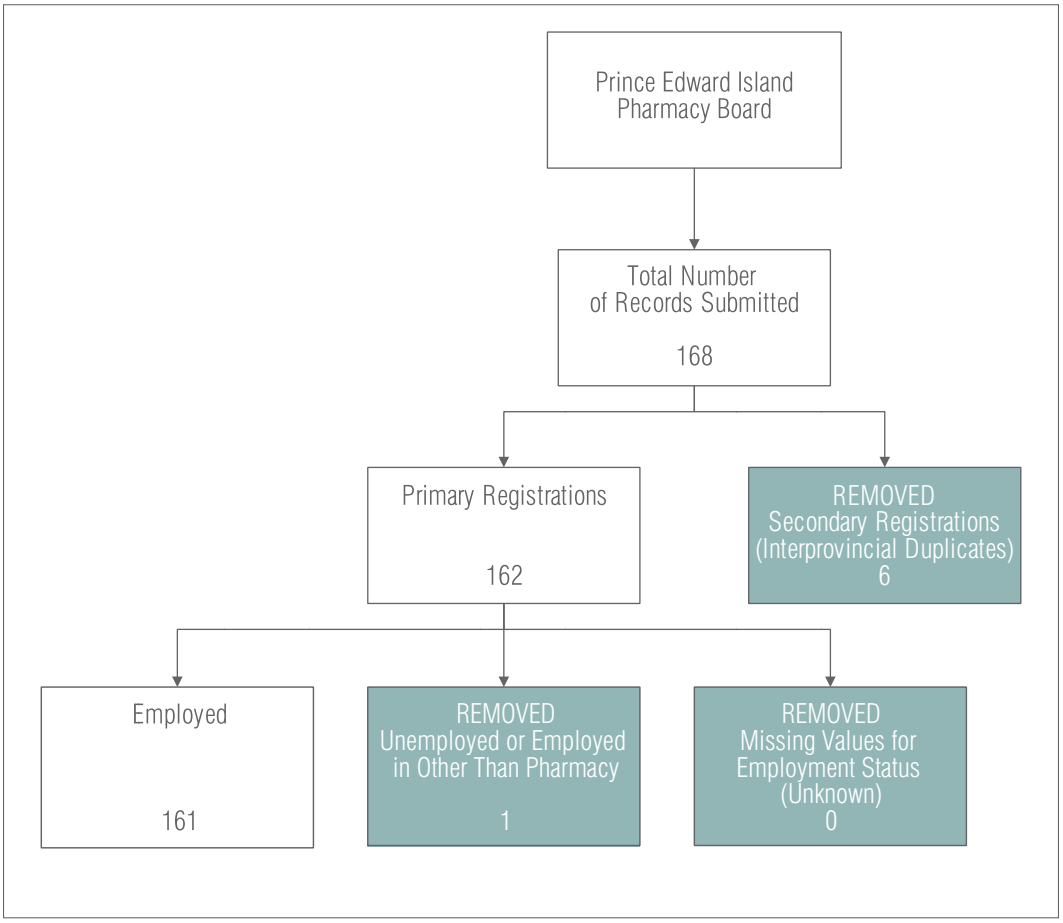

2008 Highlights for Pharmacists in Nova Scotia

Supply

- From 2006 to 2008, the pharmacist workforce in Nova Scotia grew by 38.7%, reaching a total of 1,093 pharmacists registered and employed in the province.[i]

Demographics

- Nova Scotia had the highest proportion of female pharmacists (69.1%) across jurisdictions in the report.
- The average age of pharmacists in Nova Scotia was 41.8.
- Nova Scotia had a relatively younger workforce, with almost half (46.1%) of its workforce younger than age 40.

Education

- Nova Scotia had one university program in pharmacy (Dalhousie University).
- The majority (94.0%) of pharmacists in Nova Scotia had a baccalaureate as their current level of academic credential in pharmacy.
- Nova Scotia had the second-highest proportion (6.5%) of new graduates, compared to other jurisdictions in the report.
- Similar to the gender distribution of the Nova Scotia pharmacist workforce, the majority of new graduates in Nova Scotia were female (73.2%).

Employment

- Nova Scotia had a slightly higher proportion of pharmacists working as permanent employees (86.7%) than other jurisdictions in the report.
- Three-quarters (76.7%) of pharmacists working in Nova Scotia were working in a community pharmacy setting.
- Most (86.9%) pharmacists in Nova Scotia had single employment.

Geography and Mobility

- Nova Scotia had the second-highest proportion of pharmacists working in rural and remote areas (29.2%) of the participating provinces.

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i. The increase in supply in Nova Scotia may be partially attributed to an improvement in data quality. In 2008, 99% of pharmacists reported their *employment status*, which represents an increase of 27% over 2006.

2008 Nova Scotia Pharmacist Workforce Provincial Profile

		Nova Scotia			
		2007		2008	
Pharmacists Employed in Pharmacy		1,002		1,093	
Gender	Male	314	31.3%	338	30.9%
	Female	688	68.7%	755	69.1%
	Missing Values	0	0.0%	0	0.0%
Average Age	Years	41.9		41.8	
10-Year Age Groups	20–29	132	13.2%	158	14.5%
	30–39	322	32.1%	345	31.6%
	40–49	291	29.0%	306	28.0%
	50–59	198	19.8%	220	20.1%
	60–69	50	5.0%	56	5.1%
	70–79	**	**	**	**
	80+	*	*	*	*
	Missing Values	1	0.1%	0	0.0%
Urban Versus Rural	Urban	621	62.0%	675	61.8%
	Rural	87	8.7%	91	8.3%
	Remote	181	18.1%	188	17.2%
	Territories	0	0.0%	0	0.0%
	Missing Values	113	11.3%	139	12.7%
Current Level of Education in Pharmacy	Diploma	**	**	32	2.9%
	Baccalaureate	907	90.5%	1,027	94.0%
	Master's	0	0.0%	**	**
	PharmD	*	*	19	1.7%
	Doctorate	0	0.0%	*	*
	Missing Values	47	4.7%	1	0.1%
New Graduates	No	859	85.7%	1,019	93.2%
	Yes	49	4.9%	71	6.5%
	Missing Values	94	9.4%	3	0.3%
Multiple Employment Status	Single Employer	827	82.5%	901	82.4%
	Multiple Employers	127	12.7%	136	12.4%
	Missing Values	48	4.8%	56	5.1%
Employment Category	Permanent	836	83.4%	896	82.0%
	Temporary	11	1.1%	18	1.6%
	Casual	24	2.4%	31	2.8%
	Self-Employed	80	8.0%	88	8.1%
	Missing Values	51	5.1%	60	5.5%
Place of Employment	Hospital and Other Health Care Facility	147	14.7%	171	15.6%
	Community Pharmacy	748	74.7%	795	72.7%
	Other Pharmacy	*	*	*	*
	Group Professional Practice/Clinic	*	*	*	*
	Community Health Centre	*	*	*	*
	Other Community-Based Pharmacist Practice	*	*	*	*
	Postsecondary Educational Institution	16	1.6%	23	2.1%
	Association/Government/Para-Governmental	10	1.0%	12	1.1%
	Health-Related Industry/Manufacturing/Commercial	11	1.1%	14	1.3%
	Community Pharmacy Corporate Office	12	1.2%	12	1.1%
	Other	*	*	*	*
	Missing Values	48	4.8%	56	5.1%
Position	Director of Pharmacy	18	1.8%	19	1.7%
	Pharmacy Owner/Manager	284	28.3%	290	26.5%
	Pharmacy Manager	0	0.0%	0	0.0%
	Institutional Leader/Coordinator	**	**	**	**
	Staff Pharmacist	588	58.7%	643	58.8%
	Pharmacist Consultant	14	1.4%	19	1.7%
	Educator	14	1.4%	20	1.8%
	Researcher	*	*	*	*
	Industrial Pharmacist	0	0.0%	0	0.0%
	Other	22	2.2%	30	2.7%
	Missing Values	51	5.1%	60	5.5%

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Health Region Code	Health Region Name	Population Estimate	Pharmacist Count	Per 100,000 Population
1201	Zone 1	121,468	111	91
1202	Zone 2	82,490	68	82
1203	Zone 3	106,199	100	94
1204	Zone 4	92,605	88	95
1205	Zone 5	126,434	118	93
1206	Zone 6	404,951	468	116
	Missing Values	–	140	–

Notes

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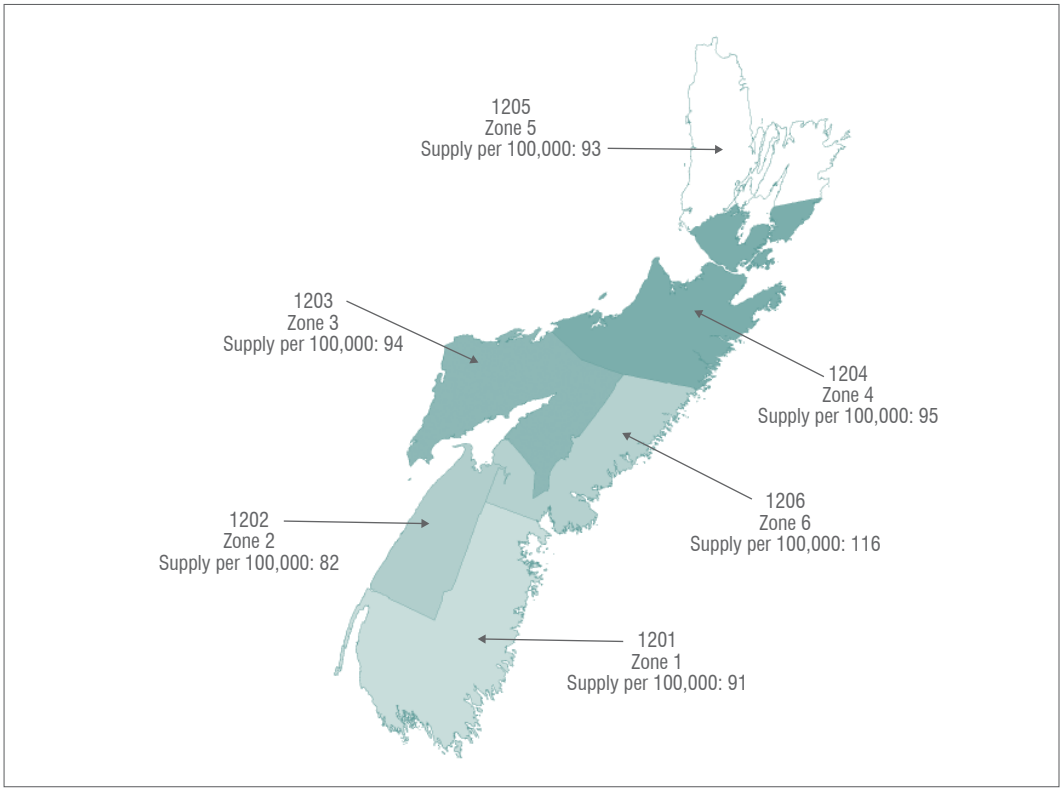

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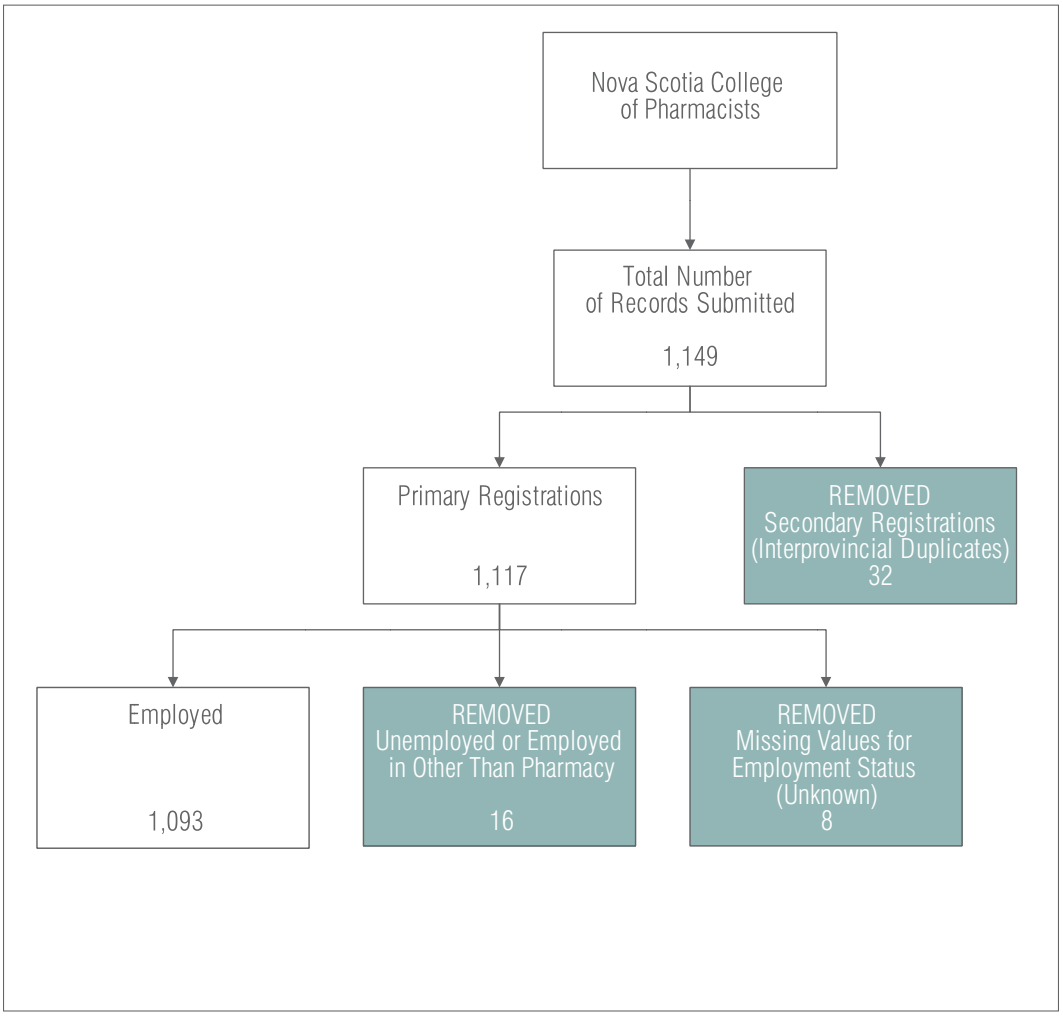
2008 Data Flow From the Nova Scotia College of Pharmacists to CIHI



2008 Highlights for Pharmacists in New Brunswick

Supply

- In 2008, the pharmacist workforce in New Brunswick totaled 692 pharmacists registered and employed in the province.

