

# Spotlight on the Health Workforce

Data Modernization and Advancements

Canadian Institute for Health Information

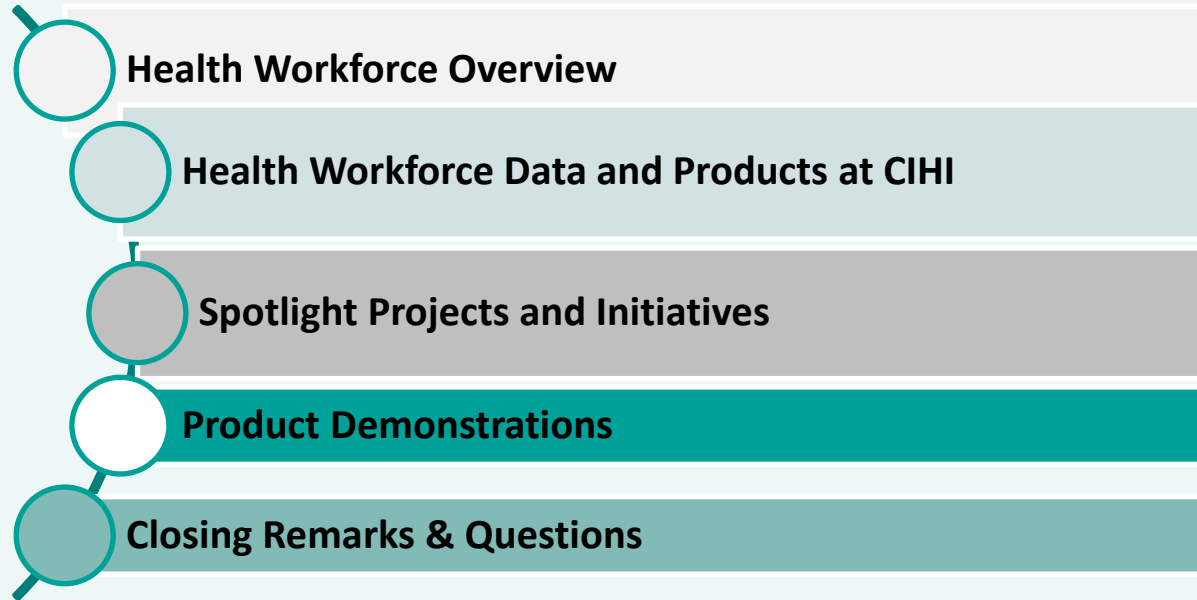
May 6, 2024

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# Session overview



# Health Workforce

# The Health Workforce



# Why this is so important

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# Health Workforce Information at CIHI

# HWI Databases

## [Health Workforce Database metadata](#)

■ **Metadata** ▪ Published **October 26, 2023**

The Health Workforce Database contains information on more than 30 groups of health care professionals in Canada.

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## [Scott's Medical Database metadata](#)

■ **Metadata** ▪ Published **October 26, 2023**

Source, data coverage, data availability, data elements and data quality of Scott's Medical Database (SMDB).

## [National Physician Database metadata](#)

■ **Metadata** ▪ Published **October 26, 2023**

Source, data coverage, data availability, data elements and data quality of the National Physician Database (NPDB).

## [Patient Level Physician Billing \(PLPB\) metadata](#)

■ **Metadata** ▪ Published **October 26, 2023**

Metadata information on the source, statement of purpose, data coverage, data availability, data elements and data quality of the Patient Level Physician Billing data.

# HWI data at CIHI



## Clinical / Hospital based

- Discharge Abstract Database (DAD)
- National Ambulatory Care Reporting System (NACRS)
- Canadian Organ Replacement Register (CORR)
- Canadian Joint Replacement Registry (CJRR)
- National Rehabilitation Reporting System (NRS)



## Financial

- Canadian MIS Database (CMDDB)/ Canadian Patient Costing Database (CPDB)
- National Health Expenditure Database (NHEX)



## Survey

- Canadian Patient Experiences Reporting System (CPERS)
- Commonwealth Fund (CMWF)



## Regulatory Colleges

- Scott's Medical Database (SMDB)
- Health Workforce Database (HWDB)



