Turning Data into Insight: Accessing CIHI data via the Custom Data Request Program
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Overview

- **CIHI Mandate:** To provide accurate and timely information required for sound health policy, effective management of the health system and to increase public awareness about factors affecting good health

- CIHI houses 28 databases of linkable health information
  - **Health care services**: hospital care, specialized services, community care, primary health care, pharmaceutical care
  - **Health spending**: by geography and by category
  - **Health workforce**: physicians, nurses, and other health care providers
  - **Patient oriented**: patient experience

Uses of CIHI data

- eReporting tools to support performance measurement and health system management:
  - *Your Health System: In Brief and In Depth*
  - *eDAD, eNACRS*
  - *Quick Stats*
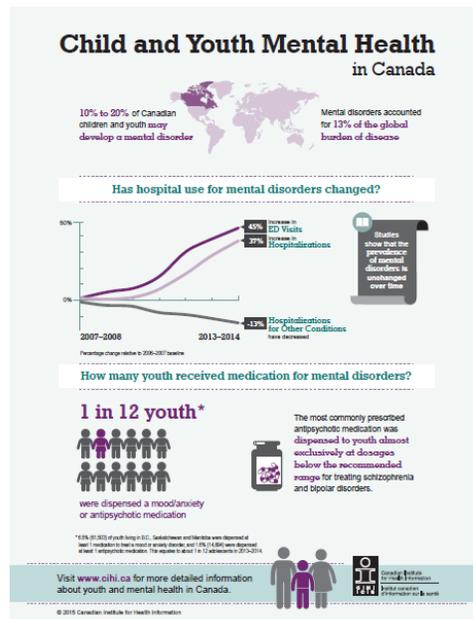
- Analytic Reports: annual and special topic analyses of health system priorities

Accessing CIHI Data

Publicly accessible data

Interactive reports and analytical tools	Analytical publications	Quick Stats
Your Health System - In Brief and In Depth: eReporting tools to support health system and performance measurement **Wait Times**: Interactive report presents wait times as provinces work to meet benchmarks for priority procedures in Canada **Patient Cost Estimator**: Interactive tool to provide estimates the average cost of various services provided in hospitals **Indicator Library**: provides definitions, methodologies and the location of indicator results on CIHI's website	**Published topic-specific analytical reports and products** present figures, graphs, tables and accompanying narratives	**Quick Stats**: a series of free, publicly available, aggregate-level reports about Canada's health care statistics. Available in interactive and static formats.

Other Ways to access CIHI data

- Customized Data Requests: over 400 processed per year

- Graduate Student Data Access Program (GSDAP)

- Research Analytic Files (RAFs) via Statistics Canada's Data Liberation Initiative

- Media Requests and Releases

Custom Data Request Program at CIHI

The custom data request process is a key channel for providing access to CIHI data

- CIHI's Data Access Strategy aims to enhance timeliness and accessibility of data for data users

- Through this process, CIHI provides access to its data holdings, many of which provide pan-Canadian coverage, and are linkable via patient identifiers

- Many data holdings house more than 10 years of data, providing excellent longitudinal perspective

Custom Data Request Program at CIHI

Custom data needs are met by:

- Ad hoc data request process

  - CIHI staff work with each requestor to define data needs, develop specifications and extract data in a timely manner

  - Highly customized work, and involves significant amount of knowledge sharing with each requestor

- Data Sharing Agreements

  - Requesting organizations have ongoing need for CIHI data for a defined "program of work"

  - Expand the use / reach of CIHI data via these organizations' use

  - Example: Statistics Canada, ICES, CCO, BORN Ontario

Service Standards

CIHI is committed to the following service standards:

Complexity of Request	Turnaround Time	
	Aggregate Data	**Record-Level Data**
Straightforward Readily available data	10 days	20 days
Complex Requires moderate level of customization and/or data linkage	20 days	40 days
Very complex High level of customization and/or data linkage	To be negotiated with the requestor	

Custom Data Request Program at CIHI

- In 2014-2015, CIHI completed 429 external data requests:

	Aggregate	Record Level
Standard	117	52
Complex	100	80
Very Complex	39	41
Total	**256**	**173**

Custom Data Request Program at CIHI

- This translates to over **200 organizations** having received custom data from CIHI in 2014-2015 via the data request process:

