

Did the Cod Moratorium Impact Life Expectancy in NL?

Objective

To examine demographic change and deaths in NL since 1990 and assess whether the cod moratorium was associated with change in death rates and in life expectancy.

Practice Points

1. The rate of increase of health spending seen in the 1980s increased further in the 1990s in NL. The rate of increase of social spending was essentially zero. Nonetheless, the rate of improvement in life expectancy seen in ON was not seen in NL; in fact, life expectancy curves diverged so that in 2017/18 life expectancy in NL was 2.4 years worse than in ON, having been one year in 1981. The massive increase in health spending did not prevent this divergence of life expectancy over time.
2. The cod moratorium occurred in 1992 and was associated with out-migration from rural NL communities.
3. Life expectancy calculations assume the age specific death rates for the year in question will apply throughout the lifetime of individuals born in that year. Consequently, major intercalated events that change age-specific death rates could have an influence on this metric of the health status of a community.

Data (Dr. W. Locke)

Demographic changes were calculated using Statistics Canada data on population structures by age and sex, and deaths were also obtained from Statistics Canada.

Results

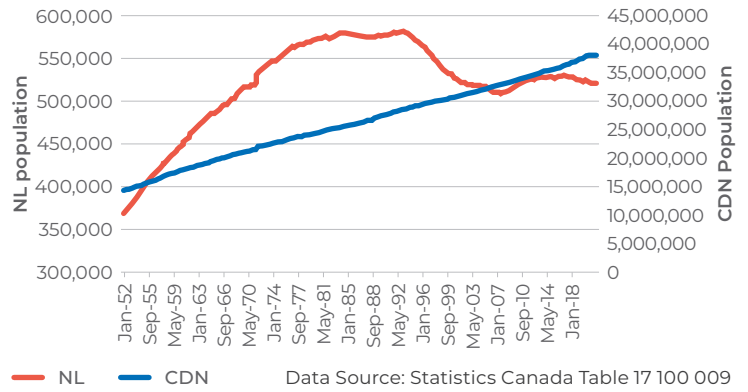


Figure 1. Quarterly Population Size in NL Compared to Canada (Male and Female), 1952 to 2021

- The NL population grew from 1952 to 1991. In the 1990s, it fell by 7.6% and in 2000s, it fell by 2.4%.
- However, the out-migration causing this population reduction occurred from rural communities and had a bigger proportionate impact in these communities.
- Although the population in NL was unchanged in 2010s, rural depopulation continued and is projected to continue for the next decade.

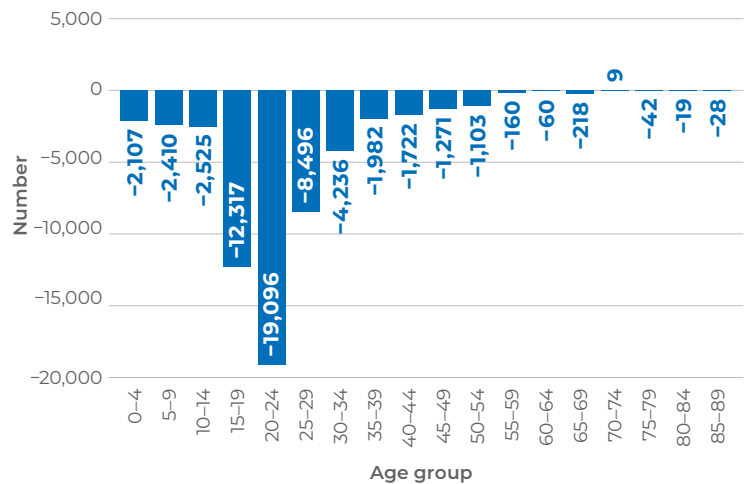


Figure 2A. Net Out-Migration in NL by Age (Males and Females), 1990–2000 (N=57,114)

- From 1990 to 2000, the net out-migration amounted to 57,114 people, of whom 12.3% were children younger than 15 years, 77.3% were young adults aged 15–34 years, 11.0% were older adults aged 35–64 years, and 0.5% were 65 years or older.

