

# Health Informatics Standards and e-health

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# Discussion Topics

- Standards Defined
- The National Standards System of Canada
- Standards Collaboration in Healthcare
- e-health Standards in Canada
- Examples – the MIS and MDS standards
- Questions

# Standards Defined

- What are standards?
  - Documents that describe essential characteristics of products, services or systems
- What is standardization?
  - The process of bringing a variety of interests together to develop standards
  - The application of those standards

# Standards Council of Canada

- o The SCC is a Crown corporation with the mandate to promote efficient and effective use of voluntary standardization and reports to Parliament through the Minister of Industry
- o Located in Ottawa, the SCC has a 15-member governing council and a staff of approximately 90
- o It is Canada's representative to the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC)
- o The SCC also coordinates and oversees the efforts of the National Standards System and offers a variety of standardization-related programs and services.

# Standards Council of Canada



## • Role:

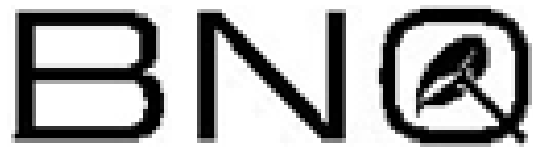
- Encourages and enables the widespread use of voluntary standards in Canada
- Oversees the National Standards System in Canada

## • Purpose:

- To enhance Canadian competitiveness and promote Canada's social and economic well-being in the global economy.

# Standards Development Organizations (SDO)

- The SCC has accredited four SDOs in Canada:



# A US Example: ANSI - The US Equivalent to the SCC



- o **Health Level Seven** is one of several American National Standards Institute (ANSI) - accredited Standards Developing Organizations (SDOs) operating in healthcare. Most SDOs produce standards (sometimes called specifications or protocols) for a particular healthcare domain such as pharmacy, medical devices, imaging or insurance processing.
- o Health Level Seven's domain is clinical and administrative data.



# E-health Standards Collaboration Canada

- o The participants (many voluntary) in the e-health standards collaboration in Canada include
  - Standards Council of Canada
  - Canadian Standards Association (CSA)
  - Canadian Institute for Health Information (CIHI)
  - Canada Health Infoway
  - Various Provincial e-health groups
  - ITAC-Health (the vendor community)

# Infoway - A Major Player in e-health Standards

- o Canada Health Infoway (Infoway) is a not-for-profit organization that collaborates with providers, and technology solution providers to accelerate the use of electronic health records (EHRs) in Canada
- o Infoway has received \$1.6 billion to date
  - A further \$500 million in the Feb, 2009 budget
- o Infoway understood the importance of standards:
  - 700 Hospitals
  - 40,000 General Practitioners
  - 315,000 Nurses
  - 29,000 Specialists
  - 26,000 Pharmacists
  - 1,600 Long Term Care Facilities

