

Advanced Hospital Systems in the Context of eHealth Strategies

Matt Anderson

eHealth Lead, Toronto Central LHIN
VP University Health Network

University of Waterloo
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Seminar Sponsors:



Transforming Healthcare Delivery

The SIMS Partnership

Series: E-Health Strategies - Local to Global
e-Health Strategies in Ontario

Matthew Anderson

Vice-President, University Health Network
Chief Information Officer, SIMS Partnership
E-Health Lead, Toronto Central LHIN



SIMS PARTNERSHIP:

Multi-Sector

1/3 Toronto Central LHIN

Entire TC LHIN Rehab Sector

100% CCACs

Largest Canadian Hospital

Only Canadian Ambulatory Care Hospital

Central LHIN

Toronto Central LHIN

THE SIMS PARTNERSHIP



PARTNERSHIP TOTALS

Inpatient Beds	2,702
Ambulatory Visits	1,339,362
Home Rehab Visits	47,595
Homecare Referrals	48,196
Global Budget	\$1,493,700,000

Two Pronged Approach

**Build
Organization
Specific IM &
IT Capacity**

**Fully
Leveraging
Investments**

**Integrative
Projects
across the
Continuum**

Transforming Health Care Delivery

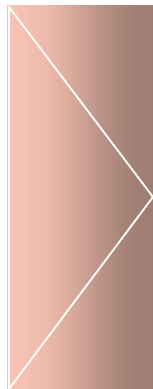
Integrated IT Strategy

Through a combination of:

System-Level
Priority
Setting

Local
Planning &
Investment

SIMS
Management



The partnership has a 3-year IT agenda that will deliver the capability to:

- ✓ Share client/patient info electronically across the partners and beyond
- ✓ Refer clients/patients between partnership completely electronically
- ✓ Redesign the patient transfer process for selected referral patterns
- ✓ Establish 2-3 chronic disease management programs
- ✓ Introduce common patient safety standards, processes and alerting infrastructure
- ✓ Standardize data collection and reporting at an organizational level
- ✓ Report on system level performance indicators to enable population based planning

A coordinated \$30 million capital investment

Healthcare in Britain

National Health Service (NHS)

NHS Gateway NHS

Accessibility | Feedback | Help

NHS Search
Enter a keyword or phrase and click "Search the NHS"

Search the NHS

All UK
 England
 Scotland
 Wales
 Northern Ireland

Select local NHS

- England
- Scotland
- Wales
- Northern Ireland

Features

National Epilepsy Week
This year's national epilepsy week theme is 'Epilepsy in later life.' Find out more about how you can help raise awareness.

Giving Up Smoking
A new campaign emphasises that giving up is the only way to protect your loved ones from the effects of smoking.

Delivering Faster Quality Care
This new report from the Department of Health outlines progress made by the Treatment Centre programme to date.

Tuning into Health
The launch of NHS Direct Interactive gives people access to health advice and information in their own homes.

Your Health

- Self Help Guide**
Your first step to getting the right treatment.
- Best Treatments**
Find out what treatments really work for a range of conditions.
- Health Encyclopaedia**
Find out more information about a condition or illness.
- NHS Direct - 0845 46 47**
A 24-hour nurse led advice service for England and Wales.
- NHS 24 - 08454 24 24 24**
In Scotland NHS 24 provides a health advice and support.

National Vegetarian Week

The week aims to challenge perceptions of vegetarianism and entice us all to try the veggie food promotions.
[Visit the National Vegetarian Week website.](#)

- Employs one million people
- Used by 99% of the British population
- 10-year, \$10 billion project to develop a nationwide e-health record (EHR) system for 50 million patients and 30,000 doctors in England

Healthcare in the United States

Health Information Technology (HIT)

“By computerizing health records, we can avoid dangerous medical mistakes, reduce costs and improve care”

