Impact of an ageing population on NZ health care systems

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Outline

- Sources of information
- NZier report; projections and workforce solutions
- Occasional bulletin no 22
- Additional NZ literature
- International literature
- My own thoughts
Reports

- Impact of pop ageing in NZ on the demand for health and disability support services, and workforce implications. Background paper prepared for MOH. Dec 2004. NZier report.

- 10 and community health care
- Support services; home based and residential care for disabled and frail elderly.
- Hospital outpatient services
- Hospital inpatient services

All collect data but differently. Hospital admissions collect comprehensive data.
Key drivers of health demand

- The size and age structure of population
- Low, medium and high = net migration inflow.
- Rates of incidence of disease in pop
- Pattern of disease and disability as longevity increases
Statistics NZ predictions indicate (medium population growth)

- Between 2001 and 2021
- NZ Population will increase by 16%
- Within total pop, no aged >65 will increase by 72% (to 792,000).
- The % increase in older Maori, Pacific and Asian peoples will be even greater
Older persons and health use

- >65 yrs account for 40-50% of health care spending.
- >65 yrs account for >1/4 of all discharges, pt numbers in acute and sub acute care (2001), but accounted for >1/2 of all bed days.
- More bed days used by >80 yrs than 65-79 age grp.
- When examine diseases of elderly, rises to >1/3 of all discharges and >2/3 all bed days.
- >65 yrs, more likely to have visited GP (and on numerous occassions), issued with a script, be admitted in 12/12. Use of 1o and 2o care increases with age (table 2)
Diseases of elderly (9)

- COPD/asthma
- Dementia
- Diabetes*
- IHD*
- Lung & bronchus ca
- Nervous sys disease*
- Osteoarthritis
- Other cancers*
- Stroke

*highest numbers of hospital admissions.
<table>
<thead>
<tr>
<th></th>
<th>Age group (years)</th>
<th></th>
<th></th>
<th>Total adult population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>65–74</td>
<td>75+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of visits to GP in previous 12 months (% of respondents)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>8</td>
<td>4</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>6 or more</td>
<td>22</td>
<td>28</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Number of prescription items in previous 12 months (% of respondents)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>20</td>
<td>15</td>
<td></td>
<td>31</td>
</tr>
<tr>
<td>10 or more</td>
<td>36</td>
<td>43</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Proportion admitted to a hospital in previous 12 months</td>
<td>19</td>
<td>25</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>
Older persons and health use (2)

- Per capita health expenditure increases exponentially at 50. 65-69 age grp approx 2x, >85 yr age grp approx 8x, that of all age average.
- Per capita health expenditure maximal around time of death
- Cancer rates in >65yrs 10x younger group (25-64 age grp)
- Mortality rates for IHD and cancers 12-22x younger grp.
Residential care

- Rest homes, long stay hospital, dementia units, psychogeriatric units
- >80yrs accounts for 69% of total residents in care.
### Expenditure per annum

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Expenditure per annum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>$1,700</td>
</tr>
<tr>
<td>5-9</td>
<td>$650</td>
</tr>
<tr>
<td>10-14</td>
<td>$650</td>
</tr>
<tr>
<td>15-19</td>
<td>$800</td>
</tr>
<tr>
<td>20-24</td>
<td>$1,200</td>
</tr>
<tr>
<td>25-29</td>
<td>$1,400</td>
</tr>
<tr>
<td>30-34</td>
<td>$1,400</td>
</tr>
<tr>
<td>35-39</td>
<td>$1,230</td>
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<tr>
<td>40-44</td>
<td>$1,050</td>
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<tr>
<td>45-49</td>
<td>$1,220</td>
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<tr>
<td>50-54</td>
<td>$1,380</td>
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<tr>
<td>55-59</td>
<td>$1,700</td>
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<tr>
<td>60-64</td>
<td>$2,300</td>
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<tr>
<td>65-69</td>
<td>$3,150</td>
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<tr>
<td>70-74</td>
<td>$4,300</td>
</tr>
<tr>
<td>75-79</td>
<td>$6,150</td>
</tr>
<tr>
<td>80-84</td>
<td>$8,400</td>
</tr>
<tr>
<td>85+</td>
<td>$13,600</td>
</tr>
</tbody>
</table>
Predicting future costs of care

