The Nature of Nursing Practice in Rural and Remote Canada

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Rural Nursing - A Research Phenomenon
September 25, 2004 - Dunedin, NZ
Geographical size comparison
Australia and Canada
Australia and British Columbia

Australia

- 7,686,850 sq km
- 19,913,144 people
- 2.6 people/sq km

British Columbia

- 947,800 sq km
- 4,177,400 people
- 4.2 people/sq km

(NHA <0.83 people/sq km)

Australia and Canada Aboriginal population comparison

Australia
• Aboriginal population of 427,000 people represent 2.2% of total population

Canada
• Aboriginal population of 1,007,330 people represents 3.4% of total population
British Columbia and NHA Aboriginal population comparison

British Columbia

• Aboriginal peoples (170, 280 people) represent 4.4% of total population

Northern Health Authority

• Aboriginal peoples (44, 165 people) represent 15.6% of total population
Aim of the Study

- to examine and articulate the nature of registered nursing practice in primary care, acute care, community health, continuing care (home care) and long term care settings within rural and remote Canada
The Study Components

- Survey
- Registered Nurses Data Base (RNDB)
- Narrative Study
- Documentary Analysis
Principal Investigators and Decision-maker

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  University of Lethbridge

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  University of Saskatchewan

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  Laurentian University

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  B.C. Ministry of Health Planning (to 2003)
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  Queen's University
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  Lakehead University
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- Gail Remus
  U. Saskatchewan
- Debra Morgan
  U. Saskatchewan
- Dorothy Forbes
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- Barbara Smith
  U. Saskatchewan
- Carl D'Arcy
  U. Saskatchewan
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  BC Women’s Hospital
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  UNBC
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• Madge Applin, NWT
• Elizabeth Cook, NWT
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• Francine Anne Roy, CIHI
• Brenda Canitz, FNIHB – Health Canada
• Maria MacNaughton, FNIHB - Health Canada
• Lisa Dutcher, Aboriginal Nurses Ass’n
• Lisa Little, CNA
Funding Partners

- Canadian Health Services Research Foundation
- Canadian Institutes of Health Research
- Nursing Research Fund
- Ontario Ministry of Health and Long-Term Care
- Alberta Heritage Foundation for Medical Research
- Michael Smith Foundation for Health Research
- Nova Scotia Health Services Research Foundation
- British Columbia Rural and Remote Health Research Institute
- Saskatchewan Industries and Resources
- Provincial and Territorial Nurses Associations
- Government of Nunavut
- Canadian Institute for Health Information
Rural and Remote Nursing

Access to Care
Quality of Care
Sustainability of Care
Access to Care

• Supply and Distribution of Nurses

• Education of Nurses
How many Registered Nurses are there in rural and remote Canada?
Nurse to Population Ratios (All RNs), 1988-2002

Source: RNDB/Statistics Canada and CIHI
<table>
<thead>
<tr>
<th>Year</th>
<th>Number of rural (RST) RNs</th>
<th>% of all RNs</th>
<th>Rural (RST) % of total Canadian population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>42,303</td>
<td>18.0</td>
<td>22.3</td>
</tr>
<tr>
<td>2000</td>
<td>41,502</td>
<td>17.9</td>
<td>21.7</td>
</tr>
<tr>
<td>2002</td>
<td>40,648</td>
<td>17.6</td>
<td>20.6</td>
</tr>
</tbody>
</table>

2002 – based on CIHI figure generated without Quebec data
Number of Rural RNs per 10,000 Rural Population by Census Division 2000

RNb per 10,000 Population

- < 30
- 30 - 50
- 50 - 70
- 70 - 90
- 90 +

Source: RNDB/CIHI

From:
.. an aging workforce

- **Rural RNs**
  - 1994 average age: 40.6 years
  - **2000 average age: 42.9 years**

- **Urban RNs**
  - 1994 average age: 41.6 years
  - **2000 average age: 43.5 years**

- **All RNs**
  - 1994 average age: 41.5 years
  - 1998 average age: 42.6 years
  - **2000 average age: 43.4 years**
  - **2002 average age: 44.2 years**
Canada is projected to lose 29,746 RNs aged 50 or older to retirement or death by 2006, a total equivalent to 13% of the nursing workforce in 2001.


