# AMC eHealth

- **MFNs Regional eHealth Workshops** – annual
- **MFNs Interim eHealth Advisory Group**
- **Health & Social Portal**
- **Mustimuhw cEMR Phase I – II - III**
- **AFN National eHealth Advisory Committee & AFN Broadband Working Group**
- **Regional TeleHealth Partnership**
- **Manitoba eHealth and the deployment of eCHART Manitoba**
- **Panorama**
- **National eHealth Training Pilot Project proposal**
- **MFNs ICT Inventory & Health Human Resource Inventory**
- **MFNs Technology Council**
  - Building the MFNs Network
  - Technology Development
  - Youth ICT
- **MFNs Information & Communication Technologies Training Initiatives Inc.**
Manitoba First Nations (MFNs)

- 63 FNs in Manitoba
- 125,000 plus registered MFN members
- 62% live on reserve
- 60% are under 30 yrs
- 6 of the 20 largest First Nation communities in Canada are located in Manitoba
- 7 Tribal Councils + 8 Independent FNs
50% (32) of Manitoba First Nations are northern &/or isolated communities

36% (23) are not accessible by all-weather roads
Passed by the Executive Council of Chiefs: March 22, 2012, at Brokenhead Ojibway Nation

- eHealth Governance & Long Term Strategy Workshops 2007-2011

Overall Goals

- Define & prioritize long & short term objectives for eHealth
- Use eHealth infostructures to help provide better patient care
- High-speed Industrial Strength Connectivity by 2013
- Communication Networks & Training
- MFNs Technology Council
MFNs eHealth Long Term Strategy

• Amending to include additional components on:
  – Training Initiatives & the Information & Communication Technology (ICT) Capacity Development Strategy
  – Privacy, Security & Risk Assessments
  – Standards Development
MFN Technology Council Committees

1. Building the MFNs Network
   • Review of draft Connectivity Plan

2. Youth ICT Committee
   • Meetings to be held using web video conferencing & online

3. Technology Development Committee
   • Tribal Councils (TCs) / Independents appoint members
   • Technology Plan & ICT Capacity Development Strategy
Our Youth are Our Future
ICT Training Projects

- MFNs ICT Training Initiatives Incorporated (MFNICTTII)
  - 2M HRSDC funded project – graduated 44 students

- MFNs eHealth-ICT Training Proposal
  - Builds off of the MFNICTTII
MFN Connectivity Plan Proposal

- Final Version to be endorsed by the Executive Council of Chiefs to negotiate with AANDC & other partners for funding
  - Chiefs Task Force on Health (CTFoH) → Executive Council of Chiefs (ECC) → Chiefs in Assembly (CiA) → ECC
Health Human Resource Inventory

• Builds off of 2009-2010 ICT Equipment & Services Inventory
• Inventory of:
  – Population, TC/Independent Affiliation, Contact Info
  – Health Services locations
  – Positions / # / name / designations / contact info / FTE / Facility / Other

• Electronic Medical Record (eMR) / community eMR (cEMR) Readiness
  – Projected # of users
  – Work in hardware / network info
Telehealth

• 36 FN sites to date; 6 in progress; 4 pending
• Strategic plan being developed
• FNIHB funds MB Telehealth for deployment & management; AMC for Coordination role; BCN for infrastructure, build & maintenance
Telehealth
Brazil Delegation Visits Canada

• Manitoba (Winnipeg [AMC], Northern MB [Cross Lake Band of Indians - CLBOI]), Ontario (FN, Ottawa [AFN, FNIHB])
• CLBOI – Highest usage of telehealth amongst MFNs
Panorama

• public health electronic clinical record and information management system used to improve disease prevention and reduce the impact of communicable diseases in Manitoba.

• Manitoba eHealth is leading the public health surveillance project, AMC is a key partner along with FNIHB, Manitoba Health

• Project launch June 2013 – letters sent to communities by AMC

• Complete provincial wide deployment expected by 2016

• AMC subject matter experts on working groups – Public Health Advisory, Information Sharing and Protection, Jurisdictional and Organizational and Benefits Evaluation. Orientation sessions have been attended.

