Successful Patient Identification & Interoperability on Both Sides of the 49th Parallel

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Initiate Systems, Inc.

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Objectives

I. Explore importance critical issues in data exchange including patient identification, standards, and confidentiality

II. Understand similarities and differences in data exchange in the US and Canada

III. Provide real world examples of data exchange on each side of the 49th parallel
Who is Initiate Systems?

- **Initiate Systems** is a leading provider of master data management solutions for creating complete, real-time views of data about people, places and things.

- We deliver accurate and complete real-time views of member, patient and provider data and their intricate relationships across the entire health plan enterprise to improve operational performance, reduce risk and enable growth strategies.

- 1,700+ healthcare sites use our software:
  - Cover more than 70% of the Canadian population
  - Cited as a “visionary” by Gartner and “leader” by Forrester
  - 191 employees (as of 12/31/06)
Initiate Systems, Inc.

Helps Organisations Create Complete, Real-time Views of People, Households & Organisations From Data Dispersed Across the Enterprise

- Leading pure-play CDI/MDM vendor
- Established 1995
- Cited as “leader” by Forrester
- Cited as “visionary” by Gartner
- 160+ customers across 10 market segments
  - Private and Public Healthcare, Healthcare Exchanges
  - Finance, Retail, Hospitality, High Tech, Manufacturing
  - State and Local Government, Intelligence, Law Enforcement
- Dedicated to successful partnerships
- Offices in U.S., EMEA, Asia-Pacific
  - Chicago, Austin, Phoenix, Washington, D.C.
  - Toronto, London, Sydney
The Clinical Goal & Impact of Data Sharing

- Fewer duplicate tests
- Better access to services as result of more effective use of technology and professional resources
- Better use of professional resources
  - Irrespective of country, skilled HC professionals are in high demand
- Quicker retrieval of results, images to facilitate comparison and treatment
- Better care team coordination, especially for specialised and rural areas
- Less intrusion on patient’s time and body
  - Reduce radiation exposure
  - Fewer needle sticks
The Financial Goal & Impact of Data Sharing

- Reduce duplicate tests
  - Every test has a labor and supply cost
- More cost effective use of professional staff that are
  - Highly skilled, expensive, and increasingly in demand
- Decrease wait times
  - Patients are happier, citizens believe they are getting more value for their HC investment
Infoway Programs: *How to Spend $1.2B?*

- **End User Adoption & Setting the Future Direction**
  - The Electronic Health Record
  - Domain Repositories & Healthcare Applications
  - Cross Program Foundation Components
  - Architecture & Standards

**Innovation & Adoption - $60M**

- **Interoperable EHR - $175M**
  - Drug Information Systems $185M
  - Laboratory Information Systems $150M
  - Diagnostic Imaging Systems $280M
  - Public Health Systems $100M
  - TeleHealth $120M

**Client, Provider & Location Registries - $134M**

- **Infostructure - $25M**

Source: Canada Health Infoway
**Progress to Date**

*Jurisdictional Progress to March 31, 2008*

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- **Complete**
- **Adoption**
- **Implementation**
- **Planning**
- **Forecast**

**Percent Deployed at March 31, 2008:** 71 29

**2008-09 Action Plans**

*Forecasted Progress to March 31, 2009*

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- **Complete**
- **Adoption**
- **Implementation**
- **Planning**
- **Forecast**

**Percent Deployed at March 31, 2009:** 76 63

**Note:**
1. “Percent Deployed” is the percent of the Canadian population covered by the solution
2. To depict both full and partial progress “Percent Deployed” is calculated as 100% of the jurisdiction population if the project is complete and 50% of the jurisdiction population if the project is in the adoption phase

Source: Canada Health Infoway
Enabling Interoperability

A Common Blueprint:

- Infoway’s electronic health record strategy is founded upon an architecture that integrates local clinical systems with jurisdiction and regional registries and repositories.
- Each of Infoway’s nine investment programs is targeted toward implementing the common architecture across Canada through a series of linked jurisdiction networks.
- The architecture serves as a national reference model to ensure that jurisdiction solutions are interoperable and Infoway’s investments are appropriate.

