

Occupational Therapists in Canada, 2020

Methodology Notes



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ISBN 978-1-77479-042-7 (PDF)

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How to cite this document:

Canadian Institute for Health Information. *Occupational Therapists in Canada, 2020 — Methodology Notes.* Ottawa, ON: CIHI; 2021.

Cette publication est aussi disponible en français sous le titre *Les ergothérapeutes* au Canada, 2020 — notes méthodologiques.

ISBN 978-1-77479-043-4 (PDF)

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About CIHI's occupational therapist data

Collecting and reporting health workforce data assists decision-makers in the planning and distribution of health care professionals. Since 2006, the Canadian Institute for Health Information (CIHI) has collected data on the supply, distribution and practice characteristics of occupational therapists in Canada.

The following occupational therapist companion products are available on CIHI's website:

- Occupational Therapists in Canada, 2020 Data Tables (XLSX)
- Health Workforce in Canada, 2020 Quick Stats (XLSX)

Other health workforce products are also available on CIHI's website:

- Physiotherapists in Canada, 2020 Data Tables (XLSX)
- Physiotherapists in Canada, 2020 Methodology Notes (PDF)
- Pharmacists in Canada, 2020 Data Tables (XLSX)
- Pharmacists in Canada, 2020 Methodology Notes (PDF)
- Nursing in Canada, 2020 Data Tables (XLSX)
- Nursing in Canada, 2020 Methodology Notes (PDF)
- Canada's Health Care Providers, 2015 to 2019 Data Tables (XLSX)
- Canada's Health Care Providers, 2015 to 2019 Methodology Notes (PDF)
- Physicians in Canada, 2019 (PDF)
- Supply, Distribution and Migration of Physicians in Canada, 2019 (data tables, infographic, historical data, methodology notes, Quick Stats)

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About this document

This document summarizes the basic concepts, underlying methodologies, strengths and limitations of the data. It provides a better understanding of the health workforce information presented in our analytical products and the ways in which it can be effectively used. This information is particularly important when making comparisons with other data sources and when looking at trends over time.

Data availability

Occupational therapists (OTs) are regulated health care professionals who promote health, well-being and quality of life by enabling individuals, families, organizations and communities to participate in occupations that give meaning and purpose to their lives. "Occupational therapy is a type of health care that helps to solve the problems that interfere with a person's ability to do the things that are important to them" — everyday things such as caring for themselves, being productive and enjoying leisure activities. OTs contribute to the productivity of Canadians through client-centred care.

To practise as an OT in a Canadian province, annual registration with the appropriate provincial regulatory authority is mandatory, requiring the completion of a registration form. In the territories — where occupational therapy is not regulated — OTs can register with the national association, the Canadian Association of Occupational Therapists (CAOT). Some employers require registration with a provincial regulatory body.

Data collection

The annual registration form that an applicant completes is the property of the provincial regulatory authority. In the territories, where there is no regulatory body, OTs often register with the CAOT. Through an agreement with CIHI, provincial regulatory authorities and the CAOT submit a set of standardized data to CIHI, collected using the registration forms. The information collected pertains to demographic, education, training and employment characteristics.

CIHI and the organizations submitting data jointly review and scrutinize the submitted data. Once CIHI and the data providers approve the final data, it is ready for analysis and reporting.

Statistics reported by CIHI may differ from those reported by others, even though the source of the data (i.e., annual registration forms) is the same. Variances may be attributed to differences in the population of reference, the collection period and/or CIHI's data exclusion criteria and editing and processing methodologies.

Population of interest

The population of interest includes all OTs who submit an active registration form in a Canadian province or territory.

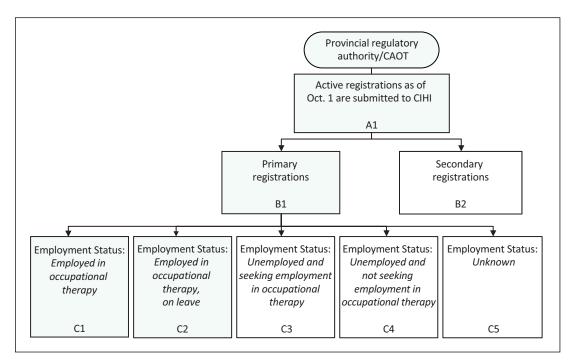
To better ensure timeliness, CIHI collects data prior to the end of the registration period, which varies among jurisdictions. For OTs, a cut-off date for data collection was established through consultation with the data providers and reflects a point in time when the majority of the registrations have been received for the registration period.

