

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

R. Wilson, J. McDonald, B. Barrett, P. Parfrey



Contents

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

Background

- In 2006, 6.5% of Canada's pop. \geq 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. \geq 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

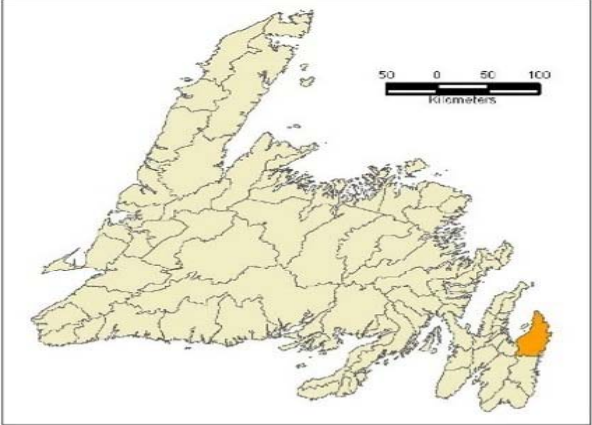
- To test stability of assumptions using third cohort (2005/6)
- Compare incidence rates, degree of disability, optimal placement (decision tree), and survival
- Compare predictions of bed needs for 2014 using last 2 cohorts

Table 1- The 3 annual incident cohorts of clients seeking institutional long-term care in the St. John's region.

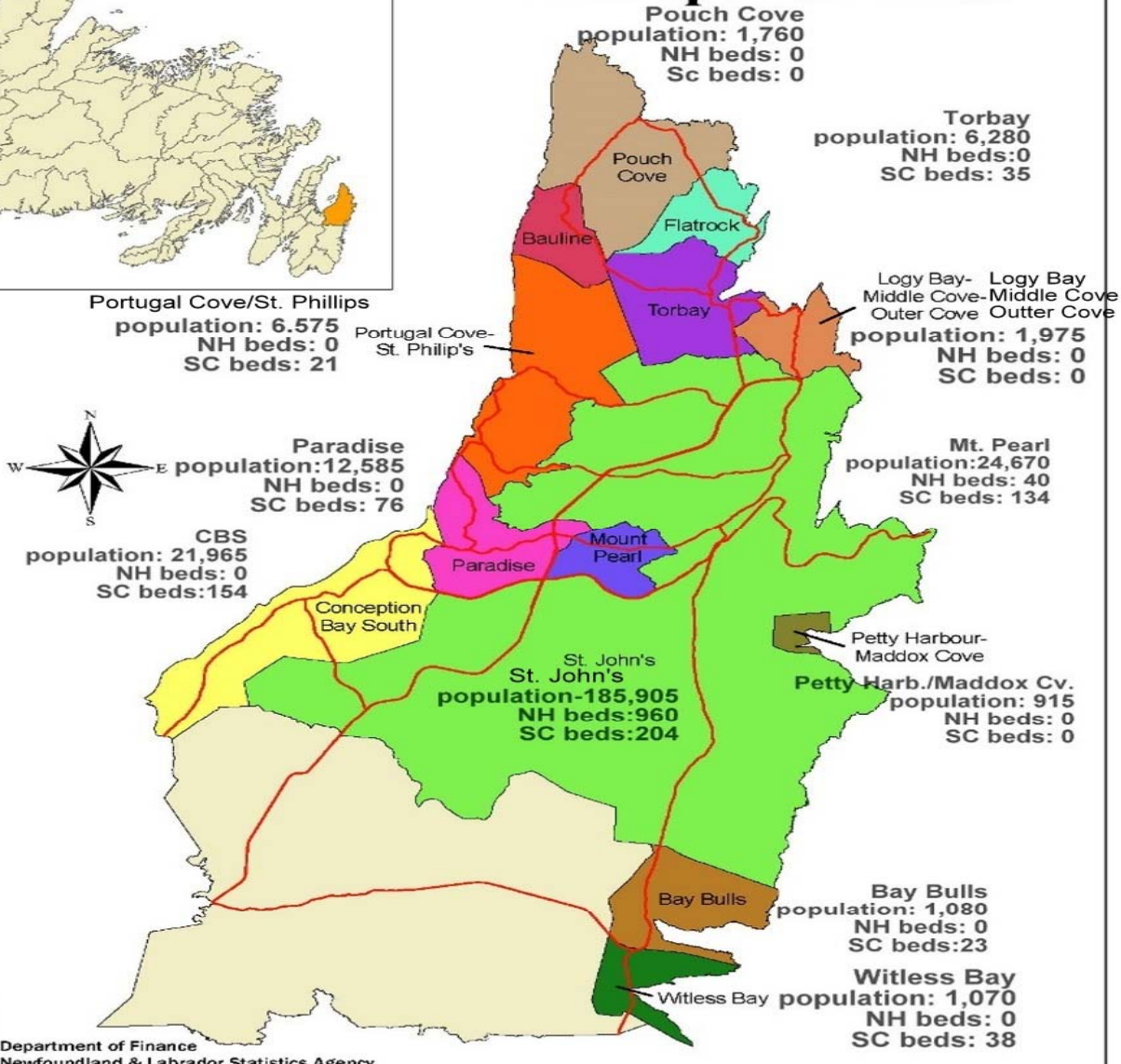
	1995/1996	1999/2000	2005/2006
Population \geq 75 years	7700	9074 +	9527
N applied	467	464	730
N missing charts	41	31	45
N excluded *	69	30	66
N studied and eligible for placement	357	403	619
N eligible for placement adjusted for missing charts	392	431	660
Rate per 1000 \geq 75 years requiring placement	50.9	47.5	69.3

