A Global View of Patient Matching and Patient Identification

Lorraine Fernandes, RHIA
SVP, Initiate Systems

Scott Myers,
Managing Director, Health and Life Sciences
Accenture

Allison Viola, RHIA, MBA
Director, Federal Practice

American Health Information Management Association
Agenda

- Overview of EHR initiatives and their challenges
  - Business, patient, and technology considerations
- How countries are addressing challenges, advancing EHRs and matching patient records
  - Canada, Australia, South Korea, China, Spain, and Italy
- Privacy and confidentiality
  - It’s always been important, but new challenges in electronic age
Interoperability Challenges of the Healthcare Ecosystem

EHR, NHIN

Real-time Query API

Real-time Updates

HL7

Clinics, Labs, Imaging

Nightly Update XML

SOA Real-time Updates

Search Flat File

Physicians Network

Clinical Systems

Public Health

County General

General

Hospitals (for Inpatients & Outpatients)

Physician

Pharmacy & Pharmacy Benefits Mgmt.

Identity

Identity

Identity

Identity

Identity

County General

Identity

Identity

Identity

Identity

Identity

Identity

Identity

Identity

Identity

County General

Identity

Identity

Identity

Identity

Identity

County General

Identity

Identity

Identity

Identity

Identity

County General

Identity

Identity

Identity

Identity

Identity

County General
Accurate Patient Identification is Imperative

Electronic Health Record & Health Information Exchange

EHR Foundation Elements:

- Improve patient care and reduce medical risks
- Realize return on investment for strategic IT initiatives
- Improve customer service with reduced risk
- Comply with regulations
- Enhance operational productivity and efficiency

Initiate.
The healthcare reality

- **Volume** of patient data *increasing exponentially*
- **Quality** of patient data *declining*
- **Fragmented, duplicate and conflicting** patient information *within and across databases and touch points*
- **Regulatory and safety issues** drive new requirements
National Identifier and Client Registry: 
*Not mutually exclusive*

---

### National Patient Identifier
- Requires launch by government agency or organization
- **Backporting** to existing records expensive and perhaps impossible
- May heighten consumer privacy & confidentiality concerns
- One (of many) data elements for patient ID
- Not silver bullet-- will have data quality errors just like existing data
- Compatible with EMPI technology to manage evolving strategy

### Client Registry/Federated
- Views national identifier as just another piece of data to facilitate patient matching
- Manages current environment with no identifier as well as potential future identifier
- Data maintained within firewalls of source system
- Readily deployed in short timeframe with standards, retrospective or prospective
- Requires EMPI technology

---

National identifier and registry approach complimentary and help advance patient matching, interoperability, and EHR initiatives in a collaborative, timely manner!
“I don't like this approach to the message here. I don't think we are in a battle with the national identifier strategy, only with the perception that it negates the need for what we do. CR/Federated is an architectural approach to the solution that is practical in allowing for one or more registries to add up to the whole of the population, a fundamental requirement. The national identifier is a strategy to add another attribute to those that can be known to identify a person in an effort to improve the accuracy of matching and searching within and across a patient's records. A CR/Federated architecture takes advantage of all data that can help properly identify a person's records, including the national identifier.”

Michael Competello, 7/31/2006
Canada Health Infoway: Background

Government goal: Build a national Electronic Health Record (EHR) system:

- Critical for improving health care
- Patient confidentiality must be upheld
- Support Electronic Health Record (EHR) through Canada Health Infoway

Canada Health Infoway (Infoway):

- Strategic investor for the government
- Work in partnership with stakeholders
- Initial investment by government: $1.1 Billion (CDN)
What does Infoway do?

End User Adoption and Setting the Future Direction

The Electronic Health Record

Domain Repositories and Healthcare Applications

Cross Program Foundation Components

Architecture and Standards

Innovation & Adoption - $60m

Interoperable EHR - $175m

Client, Provider and Location Registries - $110m

Infostructure - $25m

Drug Information Systems $185m
Laboratory Information Systems $150m
Diagnostic Imaging Systems $220m
Public Health Systems $100m
TeleHealth $150m

What does Infoway do?
British Columbia architecture

Two-tier model

- CR application data synchronized with EMPI to facilitate merge activity and ensure proper number assignments

- Provincial Identity Hub has all direct source systems records and a view of all regional source system records and represents the entire population

- Messaging layer serves to present normalized message formats from various sources to the provincial environment and validates CR numbers as part of its routing process

- Searches can be made provincial wide, regional wide and locally to support business functions appropriately

- Provincial and Healthcare numbers are housed, checked for uniqueness in EMPI

- Contains the minimum data set for the CR and additional fields that meet their business needs

- Supports additional synchronization efforts between the Provincial Hub and the Regional Identity Hubs
Australia
Australia HC Overview

- Population (20m) - 2/3 of Canada, 1/15 of US
- Publicly-funded health system, similar to Canada (70% public; 30% private funding)
- Key HC buying units
  - Federal government ($31 billion/year, ~ 1/2 of total)
    - Centralized “payer” function for GP billings; national pharmacare program
  - 6 States + 2 Territories ($15 billion/year, ~ ¼ of total)
    - Hospital funding
  - NEHTA on behalf of States & Federal government for eHealth infrastructure and standards
- HC business drivers similar to other countries (sl.4)
- Privacy is as much of a concern as in US and Canada
- Government safety/security issues and opportunities are similar to the US
HC Business Drivers

- Ageing population; increasing consumer expectations
- Threats – bioterrorism, pandemics, SARS
- New technology demands; access issues especially with remote areas
- Health human resources - shortages
- Demands for better use of health information to enhance public safety & quality of care
  - Monitor outcomes of interventions & treatments
  - Early detection of adverse events from drugs & surgical interventions
  - Improved health surveillance & early warning detection
NEHTA’s Agenda

- Information systems to ensure that individuals and healthcare providers are uniquely identified across Australia
- The electronic transfer and exchange of clinical information using a common language with consistent terms, descriptions and formats
- National directories that accurately identify medicines, medical products, devices and consumables
- Agreed methods, standards and protocols for authenticating users, exchanging messages and inter-operating across the health sector
- A national system of shared electronic health records available to authorised practitioners and to consumers

Note: 5July/05 NEHTA incorporated into not-for-profit company limited by guarantee; responsible for developing national health IM&ICT standards and specifications
NEHTA – Commissioning Identifiers in 2006

Individual HC Identifier

**Funding:** $45M/3 years
- Same timeline/equates to approx. 90% of Canadian funding for CR

**Work Plan:**
- Detailed design plan commenced
- Requirements review mid 2006
- Planning & Procurement
  - Approval mid 2006
  - Procurement issued end 2006
- Target availability late 2007

HC Provider Identifier

**Funding:** $53M/3 years
- Same timeline/equates to approx. 84% of Canadian funding for PR

**Work Plan:**
- Detailed design plan commenced
- Requirements review mid 2006
- Planning & Procurement
  - Approval mid 2006
  - Procurement issued end 2006
- Target availability late 2007