

Canadian Institute for Health Information

Better data. Better decisions. Healthier Canadians.

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 [@cihi_icis](https://twitter.com/cihi_icis)



Canada...a few facts



35 million people

82% live in urban areas

~5% of population is indigenous

Multicultural and ethnically diverse

20-25% speak French

**Federal gov't with 10 provinces and
3 northern territories, ranging in
size from 14 million to 35,000**

Government roles in health care

Federal

- Direct services for some groups
- Financial support to provinces/territories via transfers
- Upholding principles of the *Canada Health Act*
- Regulation and health protection

Provincial/Territorial

- Planning, funding and provision of care
- Administration of health insurance plans (*medically necessary* hospital and physician services...coverage for other services varies)
- Regulating medical professionals, and negotiating salaries and fees for health professionals
- NOT REQUIRED to collect or submit data, other than basic hospital use

Health Information - Where does CIHI fit?

Population health	Protection and public health	Health care	
Statistics Canada	Public Health Agency of Canada and Health Canada	Canadian Institute for Health Information	Key data gaps
<ul style="list-style-type: none">• Population census• Vital statistics• Health status surveys	<ul style="list-style-type: none">• Infectious disease surveillance• Drugs and medical devices regulation• Food inspection	<ul style="list-style-type: none">• Hospital and residential care• Spending and health workforce• Health system performance	<ul style="list-style-type: none">• Care by private providers• Allied health services• Social services

A brief history

The world before CIHI (pre 1994)



- **Government organizations**

- Statistics Canada: mortality, hospital morbidity and nursing data
- Health Canada: physician data and health expenditures

- **Non-governmental organizations**

- Hospital Medical Records Institute: discharge abstracts/case mix
- MIS Group: Management Information Standards

CIHI's origins

“I was aware from the outset that Canadian health information was not in good shape. My current assessment is that it is in a deplorable state... vast amounts of health data are recorded, but reliable information is in much shorter supply”.



*Dr. Martin Wilk
Former Chief Statistician
Chair, National Task Force on Health Information (1991)*



Quick facts – CIHI today

- Independent, not-for-profit organization that provides essential information on Canada's health systems
- Receives funding from all governments
- Led by a 16-person Board of Directors
- ~\$100 million (Canadian!) annual budget
- 750 staff
- Neutral and independent role

CIHI's mandate

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.

Values

Respect • Integrity • Collaboration • Excellence • Innovation

Standards

- **Code set: ICD-10-CA; Canadian Classifications of Interventions; financial data standards (MIS -Management Information Systems)**
- **Data: InterRAI (assessment standards driving data collection eg long term care, home care); standards for submission to national databases; Primary Health Care EMR content standards (to calculate quality indicators)**
- **Information standards (Canadian version of DRGs; large set of health indicators)**
- **Data exchange standards**
- **Privacy and security standards**

Data holdings



Types of care

- Acute and emergency
- Mental health
- Home care
- Long-term care
- Rehabilitation
- Pharmaceuticals
- More



Health workforce

- Physicians
- Regulated nurses
- Pharmacists
- Occupational therapists
- Physiotherapists
- More



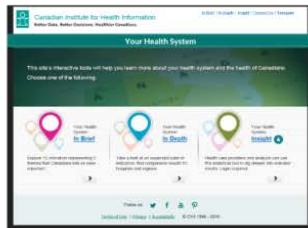
Health spending

- Macro health expenditures
- Hospital and regional health authority financial accounts
- Patient costing

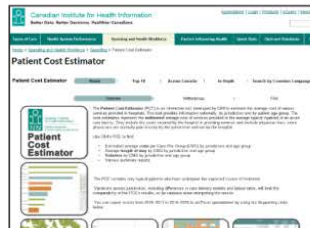
Data and information products

Interactive analytical tools

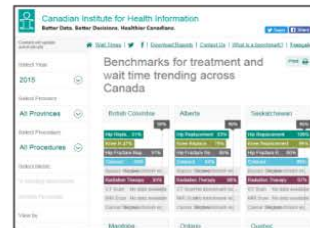
Your Health System



Patient Cost Estimator

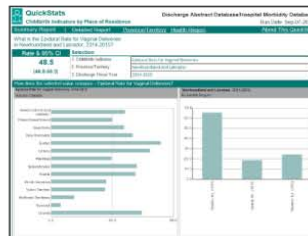


Wait Times Tool



Quick Stats

Interactive data



Pre-formatted data tables

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Analytical publications



CIHI and the provinces

11 of 13 provinces and territories have health privacy laws that:

