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Thank You

- conference organizers
- you...the audience
Outline

• regionalization and service delivery
• impact on patients
• role of transport services
• “anecdote from the edge”
Regionalization
Regionalization
Regionalization

- critical mass
  - expertise
  - resources
- greater efficiencies = cost savings
- less practice variation = improves safety
- more cases = improves outcomes
- benefit patient and health care system
Regionalization
What About The Risk?
What About The Risk?

- critical event occurs in
  - 1 in 20 air medical transports
  - 1 in 15 land critical care transports
  - 1 in 6 transports of mechanically ventilated patients

CMAJ 2009;181(9):579-84.
What About The Risk?

- greater risk if
  - mechanically ventilated
  - vasopressor-dependent
  - hemodynamically unstable at pick-up
  - longer transport times
- ~2% added risk for every 10 minutes in transport
  - ad hoc transport crew

CMAJ 2009;181(9):579-84.
What About The Patient?
What About My Patients?

• I come from a land “up yonder”…
What About My Patients?

• I come from a land “up yonder”…
• …it is far, but we share a lot in common
  – geographically
  – socio-culturally
  – health care delivery
My Province

- Ontario, Canada
  - ~14 million people
  - ~1.1 million km$^2$ land mass
  - >200 hospitals and health centres
My Province…The South

Comparable to State of Victoria
My Province... The South

- 13 million people in ~100,000 km²
- high-density urban
- excellent roads and transport
- many major regional referral hospitals with all possible services
  - easy access to trauma, stroke, cath lab, pediatric centre, high-risk obstetrics, burn centre...
My Province... The North

Comparable to Northern Territory
My Province…The North

- <1 million people in ~1 million km²
  - 2/3 live in one of two regional centres
  - many remote First Nations communities, with no emergency response capacity
- few major roads; most communities fly-in only
- two regional centres with trauma units, some regional stroke centres, no cath lab for primary PCI, no pediatric centre, no high-risk obstetrics, no burn centre…
My Reality… The North

500 km to the nearest HOSPITAL
My Reality… The North
My Reality… The North
My Reality… The North

![Protest Signs]

- Sign: "THIS LAND IS OUR LAND. STOP BACK OFF GOVERNMENT."
- Sign: "I DESERVE WHAT EVERY OTHER STUDENT RECEIVES IN THEIR SCHOOL TO BE SUCCESSFUL. WHERE'S OUR SCHOOL SUPPLIES!!"
- Sign: "IF YOU DRINK YOUR KIDS MAY SNIFF!"
My Reality... The North

STOP Fetal Alcohol Syndrome/Fetal Alcohol Effects (FAS/FAE) NOW!
Alcohol and Pregnancy Don’t Mix

Healthy Parents - Healthy Babies
For more information on the Government of Canada’s FAS/FAE strategy call 1 800 O-Canada (1 800 622-6232) TTY/TDD: 1 800 865-7735 or visit our Web site at www.healthcanada.ca/fas
My Reality…The North

• high unemployment
• poor social indicators
• poor health indicators
• shorter life expectancy
• higher mortality
• high burden of illness and chronic disease
• mental health and substance abuse issues
My Reality… The North
Regionalization vs Reality

- intent: improve service and quality
- reality: limited access for some
Regionalization vs Reality

- intent: improve service and quality
- reality: limited access for some
My Organization

• by the numbers
  – established in 1977
  – amalgamated all air programs in 2002
  – new governance “umbrella” since 2012
  – ~19,000 transports each year
  – ~650 staff
  – daily ‘records’ this year
    • 68 transports
    • 30,515 statute miles flown
    • longest single flight: 2,086 statute miles
My Organization

- our vehicles
  - 10 PC-12 NG fixed wing aircraft
  - 10 AW139 & 2 Sikorsky S76 rotor wing aircraft
  - 4 critical care land transport vehicles
  - 1 land vehicle at each air base
My Organization

• our ‘1-stop’ shop
  – single command & communications centre
  – single medical and operational oversight
  – critical care flight paramedic model
    • training and skills maintenance done “in house”
  – employ our own pilots, engineers, and all support staff

• new strategic plan to guide our future
My Organization Is...