Defining the workforce

It is important to note the difference between the terms "supply" and "workforce." *Supply* refers to all registrants who were eligible to practise in the given year (including those employed and those not employed at the time of registration). Note that inactive registrants and secondary registrants are excluded from the supply. *Workforce* refers to only those registrants who were employed in the profession at the time of annual registration, including those on leave who submit an active registration.

The figure below helps to illustrate how we define the OT workforce.

Figure Tracking regulatory authority data to CIHI: The OT workforce



Note

CAOT: Canadian Association of Occupational Therapists.

The total number of registrations submitted to an occupational therapy regulatory authority is composed of both active and inactive registration types. Of all the registrations received by the occupational therapy regulatory authority, only those that are active as of October 1 are submitted to CIHI (Box A1 in the figure above).

There are 2 types of active registrations:

- Primary registrations (Box B1) are those where the province of registration reflects the registrant's primary jurisdiction of practice.
- Secondary registrations (Box B2) represent OTs who work in more than one jurisdiction
 concurrently and are registered by the proper authorities. This prevents the double-counting
 of some OTs who register in more than one jurisdiction. The methodology that identifies
 primary and secondary registrations is explained in detail in the <u>Data quality</u> section
 of this report.

CIHI workforce statistics include only primary registrations where registrants explicitly state their employment status in occupational therapy via one of the following data element values: *employed in occupational therapy* (Box C1) or *employed in occupational therapy, on leave* (Box C2). OTs who are employed outside of occupational therapy, who are unemployed or whose employment status is unknown are excluded from workforce statistics (the corresponding data element values are *unemployed and seeking employment in occupational therapy*, Box C3; *unemployed and not seeking employment in occupational therapy*, Box C4; and *unknown*, Box C5).

Data quality

Under- and over-coverage

There are a few potential sources of under-coverage:

- Registration period versus data collection period: While setting cut-off dates enables
 CIHI to release more timely data, OTs who register between the cut-off date and the end
 of the registration period are not included in the Health Workforce Database (HWDB).
- **First-time registrants:** These include new graduates as well as OTs who are registering in a province or territory for the first time. Information on first-time registrants has varied across provinces and territories and over time, which has resulted in cases of under-coverage.
- Voluntary registration data: In the territories, where there is no regulatory body for
 OTs, the CAOT submits membership registration data to CIHI. Membership registration
 with a national association is often voluntary; data received from the CAOT is
 therefore under-covered.

There are a few potential sources of over-coverage:

- **Duplicate and out-of-scope records:** Over-coverage occurs when duplicate records appear in the HWDB or when out-of-scope records (i.e., inactive registrants) are included.
- OTs on leave: OTs who are employed in their profession and on leave are included in the population of interest. At the time of registration, these OTs may state that they are employed in their profession but are taking leave during some of the rest of the registration period. Examples of leave are maternity and paternity leave, family leave, education leave and leave for short-term illness or injury. While potential over-coverage may exist, the assumption is that OTs on temporary leave who register as being employed in their profession and who provide full employment information (when possible) intend to return to that position when the temporary leave ends.
- Secondary registrations: OTs can choose to register simultaneously in multiple provinces and territories. In order to avoid double-counting these OTs, CIHI identifies registrations that do not reflect the primary province or territory of practice and excludes them when reporting supply or workforce information. These are known as secondary registrations. However, OTs who register in multiple provinces or territories and also work in more than one province or territory are included more than once in "Provinces/territories with available data" totals.
- **Return to practice:** Beginning in 2020, some professional regulatory bodies put out a call for non-practising health professionals to return to practice to respond to the increased patient care needs associated with COVID-19. Depending on the jurisdiction, return-to-practice data may already be included in the supply totals.

Terminology and general methodology

Throughout the HWDB products,

- Health Workforce Database (HWDB) refers to the database that stores both record-level and aggregate-level data collected on 30 groups of health care professionals in Canada, including OTs.
- The term *primary employment* refers to employment with an employer or in a self-employed arrangement that is associated with the highest number of usual weekly hours of work.

 All workforce data and analyses represent primary employment statistics for the respective health care professionals.
- The term *renewal* refers to the number of registrants who renewed their registration in the same province or territory as the one they were registered in the year before.

Average age

The average age of OTs in a given province or territory and/or in Canada is calculated based on the age of the individual OT, which is derived from the data elements Year of Birth and the Current Data Year for each record. Records with missing age are excluded from the calculation.