Requesting Organizations	Percent of custom requests
Health Delivery Organizations	33%
Government	30%
Academic Institutions / Researchers	16%
For-Profit	7%
Not-for-Profit	6%
Health Care Associations	3%
Other	4%

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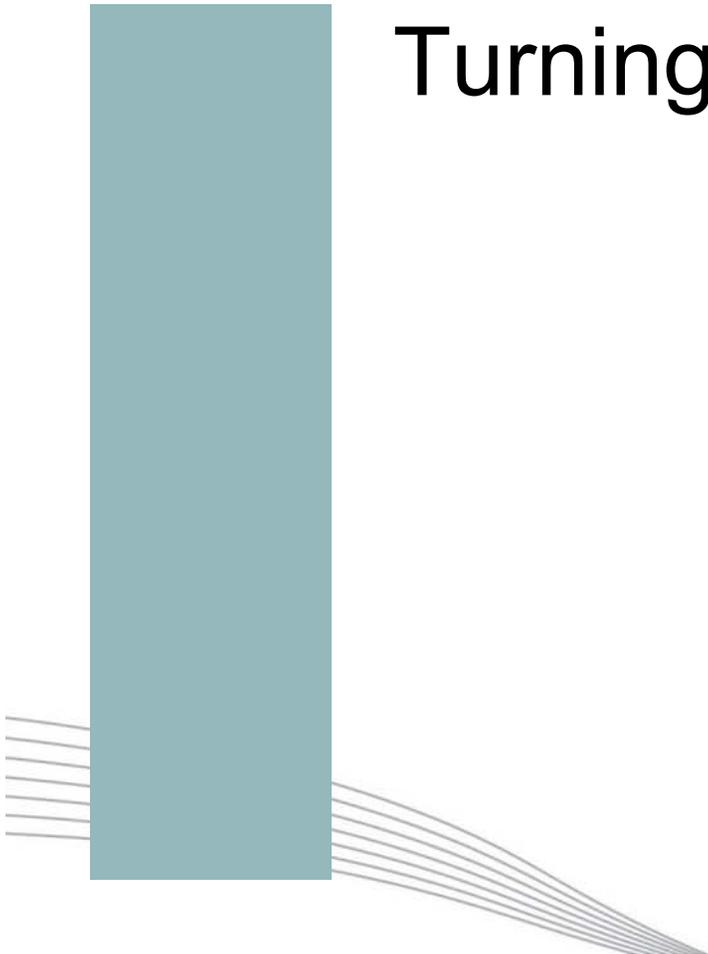
#1: Maternal and Neonatal data for BORN Ontario

Ongoing sharing of maternal and neonatal data with Better Outcomes Registry and Network (BORN), a maternal and child health registry, for its program of work including

- Validation of total number of births and stillbirths in BORN Information System (BIS)

- Comparison of rates of sixteen anomaly groups in the BIS and Niday Perinatal Database

- Evaluation of MOREOB Program Implementation in Ontario Hospitals

- The effect of H1N1 pandemic influenza illness on pregnancy outcomes: An ecological time-series study

Better Outcomes Registry & Network
Registre et Réseau des Bons Résultats dès la naissance

#2: Stroke Data for the Health and Stroke Foundation (HSF)

Purpose of this data request is to identify:

- patterns of stroke occurrence and locations where care is delivered in Canada

- changing trends in stroke occurrence across age groups and geographic regions over the past decade and anticipate future volumes

- elements of quality stroke care that can be used to compare to existing Canadian stroke benchmarks, and guide quality improvement efforts at the local and regional levels

Data and Linkage Method

- Linked ten years (2003-2004 to 2012-2013) of acute inpatient (DAD), ambulatory care (NACRS) and inpatient rehab (NRS) data

- The initial core stroke datasets were created from the DAD, NACRS, and NRS, using the stroke case definition provided by HSF

- Individuals with multiple hospitalization/ED/inpatient rehab records in the datasets were uniquely identified

- Episode of care defined by identifying the ED visits that are within 24 hours prior to the acute inpatient stroke hospitalization, and the inpatient rehab cases within 7 days of discharge from the acute inpatient stroke hospitalization

Insight

Key findings from HSF's 2014 Stroke Report

- Outcomes for stroke patients have improved, and prevention, care and treatment have also improved but the system is about to face more challenges than ever.

