



A Global View of Patient Matching and Patient Identification

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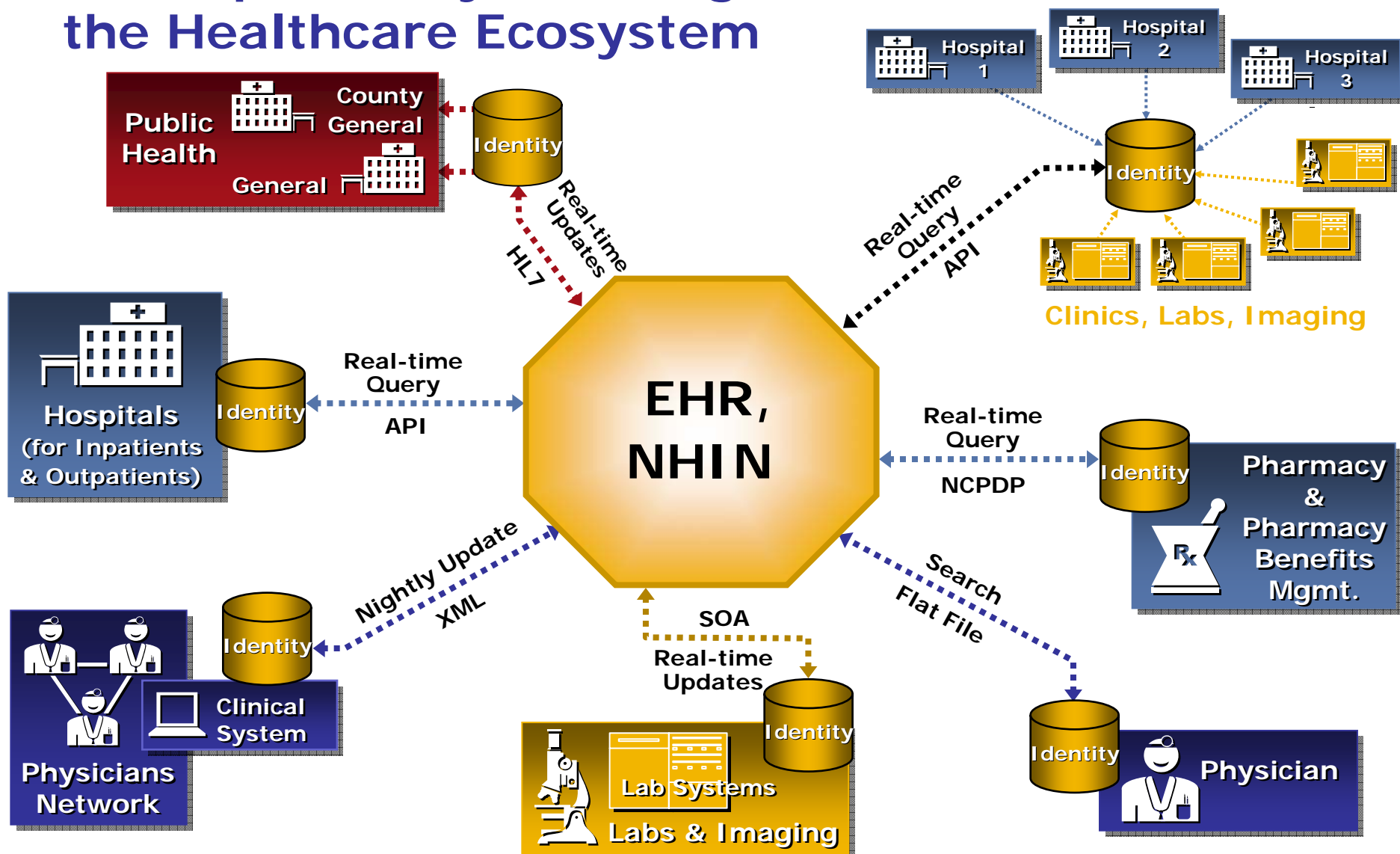


