

# Using Data to Improve Patient Care

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The Ontario Community Paramedicine Forum

# Session Purposes

Provide some “101” information about CIHI

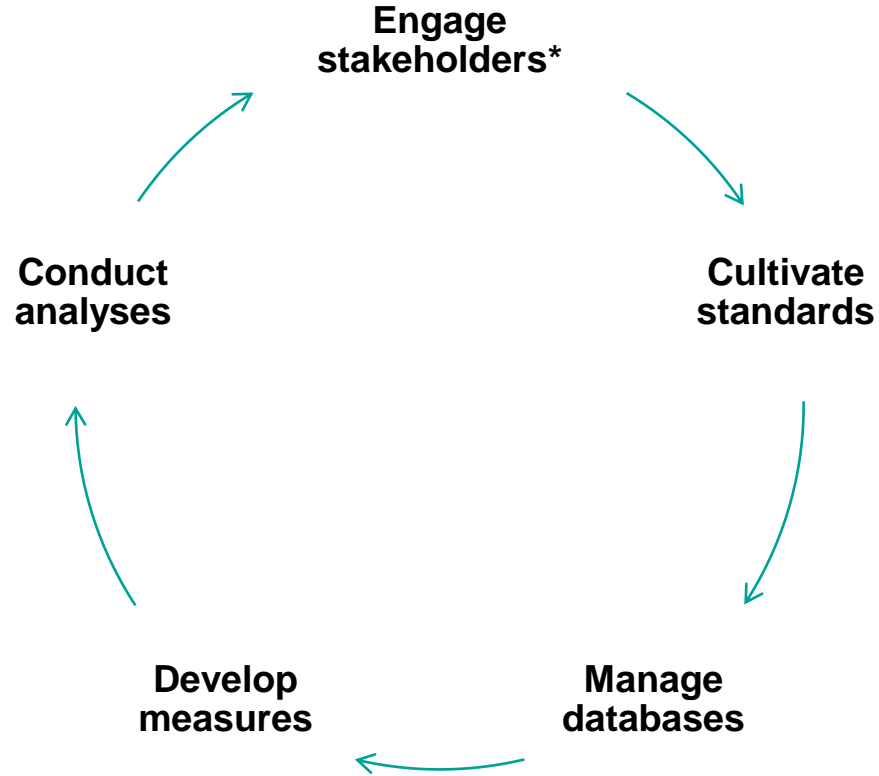
Provide some thoughts about using data to improve patient care

Provide some examples of using data to improve patient care





# What does CIHI do?



# What data holdings does CIHI have now?

## **Clinical Data**

Acute and emergency  
Home care  
Incident reporting  
Long-term care  
Mental health and addictions  
Patient-reported  
Pharmaceuticals  
Primary Care Electronic Medical  
Records (EMR)  
Rehabilitation  
Survey data  
More...

## **Health Workforce**

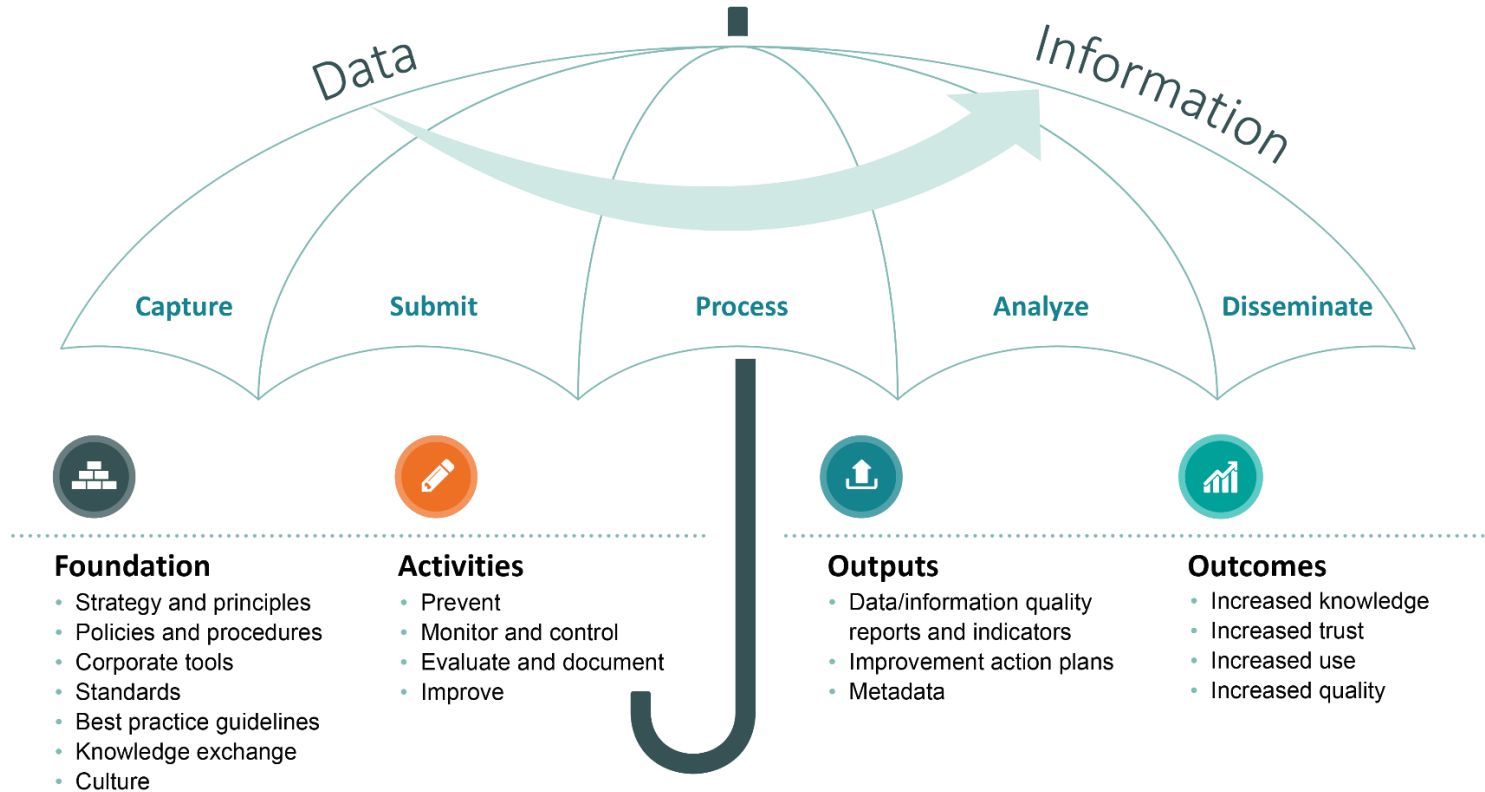
Physicians  
Regulated nurses  
Pharmacists  
Occupational therapists  
Physiotherapists  
Paramedics  
More...