Demographics

- Two-thirds (66.4%) of the pharmacist workforce in New Brunswick were female.
- The average age of pharmacists in New Brunswick was 41.2, lowest of all the participating provinces.

Education

- New Brunswick did not offer a pharmacy program.
- Education data was not available.

Employment

- Employment data was not available.

Geography and Mobility

- Geography and mobility data was not available.

2008 New Brunswick Pharmacist Workforce Provincial Profile

		New Brunswick			
		2007		2008	
Pharmacists Employed in Pharmacy		–		692	
Gender	Male	–	–	232	33.5%
	Female	–	–	459	66.3%
	Missing Values	–	–	1	0.1%
Average Age	Years	–		41.2	
10-Year Age Groups	20–29	–	–	93	13.4%
	30–39	–	–	239	34.5%
	40–49	–	–	196	28.3%
	50–59	–	–	128	18.5%
	60–69	–	–	27	3.9%
	70–79	–	–	7	1.0%
	80+	–	–	0	0.0%
	Missing Values	–	–	2	0.3%
Urban Versus Rural	Not Collected	–	–	–	–
Current Level of Education in Pharmacy	Not Collected	–	–	–	–
New Graduates	Not Collected	–	–	–	–
Multiple Employment Status	Not Collected	–	–	–	–
Employment Category	Not Collected	–	–	–	–
Place of Employment	Not Collected	–	–	–	–
Position	Not Collected	–	–	–	–

Health Region Code	Health Region Name	Population Estimate	Pharmacist Count	Per 100,000 Population
1301	Region 1	197,703	Not Collected	–
1302	Region 2	174,952	Not Collected	–
1303	Region 3	172,180	Not Collected	–
1304	Region 4	50,693	Not Collected	–
1305	Region 5	28,281	Not Collected	–
1306	Region 6	79,891	Not Collected	–
1307	Region 7	46,082	Not Collected	–
	Missing Values	–	Not Collected	–

Notes

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Sources

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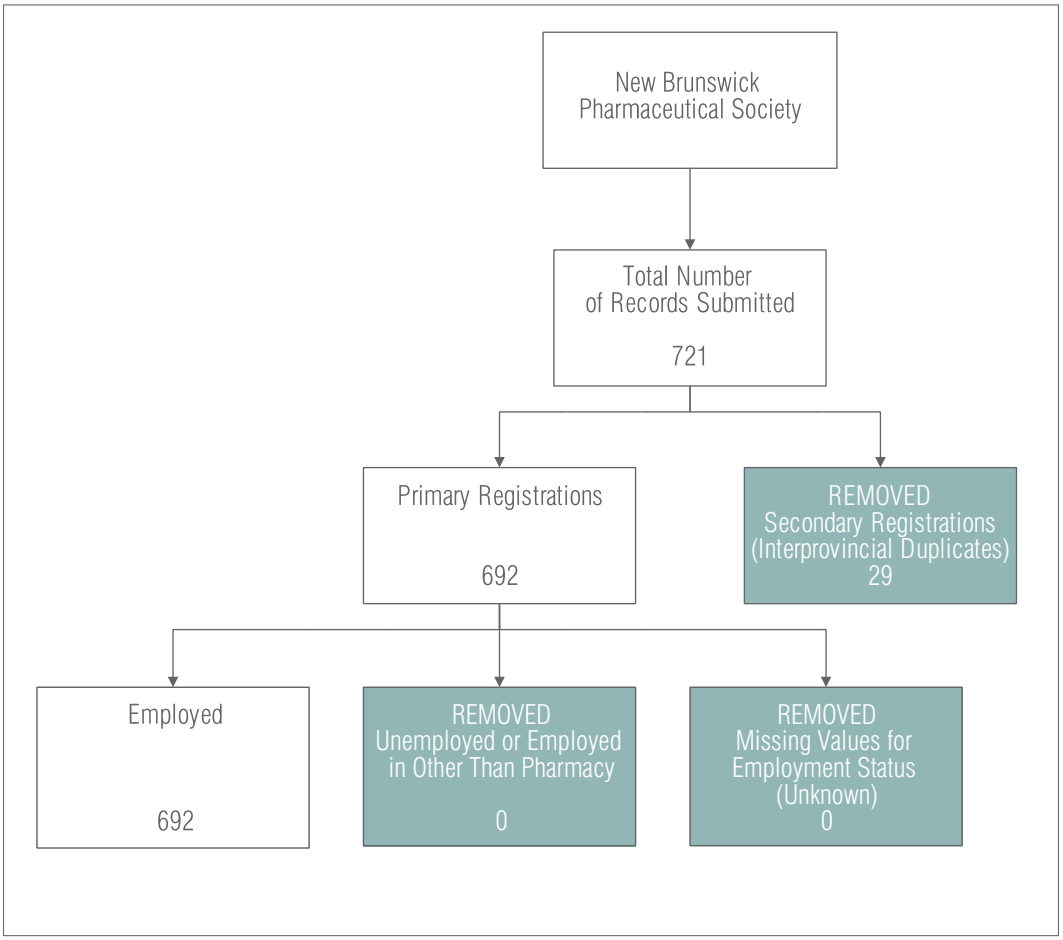
2008 Data Flow From the New Brunswick Pharmaceutical Society to CIHI



2008 Highlights for Pharmacists in Ontario

Supply

- From 2006 to 2008, the pharmacist workforce in Ontario grew, reaching a total of 9,813 pharmacists registered and employed in Ontario.

Demographics

- The majority of pharmacists working in Ontario were female (56.9%).
- Ontario had the oldest pharmacists, with an average age of 44.7, compared to the other provinces.
- Ontario had the smallest proportion (9.3%) of younger pharmacists (20 to 29), as well as one of the largest proportions (34.0%) of older pharmacists (older than 50), compared to other jurisdictions in the report.

Education

- The province of Ontario had two university pharmacy programs (University of Toronto and University of Waterloo).
- The majority (96.6%) of pharmacists in Ontario had a baccalaureate as their current level of academic credential in pharmacy.
- More than three-quarters (76.1%) of pharmacists in Ontario received their *current level of education in pharmacy* from the University of Toronto.
- Ontario had the lowest proportion of new graduates, at 3.5%, of all the provinces.
- Similar to the gender distribution of the Ontario pharmacist workforce, the majority of new graduates in Ontario were female (74.4%).

Employment

- Compared to other jurisdictions in the report, Ontario had the highest proportion of pharmacists with multiple employers (26.2%) and, conversely, the lowest proportion (73.8%) of pharmacists with a single employer.
- Ontario had the highest proportion (6.5%) of pharmacists working in the industry/manufacturing/commercial sector across all provinces/territories in the report.

Geography and Mobility

- Ontario had the highest proportion of pharmacists working in urban areas (93.0%) of the jurisdictions in the report.

2008 Ontario Pharmacist Workforce Provincial Profile

		Ontario			
		2007		2008	
Pharmacists Employed in Pharmacy		9,779		9,813	
Gender	Male	4,318	44.2%	4,230	43.1%
	Female	5,461	55.8%	5,583	56.9%
	Missing Values	0	0.0%	0	0.0%
Average Age	Years	44.6		44.7	
10-Year Age Groups	20–29	938	9.6%	916	9.3%
	30–39	2,761	28.2%	2,734	27.9%
	40–49	2,825	28.9%	2,829	28.8%
	50–59	2,146	21.9%	2,205	22.5%
	60–69	860	8.8%	878	8.9%
	70–79	212	2.2%	218	2.2%
	80+	37	0.4%	33	0.3%
	Missing Values	0	0.0%	0	0.0%
Urban Versus Rural	Urban	8,819	90.2%	9,031	92.0%
	Rural	475	4.9%	484	4.9%
	Remote	185	1.9%	197	2.0%
	Territories	0	0.0%	0	0.0%
	Missing Values	300	3.1%	101	1.0%
Current Level of Education in Pharmacy	Diploma	87	0.9%	93	0.9%
	Baccalaureate	9,480	96.9%	9,479	96.6%
	Master's	54	0.6%	62	0.6%
	PharmD	158	1.6%	179	1.8%
	Doctorate	0	0.0%	0	0.0%
	Missing Values	0	0.0%	0	0.0%
New Graduates	No	9,399	96.1%	9,466	96.5%
	Yes	379	3.9%	344	3.5%
	Missing Values	1	<0.1%	3	<0.1%
Multiple Employment Status	Single Employer	7,130	72.9%	7,238	73.8%
	Multiple Employers	2,452	25.1%	2,575	26.2%
	Missing Values	197	2.0%	0	0.0%
Employment Category	Permanent	9,582	98.0%	9,813	100.0%
	Temporary	0	0.0%	0	0.0%
	Casual	0	0.0%	0	0.0%
	Self-Employed	0	0.0%	0	0.0%
	Missing Values	197	2.0%	0	0.0%
Place of Employment	Hospital and Other Health Care Facility	1,668	17.1%	1,707	17.4%
	Community Pharmacy	7,254	74.2%	7,432	75.7%
	Other Pharmacy	0	0.0%	0	0.0%
	Group Professional Practice/Clinic	0	0.0%	0	0.0%
	Community Health Centre	0	0.0%	0	0.0%
	Other Community-Based Pharmacist Practice	0	0.0%	0	0.0%
	Postsecondary Educational Institution	0	0.0%	0	0.0%
	Association/Government/Para-Governmental	15	0.2%	20	0.2%
	Health-Related Industry/Manufacturing/Commercial	628	6.4%	634	6.5%
	Community Pharmacy Corporate Office	0	0.0%	0	0.0%
	Other	13	0.1%	18	0.2%
	Missing Values	201	2.1%	2	<0.1%
Position	Director of Pharmacy	0	0.0%	0	0.0%
	Pharmacy Owner/Manager	1,905	19.5%	1,942	19.8%
	Pharmacy Manager	1,308	13.4%	1,297	13.2%
	Institutional Leader/Coordinator	0	0.0%	0	0.0%
	Staff Pharmacist	5,876	60.1%	6,071	61.9%
	Pharmacist Consultant	108	1.1%	101	1.0%
	Educator	54	0.6%	48	0.5%
	Researcher	9	0.1%	9	0.1%
	Industrial Pharmacist	316	3.2%	325	3.3%
	Other	0	0.0%	0	0.0%
	Missing Values	203	2.1%	20	0.2%

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Health Region Code	Health Region Name	Population Estimate	Pharmacist Count	Per 100,000 Population
3501	Erie St. Clair LHIN	645,636	433	67
3502	South West LHIN	936,578	601	64
3503	Waterloo Wellington LHIN	713,718	457	64
3504	Hamilton Niagara Haldimand Brant LHIN	1,376,923	991	72
3505	Central West LHIN	779,481	404	52
3506	Mississauga Halton LHIN	1,140,162	888	78
3507	Toronto Central LHIN	1,168,185	1,391	119
3508	Central LHIN	1,640,512	1,295	79
3509	Central East LHIN	1,494,364	1,016	68
3510	South East LHIN	482,940	310	64
3511	Champlain LHIN	1,193,083	930	78
3512	North Simcoe Muskoka LHIN	431,214	264	61
3513	North East LHIN	565,736	408	72
3514	North West LHIN	235,329	179	76
	Missing Values	–	246	–

Notes

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LHIN: local health integration network.

Missing Values

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Employment category, *place of employment* and *position* refer to *primary employment*.
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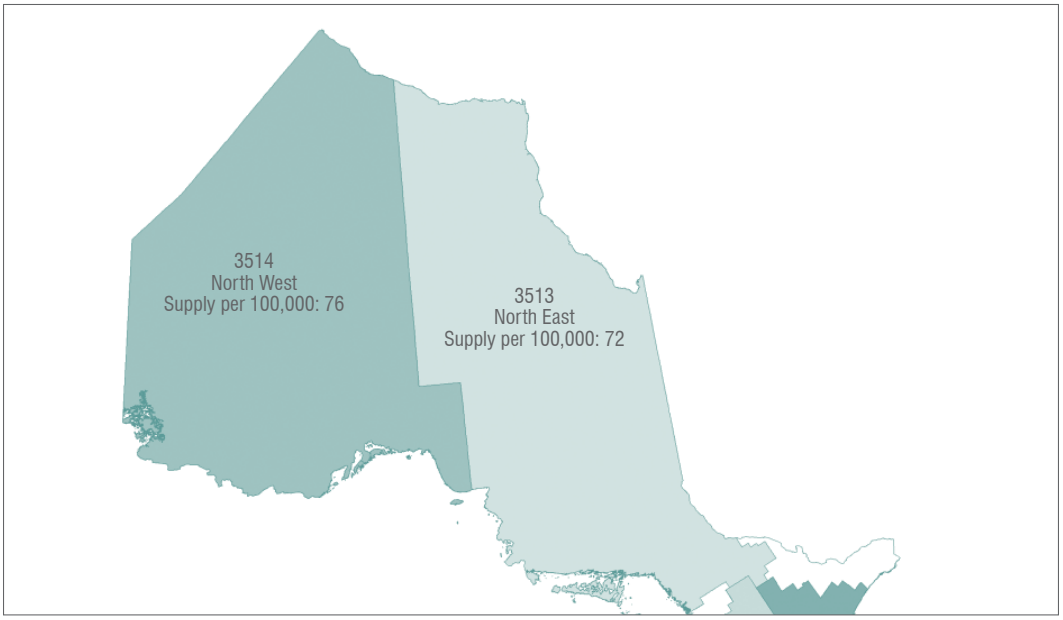
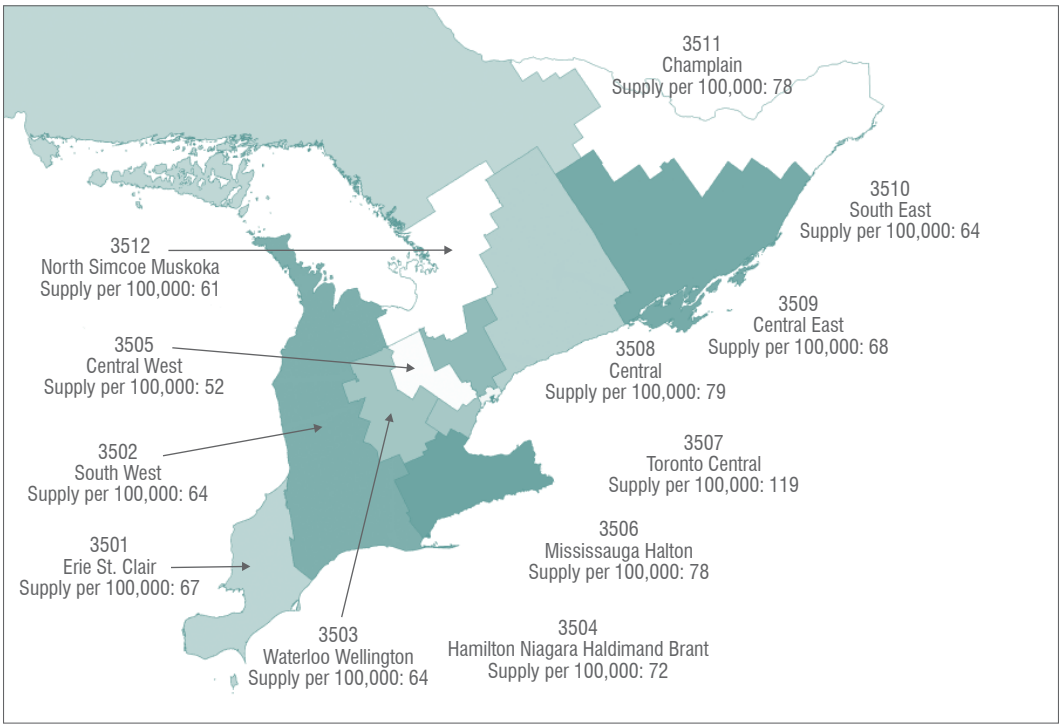
Sources

Pharmacist Database, Canadian Institute for Health Information; and Statistics Canada.