Table 10. Expected Losses of RNs Employed in Nursing Aged 50 to 65 by Region, Canada, 2002–2006

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>5,316</td>
<td>5,640</td>
<td>5,982</td>
<td>6,267</td>
<td>6,541</td>
<td>29,746</td>
<td>0.13</td>
</tr>
<tr>
<td>Atlantic</td>
<td>385</td>
<td>423</td>
<td>457</td>
<td>482</td>
<td>513</td>
<td>2,261</td>
<td>0.10</td>
</tr>
<tr>
<td>Que.</td>
<td>1,750</td>
<td>1,823</td>
<td>1,917</td>
<td>1,969</td>
<td>2,013</td>
<td>9,471</td>
<td>0.16</td>
</tr>
<tr>
<td>Ont.</td>
<td>1,759</td>
<td>1,873</td>
<td>1,992</td>
<td>2,074</td>
<td>2,180</td>
<td>9,878</td>
<td>0.12</td>
</tr>
<tr>
<td>Man./Sask.</td>
<td>365</td>
<td>388</td>
<td>417</td>
<td>439</td>
<td>450</td>
<td>2,060</td>
<td>0.11</td>
</tr>
<tr>
<td>Alta.</td>
<td>352</td>
<td>392</td>
<td>408</td>
<td>477</td>
<td>520</td>
<td>2,149</td>
<td>0.09</td>
</tr>
<tr>
<td>B.C.</td>
<td>681</td>
<td>714</td>
<td>760</td>
<td>790</td>
<td>828</td>
<td>3,773</td>
<td>0.14</td>
</tr>
</tbody>
</table>

Source: Projections are based on data from RNDB/CIHI
.. Increasing number of male RNs, but only slight increases in rural Canada

Proportions of Male RNs in Rural Canada
1994 and 2000

Source: RNDB/CiHI
Access to Care

• Education of Nurses
Documentary Analysis Methods

- conducted to achieve a contextual understanding of the policy and practice environment
- systematic collection and analysis of relevant documents according to the policy cycle: policy formulation, policy implementation and policy accountability (Rist, 1994)
- using this cycle, developed a guide to examine the materials
- located 200+ documents with input from advisory board - over 150 analyzed
Education Level of RNs in Rural Canada, 2000

(Source: RNDB)

Diploma  81.4%
Bachelor’s  18%
Master’s/Doctorate  0.6%
Educational Preparation of RNs in Rural and Remote Areas

- Paucity of information in available reports

- No government documents located that discuss the need to provide educational opportunities for students in rural sites
Most nursing associations equate rural with accessibility issues regarding education.

Entry-level competencies focus on generic requirements.
• Education for remote practice links it with First Nations health issues

• Education documents discuss programs with rural focus at locations such as Aurora College, UNBC, University of Saskatchewan, First Nations University of Canada, University of Lethbridge
• No indication of any telehealth education occurring within nursing programs

• Nursing programs prepare graduates to be computer-literate but technology not always available or feasible in rural and remote settings
• Extended mentoring or orientation programs need consideration (documentary analysis) but do not replace basic education with employment mentoring (narrative)
Advice for Educators
(Source: Narratives)

• Need for reality-based cases

• Part of curriculum offered in rural settings

• Educators who are specialized in knowledge and experience
General Comments from Rural and Remote Nurses
(Source: Narratives)

• Basic education is inadequate for rural and remote practice

• Rural health nursing needs to part of basic nursing program

• Additional infrastructure and financial support is needed for educational institutions that are preparing nurses for rural nursing
Quality of Care
Narrative Approach

• 152 Nurses (11 Francophone)
• Areas of Practice: Acute, Long-term Care, Public Health, Home-care, Community, Primary Care
• Telephone Interviews
• Analysis: interpretative phenomenology & descriptive thematic analysis
Community Shaping Practice

- Size, distance, demographics
- Expectations of communities
- Knowing the client in the context of community; the community in the context of the client
As I stepped off the ski plane I stepped into a foreign world. My role as a nurse was changed completely and my personal life soon became unfamiliar to me in my unfamiliar surroundings.

We do get a lot of moms with children with various things, but mostly with kids, you know, it’s the head colds, bad ear, sore throat, bit of abdo pain. [...] Our kids are basically a healthy population.

I remember being up in this same community and working 36 hours straight, no sleep, no break, nothing.
Expectations of Communities

I always say it's a double edged sword because they hold you to high respect because you're their own. [...] And because of that you can't be the normal person that you are. You have to always be this person that everybody looks up to. And the clinic is situated on the top of a hill, so that I can look down at all the [community] around me. And most times I feel that way, that people think it's like that. That I'm the person on the hill looking down on everybody else. And there's a lot of pressure to be the perfect person when you're the nurse.
Knowing the Client: Knowing the Community

We are very responsive in our community because we see those people in our churches and in our grocery stores. And so you know we try and be all things to all people, maybe that is kind of bad. But in the end we are the one who see these people outside of our work life too.
Advice: Listen to Learn-
Learn to Listen

Number one, do a lot of listening initially, and very little talking

Listen to your nurses! Listen to them and respect their opinions and have an open dialogue

Teach them how to use resources – how to find the answers. Don’t give it to them.., don’t feed it to them....
Sustainability of Care