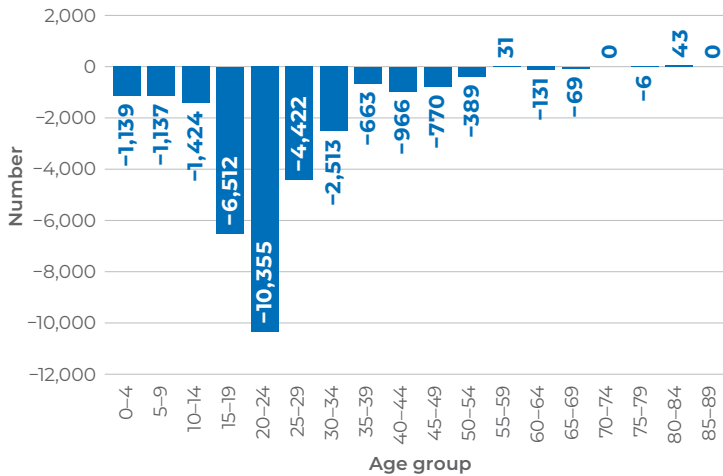


Figure 2B. Net Out-Migration in NL by Age (Males), 1990–2000 (N=30,181)

- From 1990 to 2000, the net out-migration amounted to 30,181 males, 52.8% of the total.

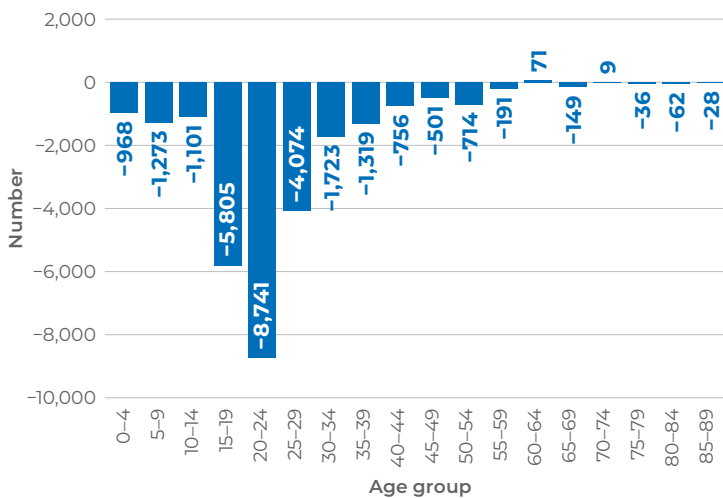


Figure 2C. Net Out-Migration in NL by Age (Females), 1990–2000, (N=26,933)

- From 1990 to 2000, the net out-migration amounted to 26,933 females, 47.2% of the total.

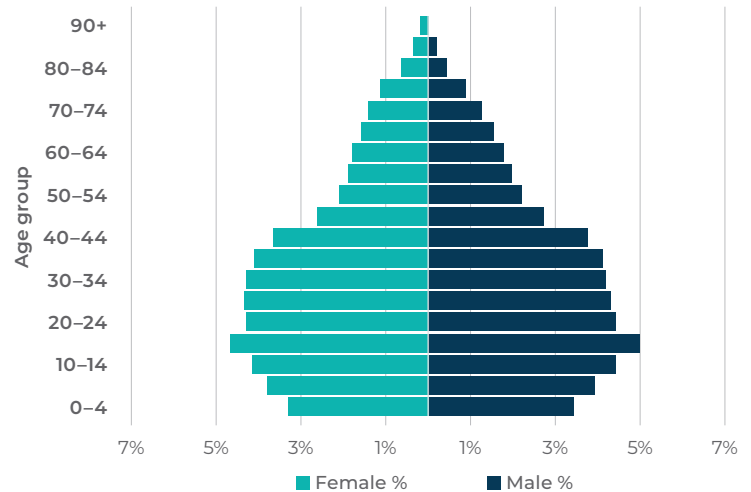


Figure 3A. Population Pyramid for NL by Age and Sex, 1990

- In 1990, 22.9% of the 577,368 people in the population were children younger than 15 years, 35.3% were young adults aged 15–34 years, 32.4% adults aged 35–64 years, and 9.4% were 65 years or older.