## Drug and Physician Billing

- National Prescription Drug Utilization Information System (NPDUIS)
- National Physician Database (NPDB)/Patient-Level Physician Billing (PLPB)

*Linkable by facility number*

*Linkable by patient level data*



# Health Workforce suite of products



## Data tables

- Physician (supply), physician (service utilization/payment), nurses, PT, OT, pharmacists



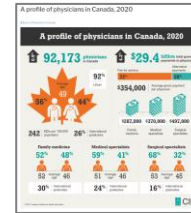
## Meth notes

- Physician (supply), physician (service utilization), physician (scope of practice), nurses, PT, OT, pharmacists



## Quick Stats

- Physician (supply), nurses, PT, OT, pharmacists
- P/T level breakdown
- Supply, workforce, inflow/outflow, P/T profile, nurse grad migration
- Vacancy metrics



## Interactive tool: Physicians and Nurses per 10,000 population by health region

- All physicians, family physicians and specialists
- All regulated nurses, nurse practitioners, registered psychiatric nurses and licensed practical nurses

## Infographic

- Physician

## Other publications

- Hospital staffing and harm trends report, 2023
- State of the health of the workforce in Canada, 2022
- Nursing scopes of practice in Canada, 2022
- Virtual care: Impact of COVID-19 on physician practice patterns
- Canada's Health Care Providers, 2016 to 2020

<https://www.cihi.ca/en/health-workforce>

# Who uses the data

*‘Collect once, use many’*

<p><b>F/P/Ts &amp; RHAs</b></p> <ul style="list-style-type: none"><li>• Determine capacity needs</li><li>• Evaluate patient safety of different care models</li><li>• Define needs of rural/remote regions</li><li>• Determine number of education seats required</li><li>• Determine number of international graduates needed</li><li>• Assess migration patterns, levels of care, etc.</li><li>• Compare to peers</li></ul>	<p><b>Professional associations &amp; regulatory bodies</b></p> <ul style="list-style-type: none"><li>• Define scopes of practice and credentialing</li><li>• Lobby for patient safety</li><li>• Ensure protection of the public through competent workforce</li></ul>	<p><b>Researchers</b></p> <ul style="list-style-type: none"><li>• Support stakeholders in usage through analysis including predictive modeling</li></ul>
<p><b>Labour &amp; unions</b></p> <ul style="list-style-type: none"><li>• Monitor supply and lobby for membership rights</li></ul>	<p><b>Public, media and other 3<sup>rd</sup> parties</b></p> <ul style="list-style-type: none"><li>• Access, analyze and report on information about health care professionals</li></ul>	<p><b>International organizations (OECD, WHO, PAHO, etc.)</b></p> <ul style="list-style-type: none"><li>• International reporting</li><li>• Comparisons &amp; analysis</li></ul>

# How to Access Data



## Custom Aggregate Data Requests from 1 or more databases

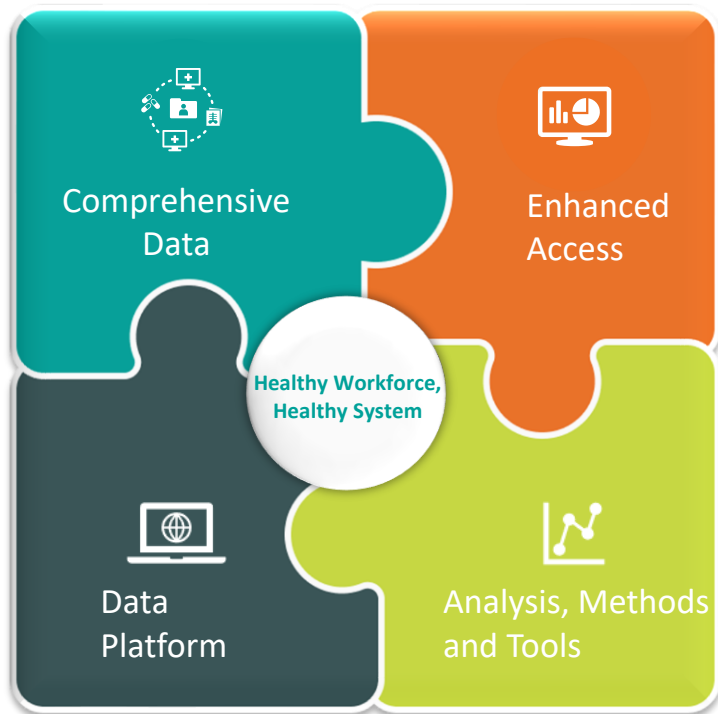
- CIHI responds to data requests on a cost-recovery basis. To make a data request, complete the [Data Inquiry Form](#) or email [help@cihi.ca](mailto:help@cihi.ca)