2008 Ontario Pharmacist Supply per 100,000 Population by 2007 Health Region Classification





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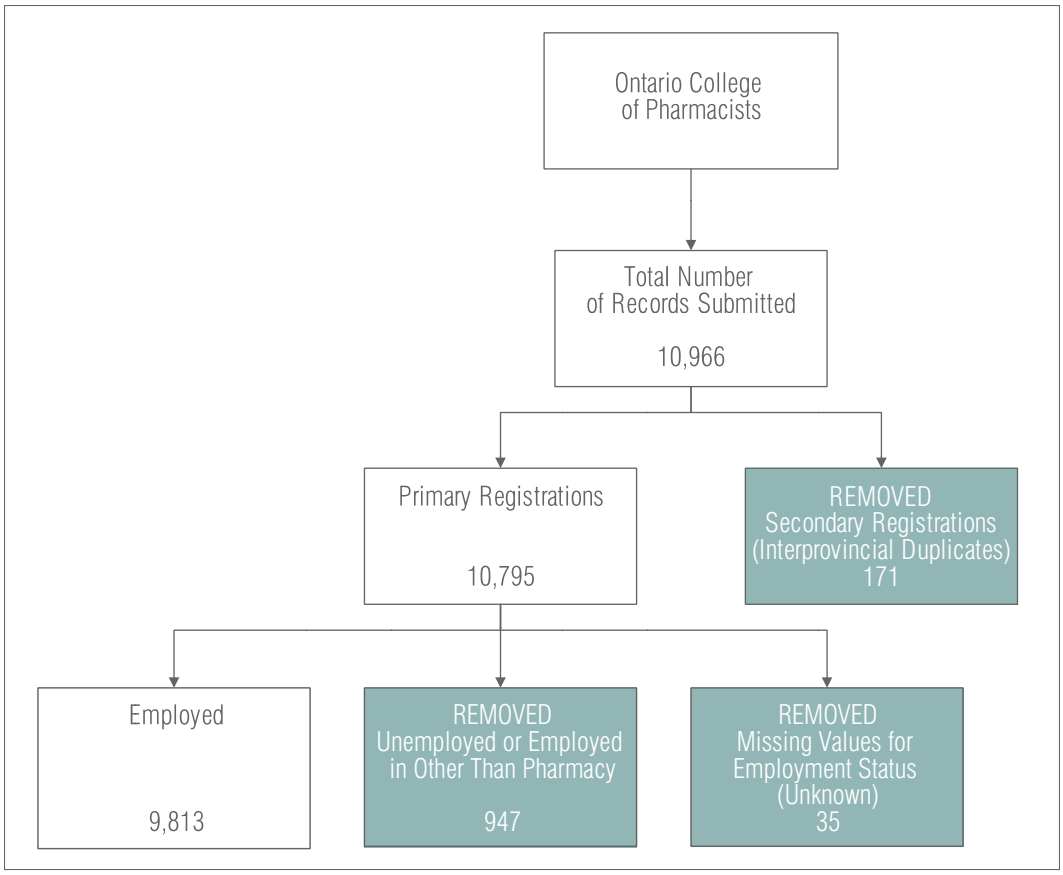

2008 Highlights for Pharmacists in Saskatchewan

Supply

- From 2006 to 2008, the pharmacist workforce in Saskatchewan grew, reaching a total of 1,138 pharmacists registered and employed in the province.

Demographics

- The majority of pharmacists working in Saskatchewan were female (62.8%).
- The average age of pharmacists working in Saskatchewan was 43.2.
- Saskatchewan had the highest proportion (11.5%) of pharmacists age 60 or older, compared to other participating provinces.

Education

- The province of Saskatchewan had one university program in pharmacy (University of Saskatchewan).
- Saskatchewan had the highest proportion (97.5%) of pharmacists with a baccalaureate as their current level of academic credential in pharmacy.
- Most (97.5%) pharmacists employed in Saskatchewan graduated from the University of Saskatchewan.
- Saskatchewan had the highest proportion (6.7%) of new graduates across all provinces/territories in the report.

Employment

- The majority (86.6%) of pharmacists in Saskatchewan had only one employer.
- Saskatchewan had the highest proportion (14.4%) of pharmacists who were self-employed of the jurisdictions in the report and, conversely, the lowest proportion of pharmacists with permanent employment (79.2%).
- Across all provinces/territories in the report, Saskatchewan had the highest proportion (69.9%) of pharmacists working as staff pharmacists and the lowest proportion working as pharmacy owners/managers (24.6%).
- Saskatchewan had the highest proportion (50.3%) of pharmacists working 40 or more hours a week, compared to other provinces.

Geography and Mobility

- Almost three-quarters (74.6%) of Saskatchewan's pharmacist workforce were employed in urban areas, while 25.4% were employed in rural/remote areas.

2008 Saskatchewan Pharmacist Workforce Provincial Profile

		Saskatchewan			
		2007		2008	
Pharmacists Employed in Pharmacy		1,142		1,138	
Gender	Male	435	38.1%	423	37.2%
	Female	707	61.9%	715	62.8%
	Missing Values	0	0.0%	0	0.0%
Average Age	Years	43.1		43.2	
10-Year Age Groups	20–29	183	16.0%	175	15.4%
	30–39	333	29.2%	329	28.9%
	40–49	241	21.1%	253	22.2%
	50–59	253	22.2%	250	22.0%
	60–69	115	10.1%	112	9.8%
	70–79	**	**	14	1.2%
	80+	*	*	5	0.4%
	Missing Values	0	0.0%	0	0.0%
Urban Versus Rural	Urban	821	71.9%	805	70.7%
	Rural	90	7.9%	91	8.0%
	Remote	178	15.6%	183	16.1%
	Territories	0	0.0%	0	0.0%
	Missing Values	53	4.6%	59	5.2%
Current Level of Education in Pharmacy	Diploma	*	*	*	*
	Baccalaureate	1,108	97.0%	1,102	96.8%
	Master's	12	1.1%	13	1.1%
	PharmD	14	1.2%	13	1.1%
	Doctorate	*	*	**	**
	Missing Values	3	0.3%	2	0.2%
New Graduates	No	1,057	92.6%	1,062	93.3%
	Yes	85	7.4%	76	6.7%
	Missing Values	0	0.0%	0	0.0%
Multiple Employment Status	Single Employer	1,011	88.5%	985	86.6%
	Multiple Employers	131	11.5%	152	13.4%
	Missing Values	0	0.0%	1	0.1%
Employment Category	Permanent	837	73.3%	840	73.8%
	Temporary	19	1.7%	17	1.5%
	Casual	54	4.7%	51	4.5%
	Self-Employed	168	14.7%	153	13.4%
	Missing Values	64	5.6%	77	6.8%
Place of Employment	Not Collected	–	–	–	–
Position	Director of Pharmacy	11	1.0%	10	0.9%
	Pharmacy Owner/Manager	0	0.0%	0	0.0%
	Pharmacy Manager	259	22.7%	246	21.6%
	Institutional Leader/Coordinator	*	*	*	*
	Staff Pharmacist	643	56.3%	698	61.3%
	Pharmacist Consultant	*	*	*	*
	Educator	5	0.4%	5	0.4%
	Researcher	*	*	*	*
	Industrial Pharmacist	0	0.0%	0	0.0%
	Other	35	3.1%	35	3.1%
	Missing Values	185	16.2%	139	12.2%

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Health Region Code	Health Region Name	Population Estimate	Pharmacy Count	Per 100,000 Population
4701	Sun County	51,850	48	93
4702	Five Hills	52,753	46	87
4703	Cypress	42,449	37	87
4704	Regina Qu'Appelle	243,670	289	119
4705	Sunrise	54,976	51	93
4706	Saskatoon	290,587	386	133
4707	Heartland	43,721	36	82
4708	Kelsey Trail	40,163	28	70
4709	Prince Albert Parkland	74,588	91	122
4710	Prairie North	68,196	51	75
4711/4712/4713	Mamawetan/Keewatin/Athabasca	33,916	7	21
	Missing Values	–	68	–

Notes

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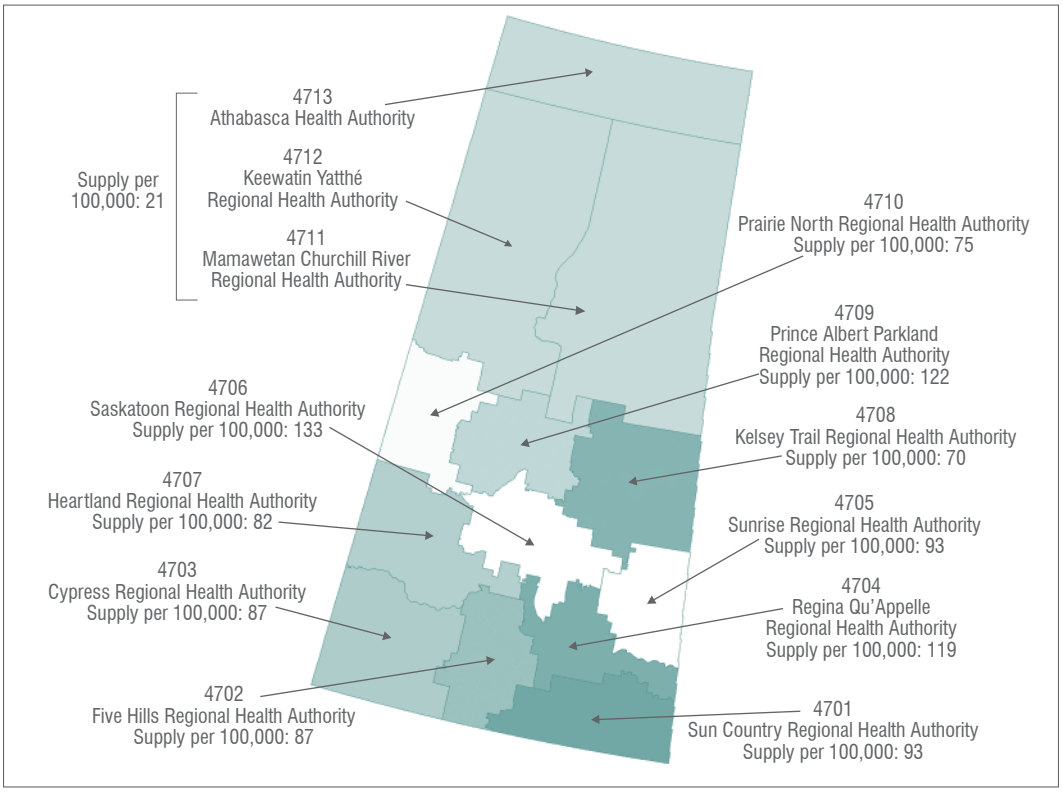

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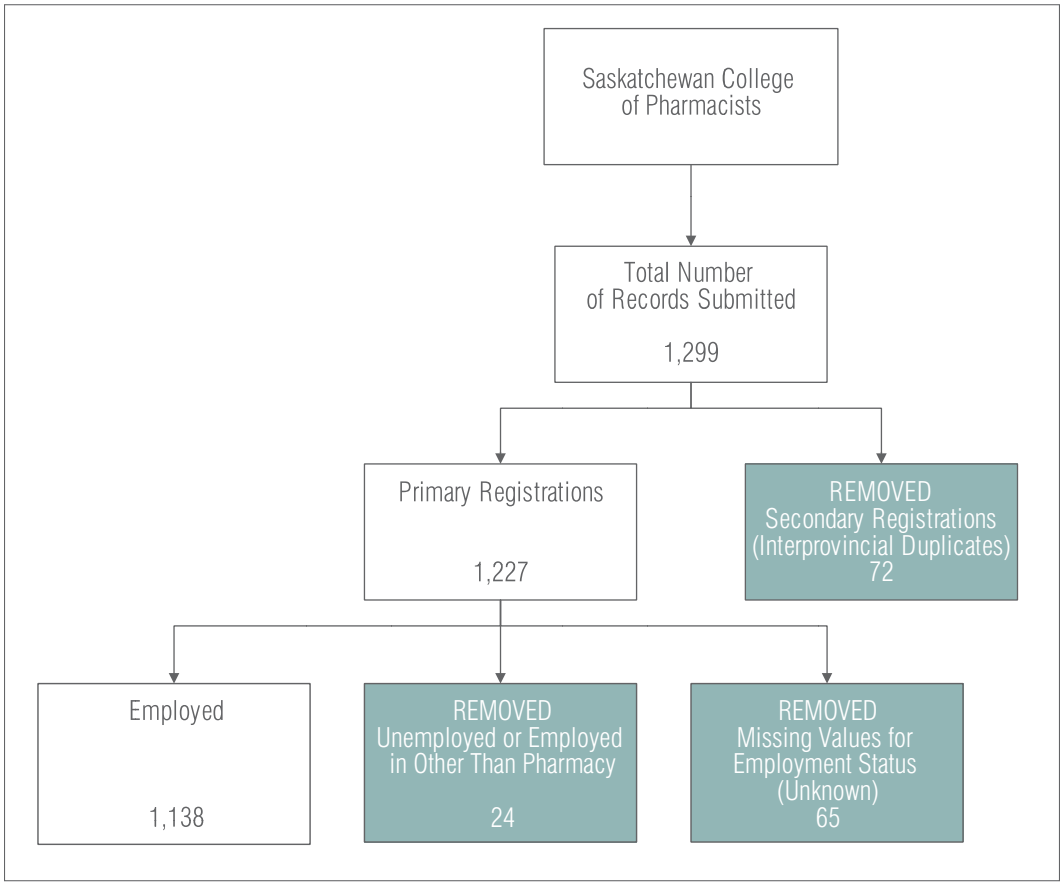

2008 Highlights for Pharmacists in Alberta

Supply

- From 2006 to 2008, the pharmacist workforce in Alberta grew, reaching a total of 3,566 pharmacists registered and employed in the province.[i]

Demographics

- The majority of pharmacists working in Alberta were female (62.5%).
- Pharmacists in Alberta were relatively young. In 2008, the average age of pharmacists working in Alberta was 41.5.
- Of all the participating provinces, Alberta had the highest proportion (16.3%) of pharmacists younger than age 30.