Agenda

- ▶ **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

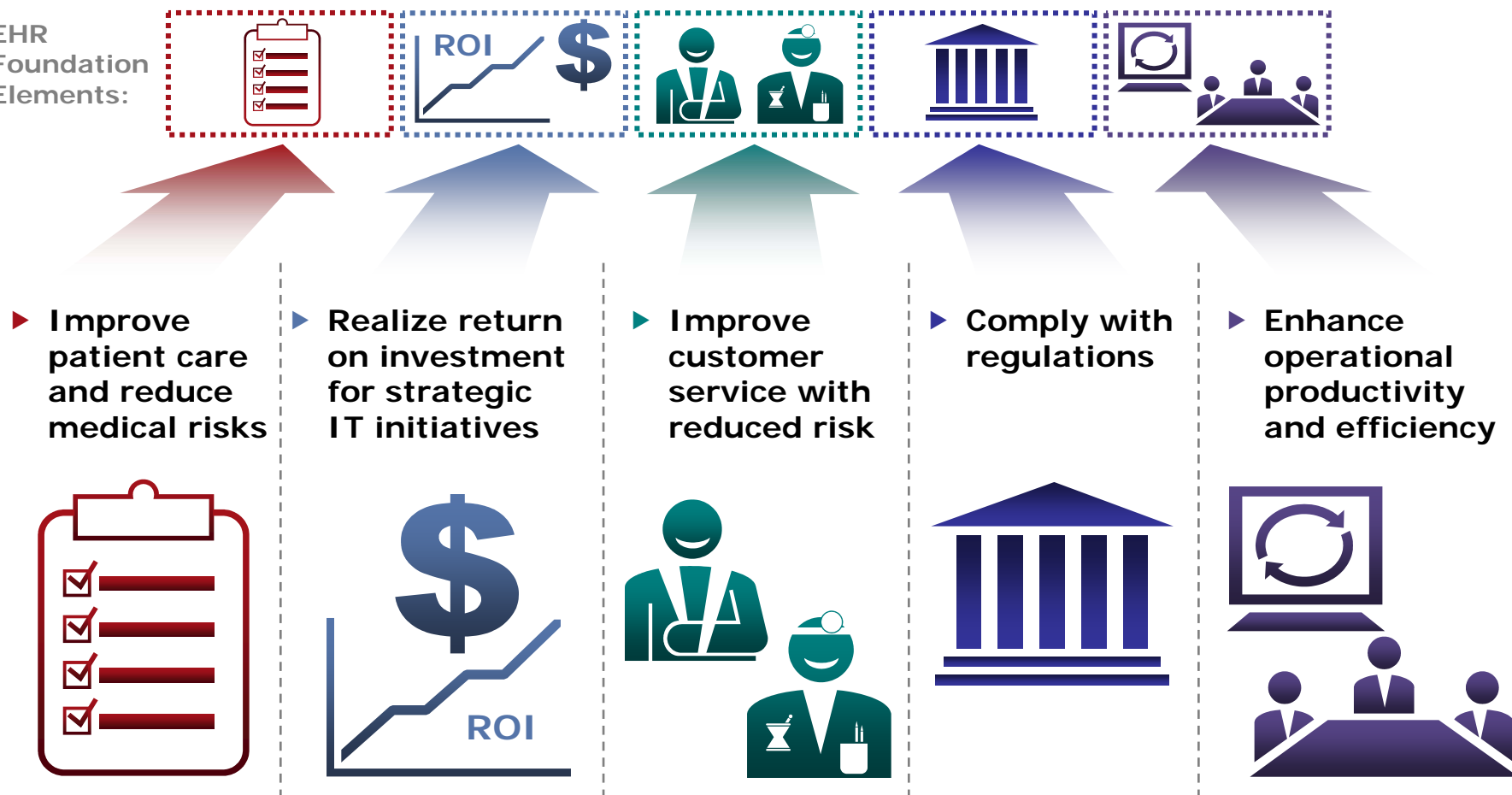




Accurate Patient Identification is Imperative

Electronic Health Record & Health Information Exchange

EHR
Foundation
Elements:






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

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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