## **Health Spending**

Macro health expenditure  
Hospital and Long-term Care  
financial accounts  
Patient costing

## **Advisory Committee Support**

# How do we know the data is fit for use?



**Dear Valued Customers:  
Chicken Wings  
& Cheesy Crust  
Are Currently Out of Stock  
Due to a Recent Cyberattack  
Which Has Affected Imports  
We Apologize  
For The Inconvenience**

# Who uses CIHI data?

## Health ministries

Advocates

Auditors

Charities

Clinicians

Government agencies

Health service provider administrators

Journalists

Public

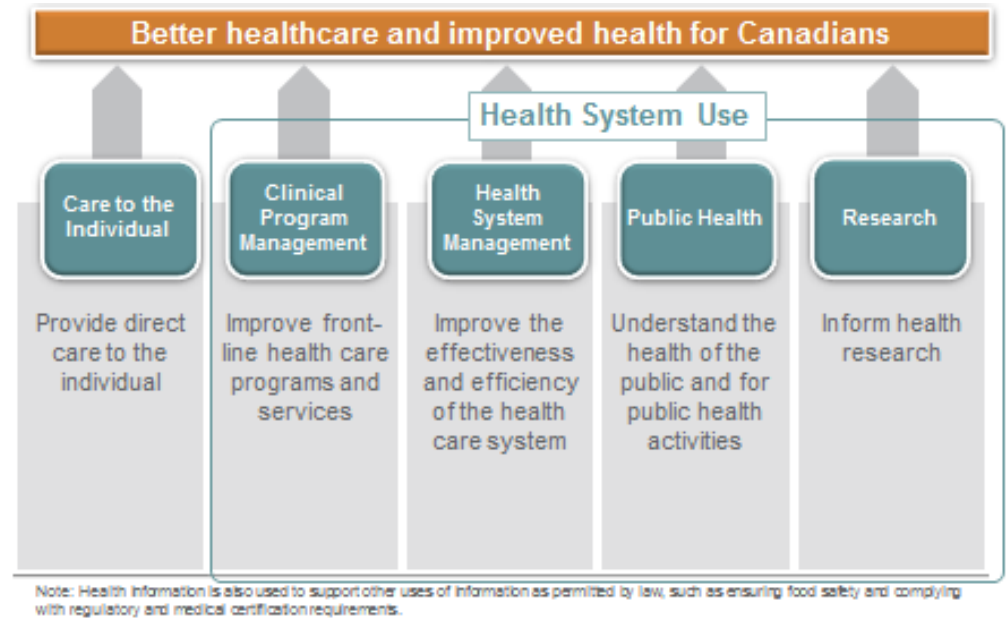
Public Health Units

Regulatory Colleges

Researchers

Students

Others?





Access Data and Reports

Submit Data and View Standards

News, Events and Education

About CIHI

## Access Data and Reports

### ACCESS DATA AND REPORTS

Make a Data Request

Page refreshes when a filter is selected.

