



PCISS and the EHR

Roger Girard
CIO, Manitoba eHealth Program

May 30, 2008



WHAT IS eHEALTH?

What is eHealth?

- eHealth is about providing the right information at the right time to the right people so that:
 - People and their families have access to the information they need to maintain their health and to access the services they require
 - Providers are able to provide high quality services
 - Health system administrators can ensure the sustainability and accountability of the System

Bottom-Line: eHealth is about Health

Why is eHealth so important?

- If we cannot imagine banks without ATMs and airlines without self-serve kiosks, then it should not be too difficult to imagine why:
 - A radiologist should be able to read an image from anywhere, at anytime, with access to all the relevant priors...
 - A physician should be able to place a (legible) medical order without having to write it down on paper...
 - A physician should receive a drug contra-indication automatically upon placing an order...
 - A home-care worker should be able to coordinate her schedule in real time...
 - A patient in Dauphin should be able to consult a specialist in Winnipeg without having to drive 3 hours each way...
 - Our managers should know where to deploy their resources where they will have the greatest impact...

**The real question should be:
...why is this taking so long?**




WHAT IS THE MANITOBA eHEALTH STRATEGY?

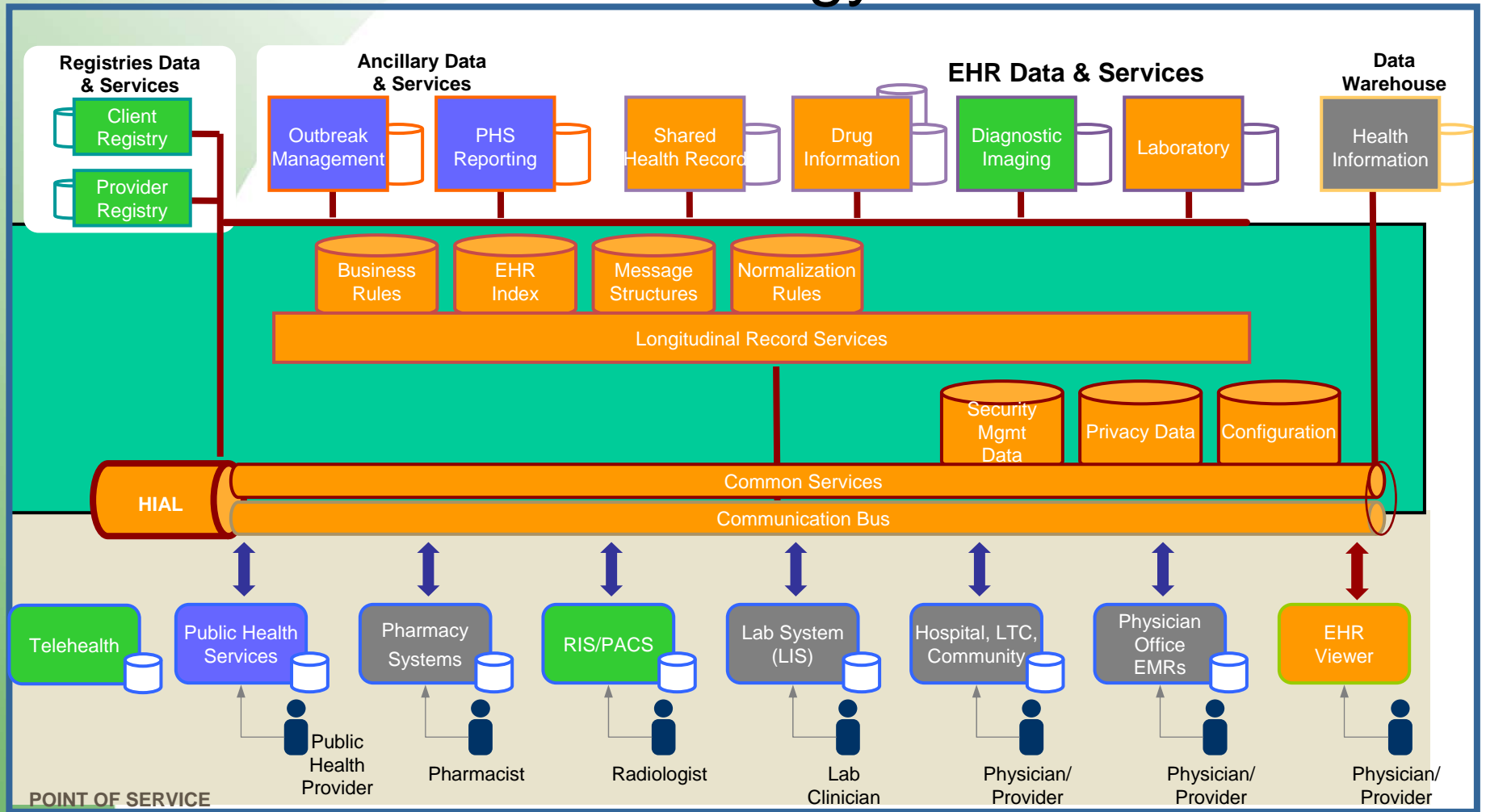
What is Manitoba's eHealth Strategy?