Education

- The province of Alberta had one university program in pharmacy (University of Alberta).
- The majority (96.1%) of pharmacists in Alberta had a baccalaureate as their current level of academic credential in pharmacy.
- Three-quarters (75.9%) of pharmacists employed in Alberta graduated from the University of Alberta.
- Just more than six percent (6.3%) of the pharmacist workforce in Alberta were new graduates.

i. The increase in supply in Alberta may be partially attributed to an improvement in data quality. In 2008, 99.2% of pharmacists reported their *employment status*, which represents an increase of 6.1% over 2006.

Employment

- Compared to other jurisdictions in the report, Alberta had one of the lowest proportions (10.1%) of pharmacists with multiple employers.
- Alberta had the second-highest proportion (10.7%) of pharmacists who were self-employed, of the jurisdictions in the report.
- Alberta had 64% of pharmacists working in the position of staff pharmacist.
- Among all jurisdictions in the report, the highest proportion of pharmacists working in hospitals and other health care facilities was in Alberta (20.1%).
- Alberta had the lowest proportion (78.2%) of pharmacists working 30 or more hours a week, compared to other jurisdictions.

Geography and Mobility

- The majority (85.1%) of pharmacists in Alberta were working in urban areas.

2008 Alberta Pharmacist Workforce Provincial Profile

		Alberta			
		2007		2008	
Pharmacists Employed in Pharmacy		3,444		3,566	
Gender	Male	1,288	37.4%	1,337	37.5%
	Female	2,156	62.6%	2,229	62.5%
	Missing Values	0	0.0%	0	0.0%
Average Age	Years	41.4		41.5	
10-Year Age Groups	20–29	567	16.5%	581	16.3%
	30–39	1,072	31.1%	1,111	31.2%
	40–49	919	26.7%	927	26.0%
	50–59	665	19.3%	695	19.5%
	60–69	192	5.6%	225	6.3%
	70–79	**	**	**	**
	80+	*	*	*	*
	Missing Values	0	0.0%	0	0.0%
Urban Versus Rural	Urban	2,894	84.0%	2,996	84.0%
	Rural	203	5.9%	218	6.1%
	Remote	298	8.7%	308	8.6%
	Territories	0	0.0%	0	0.0%
	Missing Values	49	1.4%	44	1.2%
Current Level of Education in Pharmacy	Diploma	*	*	*	*
	Baccalaureate	3,331	96.7%	3,427	96.1%
	Master's	60	1.7%	68	1.9%
	PharmD	40	1.2%	55	1.5%
	Doctorate	**	**	**	**
	Missing Values	1	<0.1%	0	0.0%
New Graduates	No	3,240	94.1%	3,343	93.7%
	Yes	204	5.9%	223	6.3%
	Missing Values	0	0.0%	0	0.0%
Multiple Employment Status	Single Employer	3,156	91.6%	3,207	89.9%
	Multiple Employers	288	8.4%	359	10.1%
	Missing Values	0	0.0%	0	0.0%
Employment Category	Permanent	2,903	84.3%	2,987	83.8%
	Temporary	52	1.5%	50	1.4%
	Casual	120	3.5%	146	4.1%
	Self-Employed	357	10.4%	383	10.7%
	Missing Values	12	0.3%	0	0.0%
Place of Employment	Hospital and Other Health Care Facility	674	19.6%	718	20.1%
	Community Pharmacy	2,583	75.0%	2,629	73.7%
	Other Pharmacy	**	**	23	0.6%
	Group Professional Practice/Clinic	12	0.3%	16	0.4%
	Community Health Centre	*	*	9	0.3%
	Other Community-Based Pharmacist Practice	19	0.6%	32	0.9%
	Postsecondary Educational Institution	31	0.9%	29	0.8%
	Association/Government/Para-Governmental	31	0.9%	35	1.0%
	Health-Related Industry/Manufacturing/Commercial	33	1.0%	28	0.8%
	Community Pharmacy Corporate Office	21	0.6%	18	0.5%
	Other	18	0.5%	29	0.8%
	Missing Values	9	0.3%	0	0.0%
Position	Director of Pharmacy	37	1.1%	41	1.1%
	Pharmacy Owner/Manager	391	11.4%	387	10.9%
	Pharmacy Manager	645	18.7%	626	17.6%
	Institutional Leader/Coordinator	19	0.6%	31	0.9%
	Staff Pharmacist	2,167	62.9%	2,282	64.0%
	Pharmacist Consultant	49	1.4%	74	2.1%
	Educator	24	0.7%	21	0.6%
	Researcher	**	**	**	**
	Industrial Pharmacist	*	*	*	*
	Other	84	2.4%	87	2.4%
	Missing Values	10	0.3%	0	0.0%

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Health Region Code	Health Region Name	Population Estimate	Pharmacist Count	Per 100,000 Population
4821	Chinook	162,685	160	98
4822	Palliser	106,856	92	86
4823	Calgary	1,274,920	1,233	97
4824	David Thompson	316,830	291	92
4825	East Central	118,258	131	111
4826	Capital Health	1,085,647	1,308	120
4827	Aspen	184,519	134	73
4828	Peace Country	146,757	95	65
4829	Northern Lights	77,512	52	67
	Missing Values	–	70	–

Notes

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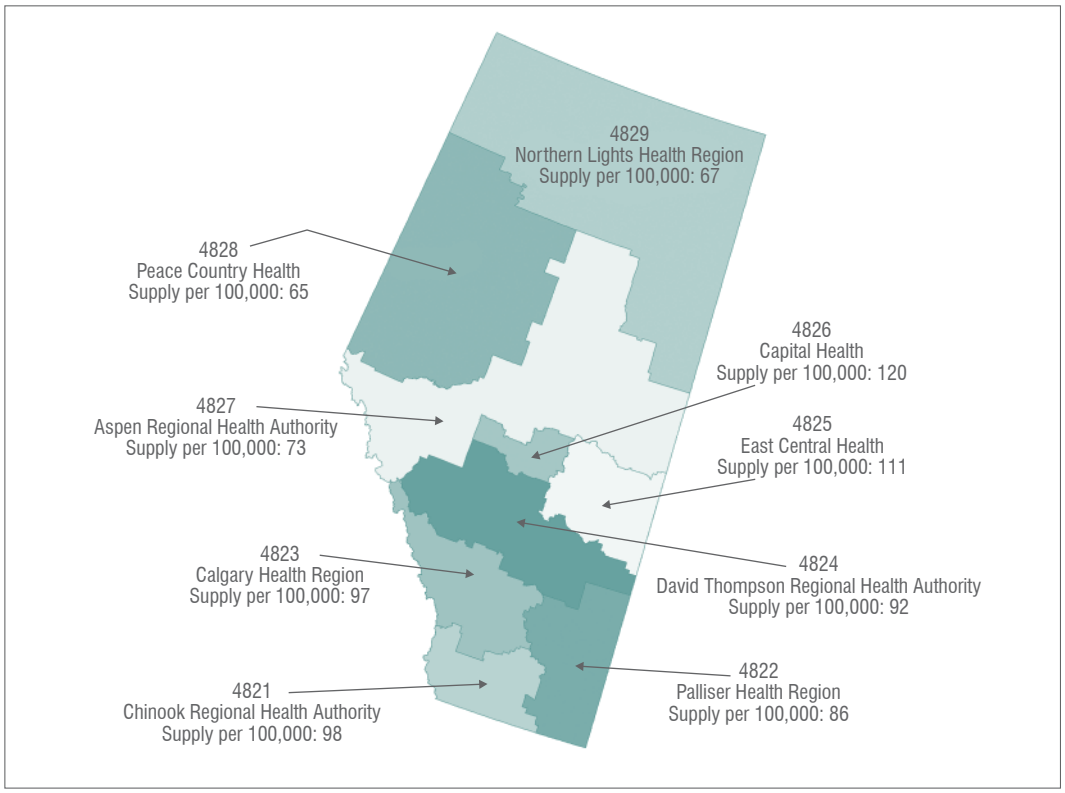

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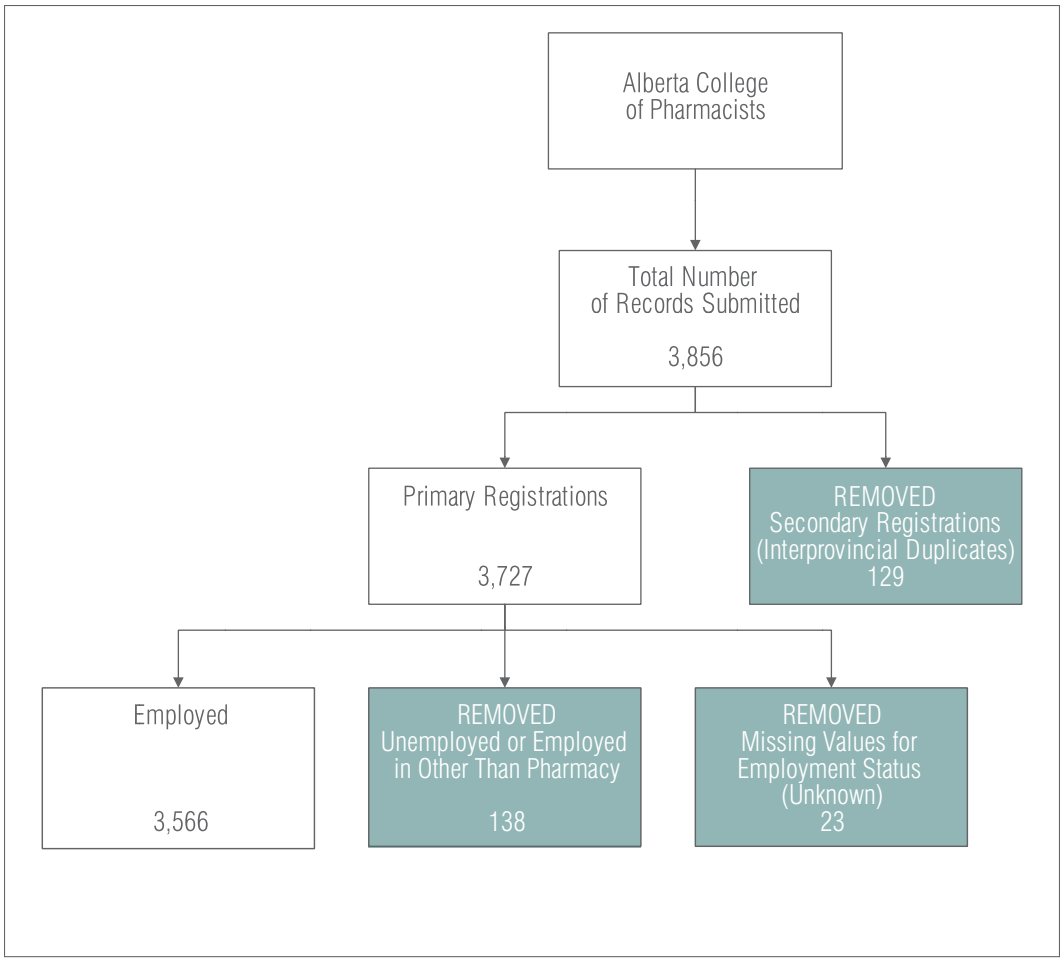

2008 Highlights for Pharmacists in British Columbia

Supply

- From 2006 to 2008, the pharmacist workforce in British Columbia grew, reaching a total of 3,753 pharmacists registered and employed in the province.[i]

Demographics

- British Columbia had the second-highest proportion (43.5%) of male pharmacists of the jurisdictions. Conversely, the female proportion was relatively low (56.5%).
- The average age of pharmacists working in British Columbia was 42.5.

Education

- British Columbia had one university program in pharmacy (University of British Columbia).
- The majority (92.8%) of pharmacists in British Columbia had a baccalaureate as their current level of academic credential in pharmacy.
- More than three-quarters (79.1%) of pharmacists employed in British Columbia graduated from the University of British Columbia.
- Less than five percent (4.2%) of the pharmacist workforce in British Columbia were new graduates.

i. The increase in supply in B.C. may be partially attributed to an improvement in data quality. In 2008, 90.2% of pharmacists reported their *employment status*, which represents an increase of 9.9% over 2006.

Employment

- The majority (84.3%) of pharmacists had a single employer, while 15.7% had multiple employers.
- The majority (87.9%) of the British Columbia pharmacist workforce worked as permanent employees.
- Among all jurisdictions in the report, British Columbia had the second-highest (19.4%) proportion of pharmacists working in hospitals and other health care facilities.
- Almost half (49%) of pharmacists in British Columbia worked more than 40 hours a week.

Geography and Mobility

- B.C. had one of the highest proportions (91.8%) of pharmacists working in urban areas and, conversely, one of the lowest (8.2%) working in rural and remote areas.

