



## Physiotherapists in Canada, 2010 Database Guide

October 2011



## Who We Are

Established in 1994, CIHI is an independent, not-for-profit corporation that provides essential information on Canada's health system and the health of Canadians. Funded by federal, provincial and territorial governments, we are guided by a Board of Directors made up of health leaders across the country.

## Our Vision

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 and a list of the current members of CIHI's Board of Directors, visit our website at [www.cihi.ca](http://www.cihi.ca).



# Acknowledgements

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- Canadian Alliance of Physiotherapy Regulators
- Canadian Physiotherapy Association
- College of Physical Therapists of Alberta
- College of Physical Therapists of British Columbia
- College of Physiotherapists of Manitoba
- College of Physiotherapists of New Brunswick
- College of Physiotherapists of Ontario
- Newfoundland and Labrador College of Physiotherapists
- Nova Scotia College of Physiotherapists
- Ordre professionnel de la physiothérapie du Québec
- Prince Edward Island College of Physiotherapists
- Saskatchewan College of Physical Therapists
- Yukon Government

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

Physiotherapist Database (PTDB) publications represent the work of CIHI staff within the Health Human Resources department.

Production of this material has been made possible through a financial contribution from Health Canada. The views expressed herein do not necessarily represent the views of Health Canada. Please note that the analyses and conclusions in the present document do not necessarily reflect those of the individuals or organizations mentioned above.





## Want to Know More?

Other PTDB documents that may be of interest and are available free of charge in English and French on CIHI's website at [www.cihi.ca](http://www.cihi.ca):

- *Physiotherapists in Canada, 2010*
  - *National and Jurisdictional Highlights and Profiles*
  - *Data Tables*
- Previous reports
  - *Physiotherapists in Canada* series (2007 to 2009)
- Reference documents
  - *Data Dictionary*
  - *Data Submission Specifications Manual*
  - *Privacy Impact Assessment*

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# About the CIHI Physiotherapist 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 2007, the Physiotherapist Database (PTDB) has collected information on the supply and distribution, demographics, geography, education and employment of physiotherapists in Canada.

## PTDB Data Providers

The provincial regulatory authorities and the Yukon government participate in the PTDB and are the primary collectors of data compiled in the CIHI database. All provincial or territorial regulatory authorities have participated since 2007; the Northwest Territories and Nunavut do not participate, as there are no regulatory authorities in those territories. For 2008 only, the Yukon government was unable to participate in the PTDB.

For 2007 to 2009, Nova Scotia was unable to provide data to the PTDB. Aggregate data from the Nova Scotia College of Physiotherapists was inserted to provide an estimation of supply and gender only from 2007 to 2009. In 2009, it also supplied aggregate information on certain education and employment data elements. In 2010, Nova Scotia was able to provide record-level data to the PTDB.

**Table 1: Physiotherapist Database Data Providers**

		2007	2008	2009	2010
<b>N.L.</b>	Newfoundland and Labrador College of Physiotherapists	✓	✓	✓	✓
<b>P.E.I.</b>	Prince Edward Island College of Physiotherapists	✓	✓	✓	✓
<b>N.S.</b>	Nova Scotia College of Physiotherapists	†	†	†	✓
<b>N.B.</b>	College of Physiotherapists of New Brunswick	✓	✓	✓	✓
<b>Que.</b>	Ordre professionnel de la physiothérapie du Québec	✓	✓	✓	✓
<b>Ont.</b>	College of Physiotherapists of Ontario	✓	✓	✓	✓
<b>Man.</b>	College of Physiotherapists of Manitoba	✓	✓	✓	✓
<b>Sask.</b>	Saskatchewan College of Physical Therapists	✓	✓	✓	✓
<b>Alta.</b>	College of Physical Therapists of Alberta	✓	✓	✓	✓
<b>B.C.</b>	College of Physical Therapists of British Columbia	✓	✓	✓	✓
<b>Y.T.</b>	Yukon Government	✓	††	✓	✓

### Notes

† Nova Scotia was unable to provide record-level data to the Physiotherapist Database for 2007 to 2009.

†† The Yukon did not participate in the Physiotherapist Database for 2008.

### Source

Canadian Institute for Health Information.

Official registration with the provincial regulatory authorities 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 or territorial regulatory authorities.

The administrative data collected by provincial regulatory authorities and the Yukon government 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 physiotherapists 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 physiotherapist 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 *Physiotherapist Database Data Dictionary* is available for download on CIHI's website at [www.cihi.ca](http://www.cihi.ca).