- ➊ Our strategy is based on collaboration:
 - In Manitoba: with all parties, RHAs, DSM, CCM, AFM, with providers and their colleges and associations, to deliver on our shared vision
 - In Canada: with all jurisdictions, through Canada Health Infoway, to leverage funding sources and lessons learned

An example of an Electronic Healthcare Record - patient information from many different systems being displayed to a provider

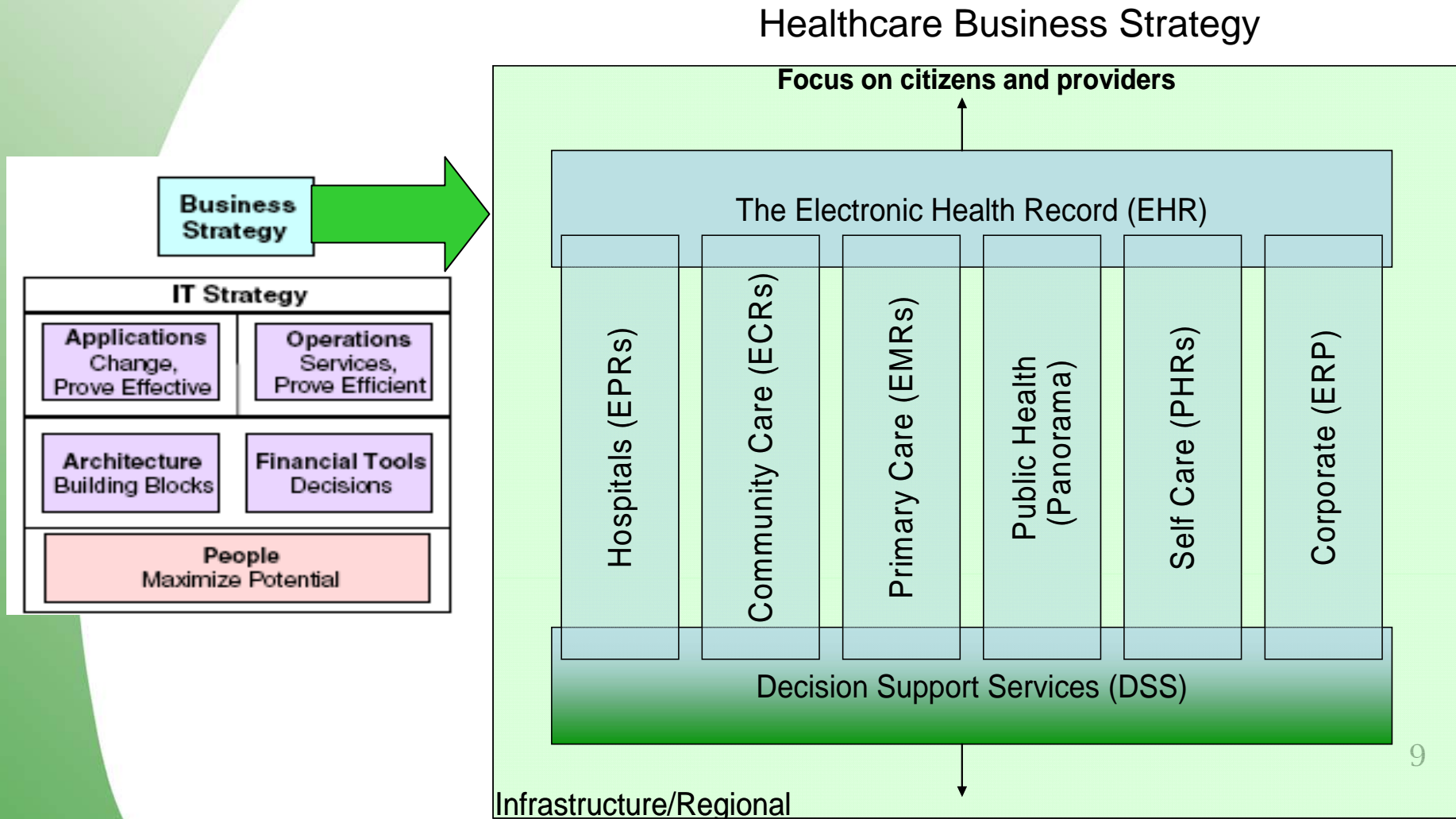
<ul style="list-style-type: none"> • Help • Logout 	<p>Patient Details</p>  <p>1</p> <p>GME0000 Smith, Caroline</p> <p>Phone: 204-277-2987 14 Health Road Manitoba, MB R2T 3E4</p> <p>DOB: 1940/01/01 Next of kin: John Smith</p>	<p>GP Details</p> <p>Name: Jones, Evans Phone: 333-465-5545 Address: 11 Terrence Ave., Edmonton, AB T4Y 8U9</p> <p>2</p>																																																																						
<p>Patient Record</p> <ul style="list-style-type: none"> • Summary • Lab Results • Diagnostic Images • Details • Notes or Comments <p>3</p>	<p>Alerts</p> <p>4</p> <p>Allergies – Sulfa Drugs</p> <ul style="list-style-type: none"> • Pap smear due • Td due • A1C above target 	<p>Other Healthcare Providers</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Disp.</th> <th>Last Encounter</th> <th>Next encounter</th> <th>Right of Access</th> </tr> </thead> <tbody> <tr> <td>Diaz, Ellen</td> <td>Cardiology</td> <td>01/2006</td> <td>07/2006</td> <td>Y</td> </tr> <tr> <td>Fournier, Janice</td> <td>RN</td> <td>08/2005</td> <td></td> <td>N</td> </tr> <tr> <td>Cohen, Richard</td> <td>Dermatology</td> <td>07/2005</td> <td>N</td> <td></td> </tr> </tbody> </table>	Name	Disp.	Last Encounter	Next encounter	Right of Access	Diaz, Ellen	Cardiology	01/2006	07/2006	Y	Fournier, Janice	RN	08/2005		N	Cohen, Richard	Dermatology	07/2005	N																																																			
Name	Disp.	Last Encounter	Next encounter	Right of Access																																																																				
Diaz, Ellen	Cardiology	01/2006	07/2006	Y																																																																				
Fournier, Janice	RN	08/2005		N																																																																				
Cohen, Richard	Dermatology	07/2005	N																																																																					
	<p>6</p> <table border="1"> <thead> <tr> <th>Diagnosis</th> <th>Date</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Hypertension</td> <td>11/1989</td> <td>Ongoing</td> </tr> <tr> <td>Diabetes</td> <td>05/1996</td> <td>Ongoing</td> </tr> <tr> <td>Coronary Artery Disease</td> <td>02/2002</td> <td>Ongoing</td> </tr> <tr> <td>Fasting lipids</td> <td>12/2005</td> <td></td> </tr> <tr> <td>Exercise stress test</td> <td>1/2005</td> <td></td> </tr> <tr> <td>Coronary angiogram /</td> <td></td> <td></td> </tr> <tr> <td>Cellulitis</td> <td>02/2005</td> <td>Resolved</td> </tr> <tr> <td>Cholecystectomy</td> <td>05/1981</td> <td>Resolved</td> </tr> <tr> <td>Cesarian