- Provide detailed and comprehensive guidance on collection/use/disclosure of health information
- Address specific healthcare associated privacy issues
- Include use of PHI for clinical and secondary purposes (planning, billing, research)

All jurisdictions have some form of written agreement with CIHI:

- Bilateral agreement
- Specific data sharing agreement (DSA)
- Set out terms under which CIHI can collect/use/disclose PHI
- May include terms specific to a jurisdiction

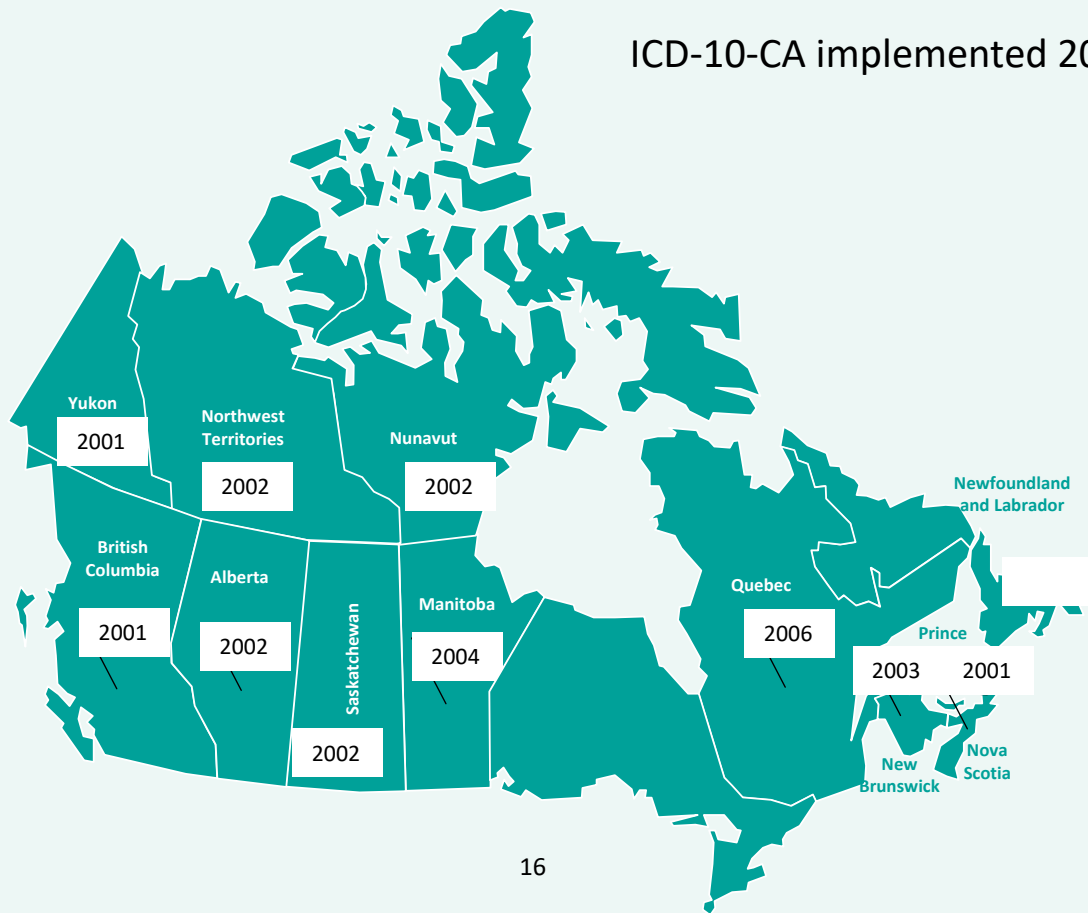
The journey with ICD-10 for morbidity

Canadian adoption of ICD-10

- **1991: National Health Information Council agrees in principle to adopt ICD-10**
- **1994: CIHI Board of Directors commissions impact assessment of adoption**
- **1995: Conference of Deputy Ministers of Health and Chief Statistician approve recommendations to adopt ICD-10 by 2001**
- **1997: CIHI establishes National Implementation Advisory Committee (NIAC)**
- **1998: Modification Task Force presents enhancement options to NIAC**
- **1999: CIHI receives license for ICD-10 from WHO and permission to enhance for Canadian morbidity needs**
- **2001: Final report on the Canadian enhancement of ICD-10...**

Implementation

ICD-10-CA implemented 2001-2006



ICD-10-CA implementation: training

- Each province determined the date for their specific implementation
- Implementation focused on hospitals
- CIHI delivered training to hundreds of coders through two-day workshops and ongoing support throughout implementation
- Change from using hardbound books to a computerized environment, requiring not only training for ICD-10-CA but also in basic computer skills
- Staggered implementation allowed for adaptation of training and support based on experiences

ICD-10-CA implementation: resources needed, and impact on comparability

- The multi-year implementation occurred in part because provinces, hospitals (and likely CIHI!) underestimated how much work and cost was involved.
- Staggered implementation posed challenges in provision of comparable data from year to year and across jurisdictions...
 - greater specificity of ICD-10 and new concepts in ICD-10
 - use of combination codes where previously two codes were needed
 - more explicit capturing of post-procedural conditions
 - code-to-code conversion process based on closest/best fit between ICD-9 and ICD-10-CA