Under the agreement with CIHI, a portion of the administrative information collected by the provincial regulatory authorities and the Yukon government is submitted to CIHI on an annual basis. CIHI, the regulatory authorities and the Yukon government 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 PTDB for analysis and reporting. Over time, this information will provide a historical record of changes in the supply of the physiotherapist workforce on a year-to-year basis.

**Note:** CIHI figures on physiotherapists may not be the same as figures published by provincial regulatory authorities or by the Yukon government for the following reasons:

**a. Collection period**—The statistics typically released by provincial regulatory authorities or the Yukon government include all registrations received during the 12-month registration period. In contrast, CIHI collects data as of September 1 of the data collection year. In consultation with provincial regulatory authorities and the Yukon government, 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 PTDB, provincial regulatory authorities and the Yukon government (data providers) submit data for active and inactive registrations received during the registration year. Only active registrations are considered in the analysis that is done in PTDB publications, as they represent the number of physiotherapists 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, to engage in professional practice, as defined by the relevant laws, regulations and/or policies associated with a specific jurisdiction.

**c. Exclusions from CIHI analysis**—For the detailed analysis in this publication, CIHI removed registrants who are not employed in physiotherapy, whether they are unemployed or employed in a field other than physiotherapy, as well as those physiotherapists for whom information on the data element Employment Status is missing or *unknown*.

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

**e. CIHI editing and processing**—When a physiotherapist is registered with more than one provincial regulatory authority or territorial government, he or she is considered to be a secondary registration or an interprovincial duplicate; these are removed from the PTDB in order to avoid double-counting across jurisdictions and to more accurately reflect the primary jurisdiction of employment. More detailed information on the identification of secondary registrations can be found in the Methodological Notes section of this guide.

**f. Data quality processes**—Some jurisdictions perform their data quality review at the end of their registration period. As CIHI receives the data in September of the data collection year, it is possible that some of the data quality activities of some jurisdictions have not yet been 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.

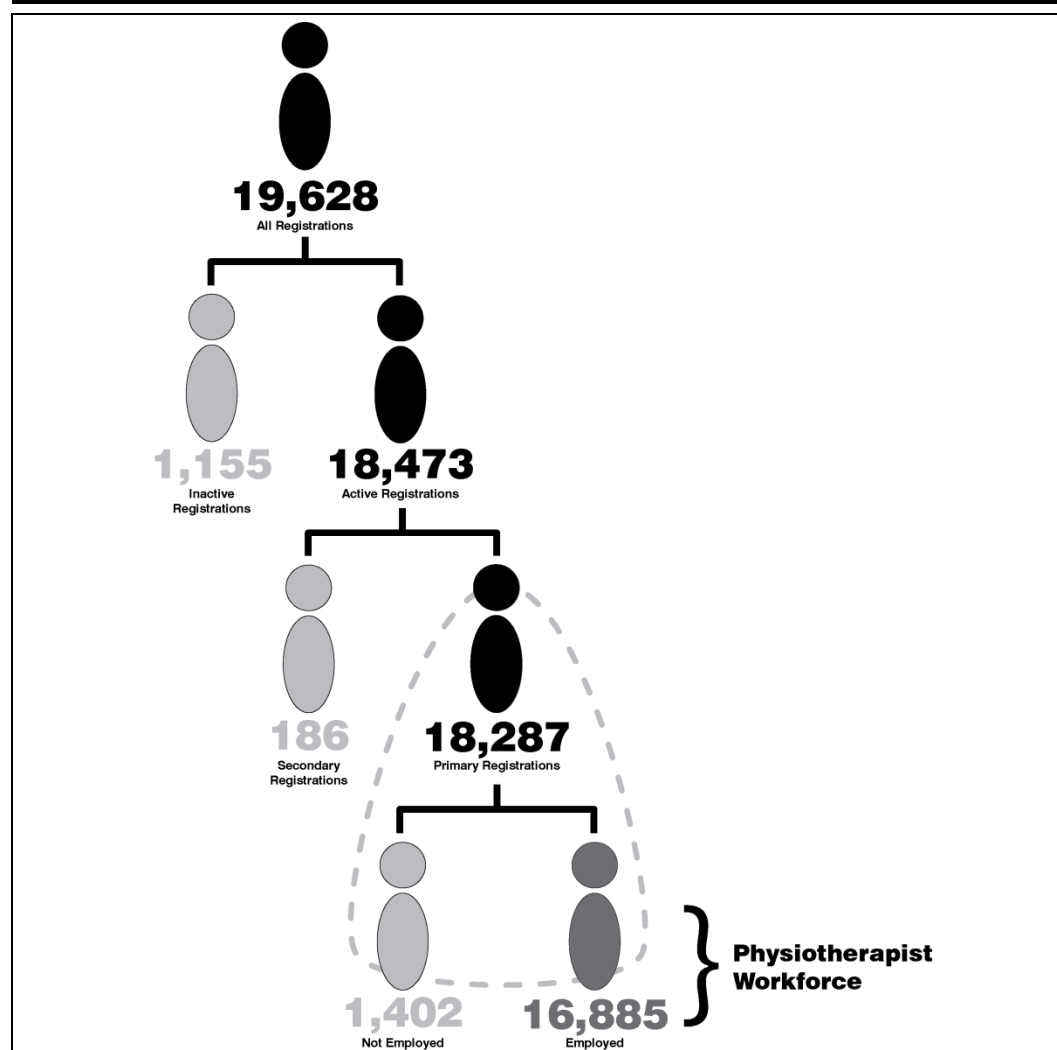
**g. The Province/Territory of Residence and the Province/Territory of Employment** were not available for the Yukon for 2007; therefore, the 2007 total may include secondary registrations that could not be identified and removed using the secondary registration methodology that is based on location of employment and residence.