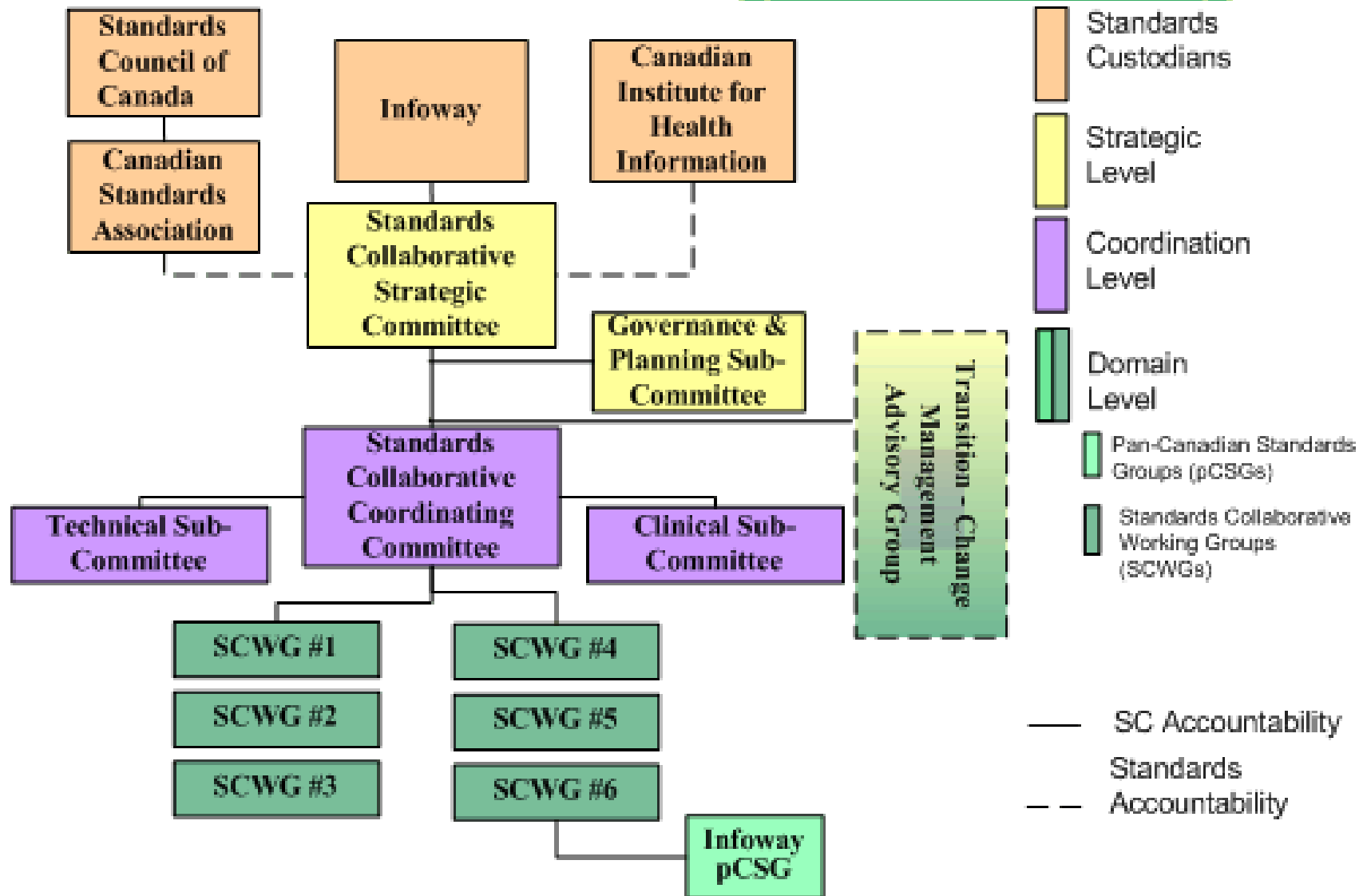
# Infoway - A Major Player in e-health Standards

- o Infoway has facilitated the support and proliferation of standards that assist in EHR adoption. For example:
  - *HL7*, an international set of open standards for communication that allows health information systems developed independently to automatically “communicate”
  - *Snomed CT*, a clinical terminology that facilitates the interoperability of electronic health records.

# Infoway Standards Collaborative Structure

- o In order to support the mandate of the *Infoway* Standards Collaborative (SC), a streamlined governance structure was developed

# Standards Collaborative Governance Model



# CIHI - A Major Player in e-health Standards

- o The Canadian Institute for Health Information (CIHI) is an independent, not-for-profit organization that provides essential data and analysis on Canada's health system and the health of Canadians.
- o CIHI tracks data in many areas, thanks to information supplied by hospitals, regional health authorities, medical practitioners and governments. CIHI's data and reports focus on:
  - Health care services
  - Health spending
  - Health human resources
  - Population health