2008 British Columbia Pharmacist Workforce Provincial Profile

		British Columbia			
		2007		2008	
Pharmacists Employed in Pharmacy		3,435		3,753	
Gender	Male	1,530	44.5%	1,634	43.5%
	Female	1,905	55.5%	2,119	56.5%
	Missing Values	0	0.0%	0	0.0%
Average Age	Years	42.6		42.5	
10-Year Age Groups	20–29	523	15.2%	589	15.7%
	30–39	942	27.4%	1,042	27.8%
	40–49	963	28.0%	1,022	27.2%
	50–59	764	22.2%	812	21.6%
	60–69	214	6.2%	245	6.5%
	70–79	**	**	**	**
	80+	*	*	*	*
	Missing Values	0	0.0%	0	0.0%
Urban Versus Rural	Urban	**	0.4%	3,324	88.6%
	Rural	*	<0.1%	123	3.3%
	Remote	0	0.0%	172	4.6%
	Territories	0	0.0%	0	0.0%
	Missing Values	3,419	99.5%	134	3.6%
Current Level of Education in Pharmacy	Diploma	19	0.6%	24	0.6%
	Baccalaureate	3,232	94.1%	3,481	92.8%
	Master's	62	1.8%	86	2.3%
	PharmD	113	3.3%	148	3.9%
	Doctorate	9	0.3%	12	0.3%
	Missing Values	0	0.0%	2	0.1%
New Graduates	No	3,311	96.4%	3,595	95.8%
	Yes	124	3.6%	157	4.2%
	Missing Values	0	0.0%	1	<0.1%
Multiple Employment Status	Single Employer	2,883	83.9%	3,146	83.8%
	Multiple Employers	552	16.1%	587	15.6%
	Missing Values	0	0.0%	20	0.5%
Employment Category	Permanent	2,471	71.9%	3,024	80.6%
	Temporary	34	1.0%	37	1.0%
	Casual	211	6.1%	208	5.5%
	Self-Employed	141	4.1%	173	4.6%
	Missing Values	578	16.8%	311	8.3%
Place of Employment	Hospital and Other Health Care Facility	646	18.8%	720	19.2%
	Community Pharmacy	2,661	77.5%	2,840	75.7%
	Other Pharmacy	10	0.3%	11	0.3%
	Group Professional Practice/Clinic	*	*	*	*
	Community Health Centre	11	0.3%	14	0.4%
	Other Community-Based Pharmacist Practice	**	**	9	0.2%
	Postsecondary Educational Institution	18	0.5%	20	0.5%
	Association/Government/Para-Governmental	27	0.8%	44	1.2%
	Health-Related Industry/Manufacturing/Commercial	12	0.3%	**	**
	Community Pharmacy Corporate Office	18	0.5%	22	0.6%
	Other	15	0.4%	17	0.5%
	Missing Values	10	0.3%	48	1.3%
Position	Director of Pharmacy	35	1.0%	40	1.1%
	Pharmacy Owner/Manager	279	8.1%	337	9.0%
	Pharmacy Manager	575	16.7%	686	18.3%
	Institutional Leader/Coordinator	17	0.5%	27	0.7%
	Staff Pharmacist	1,813	52.8%	2,213	59.0%
	Pharmacist Consultant	29	0.8%	44	1.2%
	Educator	17	0.5%	20	0.5%
	Researcher	7	0.2%	**	**
	Industrial Pharmacist	6	0.2%	*	*
	Other	76	2.2%	84	2.2%
	Missing Values	581	16.9%	291	7.8%

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Health Region Code	Health Region Name	Population Estimates	Pharmacist Count	Per 100,000 Population
5911	East Kootenay	79,014	58	73
5912	Kootenay–Boundary	80,101	67	84
5913	Okanagan	345,202	309	90
5914	Thompson–Cariboo	222,124	149	67
5921	Fraser East	274,514	147	54
5922	Fraser North	578,733	439	76
5923	Fraser South	673,124	500	74
5931	Richmond	186,628	137	73
5932	Vancouver	624,666	747	120
5933	North Shore–Coast Garibaldi	275,873	218	79
5941	South Vancouver Island	366,265	322	88
5942	Central Vancouver Island	262,371	201	77
5943	North Vancouver Island	120,990	94	78
5951	Northwest	77,059	47	61
5952	Northern Interior	145,217	97	67
5953	Northeast	68,375	38	56
	Missing Values	–	183	–

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** Value suppressed to ensure confidentiality; cell value is 5 or greater.

Missing Values

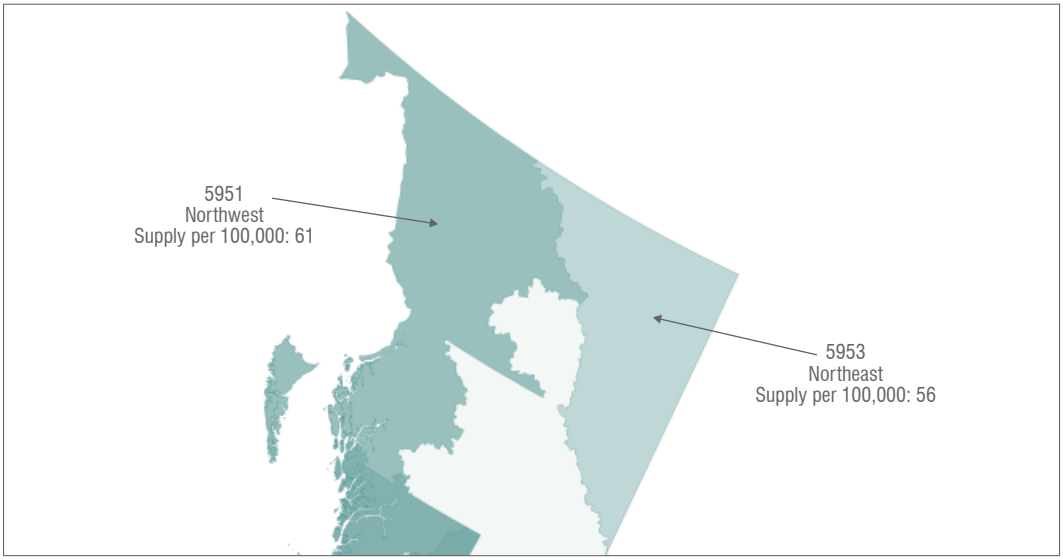
Missing values are values attributed in instances where a data provider is unable to provide information for a registrant for a specific data element. There are three situations which correspond to the following CIHI missing values: *not collected* means that the information is not collected by the data provider on the registration form or that a data provider cannot submit the information; *unknown* indicates that the information was not provided by the registrant; and *not applicable* states that the data element is not relevant to the situation of the registrant. For example, if a pharmacist resides in the U.S., *province of residence* is *not applicable*.

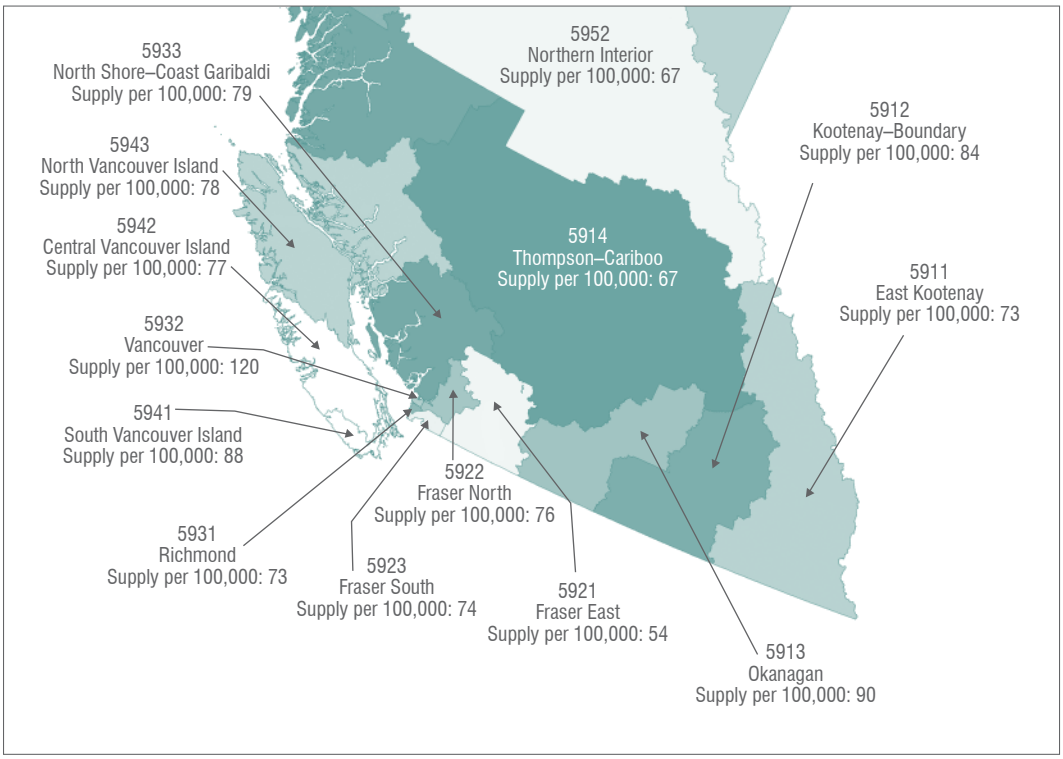
Postal code data was assigned to urban, rural and remote categories using the July 2006 and April 2007 release of Statistics Canada's Postal Code Conversion File.
Employment category, *place of employment* and *position* refer to *primary employment*.
Totals may not sum to 100 percent due to rounding.
Statistics released by CIHI will differ from statistics released by provincial regulatory authorities and territorial governments due to CIHI's collection, processing and reporting methodologies.
Additional methodological information is available upon request by sending an email to pdb@cihi.ca.
The population estimates used in this publication are based on the annual (calendar year) preliminary post-censal (PP) estimates of the population counted on July 1, 2007, Canada, provinces and territories (catalogue no. 91-213-SCB, file AS0107.xls), Statistics Canada.

Sources

Pharmacist Database, Canadian Institute for Health Information; and Statistics Canada.

2008 British Columbia Pharmacist Supply per 100,000 Population by 2007 Health Region Classification





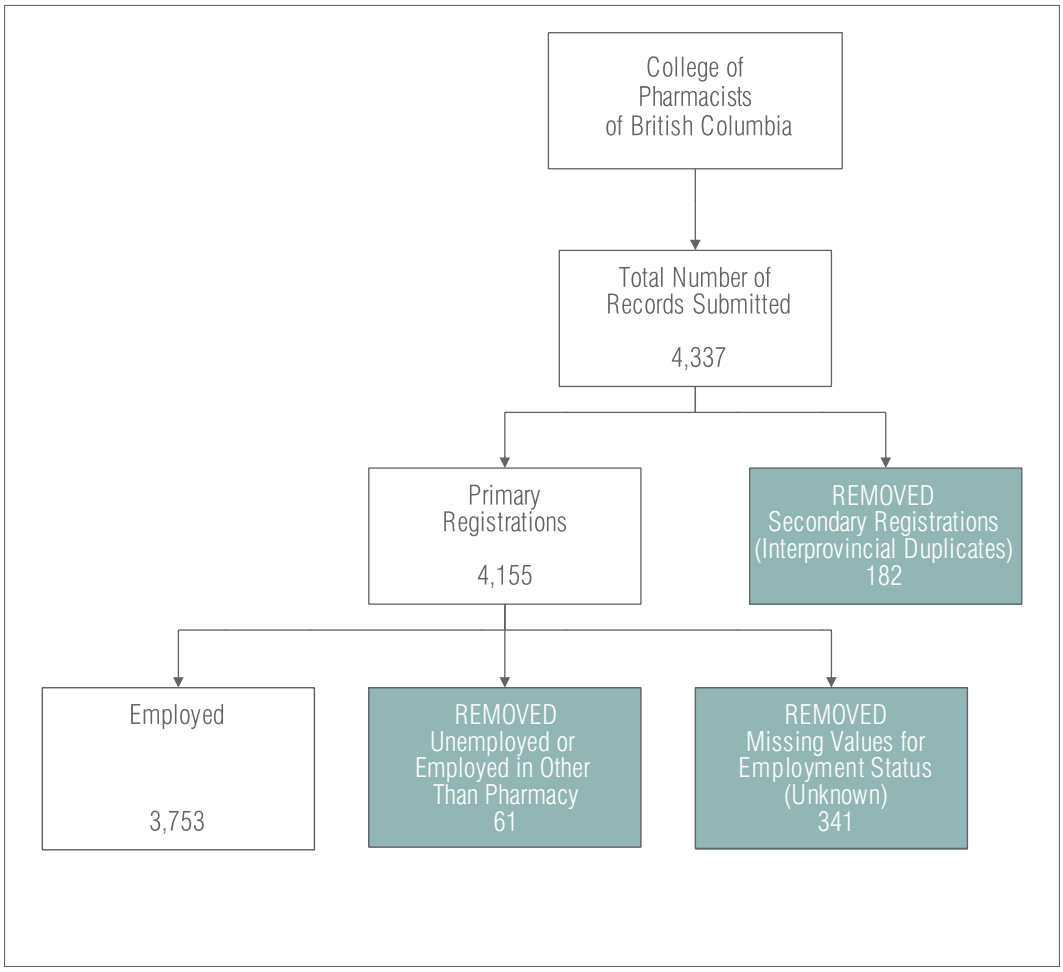
Note

The population estimates used in this publication are based on the annual (calendar year) preliminary post-censal (PP) estimates of the population counted on July 1, 2007, Canada, provinces and territories (catalogue no. 91-213-SCB, file AS0107.xls), Statistics Canada.

Sources

Pharmacist Database, Canadian Institute for Health Information; and Statistics Canada.

2008 Data Flow From the College of Pharmacists of British Columbia to CIHI



2008 Highlights for Pharmacists in the Northwest Territories

Supply

- From 2006 to 2008, the pharmacist workforce in the Northwest Territories declined to a total of 20 pharmacists registered and employed in the territory.

Demographics

- The Northwest Territories had the youngest workforce across all provinces/territories in the report, with an average age of 38.4.

Education

- The Northwest Territories did not offer any university programs in pharmacy.

Employment

- The Northwest Territories had the highest proportion (45%) of pharmacists working as pharmacy owners/managers; conversely, it had the lowest proportion (55%) of pharmacists working as staff pharmacists.

Geography and Mobility

- The majority (60%) of pharmacists working in the Northwest Territories were working in urban settings, with the remaining (40%) working in rural/remote settings.