## Secure Access Environment (SAE) for Record Level Data

- Cloud based environment protected by firewall
- Secure encrypted remote desktop connection and use of multi-factor authentication
- Secure storage and backup for authorized project data
- Provides authorized individuals secure and controlled remote access to:
  - customized de-identified record level data sets
  - analytical tools

# New Projects and Initiatives

# HWI Roadmap



## Objective

To create a world-leading data driven pan Canadian HWI information system to support HWI planning and management for the future

## Goals

- 1** Develop a provider-centric health workforce data platform to facilitate analyses and meet stakeholders needs
- 2** Acquire additional data and expand to include more comprehensive and linkable data
- 3** Create user friendly access to comprehensive data
- 4** Enhance HWI data analysis, methods and tools

# Closing data gaps



## Updated & renewed data standards

- CIHI HWI MDS
- Stats Can NRCFS\*



## Expanded professional coverage

- Unregulated professions
- Pilot PSW\*\* data capture



## New/expanded data sources

- Payroll
- Scopes of practice
- Education



## New methods & tools

- Linkage methodology
- FTE methodology
- Planning tools



## Integrating HWI data

- Analyze impact of models of care on resident outcomes

\*Nursing Residential Care Facility Survey

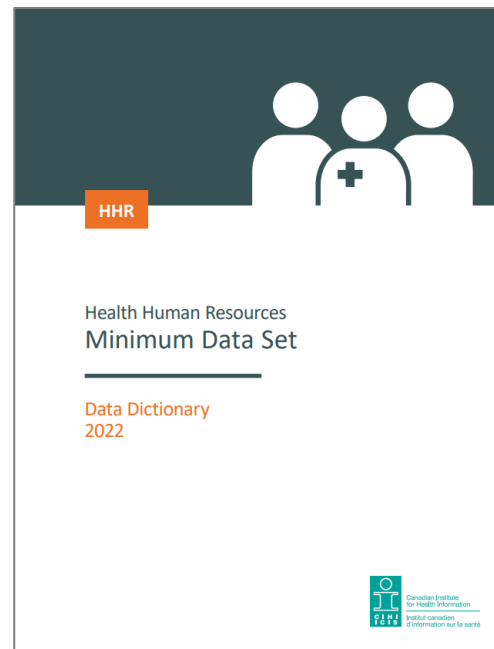
\*\*Personal Support Worker

# HWI Data Standard

# Revised HWI MDS Data Standard

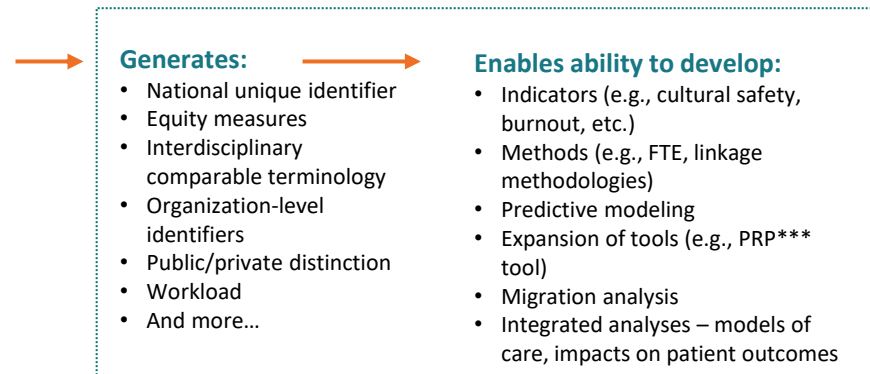
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- Designed to capture data from different professions
- Organized by categories such as demographics, education, employment, etc.
- Enables implementation across variable data sources
- New data elements, such as:
  - Primary Site Organization Identifier
  - National Unique Identifier