# E-health Standards in Canada – MIS

## • MIS - Financials Reporting Standards

- Standards for Management Information Systems (MIS) in Canadian Health Service Organizations
- A standardized framework for collecting and reporting financial and statistical data including
  - Chart of Accounts (same across Canada)
  - Accounting Principles
  - Workload Measurement
- Any Financial Systems vendor selling into the Canadian healthcare system must comply
- These standards were developed and are currently maintained by the [Canadian Institute for Health Information \(CIHI\)](#)

# E-health Standards in Canada – MIS (con't)

- Benefits of MIS Standards to e-health
  - Consistency in reporting
  - Easier movement of trained staff across the system
- Benefits of MIS Standards to e-health vendors
  - R&D investment protection
  - Consistency in implementation & support
- Cost to both vendors and the system
  - Time
  - Participation in advisory groups
  - On-going maintenance of the standards

# E-health Standards in Canada – MDS

- o Another standard currently supported by the CIHI is the *MDS Assessment Tool*
- o This standard was developed by the University of Michigan in the early 1990's
- o The small group of researchers that developed the *Minimum Data Set (MDS)* assessment instrument were the beginning of what has now become *interRAI*

# The interRAI Mission & Vision

- o interRAI is a collaborative network of more than 50 researchers in over 30 countries committed to improving health care for persons who are elderly, frail, or disabled
- o The goal is to promote evidence-based clinical practice and policy decisions through the collection and interpretation of high quality data about the characteristics and outcomes of persons served across a variety of health and social services settings

<http://www.interrai.org>

# The interRAI Assessment Tools

- o A mature assessment system consists of:
  - Data collection, Triggers and Clinical Assessment Protocols
- o This can drive staffing, funding and policy setting
- o As of January 2008, interRAI had launched twelve related assessment systems. Each of these is in a different stage of growth



- o Home Care
- o Community Health Assessment
- o Contact Assessment
- o Assisted Living
- o Long-Term Care Facilities
- o Palliative Care
- o Post-acute Care
- o Mental Health
- o Community Mental Health
- o Emergency Screener - Psychiatry
- o Intellectual Disabilities
- o Acute Care

# Momentum and MDS in Canada

- o In 1996, Momentum had developed a Financial and a Billing & Trust system for Nursing Homes
- o We wanted to enter the Minnesota market
- o We quickly realized that one of the fundamental requirements of any US nursing home was a nationally accepted assessment tool called Minimum Data Set (MDS)
- o This was a requirement in the 17,000+ US nursing homes to assess residents within 14 days of admission with this tool
- o Ontario was considering adopting this assessment tool for complex care hospitals

## Momentum and MDS in Canada (con't)

- o After some preliminary analysis, we learned that this standard had been developed by a number of researchers at the University of Michigan
- o We contacted 3 of these researchers that were now leaders in ***interRAI***:
  - Brant Fries (interRAI co-Founder)
  - David Zimmerman (Quality Indicators)
  - John Hirdes (Canadian Fellow Researcher)

# interRAI in Canada



**Dr John Hirdes, PhD** is a Professor in the Dept. of Health Studies and Gerontology at the University of Waterloo. He is also cross-appointed to the Department of Medicine, University of Toronto and to Gerontological Studies at McMaster University.

He has conducted applied research in health care settings for over 15 years, and is the Scientific Director of the Homewood Research Institute at Homewood Health Centre in Guelph. As a Fellow and Board Member of interRAI, Dr. Hirdes (along with Dr. Katherine Berg of McGill University) represents interRAI in Canada.

# The Early MDS Days in Canada

- o Working with a small IT vendor in Minneapolis and with the interRAI researchers directly, we built our first MDS RAI-2.0 assessment module in '97
- o We believed that the introduction of the MDS assessment standards was the “thin edge of the wedge” in the introduction of the EHR in LTC
- o We had to influence public policy
  - Sponsoring seminars
  - Introducing interRAI people to policy makers
- o With the absence of a “standards champion” organization in Canada, this was a very inefficient and expensive proposition
- o This was risky – would MDS become the Canadian standard?