Filter by primary theme

- Hospital Care (168)
- Health Workforce (126)
- Organ and Joint Replacements (112)
- Health Inequality (80)
- Quality and Safety (76)
- Health System Performance (66)
- Pharmaceuticals (44)
- Seniors and Aging (41)
- Residential Care (37)
- Emergency Care (32)
- Health Spending (30)
- International Comparisons (28)
- Mental Health and Addictions (20)
- Patient Experience (17)
- Community Care (13)
- Population Health (12)
- Access and Wait Times (10)
- Children and Youth (5)
- Patient Outcomes (3)

Filter by geography

- All of Canada (689)
- Ontario (126)
- Alberta (97)
- British Columbia (89)

Search Datasets, Indicators, Reports, Interactive Tools, and more

Frequently accessed

#### Quick Stats

Quick Stats are a series of free, publicly available reports that provide aggregate-level data about health care in Canada.

#### Support Request (eQuery)

Ask CIHI questions about data coding, data collection, data submission, data standards and data quality.

#### DAD/NACRS Abstracting Manual (web tool)

Access the DAD and NACRS abstracting manuals and related items (Core Plan members).

Recently released

#### [Ontario Mental Health Reporting System \(OMHRS\) Resource Manual 2017-2018](#) March 22, 2017

The Ontario Mental Health Reporting System Resource Manual, 2017-2018 includes: Guidelines, definitions and codes for completing the RAI-MH minimum data set used in OMHRS; and Detailed specifications for each data element collected in OMHRS




#### [2017 CORR – Chronic Renal Failure Patients on Renal Replacement Therapy, Instruction Manual](#) March 16, 2017

Assists organ procurement organization and transplant hospital staff to submit data to CORR.

#### [2017 CORR - Transplant Recipient and Organ Donor Information, Instruction Manual](#) March 16, 2017

Reference manuals on submitting data to CORR, for staff at organ procurement organizations, transplant hospitals and hospitals providing renal replacement therapy.

## Unnecessary care in Canada

-  Wastes health system resources
-  Increases wait times for patients
-  Can lead to patient harm

Canadians have **1 million+** **potentially unnecessary medical tests and treatments each year.**



of patients indicated in the 8 selected Choosing Wisely Canada recommendations had tests, treatments and procedures that are **potentially unnecessary.**

#### There is room to reduce unnecessary care.

Substantial variation exists among regions and facilities in terms of the number of unnecessary tests and procedures performed — **this points to an opportunity to improve.**



Choosing Wisely Canada is a campaign to help clinicians and patients engage in conversations about unnecessary tests and treatments, and make smart choices.

Unnecessary Care in Canada explores 8 out of 200+ Choosing Wisely Canada recommendations across sectors of the health system: primary care, specialist care, emergency care and hospital care.

# CIHI Information Access tools

Public	Secure
Your Health System: In Brief and In Depth	Your Health System: Insight
Wait Times Tool	CIHI Portal
Health Indicators e-Publication	Sector-specific tools e.g. National Rehabilitation Reporting System
OECD Interactive Tool	Canadian Management Information System Database
Health Inequalities Interactive Tool	Data Preview Tool
Patient Cost Estimator	Patient experience Tool
Quick Stats	National System For Incident Reporting
<a href="#">Indicator Library</a>	
<a href="#">Patient Cost Estimator</a>	







## Your Health System

### Explore your health system

Explore indicators to better understand your health system and the health of Canadians. Search by hospital, long-term care organization, city, health region, province or territory.

Start by entering a hospital, long-term care organization, city, health region, province or territory.

Select  Indicator Results or  Overall Results

Follow us:    

- Access Data and Reports
- Submit Data and View Standards
- News, Events and Education
- About CIHI

## Make a Data Request

- ACCESS DATA AND REPORTS
- Make a Data Request
- Data Holdings

Researchers, decision-makers and health managers can request specific data from one or more of CIHI's databases. Data can be retrieved at an aggregate or record level. Complete our initial Data Inquiry Form to begin. CIHI will respond with the formal Data Request Form to collect more information.

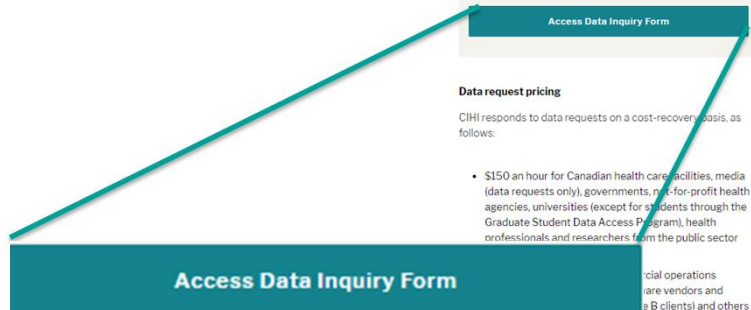
**Data Availability**  
Browse our [Data Holdings](#) to see what's available in our databases

**Response Time**  
The complexity and type of request play a role in determining turnaround times:  
**Aggregate:** 10 to 20 days  
**Record Level:** 20 to 30 days  
The turnaround time for **very complex** data request will be negotiated with clients.