section</td> <td>01/1967</td> <td>Resolved</td> </tr> </tbody> </table>	Diagnosis	Date	Status	Hypertension	11/1989	Ongoing	Diabetes	05/1996	Ongoing	Coronary Artery Disease	02/2002	Ongoing	Fasting lipids	12/2005		Exercise stress test	1/2005		Coronary angiogram /			Cellulitis	02/2005	Resolved	Cholecystectomy	05/1981	Resolved	Cesarian section	01/1967	Resolved	<p>5</p> <p>Medications</p> <table border="1"> <thead> <tr> <th>Date</th> <th>Medications</th> <th>Prescriptions</th> <th>Last Filled</th> </tr> </thead> <tbody> <tr> <td>11/1989</td> <td>Hydrochlorothiazide 25 mg</td> <td>One tab at breakfast</td> <td>12/2005</td> </tr> <tr> <td>03/1999</td> <td>Glyburide 5 mg</td> <td>One tab twice daily</td> <td>12/2005</td> </tr> <tr> <td>01/2001</td> <td>Metformin 500 mg</td> <td>Two tabs twice daily</td> <td>12/2005</td> </tr> <tr> <td>03/2001</td> <td>Atorvastatin 20 mg</td> <td>One tab at supper</td> <td>12/2005</td> </tr> <tr> <td>02/2002</td> <td>Atenolol 50 mg</td> <td>One tab at breakfast</td> <td>12/2005</td> </tr> <tr> <td>02/2002</td> <td>ECASA 325 mg</td> <td>One tab at breakfast</td> <td>12/2005</td> </tr> <tr> <td>02/2006</td> <td>Ramipril 10mg</td> <td>One tab at supper</td> <td>02/2006</td> </tr> <tr> <td>06/2005</td> <td>Cloxacillin 500 mg</td> <td>Discontinued</td> <td></td> </tr> <tr> <td>05/2004</td> <td>Beclomethasone Cream</td> <td>Discontinued</td> <td></td> </tr> </tbody> </table>	Date	Medications	Prescriptions	Last Filled	11/1989	Hydrochlorothiazide 25 mg	One tab at breakfast	12/2005	03/1999	Glyburide 5 mg	One tab twice daily	12/2005	01/2001	Metformin 500 mg	Two tabs twice daily	12/2005	03/2001	Atorvastatin 20 mg	One tab at supper	12/2005	02/2002	Atenolol 50 mg	One tab at breakfast	12/2005	02/2002	ECASA 325 mg	One tab at breakfast	12/2005	02/2006	Ramipril 10mg	One tab at supper	02/2006	06/2005	Cloxacillin 500 mg	Discontinued		05/2004	Beclomethasone Cream	Discontinued	
Diagnosis	Date	Status																																																																						
Hypertension	11/1989	Ongoing																																																																						
Diabetes	05/1996	Ongoing																																																																						
Coronary Artery Disease	02/2002	Ongoing																																																																						
Fasting lipids	12/2005																																																																							
Exercise stress test	1/2005																																																																							
Coronary angiogram /																																																																								
Cellulitis	02/2005	Resolved																																																																						
Cholecystectomy	05/1981	Resolved																																																																						
Cesarian section	01/1967	Resolved																																																																						
Date	Medications	Prescriptions	Last Filled																																																																					