# The Adoption of MDS in Canada

- o In 1998, Saskatchewan became the first Canadian Province to adopt MDS RAI-2.0 for assessment in its 168 nursing homes (*MDS for LTC*)
- o Because of our early research with MDS 2.0 – we were the first vendor in the world to develop the MDS assessment tool for *Home Care* in 1999
- o Manitoba acquired the MDS RAI-HC tool for the WRHA in 2000

# The CIHI and the MDS Standards

- o Since the year 2000, other provinces followed suit
  - BC: MDS for LTC and HC mandated
  - AB: MDS for LTC mandated
  - SK & MB (WRHA): MDS for HC and LTC mandated
  - ONT: MDS for HC and LTC mandated
  - Nova Scotia: MDS-HC mandated MDS LTC in pilot
  - PEI and Nfld: Currently piloting MDS with Momentum
- o A key development for the proliferation of the MDS 2.0 assessment tool in Canada over the past five years has been the role of the **CIHI**
- o This is being accomplished via the **Continuing Care Reporting system (CCRS)**

# The CIHI's CCRS

- o Continuing Care Reporting system (CCRS) is designed to collect and report data on residents in designated continuing care beds across Canada. This is the national version of the Ontario Chronic Care Patient System (OCCPS), which was based on Ontario complex continuing care facilities' data only.
- o Nursing staff or other health providers conduct assessments of individuals in designated beds, whether in free-standing chronic or long-term care facilities, or in hospitals.
- o The data are collected using the Resident Assessment Instrument (RAI) Minimum Data Set, (MDS 2.0), © interRAI 1997, 1999, modified by CIHI for CCRS use.

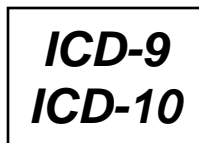
# CIHI – The MDS “Common Denominator”



CANADIAN STANDARDS ASSOCIATION



Canadian Institute for Health Information  
Institut canadien d'information sur la santé



# What is status of CCRS Today at CIHI (con't)?



Canadian Institute for Health Information  
Institut canadien d'information sur la santé

- o CIHI now lists 15 approved vendors for CCRS
- o Enhanced and expanded education program
- o CIHI/interRAI collaboration for data quality study
- o Quarterly comparative reports
- o Revised MDS 2.0 and RAP's User Manual
- o CCRS Advisory Committee
- o CIHI/interRAI Strategic Steering Committee
- o RAI Expert Panel

# How Does CIHI Assist the Vendor Community in the Development of MDS-standards Software?



Canadian Institute for Health Information  
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- o The CIHI is a one-stop shop for:
  - Liaison to the researchers at interRAI
  - Assisting in obtaining buy-in from all jurisdictions
  - Assuring the proper use of HL7 standards
  - Assuring the proper use of ICD-9 and ICD-10 codes

