Tuberculosis in Nunavut, Canada

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24th Sigma Theta Tau International Nursing Research Congress

Prague, Czech Republic
July 22 – 26, 2013
TUBERCULOSIS IN NUNAVUT, CANADA

One Community's Initiative To Promote Awareness Through An Organized Community Health Fair
Where On This Planet Is Nunavut?

• The largest, northernmost, newest territory of Canada
• Its history dates back approximately 4,000 years
• Nearly one-fifth the size of Canada
• The least populous of the provinces and territories
• Population = 31,906
• 56% of population under the age of 25 years
• The Capital is Iqaluit, with a population of 6,699

*Census 2011, Friesen, 2012*
Nunavut = Our Land
Inuit = The People
Inuk = One Person
Inuktitut = The Inuit Language

Noatak Family circa 1930s
Tuberculosis

- Second leading global killer of adults
- One third of the world’s population infected
- An airborne infectious disease
- Pulmonary TB is the Most Common (80%)

**Mycobacterium tuberculosis**

- The etiologic agent
- Humans = The only reservoir

1882 – First Breakthrough...

Robert Koch discovered the TB Bacterium  

**CDC 2012**
Tuberculosis in Canada: The Sanatorium Era

**Between 1600s and 1800s** - TB came to Canada with European Settlers ... TB Exposure among Inuit by the Whalers and Explorers

... *Demmer, 2011*

1897 – Opening of the First Sanatorium for:
- Rest
- Fresh Air
- Good Diet/Nutrition
- Isolation
- Education
- Rehabilitation

**First 25 Years of Sanatorium Era** – 45% of TB Patients died

CMAJ 1999
In the Late 19th Century and 20th Century
TB Exposure Among the Inuit

1920s and 1930s - Extremely High Levels of TB Among the Inuit of the Arctic ... *Demmer, 2011*

1950s - The Era of Ship-Board Medical Clinics during the Summer along the Arctic Coastlines
• No road access into or out of any of the communities

An Outbreak of TB in Nunavut
• Immunization and return to shore if patient was asymptomatic
• Patient evacuated to a Sanatorium if diagnosis was positive
Tuberculosis in Nunavut: 1950s ... aka ...

Consumption  The White Plague  Phthisis

- A gradual decline in the incidence of TB
- Shorter Stays in Sanatoria
  - Average Stay = 2.5 Years
- Development of Antibiotic Therapy

1956
- One-seventh of the entire Inuit population was being treated in Southern Canada
Inuit Memories of the Sanatorium Era

- Patients not allowed to leave the ship once on board
- No Goodbyes said
- Parents separated from children or infants
- Alone - in a completely foreign environment
- Language Barriers
- No way to contact family
- Endless waiting for news on family
- No idea when – or if – loved ones would ever come home
Living with TB: Misconceptions, Stigmatization Discrimination and Fear among the Inuit …

• Institutional and community norms
• Interpersonal attitudes
• A social determinant of health
• Community Belief …
  • The affected individual must have done something to deserve to be infected
  • Infection seen as divine punishment for a moral or personal failure
  • Loss of Status in the community
Factors Enhancing the Misconceptions, Fear, Stigmatization and Discrimination

- Fear of Infection
- Lack of knowledge and risk of transmission
- Perception of contagiousness
- TB as a co-infection with HIV
- TB associated with
  - Malnutrition
  - Poverty
  - Being Foreign-Born

Two Men Carving Soapstone in Bed as Part of their Occupation Health
Impact of Misconceptions, Stigma, Discrimination ...

- Shame
- Disgust
- Guilt
- Hiding the stigmatized trait
- Withdrawal from interpersonal relationships
- Increasing risky behavior
- Isolation
In Memoriam ...

- Notification of Deaths
- No idea where loved ones had been taken or buried
- Spouses would re-marry and then original husband or wife would show up one day

Courtesy of David Teiawennitatethe Delaronde
Outcome of the Sanatorium Era ...

- TB Treatment Program considered ...
  - Successful
  - Many lives saved
- Reduction in death rates

Aftermath ...

- Permanent emotional scars across generations from the experience of separation and displacement

Finding Hope and Healing in Memories of Our Past
“As a kid I had TB, I did this print depicting all those who lost their fight to TB”

... Noah Maniapik
The Fight Against Tuberculosis: The Ongoing Battle
March 24, 1982 – First World TB Day

**Sponsors**
- World Health Organization (WHO)
- International Union Against Tuberculosis and Lung Disease (IUATLD)

**Purpose**
To *educate* the public about
- TB’s devastating health and economic consequences
- Continued tragic impact of TB on global health
Total TB Cases and Incidence Rates
Nunavut and Canada: 1997-2008
TB Rates
Nunavut versus National Rates: 2000-2011

Graph showing TB rates per 100,000 population over years 2000 to 2011 for Nunavut and Canada.
### Reported Active TB Cases in Nunavut: 2009-2012