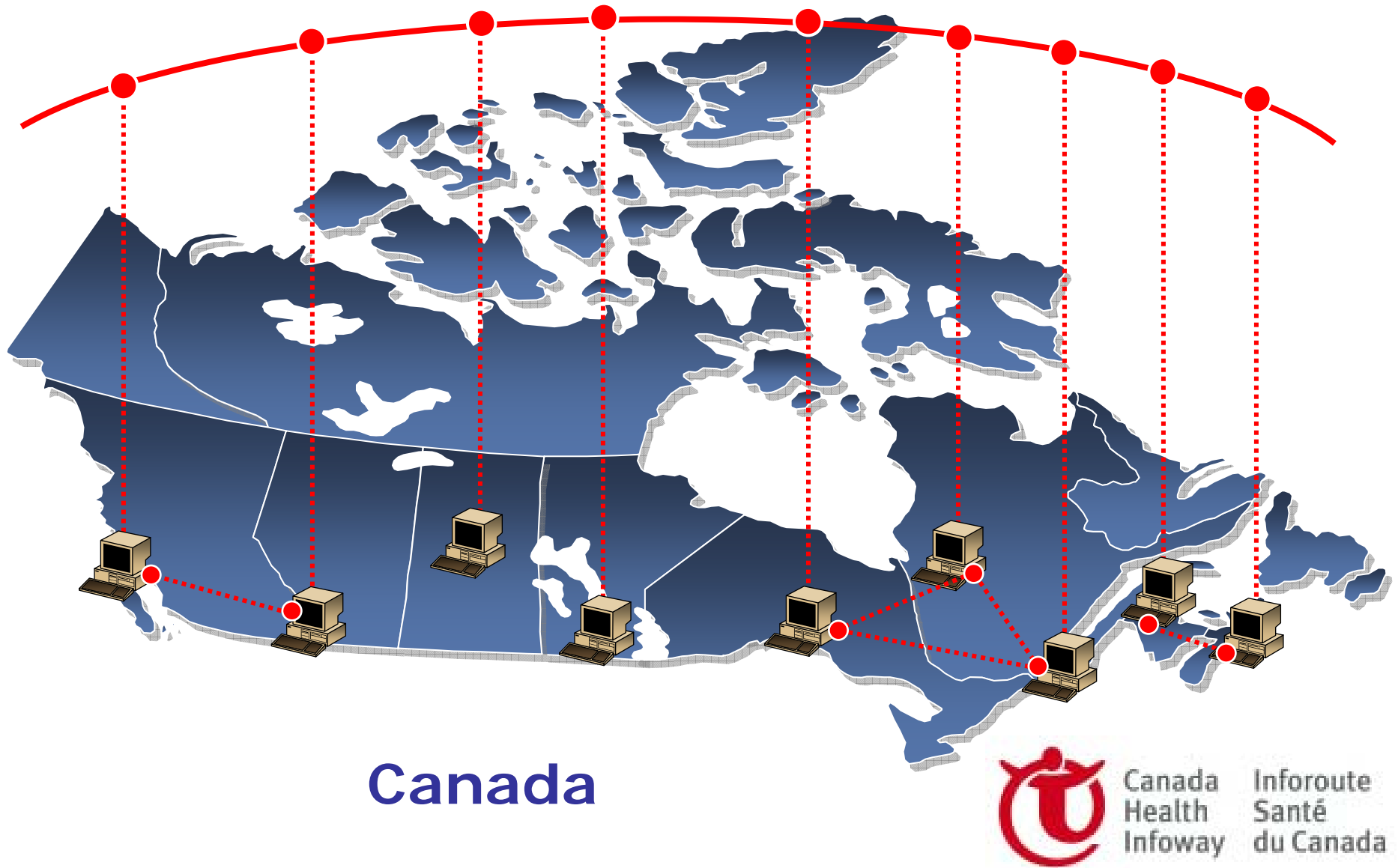
- ▶ Views national identifier as just another piece of data to facilitate patient matching
- ▶ Manages current environment with no identifier as well as potential future identifier
- ▶ Data maintained within firewalls of source system
- ▶ Readily deployed in short timeframe with standards, retrospective 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!

MTC1

"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 Competiello, 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

Innovation & Adoption - \$60m

The Electronic
Health Record

Interoperable EHR - \$175m

Domain
Repositories and
Healthcare
Applications

**Drug
Information
Systems
\$185m**

**Laboratory
Information
Systems
\$150m**

**Diagnostic
Imaging
Systems
\$220m**

**Public
Health
Systems
\$100m**

**TeleHealth
\$150m**

Cross Program
Foundation
Components

Client, Provider and Location Registries - \$110m

Architecture and
Standards

EHRs BLUEPRINT
→ an interoperable EHR framework

Infostructure - \$25m

ARCHITECTURE SDSE
→ un cadre d'interopérabilité pour le DSE

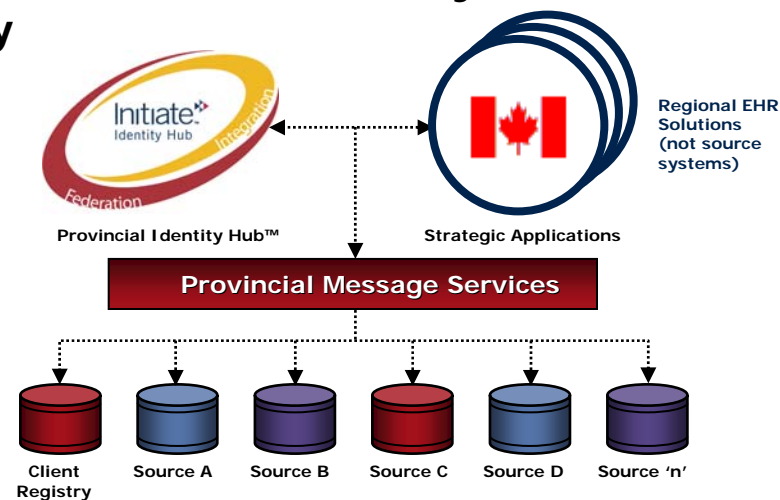




British Columbia architecture

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