# CIHI's Definition of the Physiotherapist Workforce in Canada

In CIHI's PTDB publications, "physiotherapist workforce" is defined as the total number of physiotherapists holding active registration in Canada who are employed and are not considered secondary registrations or interprovincial duplicates. For more detailed information on the inclusion and exclusion criteria, please see the Methodological Notes.

**Figure 1: Defining the CIHI PTDB Physiotherapist Workforce, 2010**



## Notes

Regulatory data was not available from the Northwest Territories and Nunavut, as there were no licensing authorities in these territories.

Total does not include the Northwest Territories or Nunavut.

Inactive records are also submitted to CIHI but are removed for the purposes of this analysis.

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

## Source

Canadian Institute for Health Information.

In 2010, information on 19,628 physiotherapists in Canada was submitted by the physiotherapist regulatory authorities. Of these, 1,155 (5.9%) were inactive registrations, 186 (0.9%) were secondary registrants and 1,402 (7.1%) were either not employed in physiotherapy or had an unknown Employment Status and so were removed from the analysis.

## Methodological Notes

These notes outline the basic concepts behind the data provided in PTDB publications 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 Policy on the Collection, Use, Disclosure and Retention of Personal Health Information and De-Identified Data, 2010*, go to [www.cihi.ca](http://www.cihi.ca).

## Background

### Purpose of the PTDB Publications

PTDB publications will provide the reader with the most recent statistics on the physiotherapist workforce, including 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 PTDB publications will be used by a wide variety of government and non-governmental organizations to better understand the changing supply and distribution of physiotherapists 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 of 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 profession of physiotherapy has been identified as a priority for the development of standards to collect such data. The collection of data from across Canada for the Physiotherapist Database (PTDB) began in 2007.

## **Scope of the Data**

### **Population of Interest**

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

### **Population of Reference**

For the purpose of the PTDB, the population of reference includes all physiotherapists who submit active registrations with a Canadian provincial licensing authority or with the Yukon government.

### **Period of Reference**

For any given year, the population includes those physiotherapists who registered between the start of the registration period for the provincial regulatory authority/territorial government and September 1.

## Data Inclusions

Data collected for the PTDB includes the following:

- Registration information from the provincial registrars (except Nova Scotia for 2007 to 2009) and the Yukon government (except for 2008).
- The Nova Scotia College of Physiotherapists provided aggregate data for supply from 2007 to 2009 and record-level data on demographics, education and employment for 2010.

## Data Exclusions

Data collected for the PTDB does not include the following:

- For 2007 to 2009, the Nova Scotia College of Physiotherapists was not able to provide record-level data for Nova Scotia.
- For 2007 to 2010, data was not available for the Northwest Territories and Nunavut, as there were no territorial licensing bodies in these territories at the time of this report.
- For 2008 only, the Yukon government was unable to participate in the PTDB.