Source: Canada Health Infoway
EHR Infostructure: Client Registry

Jurisdictional Infostructure

Registries Data & Services
- Client Registry
- Provider Registry
- Location Registry
- Terminology Registry

Ancillary Data & Services
- Outbreak Management
- PHS Reporting

EHR Data & Services
- Shared Health Record
- Drug Information
- Diagnostic Imaging
- Laboratory

Longitudinal Record Services
- Business Rules
- EHR Index
- Message Structures
- Normalization Rules

Data Warehouse
- Health Information
- Security Mgmt. Data
- Privacy Data
- Configuration

Common Services
- Communication Bus

Point of Service
- Public Health Provider
- Pharmacist
- Radiologist
- Lab Clinician
- Physician/Provider
- EHR Viewer

Source: Canada Health Infoway
Alberta

- 4 regions for a population of 3.4 million
  - 3 urban centres
  - 1 consolidated rural
- Portal approach based on Shared Health Record
  - Netcare EHR Portal
- 4 Regional Infostructures or Health Information Exchanges (RHIE)
  - Using a provincial infostructure (PHIE) that provides access to common services for:
    - Security
    - Privacy
    - Secure access
    - Interfaces to provincial systems

Source: Canada Health Infoway
Alberta Architecture

*Hybrid Model*

![Diagram showing the Alberta Architecture Hybrid Model](image-url)
Alberta Architecture

**Hybrid Model**

- CR application data synchronized with the EMPI to facilitate merge activity and ensure proper number assignments
- Provincial Hub has all direct source systems records and a view of all regional source system records and represents the entire population
- Searches made **province-wide, regional wide and locally** to support Business functions appropriately

- Stores all the **provincial & healthcare numbers**
- Contains minimum data set for the Client Registry and additional fields

- Supports additional **synchronisation efforts and business services**
Saskatchewan

- 12 Regional Health Authorities for a population of 985,000
  - 2 urban
  - 10 rural
- 1 Infostructure
  - Building foundational capabilities such as HIAL
  - Creating change management services to support interoperability
  - Building Infostructure services for contributing Point-of-Service Applications
  - Building services for broad access (portal-based) to other providers
- Two Major Phases:
  1. Core Infostructure: (HIAL, Registries, LRS) for DI and Drug domains and consolidation of Lab results for access by all providers (1Q 2008)
  2. Migration: Existing domains to a portal environment and extension of access to new domains (1Q 2009)

Source: Canada Health Infoway
Saskatchewan Architecture

Two-tier Model

- Regional EHR Solutions (Not source systems)
- Strategic Applications
- Message Broker Suite
- Provincial Hub

- WINCIS
- ROHR
- SKTN
- SCA
- PHRS
First building block of EHR solution set, so many political, integration issues.
Privacy, data quality, and workflow issues had to be addressed initially.
CR application data synchronised with EMPI to facilitate merge activity and ensure proper number assignments.
Provincial Hub has all direct source systems records & view of all regional source systems.
Messaging layer serves to present normalised message formats from sources to the provincial environment and validates CR numbers.
Searches enabled using API calls provincial, regional and locally.
Contains minimum data set for the CR and additional fields.
High data quality post implementation with better understanding of recipients, referral pattern, fraud detection.
Interoperability south of the 49th parallel
Case Study: NHIN Prototype Awards

- July 2004 ONCHIT publishes ‘Framework for Strategic Action’
- Inform clinical practice via widespread adoption of Electronic Health Records (EHRs) and Interconnect clinicians through national and regional collaborations

NHIN Phase 1: Initiate Systems is in 4 of 4 prototypes
- Accenture
- CSC
- IBM
- Northrop Grumman

NHIN Phase 2: Initiate Systems is in 8 of 10 prototypes
- Accenture – West Virginia
- CGI - Tennessee
- CSC – New York
- IBM – North Carolina, Virginia
- MedPlus / FCG – California, New Mexico
- VA
Demonstrating Use Cases and Function is Focus of NHIN 2

- The demonstration focuses on four functions:
  - Patient lookup and information retrieval
  - Secure information routing and delivery
  - Provision of data for population health uses
  - Consumer managed access to appropriate information
  - Consumer Empowerment: Registration and Medication History

- Use Cases
  - EHR: Lab Results Reporting
  - Bio-surveillance
  - Consumer Access to Clinical Information
  - Emergency Responder EHR
  - Quality
  - Medication Management
Case Study: SHIN-NY