Average age =
$$\frac{1}{n} \sum_{i=1}^{n} Age_{i}$$

Where

- *i* = Individual health care professional
- *n* = Total number of health care professionals in a province or territory or in Canada

Occupational therapists employed in direct care

The term "employed in direct care" refers to only those registrants who provided services directly to clients. Direct care includes those whose Area of Practice focuses on the neurological system, musculoskeletal system, cardiovascular and respiratory system or digestive/metabolic/endocrine system or whose Area of Practice is in mental health, general physical health, vocational rehabilitation, palliative care, health promotion and wellness or other area of direct service.

Health regions and peer groups

Health regions are defined by the provincial and territorial governments and represent administrative bodies or areas of interest to health authorities.

The health region data presented in the *Occupational Therapists in Canada, 2020* analyses and products includes OTs who work in direct patient care and whose postal code is within the province or territory of analysis. Those employed in administration, education or research are excluded from the health region totals.

The postal code data and Statistics Canada's Postal Code Conversion File (PCCF) are used to assign health care professionals to health regions. The Postal Code of Primary Employment is used to conduct this analysis. If the postal code is unknown or invalid, the health region cannot be determined.

In order to facilitate comparisons among health regions, Statistics Canada developed a methodology that groups health regions with similar socio-economic and socio-demographic characteristics; these are referred to as peer groups. The health region peer groups defined by Statistics Canada are based on the 2018 classification of peer groups and are presented in Occupational Therapists in Canada, 2020— Data Tables.

Inflow and outflow

Changes in the OT supply reflect the number of registrants entering their profession (inflows) and the number leaving (outflows). Analyzing inflows and outflows provides better information about how the OT supply is changing over time.

The term *inflow* refers to the number of registrants entering the profession. Inflow occurs when an OT registers to practise in a province or territory in which the OT did not register the previous year. Inflow is calculated by dividing the number of new registrants — OTs who were not registered to practise occupational therapy in the same province or territory the year before — by the total number of registrants in the same year. Inflow can include new graduates, OTs who migrate in from other Canadian provinces or territories or foreign countries and those who return to the workforce after extended leave (such as for family responsibilities or further education).

The term *outflow* refers to the number of registrants leaving a specific province or territory. Outflow occurs when an OT fails to renew their registration in a province or territory the following year. Outflow is calculated by dividing the number of registrants who did not renew their licence to practise occupational therapy in the same province or territory by the total number of registrants in the same year. Outflow is influenced by a number of factors, and these factors will change over time. For those OTs who are late in their careers, not renewing their registration may be a signal that they have retired. For OTs who are in the early stages of their careers, reasons for not renewing registration could include choosing an employment opportunity in another province, territory or country, leaving the profession, taking parental leave and fulfilling family responsibilities, or returning to school for additional education.

Population estimates and per 100,000 population counts

Using population estimates from Statistics Canada, rates per population can be calculated for health care professionals. *Occupational Therapists in Canada, 2020 — Data Tables* includes Statistics Canada's population estimates by province and territory for 2011 to 2019.

Urban and rural/remote

A postal code analysis is performed to determine whether a health care professional is practising in an urban or a rural/remote setting.^{2–4} For OTs, the Postal Code of Primary Employment is used to conduct this analysis. If the postal code is unknown or invalid, the urban or rural/remote setting cannot be determined.

Using Statistics Canada's PCCF, postal codes are assigned to statistical area classifications (SACs) — urban or rural/remote. Urban areas are defined (in part) by Statistics Canada as communities with populations greater than 10,000 people; rural/remote is equated with communities outside the urban 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 with larger urban centres. Metropolitan influenced zone (MIZ) categories disaggregate the RST population into 4 subgroups: strong MIZ, moderate MIZ, weak MIZ and no MIZ.

Urban and rural/remote areas are classified as follows:

• Urban: SACtype = 1, 2, 3

Rural/remote: SACtype = 4, 5, 6, 7, 8

Comparability

As part of the data submission process, the regulatory bodies submit to CIHI the changes that have been made to their data for inclusion in this publication. A review of this information is helpful when looking at trends over time and comparing provinces and territories.

All provinces and territories submitted OT data to CIHI in 2020.

International comparability

In an effort to improve the usability of Canada's health workforce statistics for international stakeholders, CIHI has developed a series of health workforce indicators grounded in the work of the World Health Organization's *National Health Workforce Accounts: A Handbook*.⁵ CIHI's release is focused on indicators identified in Module 1: Active health workforce stock.

The table below highlights the OT component of the 8 indicators included in CIHI's *Occupational Therapists in Canada, 2020* release, as well as variations in terminology for the data presented by CIHI. Please see CIHI's <u>Indicator Library</u> for the detailed methodology for each health workforce indicator.