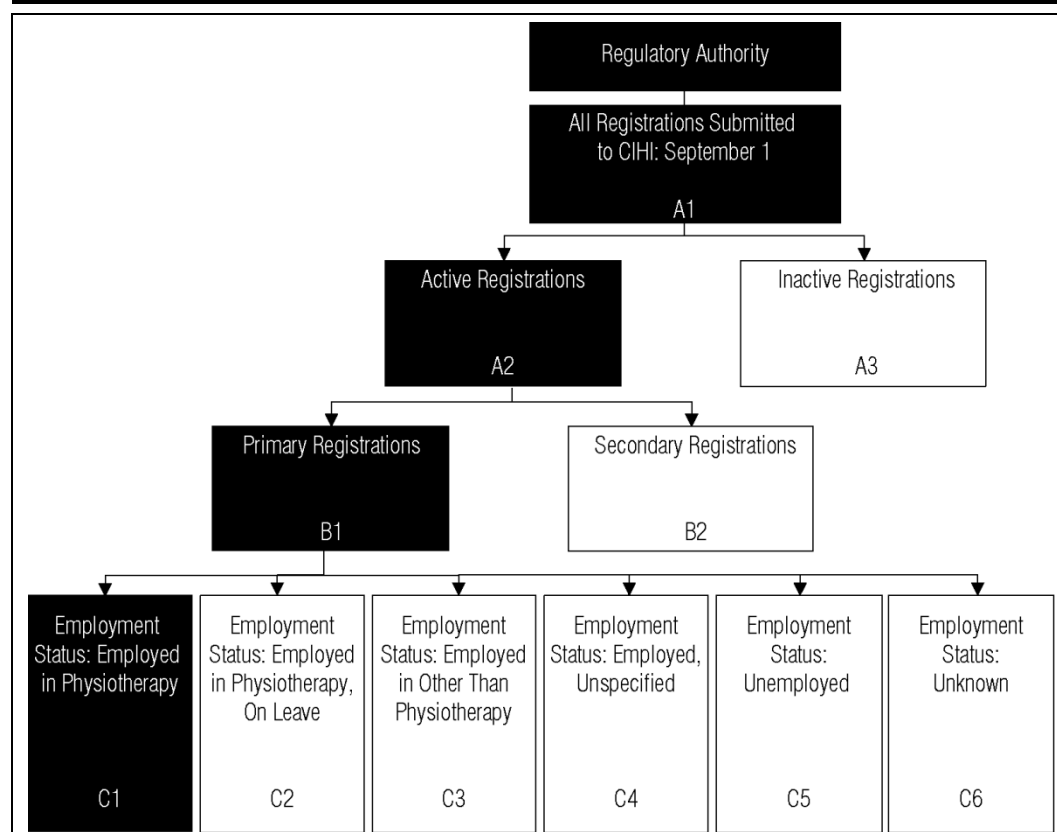
## Data Flow From Primary Data Collector to CIHI

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 registration.

The purpose of this database is to gain information on the physiotherapist workforce in Canada, so the population of reference for the PTDB focuses on physiotherapists who are currently authorized to engage in practice, meaning that they have active registration as of September 1, 2010.

Since the data collected by the provincial regulatory authorities is wider in scope than the population of reference for the PTDB, 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 PTDB and also meet the information needs addressed in the analysis.

The figure below 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 2: Tracing Data Flow From Primary Data Collectors to CIHI****Source**

Canadian Institute for Health Information.

The total number of registrations submitted to a physiotherapist regulatory authority includes both active and inactive registration types.

**Box A1:** All registrations as of September 1 are submitted to CIHI.

**Box A2:** This represents only the active records that are 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:** Physiotherapists in Canada can work in more than one jurisdiction concurrently as long as they are registered with/authorized by the proper authorities. In the interest of preventing double-counting of physiotherapists 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 C6:** In most cases, statistics produced by provincial regulatory authorities and the Yukon government include all active practising registrations regardless of Employment Status. In contrast, CIHI statistics typically include only those registrants who explicitly state their Employment Status in physiotherapy (Box C1). Those physiotherapists who are on leave, employed outside of physiotherapy or unemployed, or whose Employment Status is *unknown*, are excluded from the final statistics (boxes C2 to C6).

## Point-in-Time Data Collection

The point-in-time approach to data collection provides a snapshot of the physiotherapist 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 September 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 Physiotherapist Workforce

By carefully selecting the reporting population for the physiotherapist workforce, CIHI is able to provide standardized comparable data suitable for analysis and trending purposes. As explained previously, the population of reference includes all physiotherapists who hold active registration authorizing them to practise as of September 1, 2010.