# Core\* set of data elements

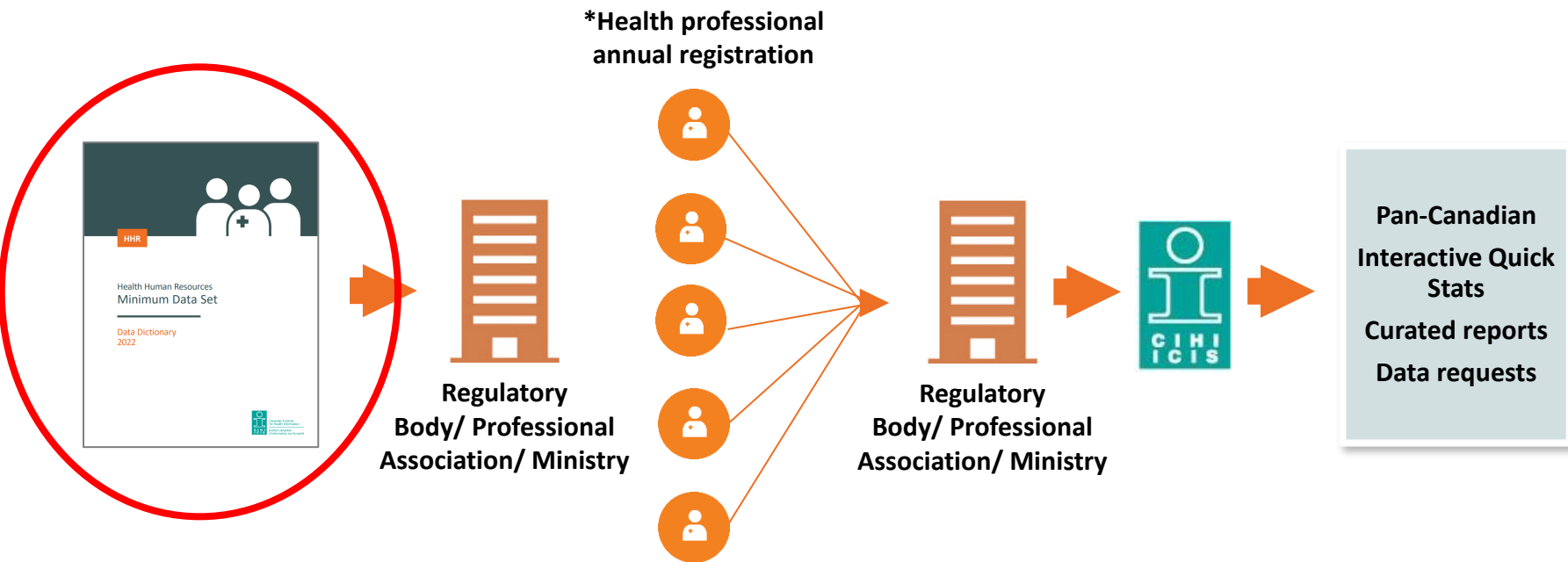


\* Core - 30 essential attributes that are required to monitor and plan for evolving health system needs

\*\*Sex at birth will be removed in the next update of the standard – it holds minimal value for data use for a health care worker

\*\*\* PRP tool – Physician Resource Planning tool

# Overview: CIHI HWI data flow



- Registration data collected directly from regulators for record-level professions; aggregate-level profession data collected primarily from professional associations – may or may not be comprised of registration data. Does not include physician data flow.
- \*\* Physician claims for publicly insured medical services, funded by P/T medical care plans

# New data helps answer more priority questions



## Diversity and inequality

“Does Canada’s health workforce have the capacity to support diverse population needs?”

“What inequalities exist in the health care system?”

Gender  
Language  
Racialized Group  
Indigenous Identity



## Models of care and outcomes

“Which models of care in urban and rural regions will deliver the highest quality and most cost-effective care?”

“How do public and private care delivery differ, in terms of models of care and their outcomes?”