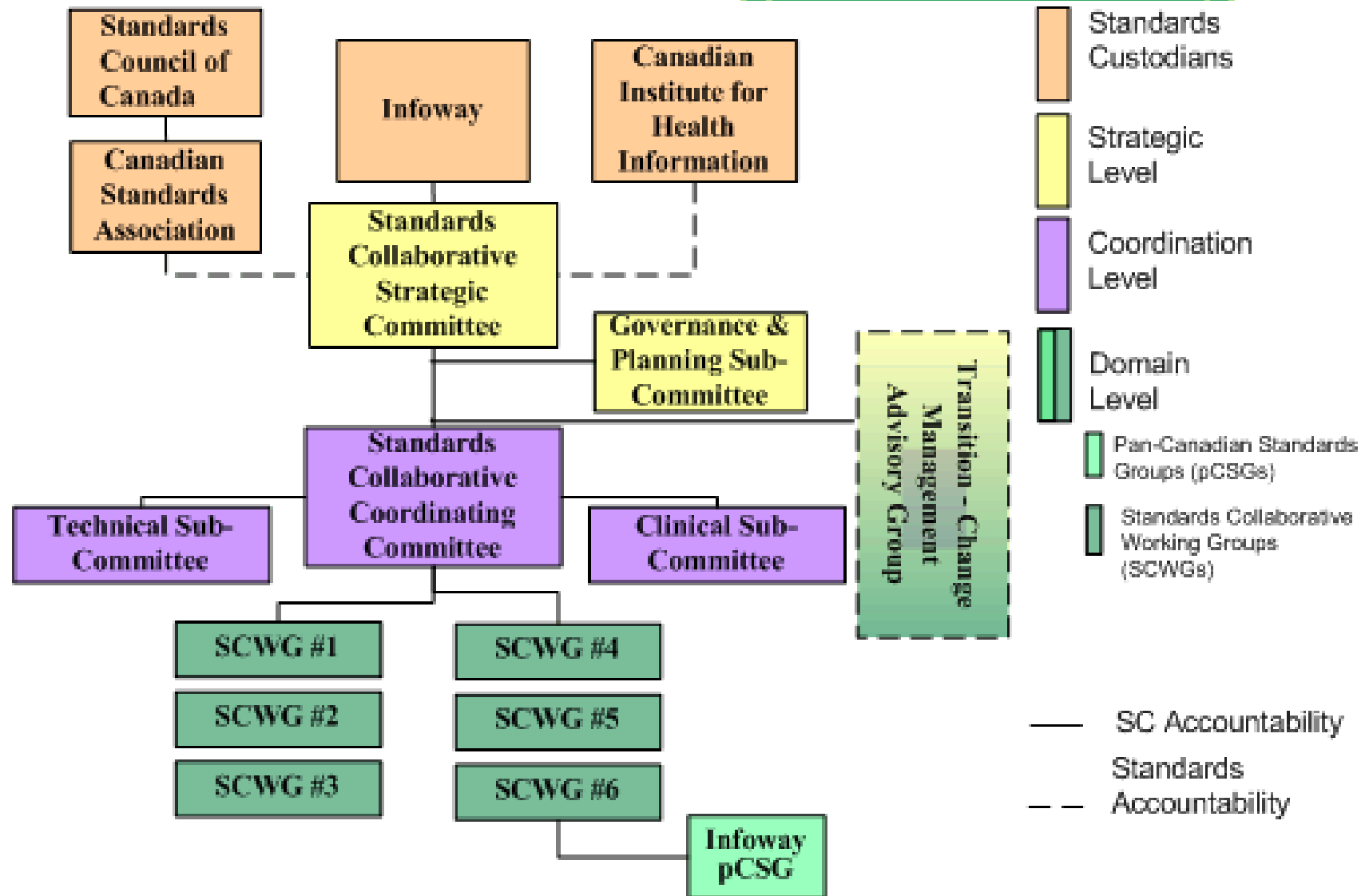
# E-health Standards in Canada – MDS Recap

- o The MDS Standard is a great example of the power of standards in e-health
  - Originally developed in US University
  - With the assistance of a Canadian vendor – introduced into Canada
  - InterRAI eventually transfers responsibility of maintenance and proliferation of the standard to CIHI
    - Plugged into an existing standard system
  - With InterRAI in over 30 countries, allows vendors that have adopted these standards to expand their markets
    - i.e. – Momentum now in the UK and New Zealand with MDS tools

# What are the Vendor Responsibilities?

- o Adherence to the standards
  - i.e, MDS 3.0 for US market by Oct, 31, 2009
- o Provide optimal functionality
- o Provide optimal usability (User Interface)
- o Provide a relevant technology platform
- o Communicate Total Cost of Ownership
  - The application
  - Training
  - On-going support & maintenance
  - The IT environment

# Standards Collaborative Governance Model





*Thank-You!*

For more information, contact us:

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[www.momentumhealthware.com](http://www.momentumhealthware.com)



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