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/territorial regulatory/governmental authorities (PTDB data providers) are often the result of these differences. We therefore caution readers to be mindful of these differences when comparing PTDB data with other data holdings and publications.

## Data Collection Methods

### Data Sources

The data sources for the PTDB are the provincial regulatory authorities and the Yukon government. Annual registration with a regulatory body is mandatory for physiotherapists seeking employment within the provinces and the Yukon. The data is held by the respective provincial regulatory bodies and the governmental authorities of the Yukon, which are considered primary data collectors.

### Data Collection

Paper or online registration forms completed annually by the registrant for registration/licensing purposes are the usual methods of primary data collection for the provincial regulatory authorities and the Yukon government. Once in electronic format, an extract of the data is prepared for submission to CIHI. Only those data elements defined in the *Physiotherapist Database Data Dictionary* (available at [www.cihi.ca](http://www.cihi.ca)) are submitted to CIHI. The extract must conform to the specifications of the PTDB, as outlined in the *Physiotherapist Database Data Submission Specifications Manual* (available at [www.cihi.ca](http://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 physiotherapist data. Each year, provincial regulatory authorities and the Yukon government 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 69 data elements for each registrant according to the definitions outlined in the *Physiotherapist 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 PTDB, as well as definitions, please visit CIHI's website ([www.cihi.ca](http://www.cihi.ca)) to download the *Physiotherapist Database Data Dictionary*.

### Demographics

#### Gender

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

#### 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 Physiotherapy**

Initial educational program used to prepare a physiotherapist for practice. This refers to the initial education program used, in whole or in part, for consideration of licensure as a physiotherapist in Canada.

### **Year of Graduation for Basic Education in Physiotherapy**

Year of completion of initial educational program used to prepare a physiotherapist for practice.

### **Country of Graduation for Basic Education in Physiotherapy**

Name of country of completion of initial educational program used to prepare a physiotherapist for practice.

### **Level of Post-Basic Education in Physiotherapy (1, 2, 3)**

Other post-secondary education achieved in physiotherapy which resulted in a degree. This includes any post-basic physiotherapy education leading to a degree, such as bridging or upgrade education.

### **Year of Graduation for Post-Basic Education in Physiotherapy (1, 2, 3)**

Year of completion of post-basic education in physiotherapy.

**Level of Education in a Field Other Than Physiotherapy (1, 2, 3)**

Level of post-secondary education completed in a field of study outside physiotherapy.

**Year of Graduation for Education in Other Than Physiotherapy (1, 2, 3)**

Year of completion of education in a field other than physiotherapy.

**Field of Study for Education in Other Than Physiotherapy (1, 2, 3)**

Field of study of education in a field other than physiotherapy.

**Current Level of Education in Physiotherapy**

The Current Level of Education in Physiotherapy is derived from the data elements Level of Basic Education in Physiotherapy and Level of Post-Basic Education in Physiotherapy (1, 2, 3). If Level of Post-Basic Education in Physiotherapy (1, 2, 3) exists, then the Level of Basic Education in Physiotherapy is compared to the Level of Post-Basic Education in Physiotherapy (1, 2, 3). Whichever one is greater becomes the current level of education. If the Level of Basic Education in Physiotherapy is the same as Level of Post-Basic Education in Physiotherapy (1, 2, 3), then whichever one is acquired later becomes the current level of education. However, if the Level of Post-Basic Education in Physiotherapy (1, 2, 3) does not exist, then the Level of Basic Education in Physiotherapy becomes the current level of education. The Current Level of Education in Physiotherapy represents the highest and the most recently acquired level of education in physiotherapy reported by the registrant.

**Years Since Graduation From Basic Education in Physiotherapy**

This is derived from the difference between the data element Year of Graduation for Basic Education in Physiotherapy and the current reporting year (2010) for each registrant.

**Employment****Employment Status**

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

**Primary Employment**

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

## Secondary Employment

Employment associated with the second-highest number of usual weekly hours worked, whether employed or self-employed.

## Canadian Official Languages—Ability to Provide Service

Canadian official languages in which a physiotherapist is capable of providing professional services.

## Other Language—Ability to Provide Service

Language, exclusive of Canadian official languages (English and/or French), in which a physiotherapist is capable of providing professional services.