SHIN-NY
State Health Information Network - New York

- Connect all providers within NY State for patient data exchange
- Focused on improving patient safety, while reducing cost of care
- State funding to create regional exchanges
- Creation of State Health Information Network Architecture
- Creation of NY eHealth Collaborative for state level governance
- Access to core services provided via prescriptive protocols
- Access to MMIS data for providers

Citizens:
- 20M residents

Connected Systems
- Medicaid
- Diagnostic centers, patients (PHR),
- Managed care groups
- Physicians offices and clinics
- Hospital and IDNs
- Pharmacies
- PBMs, and public health organizations (including the CDC and NYS DOH)
New York Health Information Exchange

- Deputy Commissioner of Health Transformation Lori Evans
- HEAL Grants issued to advance adoption of HIT and data exchange
  - $52.9 Heal 1
  - $105M Heal 5
CareSpark – Central Appalachian RHIO

- Multi-State Region
- 750,000 Patients
  - (2/3 in TN, 1/3 in VA)
- 2 Large Community-Based Health Systems (16 hospitals)
- 1,200 Physicians
  - Many Rural and Smaller Practices
- No single payor dominance
  - 25% Medicare,
  - 18% Medicaid,
  - 18% uninsured
  - 2-20% Other
- Few Large Employers
  - Eastman Chemical – 7,500
Tactical Plan

Address health issues, propose to provide technical capability and encourage clinical process improvement in the following areas:

1. Medication
2. Diagnostic Services (Lab, Imaging)
3. Preventive Care (Immunisations/Screenings, Wellness)
4. Chronic Disease Management
Key Strategic Decisions

1. Enable Participation by all Patients & Providers in Region
   - Enroll Patients Thru Default Passive Enrollment (“opt-out”) with Option for Active Enrollment (“opt-in”)

2. Federated Exchange & Limited Clinical Data Repository
   - Automated solutions for consent management at encounter level

3. Control Data Access & Use
   - View content of records, view access log
   - **Provider**: Payment, treatment, operations
   - **Public health**: Required reporting and authorised queries
   - **Payers**: De-identified aggregate data
   - **Research**: IRB-approved studies

4. Fee-Based Revenue Model
   - Contracts with insurers and employers
   - Transaction fees for data providers (labs, hospitals, large practices)

5. Align with Emerging State & Federal Standards
   - IHE / HITSP standards for technical interoperability
   - AHIMA / HIMSS recommendations for protecting privacy and security
   - NCQA, AQA and other guidelines for clinical best practices
   - CMS and private payer incentives
## Similarities & Differences

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<tr>
<th><strong>Canada</strong></th>
<th><strong>United States</strong></th>
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<tbody>
<tr>
<td>‣ It’s data sharing</td>
<td>‣ It’s data exchange</td>
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<tr>
<td>‣ Client Registry</td>
<td>‣ Record Locator Service/Engine</td>
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<td>‣ Started with a master plan, funding</td>
<td>‣ Limited master plan</td>
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<tr>
<td>‣ Strong commitment to common architecture and standards</td>
<td>‣ Very limited funding-believe private enterprise will fund</td>
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<tr>
<td>‣ Privacy differences between provinces must be resolved to advance full data sharing</td>
<td>‣ Huge inequity between who finances and who reaps benefits</td>
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<td>‣ Not enough money to reach goal</td>
<td>‣ HITSP advancing standards harmonisation</td>
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<tr>
<td>‣ Significant progress being made</td>
<td>‣ CCHIT advancing vendor certification and therefore making EMR purchasing more stable for private docs</td>
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<tr>
<td>‣ Major successes in some provinces around imaging, reducing wait lists, building upon existing health authority systems</td>
<td>‣ Privacy differences between states are signification and limited progress</td>
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<td>‣ Limited success, but incremental progress seen</td>
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The End Goal

“Imagine the efficiency of a patient getting an MRI in Peterborough, but then having to be transferred to Toronto in need of more specialised care. Instead of having to repeat the test in Toronto, wasting valuable time and money and potential increasing the patient’s anxiety, the imaging is already there and available for the specialist whenever he or she wants it. It’s the future of healthcare, plain and simple.”

– Gail Peach, eHealth Program Assistant Deputy Minister eHealth Program Bulletin, April 2008
Thank You!

For Additional Information or Questions, Please Contact:

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