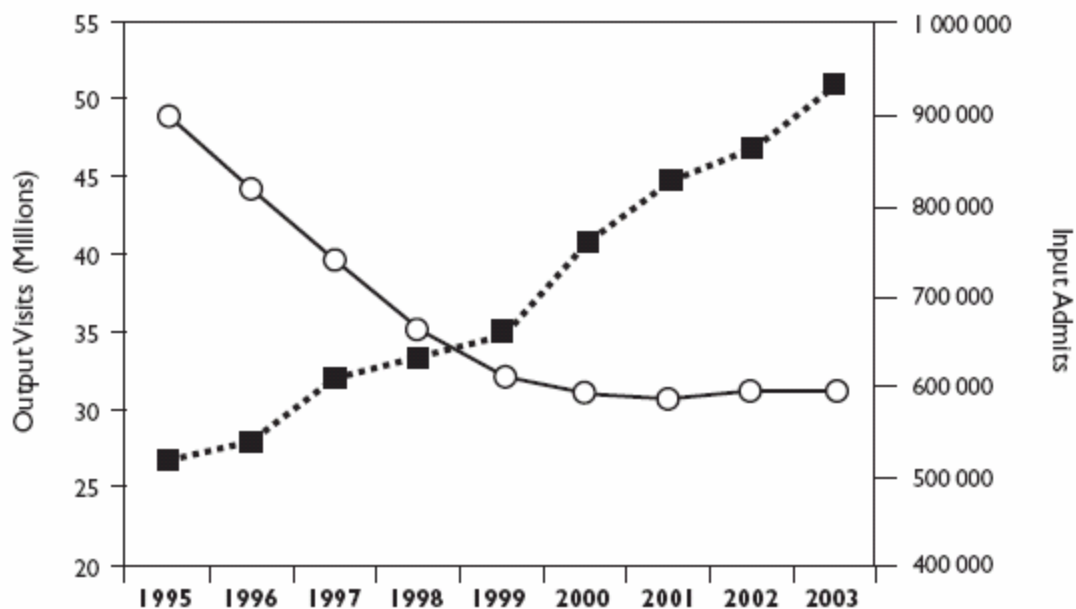
- *President George Bush, State of the Union Address, January 20, 2004*

- Mandate adoption of EHRs within 10 years
- National Coordinator for Health IT position
- \$139 million in funding of HIT-related programs
- Legislation supporting quality, safety and efficiency of health care through HIT

Healthcare in the United States

The Veteran's Health Administration

Figure 1. Decrease in Hospital Admissions (solid line) and Increase in Outpatient Visits (dashed line) in the Department of Veterans Affairs, From 1995 to 2003



- Comprehensive EHR implemented in 1,300 sites of care
- Approx. 100,000 daily users
- Key element of organizational transformation

Healthcare in Canada

Canada Health Infoway

"Electronic health records are one of the keys to modernizing the health system and improving access and outcomes for Canadians."

- *Commission on the Future of Health Care in Canada, led by Roy Romanow*

- Developing nation-wide electronic health information systems
- \$1.1 billion in investment capital
- 2010: Basic elements for EHR in place in half of all Canadian jurisdictions

Healthcare in Canada

B.C. PharmaNet



- Network linking all pharmacies for drug dispensing, drug monitoring and claims processing
- 28 million claims processed annually
- Financial impact of >\$690 million

Healthcare in Canada

Edmonton Capital Health



- First region-wide, integrated electronic health record system
- Links 2,000 doctors, hospitals and home care providers
- 1.6 million patients
- Cost \$8 million (US)
- 64% of users logged in the first six months

Healthcare in Canada

Northeastern Ontario Network



- Shared information system among eight NEON partners
- Servicing more than 600,000 residents across northeastern Ontario
- Provide clinicians and staff with an electronic patient record showing relevant patient data from all NEON sites

Healthcare in Canada

Toronto - University Health Network

UHN EPR Users	
Physicians	1,900
Physicians (Limited)	500
Nursing	3,190
Clinical Admin	1,300
Allied Health	850
TOTAL	7,740

- More than 2.9 million patient records
- Daily peak usage >600 users
- Full EHR, including Meds, Labs, Images, Alerts and Scanned Documentation