## Full-Time/Part-Time Status

The official status with an employer or, if official status is *unknown*, the classification of status based on usual hours worked at the time of registration or renewal.

## Province/Territory of Employment (for Primary Employment)

The province or territory of employment at the time of registration or renewal.

## Country of Employment (for Primary Employment)

The country of primary employment at the time of registration or renewal.

## Postal Code of Employment (for Primary Employment)

The postal code assigned by Canada Post is for the 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 physiotherapy area of practice such as direct service, client management, administration, education or research. The Postal Code of Employment (for 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—Urban/Rural Statistics section within the Methodological Notes. The PCCF is also used to assign health regions.



## Place of Employment (for Primary Employment)

The primary place of employment, whether as an employee or self-employed, at the time of registration or renewal. This is at the site where service is delivered. The site where service is delivered refers to the location where the registrant is directly engaged in his or her physiotherapy area of practice: direct service, client management/consulting, administration, education, research or sales.

## Area of Practice (for Primary Employment)

At the time of registration or renewal, the major focus of activities in primary employment.

## Sector of Employment (for Primary Employment)

At the time of registration or renewal, a registrant's sector of employment for primary employed/self-employed activity.

## Total Annual Worked Hours

At the time of registration or renewal, hours worked in the last 12 months from all approved, recognized employment related to physiotherapy practice. For registrants in an employee–employer employment category, hours indicated are inclusive of all practice hours but should not exceed the hours (including overtime) for which a registrant is scheduled/approved and recognized. For registrants who are in a self-employed employment category, hours indicated are 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 physiotherapists are able to register simultaneously in more than one jurisdiction, a methodology has been developed to identify those 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 those registered and working in Canada only.

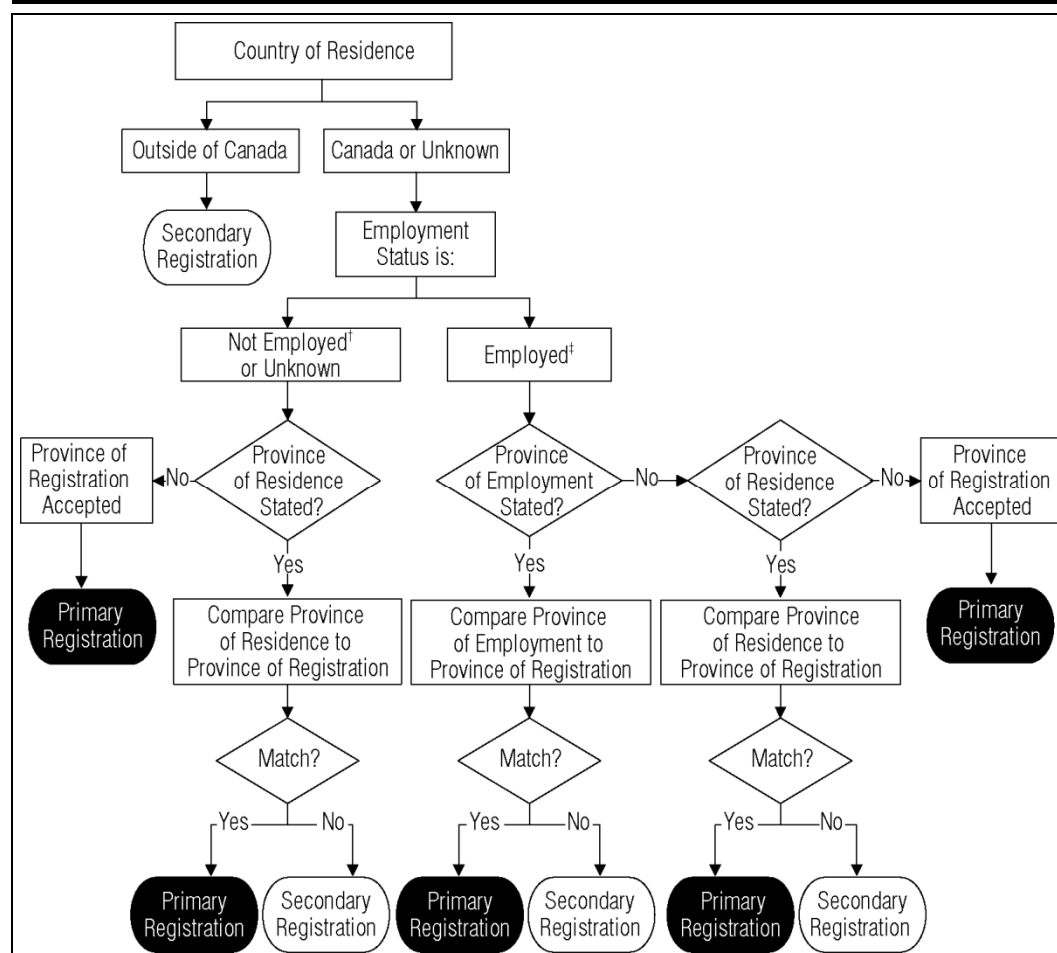
For example, there are administrative incentives for physiotherapists to maintain their Canadian physiotherapy licence while living and/or working outside of the country. A physiotherapist living abroad may continue to register with a Canadian regulatory authority each year, even though she or he may have no intention of returning to Canada in the subsequent 12-month period. CIHI must identify those who are living abroad and remove their data from analysis, since it only reports on the physiotherapist 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 physiotherapists to maintain their provincial or territorial physiotherapy 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 physiotherapists employed in physiotherapy, Province of Employment equals Province of Registration; if Province of Employment is *unknown*, then Province of Residence equals Province of Registration.
- For physiotherapists not employed in physiotherapy (or for physiotherapists with Employment Status of *unknown*), Province of Residence equals Province of Registration; if Province of Residence is *unknown*, then Province of Registration is accepted.