“Do outcomes change with the use of agency staff?”

Organization Identifier  
National Unique Identifier  
Funding Source  
Encounter mode  
Virtual care  
Agency health care provider



## Migration, recruitment and retention

“Are health care workers licensed to practice and work in multiple provinces/territories?”

“What are the rates of inflows/outflows for specific professions across jurisdictions?”

“Where are the health care workers being trained going?”

Organization Identifier  
National Unique Identifier  
Encounter mode  
Virtual care



## Access to care

“Has adding virtual care services improved access to care?”

“Are more types of health care workers providing virtual care?”

Organization Identifier  
National Unique Identifier  
Encounter mode  
Virtual care

# Intervention Scan

# Intervention Scan

- **Captures Health Workforce interventions implemented throughout Canada**
  - Changes in practice
  - Opening/Resuming of services
  - Recruitment
  - Retention
- **Updated on a quarterly basis**
- **Option to filter by intervention type, profession, sector, etc.**

# Contextualizing and interpreting data



## RECRUITMENT

Interventions aimed at increasing the supply of health care workers in Canada.

### Summary

- **169 recruitment interventions** identified across Canada between July 1, 2022, and December 31, 2023. **59 targeting nurses** and **36 targeting physicians**.

### Examples

- Signing bonuses, education seat funding, bursaries, expedited processes for IENs, call-backs for retired workers.

Home > Government > News and Media

Saskatchewan Is Developing Faster, More Efficient Pathway for Internationally Educated Nurses to Join Health-Care Workforce

- Government of Saskatchewan media excerpt

## RETENTION

Interventions aimed at incentivizing existing health care workers to stay employed in the health system.

### Summary

- **74 retention interventions** identified across Canada between July 1, 2022, and December 31, 2023. **19 targeting nurses** and **12 targeting physicians**.

### Examples

- Wage increases, benefits increases, upskilling, childcare support, reduced overtime.

May 11, 2023

MANITOBA GOVERNMENT EXPANDS PHYSICIAN SUPPORTS BY REIMBURSING LICENSING FEES

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New Supports Help Retain Physicians, Improve Workplace Environment: Gordon

- Government of Manitoba media excerpt



## CHANGE IN PRACTICE

Interventions that expand or modify the scope of health care workers.

### Summary

- **40 change in practice interventions** identified across Canada between July 1, 2022, and December 31, 2023.

### Examples

- Authorizations for prescribing, task shifting, changes to model of care delivery.

News Release

Health

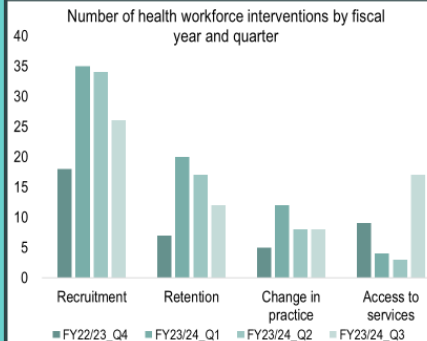
**Pilot project to offer management of certain chronic diseases at select pharmacies**

26 July 2023

- Government of New Brunswick media excerpt

## CIHI'S HHR POLICY INTERVENTION SCAN

hhr@cihi.ca



## ACCESS TO SERVICES

Interventions that create new service availability or resume previously cancelled services.

### Summary

- **43 access to care interventions** identified across Canada between July 1, 2022, December 31, 2023.

### Examples

- Opening of NP-led clinics, staffing of new primary care clinics.

News release

**New and Expanded Primary Healthcare Clinics Boost Access Across the Province**

Health and Wellness  
May 10, 2023 - 11:38 AM

- Government of Nova Scotia media excerpt

# Data Catalogue

# Finding Canada's HWI Data: A New Catalogue

**Purpose:** Increase awareness and promote usage of HWI related data at CIHI and StatCan.

**How:** A publicly available interactive tool which will showcase what HWI data is available at CIHI and StatCan, where it is and how to access it.





