RURAL GENERAL SX - IS THERE A FUTURE?
Rural Surgery: Is there a Future?

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Outline

• What defines rural in Canada?
• What are the trends in rural medicine in Canada?
• Are we losing rural surgeons?
What is ‘Rural’?

• StatsCan defines a rural location as ‘outside the commuting zone of an urban center of 10,000 people or more’

• 6.3 million Canadians

• 22.1% of the population

• 55.7% of Newfoundlander or 304,245 in 1996

• 292 communities are considered ‘remote’
Rural and Small Town

Most appropriate definition but not the only one we use
Rural Diversity

- Not all rural communities are the same

- Different health and well-being requirements
  - Aboriginal communities have high birth rates and teen suicides
  - Newfoundland rural populations are aging

- Differences in economic and social factors
Why does it matter?

Why does medicine in rural communities need to be addressed at all?
Importance of Rural Health Care

• Surgical Presentations are responsible for:
  • 11% of the global burden of disease
  • 15% of total disability adjusted life years
  • 10% of death
  • 20% of death in young adults
  • 58% admissions surgical global rural hospitals

Anderson 2014, Atiyeh 2010
Importance of Rural Health Care

- Rural populations are declining in Canada
  - Strong link between accessibility to health care and people’s decision to stay in the area
- Life expectancy of rural Canadians is lower than urban
- Rural dwellers have a lower health care status
- Rural health care needs are not understood
Rural Medicine

• Approximately 10% of physicians in Canada practice rurally*

• 5700 Rural physicians
  • 87% are family physicians

• Newfoundland has the highest proportion of rural doctors in Canada (31%)
  • specialists are half the workforce in rural NL

• Even those physicians practicing in remote northern cities of >10,000 (Whitehorse, Yellowknife) could be arguably rural

• Rural locations are often served by IMGs

• Rural practice differs from urban practice in a number of ways:
  • broad scope of cases
  • insufficient family practitioners
  • lack of medical specialist
  • Long on call
Physician Retention

- Rural Physician Retention associated with improved:
  - problem recognition
  - preventative care
  - patient satisfaction
  - treatment adherence
- And reduced:
  - use of service
  - mortality
  - health care costs

Knight 2017
Rural Surgery

• World wide there is an increasing shortage of rural surgeons

• 40% of surgeons in Canada were over 65
  • 57% over 55

• Less general surgeons are being trained
  • 2.3% decline in general surgery workforce

• Increasing sub specialization

• Change in lifestyle choices

Polk 2012, Tholl 2001
• decline in satisfaction in services that can be provided

• 40% in 1991; 17% in 1999

• General Surgery Residents are choosing to specialize

• 88% in 2012 in USA entered sub-specialties

• Canadian trainees want sub specialization
Reasons Canadian General Surgery Residents Subspecialize

RCPSC. The Future of General Surgery. 2014
Barriers to Rural Practice

- Personal factors:
  - Spousal Contentedness
  - Child-related issues
  - Social isolation
- Professional issues include:
  - Longer work and on-call hours
  - Broader scope
  - Less support
  - Fewer facilities and equipment
  - Difficulties pursuing CME

<table>
<thead>
<tr>
<th>Issue</th>
<th>Most Important (%)</th>
<th>Mentioned (%)</th>
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<tbody>
<tr>
<td>High cost, low volume, inadequate reimbursement issues</td>
<td>47.1</td>
<td>76.5</td>
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<tr>
<td>Surgeon nonavailability</td>
<td>31.4</td>
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<td>Other (miscellaneous issues)</td>
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<td>15.7</td>
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<td>Competition</td>
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<td>11.8</td>
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<td>Reputation and quality</td>
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<td>Anesthesia personnel nonavailability</td>
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<td>Nonavailability of other skilled personnel</td>
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<td>Personnel conflicts</td>
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<tr>
<td>Training</td>
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<tr>
<td>Access/geography</td>
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<tr>
<td>Total*</td>
<td>100.2</td>
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</table>

NA = not applicable.
* The 51 respondents produced 106 different responses.

Dunbar 1998
But so what?