2008 Northwest Territories Pharmacist Workforce Territorial Profile

		Northwest Territories			
		2007		2008	
Pharmacists Employed in Pharmacy		22		20	
Gender	Male	9	40.9%	8	40.0%
	Female	13	59.1%	12	60.0%
	Missing Values	0	0.0%	0	0.0%
Average Age	Years	37.3		38.4	
10-Year Age Groups	20–29	**	**	*	*
	30–39	9	40.9%	7	35.0%
	40–49	6	27.3%	7	35.0%
	50–59	*	*	*	*
	60–69	0	0.0%	0	0.0%
	70–79	0	0.0%	0	0.0%
	80+	0	0.0%	0	0.0%
	Missing Values	0	0.0%	0	0.0%
Urban Versus Rural	Urban	13	59.1%	12	60.0%
	Rural	0	0.0%	0	0.0%
	Remote	0	0.0%	0	0.0%
	Territories	9	40.9%	8	40.0%
	Missing Values	0	0.0%	0	0.0%
Current Level of Education in Pharmacy	Diploma	0	0.0%	0	0.0%
	Baccalaureate	22	100.0%	22	100.0%
	Master's	0	0.0%	0	0.0%
	PharmD	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%
	Missing Values	0	0.0%	0	0.0%
New Graduates	No	**	**	**	**
	Yes	*	*	*	*
	Missing Values	0	0.0%	0	0.0%
Multiple Employment Status	Single Employer	22	100.0%	20	100.0%
	Multiple Employers	0	0.0%	0	0.0%
	Missing Values	0	0.0%	0	0.0%
Employment Category	Permanent	**	**	**	**
	Temporary	*	*	*	*
	Casual	0	0.0%	0	0.0%
	Self-Employed	0	0.0%	0	0.0%
	Missing Values	0	0.0%	0	0.0%
Place of Employment	Hospital and Other Health Care Facility	*	*	*	*
	Community Pharmacy	**	**	**	**
	Other Pharmacy	0	0.0%	0	0.0%
	Group Professional Practice/Clinic	0	0.0%	0	0.0%
	Community Health Centre	0	0.0%	*	*
	Other Community-Based Pharmacist Practice	0	0.0%	0	0.0%
	Postsecondary Educational Institution	0	0.0%	0	0.0%
	Association/Government/Para-Governmental	0	0.0%	0	0.0%
	Health-Related Industry/Manufacturing/Commercial	0	0.0%	0	0.0%
	Community Pharmacy Corporate Office	0	0.0%	0	0.0%
	Other	0	0.0%	0	0.0%
	Missing Values	0	0.0%	0	0.0%
Position	Director of Pharmacy	0	0.0%	0	0.0%
	Pharmacy Owner/Manager	*	*	**	**
	Pharmacy Manager	*	*	*	*
	Institutional Leader/Coordinator	0	0.0%	0	0.0%
	Staff Pharmacist	14	63.6%	11	55.0%
	Pharmacist Consultant	0	0.0%	0	0.0%
	Educator	0	0.0%	0	0.0%
	Researcher	0	0.0%	0	0.0%
	Industrial Pharmacist	0	0.0%	0	0.0%
	Other	0	0.0%	0	0.0%
	Missing Values	0	0.0%	0	0.0%

(cont'd on next page)

Health Region Code	Health Region Name	Population Estimate	OT Count	Per 100,000 Population
6101	Northwest Territories	42,637	20	49
	Missing Values	–	0	–

Notes

– Data not applicable or does not exist.
* Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 4.
** Value suppressed to ensure confidentiality; cell value is 5 or greater.

Missing Values

Missing values are values attributed in instances where a data provider is unable to provide information for a registrant for a specific data element. There are three situations which correspond to the following CIHI missing values: *not collected* means that the information is not collected by the data provider on the registration form or that a data provider cannot submit the information; *unknown* indicates that the information was not provided by the registrant; and *not applicable* states that the data element is not relevant to the situation of the registrant. For example, if a pharmacist resides in the U.S., *province of residence* is *not applicable*.

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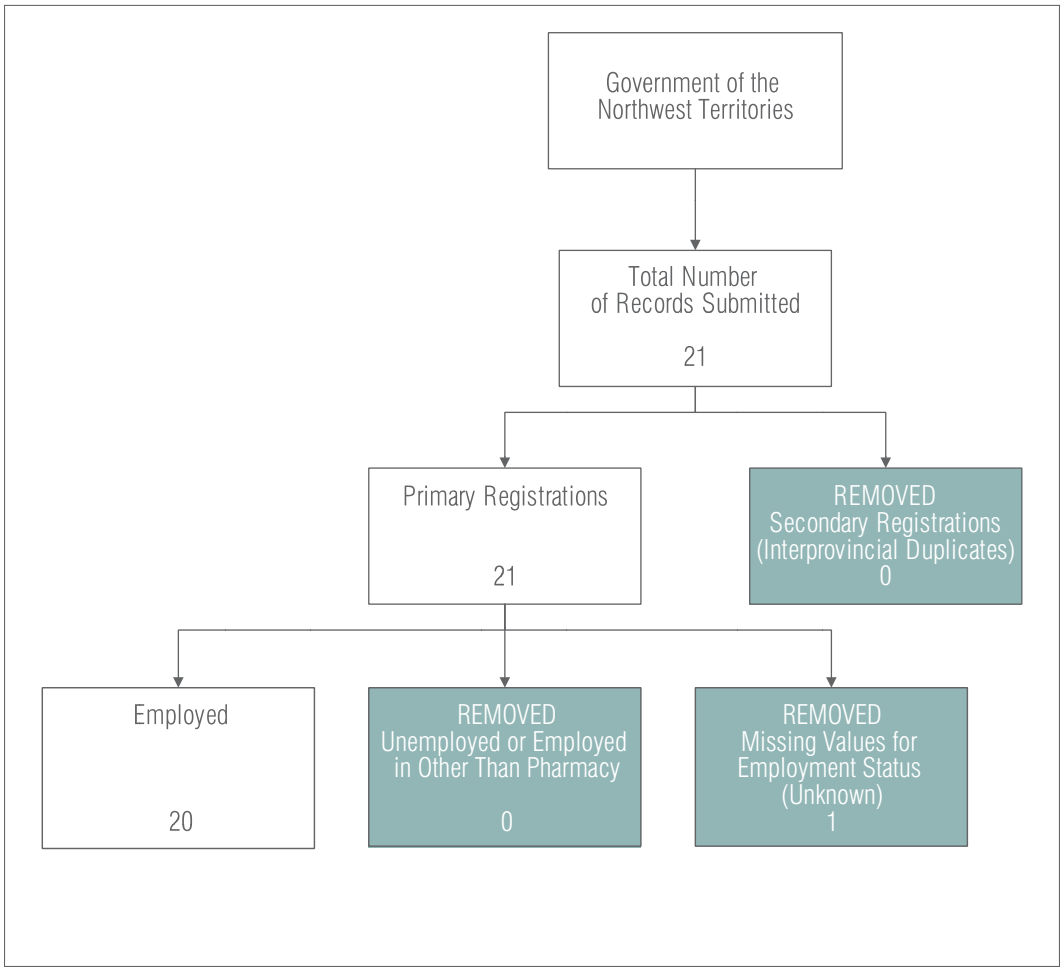
Sources

Pharmacist Database, Canadian Institute for Health Information; and Statistics Canada.

2008 Data Flow From the Government of the Northwest Territories to CIHI



Methodological Notes

These notes outline the basic concepts behind the data provided in this publication and the underlying methodology of the data collection, as well as key aspects of data quality. They will help to provide a better understanding of the strengths and limitations of the data and show how the data can be used effectively. This information is of particular importance when comparisons are made with data from other sources and in regard to conclusions based on changes over time.

The Canadian Institute for Health Information relies on superior principles of data quality, privacy and confidentiality. CIHI's commitment to ensuring the collection of quality data in a privacy-sensitive manner is applied to data collection, processing, analysis and dissemination. For further details regarding CIHI's privacy principles, outlined in *Privacy and Confidentiality of Health Information at CIHI: Principles and Policies for the Protection of Health Information*, go to www.cihi.ca.

Background

Purpose of This Report

This is the third edition of the annual report *Pharmacists in Selected Provinces and Territories in Canada*. It will provide the reader with the most recent statistics on the pharmacist workforce. It includes information on demographic, geographic, education and employment dimensions. Analyses are supplemented with detailed information about the data collection process, pertinent limitations of the current data and an explanation of the analytical methods.

The information in this publication will be used by a wide variety of government and non-governmental organizations to better understand the changing supply and distribution of pharmacists throughout Canada. Accordingly, it will contribute to policy formulation and decision-making at both the pan-Canadian and provincial/territorial levels.

Value of the Information

The supply and distribution information presented here is a key component to health human resource planning at the pan-Canadian and provincial/territorial levels. Any planning or projection of the number of health professionals required for a particular jurisdiction must begin with an understanding of the current supply and how that supply is changing.

The presentation of clear, objective data and data analysis enables informed decision-making and supports policy formulation.

History

Policy reports and research papers have consistently demonstrated that there is very little standardized data available on health professionals on a pan-Canadian basis, with the exception of physicians and regulated nurses. Based on consultations with federal and provincial/territorial ministries of health, the pharmacy profession has been identified as a priority for the development of standards to collect such data. The collection of data from across Canada for the Pharmacist Database (PDB) began in 2006.

Scope of the Data

Population of Interest

The population of interest for the PDB includes all pharmacists registering with a regulatory authority within a Canadian province or territory.

Population of Reference

The population of reference includes all pharmacists submitting active registrations with a Canadian provincial licensing authority or territorial government.

Period of Reference

For any given year, the population includes those pharmacists who registered between the start of the individual regulatory authority/territorial government registration period and October 1.

Data Inclusions

Data collected for the PDB includes the following:

- Registration information from the provincial registrars/territorial governments (except Manitoba and Quebec and the government of Nunavut [2006 to 2008] and the Yukon government [2008]).
- All active registrations received by the participating jurisdictions before October 1, 2008.
- Depending on the individual business process, some provinces/territories include pharmacists who are on temporary leave (such as maternity/paternity leave or short-term illness/injury leave) and have maintained their active registration with their provincial regulatory authority or territorial government.

Data Exclusions

Data collected for the PDB does not include the following:

- For 2008, data from the provinces of Manitoba and Quebec and from the territories of the Yukon and Nunavut.
- For 2007, data from the provinces of Manitoba and Quebec and from the territory of Nunavut.
- For 2006, data from the provinces of Newfoundland and Labrador, New Brunswick, Quebec and Manitoba and from the territory of Nunavut.
- Pharmacists who registered with a provincial regulatory authority or governmental authority for the Northwest Territories after October 1, 2008.
- Pharmacists with an inactive registration type.

Data Flow From Primary Data Collector to CIHI

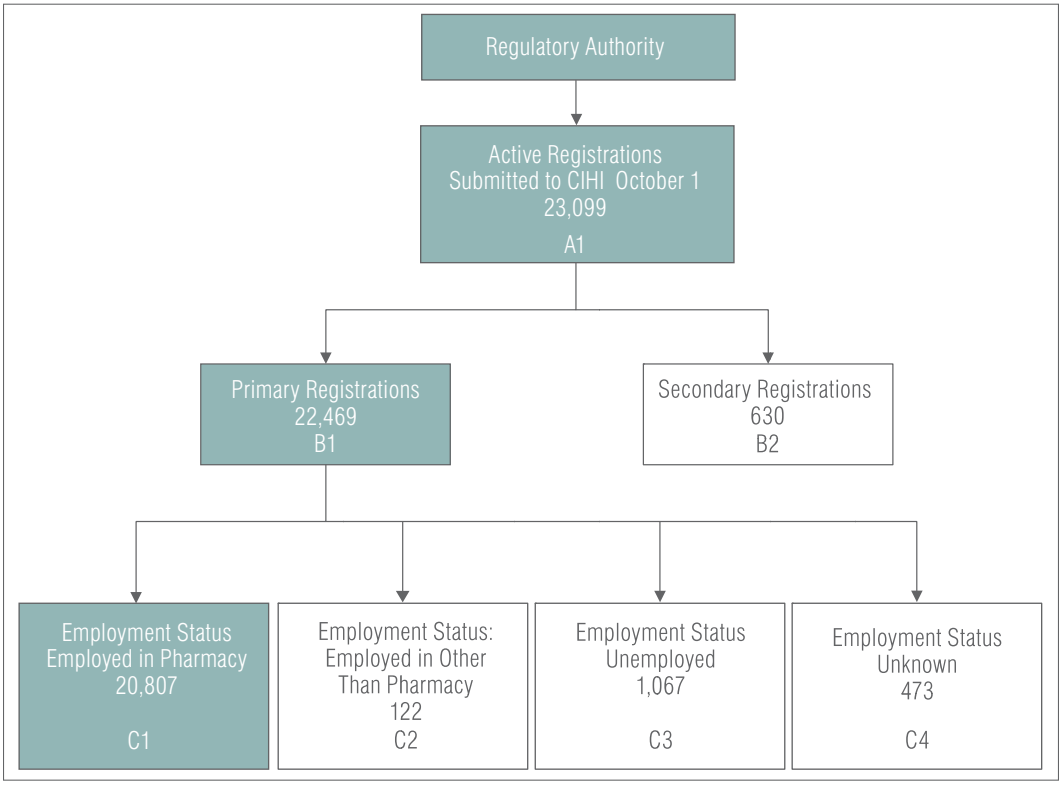
As part of their registration/licensing process, the regulatory authorities collect membership data on an annual basis. They collect data for all members applying for active and inactive registrations.

The purpose of this database is to gain information on the pharmacist workforce in Canada, so the population of reference for the PDB focuses on pharmacists who are currently authorized to engage in practice, meaning that they have active registration as of October 1, 2008.

Since the data collected by the provincial regulatory authorities and territorial governments is wider in scope than the population of reference for the PDB, a filtering methodology is applied by CIHI from the point of data collection through data processing. It targets the relevant records that meet the criteria for the population of reference for the PDB and also meet the information needs addressed in the annual report for the analysis.

Figure 13 illustrates the data flow when this methodology is applied. Explanations of each step within the data flow are provided in the text following the diagram.

Figure 13 Tracing Data Flow From Primary Data Collectors to CIHI



Source
Pharmacist Database, Canadian Institute for Health Information.

The total number of registrations submitted by a pharmacist regulatory authority is composed of both active and inactive registration types.

Box A1: Of all the registrations received by the provincial regulatory authorities and territorial governments, only the data of active registrants as of October 1 is submitted to CIHI.

Box B1: This represents the primary registrations, where the province or territory of registration is the registrant's primary jurisdiction of practice (see also Box B2).

Box B2: Pharmacists in Canada can work in more than one jurisdiction concurrently as long as they are registered/authorized by the proper authorities. In the interest of preventing double-counting of pharmacists who work in more than one jurisdiction, this box represents the secondary registrations or interprovincial duplicates. The methodology that identifies primary and secondary registrations is explained in detail in the Data Processing Methods section.

Boxes
C1 to C4: In most cases, statistics produced by provincial regulatory authorities and territorial governments include all active practising registrations, regardless of employment status. In contrast, CIHI statistics typically include only those registrants who explicitly state their employment in pharmacy (Box C1). Those pharmacists employed in a profession other than pharmacy (Box C2), those not employed (Box C3) and those whose *employment status* is *unknown* (Box C4) are excluded from the final statistics.

The results of this CIHI methodology are presented in Table 19 below.

Table 19 The PDB Pharmacist Workforce Counts by Province or Territory of Registration, 2008

	N.L.	P.E.I.	N.S.	N.B.	Ont.	Sask.	Alta.	B.C.	N.W.T.	Total
Total Active Registrants Submitted to CIHI	582	168	1,149	721	10,966	1,299	3,856	4,337	21	**23,099**
Primary Registrants	573	162	1,117	692	10,795	1,227	3,727	4,155	21	**22,469**
Employed in Pharmacy	571	161	1,093	692	9,813	1,138	3,566	3,753	20	**20,807**

Note
Data from Quebec, Manitoba, the Yukon and Nunavut was not available.
Sources
Pharmacist Database, Canadian Institute for Health Information; and New Brunswick Pharmaceutical Society.