Table CIHI-reported World Health Organization indicators

WHO indicator	Corresponding table in Occupational Therapists in Canada, 2020 — Data Tables
 1 - 02: Density of active health workers per 1000 population, by cadre 1 - 03: Density of active health workers per 1000 population by cadre and at subnational level 	Table 4: Occupational therapist workforce employed in direct care per 100,000 population, by jurisdiction, provinces/territories with available data, 2011 to 2020
1 – 04: Density of health workers per 1000 population, by cadre, by activity level (practising, professionally active, licensed to practice)	Table 5: Occupational therapist supply, by employment status, per 100,000 population, provinces/territories with available data, 2011 to 2020
1 – 05: Ratio between active and registered health workers, by cadre	Table 6: Ratio of occupational therapist workforce employed in direct care to supply, provinces/territories with available data, 2011 to 2020
1 – 07: Percentage of active health workers in different age groups, by cadre and sex	Table 7: Occupational therapist workforce employed in direct care, by age group, provinces/territories with available data, 2011 to 2020
1 – 09: Percentage of active foreign-trained health workers by place of birth (domestic/foreign) and by country of training	Table 8: Occupational therapist workforce employed in direct care, by top 10 countries of graduation, provinces/territories with available data, 2011 to 2020
1 – 11: Percentage of active health workers employed by facility type, by cadre	Table 9: Occupational therapist workforce employed in direct care, by place of employment, provinces/territories with available data, 2011 to 2020
1 – 12: Density of active health workers in different regions (by regional typology, by cadre)	Table 10: Occupational therapist workforce employed in direct care, by health region and jurisdiction, provinces/territories with available data, 2011 to 2020
1 – 12: Density of active health workers in different regions (by regional typology, by cadre)	Table 11: Occupational therapist workforce employed in direct care per 100,000 population, by health region and jurisdiction, 2011 to 2020

Source

World Health Organization. National Health Workforce Accounts: A Handbook. 2016.

Data limitations and considerations

Methodological and historical changes to the data have the potential to make it difficult to compare data across time. CIHI, in collaboration with the regulatory authorities, is continually striving to improve data quality; therefore, the following information should be considered when making historical comparisons and consulting previous CIHI publications. In all cases, comparisons should be made with caution and in consideration of the methodological and historical changes made. For a complete list of data elements, please review the Health Workforce Database metadata page on CIHI's website.

The section below provides information on the data elements that had data quality improvements or changes in data years 2011 to 2020 that may have an impact on comparability.

If more than 30% of records in a province/territory have a *not stated* value (i.e., unknown, not applicable or not collected) for a data element, statistics based on that element are not reported. When the population of provinces/territories for which the data is unavailable exceeds 35% of the total Canadian population, no overall result is reported for "Provinces/territories with available data."

Statistics on *not stated* values for each reporting data element are available in <u>Occupational Therapists in Canada, 2020 — Data Tables</u>. Caution should be used when comparing data within this time period.

Occupational therapist data, 2011 to 2020

General

Province or territory	Data limitation			
Newfoundland and Labrador	In 2018, the Newfoundland & Labrador Occupational Therapy Board			
	implemented a new database and, subsequently, registrant identification			
	numbers changed between 2017 and 2018. As a result, 2018 inflow,			
	2017 outflow and 2018 renewal data is not available.			

Supply and workforce

Province or territory	Data limitation
Nova Scotia	In 2018, the College of Occupational Therapists of Nova Scotia implemented a new database, which made it easier for registrants to update their employment information. As a result, there was an increase in total Workforce .
Quebec	The Ordre des ergothérapeutes du Québec began submitting data in 2011. The 2020 OT supply data for Quebec does not include return-to-practice data.
Yukon, Northwest Territories and Nunavut	The CAOT submits voluntary registrations for OTs residing and working in Yukon, the Northwest Territories and Nunavut. These counts may exclude temporary relief workers who may not have registered with the CAOT.

Demographic

Province or territory	Data limitation
Manitoba	From 2011 to 2018, Gender and Year of Birth were not directly provided to CIHI by the College of Occupational Therapists of Manitoba. For reporting, CIHI uses aggregated age and gender information provided by Manitoba Health, Seniors and Active Living.
	In 2015 and 2019, age and gender information was not available. As such, Flow by Age Group, Sex, Average Age and Age Group are not reported.
Alberta	Due to a technical issue with registration identifiers, the flow of OTs in Alberta between 2019 and 2020 is not reported.
Yukon	In 2012, inflow and outflow by age group were not reported due to a high proportion of missing values. In 2016, inflow by age group was not reported due to a high proportion of missing values.
Northwest Territories	In 2013, inflow by age group was not reported due to a high proportion of missing values.
Nunavut	In 2013, Age Group was not reported due to a high proportion of missing values.

