The Trials, Tribulations and Successes of Implementing an Electronic Health Record in Nunavut

eHealth – Vancouver, B.C.
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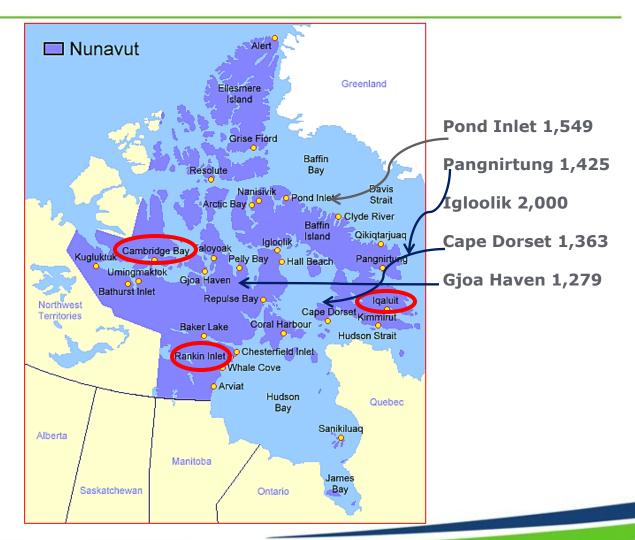**Charlene Pickles – Director, Healthtech Consultants**

Introduction to Nunavut

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- *Nunavut Population:* **36,919 (July 1, 2015),**

- **Land area:**
- **1,877,78 km^2**
- **(725,018 sq. mi)**

- **Largest Community:**
- **Iqaluit 7,000 people**

- **Rankin Inlet 2,577**
- **Cambridge Bay 1,477**

- **1 Hospital**
- **2 Regional Healthcare Facilities**
- **23 Community Health Centres**

Pond Inlet 1,549

Pangnirtung 1,425

Igloolik 2,000

Cape Dorset 1,363

Gjoa Haven 1,279

Introduction to Nunavut con't

- **Covers 1/5 of Canada's land mass**
- **3 time zones (EST, CST, MST)**
- **Four languages – Inuktituk, Inuinnaqtun, French, English**
- **Youngest median population (22)**
- **Fastest national growth rate**
- **No university and relatively low but improving rates of high school graduation. Northern Arctic College Nursing Degree affiliated with Dalhousie University in Nova Scotia**
- **Highest cost of living in Canada**

■ **Nunavut**

■ **Ontario**

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Southern Partners

- **Iqaluit – patients to Ottawa**
- **Rankin Inlet – patients to Winnipeg**
- **Cambridge Bay – patients to Yellowknife**
- **Services**
  - Resulting of Diagnostic Imaging Exams
  - Specialist Clinics
  - Management of Patients Medical Travel – OHSNI, KIS, Stanton Boarding Home
  - Health Records Transcription

The Goal

Deployment of MEDITECH 6.x throughout all 26 communities

- MIS/Universal

- General Ledger – Chart of Accounts only

- Registration/Medical Records /Abstract/Quality Management

- Community Scheduling (CWS)

- Supply Chain Mgt (Materials Mgt/Acct. Payable)

- Scanning and Archiving

- Data Repository

- LAB / MICRO / BLOOD BANK / PATH

- Imaging & Therapeutic Services

- Pharmacy

- Order Management / Enterprise Medical Record

- Physician Care Manager

- Patient Care

The Challenges

- **Largest single Nunavut Project in History**
- **Absence of established Health IT Structure**
    - 1 Director
    - 3 Systems Coordinators – no experience with MEDITECH
    - Healthtech Consultants Resources
- **One Government Agency Responsible for Hardware & Infrastructure**
- **Satellite Connection**
- **Transient End-User Population**
    - 166 Nurses and 14 Physicians
    - Agency Nurses
    - Operates with 42% staff (clinical and admin gaps) – spring & summer higher