11/1989	Hydrochlorothiazide 25 mg	One tab at breakfast	12/2005																																																																					
03/1999	Glyburide 5 mg	One tab twice daily	12/2005																																																																					
01/2001	Metformin 500 mg	Two tabs twice daily	12/2005																																																																					
03/2001	Atorvastatin 20 mg	One tab at supper	12/2005																																																																					
02/2002	Atenolol 50 mg	One tab at breakfast	12/2005																																																																					
02/2002	ECASA 325 mg	One tab at breakfast	12/2005																																																																					
02/2006	Ramipril 10mg	One tab at supper	02/2006																																																																					
06/2005	Cloxacillin 500 mg	Discontinued																																																																						
05/2004	Beclomethasone Cream	Discontinued																																																																						
		<p>7</p> <p>Encounter History</p> <table border="1"> <thead> <tr> <th>Date</th> <th>Facility</th> <th>Speciality</th> <th>Clinician</th> <th>Reason</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>02/2006</td> <td>GP</td> <td></td> <td></td> <td>Hypertension</td> <td>-</td> </tr> <tr> <td>01/2006</td> <td>Cardio Assoc</td> <td>Cardiology</td> <td>Diaz, E.</td> <td>CAD</td> <td>Outpatient</td> </tr> <tr> <td>12/2005</td> <td>GP</td> <td></td> <td></td> <td>Diabetes</td> <td>-</td> </tr> <tr> <td>10/2005</td> <td>General Hosp</td> <td>Dietician</td> <td>Johnson, H.</td> <td>Diabetes teaching</td> <td>Outpatient</td> </tr> <tr> <td>08/2005</td> <td>GP</td> <td></td> <td></td> <td>Diabetes</td> <td>-</td> </tr> <tr> <td>08/2005</td> <td>GP</td> <td></td> <td></td> <td>Cellulitis</td> <td>-</td> </tr> <tr> <td>08/2005</td> <td>Home Visit</td> <td>RN</td> <td>Fournier, J.</td> <td>Cellulitis</td> <td>-</td> </tr> <tr> <td>08/2005</td> <td>GP</td> <td></td> <td></td> <td>Cellulitis</td> <td>-</td> </tr> <tr> <td>07/2005</td> <td>Polyclinic</td> <td>Dermatology</td> <td>Cohen, R.</td> <td>Stasis dermatitis</td> <td>Outpatient</td> </tr> </tbody> </table>	Date	Facility	Speciality	Clinician	Reason	Type	02/2006	GP			Hypertension	-	01/2006	Cardio Assoc	Cardiology	Diaz, E.	CAD	Outpatient	12/2005	GP			Diabetes	-	10/2005	General Hosp	Dietician	Johnson, H.	Diabetes teaching	Outpatient	08/2005	GP			Diabetes	-	08/2005	GP			Cellulitis	-	08/2005	Home Visit	RN	Fournier, J.	Cellulitis	-	08/2005	GP			Cellulitis	-	07/2005	Polyclinic	Dermatology	Cohen, R.	Stasis dermatitis	Outpatient										
Date	Facility	Speciality	Clinician	Reason	Type																																																																			
02/2006	GP			Hypertension	-																																																																			
01/2006	Cardio Assoc	Cardiology	Diaz, E.	CAD	Outpatient																																																																			