Healthcare in Canada

Montréal Hospital Organizations

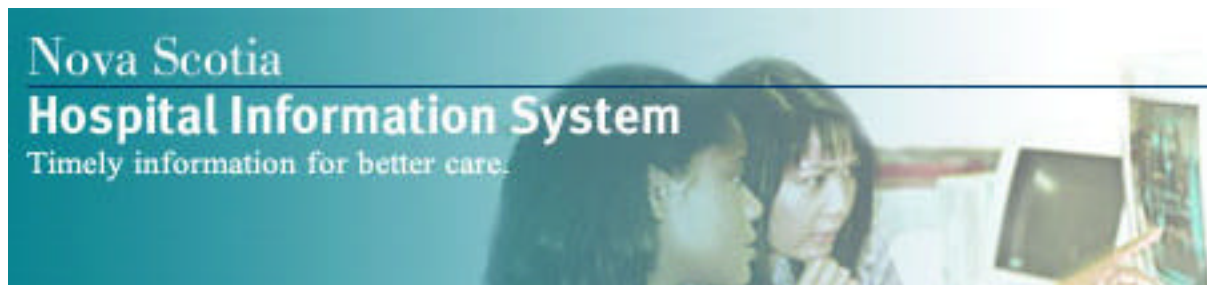
- Network of eight hospitals developing EHR
- Investing \$60 million in information systems
- Managing more than 2,800 beds, 80,000 inpatient stays and more than 1.6 million outpatient visits annually
- EHR includes built-in drug prescription/alerts



Healthcare in Canada

Nova Scotia

- First province to implement a single-integrated hospital information system
- Winter 2005/2006 in 34 hospitals across eight different districts
- Supports more than 6,000 staff province-wide
- First step towards provincial electronic health record (EHR)



Major Drivers

Chronic
Disease
Management

Organizational
Performance &
Funding

Electronic
Health
Record

Access &
System
Performance



Standard of Care



Misys Insight™

Home HelpInfo Logout

Subscriber: HARRISO

Facility: All Facilities

Patient: [All my patients]

Time Period: Last 10 Hours

Alert Class: [All alert classes]

Rate: [All my rates]

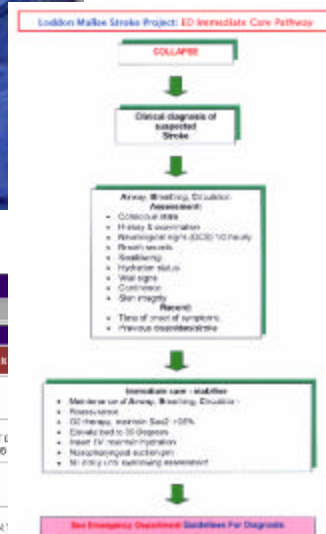
Set By: [Delivery Time] Submit

Save These Selections

Last viewed: 2004 10 05 09 AM

NOTE: Only the 1000 Alerts will be displayed.

Delivered	Patient Clinic / Room / Bed	Alert / Result
2004 03 27 22 PM		Patient admitted 2004 03 07 00 PM
2004 03 21 51 PM		Chem 7 Panel GLUCOSE IMPROVED TO 261 BY OF AT 1 SODIUM 142 POTASSIUM 4.2 chloride 100
2004 03 20 30 PM		Patient admitted 2004 03 03 00 PM
2004 03 20 27 PM		Chem 7 Panel GLUCOSE 132 BLOOD UREA NITROGEN POTASSIUM 4.1 chloride 95 2004 03
2004 03 20 02 PM		Patient admitted 2004 03 08 00 PM
2004 03 20 34 PM		Chem 7 Panel GLUCOSE 101 BUN 14 CREATININE 0.6 SODIUM 136 POTASSIUM 4 chloride 103 CO2 28 2004 12 10 00 PM
2004 03 17 13 PM		Chem 7 Panel GLUCOSE 100 BUN 26 CREATININE 0.6 SODIUM 136 POTASSIUM 3.8 chloride 103 CO2 33 2004 02 20 00 PM
2004 03 09 51 PM		Chem 7 Panel GLUCOSE 101 BLOOD UREA NITROGEN 20 CREATININE 0.9 SODIUM 137 POTASSIUM 3.8 chloride 101 2004 02 15 00 PM