• …the medical transport service that is an essential part of a regionalized health care system

• …the service that gets patients where they need to go to access care

• …the glue that keeps the system together
My Glue
My Glue at Work

- bridges gap between regionalized care and reality
- extends reach of specialty care
- two approaches
  - emergency care
  - scheduled care
Emergency Care

• rapid response to “life and limb” threats

• ideal: retrieve and transport to definitive care as soon as possible
Emergency Care

• rapid response to “life and limb” threats

• reality: “the golden half-day” for some
Emergency Care

• rapid response to “life and limb” threats

• working with stakeholder groups to improve critical access for “top 3” subspecialty care patients:
  – trauma
  – cardiac
  – neurosciences
Emergency Care

Transport time to neurosurgical centre

Total Transport Time
- <2.5 hours
- 2.5 - 3 hours
- 3 - 3.5 hours
- >3.5 hours

Map showing transport times to neurosurgical centres in Ontario, with different regions color-coded to indicate transport time categories.
Emergency Care

• “extending the reach” of specialty care
  – air: more severely injured, more resuscitative procedures, longer transport times
  – ...BUT same outcomes

Impact of prehospital mode of transport after severe injury:
A multicenter evaluation from the Resuscitation Outcomes Consortium

Eileen M. Bulger, MD, Danielle Guffey, BS, Francis X. Guyette, MD, MPH,
Russell D. MacDonald, MD, MPH, Karen Brasel, MD, MPH, Jeffery D. Kerby, MD, PhD,
Joseph P. Minei, MD, Craig Warden, MD, MPH, Sandro Rizoli, MD, PhD, Laurie J. Morrison, MD,
Graham Nichol, MD, and the Resuscitation Outcomes Consortium Investigators

J Trauma 2012;72(3):567-75.
Emergency Care

- upcoming system improvements
  - “geofencing”
  - “one number to call”
  - “air or land” dispatch decision support tool
  - “tele-presence” role for “doc in the box”
Community-Based Emergency Care

• Sachigo Lake
Community-Based Emergency Care

• Sachigo Lake, 2014
• community elder with heart problems: sudden collapse – cardiac arrest
• witnessed by only 2 in community with 1st aid training: immediate CPR – return of pulse
• air ambulance dispatched: ETA 2 hours
• made patient contact: patient dies
Community-Based Emergency Care

An Open Report for Nishnawbe Aski Nation

March 2014
Community-Based Emergency Care

Pre-Nursing Station Care

The initial component of pre-hospital care in remote First Nation communities. This care takes place outside a nursing station and involves the initial on-scene management and transportation of ill or injured patients to a nursing station. “Nursing station” is used interchangeably with “health centre” or “clinic”.

Emergency Care

Management of urgent health conditions where timely care is critically important. For example: heart attacks, strokes, mental health crises, and severe injuries. Effective emergency care is an important part of local emergency management capacity, and it is a key element of an equitable health care system.
Community-Based Emergency Care

People in remote and isolated First Nation communities should have access to excellent community-based first response emergency care.
Community-Based Emergency Care
Scheduled Care

• procedures, interventions, or investigations at other centres

• not “life or limb” but must be serviced based on scheduled appointments

• “batch” planned once daily
• tasked to contracted carriers
Scheduled Care

- procedures, interventions, or investigations at other centres

A Novel Application to Optimize Utilization for Nonurgent Air Transfers

Russell D. MacDonald, MD, MPH, FRCP,1,2 Mahvareh Ahghari, MEng,2 Laura Walker, BMSc, MD,3 Tim A. Carnes, MS, PhD,4 Shane G. Henderson, BSc, MS, PhD,5 and David B. Shmoys, BSE, PhD5

- dispatch optimization tool improves efficiency by ~5-7%
  - translates to 6-figure savings annually!

Scheduled Care

• increasing regionalization and ‘centres of excellence’ = we are busier

• scheduled transfer demand outpacing resources

• modeling and simulations using our data
  – answer ‘what if’ scenarios
  – evidence-based planning to improve service
  – develop better contracts
Scheduled Care

• delivery of community-based primary care?

• considered it, but…
  – not in our mandate
  – we would not have resources
  – in realm of other services

• focusing on our “reason for being”
  – strategic plan

• nothing wrong with saying “we can’t”
Summary

• regionalization and service delivery
• impact on patients
• role of transport services
• my service
• “anecdote from the edge”
Summary

- integral role of transport to access care
- focus on roles and improve utilization
- work with others to improve service delivery
Closing Remarks

Ngawa ngarikuturumi karri najingawula ngapamurrumi ngawuyati.
Closing Remarks

Ngawa ngarikuturumi karrir najingawula ngapamurrumi ngawuyati.
We are stronger when we work together.
Thank You

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