• Predictors of Intent To Leave

• Migration of Nurses
Sustainability of Care

- Predictors of Intent To Leave
Survey Method

• Mailed questionnaire with persistent follow-up (Dillman’s Tailored Design Method)

• Sample (N=3933)
  1) random sample of registered nurses (RNs) living in rural areas in all Canadian provinces
  2) total population of RNs who work in outpost settings or the northern territories
Sample Response Rates by Province and Territory (N=3933)

Source: 2001-2002 Nursing in Rural and Remote Canada Survey
Predictors of Intent To Leave

Variables

• Individual
  – Sociodemographic & professional
  – Satisfaction with work & community

• Work place

• Community
## Predictors of Intent To Leave

Table. Adjusted odds ratios of intent to leave within the following one year period, by selected factors, registered nurses under 60 years of age.

<table>
<thead>
<tr>
<th>CORRELATES</th>
<th>Adjusted Odds Ratio</th>
<th>95% CI</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>2.07</td>
<td>1.42 to 3.02</td>
<td>0.000</td>
</tr>
<tr>
<td>Female&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.00</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Perceived stress</td>
<td>1.06</td>
<td>1.03 to 1.10</td>
<td>0.001</td>
</tr>
<tr>
<td>No dependent children or relatives&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1.56</td>
<td>1.27 to 1.93</td>
<td>0.000</td>
</tr>
<tr>
<td>Highest attained nursing education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master or doctorate</td>
<td>3.61</td>
<td>1.62 to 8.07</td>
<td>0.002</td>
</tr>
<tr>
<td>Advanced Nursing Practice</td>
<td>1.45</td>
<td>0.96 to 2.19</td>
<td>0.079</td>
</tr>
<tr>
<td>Bachelors</td>
<td>1.53</td>
<td>1.21 to 1.93</td>
<td>0.000</td>
</tr>
<tr>
<td>Diploma&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.00</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

Source: 2001-2002 Nursing in Rural and Remote Canada Survey (n=3051)

Note. Variables were entered in four blocks; odds ratios were calculated using forward logistic regression with likelihood ratio criterion. Nagelkerke R Square=0.20; c statistic=0.76

<sup>a</sup> Reference category

<sup>b</sup> Reference category denotes lack of characteristics
## Predictors of Intent To Leave (cont’d)

<table>
<thead>
<tr>
<th>CORRELATES</th>
<th>Adjusted Odds Ratio</th>
<th>95% CI</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years employed in primary agency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 2 years</td>
<td>3.21</td>
<td>2.22 to 4.63</td>
<td>0.000</td>
</tr>
<tr>
<td>2-5 years</td>
<td>2.59</td>
<td>1.82 to 3.67</td>
<td>0.000</td>
</tr>
<tr>
<td>6-9 years</td>
<td>2.22</td>
<td>1.50 to 3.28</td>
<td>0.000</td>
</tr>
<tr>
<td>10-14 years</td>
<td>1.17</td>
<td>0.79 to 1.74</td>
<td>0.437</td>
</tr>
<tr>
<td>15-19 years</td>
<td>1.07</td>
<td>0.68 to 1.69</td>
<td>0.772</td>
</tr>
<tr>
<td>20 years or over a</td>
<td>1.00</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Community satisfaction</td>
<td>- 0.98</td>
<td>0.97 to 0.99</td>
<td>0.014</td>
</tr>
<tr>
<td>Scheduling dissatisfaction</td>
<td>1.05</td>
<td>1.03 to 1.07</td>
<td>0.000</td>
</tr>
<tr>
<td>Job satisfaction - autonomy</td>
<td>- 0.94</td>
<td>0.92 to 0.96</td>
<td>0.000</td>
</tr>
<tr>
<td>Required to be on call b</td>
<td>1.30</td>
<td>1.04 to 1.62</td>
<td>0.022</td>
</tr>
<tr>
<td>Perform advanced decisions or practice b</td>
<td>1.30</td>
<td>1.05 to 1.62</td>
<td>0.018</td>
</tr>
<tr>
<td>Workplace remote b</td>
<td>1.48</td>
<td>1.17 to 1.87</td>
<td>0.001</td>
</tr>
</tbody>
</table>
Predictors of Intent To Leave

Registered Nurses were more likely to intend to leave their present nursing position within the next 12 months if they:

- Were male
- Reported higher perceived stress
- Did not have dependent children or relatives
- Had higher education
- Were employed by their primary agency for a shorter time
- Had lower community satisfaction
- Had greater dissatisfaction with job scheduling
- Had lower job satisfaction re: autonomy
- Were required to be on call
- Performed advanced decisions or practice
- Worked in a remote setting
Sustainability of Care

