


# Medical Travel in the Northwest Territories

A proposal for collaborative research among:

- Circumpolar Health Systems Innovation Team
  - GNWT Health and Social Services
    - Regional Health Authorities

- ◆ Background and Context
  - ◆ Relevance
  - ◆ Research Questions
  - ◆ Methods
  - ◆ Outcomes
- 
- A stylized, dark blue silhouette of a mountain range is positioned in the bottom right corner of the slide, extending from the right edge towards the center.


# Circumpolar Health Systems Innovation Team [CircHSIT]

*Provide research evidence to  
enable transformation of primary  
health care in northern remote  
regions of Canada*

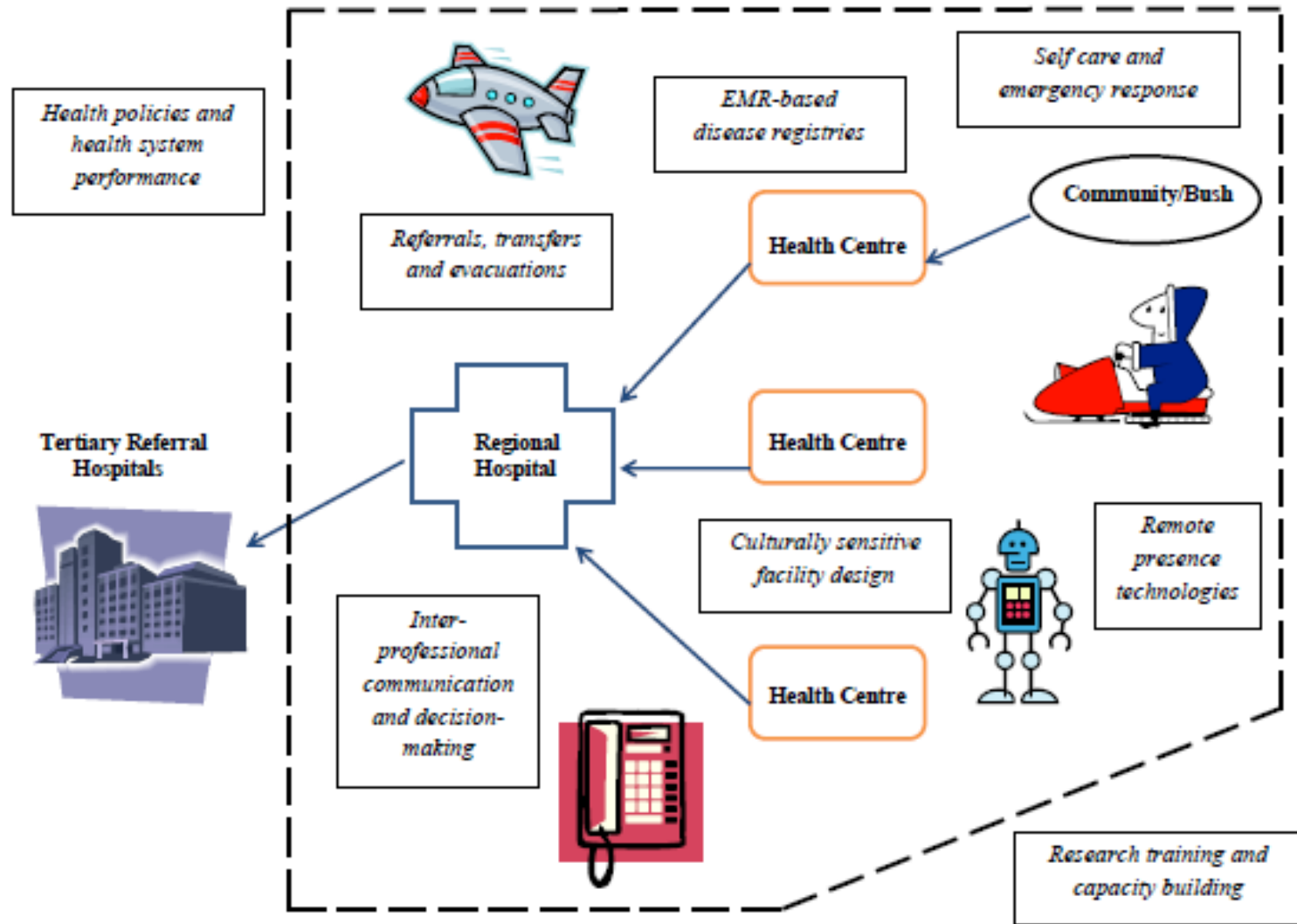


Community-Based Primary Care Team Grants  
– 12 teams across Canada  
– 5 year funding