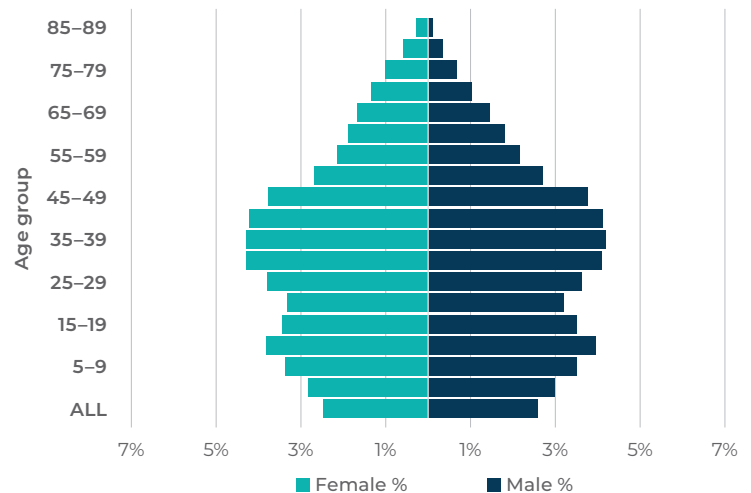


Figure 3B. Population Pyramid for NL by Age and Sex, 2000

- In 2000, the size of the population was now 527,966. The per cent of the population younger than 15 years had decreased to 17.6 and adults aged 15–34 years had also decreased to 28.5%. In contrast, the proportion of people aged 35–64 years had increased to 42.1% and of people ≥ 65 years to 11.9%.

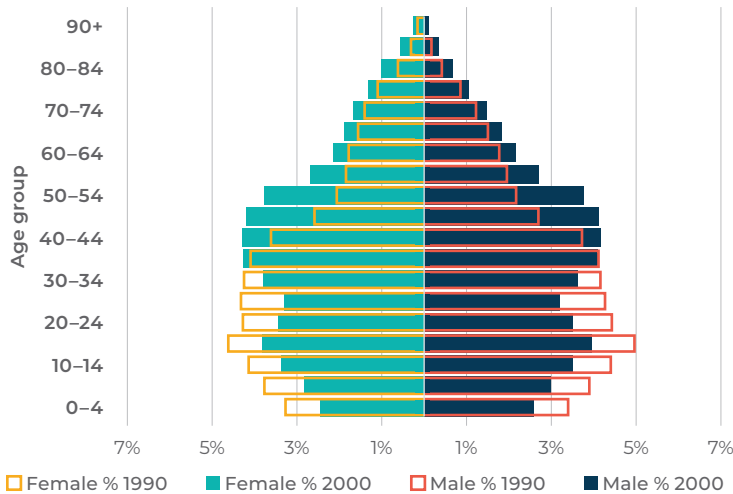


Figure 3C. Population Pyramids for NL, 1990 vs. 2000

- The combination of out-migration, decreased births and increased deaths contributed to the aging of the population. In 2000, a minority (46%) of the people in the province were <35 years, whereas in 1990 this group comprised the majority (58.2%).

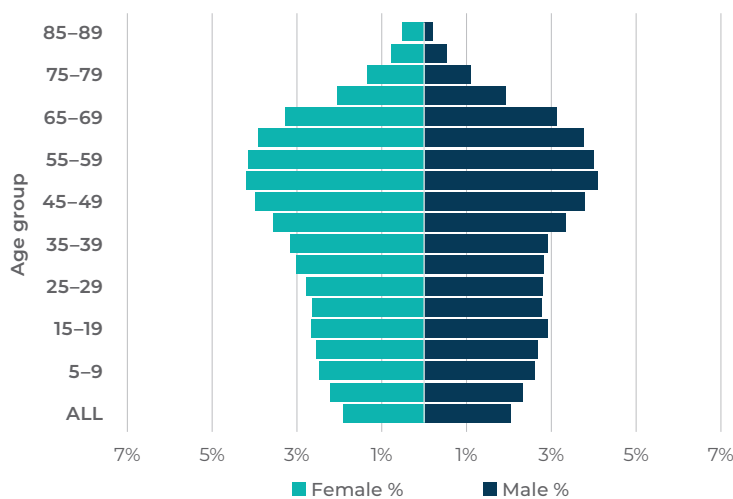


Figure 3D. Population Pyramid for NL, 2020

- In 2020, the size of the population was 522,103. 13.4% were younger than 15 years, 21.8% were 15–34 years, 42.7% were 35–64 years, and 22.3% were 65 years or older.