Point-in-Time Data Collection

The point-in-time approach to data collection provides a snapshot of the pharmacist workforce across jurisdictions. Using the same point consistently will enable comparability in time, which is necessary for the accurate determination of a trend. However, depending on the jurisdiction, this approach may not capture the entire year-end totals equally in every province and territory.

Data collection begins at the onset of the data provider's respective annual registration period and ends on October 1. This collection period was identified as the period that captures most of the registrants renewing or applying for membership, including new graduates.

How CIHI Defines the Pharmacist Workforce

By carefully selecting the reporting population for the pharmacist workforce, CIHI is able to provide standardized comparable data suitable for analysis and trending purposes. As explained previously, population of reference includes all employed pharmacists who hold active registration authorizing them to practise as of October 1, 2008, and are not considered as secondary registrations. The population of reference may differ from reporting by provincial regulatory authorities/territorial governments for various reasons, such as differences in the time frame used, inclusion of other registration types (such as inactive and others), differences in employment status (employed versus unemployed) and the inclusion of secondary registrations. Discrepancies between the data in the CIHI publications and data presented by provincial regulatory authorities/territorial governments (PDB data providers) are often the result of these differences. We therefore caution readers to be mindful of these differences when comparing PDB data with other data holdings and publications.

Data Collection Methods

Data Sources

The sources of data for the PDB are the provincial regulatory authorities and the government of the Northwest Territories. Annual registration with a regulatory body is mandatory for pharmacists seeking employment in the provinces and territories. The data is held by the respective provincial regulatory bodies and the governmental authorities of the Northwest Territories, which are considered primary data collectors.

Data Collection

Paper or online registration forms completed by the registrant for registration/licensing purposes are the usual methods of primary data collection for the provincial regulatory authorities and the governmental authorities of the Northwest Territories.

Once in electronic format, an extract of the data is prepared for submission to CIHI. Only those data elements defined in the *Pharmacist Database Data Dictionary* (available at www.cihi.ca) are submitted to CIHI. The data extract must conform to the specifications of the PDB, as outlined in the *Pharmacist Database Data Submission Specifications Manual* (available at www.cihi.ca). The data is transmitted from the data provider to CIHI via a secure online system.

A letter of agreement governs CIHI's collection of pharmacist data. Each year, those provincial regulatory authorities and territorial governments participating in the PDB review the core set of elements each data provider collects on its registration form. Under the current agreement, each data provider agrees to make every reasonable effort to collect and submit the 38 data elements for each registrant according to the definitions outlined in the *Pharmacist Database Data Dictionary*.

Key Concepts and Definitions

Only data elements used in the analysis of this publication are described below. For a complete list of data elements in the PDB, as well as definitions, please visit the CIHI website (www.cihi.ca) to download the *Pharmacist Database Data Dictionary*.

Demographics

Gender

The reported sexual category of a registrant at the time of registration or renewal, used for administrative purposes.

Year of Birth

Year of birth of the registrant.

Age

Derived from the year of birth of the registrant.

Geography

Province/Territory of Residence

At the time of registration or renewal.

Country of Residence

At the time of registration or renewal.

Province/Territory of Registration

Based on the jurisdiction of the organization submitting the data.

Urban/Rural/Remote (for Primary Employment)

Please see the definition for *postal code of employment (for primary employment)*.

Health Region

Please see the definition for *postal code of employment (for primary employment)*.

Education

Level of Basic Education in Pharmacy

Basic educational program used to prepare a pharmacist for practice. This refers to initial education in pharmacy used, in whole or in part, for consideration of licensure as a pharmacist in Canada. Master's and doctorate credentials would only be identified as initial education in pharmacy if the education permitted direct entry to practice (for example, entry-level PharmD). All other pharmacy-related postsecondary education is captured under *highest level of post-basic education in pharmacy*.

Year of Graduation for Basic Education in Pharmacy

The year of completion of an initial educational program that prepares a pharmacist for practice.

Canadian University of Graduation for Basic Education in Pharmacy
Name of the Canadian university where the initial educational program that prepares a pharmacist for practice was completed.

Country of Graduation for Basic Education in Pharmacy
Name of country of completion of initial educational program used to prepare a pharmacist for practice.

Highest Level of Post-Basic Education in Pharmacy
This includes other postsecondary education achieved in pharmacy which resulted in a degree (such as bridging or upgrade education).

Current Level of Education in Pharmacy
The current level of education in pharmacy represents the highest and the most recently acquired level of education in pharmacy reported by the registrant.

The *current level of education in pharmacy* is derived from the data elements *level of basic education in pharmacy* and *highest level of post-basic education in pharmacy*. If *highest level of post-basic education in pharmacy* exists, then the *level of basic education in pharmacy* is compared to the *highest level of post-basic education in pharmacy*. Whichever one is greater becomes the current level of education. If the *level of basic education in pharmacy* is the same as *highest level of post-basic education in pharmacy*, then whichever one is acquired later becomes the current level of education. However, if the *highest level of post-basic education in pharmacy* doesn't exist, then the *level of basic education in pharmacy* becomes the level of current education. The *current level of education in pharmacy* represents the highest and the most recently acquired level of education in pharmacy reported by the registrant.

Years Since Graduation From Basic Education in Pharmacy
This is derived from the difference between the data element *year of graduation for basic education in pharmacy* and the current reporting year (2008) for each registrant.

Employment

Employment Status
A registrant's work status (employed or unemployed) at the time of registration or renewal.

Primary Employment
The employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours worked.

Employment Category (for Primary Employment)
At the time of registration or renewal.

Province/Territory of Employment (for Primary Employment)
At the time of registration or renewal.

Postal Code of Employment (for Primary Employment)
The postal code assigned by Canada Post for a registrant's employment at the time of registration or renewal. It reflects the site where service is delivered, with the employer or business office postal code provided as an alternate (for example, if the employer or business office location is different from the site where service is delivered and only the employer or business office postal code is available). This refers to the location where the registrant is directly engaged in a pharmacy area of practice, direct service, client management, administration, education or research.

The *postal code of primary employment* is used to derive the geographic distribution of the workforce into urban, rural and remote areas using the Postal Code Conversion File (PCCF) from Statistics Canada. For more information on the methodology used for this geographic classification scheme, please see the Analytical Methods section within the Methodological Notes.

The PCCF is also used to assign health regions.

Position (for Primary Employment)
The main role within the place of employment (for registrants with multiple roles within an employment, reflects the role associated with the most worked hours) at the time of registration or renewal.

Place of Employment (for Primary Employment)
The primary place of employment, whether an employee or self-employed, at the time of registration or renewal. This is at the service-delivery level. Service-delivery level refers to the worksite where the registrant is directly engaged in employment associated with the profession of pharmacy, as a pharmacist or in a pharmacy-related field.

Range of Estimated Weekly Practice Hours (for Primary Employment)
At the time of registration or renewal, the range of usual (that is, typical or average) weekly hours of work in employment related to practice. For registrants in an employee–employer employment category, range indicated is inclusive of all practice hours, but should not exceed the hours (including overtime) for which registrant is scheduled/approved and recognized. For registrants who are in a self-employed employment category, range indicated is inclusive of all practice hours (for example, travel time, preparation and service provision).

Data Processing Methods

File Processing

Once data files are received by CIHI, all records undergo two stages of processing before they are included in the national database. The first ensures that data is in the proper format and that all responses pass specific validity and logic tests. If the data submitted does not match the standardized CIHI codes, an exception report and data file summary (identifying and explaining the errors) is sent to the data provider. In addition, the data is tested for a logical relationship between specific fields. (For example, an error is identified in the exception report if the year of graduation is earlier than the year of birth).

Errors are reviewed jointly by CIHI and the respective data provider representative. In cases where the data provider is not able to make the corrections, CIHI may make them directly with the explicit consent of the provider. If a correction cannot be made, the code is changed to the appropriate default/missing value.

Identification of Secondary Registrations

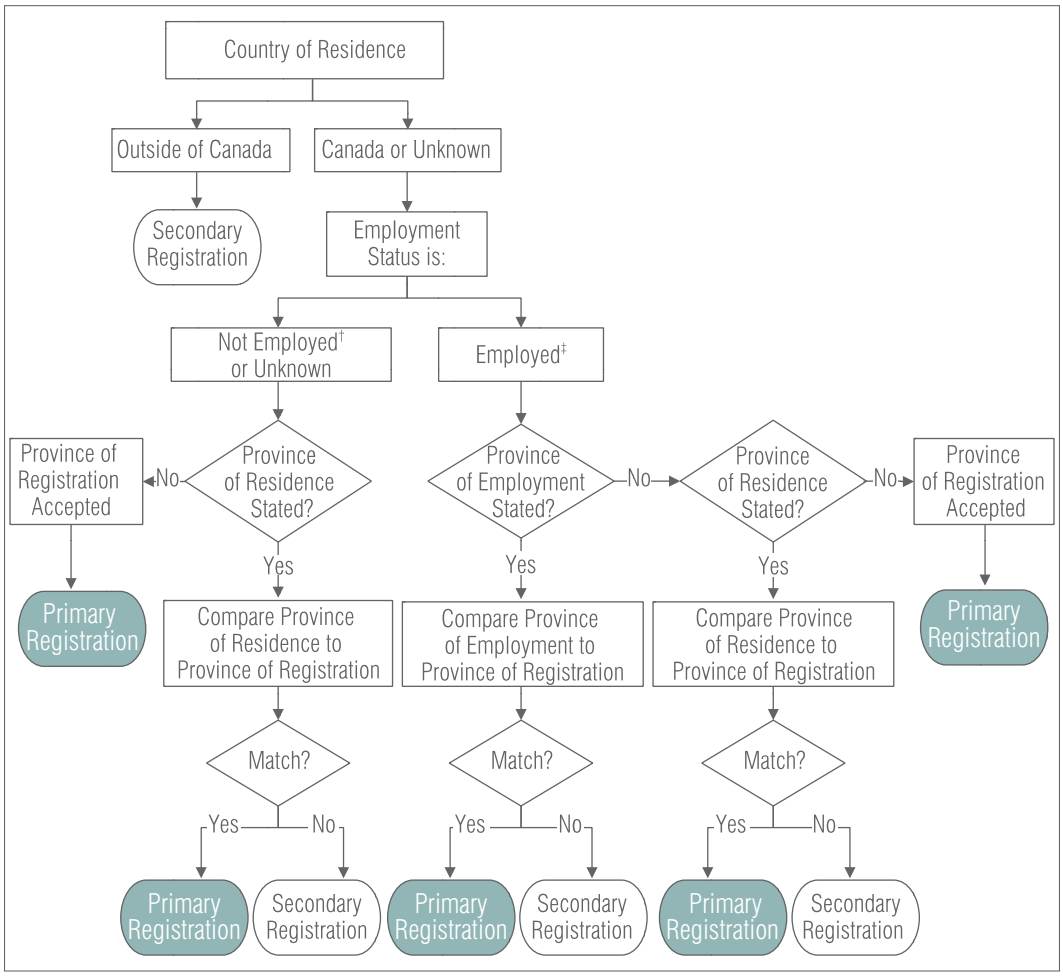
Once the file has passed all validity and logic tests, the second stage of processing begins. Since pharmacists are able to register simultaneously in more than one jurisdiction, a methodology has been developed to identify those pharmacists who are living outside of Canada or are registered in more than one province or territory in order to ensure an accurate count of the number of pharmacists registered and working in Canada only. For example, there are administrative incentives for pharmacists to maintain their Canadian pharmacy licence while living and/or working outside of the country. A pharmacist living abroad may continue to register with a Canadian pharmacy regulatory authority each year, even though she or he may have no intention of returning to Canada in the subsequent 12-month period. CIHI must identify these pharmacists living abroad and remove their data from analysis, since it only reports on the pharmacist workforce within Canada.

For those living and working in Canada, CIHI must also identify registrations that do not reflect the primary jurisdiction of practice. Similar to the international situation, there are administrative incentives for pharmacists to maintain their provincial/territorial pharmacy licence while living and/or working in another Canadian jurisdiction. To avoid double-counting, CIHI evaluates each registration to ensure that it reflects the primary jurisdiction of practice. These secondary registrations are also termed interprovincial duplicates.

Primary registrations are defined as records meeting the following conditions:

- *Province/country of residence* is either in Canada or *unknown*.
- For pharmacists employed in pharmacy, *province of employment* equals *province of registration*; if *province of employment* is *unknown*, then *province of residence* equals *province of registration*.
- For pharmacists not employed in pharmacy (or for pharmacists with *employment status* of *unknown*), *province of residence* equals *province of registration*; if *province of residence* is *unknown*, then *province of registration* is accepted.

Figure 14 Flow Diagram Illustrating the Process for Identifying Secondary Registrations



Notes

† Not Employed in Pharmacy includes *employed in other than the profession of pharmacy*, *seeking employment in the profession of pharmacy*, *employed in other than the profession of pharmacy*, *not seeking employment in the profession of pharmacy*, *unemployed and seeking employment in the profession of pharmacy*, *unemployed and not seeking employment in the profession of pharmacy* and *unknown*.

‡ Employed in the profession of pharmacy.

The methodology for the removal of secondary registrations/interprovincial duplicates has remained relatively consistent over time. However, it is not without its limitations. For example, a pharmacist living in the United States but working in Canada will be erroneously removed as living abroad. Also, when a pharmacist is registered and employed in a Canadian province and decides to provide short-term relief staffing in another province, the temporary residence information may result in a double count.

Analytical Methods

Urban/Rural Statistics

For analytical purposes, urban areas are defined (in part) as communities with populations that are greater than 10,000 people and are labelled by Statistics Canada as either a census metropolitan area (CMA) or a census agglomeration (CA). Rural/remote is equated with those communities outside the CMA/CA boundaries and is referred to as rural and small town (RST) by Statistics Canada.

RST communities are further subdivided by identifying the degree to which they are influenced, in terms of social and economic integration, by larger urban centres. Metropolitan influenced zone (MIZ) categories disaggregate the RST population into four subgroups: strong, moderate, weak and none. These urban/rural/remote categories are applied to those communities (cities, town, villages) that can be equated with the Statistics Canada designation census subdivision (CSD).

For the purpose of this report, the CMA/CA and MIZ categories were collapsed and may be interpreted in the following simple manner:

CMA/CA = large urban centre (urban).

Strong/Moderate MIZ = small towns and rural areas located relatively close to larger urban centres (rural).

Weak/No MIZ = small towns and rural and remote communities distant from large urban centres (remote).