### Data request pricing

CIHI responds to data requests on a cost-recovery basis, as follows:

- \$150 an hour for Canadian health care facilities, media (data requests only), governments, not-for-profit health agencies, universities (except for students through the Graduate Student Data Access Program), health professionals and researchers from the public sector



## Access Data Inquiry Form

cial operations  
are vendors and  
eB clients) and others

# What will CIHI's focus be until 2021?

## Vision

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

## Mandate

**Deliver comparable and actionable information to accelerate improvements in health care, health system performance and population health across the continuum of care**

## Strategic goals



**Be a trusted source of standards and quality data**



**Expand analytical tools to support measurement of health systems**



**Produce actionable analysis and accelerate its adoption**

## Priority themes and populations

### Themes

Patient experience  
Quality and safety  
Outcomes  
Value for money



**Health system performance**

### Populations

Seniors and aging  
Mental health and addictions  
First Nations, Inuit and Métis  
Children and youth



## Foundation



**Our people**



**Stakeholder engagement and partnerships**



**Privacy and security**

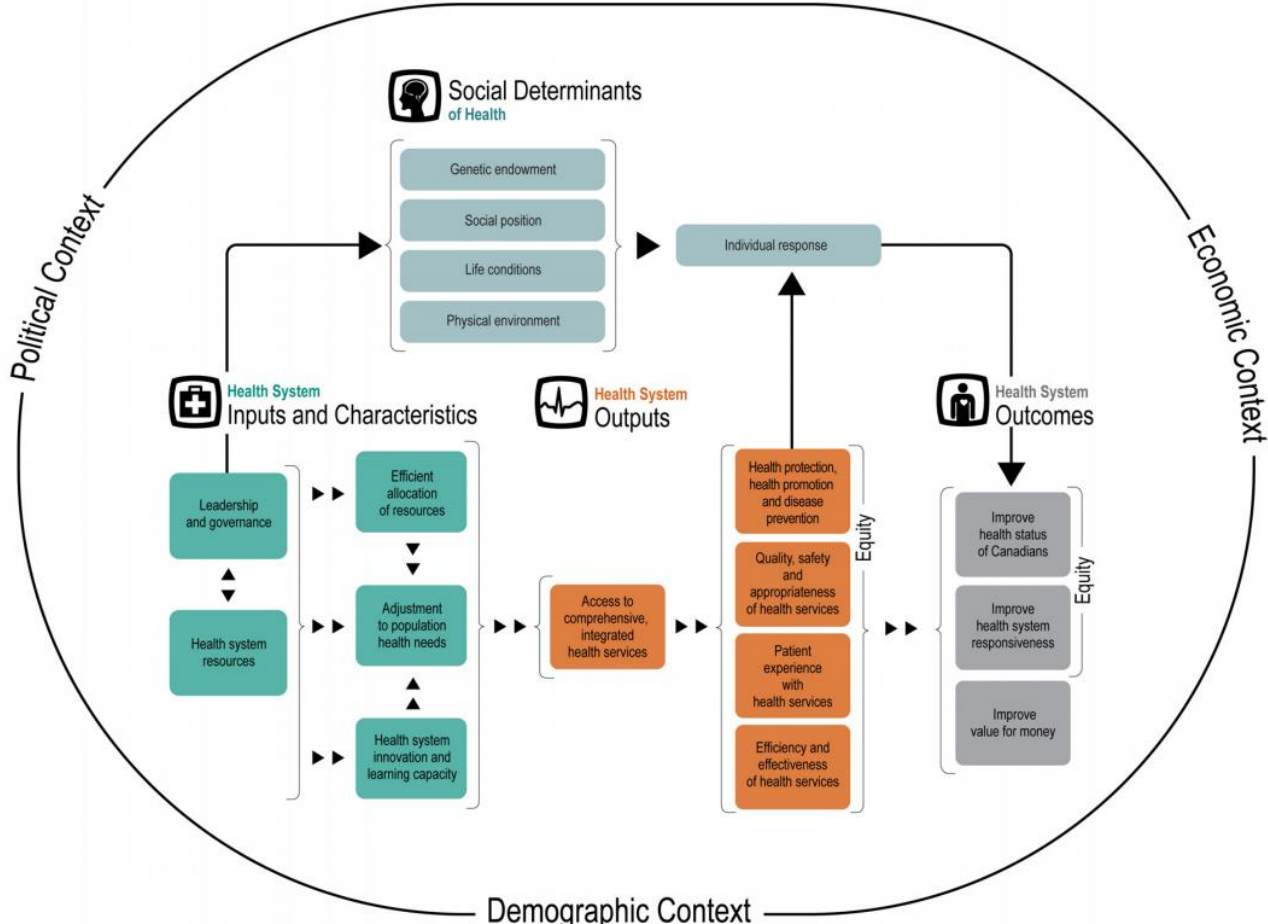


**Information technology**

## Values

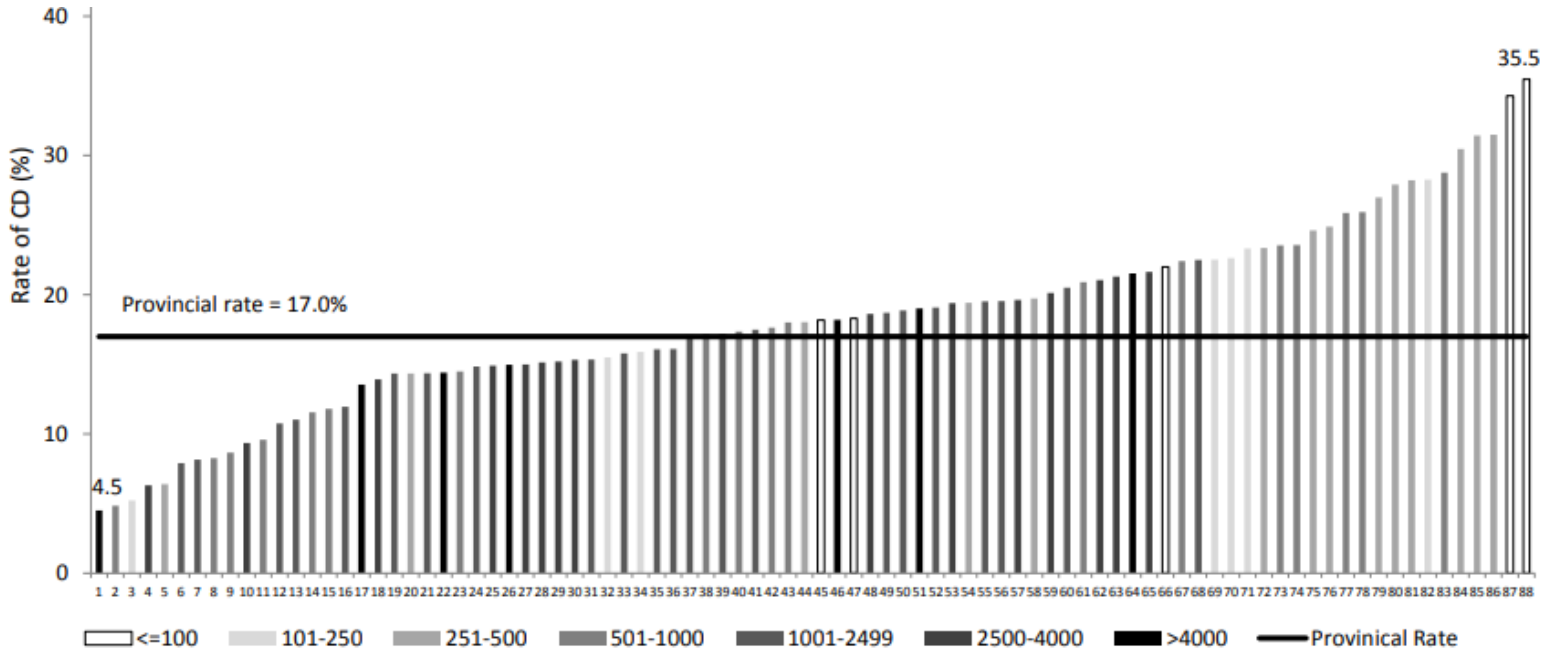