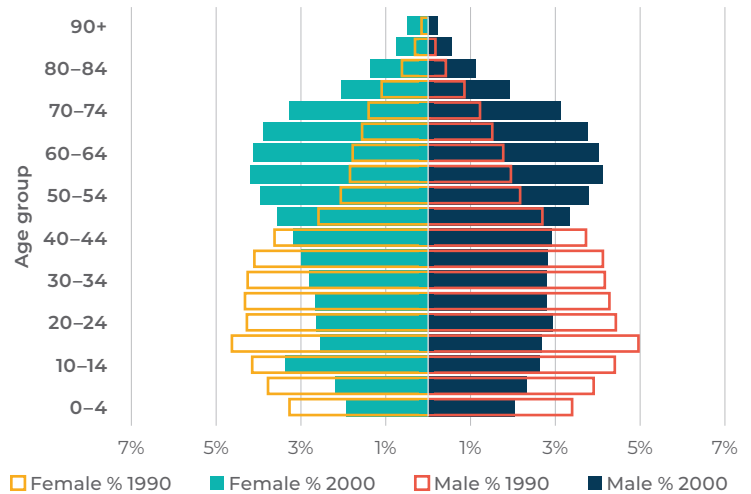


Figure 3E. Population Pyramid for NL, 1990 vs. 2020

- By 2020, 35.2% of the people were <35 years, and 64.8% were ≥65 years.

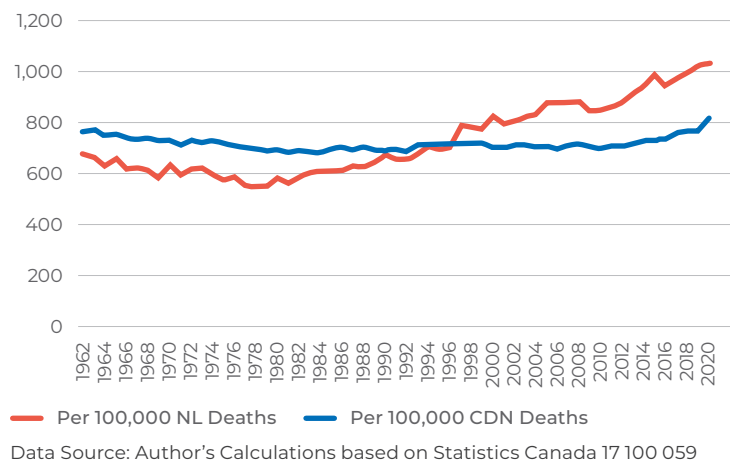


Figure 4A. Deaths/100,000 People for NL and Canada, 1962–2020

- NL's death rate was lower than Canada until 1996 and is now over 1,000/100,000 people/year, substantially higher than before 1996 in NL, and also compared to Canada for the same time period.

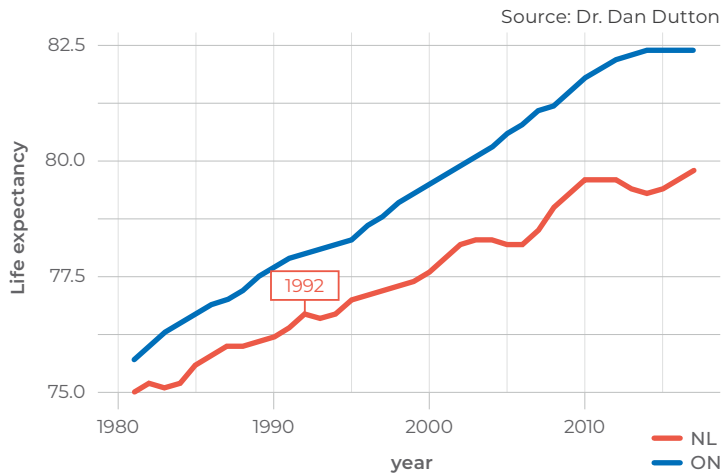


Figure 4B. Life Expectancy for NL vs. Ontario, 1981–2018

- Life expectancy improvement in NL started to diverge from that in Canada around 1993.
- In 1981, the life expectancy in NL compared to ON differed by one year.
- Today, people in NL live 2.4 years less than people in ON.

Conclusions

1. Death rates and life expectancy are different metrics. The number of deaths/100,000 people/year reflect the age and sex distribution of the province, whereas life expectancy integrates the age specific death rates for the year in question.
2. Life expectancy in NL compared to Canada has diverged from 1981 to 2018.
3. The divergence of life expectancies coincided with the cod moratorium and was not prevented by a very substantial increase in health spending.
4. The biggest demographic event in the past three generations in NL was the out-migration from rural communities following the cod moratorium. If this young cohort were healthier than those who stayed in NL this could explain much of the change in life expectancy. In addition, deterioration in the social determinants of health associated with the

moratorium could contribute to this divergence in life expectancies.

5. The increase in death rates following the cod moratorium can be explained by a population with proportionately more older people, out-migration of healthier, younger people, and potentially adverse health effects caused by the social consequences of the cod moratorium.