12/2005	GP			Diabetes	-																																																																			
10/2005	General Hosp	Dietician	Johnson, H.	Diabetes teaching	Outpatient																																																																			
08/2005	GP			Diabetes	-																																																																			
08/2005	GP			Cellulitis	-																																																																			
08/2005	Home Visit	RN	Fournier, J.	Cellulitis	-																																																																			
08/2005	GP			Cellulitis	-																																																																			
07/2005	Polyclinic	Dermatology	Cohen, R.	Stasis dermatitis	Outpatient																																																																			
		<p>8</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Most Recent</th> <th>Number Received</th> </tr> </thead> <tbody> <tr> <td>Influenza</td> <td>11/2005</td> <td>7</td> </tr> <tr> <td>Pneumovax</td> <td>03/2005</td> <td>1</td> </tr> <tr> <td>Twinrix</td> <td>08/2002</td> <td>3</td> </tr> <tr> <td>Td</td> <td>04/1996</td> <td>1</td> </tr> </tbody> </table> <p>9</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Value</th> <th>Most Recent</th> </tr> </thead> <tbody> <tr> <td>A1C</td> <td>0.071</td> <td>12/2005</td> </tr> <tr> <td>LDL</td> <td>2.41</td> <td>12/2005</td> </tr> <tr> <td>BP</td> <td>135/75</td> <td>02/2006</td> </tr> <tr> <td>Urine Microalb</td> <td>0.02</td> <td>08/2005</td> </tr> <tr> <td>Eye Exam</td> <td></td> <td>05/2005</td> </tr> <tr> <td>Home Gluc (average)</td> <td>7.4</td> <td>01/2006</td> </tr> </tbody> </table>	Type	Most Recent	Number Received	Influenza	11/2005	7	Pneumovax	03/2005	1	Twinrix	08/2002	3	Td	04/1996	1	Type	Value	Most Recent	A1C	0.071	12/2005	LDL	2.41	12/2005	BP	135/75	02/2006	Urine Microalb	0.02	08/2005	Eye Exam		05/2005	Home Gluc (average)	7.4	01/2006																																		
Type	Most Recent	Number Received																																																																						
Influenza	11/2005	7																																																																						
Pneumovax	03/2005	1																																																																						
Twinrix	08/2002	3																																																																						
Td	04/1996	1																																																																						
Type	Value	Most Recent																																																																						
A1C	0.071	12/2005																																																																						
LDL	2.41	12/2005																																																																						
BP	135/75	02/2006																																																																						
Urine Microalb	0.02	08/2005																																																																						
Eye Exam		05/2005																																																																						
Home Gluc (average)	7.4	01/2006																																																																						

