Planning the Restructuring of Institutional Long-term Care: Stability of Assumptions Necessary to Predict Future Growth

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Contents

• Background
• Objective
• Methods
• Results/Findings
• Conclusion
• Take Home Message
• Questions
Background

• In 2006, 6.5% of Canada’s pop. ≥ 75 years
  ▫ By 2021 it will be 7.8% of pop.
• NL’s has an outmigration of 9% during past 25 years.
• In 2006, 5.7% of NL’s pop. ≥ 75 years
  ▫ By 2021 it is predicted to be 9.1%
Background

- In NL, LTC comprises supervised care and nursing homes.
- Clients request placement through the single entry system.
- Multi-disciplinary panel recommends SC or NH
  - Use RUGs-III classification and ARCS to assess a client’s need.
Background

- Undertaken 2 studies of clients to the single entry system for LTC in the St. John’s region (1995/6 & 1999/00).
- Made recommendations on restructuring using predictions of bed need and future growth using several assumptions.
  - More SC beds
  - Special facilities for cognitively impaired
  - Fewer NH beds
Objective

- To test stability of assumptions using third cohort (2005/6)
- Compare incidence rates, degree of disability, optimal placement (decision tree), and survival
- Compare predictions of bed needs for 2014 using last 2 cohorts
Table 1 - The 3 annual incident cohorts of clients seeking institutional long-term care in the St. John’s region.

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Population ≥ 75 years</td>
<td>7700</td>
<td>9074 +</td>
<td>9527</td>
</tr>
<tr>
<td>N applied</td>
<td>467</td>
<td>464</td>
<td>730</td>
</tr>
<tr>
<td>N missing charts</td>
<td>41</td>
<td>31</td>
<td>45</td>
</tr>
<tr>
<td>N excluded *</td>
<td>69</td>
<td>30</td>
<td>66</td>
</tr>
<tr>
<td>N studied and eligible for placement</td>
<td>357</td>
<td>403</td>
<td>619</td>
</tr>
<tr>
<td>N eligible for placement adjusted for missing charts</td>
<td>392</td>
<td>431</td>
<td>660</td>
</tr>
<tr>
<td>Rate per 1000 ≥ 75 years requiring placement</td>
<td>50.9</td>
<td>47.5</td>
<td>69.3</td>
</tr>
</tbody>
</table>

*Admitted for short-term respite, internal transfers or veterans.

+Geographic area of St. John’s region expanded.
Methods

- Degree of disability measured by RUGs-III & ARCS
- Optimal placement determined through decision tree (4 Options)
  - NH, SC, SCCI, AH
- Incidence rates calculated using ≥ 75 pop. in region
- Survival obtained through charts
- Predictions of bed need used incidence rates, disability, survival by optimal placement & predicted pop. ≥ 75 in 2014
Results

- St. John’s region (3 Cohorts)
  - N=1379
  - Mean age 81 years
  - 67% female, 34% resided in acute care, 48% had low level ARCS, 35% had no RUGs-III indicators, 7% were independent for ADL’s and had no CI
- No difference in age gender or disability
  - Cognitive Impairment/Behaviour problems increased (28% vs. 20%, p=0.005)
Results

• Supervised Care
  ▫ Incidence rates increased by 90% (12.2 to 24.2/1000 ≥ 75)
  ▫ Survival 3.02 years
  ▫ Rate of beds increased 20% (72 to 86)

• Nursing Home
  ▫ Incidence rates increased 18% (38.3 to 45.0)
  ▫ Survival 2.26 years
  ▫ Rate of beds decreased 20% (130 to 104)
  *incidence of clients increased 36% (51 to 69)
Results

• Optimal Placement
  ▫ AH increased from 4.8% to 7.9%
  ▫ SC decreased from 36.1% to 33.9%
  ▫ SCCI decreased from 13.4% to 12.3%
  ▫ NH stable at 46%
  * Incidence rates for all increased
ARCS
A-E (low to moderate)

No RUGs-III Clinical Indicators

No Disability

Yes

No

Housing

SC

1 or more RUGs-III Clinical Indicators

Cl/Behaviour Problems as only indicator

Yes

Mild CI

SC

SCCI

Aggression

NH (PCU)

No

Other

Other RUGs-III Clinical Indicators

Extensive Services

Special Care

Clinically Complex

Reduced Physical Function

No

NH

ARCS
F-G (high)

NH
Results

• **Beds Needed vs. Availability**
  ▫ Appropriate Housing and SCCI not available
  ▫ Substantial mismatch btw. Supply and demand for NH beds
  ▫ In 95/6, ample SC beds (Not enough in city)
  ▫ ’04, 95 SC beds for 9,818 ≥ 75 years
  ▫ By 05/06 mismatch had improved
    • Decrease in NH beds, Increase in SC beds
    • 204 SC beds in the city for 9,527 ≥ 75
<table>
<thead>
<tr>
<th>LTC Option</th>
<th>95/96</th>
<th>99/00</th>
<th>05/06</th>
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<tbody>
<tr>
<td><strong>Supervised Care:</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Provided</td>
<td>72</td>
<td>57</td>
<td>86</td>
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<tr>
<td>Needed</td>
<td>55</td>
<td>52</td>
<td>67</td>
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<tr>
<td><strong>SC for Cognitively Impaired:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provided</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Needed</td>
<td>19</td>
<td>11</td>
<td>24</td>
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<tr>
<td><strong>Nursing Home:</strong></td>
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<td></td>
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<tr>
<td>Provided</td>
<td>130</td>
<td>112</td>
<td>104</td>
</tr>
<tr>
<td>Needed</td>
<td>48</td>
<td>41</td>
<td>61</td>
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<tr>
<td><strong>Appropriate Housing:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provided</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Needed</td>
<td>9</td>
<td>10</td>
<td>18</td>
</tr>
</tbody>
</table>
Results

• Predictions for 2014
  ▫ AH bed need increased by 65% (113 to 186)
  ▫ SC bed need increased by 21% (595 to 719)
  ▫ SCCI bed need increased by 107% (125 to 259)
  ▫ NH bed need increased by 41% (466 to 657)
Conclusion

- Incidence rates requesting LTC increased
- Degree of disability has not changed much
- Survival by placement has not changed
- Predicted population ≥ 75 years by 2014 is similar based on ‘00 and ‘06 census.
Conclusion

• Despite no change is disability and survival, increased incidence rates over time have impacted LTC restructuring in 2 important ways:
  ▫ More Appropriate housing and SCCI beds will be more necessary then originally planned after ‘00 study
  ▫ Downsizing NH’s will be more limited. The original plan for 2014 was a substantial underestimate when revised in 06
Take Home Message

- In the St. John’s region the dependence on nursing homes for long-term care is unnecessary. There is a need for more supervised care facilities, for specialized care facilities for the cognitively impaired and for appropriate housing units for the elderly with no overt disability. Planning the restructuring of long-term care requires prediction of future need. Our study has shown that many of the assumptions made were stable over time but incidence rates across the spectrum of disability increased substantially, perhaps related to supply induced demand. Frequent review of incidence rates of LTC clients defined by disability, together with a flexible approach to the addition of appropriate beds over time will be necessary.
References

- www.stats.gov.nl.ca/Statistics/Population
Questions???