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

+Geographic area of St. John's region expanded



St. John's Census Metropolitan Area



Department of Finance
Newfoundland & Labrador Statistics Agency

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

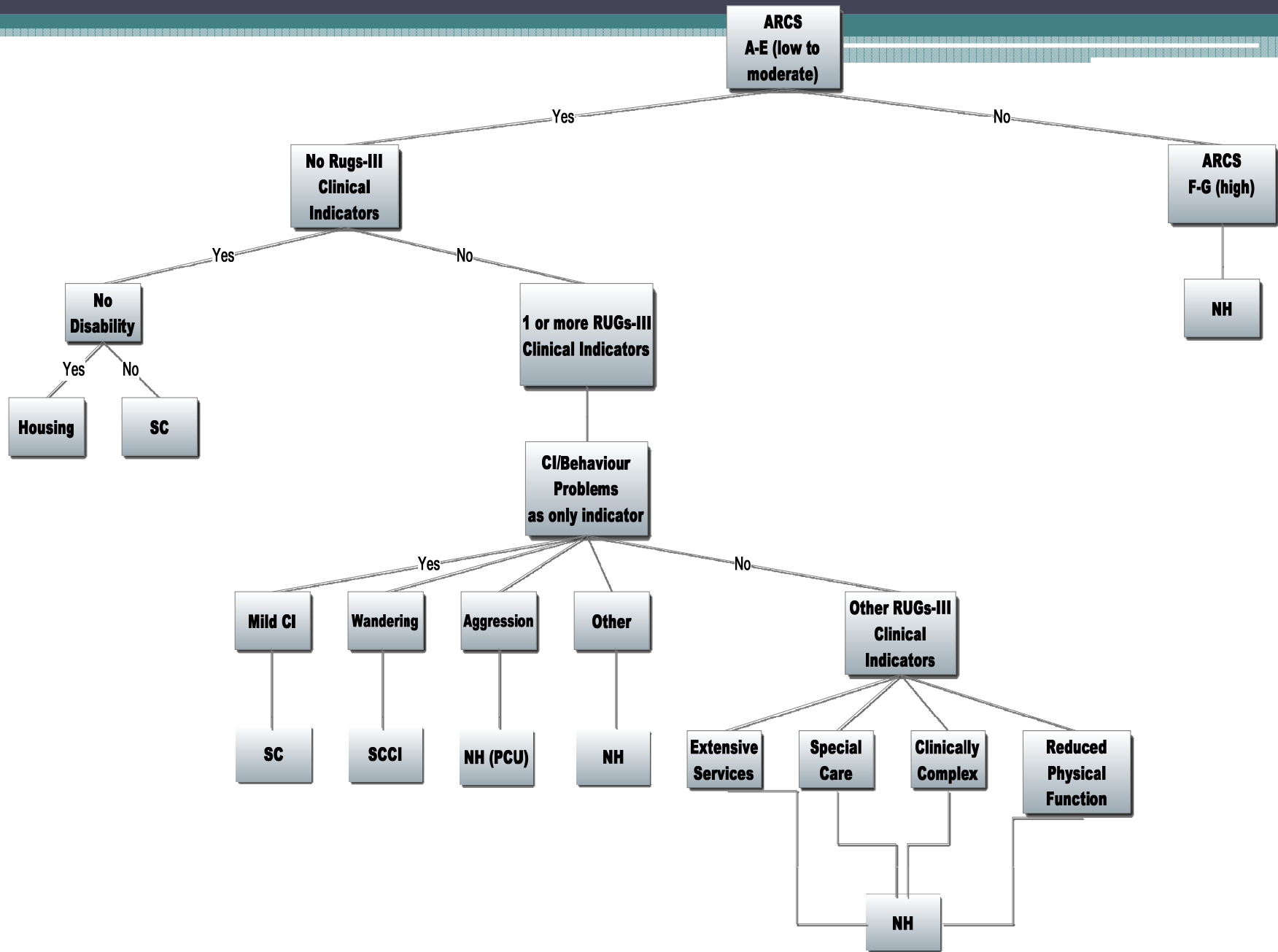
- **St. John's region (3 Cohorts)**
 - N=1379
 - Mean age 81 years
 - 67% female, 34% resided in acute care, 48% had low level ARCS, 35% had no RUGs-III indicators, 7% were independent for ADL's and had no CI
- **No difference in age gender or disability**
 - Cognitive Impairment/Behaviour problems increased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