The Infoway Blueprint for the EHR is a cornerstone of our strategy



- Manitoba approved and Infoway funded for implementation
- Manitoba funding pending, Infoway approved
- Future Manitoba / Infoway projects
- Infoway does not fund

The Business Strategy may be represented as a series of interlocking business-focused strategies that cover the entire health system.



The Electronic Health Record (EHR) Strategy

- Goal: the EHR is the means for information sharing about clients between providers. The EHR is based on a “thin and broad” strategy
- Strategies:
 - Implement the Infoway Roadmap
 - Client Registry: in place, based on Initiate
 - Provider Registry: in place, WHIC PRS product
 - iEHR: RFQ underway to provide HIAL, Viewer, Gen 2 Lab, Gen 2 Drugs, Gen 2 SHR
 - DI Domain: RIS/PACS project underway
- To be determined
 - Location Registry
 - Gen 3 capabilities (e.g. ePrescribing)
 - Wait Times / Access to care

The Decision Support (DSS) Strategy

- ④ Goal: provide information in support of decision-making by stewards, managers, planners, researchers, etc.
- ④ Strategies:
 - Secondary Data Use conference (March 2008)
 - Architecture being developed by eHealth
 - Capacity building within eHealth to attempt to rationalize data marts
 - Opportunistic development building data marts where required
- ④ To be determined
 - Formal DSS/BI strategy
 - Measure and report on eHealth readiness

The Primary Care EMR Strategy

Goals:

- all physicians in Manitoba have access to an Electronic Medical Records, and most are using one as their main documentation and communications tool
- all RHA-operated primary care clinics have implemented a comprehensive EMR

Strategies:

➤ PCISS:

- Selection of an Approved Products List (APL) for EMRs
 - Locally-hosted and ASP-based
- Each RHA to decide on a local standard
 - Consider leveraging RHA implementations into smaller sites

➤ PCISS Support program:

- Assist physicians and RHAs with local implementations

➤ Integration:

- Vendors on APL will be expected to integrate their products with the iEHR
- Such vendors can expect to receive assistance and support

To be determined

- Possible hosting and networking support
- Possible leverage as RHAs make local decisions
- ...

The Infrastructure Strategy will include the other needed components from columns 1, 2, 4, 5, and 6 of the ***Manitoba eHealth Capability Framework***

	Equip and Connect (1)	Support (2)	Applications (3)	Enabling Services (4)	Communicate and Collaborate (5)	Knowledge Mgmt (6)	Emerging Services (7)
Services	<ul style="list-style-type: none"> • Equip Stakeholders with end user devices • Network Services • Communication services 	<ul style="list-style-type: none"> • Business and Technical support • Manage IT assets and services 	<ul style="list-style-type: none"> • Business and clinical process automation 	<ul style="list-style-type: none"> • Security Mgmt • Interface Services • Consent Mgmt 	<ul style="list-style-type: none"> • Integrate communications with applications • Collaborate across virtual teams 	<ul style="list-style-type: none"> • Information Management • Gain Learning and Knowledge 	<ul style="list-style-type: none"> • Sharing Information to improve patient safety and outcomes
Examples	<ul style="list-style-type: none"> • Personal / Mobile Computing • Office Tools • LAN / WAN • Internet • Phone and email 	<ul style="list-style-type: none"> • Service Desk • Tier 2/3 Support • Service Catalog • Data Centers • Ops mgmt 	<ul style="list-style-type: none"> • Point of Service Clinical Apps • Business Apps 	<ul style="list-style-type: none"> • User Identity mgmt and provision • VPN • HIAL / Messaging / Web Srvs • Registries 	<ul style="list-style-type: none"> • Presence • IP voice and application integration • Shared Team Sites • Portals / Web Sites 	<ul style="list-style-type: none"> • Decision Support Tools • Information Warehouse • E-Learn, Classroom • Certify and Accredited 	<ul style="list-style-type: none"> • EHR • Patient Access • Chronic Disease • Public Health • Patient Service

The Infrastructure Strategy

- Goal: implement a sustainable and responsive core infrastructure in support of ehealth initiatives
- Equip and Connect
 - Implement Readiness Framework: measure and manage eHealth readiness
 - Mobility strategy
 - Desktop acquisition and refresh strategy
 - Connect: work with Province to implement Manitoba Network
- Support
 - Policies / Standards (ITIL, Prince2, etc)
 - Hosting: leverage eHealth PDC and SDC Data Centres
- Enabling Services
 - VPN
 - High availability framework
 - Business continuity planning
- Communicate and Collaborate
 - eMail services (Outlook)
 - Sharepoint
- Manitoba Telehealth
 - Strategy in place and implemented
- To be determined:
 - Knowledge Management/portals/e-publishing
 - Learning Management Systems (LMS)

How do you get involved?

Contact us

Roger Girard

CIO, Manitoba eHealth Program

204-940-1991

RGirard@Manitoba-eHealth.ca