<table>
<thead>
<tr>
<th>Year</th>
<th>Reported Active TB Cases</th>
<th>Remarks</th>
</tr>
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<tbody>
<tr>
<td>2009</td>
<td>56</td>
<td>• 174.0 per 100,000 Population</td>
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</table>
| 2010 | 101                      | • 307.6 per 100,000 Population  
  • Highest number in the Territory’s history  
  • Represents an infection rate 62 times the Canadian Average, 50% recorded in Iqaluit  
  • 1.5 million TB-related deaths world-wide |
| 2011 | 75                       | • 222.1 per 100,000 Population  
  • Nearly 9 million people worldwide became sick with TB disease  
  *CMA, CBC, Jan, 2013*  
  *CDC 2012* |
| 2012 | 79                       |         |
## Nunavut TB Cases by Sex

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
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<tbody>
<tr>
<td>2000</td>
<td>24</td>
<td>24</td>
<td>48</td>
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<tr>
<td>2001</td>
<td>25</td>
<td>15</td>
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<td>2001</td>
<td>15</td>
<td>12</td>
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<td>2003</td>
<td>5</td>
<td>2</td>
<td>7</td>
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<tr>
<td>2004</td>
<td>19</td>
<td>13</td>
<td>32</td>
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<tr>
<td>2005</td>
<td>28</td>
<td>17</td>
<td>45</td>
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<td>2006</td>
<td>28</td>
<td>20</td>
<td>48</td>
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<td>2007</td>
<td>16</td>
<td>15</td>
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<td>2008</td>
<td>40</td>
<td>19</td>
<td>59</td>
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<td>2009</td>
<td>29</td>
<td>27</td>
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<tr>
<td>2010</td>
<td>70</td>
<td>31</td>
<td>101</td>
</tr>
<tr>
<td>2011</td>
<td>49</td>
<td>26</td>
<td>75</td>
</tr>
</tbody>
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Risk Factors Influencing the Persistently High Incidence of TB

- Overcrowded housing
- Poor Nutrition
- Smoking
- Substance Abuse
- HIV
- Diabetes
- Cancer
- Chronic Renal Failure
- Immuno-Suppressive Therapy
- Level and Availability of Medical Care
- Infants
- Elderly
- Physical and Mental Stress

A TB Patient who is Co-Infected with HIV
Without early Identification and adequate treatment, TB bacteria continue to multiply, infect other people, damage the body and can even be fatal.

Get tested for TB!

INUKSHUK

WHAT’S UP WITH THIS COUGH? THREE WEEKS IS LONG ENOUGH, ALREADY!

Tuberculosis Testing Today

THAT’S IT. I’M GETTING TESTED.
Nunavut Standard of TB Prevention, Control and Screening Programs

- Routine BCG – Bacille-Calmette-Guerin vaccination of all new-born babies
- Pre-School Screening
- School Screening
  - Grades 6 and 9
- Early Diagnosis
- Skin Testing
  - Mantoux/Tuberculin
- Contact Tracing
- Directly Observed Therapy
- Educational Programs

BCG Administration to a New-Born Baby
Charles Mantoux used research done by Robert Koch years earlier to develop the Mantoux Tuberculin Skin Test for diagnosing latent TB infection in a person.
Following a Positive TST

• Chest X-ray

• Sputum sampling - to rule out active TB disease

• Blood Work – if the Individual is likely to go on medication for Latent (Sleeping) or Active TB Treatment
The Two Types of Tuberculosis

Active or Primary Tuberculosis

Latent Tuberculosis Infection or Sleeping TB
Active or Primary Tuberculosis

• Contagious ... Airborne Precautions

• The Individual has:
  • Symptoms
  • A significant Positive reaction to the Tuberculin Skin Test (TST) or Mantoux Skin Test
    • In rare cases a client may have a negative TST
  • Abnormal Chest X-ray
  • Positive Sputum Test (Acid-Fast Bacilli)

• Treatment is required for 6 to 12 months
Signs and Symptoms of Active TB

- Persistent cough lasting more than 3 weeks
- Coughing up blood or sputum
- Weakness, fatigue, or tiredness
- Fever and Chills
- Weight Loss
- Loss of Appetite
- Night Sweats
- Chest Pain – In some cases
- Some People may not have Obvious Symptoms
Latent Tuberculosis Infection (LTBI)

- The person has the TB bacteria in his or her body (usually the lungs), but has yet to develop obvious symptoms
- Tuberculosis may last for a lifetime as an infection, never developing into the TB disease
- Not Contagious
- Positive TB Skin Test indicating infection or exposure
- Normal Chest X-ray
- Negative Sputum
- Treatment is recommended for 9 months to prevent active disease
Problem Identification ... During Regular TB Program in One Community

- TB Stigma still prevalent
- Some Students being sent home by teachers when they tested positive from TB screening
- Reluctance of some clients to come in for the Directly Observed Therapy (DOT)
- Reluctance or Failure of Clients to complete their DOT
- Reluctance of some parents and/or guardians to bring their children or family members to the Health Center for Pre-school or school screening, and/or for DOT
- Differing knowledge, attitudes and practices of health care providers in relation to the TB program
Measures to Combat TB Stigmatization and Promote Community Awareness