• Working on training options for FN communities.
AMC Participation in Panorama

- Panorama Project Deployment for FNs Terms of reference and initial Project Charter presented to CTFoH previously

- Initial draft of a Data Sharing Agreement document based on AFNs framework

- Panorama added to the MFNs eHLTS

- AMC/MFNs representation on Panorama Steering Committee; national joint First Nations/provincial/FNIHB Panorama Deployment Information Sharing Group (PDISG); Development of First Nations-FNIHB Panorama

- Implementation Plan for Deployment
  - Worked with FNIHB & all partners for MFNs involvement in Panorama deployment.
  - BC, Ontario, Quebec, Saskatchewan underway working with FN
eChart Manitoba

http://www.connectedcare.ca/echartmanitoba/

• Began in 2012 throughout the RHAs
• Letter to all RHAs inviting further applications for regional locations
• eChart provides view only information on:
  • Patient demographics
  • Dispensed prescription medication
  • Immunizations
  • Lab results
  • Diagnostic imaging
  • Encounter information (EPR)
• MFNs deployments underway
  • eChart is live in 22 MFNs with several more in progress
  • Hired an Implementation Coordinator responsible for MFNs that can assist with technical issues
Approximately 65-75 locations in total will be included:
- 37 Health Centres
- 8 Health Offices
- 22 Nursing Stations
- 4 Provincial Nursing Stations
- 2 Hospitals

As of June 14, 2013 – Live in 241 locations across Manitoba
First “FN sites” to be deployed were Health Canada locations – 20 nursing stations + 2 Federal hospitals
eChart Manitoba

• Goal: eChart will be available to all healthcare providers delivering healthcare services (e.g. direct patient care) within MFN communities by March 2015

• No local infrastructure install but secure connection to web-based application is required
  – Connectivity is the responsibility of FNIHB and community to address

• Offer 1 community visit; however intention is to deploy by leveraging virtual implementation

• System Use Agreements required with “employing organizations” such as FNIHB, NMU and participating First Nation
  – Must be signed by all health service delivery organizations requesting access to the eChart Manitoba Viewer
    • Agreements signed with FNIHB, AMDOCS, NMU, FNs (Chief & Council)
FNIHB National eHealth Evaluation

• In general, eHealth has been well received by patients and health care providers.
  – High support for cEMR, citing FNs leadership & alignment with OCAP data collection principles as strong selling points.

• Participants strongly emphasized the mental, physical, and financial costs of travelling outside the community for healthcare.
  – Telehealth & other eHealth services alleviate these stresses & improved community stability.

• Factors identified as having the potential to dramatically improve return on investment included:
  – guaranteed funding, designated telehealth personnel in every community, & improved inter-jurisdictional communication.
• participants identified partners’ commitment to a common cause as an essential component of Manitoba’s success
  – AMC was recognized as a strong leader with a powerful long-term vision, the dedication of FNIHB-MB, Manitoba eHealth, & national eHealth leadership was also applauded.

• highly dependent on relationships between a few key individuals
  – progress of eHealth would be seriously affected by turnover of these leadership positions.

• ‘piecemeal’
  – several were frustrated by one-off initiatives & short-lived pilots. Lack of sustained funding

• increasing capacity at the local level

• failure to achieve universal connectivity
  – cost as the major barrier
  – connectivity funding was part of the infrastructure envelope, placing it in direct competition with water, sewage, & housing needs. More common was the assertion that the annual nature of the funding provided by FNIHB could not easily be reconciled with the long-term investment demanded by telehealth & other forms of eHealth.
FNIHB National eHealth Evaluation

Recommendations

• Strive for a more robust & unified eHealth strategy by clarifying *roles* of regional partners.
• Secure multi-year base *funding* to support efficient long-term eHealth planning.
• Continue to work towards improvements in the quality & prevalence of *connectivity*.
• Improve eHealth services by matching investments in connectivity with investments in local capacity. Increase *training & support* the creation of dedicated eHealth personnel.
• Raise *community awareness* of eHealth through promotional activities, including advertising on television and/or in First Nations languages.
• Implement eHealth services that support traditional First Nations approaches to health and *holistic* well-being.
EVIDENCE TO ACTION: 
A MANITOBA FIRST NATION FRAMEWORK FOR FOOT CARE

