Meeting the Challenge of Serving an Ageing Population

Simon McKeon
Chairman, CSIRO
Chairman, Federal Government Strategic Review into Health & Medical Research
CSIRO’s Megatrends

- More from less
- Great Expectations
- Virtually here
- Going, going ... gone?
- The silk highway
- Forever young
An ageing population

Life expectancy – selected countries

% of world population aged over 65 years


www.gapminder.org – compiled from various sources.
An ageing population and rise in lifestyle related disease is driving growth in healthcare expenditure in Australia

- 2009-10 – 4% of GDP
- 2049-50 – 7.1% of GDP

- Australian Government. The 2010 intergenerational report.

[Projected cost of aged care in the medium term]

*Productivity Commission Aged Care Report 2011 (Australia)*
In Australia retirement savings gap is A$836,000,000,000 = A$79,200 per person (larger for women than men) \(^1\)

- Current trend towards earlier retirement increases this further
- Tapered retirement (gradual transition) is one strategy proposed to address the gap
- A societal challenge: valuing and realising benefit from the skills, knowledge and experience of older workers in a diverse workforce

Work longer – live longer

• “At both ages 70 and 77, work correlated with better perceived health and greater independence for both women and men. Independent of pre-existing economic difficulties, education, illnesses, functional dependence and self-assessed health, those working at age 70 were, at age 77, in better health, had more ADL (Activities of Daily Living) independence, and increased survival rates.”

Working late: the impact of work after 70 on longevity, health and function.
Hammerman-Rozenberg R, Maaravi Y, Cohen A, Stessman J.
Department of Rehabilitation and Geriatric Medicine, Hadassah-Hebrew University Medical Center, Mt. Scopus Campus, Jerusalem, Israel. brozenberg@yahoo.com
Panel Members

Mr Simon McKeon AO (Chairman)
Ms Elizabeth Alexander AM
Prof Henry Brodaty AO

Mr Bill Ferris AC
Mr Ian Frazer AC
Prof Melissa Little
Australia’s health system delivers good outcomes for a reasonable cost

Life Expectancy vs. Health Expenditure
2010

Note:  1. Australia’s GDP per capita is above US$35k
2. PPP – purchasing power parity
Source: OECD, Pacific Strategy Partners Analysis
Australia’s Share of Global Publications in Selected Journals

% Share of Total Publications

Three Fundamental Science Journals:
Science, Cell and Nature

<table>
<thead>
<tr>
<th>Year</th>
<th>Science</th>
<th>Cell</th>
<th>Nature</th>
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<tbody>
<tr>
<td>2004</td>
<td>2.1%</td>
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<td></td>
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<tr>
<td>2005</td>
<td>2.4%</td>
<td></td>
<td></td>
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<tr>
<td>2006</td>
<td>2.7%</td>
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<td></td>
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<tr>
<td>2007</td>
<td>2.8%</td>
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<td></td>
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<tr>
<td>2008</td>
<td>2.5%</td>
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<td></td>
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<tr>
<td>2009</td>
<td>2.5%</td>
<td></td>
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</tr>
<tr>
<td>2010</td>
<td>3.0%</td>
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</table>

Two Key Clinical & Public Health Oriented Journals: The Lancet & NEJM

<table>
<thead>
<tr>
<th>Year</th>
<th>Lancet</th>
<th>NEJM</th>
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<tbody>
<tr>
<td>2004</td>
<td>3.4%</td>
<td>126</td>
</tr>
<tr>
<td>2005</td>
<td>3.7%</td>
<td>124</td>
</tr>
<tr>
<td>2006</td>
<td>4.3%</td>
<td>144</td>
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<tr>
<td>2007</td>
<td>5.4%</td>
<td>180</td>
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<tr>
<td>2008</td>
<td>4.8%</td>
<td>153</td>
</tr>
<tr>
<td>2009</td>
<td>4.1%</td>
<td>131</td>
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<tr>
<td>2010</td>
<td>4.6%</td>
<td>146</td>
</tr>
</tbody>
</table>

Notes:
1. Australia is estimated to account for ~1.1% of health R&D and ~1.8% of global GDP, but ~3.6% of the above health and medical publications
2. New England Journal of Medicine

Source:
The current trajectory of projected Australian Government health expenditure is unsustainable.

**Treasury Projections of Australian Government Health Expenditure**

$bn

<table>
<thead>
<tr>
<th>Year</th>
<th>$bn</th>
<th>% of GDP</th>
<th>Notes</th>
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<tbody>
<tr>
<td>2009-10</td>
<td>51</td>
<td>4%</td>
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<tr>
<td>2019-20</td>
<td>68</td>
<td>4%</td>
<td></td>
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<tr>
<td>2029-30</td>
<td>105</td>
<td>5%</td>
<td>Impact of aging and population effects only</td>
</tr>
<tr>
<td>2039-40</td>
<td>166</td>
<td>6%</td>
<td>Impact of increasing demand for higher standard of care</td>
</tr>
<tr>
<td>2049-50</td>
<td>257</td>
<td>7%</td>
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Note: 1. Excludes state and territory Government health expenditure
Health outcomes are driven by the productivity and cost-effectiveness of interventions

Health System Performance

Cumulative Health Outcome (e.g. QALYs)

Cost ($)

I. High Value Intervention

II. Routine Treatment

III. Low Value Intervention

IV. Waste

V. Adverse Events

Preventative health campaigns

Screening Programs

Vaccination

Chemotherapy for most Cancers

Renal Dialysis

Open Heart Surgery for patients >70

Intensive care for very ill patients

Lost or unnecessary diagnostic tests

Adverse Drug Reactions

Preventable surgical complications

Estimated at 20% – 30%¹ of Health Spend

Current Aggregate Health System Performance

Notes:
1. Based on US estimates

Source:
Health outcomes can be improved by better management, increased research translation and new knowledge.

Levers to Improve Health System Performance

1. Eliminate Adverse Events and Waste
   - Management
   - Health services research
   - Health economics

2. Translate Research into Healthcare Practice and Policy
   - Research translation
   - Evaluation and monitoring
   - Public health research

3. Develop New Knowledge and Interventions
   - Biomedical research
   - Clinical research

Cumulative Health Outcome (e.g. QALYs)

Cost ($)
The Review proposes a 10-year strategy built upon a number of themes:

**HMR Strategy Framework**

1. Better Health Through Research

   - Build HMR Capability
   - Accelerate Translation
   - Optimise Investment

   3. Support Priority-driven Research
   4. Maintain Research Excellence
   5. Enhance Non-commercial Pathway to Impact
   6. Enhance Commercial Pathway to Impact
   7. Attract Philanthropy and New Funding Sources
   8. Invest and Implement

2. Embed Research in the Health System