Education

Province or territory	Data limitation					
Nunavut	In 2012, Years Since Graduation was not reported due to a high proportion					
	of missing values.					

Employment

Province or territory	Data limitation				
Prince Edward Island	From 2011 to 2016, Employment Status <i>employed in profession and on leave</i> was not available.				
Nova Scotia	In 2018, the College of Occupational Therapists of Nova Scotia implemented a new database. As a result, there are fluctuations in the following values: employed in occupational therapy and not employed and seeking employment in occupational therapy.				
New Brunswick	New Brunswick data for the values <i>self-employed</i> and <i>unspecified employee</i> for the data element Employment Category is unavailable for any data year.				
Quebec	For Employment Status, Quebec submits only the data value employed in profession. Quebec does not report on Area of Practice, Employment Category and Postal Code of Employment for any data year.				
Manitoba	In 2019, employment information was not available for 6% of the workforce. Comparisons between 2019 and other years should be made with caution.				

Province or territory	Data limitation					
Saskatchewan	In 2020, there was an increase in Employment Status <i>employed in profession and on leave</i> . This is due to some OTs keeping their practising licence while on a leave, likely due to the COVID-19 pandemic. Other changes in workforce statistics between 2019 and 2020 may also be due to the COVID-19 pandemic.					
Alberta	From 2016 to 2019, Full-Time/Part-Time Status was not reported due to a high proportion of missing values. In 2020, Position was not reported due to a high proportion of missing values.					
	In 2020, Place of Employment was not available due to data quality issues. In 2020, there was increase in the Employment Status values <i>employed</i> in profession and on leave and not stated. Therefore, comparisons between					
	2020 and earlier years should be made with caution.					
British Columbia	Starting in 2020, there was a change in the way employment data was collected, resulting in an increase in Place of Employment <i>community</i> and a decrease in Place of Employment <i>other</i> . Therefore, comparisons between 2019 and 2020 should be made with caution.					
Yukon	In 2017, workforce geography (urban and rural/remote) was not reported due to a high proportion of missing values.					
Nunavut	In 2011, Area of Practice was not reported due to a high proportion of missing values.					
	In 2017 and 2018, workforce geography (urban and rural/remote) was not reported due to a high proportion of missing values.					

Privacy and confidentiality

The protection of individual privacy, the confidentiality of records and the security of information are essential to CIHI's operations. In support of this position, CIHI established a comprehensive privacy, confidentiality and security program. A key element of the program is the statement of principles and policies set out in the document *Privacy Policy on the Collection, Use, Disclosure and Retention of Health Workforce Personal Information and De-identified Data, 2011* (in short, the Health Workforce Privacy Policy, 2011). A copy of this document can be downloaded free from CIHI's website.

CIHI is a prescribed entity in Ontario, which means that health information custodians in Ontario can provide personal health data to us without the consent of individuals.

The HWDB does not collect, use or disclose personal information. The data collected may contain small cell sizes. However, in keeping with Section 32 of the Health Workforce Privacy Policy, 2011, CIHI makes statistical information publicly available only in a manner designed to minimize any risk of identifiability and residual disclosure of personal information about individuals.

Appendices

Appendix A: Occupational therapists, first year of regulation, by province and territory

Type of professional	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nun.
Occupational therapists	1987	1976	1972	1997	1973	1993	1971	1971	1990	2000	NR	NR	NR

Note

NR: Not regulated as of 2020.

Appendix B: Occupational therapist data providers, 2020

Occupational therapists	
Newfoundland and Labrador	Newfoundland & Labrador Occupational Therapy Board
Prince Edward Island	Prince Edward Island College of Occupational Therapists
Nova Scotia	College of Occupational Therapists of Nova Scotia
New Brunswick	New Brunswick Association of Occupational Therapists
Quebec	Ordre des ergothérapeutes du Québec
Ontario	College of Occupational Therapists of Ontario
Manitoba	College of Occupational Therapists of Manitoba
Saskatchewan	Saskatchewan Society of Occupational Therapists
Alberta	Alberta College of Occupational Therapists
British Columbia	College of Occupational Therapists of British Columbia
Yukon, Northwest Territories and Nunavut	Canadian Association of Occupational Therapists

Appendix C: Text alternative for average age image

Average age equals numerator 1 over denominator n (defined as the total number of health care professionals in a jurisdiction or Canada) times the sum of the individual health care professionals' ages for the total number of n health care professionals; the count of individual health care professionals i equals 1 to n.

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