- Lifestyle choices epidemics of obesity, alcohol and substance misuse
- Consumers increasingly more discerning and demanding
- Based on disease and conditions and demand projections.
Key drivers of health demand

- The size and age structure of population
- Rates of incidence of disease in pop
- Pattern of disease and disability as longevity increases
Consultation IDed 4 grps of disease progression
* ethnic difference

<table>
<thead>
<tr>
<th>Incidence increases much faster than size of older pop</th>
<th>Diabetes*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidence increases slightly faster</td>
<td>Unipolar depression, osteoarthritis*, dementia and related conditions, visual impairment*, renal failure*, cancers (except airway)</td>
</tr>
<tr>
<td>Incidence increases at same rate</td>
<td>COPD</td>
</tr>
<tr>
<td>Incidence increases slightly slower than size of older pop</td>
<td>IHD*, CVA*, airway cancer* ?? Dependant on</td>
</tr>
</tbody>
</table>

Healthy Communities – *Mauriora!*
Key driver 3: Patterns of disease and disability

- “Compressed morbidity”: both disability and chronic illness postponed/compressed until closer to death, reducing yrs of disability and demand on health care.
- “Receding horizon”: age of onset of disability postponed to the same extent as postponement of age of death, number of disability years remains the same.
- “Crisis scenario”: age of disability remains the same and death postponed, increasing disability years and demands on health care.

- No consensus in consultations. No one scenario most appropriate, diff scenario’s pertain to different conditions?
Predicting future costs of care

• Use indexed levels of expenditure as final measure of demand
• Any unsatisfied need or demand at the year 2001 baseline, the scenarios presented will underestimate future demand!!
• Relevant to current gaps in service provision

• Head injury, dementia services, community services.............
What is not in the scenario’s?

- ?

- Let’s examine what’s not in the scenario’s first and then choose a scenario that seems realistic!

- What other literature is there in NZ and internationally
Healthy Communities – Mauriora!
Evidence is emerging to suggest that the prevalence of overweight and obesity is increasing worldwide at an alarming rate. New Zealand is no exception. In 2002/3 one in three adults was overweight (excludes obese) and one in five adults was obese.

About half a million adult New Zealanders are obese – Twice as many as 25 years ago, a report shows.
Aussie wins world title in obesity stakes AAP Friday, 20 June 2008
What else is not in the scenario’s

- Effects of reduced number of tax payers
- Potential effects of a disproportionate increase in persons requiring residential care

- Effects of nutrition, diet, lifestyle: huge potential negative effects influenced further by cost of living/food/housing

- Current recruitment and retention problems for all levels of staff: nursing, nursing assistants, OT’s, Hospital drs (junior doctors, senior doctors, geriatricians, psycho geriatricians), GP’s.
What else is not in the scenario’s

- COPD/asthma
- Dementia
- Diabetes*
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- Nervous sys disease*
- Osteoarthritis
- Other cancers*
- Stroke

- Osteoporosis
- Obesity
- Fractures/hip replacements
- Isolation
- Neglect
- Elder abuse
- Depression
- Anxiety disorders

- 3-4 x increase in those in residential care?
Prevalence of mental disorders in places of care

- Depression prevalence varies by location
- Community dwelling elderly 3%*
- Hospital inpatients 20%
- Residential homes 40%#

* Baldwin R Psych for the elderly   # Ames D et al 1988
NZ Orthopaedic assoc: ageing of NZ. Major impact on musculoskeletal disease, July 03

- Musculoskeletal conditions age linked, by 2051
- Arthritis increases 50%
- Fractures 8.3% more elderly fractures less young person fractures
- Hip replacements double to 10,000
- Osteoporosis increases 201%
- Musculoskeletal ops 30%
- Will require more beds, money, surgeons, nurses, physio’s
- To meet these needs training needs to be extended across a wide spectrum
Projections of surgical need in NZ: estimates to 2026. NZMJ June 08