- Younger people are having strokes and this trend is expected to continue.

- Today's stroke patient is sicker with two-thirds having one or more chronic conditions, making treatment more complex.
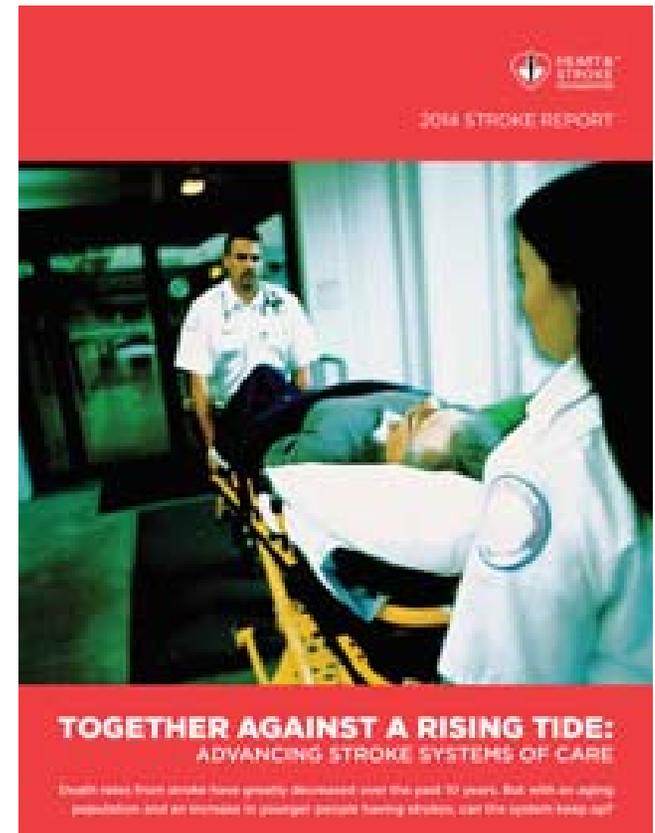
#3: Fractures and Osteoporosis

The purpose of this research project is to estimate the burden of osteoporosis associated with home care and long-term care in Canada.

The purpose of the requested data linkage is to

- track the paths of individuals with fractures through the healthcare system over time

- identify which fractures identified are osteoporosis-related, using acute inpatient and ambulatory care data, as well as the home care and continuing care assessment and medication records where available

Data and Linkage Method

- Link 5 years (2007-2008 to 2011-2012) of DAD, NACRS, HCRS and CCRS data

- Core cohort composed of fractures in DAD, NACRS, HCRS and CCRS during the 5-year timeframe

- This core cohort file was linked back to the databases to identify other hospitalization/visit/HCC records for these individuals in that 5-year span, irrespective of whether the record had a recorded diagnosis of fracture.

- CIHI Case Mix Grouping Methodologies provided:
  - CMG+ 2011 (for acute inpatient records)
  - CACS 2011 (for emergency and day surgery records)
  - RUG-III-HC (for home care records)
  - RUG-III

Insight

- Researchers reported that osteoporosis-related fractures were responsible for over 57,000 acute care admissions and over 830,000 hospitalized days in 2007-2008.

- Researchers used the resource intensity weights (RIW) to assign costs to hospital-stay admissions, emergency room visits, and same day surgeries.

- The costs associated with rehab and continuing care were calculated using average NRS and CCRS's RIWs.

The burden of illness of osteoporosis in Canada

J.-E. Tarride · R. B. Hopkins · W. D. Leslie · S. Morin ·
J. D. Adachi · A. Papaioannou · L. Bessette ·
J. P. Brown · R. Goeree

Summary

- CIHI data holdings provide enormous potential for longitudinal, patient-oriented analyses in a pan-Canadian setting

- CIHI's Data Request program provides data requestors with a combination of data-specific knowledge, methodological expertise, quality analytics, and efficient, low-cost service

- Many of the data releases had resulted in publications in major reports and scientific journals
  - stimulated national dialogue around opportunities for improvement at various points along the continuum of patient care

For More Information

CIHI's Access Data Page

CIHI's Privacy Policy on the Collection, Use, Disclosure and Retention of Personal Health Information and De-identified Data, 2010

Thank You

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