• Meetings with School Principal(s), Teachers and Students ... To share information on TB
• Meetings and presentations on TB with small community and youth groups
• Presentations on local Radio, on TB and its related health issues
• A collaborative drive to conduct a World TB Day activity
World TB Day 2012 – The Community Health Fair

March 17, 2012

- Conception of the Idea for a Community Health Fair

Goal

- To promote and improve health and wellness aimed at behavior and/or attitudinal change

Purpose

- Increase awareness of health issues
- Provide information on various health and community services
- Opportunity for participants to speak to a range of health professionals, community leaders, elders, youth

- Date - Friday, April 13, 2012
- Location - The Community’s High School Gymnasium
- Time - 1300 Hours – 1700 Hours
Conceptual Framework for Community Health Fair

• A holistic approach to primary health care within the theoretical framework of 2012 World TB Day, Nutrition, Dental, School Health, Mental Health, Social Services, and World Health Day.

• Programs and Activities - to encompass:
  • Comprehensive, integrated, and continuous health care services Across the Lifespan.
The Facilitators

Susie Maniapik, Clerk-Interpreter, Dora Maria Carbonu, Public Health Nurse/TB, and Raygelee Mike, TB Assistant/Clerk-Interpreter – Members of the Organizing Team
The Collaborators

• The Tuberculosis Program Team
• Community Health Services Team
• Community Health Representatives
• Government of Nunavut Health and Social Services Team
• Multi-sector health care agencies, groups, and organizations
• Community Organizations - Religious, Traditional, Cultural and other Interest Groups
<table>
<thead>
<tr>
<th>Target Audience</th>
<th>Partners</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Groups</td>
<td>Regional, Public- and Private Sectors</td>
<td>Community Health Services</td>
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<tr>
<td>• Leaders and Elders</td>
<td>Community Health Services</td>
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<tr>
<td>• Youth Groups</td>
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<tr>
<td>• Religious Groups</td>
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<td>Social and Recreational</td>
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<td>• Hunters and Trappers</td>
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<td>• Yoga</td>
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<td>• *Hip-Hop</td>
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<td>• Snow-Sailing</td>
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<td>• Commercial Outlets</td>
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<td>• Educational Outlets</td>
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<td>• The Media</td>
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<td>• The Airlines</td>
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</tbody>
</table>
Programs and Activities

- Assessment and Screening
  - Blood Pressure
  - Weight
  - Height
- Counseling
- Demonstrations
  - Yoga
  - Snow Sailing

- Presentations
  - Ongoing Videos
  - PowerPoint
- Handouts
- Games and Prizes
- Free Snacks
- A Return Flight Ticket from the Community to Ottawa – Donated by one of the two main Airlines
At the TB Stall

TB is BACK

• Discussion Points
• A Running PowerPoint Presentation
• Historical Perspectives
• Questions and Answers
• Effects of TB on a person’s holistic health and well-being
  • Physical
  • Emotional
  • Mental
  • Cultural/Traditional
  • Spiritual
At the TB Stall ... TB is BACK

• Living with TB and the associated Fears and Stigma
• Correcting misconceptions about TB
• Social inequities that lead to the spread of TB
• Actions individuals and communities can take to protect themselves from TB
• Hand-outs
Mental Health Services Stall manned by Mysti Lutz, Registered Psychiatric Nurse and on the left, Rosemary Akulujuk, Child and Youth Outreach Worker.
Outcome of Community Health Fair

Evidential Observations ...

• About 500 Participants and Community Leaders, Elders, Members in Attendance
  *Population of this particular Community = 1425*

• Rejuvenated Community motivation and morale about all aspects of health-care, especially among:
  • School-aged adolescents
  • The Youth
  • Young Adults
  • Elders
  • Health Care Providers
Outcome of Community Health Fair

• Voluntary participation in TB and other health-and-wellness programs
• Parental commitment to Well-Baby Immunization- and Pre-School Screening programs
• Improvement in the Directly Observed Therapy (DOT) program
• Improvement in School-, Voluntary Youth- and Adult TB-Screening Programs
• Enhanced Staff Awareness and Positive Attitudes toward the TB Program
Implications

This Community Health Fair Project supports three main themes for territorial and national goals:

• Preventing, diagnosing and managing TB
• Targeting populations at greatest risk for TB
• Developing and maintaining TB programs that involve and work with communities to:
  • Increase awareness
  • Decrease stigma and discrimination against clients with TB and their families
  • Positively influence perspectives and attitudes toward TB and, at times, the health care system.
  • Ensure programming that is culturally sensitive and appropriate.
Summary and Conclusion

The outcome of this community-driven health-care-promotional initiative was a rekindled spirit of motivation and morale, and the strive to:

• Overcome stigmatization about TB and other health-related issues - with the **GOAL** to …

• Improve the quality of health and life of the people of this particular community, and all the people of Nunavut.
ACKNOWLEDGEMENTS

Department of Health, Nunavut

Nunavut Arctic College

All Collaborators, Benefactors, Partners, Participants, and the Community at Large

REFERENCES
Thank You

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Thank You