• Migration of Nurses
International Nursing Graduates

• In 2000 14,177 international nursing graduates were registered and employed in nursing in Canada
• 5.7% of international nursing graduates worked in rural Canada
• But this represented only 1.9% of rural RNs
• Therefore, our analyses focus on INTERNAL MIGRATION of Canadian-educated, rural RNs
Proportions (by Census Division) of Canadian-Educated, Rural RNs Who Graduated from a Different Province

% Migrants

- (No data)
- <10%
- 10-19%
- 20-29%
- 30-39%
- 40-49%
- 50+%>

Source: RNDB 2000
## Correlates of Migration

<table>
<thead>
<tr>
<th>Correlates</th>
<th>% Migrants</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>7.2</td>
<td>1.00</td>
</tr>
<tr>
<td>Female</td>
<td>12.0</td>
<td>1.31*</td>
</tr>
<tr>
<td><strong>Highest Nursing Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diploma</td>
<td>11.0</td>
<td>1.00</td>
</tr>
<tr>
<td>Baccalaureate</td>
<td>14.9</td>
<td>0.90</td>
</tr>
<tr>
<td>Graduate Degree (MA/PhD)</td>
<td>24.0</td>
<td>1.55*</td>
</tr>
<tr>
<td><strong>Full-Time/Part-Time Employment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part-Time</td>
<td>10.8</td>
<td>1.00</td>
</tr>
<tr>
<td>Full-Time</td>
<td>12.7</td>
<td>1.07*</td>
</tr>
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</table>
Correlates of Migration (Continued)

<table>
<thead>
<tr>
<th>Correlates</th>
<th>% Migrants</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Place of Work</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital</td>
<td>10.6</td>
<td>1.00</td>
</tr>
<tr>
<td>Nursing Station</td>
<td>34.4</td>
<td>2.40*</td>
</tr>
<tr>
<td>Nursing Home/Long-Term Care</td>
<td>10.4</td>
<td>0.69*</td>
</tr>
<tr>
<td>Home Care/Community Health Centre</td>
<td>14.1</td>
<td>0.86*</td>
</tr>
<tr>
<td>Education/Association/Government</td>
<td>17.8</td>
<td>1.10</td>
</tr>
<tr>
<td>Other</td>
<td>12.8</td>
<td>0.96</td>
</tr>
<tr>
<td><strong>Primary Responsibility</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Care</td>
<td>11.9</td>
<td>1.00</td>
</tr>
<tr>
<td>Administration</td>
<td>10.8</td>
<td>0.68*</td>
</tr>
<tr>
<td>Teaching/Education</td>
<td>18.2</td>
<td>1.41*</td>
</tr>
<tr>
<td>Research</td>
<td>11.1</td>
<td>1.18</td>
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### Correlates of Migration (Continued)

<table>
<thead>
<tr>
<th>Correlates</th>
<th>% Migrants</th>
<th>Odds Ratio</th>
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<tbody>
<tr>
<td><strong>Position</strong></td>
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</tr>
<tr>
<td>Manager</td>
<td>14.5</td>
<td>1.00</td>
</tr>
<tr>
<td>Staff/Community Nurse</td>
<td>11.7</td>
<td>1.07*</td>
</tr>
<tr>
<td>Other</td>
<td>10.1</td>
<td>0.72*</td>
</tr>
<tr>
<td><strong>Metropolitan Influenced Zone</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strong MIZ</td>
<td>8.4</td>
<td>1.00</td>
</tr>
<tr>
<td>Moderate MIZ</td>
<td>10.1</td>
<td>0.84*</td>
</tr>
<tr>
<td>Weak MIZ</td>
<td>15.4</td>
<td>1.31*</td>
</tr>
<tr>
<td>No MIZ</td>
<td>16.5</td>
<td>1.32*</td>
</tr>
</tbody>
</table>
Internal Migration: Items to Consider

- RNDB “internal migration” = 11.8%
- Survey “internal migration” = 26.7%

- By 2006, Canada is projected to lose the equivalent of 13% of the 2001 RN workforce through retirement and death (O’Brien-Pallas et al., 2003)
- For many rural communities, MIGRATION of RNs may be equally or more significant!
Nature of Nursing Practice

Recognizing nurses and the complexity of rural and remote practice

• Access to Care
• Quality of Care
• Sustainability of Care
Implications

• Create a “rural lens”
• Understand and support the fact of the inseparability of nurses’ professional and personal roles
• Provide supports at a distance - in-person and via technology
• Partner with nurses and communities in recruiting and retaining nurses
Implications

- Develop new models of interprofessional practice
- Attend to the needs of Aboriginal communities
- Develop undergraduate and post-graduate education for rural nursing
Implications

• Develop and design relevant continuing education
• Do not rely on recruiting nurses from overseas
• Improve nursing databases and rural indicators
Contact Information

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