# Program Objectives

- ◆ Review and compare innovative PHC models in northern regions of circumpolar countries;
  - ◆ Create northern health system performance metrics
  - ◆ Design, implement and evaluate PHC interventions and technology innovations;
  - ◆ Investigate and adapt health facility design, work flow and performance
  - ◆ Develop capacity in planning and evaluation;
  - ◆ Collaborate with decision makers in health care
  - ◆ Train the next generation of northern-based researchers and practitioners in PHC-relevant research
- 

## NORTHERN PRIMARY HEALTH CARE SYSTEM



# Partners



Labrador - Grenfell  
**Health**



## YELLOWKNIFE

Health and Social Services Authority  
Serving Dettah, Fort Resolution, Lutsel k'e, Ndilo and Yellowknife



**NUNATSIAVUT**  
kavamanga Government



**UNIVERSITY OF ALBERTA**  
SCHOOL OF PUBLIC HEALTH



*McGill*

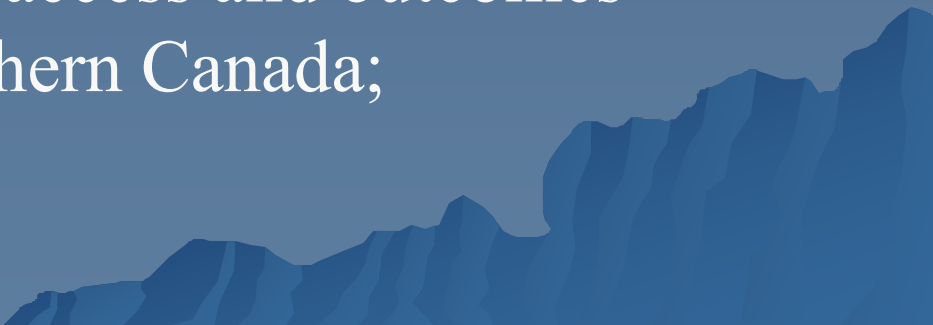
UNIVERSITY  
OF MANITOBA

# “Why this research matters? And to whom?”

- ◆ Health care in Canada’s North faces considerable challenges with its remote and widely dispersed population, harsh environmental conditions, thinly deployed health professionals, and high costs

*Evidence-based solutions needed by those who pay, those who plan, those who spend, those who serve, and those who use health services.*

# Anticipated Impacts

- ◆ Rapid translation and application of research outputs;
  - ◆ Cross-jurisdictional and international collaboration in seeking solutions
  - ◆ Improved community capacity to contribute to planning, evaluation and delivery of services
  - ◆ A sustainable, research-intensive environment in northern institutions
  - ◆ Reduction in disparities in access and outcomes between northern and southern Canada;
- 
- A stylized, dark blue mountain range graphic is positioned at the bottom right of the slide, extending from the right edge towards the center. The mountains are depicted with sharp peaks and ridges, creating a silhouette effect against the lighter blue background.



# Opportunity

- ◆ Patient transportation is the “glue” that keeps the system together in remote regions – it is also very costly and source of much dissatisfaction among staff and patients
- ◆ *Med Response* is a timely innovation that could have potential major impact on the health care system
- ◆ Window of opportunity to evaluate program – generates research evidence that benefits NWT and also provide valuable lessons for other regions

# Research Question

What is the impact of the implementation of *Med Response* on the delivery of primary health care services in NWT?