Respect • Integrity • Collaboration • Excellence • Innovation

# CIHI's Health System Performance Measurement Framework





# Caesarean Delivery Rate for a Very-Low-Risk Cohort of Ontario Women Who Delivered in Hospital, by Hospital and Birth Volume (2007/2008–2011/2012)



Degani N, Sikich N. Caesarean delivery rate review: an evidence-based analysis. Ont Health Technol Assess Ser [Internet]. 2015 March;15(9):1–58. Available from: <http://www.hqontario.ca/evidence/publications-and-ohtac-recommendations/ontario-health-technologyassessment-series/caesarean-delivery-rate-review>.





HLTC6605IT-2016-15

February 13, 2017

Dear Colleague,

As you are aware, overdoses and deaths associated with opioid use, misuse and abuse have been on the rise in Ontario over the past five years. Understanding and addressing opioid addiction and the incidence of morbidity and mortality associated with opioid use/misuse is an important public health priority.

Improving monitoring of emergency department visits and outcomes related to opioid overdoses will assist the entire health care system to better understand the burden and distribution of opioid-related patient morbidity and mortality on our health care system. By providing more timely and robust updates to health care professionals, public health and community service partners, we can take measures to direct our public health and harm reduction actions appropriately in our communities, with the purpose of protecting the health of Ontarians.