 - changes in coding standards

ICD-10-CA implementation: information quality

- **Reabstraction studies: the adoption of ICD-10-CA/CCI did not negatively affect the quality of coding, despite the learning curve**
 - No significant impact on coding of comorbid conditions used in risk adjustment
- **Return to pre-ICD-10-CA and CCI productivity levels varied but averaged six months**
- **Increase in coding sensitivity expected with ICD-10-CA took time to materialize as system adjusted to the new classification**
- **Implementation of ICD-10-CA and CCI necessitated wholesale redevelopment of acute care grouping methodologies and associated resource indicators**

Lessons learned

- Extensive preparation and planning
- Buy in and participation from a broad constituency (HIM, clinical, administrative, policy-making, vendors, associations) is essential
- Sufficient education is a must and requirements are easily underestimated
- Staggered approach to implementation (and working with two classifications in tandem) brought its own challenges
- Where possible, learn from the experience of others

Terminologies

Canada Health Infoway

- **Not-for-profit corporation created and funded by the federal government in 2000 to accelerate the nationwide implementation of electronic health record (EHR)**
 - Maintains and releases pCLOCD (Canadian view of LOINC, including Canadian names, recommended units of measure for Canada, etc.)
 - Canadian Release Centre for SNOMED CT
 - pCLOCD and SNOMED CT incorporated into CIHI's EMR content standard
- **Infoway is shifting its role, away from standards and interoperability, and more towards products: Prescribe-it (e-prescribing) and Access (patient portal)**

CIHI and SNOMED CT

- **Still determining CIHI's relation to SNOMED CT and SNOMED's role in Canada's health information landscape. In the meantime we are working with Infoway and...**
- **Bridging SNOMED CT and Classifications**
 - Reviewing and updating existing picklist maps between SNOMED CT and ICD-10-CA
- **Developing a plan for the development of maps between SNOMED CT and the Canadian Classification of Health Interventions (CCI)**
 - Top 100 list interventions reported in hospital data
- **Participating in a SNOMED International pilot project - mapping of SNOMED CT to ICD-11**