Why are rural surgery and rural practice important?
The Pros

• General Surgeons provide services that keep people in communities
  • brings industry to the region

• Surgery generates jobs, employment, and income
  • brings, on average, $1.0-2.4 million to a community

• Improves patient safety

• Reduces governmental spending on the high cost of travel
  • also hidden costs of adverse events in travel
Service Benefits

• Trauma and acute care
  • stabilization for transfer
  • procedural care

• Full Maternal Care
  • 30 mins to c-section
  • communities more than 100km from urban centers need to provide full maternal services

• Screening programs - endoscopy

• Prevents overload in tertiary sites

Other services

- General Surgery News, 2011:
  - 46% of all vascular
  - 16% of all thoracic
  - 30% of all pediatric
  - 33% of all plastic

- OHNS in rural locations losing practitioners at -0.33/year

- Endoscopy is primarily GS in rural areas

Campbell 2013, Evans 2015, Crowson 2017
Staffing Benefits

• Surgeons and surgical service reduce burden on family doctors
• Provides a reference and support
  • first responder education and preparation
• Outreach clinics to smaller sites
• Reduces attrition of small volume surgical site
• *Best practices*: basic procedural care should be provided as close to home as possible

Caron 2015, Iglesias 2015
Patient Benefits

- All Canadians have the right to surgical services near their home
- Better outcomes have been noted at home:
  - community
  - social and cultural factors
  - less stress
- High level of health care competence

Pollett 2002, Caron 2015
Patient Centric Care

- Finlayson 2009:
  - 100% want care close to home with equivalent risk
  - 45% even if mortality risk was double
  - 23% even if mortality risk was quadruple
- Rural patients more likely to present with advanced disease
- High levels of readmission after cardiac surgery in octogenarians
- More non-op management of hip fractures - rural Manitoba
- Maternal care in community vital for social fabric

The Cons

• Sustainability
  • training surgeons takes 5 years
  • 25% of rural surgeons plan to leave practice in 5 years
  • 2011 - 140 ESS physicians sustained surgical programs in rural locations
• Isolated, out of date practice
  • Is this still a factor in modern society?
The Cons

- Low volume surgery = unsafe?
- Stage 2 and 3 rectal cancer had similar treatment
- Breast cancer survival is not different
- Melanoma outcomes in Ontario not affected
- Most complex surgeries are not performed rurally in Canada

Iglesias 2015, Lefresne 2017, Olson 2012, Crawford 2018
Define success...

- Data based on large-volume centers

- Quality of Care MUST include:
  - accessibility
  - acceptability
  - appropriateness
  - effectiveness
  - efficiency
Not unnoticed...

- Fleming 2012
- Grow your own
- RCPSC 2014
- CMA address
- American College of Surgeons Advisory Committee on Rural Surgery
- International Collaboration
What about Newfoundland?
Canada’s Rural Microcosm?
Decidedly Rural

• 514,566 people; 208,970 rural (41%)
• 60% are ‘considered’ rural
• Vast geography
• dispersed low-density population
• hard to deliver public services
• high transportation costs
• severely inclement weather patterns
### Population, urban and rural, by province and territory (Newfoundland and Labrador)

<table>
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<tr>
<th>Year</th>
<th>Population</th>
<th>Urban</th>
<th>Rural</th>
<th>Urban %</th>
<th>Rural %</th>
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<td>1981</td>
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<td>1986</td>
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<td>2011</td>
<td>514,536</td>
<td>305,566</td>
<td>208,970</td>
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**Notes:**
Starting with the 2011 Census, the term 'population centre' replaces the term 'urban area.' For more information, please see the note titled, From urban areas to population centres, available on our website, explains the new terminology and classification of population centres. The rural population for 1981 to 2011 refers to persons living outside centres with a population of 1,000 AND outside areas with 400 persons per square kilometre. Previous to 1981, the definitions differed slightly but consistently referred to populations outside centres of 1,000 population.

**Source:** Statistics Canada, 2011 Census of Population.
Last modified: 2011-02-04.

For more statistical information, consult 2011 Census.
Newfoundland’s Regional Health Authorities
General Surgery

- 38 general surgeons in NL
  - 1 per 13,541
- no ESS physicians
- 5 of the 13 locations with general surgeon in NL are greater than 10,000 (i.e. NOT rural)
  - Labrador City (+ Wabash) (1)
  - Gander (3)
  - Grand Falls Windsor (4)
  - Corner Brook (5)
  - St Johns (12)
A Rural RHA...

- Labrador-Grenfell Health has 4 permanent general surgeons
  - Serves just under 37,000 people
  - Northern Peninsula and all of Labrador.
  - Employs approximately 1,500 individuals (March 2014).
- Partners with local Aboriginal organizations in health service delivery
  - Innu (Naskapi-Montagnais Indians) - 16,000
  - Inuit
  - NunatuKavit (Inuit-Metis populatio)
- Largest of the four Regional Health Authorities in NL.
So where do we go?

- Telementoring
- ESS Family Practitioners
- Recruiting from Rural Communities
- Growing our own physicians
- Rural Rotations as part of all Canadian medical training
- Return of Service Opportunities
- Networking and Outreach
  - Primary/Tertiary exchanges

Glenn 2017
Real joy comes not from ease or riches or from the praise of men but from doing something worthwhile.

— Wilfred Grenfell

This is worth saving

Thank you.
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