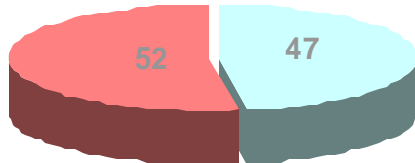


- Physician and patient access from anywhere
- Complete history available regardless of data location
- Best practice e-protocols and alerts
- Communication from home to hospital

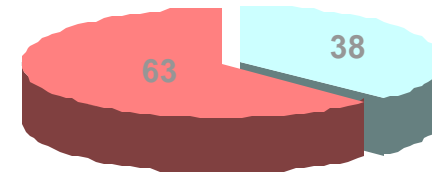
Chronic Disease Management

40% of 20-39 year olds suffer from chronic diseases

Percentage of Total Physician Consultations for people 20-39 with 1 or more Chronic Diseases

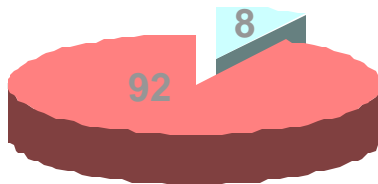


Percentage of Total Hospital Days utilized by people 20-39 with 1 or more Chronic Diseases

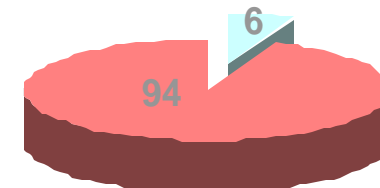


80% of 60-79 year olds suffer from chronic diseases

Percentage of Total Physician Consultations for people 60-79 with 1 or more Chronic Diseases



Percentage of Total Hospital Days utilized by people 60-79 with 1 or more Chronic Diseases



Patient Safety – CPOE

“Hospital errors kill thousands in Canada, study estimates”

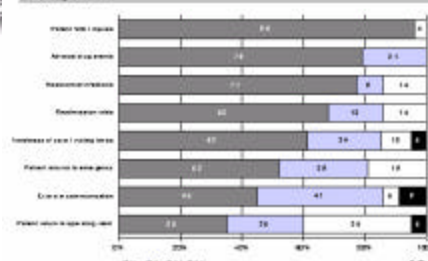
The Globe and Mail: May 24, 2004



Figure 1.

QUESTION 7: HEALTHCARE FACILITIES

Does Your Organization Routinely Collect Data of Adverse Events in the Following Areas?



*It should be noted that the sample size is 25; the percentages reflect the number in the sample.

- Physicians order medications, labs, imaging and diagnostic tests online
- According to the KLAS report CPOE is being used at just **2.7%** of U.S. hospitals
- CPOE is being used "actively" at **1.2-1.8%** of U.S. hospitals (i.e. MD enters >50%)

Telehealth

The use of videoconferencing to facilitate clinical consultations and educational events



To address barriers to access:

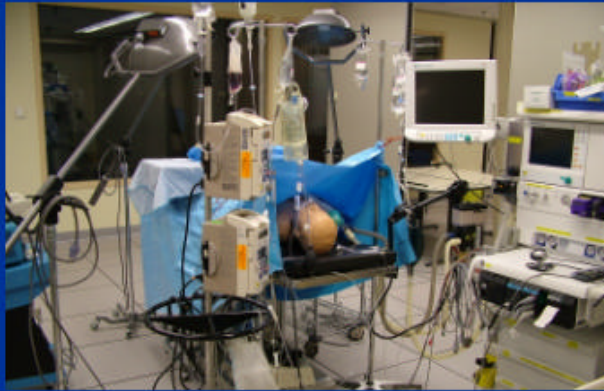
- Distance and Geographical Isolation
- Weather Conditions
- Cost