CIHI in the WHO-FIC Network

North American Collaborating Center

- **CIHI participates in the network through the North American Collaborating Center (NACC), alongside NCHS and Statistics Canada. We are actively engaged in committees and reference groups working on:**
 - Updates and revision of ICD-10
 - Development and testing of ICD-11 for morbidity
 - Updates and revision of ICF
 - Development and testing of ICHI (new interventions classification)

North American Collaborating Center

- Long and successful collaboration with the US as part of the NACC
- WHO has expressed a preference for single country collaborating centres, versus those representing multiple countries
- Questions on whether Canada and the U.S. will adopt ICD-11 at the same time
- Canada's official French-English bilingualism requires French translations of classifications
- Mexico has its own centre
- Is the North American (i.e. U.S and Canada) model still the most appropriate?

Moving forward

Modernizing Data Supply and Access

CIHI will provide more relevant data to more stakeholders and improve the experience of data suppliers and users.

CIHI will achieve this through alignment and integration to support efficient and adaptable processes, products and services.



More data, less gaps,
increased adoption of CIHI's
data standards at source



More flexible and customer-
friendly data submission
processes

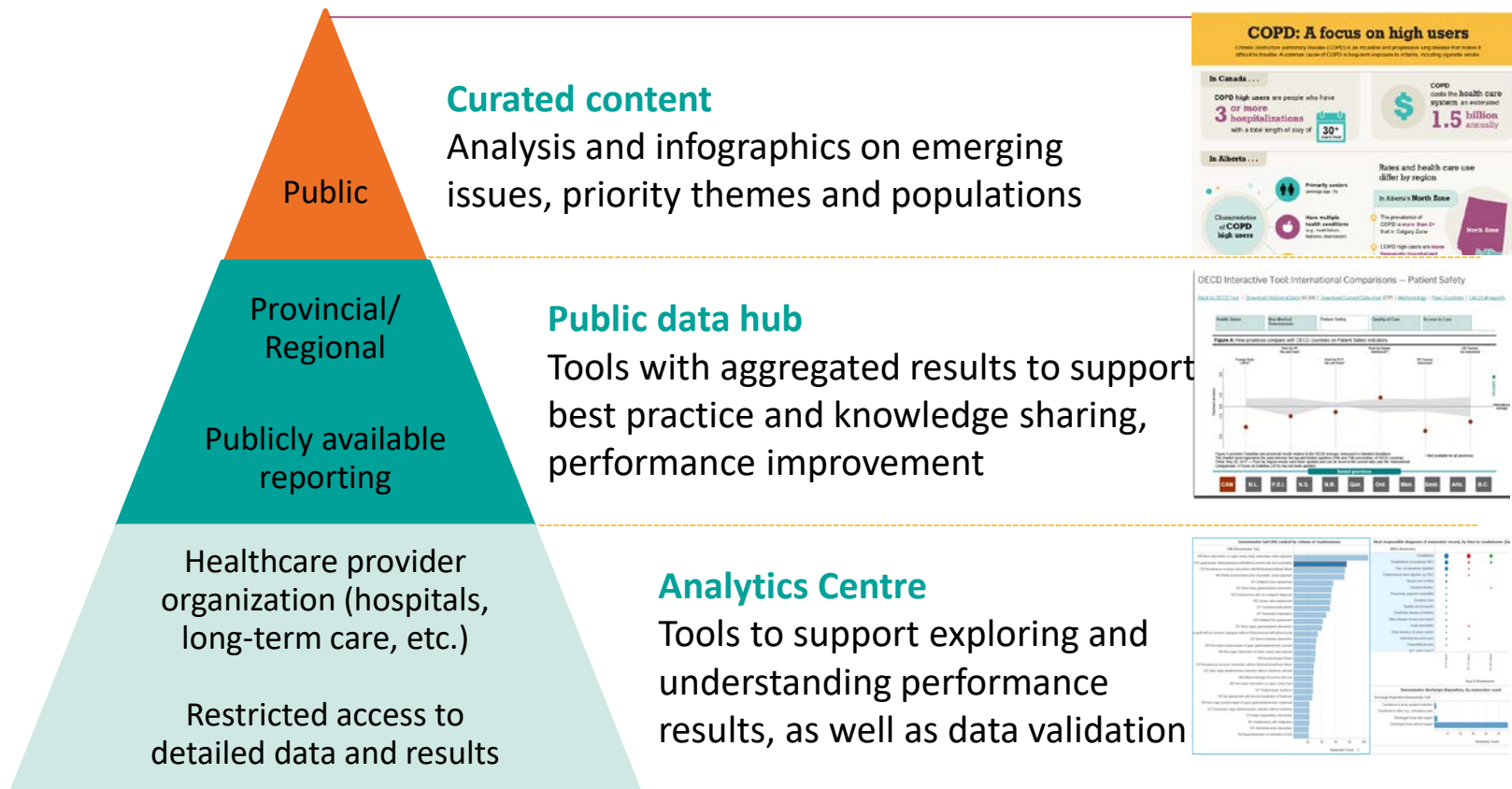


More timely and
linked data



Less data burden for CIHI
and our stakeholders