Pursuant to my authority in section 23(b) of Regulation 965 (Hospital Management) under the *Public Hospitals Act*, effective April 1, 2017, all Ontario hospitals with emergency departments will be required to disclose to the Canadian Institute for Health Information (CIHI), as the Ministry of Health and Long-Term Care (Ministry)'s agent under the *Personal Health Information Protection Act*, the following information related to cases of opioid overdose in the emergency department within one week of the occurrence:

- Birth Date
- Sex (M/F/U/Other)
- Health card number
- Patient's postal code
- Outcome (admitted, discharged, referred, fatality)
- Date of the overdose
- Motivation (accidental, intentional, undetermined intent)

Hospital emergency departments currently submit this data to CIHI via the National Ambulatory Care Reporting System (NACRS) that is currently used by all emergency departments in Ontario to report data to CIHI on a quarterly basis. It is being requested that all Ontario hospitals with emergency departments report NACRS emergency department records, regardless of level, within the week that the opioid overdose cases present in the emergency department. This data will be submitted as part of a modified level 1 emergency department record. Emergency departments that only submit level 3 records will need to submit level 3 records for opioid cases.

.../2

In order to ensure that the data elements required for opioid overdose surveillance can be submitted through NACRS, slight modifications to workflow processes or information systems may be required. CIHI will develop an implementation guide to support hospitals to facilitate timely reporting and communicate with relevant health information vendors in an effort to minimize the impact to hospitals.

Weekly data will be sent to the Ministry by CIHI for the purposes of information and data collection, organization and analysis. Identifiable data (i.e. data that includes encrypted health card numbers) will be analysed by the Health Analytics Branch of the Ministry of Health to identify relevant information and trends such as geographic clustering or opioid overdoses within specific demographics, for example, certain age groups. The data will be transformed into de-identified form and finally summarized in epidemiological surveillance reports which will be used for the sole purpose of informing public health action and harm reduction activities.

Epidemiological surveillance reports will be disseminated to the broader health care system including to hospitals, Local Health Integration Networks, public health units and harm reduction partners for situational awareness and to inform prevention strategies. Any data analysis conducted by the Ministry will be done solely for the purposes set out in the Regulation.

Reporting of the data elements listed above will also support the improvement of epidemiological surveillance initiatives under the newly announced provincial strategy to address opioid misuse and addiction. Dr. David Williams, Ontario's Chief Medical Officer of Health, has recently been appointed as Ontario's Overdose Coordinator and will work towards ensuring that information related to opioid overdoses is obtained as quickly as possible in order to increase de-identified information sharing and collaboration among public health officials, health care workers, and other key stakeholders. As part of the comprehensive strategy to address opioid overdose in Ontario, the Strategy to Prevent Opioid Addiction and Overdose in Ontario has also been developed to establish short- and long-term goals regarding prescribing practices, treatment for those suffering with chronic pain and addiction, monitoring, and overdose prevention. Reporting opioid overdose events from hospitals will assist us in ensuring that these preventive initiatives are being carried out effectively where needed.

Thank you for your continued collaboration in this important public health initiative to better understand and mitigate opioid related overdose and death. If we are going to reverse this troubling trend, the entire health care system must continue to work together.

