Demographic influence on health care and long-term care demand - Different methods?

Ilija Batljan and Mårten Lagergren*

Sweden

* Copyright remains with the authors
Demographic Ageing

• Changes in age composition of the population will affect needs and demand for health and social care.
• Care needs are not evenly divided among age groups in the population. Cost per capita tends to rise sharply with age.
• Usual approach: simple demographic extrapolation of care costs based on the expected size trends of various age groups and the cost per capita in each group.
Extrapolations

• Demographic projections
• Mortality projections
• Mortality - Morbidity
• Projections of health status
Population forecast per age-group 2000 – 2030

- 65 - 74 years
- 75 - 84 years
- 85+ years
Impact of declining mortality. Changes in SCB's forecasts of the number of people aged 80 and over.

[Graph showing changes in forecasts from 1978 to 1997 for years 2010, 2015, 2020, and 2025.]
Mortality - Morbidity

• Expansion of morbidity
• Compression of morbidity
• Postponement of morbidity
Cost per inhabitant and age group (SEK per capita) for the population of Skåne in 1997

- Inpatient care
- Outpatient care
Per capita costs of LTCaS for the people older than 65 years, 2001

![Graph showing per capita costs of LTCaS for people older than 65 years in 2001, with age groups 65-74, 75-79, 80-84, 85-89, and 90+ years, and costs in SEK.]
The connection between the time remaining before death and the costs of care

Empirical evidence: the last years of life, irrespective of how long people live, are associated with high care costs.

Changes in the age structure of the population are partially a function of decreasing age-specific mortality. If mortality declines, it means a smaller number of people in age group who are in their last years of life.
The proportion of people close to death rises with the number of years left until death is a more relevant definition of age for use in demographic projections on future health care expenditures, than the number of years since birth.
Average cost (in SEK '000) of inpatient health care per capita in the population, depending on remaining years of life. Men, women and total, all age groups, Skåne region (formerly Malmöhus County Council), 1997.
Volume-index trends for health care derived from simple and revised extrapolation

Simple extrapolation

Extrapolation using remaining years' life

Index 2000=100
The older people’s functional ability and demand for care

- Health status
- Functional ability – limitations – disability
- Last years of life
Trend of proportion of elderly people with severe ill-health according to SCB's Swedish National Survey of Living Conditions, 1975-97

percentages of elderly people in different age groups

- 65-69
- 70-74
- 75-79
- 80-84
Percentages of elderly people in different age groups

Women

- 65-69
- 70-74
- 75-79
- 80-84
The ASIM III model

A simulation model concerning needs of long-term care of elderly persons in Sweden
The ASIM III model aims at estimating the amount of LTC services provided - given degree of dependency per age-group, gender and civil status.

- Retrospectively 1985 – 2000
- Prospectively 2000 – 2030

Implementation in EXCEL
The results are achieved by combining different data bases:

- National statistics conc. LTC
- National surveys of living conditions (ULF)
- The ASIM-studies in Solna municipality 1984 – 1994
- The SNAC study at Kungsholmen 2001
- The "field municipalities” survey 2002
Level of provided LTC services

Home help in ordinary housing or service housing

- < 1 hour/day
- 1 – 2 hours/day
- > 2 hours/day

Institutional care (residential home, nursing home etc.)
Degree of ill-health according to ULF

- Full health
- Slight ill-health
- Moderate ill-health
- Severe ill-health

Severe ill-health is subdivided using the ASIM-index into:
- Relatively severe
- Severe
- Very severe
Age groups and civil status

- 65 – 74 years
- 75 – 84 years
- 85 + years

- Married
- Not married (widow, divorced, unmarried)
Development of the probability of severe ill-health in the period 2000 - 2030, non-married men and women, aged 75 –79 years and 85 –89 years respectively.
Projected development of the total yearly costs for the long-term care services for the elderly per age group assuming unchanged health after the year 2000 (millions SEK).
Projected development of the total yearly costs for the long-term care services for the elderly per age group assuming *unchanged health trends* after the year 2000 (millions SEK)
The projected LTC-cost increase in fixed prices during the period 2000-30
Other factors affecting care costs

- Help, support and care needs given morbidity and social conditions
- Access to help and support from the family and social network
- Propensity to seek public health and social care: expectations, charges, private alternatives
- Care structure: domiciliary or institutional health and social care
Other factors affecting care costs...

- Impact of care on health and functional ability: preventive inputs, rehabilitation, iatrogenic care needs (generated by care itself)
- Staff requirements for given care inputs
- Staff costs and other costs (pay, accommodation standard, medicines, technical aids).
21 CENTURY

We will also in the 21st century live longer and in good health?