CIHI's integrated approach and vision



Digital reports



CIHI's digital report provides our first comprehensive look at this complex illness and its effects on seniors, caregivers and health systems.

It uses data and information from several sources, including the Public Health Agency of Canada.

The report allows users to interact with the content and includes 2 caregiver stories.



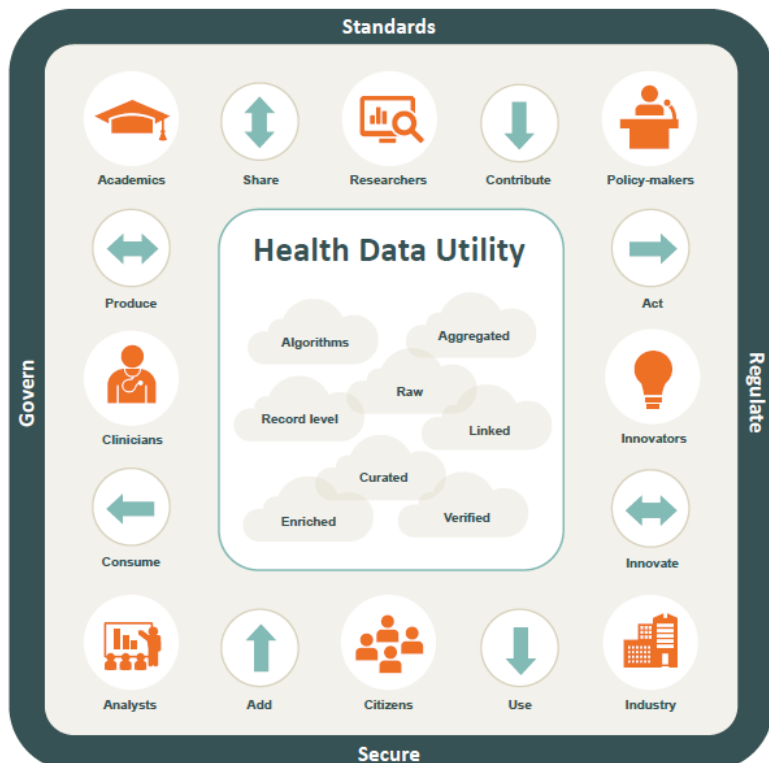
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Health Data Utility: Looking towards the future



- It is clear that the **complexity is too high** for one single organization to manage it all
- Only an **ecosystem** of organizations can deliver the desired outcomes
- Where data connects them all through the **Health Data Utility**
- Needs clear **data governance**

Health Data Utility - A public ecosystem that enables collection of data, facts and statistics about the mental or physical condition of a population, or the health system itself, and is accessible for reference, analysis, research, decision-making or public consumption in a fair and responsible manner.

ICD-11: what's in the works?



- **Assess ICD-11 for Canadian morbidity use**
 - CIHI field trials
- **Identify value-add and benefits ICD-11 offers Canada**
- **Conduct impact analysis**
 - Internal: CIHI products and services
 - External: Our stakeholders and clients
- **French translation and validation**
- **Begin to socialize the new classification**



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