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 physiotherapist living in the United States but working in Canada will be erroneously removed as living abroad. Also, when a physiotherapist 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.

**Figure 3: The Process for Identifying Secondary Registrations****Notes**

† Not employed (*unemployed and seeking employment in physiotherapy, unemployed and not seeking employment in physiotherapy or unknown*).

‡ Employed in physiotherapy and employed, on leave.

**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 the PTDB, 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.,<sup>1</sup> du Plessis et al.<sup>2</sup> and CIHI.<sup>3</sup>

## Missing Values in Urban/Rural Statistics

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

## Data Suppression

CIHI is committed to protecting the confidential information of each physiotherapist. 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 physiotherapists, cells with counts from one to four 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 physiotherapist 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 PTDB publications:

- \* 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 physiotherapists holding active membership in Canada as of September 1 who are employed in the profession of physiotherapy.
- Comparability measures how well the data for the current year compares to the data from previous years and how data from the PTDB compares to data from other sources.

PTDB publications present data from 2007 onward. In some cases, 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 *Physiotherapist 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 physiotherapist 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 physiotherapists are not currently employed in physiotherapy, all employment data in the PTDB is coded as *not applicable*.

The PTDB findings remove all physiotherapists not currently employed in physiotherapy so that *unknown* values accurately represent non-response for the physiotherapist 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 CIHI's 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 (see 2010 PTDB Data Tables).

## 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 PTDB.

## Over-Coverage

Over-coverage is the inclusion of data beyond the target population. Over-coverage may occur when a physiotherapist 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. Province/Territory of Residence and Province/Territory of Employment were not available for 2007 only in the Yukon; therefore, that total in 2007 may include secondary registrations that could not be identified and removed using the secondary registration methodology that is based on location of employment and residence.

## Non-Response

In the PTDB, item non-response refers to the percentage of *unknown* responses for each data element (see 2010 PTDB Data Tables).

## Nova Scotia, the Northwest Territories and Nunavut Data

There were no licensing authorities in the Northwest Territories and Nunavut at the time of this publication; therefore, administrative data was not available from these territories.

The Nova Scotia College of Physiotherapists was not able to submit record-level data from 2007 to 2009.

For 2008 only, the Yukon was unable to submit data to the PTDB.

In addition, not all data providers were able to align their registration forms to the data elements and values outlined in the *Physiotherapist Database Data Dictionary*. As a result, some provinces and territories were not able to collect some data elements.

## Data Limitations

In addition to the data limitations listed below, analytical findings may not include all jurisdictions due to lack of participation in the PTDB, data quality issues and item non-response (unknown information and *not collected* data elements).

## Supply

- For 2007, the number of physiotherapists increased slightly due to enhancements made to the methodology for secondary registrations.

## Demographics

### Year of Birth

- *Manitoba*—the College of Physiotherapists of Manitoba (CPTM) does not provide record-level information on birth year; however, aggregate data was provided by Manitoba Health (2007 to 2010).
- *Nova Scotia*—aggregate data for Nova Scotia was provided by the Nova Scotia College of Physiotherapists (NSCP) for 2007 to 2009.