Details of the RST and MIZ classification schemes can be found in McNiven et al.,[4] du Plessis et al.[5] and CIHI.[6]

Missing Values in Urban/Rural Statistics

Missing values listed in the urban/rural statistics signify a sum of *not stated* and *unknown* responses. For example, where the data provider has not submitted a postal code for a registrant, then it is coded as *not stated*. If the data provider has submitted a postal code for a registrant but it does not match the PCCF, then it is coded as *unknown*.

Data Suppression

CIHI is committed to protecting the confidential information of each pharmacist. Guidelines have been developed to govern the publication and release of health information in order to safeguard the privacy and confidentiality of the data received by CIHI. These policies also govern CIHI's release of data through ad hoc queries and special analytical studies.

To ensure the anonymity of individual pharmacists, cells with counts from 1 to 4 are suppressed in the data tables presented in this publication and have been replaced by a single asterisk (*). However, presenting accurate row and column totals also necessitates the suppression of a second value to prevent the reader from determining the suppressed value through subtraction. Therefore, in each row and column with a suppressed value, a second value is also suppressed, which generally is the next smallest value. However, if the second value suppressed is greater than 4, it must be replaced by a different symbol. In this case, the pharmacist publication uses a double asterisk (**).

Note: Cell suppression does not apply to missing values (such as *not collected*, *not applicable* and *unknown*) in the data tables.

Symbols

Wherever possible, standard symbols and numerical presentations are used in this report:

* Value suppressed in accordance with CIHI privacy policy; cell value is from 1 to 4.

** Value suppressed to ensure confidentiality; cell value is 5 or greater.

– Data not applicable or does not exist.

.. Data not currently collected.

When necessary, other symbols are noted at the bottom of the respective tables or figures.

Data Quality Assessment

To ensure a high level of accuracy and usefulness, CIHI developed a framework for assessing and reporting the quality of data contained in its databases and registries. This framework focuses on the five dimensions of data quality: timeliness, usability, relevance, accuracy and comparability. The Methodological Notes section outlines the limitations of data interpretation in detail. Briefly, they are as follows:

Timeliness is achieved by collecting data at a point in time determined and agreed upon by the data providers and which reflects a majority of total records. This allows CIHI to analyze and release the data in a timely manner.

Usability includes the availability and documentation of the data and the ease of interpretation.

Relevance of the data set includes the adaptability and value of the data when used by decision-makers, policy developers, researchers and the media.

Accuracy is an assessment of how well the data reflects reality or how closely the data presented in this publication reflects the population of reference—specifically, those pharmacists holding active membership in Canada as of October 1 who are employed in the profession of pharmacy.

Comparability measures how well the data for the current year compares to the data from previous years and how data from the PDB compares to data from other sources. This publication presents pharmacist data for the registration years 2006 to 2008. Previous data years are only available in aggregate counts from the Health Personnel Database at CIHI.

It is important to note that the levels of accuracy and completeness necessary to meet the financial and administrative requirements of a registry can differ from those required for research. An extensive mapping exercise took place collaboratively with each data provider to ensure alignment between the data collected on the registration forms and the data elements of the CIHI *Pharmacist Database Data Dictionary*. When discrepancies were detected, these differences were documented and accounted for in the analysis and described in either the Methodological Notes or the footnotes. In some cases, data providers included CIHI definitions of some of the data elements and/or values in their registration guides, which facilitated a higher level of data accuracy.

Definitions for Missing Values

Missing values are those attributed in instances where a data provider is unable to provide information for a registrant for a specific data element. This involves three potential situations:

- *Not collected*—where the information is not collected by the data provider on the registration form, or a data provider cannot submit the information.
- *Unknown*—where the information was not provided by the registrant.
- *Not applicable*—where the data element is not relevant to the situation of the registrant. (For example, when a pharmacist resides in the United States, *province of residence* is *not applicable*.)

For the missing values *unknown* and *not applicable*, CIHI implemented the following validation and correction methodology:

- When a registrant provided valid data to one or more data elements within the same education or employment grouping and other related elements are missing values, then the value *unknown* (rather than *not applicable*) is appropriate.
- When a registrant did not provide any data for all data elements within the same education or employment grouping, the value *not applicable* (rather than *unknown*) is appropriate.
- When pharmacists are not currently employed in pharmacy, all employment data in the PDB is coded as *not applicable*. The format of Table 20 removes all pharmacists not currently employed in pharmacy so that *unknown* values accurately represent non-responses for the pharmacist workforce.

Some of the results with a large percentage of missing values were not included in the Data Analysis section of this publication or in the data tables available on the CIHI website because their questionable accuracy limits their usability and opens the door to erroneous interpretations. In other cases, the number of missing values is clearly identified in the analysis and noted for explanation when necessary.

Under-Coverage

Under-coverage results when data that should be collected for the database is not included. There are no known sources of under-coverage for the PDB.

Over-Coverage

Over-coverage is the inclusion of data beyond the target population.

Over-coverage may occur when a pharmacist is on leave for a certain reason, such as maternity/paternity leave, education leave or short-term illness or injury. She or he may have the option to register as on leave, active or inactive, or to not register at all. However, those who choose to register as active and submit employment information will be included in the workforce numbers when, in fact, they are not working.

Data for all pharmacists submitted by the Newfoundland and Labrador Pharmacy Board for 2007 and by the New Brunswick Pharmaceutical Society for 2007 and 2008 was included as *employed in the profession of pharmacy*, as *employment status* was not available.

For 2007, the New Brunswick Pharmaceutical Society submitted aggregate data for active pharmacists who registered between the start of their registration period and July 2, 2008. The data for New Brunswick may include different membership categories for registrants.

Non-Response

In the PDB, item non-response refers to the percentage of *unknown* responses for each data element, as presented in Table 21.

Quebec, Manitoba, Nunavut and Yukon Data

Quebec, Manitoba and Nunavut data was not available from 2006 to 2008; Yukon data was not available for 2008. Therefore, Quebec, Manitoba, Nunavut and Yukon data is not included in the 2008 PDB.

Table 20 Percentage of Pharmacist Records With Unknown Responses by Data Element and Province or Territory of Registration, 2007 and 2008

	Province/Territory of Registration																	
	N.L.		P.E.I.		N.S.		N.B.		Ont.		Sask.		Alta.		B.C.		N.W.T.	
	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008
Gender (%)	0.2	0.0	0.0	0.0	0.0	0.0	§	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Year of Birth (%)	1.9	0.0	0.0	0.0	0.1	0.0	–	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Year of Graduation for Basic Education in Pharmacy (%)	..	5.3	0.0	0.0	9.4	0.3	–	..	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Country of Graduation for Basic Education in Pharmacy (%)	..	5.3	0.0	0.0	..	3.1	–	..	0.5	0.5	..	..	0.0	0.0	11.8	13.4	0.0	0.0
Current Level of Education in Pharmacy† (%)	..	5.3	0.0	0.0	4.7	0.1	–	..	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.1	0.0	0.0
University of Graduation for Current Education (%)	..	5.3	0.0	0.0	..	0.6	–	..	0.7	0.7	3.1	2.3	0.0	0.0	12.7	13.4	0.0	0.0
Primary Employment Category (%)	..	7.4	0.0	0.6	5.1	5.5	–	..	0.0	0.0	5.6	6.8	0.0	0.0	16.8	8.3	0.0	0.0
Primary Position (%)	..	7.4	0.0	0.6	5.1	5.5	–	..	0.1	0.2	16.2	12.2	0.0	0.0	16.9	7.8	0.0	0.0
Place of Primary Employment (%)	..	7.2	0.0	0.6	4.8	5.1	–	..	0.0	0.0	..	..	0.0	0.0	0.3	1.3	0.0	0.0
Urban Versus Rural‡ (%)	..	7.2	0.0	0.6	10.8	12.0	–	..	2.1	0.1	4.5	4.9	0.4	0.3	99.5	3.2	0.0	0.0
Range of Estimated Weekly Practice Hours for Primary Employment (%)	..	13.5	0.0	0.6	6.1	6.8	–	..	..	..	3.7	7.6	0.0	0.0	17.3	9.6	0.0	0.0

Notes

† Current level of education is derived from the highest value submitted for *level of basic education in pharmacy* and the *highest level of education in pharmacy*.

‡ Urban versus rural is derived from the *postal code of primary employment*. Urban versus rural includes *not stated* and *unknown* values for 2008 data.

§ Aggregate data was provided.

.. Not collected/submitted.

– Data not available.

Source

Pharmacist Database, Canadian Institute for Health Information.

Table 21 Pharmacist Records Where Data Is Not Collected by Data Element and Province or Territory of Registration, 2007 and 2008

	Province/Territory of Registration																	
	N.L.		P.E.I.		N.S.		N.B.		Ont.		Sask.		Alta.		B.C.		N.W.T.	
	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008
Gender																		
Year of Birth							X											
Year of Graduation for Basic Education in Pharmacy	X						X	X										
Country of Graduation for Basic Education in Pharmacy	X						X	X			X	X						
Current Level of Education in Pharmacy†	X						X	X										
University of Graduation for Current Education	X						X	X										
Primary Employment Category	X						X	X										
Primary Position	X						X	X										
Place of Primary Employment	X						X	X			X	X						
Urban Versus Rural‡	X						X	X										
Range of Estimated Weekly Practice Hours for Primary Employment	X						X	X	X	X								

Notes

† Current level of education is derived from the highest value submitted for *level of basic education in pharmacy* and the *highest level of education in pharmacy*.

‡ Urban versus rural is derived from the *postal code of primary employment*. Urban versus rural includes *not stated* and *unknown* values for 2006 data.

.. Data not available.

X Indicates that the percentage of *not collected* was 100.

Source

Pharmacist Database, Canadian Institute for Health Information.

Data Limitations

The major limitation of the data presented in this report is the lack of information regarding the pharmacist workforce in Quebec, Manitoba, Nunavut and the Yukon. The ultimate aim of the PDB is to provide a pan-Canadian profile of the pharmacist workforce that can be used to observe trends over time. Without full participation of all jurisdictions, the picture of the health human resource issues facing pharmacists today is incomplete.

In addition, not all participating jurisdictions were able to completely align with the data standard specified in the *Pharmacist Database Data Dictionary*. Therefore, for some jurisdictions, some data elements were not collected for the 2006, 2007 and 2008 registration years.

For 2007 and 2008, data for all pharmacists submitted by the New Brunswick Pharmaceutical Society was included as *employed in the profession of pharmacy*, as *employment status* was not available. For 2007, data for all pharmacists submitted by the Newfoundland and Labrador Pharmacy Board were included as *employed in the profession of pharmacy*, as *employment status* was not available.

Provincial/Territorial Participation

The PDB includes data from Newfoundland and Labrador, P.E.I., Nova Scotia, New Brunswick, Ontario, Saskatchewan, Alberta, B.C. and the Northwest Territories for 2008.

Data from the Yukon was not available for 2008. Data from Quebec, Manitoba and Nunavut was not available for 2006 to 2008. Data on active registered pharmacists in Newfoundland and Labrador and New Brunswick was not available for 2006.

Level of Basic/Highest Education in Pharmacy

As any education information was not collected/submitted for 2008, the current level of education analysis for New Brunswick was not included.

University of Graduation for Basic/Highest Education in Pharmacy

As the university of graduation for basic/highest education was not collected/submitted for 2008, university for current education analysis for New Brunswick was not included.

Due to the high proportion of missing values for 2008, university for current education analysis for Newfoundland and Labrador was not included.

New Graduate

As any education information was not collected/submitted for 2008, the new graduate analysis for New Brunswick was not included.

Data from the Northwest Territories for new graduates was suppressed due to small cell sizes and was not included in the new graduate analysis.

Urban/Rural Distribution

Due to the high proportion of missing values for 2008, the urban/rural analysis for New Brunswick was not included.

Employment Status

For 2008, data for all pharmacists submitted by the New Brunswick Pharmaceutical Society and, for 2007, data for all pharmacists submitted by the New Brunswick Pharmaceutical Society and Newfoundland and Labrador Pharmacy Board was included as *employed in the profession of pharmacy*, as *employment status* was not available.

In addition, for 2007 only, aggregate data for the pharmacist workforce in New Brunswick was submitted by the New Brunswick Pharmaceutical Society.

The 2006 to 2008 PDB does not specifically identify registrants who are on leave.

Primary Employment

The employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours worked.

Employment Position

As employment information was not collected/submitted for 2008, employment position analysis for New Brunswick was not included.

Employment Category

For 2006 to 2008, the Ontario College of Pharmacists was unable to identify the employment categories and therefore assumed that 100% of its active registrants were permanent employees.

As any employment information was not collected/submitted for 2008, employment category analysis for New Brunswick was not included.

Data from the Northwest Territories for employment category was suppressed due to small cell sizes and was not included in the analysis.

Place of Employment

As place of employment information was not collected/submitted for 2008, the analysis for Saskatchewan and New Brunswick was not included.

Data from the Northwest Territories for place of employment was suppressed due to small cell sizes and was not included in the analysis.

Range of Estimated Weekly Practice Hours

As information on hours worked was not collected/submitted for 2008, the analysis for Ontario and New Brunswick was not included.

Data from the Northwest Territories for *range of estimated weekly practice hours* was suppressed due to small cell sizes and was not included in the analysis.

Multiple Employments

As primary and/or secondary and third employment information was not collected/submitted for 2008, multiple employment analysis for New Brunswick and the Northwest Territories was not included.

Privacy and Confidentiality

The Privacy Secretariat at CIHI developed a set of guidelines to safeguard the privacy and confidentiality of data received by CIHI. These policies govern the release of data in publications, media releases, the CIHI website and through ad hoc requests and special studies. The documents entitled *Privacy and Confidentiality of Health Information at CIHI: Principles and Policies for the Protection of Personal Information* and *Pharmacist Database Privacy Impact Assessment* can be found on the CIHI website (www.cihi.ca).

PDB Workforce Products and Services

The following publications relevant to this report may be downloaded in electronic (PDF) format, free of charge, at www.cihi.ca:

- *Pharmacists in Selected Provinces and Territories in Canada, 2008*
- *Workforce Trends of Pharmacists for Selected Provinces and Territories in Canada, 2007*
- *Workforce Trends of Pharmacists for Selected Provinces and Territories in Canada, 2006*
- *Pharmacist Database Data Dictionary*, version 1.0 (for data elements and definitions)
- *Pharmacist Database Data Submission Specifications Manual,* version 1.0 (for file specifications for the data elements sent by the provincial regulatory authorities and territorial governments)

Request for Services

CIHI completes ad hoc requests and special analytical projects on a cost-recovery basis using data from the PDB. Such requests are short queries that generally can be handled through standard reports and do not require major programming resources, while special analytical projects require project planning and the commitment of extra resources.

For an estimate of the costs associated with these products and services, please contact

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