- Using current surgical rates, projected growth, ageing of population and current unmet need
- Surgical need estimated to increase 36-59% with a central estimate of 51%
- Cardiothoracic 67%
- Vascular surg 89%
- Orthopaedics 56%
- General surg 50%
- No of surgeons needs to increase from 616 to 1055 (to meet pop growth and unmet need)
International literature


- US perspective
- Increasing shortage of geriatricians with an increasing no of older persons and declining no of geriatricians.
- 7600 certified geriatricians currently and current estimated need of 21,000 and 36,000 by 2030.
- Misperception of junior doctors about careers in geriatrics re long hours and lack of reward. Recent surveys geriatricians amongst the most satisfied in both medicine and surgery

*Healthy Communities – Mauriora!*
6 strategies to improve recruitment into geriatrics

- Consider feedback from all (med students to geriatricians) when formulating recruitment strategies.
- Local and national drive for geriatricians to be involved in mentorship and teaching programmes.
- Advocacy campaigns to increase undergrad exposure to geriatric medicine.
- Student incentive programs to increase attractiveness of geriatric med as a career.
- Consider decreasing duration of geriatric med training.
- Recruitment campaigning by national medical organisations at all educational levels.
Projections

- With the factors that have not been considered, scenario 3 most likely.
- Rates of IHD increase. >64 yrs, Hosp disch 2001 (38,574), 2011(50,164), 2021(70,349)
- Dementia rates.>64yrs, Hosp disch 2001(5,782), 2011(8,112),2021(11,256)
Ischaemic heart disease: scenario 2

![Graph showing ischaemic heart disease scenario 2 for different age groups from 2001 to 2021.](image-url)
Burden of Alzheimer’s disease: pop-based estimates and projections for NZ 2006-2031

- Tobias M et al
- ANZJPsych Aug 08
- By 2031 rates of DAT projected to increase by 2.5 times from 28,000 to 70,000.

- Does not include vascular dementia which would be expected to increase with projected increases of DM, Cardiovascular and cerebrovascular disease
Work force issues: NZier report

- Labour demand; health and disability sector, registered health professionals, will need to increase by 69% absolute change greatest 11-21.
- Labour growth will not match this demand shortfalls predicted to be
  - 10,000 by 2011
  - 28,000 by 2021
- Tempered by an expected increase in support workforce? Consultations disagreed.
Solutions?

- Increased supply to an already leaky bucket?
- Increase growth in other areas will compete (retail, hospitality, service industries)
- Movement of resources to 1o care?
- GP’s already over burdened with paper work, signif recruitment and retention problems
- Over reliance on foreign trained drs, especially rural areas
- Funding structure required not in place in 1o care. Not to mention supervision, peer review structure.

- Using middle of the road predictions of variables (including morbidity compression)
- GDP predicted to increase from 6 – 9%
- Growth in coverage and prices (not pop ageing) will be key drivers?

- NZier OECD countries currently GDP for health and long term care at 9% and predictions are will be at 12-13% by 2050!
What to do? My thoughts.

- Pull and push
- Push: training and exposure mandatory

- Pull: incentives to work in aged care.
- Training/courses/diploma’s similar to A&D initiatives
- Salary progression
- Other benefits?
- Improve conditions of employment
Conditions of employment

- Residents appropriate for the level of care
- Appropriate levels of staffing e.g. rest home vs dementia care units?
- Remove bottle necks and address area’s that are under resourced
- Influence of level of funding eg BOP and locked dementia care
- Training and support. Role of the institution vs hospital services/MHSOP
Residential care and monitoring of standards

- Older persons advocacy & liaison service (OPAL’s)
- Age concern
- Alzheimer’s society
- DHB
- Public health officer
- Health share
Residential care and monitoring of standards

- Health Cert: concerns about an institution/residence
- Health and disability commission: individual basis
Summary

- Compressed morbidity scenario’s unlikely
- Predictions of cost and % GDP underestimated
- Lack of planning and development of services is alarming and poor compared to other countries
- Concerns about workforce planning is magnified by the climate in which we are currently in.
- MOH funding of dementia care needs to increase
- Agencies that monitor standards of residential need improve accessibility and public awareness.