Telehealth

- Allows clinicians to consult with patients remotely
- Enables sharing of complex-care information with remote areas that may not otherwise have access to specialized resources



Centre for Global eHealth Innovation Lab



Purpose: “the conceptualization, design, development, application and evaluation of new ways of using existing or emerging information communication technologies”



Transforming Health Care Delivery

Patients have

- **Online Access to test results**
 - Including timely information on the relevance and meaning of the results
- **Chronic Disease patients are supported at the outset of their disease, prior to critical events**
- **Access from home to reliable comprehensive care**
 - At a minimum - have broadband capability for visual access to care providers
 - Ideally - have 2 way videoconferencing capabilities with their care providers
- **Family Support systems allowing patients to share information in an interactive manner with their loved ones**
- **All their health information automatically accessible to care providers**
 - Avoiding lengthy admission assessments, duplicate testing, complications from lack of information (ex. Allergies, medication history)

Transforming Health Care Delivery

System Efficiencies allow

- **Emergency Rooms access & availability for those who truly need emergency care**
- **Minimal ER & Surgery wait times and appropriate wait times for interventions**
- **The ability to review performance data on practitioners and providers**
 - Ability for patients to schedule their course of care including their surgeon, preferred rehab facility and community care center
 - Information from all care points is automatically sent to your family doctor
- **Management of Critical Care resources are aligned with healthcare needs**
 - Surge capacity planning and preparation
 - Balancing surgery wait times across Ontario centers

Measuring Transforming Health Care Delivery

SIMS Partnership Scorecard - Quadrants & Indicators

Patient Safety & Outcomes

This dimension assesses the extent to which the SIMS partnership promotes and enables improvement in patient safety and health outcomes.

[UHN MOE/MAR* - Medication Incidents](#)

[UHN MOE/MAR* - Number of Alerts \(DQ issue being addressed\)](#)

[Registries - % of Diabetics Enrolled in Registry](#)

[Infection Control - % of Transfer Patients Flagged \(e.g. MRSA, VRE, TB\)](#)

[ER Notification - ER Readmission Rates](#)

Access to Integrated Care

This dimension assesses the transitions and integration across the continuum of care, between different sectors within the SIMS partnership, while maintaining a focus on safety, quality, and access to health care services.

[Acute ALC days](#)

[ER Notification^ - Acute Patient Referrals to Toronto CCAC](#)

[MOHLTC - UHN Hip & Knee Surgical Wait Times](#)

[eReferral - Number of Arthroplasty eReferrals](#)

[Patient Results Online \(PRO\) - Number of Reports Accessed](#)

[HAPS - UHN Propensity of Post Acute Discharge to Home Care](#)

[RIS & PACS - Report turnaround times](#)

[Patient Satisfaction - Common question on SIMS Partner tools](#)

[Patient Portal](#)

[Clients Awaiting Placement \(CCACs\)](#)

Accountability & Sustainability

This dimension assesses the extent to which the SIMS partnership is accountable for demonstrating outcomes for the resources received, optimizes use of scarce and unique IT resources, and leverages critical mass.

[West Park Misys ADT# - Decrease in Manual Data Collection](#)

[HAA - Total Margin](#)

[Percentage IT Expenditures](#)

[Flexible Workforce - % of staff working at more than one partner site](#)

[SIMS Staff Satisfaction](#)

[Cost savings related to reduction in manual processes](#)

IT Integration

This dimension assesses the extent to which the SIMS partnership drives the sharing of strategic information management (IM) expertise and resources, and the success of moving toward a single IM group that provides strategic IM leadership for all partners.

[Number of Applications to Site Installs](#)

[Integration of SIMS Services & Committees](#)

[Number of Integrative Projects across the Partnership](#)

[ER Notification - Number of Implementations across Ontario](#)

[SIMS Partner Satisfaction - CEO/VP Survey](#)

Closing Thoughts

“If things seem under control,
you're just not going fast enough.”

- Mario Andretti

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