Yours sincerely,

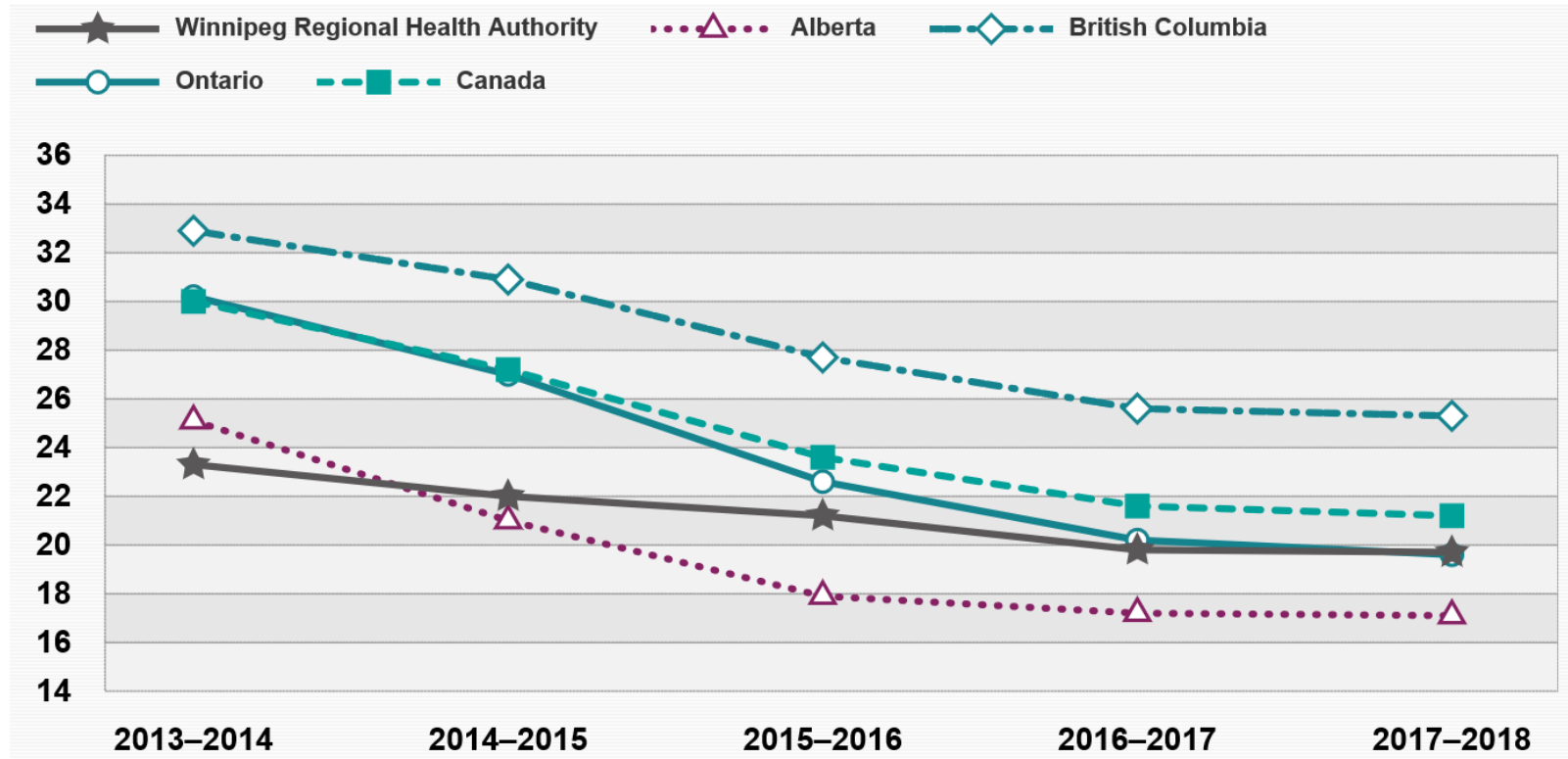
Dr. Eric Hoskins  
Minister

Dr. David C. Williams  
Chief Medical Officer of Health



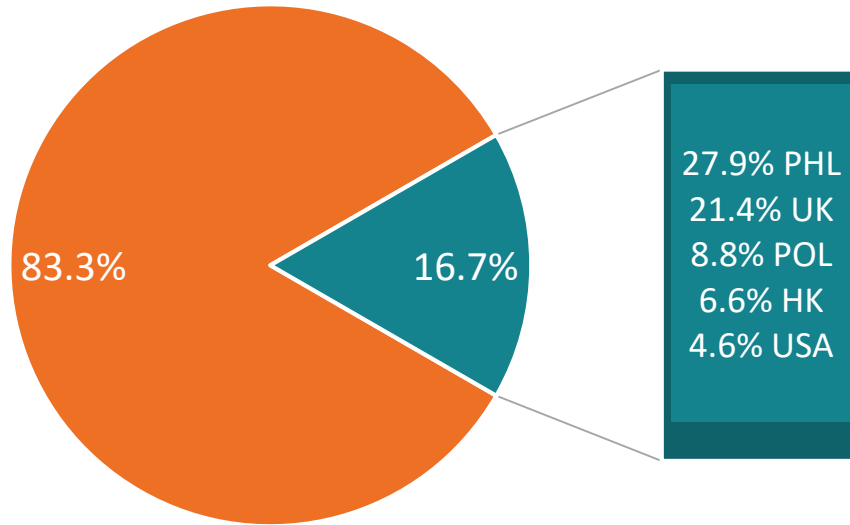
# Long term care success story

## “Potentially Inappropriate Use of Antipsychotics”

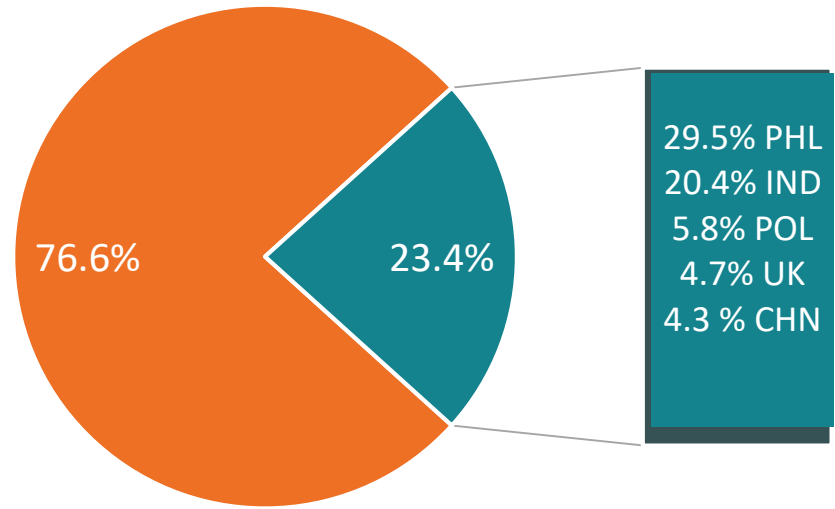


# As of 2017, internationally educated RNs represent nearly a quarter of Ontario's LTC workforce, 2017

2000



2017

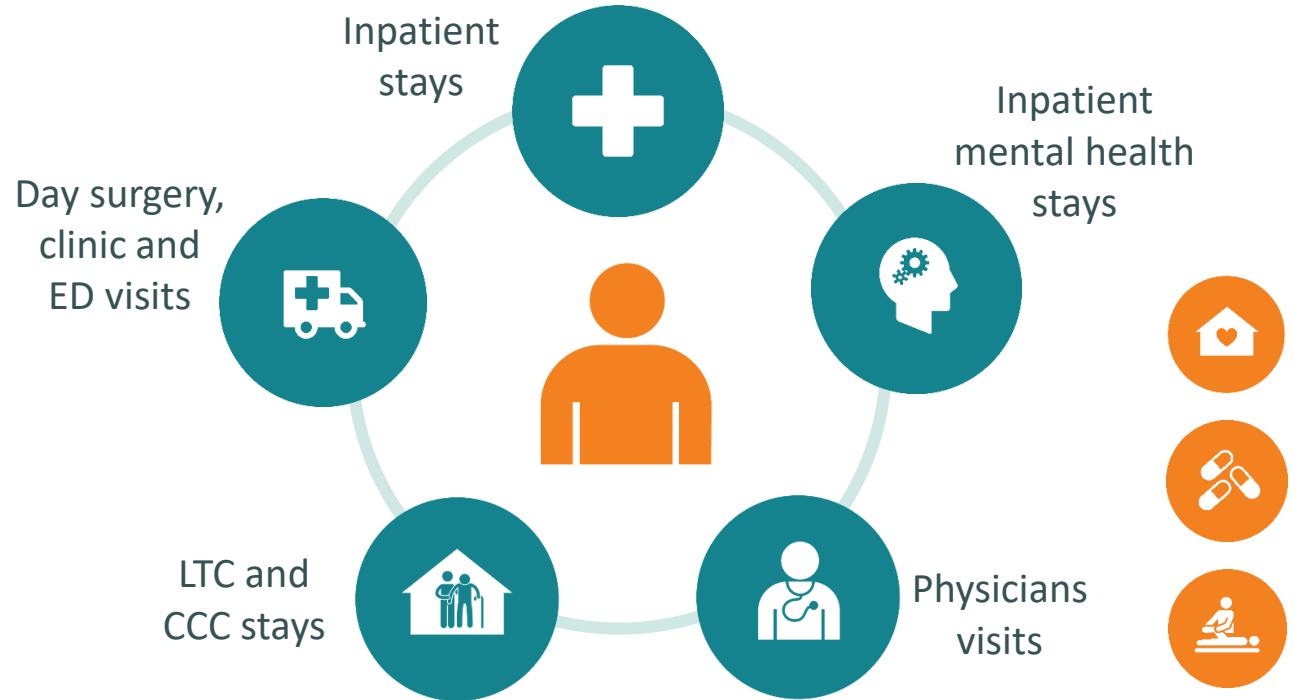


■ Canada ■ International

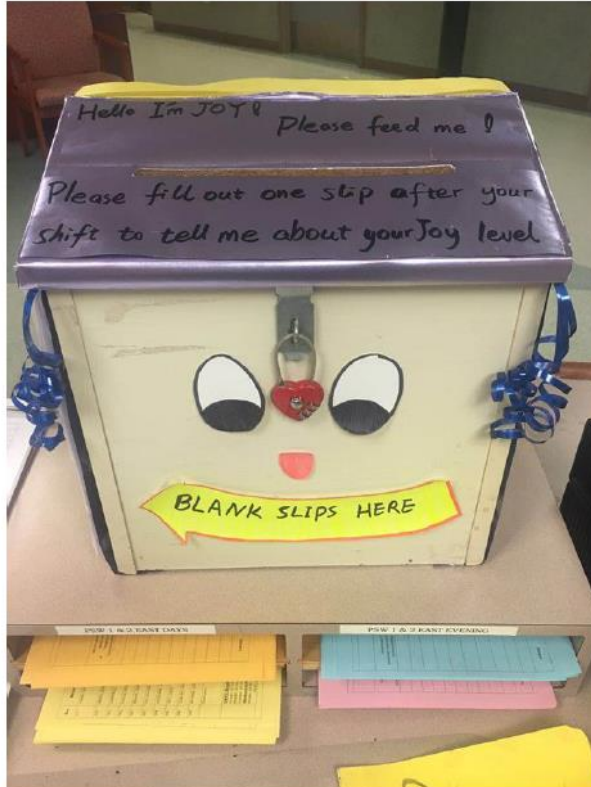
Source  
Health Workforce Database, 2019, CIHI.

# CIHI's population grouping methodology

- Multiple sectors
- Target population includes all persons registered for publicly-funded health care
- Looks at person over a 2-year time period



# Data Collection Process



- MBI completed on pilot units in Sept 2018/Jan 2019
- Simplified weekly data collection with single item burnout measure question
- Alternated Joy box on a weekly basis between 2 pilot units
- Reminder stickers in calendar
- Individual scores charted in excel at end of each week



Questions?