The Challenges – con't

- **Time Zones**
  - Multi-Database
  - Multi-Facility
- **Difficult in Transition from paper to computer**
- **Minimal Education Levels**
  - Learning Multiple Modules (ADM, CWS, OM/AOM, ITS or Lab)
  - Multiple Methods of Receiving Orders
- **Physician Challenges**
- **Leadership Challenges**

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Phase 1 – Implementation, Challenges & Successes

Phase 1 Implementations

- **Implementation of MIS, ADM, HIM, CWS, OM (AOM also) LAB/MICRO/BLOOD BANK/PATH, ITS, PHA and EMR.**

- **Implementation in two sites: Iqaluit and Cambridge Bay**

Phase I Challenges

- **February 2011 Go Live**
  - MEDITECH unable to get to Nunavut due to weather. One Application Specialist made it.
- **AOM Module**
  - Nunavut is primarily an Ambulatory Care Setting (95%)
  - Used for Lab and ITS
  - Location Not a Required Field – custom
  - Pending Future Order Queue Report
  - Challenges of when to use OM versus AOM
  - Expired Orders

Phase 1 Successes

- **Turnaround time of Diagnostic Imaging Reports**
  - 2 Weeks to 2 Days

- **EMR**
  - Minimal Physicians & many Locum Physicians – huge for continuity of patient care

MEDITECH ARM Module

- $70 M a year in referral costs to specialists for medical services.
- Paper based process with referrals sorted by speciality and filed in binders.
- Allow staff to track and manage referrals for speciality services occurring in Nunavut and outside the territory by status of the referral (Pending, Approved, and Completed).
- This ability to track referrals enabled the staff to know instantly how many referrals were outstanding and if a specific patient was on the list awaiting services.
- The time to locate and respond to inquiries was reduced to minutes from hours or days.

ARM Module Successes

- **The system provided reporting by speciality service which help the staff identify bottlenecks, long wait times, and volumes waiting for a speciality.**
- **MEDITECH's first Canadian implementation of the module.**
- **5,000 referrals in binders**
- **Engagement of Southern Partners**
- **Allergy Specialist – long wait times**
    - Decision to bring one Allergist Specialist & one Nurse to Iqaluit for one week.
    - Saw 43 patients in one week
    - Cost to bring fly those 43 patients to Ottawa (flight & hotel) - $77,400
    - Cost of bringing one Specialist and one Nurse to Iqaluit for one week - $5,800

Phase 2 Implementations

- **Electronic Documentation (PCS) in ER, Inpatient areas, Mental Health and Day Surgery in Iqaluit and Rankin Inlet.**

- **Electronic Documentation (PCM) in Public Health and Rehab in Iqaluit**
  - Large TB Program
  - Rare among non-aboriginals born in Canada, but it remains a major public-health concern in Nunavut.
  - In 2010, the worst year in recent memory, the territory logged 100 cases of active TB, the equivalent of 304.7 cases per 100,000 population. The rate in the rest of Canada that year was 4.7.

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PACS Implementation

- **Two Separate PACS Systems – Nunavut PACS and The Ottawa Hospital PACS**
- **Territorial PACS Solution**
- **Inbound Powerscribe VR Reports to MEDITECH and Outbound Reports to both PACS**
- **Images Viewable in MEDITECH**
- **Turnaround Time from 2 Days to Hours**
- **On-boarded two CR Units and one DR Unit**
- **Next Steps**
  - Digital Radiography roll-out to the 22 Community Health Centres
  - Mini-PACS Solution for the Community Health Centres

Next Steps

- **Bi-yearly MEDITECH Upgrades**
  - Successful
  - "Kick the Tire" Approach for Integration Testing
- **Continued Roll-out of MEDITECH to the 22 Community Health Centres**
  - MEDITECH "Lite"
  - Currently 5 have been implemented
- **Move to 6.1 and Web-Based Ambulatory**
  - Challenges since such an ambulatory environment

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THANK YOU