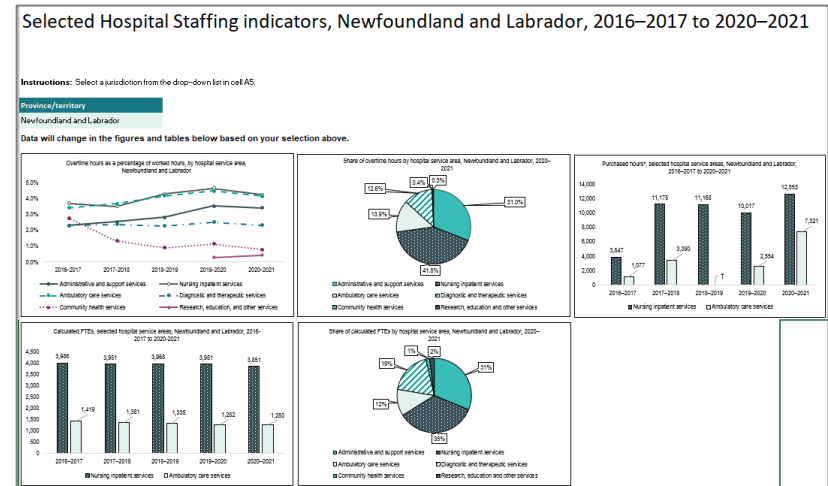
# Quick Stats

# Quick stats tool

## Provincial/territorial breakdown of:

- Supply, distribution, inflows/outflows, graduate migration\* and profile dashboard for physicians, nurses, PTs, OTs and pharmacists
- Hospital staffing indicators including hours worked, overtime, sick time and number of purchased hours
- Vacancy metrics – including 5-yr trend of annual averages for multiple professions

\*For physicians and nurses only.



# Vacancy Metrics

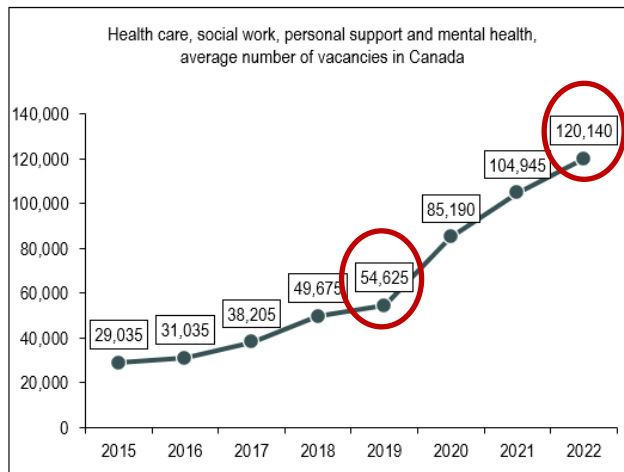
# Vacancy Metrics

- **About:**

- Source: Job Vacancy and Wage Survey
- 8 Occupational groupings
- Coverage: 2015 – 2022

- **Findings:**

- Job vacancies have more than doubled since 2019 from 55,000 to 120,000 in 2022-2023.
- PSWs, Nurses, and Select Mental Health Workers accounted for two thirds of all health workforce vacancies in 2022-2023



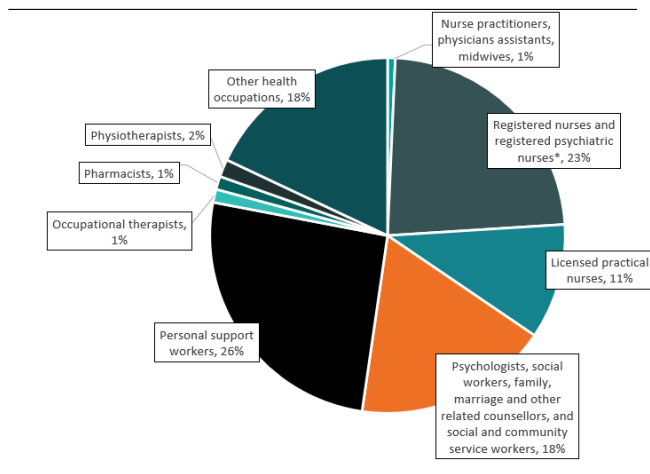
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# Product Demonstrations

# Closing Remarks









Canadian Institute for Health Information

**Better data. Better decisions. Healthier Canadians.**

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