Focusing on 4 domains of desirable outcomes:



Clinical outcomes

Cost-effectiveness

Provider satisfaction

Community acceptance

In other words, as decision-makers, would you be happy if we can show that *Med Response* has achieved the following:

- ◆ Critical patients are reached as quickly as possible
  - ◆ Patients are directed to the most appropriate facility
  - ◆ Community-based staff have immediate access to emergency support
  - ◆ The most appropriate type of carrier is used
- [*Note: first 4 are taken from your logic model*]
- ◆ The total costs to health care system is reduced
  - ◆ Providers are satisfied with the new system
  - ◆ The community accepts the new system

- ◆ Most critical patients are reached as quickly as possible
- ◆ Patients are directed to the most appropriate facility

- ◆ Community-based staff have immediate access to emergency support

- ◆ The most appropriate type of carrier is used
- ◆ The total costs to health care system is reduced

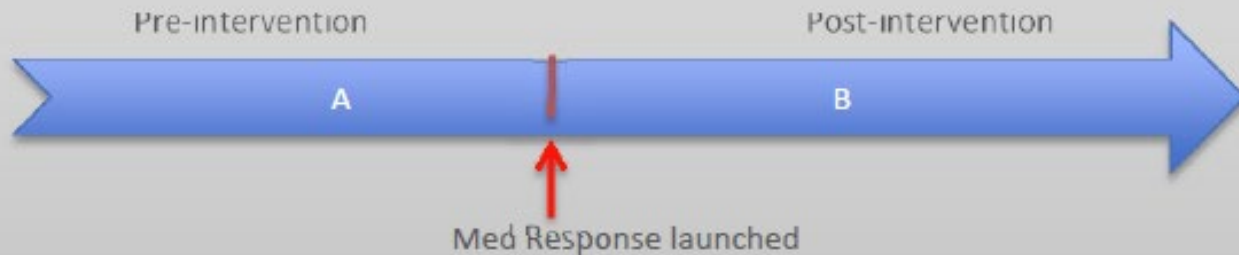
- ◆ Providers are satisfied with the new system

- ◆ The community accepts the new system

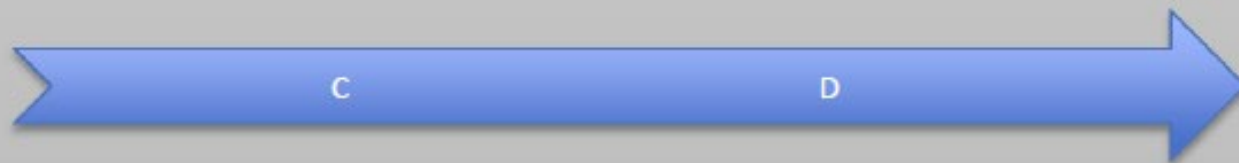
# A Natural Experiment

- ◆ NWT will implement *Med Response*
- ◆ Nunavut will not, .....

## A. Intervention Arm (Northwest Territories)



## B. Non-Intervention Arm (Nunavut)



## Data Source

- ◆ Medical travel database
- ◆ *Med Response* records ??

## Indicators

- ◆ Elapsed time between call and arrival of air ambulance
- ◆ Rates of transfer by carrier and community of origin
- ◆ Ratio of air ambulance to scheduled flights
- ◆ Costs of patient transfer payable to carrier
- ◆ Attributed costs of patient transportation and care