### Gender

- *Manitoba*—the CPTM does not provide record-level information on gender; however, aggregate data was provided by Manitoba Health (2007 to 2010).
- *Nova Scotia*—aggregate data for Nova Scotia was provided by the NSCP for 2007 to 2009. For 2007 and 2008, totals for Gender include out-of-province and non-practising registrants, as defined by the NSCP. For 2009, totals for Gender exclude inactive and non-practising registration types, as defined by the college.

## Education

### Current Level of Education in Physiotherapy

- *Quebec*—Level of Post-Basic Education in Physiotherapy data was not available from the Ordre professionnel de la physiothérapie du Québec; therefore, Current Level of Education for Quebec is based only on Level of Basic Education in Physiotherapy.
- *Ontario*—Level of Post-Basic Education in Physiotherapy data was not available from the College of Physiotherapists of Ontario for 2007 to 2009; therefore, Current Level of Education for Ontario is based only on Level of Basic Education in Physiotherapy for 2007 to 2009.
- *Yukon*—Level of Post-Basic Education in Physiotherapy data was not available from the Yukon Government for 2007; therefore, Current Level of Education for the Yukon is based only on Level of Basic Education in Physiotherapy for 2007.
- *Nova Scotia*—excluded for 2007 and 2008. Aggregate data provided by the NSCP for 2009.



- *Nova Scotia*—Level of Post-Basic Education in Physiotherapy data was not available from the Nova Scotia College of Physiotherapists for 2010; therefore, Current Level of Education for Nova Scotia is based only on Level of Basic Education in Physiotherapy for 2010.

### Year of Graduation for Basic Education in Physiotherapy

- *Nova Scotia*—excluded for 2007 and 2008. Aggregate data provided by the NSCP for 2009.

### Country of Graduation for Basic Education in Physiotherapy

- *Nova Scotia*—aggregate data provided by the NSCP for 2009.

## Employment

### Employment Status—On Leave

- While the 2010 PTDB includes those physiotherapists who are employed in physiotherapy but on leave, business processes vary between data providers in terms of the range of data collected and options for registration types. The on-leave portion of the physiotherapist workforce was not available from Quebec, Nova Scotia or Manitoba.

### Canadian Official Languages—Ability to Provide Service

- *Nova Scotia*—Aggregate data provided by the NSCP for 2009.

## Privacy and Confidentiality

The Privacy and Legal Services 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, CIHI's website and through ad hoc requests and special studies. The documents entitled *Privacy Policy on the Collection, Use, Disclosure and Retention of Personal Health Information and De-Identified Data, 2010 (Privacy Policy, 2010)* and *Physiotherapist Database Privacy Impact Assessment* can be found on CIHI's website ([www.cihi.ca](http://www.cihi.ca)).

## PTDB Workforce Products and Services

The following publications relevant to the PTDB may be downloaded in electronic (PDF) format, free of charge, at [www.cihi.ca](http://www.cihi.ca):

- *Physiotherapists in Canada, 2010*
  - *National and Jurisdictional Highlights and Profiles*
  - *Data Tables*
- Previous reports
  - *Physiotherapists in Canada* series (2007 to 2009)
- Reference documents
  - *Data Dictionary*
  - *Data Submission Specifications Manual*
  - *Privacy Impact Assessment*

## Request for Services

CIHI completes ad hoc requests and special analytical projects on a cost-recovery basis using data from the PTDB. 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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2. V. du Plessis et al., “Definitions of Rural,” *Rural and Small Town Canada Analysis Bulletin* 3, 3 (November 2001), accessed fall 2009, from <<http://www.statcan.gc.ca/pub/21-006-x/21-006-x2001003-eng.pdf>>, catalogue no. 21-006-XIE.
3. Canadian Institute for Health Information, *Supply and Distribution of Registered Nurses in Rural and Small Town Canada* (Ottawa, Ont.: CIHI, 2002), accessed fall 2009, from <[http://secure.cihi.ca/cihiweb/dispPage.jsp?cw\\_page=download\\_form\\_e&cw\\_sku=SDRNRST2000PDF&cw\\_ctt=1&cw\\_dform=N](http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=download_form_e&cw_sku=SDRNRST2000PDF&cw_ctt=1&cw_dform=N)>.

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