I. BUILDING THE FRAMEWORK

Process Mapping Workshops  
Interviews of Stakeholders  
Community Visits  
Community Surveys

Gathering of Traditional Healers  
MAJOR THEMES  
Waits, Gaps, Assets & Barriers

MFNPWTG FRAMEWORK FOR FOOT CARE

II. STRENGTHENING COMMUNITY MODELS

Partnership Conference  
Gathering of Community Partners

Information Management  
The Mustimuhw Model  
Engagement of People

PWTG FOOT CARE STRATEGY

Partnership Network  
Knowledge Exchange  
Collaboration & Coordination

Review of Health Policy

Wesagamack  
Sandy Bay  
Peguis  
Opaskwayak  
Manto Sipi  
Canepawakpa  
Ebb & Flow

http://www.fnwaittimesguarantee.com/
Lessons Learned

Key positive outcomes identified by Health Centre respondents:

- Access to Information
- Time-saver
- Easier reporting
- Increased information security / confidentiality
Alignment with Health Centre Business Requirements

- Community Health Nursing
- Maternal Child Health
- Immunizations
- Chronic Disease Management
- Child Oral Health Initiative
- Mental Health Counseling
- Home and Community Care
- Patient Travel/Medical Transportation
Mustimuhw cEMRII

GOALS

1. develop & demonstrate interoperability between Mustimuhw (cEMR) & a provincial eMR
2. Deployment of 3 new Mustimuhw sites
3. Conceptual Design for the Deployment of a future nursing station Mustimuhw site: a potential future state nursing station model (managed by FNIHB or Manitoba Health based on lessons learned from the Health Centre implementations)
6 original sites:
- Brokenhead Ojibway Nation
- Canupawakpa Dakota Nation
- Ebb & Flow First Nation
- Opaskwayak Cree Nation
- Peguis First Nation
- Sandy Bay Ojibway Nation

3 new sites:
- Cross Lake Band of Indians
- Pinaymootang First Nation
- Sagkeeng First Nation
TIMELINE 2012-

January
Project Charter;
Project
Sponsorship and
Advisory cmt’s;
Human Resource
Plan Procurement
Plan,

February
Site readiness
activities: Site #1

March
Master Project Plan,
Change Mgmt Plan,
Community
Engagement Report;
Governance Report;
Site Readiness-site #2

April
Service Deliver
Model: Current/Future

May
Site Readiness –
site #3

June
Infocheck point
#1; Business
Requirements
(GPI);
Site #1 cEMR
LIVE

July
Draft
Implementation
Guide (GPI); Site
#2 cEMR LIVE

August
Final Implementation
Guide (GPI); Selection
Guide; PIA and SRA;
Interoperability test
report (draft);
Site #3 cEMR LIVE

October

December
2013 Deliverables:
New Version
deployment
report; Evaluation
report; Final
Project Report
Communication Plan
## Communication Plan