Results

- **Supervised Care**
 - Incidence rates increased by 90% (12.2 to 24.2/1000 \geq 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



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 \geq 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 \geq 75

LTC Option	95/96	99/00	05/06
Supervised Care:			
Provided	72	57	86
Needed	55	52	67
SC for Cognitively Impaired:			
Provided	-	-	-
Needed	19	11	24
Nursing Home:			
Provided	130	112	104
Needed	48	41	61
Appropriate Housing:			
Provided	-	-	-
Needed	9	10	18

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 in 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 than 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

- 2006 Census. Ottawa, ON: Statistics Canada. Available from: <http://www12.statcan.ca/english/census/index.cfm>
- 2001 Census. Ottawa, ON: Statistics Canada. Available from: <http://www12.statcan.ca/english/census01/home/index.cfm>
- Kermode-Scott B. Canadian life expectancy varies greatly depending on ethnic origin. *British Medical Journal* 2005; 330:326.
- HealthScope 2004: Reporting to Newfoundlanders and Labradorians on comparable health and health system indicators (pp. 1-49). St. John's, NFLD. Government of Newfoundland and Labrador. Department of Health and Community Services; 2004.
- www.stats.gov.nl.ca/Statistics/Population
- Hollander M. The costs, and cost-effectiveness of continuing-care services in Canada. Queen's-University of Ottawa Economic Projects Working Paper No. 94-06. Ottawa, ON: University of Ottawa; 1994.
- Chan P, Kenny SR. National consistency and provincial diversity in delivery of long-term care in Canada. *Journal of Aging & Social Policy* 2001; 13(2-3): 83-99.
- Chambers L, Goeree R, Labelle R, Gafini A. A national survey of the organization and financing of public and private sector long-term care facilities for the elderly in Canada: Chapter 1: Newfoundland Report. Working Paper 92-3. Hamilton, ON: Centre for Health Economics and Policy Analysis, McMaster University; 1992.
- McDonald J, Hibbs J, Reddy M, Stuckless S, O'Rielly D, Barrett B, et al. Long-term care in the St. John's region: Impact of single entry and prediction of bed need. *Healthcare Management FORUM* 2005; 18(3): 6-12.
- Jorgensen LM, el Kholy K, Damkjaer K, Deis A, Schroll M. "RAI"- an international system for assessment of nursing home residents. *Ugeskr Laeger* 1997; 159(43): 6371-6376.
- Carpenter G, Ikegami N, Ljunggren G, Carillo E, Fries BE. RUG-III and resource allocation: Comparing the relationship of direct care time with patient characteristics in five countries. *Age and Ageing* 1997;26. Suppl 2:61-65.
- Armstrong-Esther C. Long-term care reform in Alberta, Canada: The role of the resident classification system. *Journal of Advanced Nursing* 1994; 19: 105-113.
- Hirdes JP, Botz CA, Kozak JF, Lepp V. Identification of an appropriate case-mix measure for chronic care. Evidence from an Ontario pilot study. *Healthcare Management FORUM* 1996; 9(1): 40-46.
- www.economics.gov.nl.ca/population/default.asp
- O'Rielly D, Parfrey PS, Barrett B, McDonald J. Efficiency of institutional long-term care and annual demands for placement. *Healthcare Management FORUM* 1998; 11: 26-32.
- Hughes N, McDonald J, Barrett B, Parfrey PS. Planning the restructuring of long-term care: The demand and provision of institutional long-term care beds in Newfoundland and Labrador. *Healthcare Management FORUM* 2008; 21(2): 6-22.
- Charles C, Schalm C. Alberta's resident classification system for long-term care facilities. Part I: Conceptual and methodological development. *Canadian Journal of Aging* 1992;11(3):219-232.
- Seradek J, et al. Alberta Patient Classification System for Long Term Care Facilities: Final Report 1998:48.
- Clauser SB, Fries BE. Nursing home resident assessment and case-mix classification: Cross national perspectives. *Health Care Financing Review*: 1992;13(4):135-154.
- Wittenberg R, Pickard L, Comas-Herrera A, Davies B, Darton R. Demand for long-term care for older people in England to 2031. *Health Statistics Quarterly* 2001; 12: 5-17.
- Kunkel, SR, Applebaum, RA. Estimating the prevalence of long-term disability for an aging society. *Journal of Gerontology: Social Sciences* 1992; 47(3): S253-S260.
- CBO Memorandum. Projections of expenditures for long-term care services for the elderly. Congressional Budget Office 1999.
- Comas-Herrera A, Wittenberg R, Pickard L, Knapp M. Cognitive impairment in older people: future demand for long-term care services and the associated costs. *International Journal of Geriatric Psychiatry* 2007; 22: 1037-1045.



Questions???