## Data Source

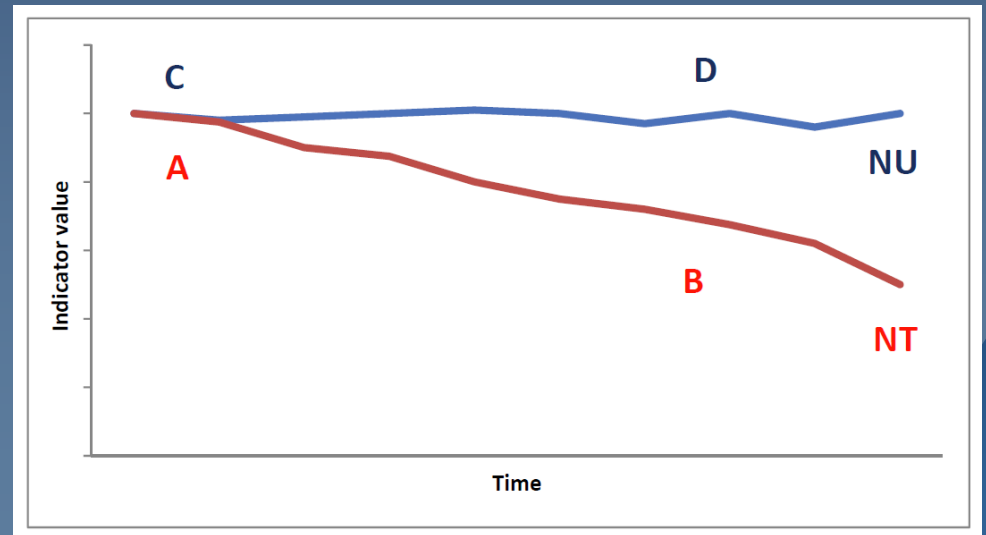
- ◆ Review of patient charts at recipient hospital
- ◆ Provider survey
- ◆ Key informant interviews

## Indicators

- ◆ % patients discharged from ER without admission
- ◆ % agreement between pre-transfer and post transfer triage scale
- ◆ Proportion of respondents reporting improvements
- ◆ Comments, observations, opinions

# Analytical framework

- ◆ Pick an indicator
- ◆ If the intervention is effective, there will be a change in the indicator
- ◆ Pre-intervention  $[A] = [C]$
- ◆ Post-intervention
  - $[B]$  better than  $[A]$
  - $[D] = [C]$
  - $[B]$  better  $[D]$





# Data from Nunavut

*Data sharing agreement  
signed in January 2014*

We have already received from GN two massive Excel spreadsheets covering 2011/12 [n=36,436 entries] and 2012/13 [n=31,671] containing these fields:

Case ID	Warrant Number	Region
---------	----------------	--------


From	To	Travel Date	Traveler Type <sup>1</sup>	Gender	Age
------	----	-------------	----------------------------	--------	-----

Escort Reason	Diagnosis ICD	Trip Type <sup>2</sup>	Travel Type <sup>3</sup>
---------------	---------------	------------------------	--------------------------


- <sup>1</sup> patient/escort
- <sup>2</sup> one way/round trip
- <sup>3</sup> scheduled/medevac

Payee Name	Invoice Number	Amount less GST & HST	Payment Identifier Code
------------	----------------	-----------------------	-------------------------

# What This Is ... and Is Not

- ◆ This is still RESEARCH – applied health system research, policy-relevant research, and collaborative research – academic/community/government partners
  - ◆ Important to contribute to knowledge base, provide lessons for others, produce results generalizable to other similar settings
  - ◆ This is NOT performance measurement or quality improvement, and we are NOT management consultants – we are partners and collaborators
  - ◆ Results will be useful to you, enable you to improve program, but do not answer all your questions
- 
- A stylized, dark blue mountain range graphic is located in the bottom right corner of the slide, partially overlapping the text of the last bullet point.

# So is this summative or formative?

- ◆ A bit of both, but mainly summative, since it focuses on outcome rather than process;
  - ◆ BUT the timeline is such that timely feedback on key indicators can be provided to enable program modification
  - ◆ AND this is not the full monty – only picked a few aspects that are feasible within the time frame and least amount of “measurement burden” on staff
  - ◆ Interested in impact on *system*, not just on the *agency*
- 

# Next Steps

There are 4 sub-projects:

1. Analysis of medical travel database and *Med Response* records –  
Ethics and research license obtained  
Data sharing agreement with STHA? [NU template]  
When can data be released, and in what format?
2. Review of ER admissions – will apply for ethics and license; contacts?
3. Provider survey – will adopt/adapt CIHI national PHC survey; suggest two RHAs, contacts?
4. Key informant interview – will develop protocol

- ◆ Time line
- ◆ Team communication