<table>
<thead>
<tr>
<th>Timing</th>
<th>Message content</th>
<th>Delivery mechanism</th>
<th>Sender</th>
<th>Date and time</th>
</tr>
</thead>
<tbody>
<tr>
<td>First indications of change</td>
<td>• Background info&lt;br&gt;• Description of change</td>
<td>• Briefing Note&lt;br&gt;• Memo / Email</td>
<td>• Chief &amp; Council&lt;br&gt;• Health Director</td>
<td>• June 2012</td>
</tr>
<tr>
<td>Early stages of the project</td>
<td>• Business issues &amp; reasoning</td>
<td>• Memo / Email&lt;br&gt;• Video</td>
<td>• Health Director</td>
<td>• August 2012</td>
</tr>
<tr>
<td>During the design of the change</td>
<td>• Project Description &amp; how change will occur / steps deployment&lt;br&gt;• Change in business</td>
<td>• Powerpoint Presentation&lt;br&gt;• Video</td>
<td>• Project Team&lt;br&gt;• Program Managers</td>
<td>• September/October 2012</td>
</tr>
<tr>
<td>Before implementation</td>
<td>• Training Schedule</td>
<td>• Staff Meeting / Face-to-face</td>
<td>• Program Managers</td>
<td>• November 2012</td>
</tr>
<tr>
<td>During implementation</td>
<td>• Policies &amp; Procedures shift&lt;br&gt;• Privacy &amp; security requirements&lt;br&gt;• Training process &amp; schedule</td>
<td>• Training Sessions&lt;br&gt;• Memo / Email</td>
<td>• Program Managers</td>
<td>• December 2012</td>
</tr>
<tr>
<td>Post-implementation</td>
<td>• Success Stories&lt;br&gt;• Lessons Learned&lt;br&gt;• Congratulatory Closing</td>
<td>• Powerpoint Presentation&lt;br&gt;• Evaluation / Surveys</td>
<td>• Project Team&lt;br&gt;• Chief &amp; Council&lt;br&gt;• Health Director</td>
<td>• April 2013</td>
</tr>
</tbody>
</table>
Mustimuhw Deployment
Mustimuhw cEMRII

- Benefits Evaluation
  - 3 new sites + 3 original sites + 1 site without Mustimuhw
- Project Wrap-up & Press Conference – July 3rd, 2013 @ Sagkeeng
Long Term Objectives

- build a framework for the future state of ICTs to be built upon /or adopted by MFN community Health Centres.

- raise the infrastructure standards, connectivity, & skill level, with a support model to accept a new cEMR; identifying gaps & find the answers through better technology management.

- Interoperability will allow for the communities to share info with provincial eMR systems, thus clients will have a more comprehensive record
Unique Risks & Challenges

Actions:
- Get support of ‘front-line’ staff.
- Ultimately it is the users that push for & become the sponsors for the implementation of an cEMR.
- Conduct a more in-depth site assessment gauging the social risk introduced by the change. Additional resources at the PMO during cEMR deployment could allow for better change management services to the site.
## Risk Response

<table>
<thead>
<tr>
<th>RISK</th>
<th>DETAILS</th>
<th>RISK RESPONSE DEVELOPMENT</th>
<th>RISK RESPONSE CONTROLS</th>
</tr>
</thead>
</table>
| **Sustainability of Funding** | First Nations eHealth and Infrastructure continues to be funded on a year-to-year basis, making long-term planning re: sustainability difficult.                                                         | Mitigate                   | • Develop a regional/provincial plan with future sustainable funding source.  
• Time frame of the project allows sufficient time to demonstrate interim benefits that can be used for business case for ongoing operational costs to maintain systems to be implemented. |
| **File based exchange cannot occur** | • FNs want equal access to eMRs/cEMRs & provincial data  
• Delays and/or changes to the eHealth schedule cause same situation in Cowichan Tribes interoperability schedule | Avoid                      | • Cowichan already has some experience in interoperability projects.  
• Manitoba eHealth already has experience in defining EMR interoperability requirements from current EMR & EHR projects.  
• This phase begins early in the project, allowing for sufficient time to address technical challenges and find solutions. |
| **Privacy Concerns**        | Community and/or physician provider concern over privacy of client information negatively impacts adoption.                                                                                                  | Mitigate                   | • Community & stakeholder engagement essential for full involvement & buy-in.  
• Project must be flexible & guided by community & stakeholder direction to gain acceptance.  
• Diligent PIA and targeted policy development integral part of change process. |
| **Users refuse to use the cEMR** | • some users are at different levels in their use of computers  
• Systems Champions may not always be available                                                                                                                             | Mitigate                   | • Communication Plan includes FAQ sheets that show ease of use  
• Community Networking Committee allows for support to the 3 new sites & sharing of lessons learned & ease of use |
Privacy

• Privacy Impact Assessment
  – describes the current information flows & requirements of the various participants;
  – assesses the potential impact on privacy;
  – considers the legal implications; &,
  – assesses the means of achieving privacy objectives.

• Privacy Officer
  – oversee all ongoing activities related to the development, implementation, maintenance of, & adherence to the organization’s policies & procedures. They cover the privacy of, & access to, patient health information in compliance with federal & provincial laws & the healthcare organization’s information privacy practices.
The project is a complex change for all the communities

For all it involves an upgrade of their computer network

Overall the change is local to each community & as a whole impacts about 250 users servicing 25,000 clients

The cEMR is installed within 6 months for each selected community with full utilization within 4 months

  exception: Cross Lake Band of Indians deployed in 1 month
Lessons Learned

- 1 site withdrew from the project
  - Despite jurisdictional barriers, partners accommodated to successfully deploy an alternate site.

- Deployed the alternate site (CLBOI) within one month – timeframe unheard of in the eHealth realm
  - 4 buildings on 2 islands are connected to one network via wireless links
    - Vendor on-site & Remote support provided. Vendor able to prioritize internet traffic for remote training, good vendor-client relationship.
    - Leveraged established working relationships, vendor & community / IT support worked as a team with a willingness to do whatever it takes to succeed.
Cross Lake Health Facilities
Community Buy-in is Essential

CLBOI looks forward to leading another initiative that will assist them in achieving their overall health vision of “Healthy & happy children, adults, elders, families, community & nation.”
Benefits of Mustimuhw

- serves as a communication tool to inform all Team Members involved in the Management of client to identify:
  - what has been done
  - what may need to be done; and,
  - assists in ongoing monitoring & evaluation of client situation.

- OCAP Compliant
Benefits of Mustimuhw

- System can generate statistical information that can be utilized for Program Planning

- Helps identify areas:
  - of high need
  - for considering revision of delivery
  - can also determine if Personnel Human Resources need to be increased.
Interoperability

Gordon Point Informatics

- documented interoperability requirements & specifications for the exchange of clinical documents
  - Working with the cEMR application developer & several partner organizations, provided input for the development of a CDA and HL7v3-based specification; “Stakeholder Review Groups”

- identified information sharing requirements for continuity of care across multiple jurisdictions (First Nations, provincial health care, federal health, regional health authorities, private physicians, etc.) & how these can be better served through interoperable systems, while respecting First Nations privacy & governance principles (OCAP).
## Interoperability

### Phase 1

Existing work from Canada Health Infoway, the provinces, HL7 International, Integrating the Healthcare Enterprise (IHE) & American Society for Testing & Materials (ASTM) International has been considered. The intent of this phase of the project was not to develop a new standard but to adopt an existing standard that had been proven & produce an implementation guide.

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<tr>
<th>#</th>
<th>Milestone</th>
<th>Key Deliverable(s)</th>
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<tbody>
<tr>
<td>1</td>
<td>Business Requirements</td>
<td>• Work Plan</td>
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<tr>
<td></td>
<td></td>
<td>• Stakeholder Engagement Model</td>
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<tr>
<td></td>
<td></td>
<td>• Business Requirements</td>
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<tr>
<td>2</td>
<td>Draft Implementation Guide</td>
<td>• CDA Gap Analysis</td>
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<td></td>
<td></td>
<td>• Implementation Guide (initial draft) + technical artifacts</td>
</tr>
<tr>
<td>3</td>
<td>Final Implementation Guide</td>
<td>• Implementation Guide (final version) + technical artifacts</td>
</tr>
<tr>
<td>4</td>
<td>Project Complete</td>
<td>• Project Closure Report</td>
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</table>
Interoperability

Phase 2

“testing interoperability” is only partially funded & being negotiated

envisioned to pilot the interoperability specification produced in Phase I & test its viability for improving the co-ordination of care

develop & demonstrate information sharing between a community health information system (cEMR) operated by an on-reserve health centre & a provincially certified EMR operated by a primary care practitioner within the same community, or one who resides outside of the community, but who provide services to the on-reserve population.
Site IT Support

- Remote Management Services (RMS) transitioned over from Clear Concepts Business Solutions Inc. to Manitoba First Nations Education Resource Centre Inc.
Partnerships are Valuable
Ekosani – Wopida - Miigwech – Mahsi – Thank You

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