Assessing sustainable aged care financing in Australia

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Outline

1. Motivation and Aim
2. Methodology
3. Implementation and Analysis
4. Contributions and Limitations
Motivation and Aim

Ageing population

- Disability prevalence rates increase with age
- ‘compression of morbidity’ or ‘dynamic equilibrium’ scenario unknown

Need for actuarial modelling to assess the adequacy of alternative financing mechanisms, evaluating how well they balance sustainability and equity

No link between funding and delivering high quality care, subject to fiscal pressures → reduces quality of care

Current cost projections are based on the aged care target provision ratio, a supply constraint

Current academic and policy literature on new aged care financing mechanisms have no methods of actuarial pricing or cost analysis
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Methodology – Disability Transition Model

Discrete-time multi-state model, following methodology in Hariyanto et al. (2013) and Leung (2004)

Functional forms for transition probabilities, estimated to minimise sum of squared difference in prevalence rates between the model and the 2018 Survey for Disability Ageing and Caring

Source: Hariyanto, Dickson and Pitt (2013)
Migration and fertility are assumed to be constant after 10 years; 30 years for mortality and disability improvements.
## Methodology – Future Aged Care Costs

<table>
<thead>
<tr>
<th>Migration &amp; Fertility</th>
<th>Mortality &amp; Disability</th>
<th>Aged Care Distribution</th>
<th>Indexation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-COVID19</td>
<td>No Improvements</td>
<td>Scenario 1 (Base)</td>
<td>Mean</td>
</tr>
<tr>
<td>Central</td>
<td>Mortality with low disability improvements</td>
<td>Scenario 2 (Home)</td>
<td>Upper</td>
</tr>
<tr>
<td>Extended Restrictions</td>
<td>Mortality with high disability improvements</td>
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</tbody>
</table>

Average cost per person for each aged care program:
- (gov. subsidy plus average co-contribution)
- Per unit costs
- Total yearly cost of aged care

Mortality with low disability improvements
Scenario 2 (Home)
Mean of 10,000 simulations from VAR Model (Cho et al., 2015) for future inflation and GDP growth.
Costs indexed to Average Weekly Earnings (10-year historical average) and CPI.

= 36 scenarios
Methodology – Cost Sharing Mechanisms (Levy)

- % of population with a taxable income, by age and sex; ATO Taxation Statistics and ERP (ABS)
- Distribution of taxable income by age and sex; ATO Taxation Statistics, 3-year average
- Current taxation rates, not indexed
- Growth of taxable income; CPI (from VAR) plus 1.5% productivity growth

Assume participation rate, income distribution and taxation rates constant throughout projection

- 1.5% fixed rate levy
- $65,000 taxable income
- Effective levy rate: 1.08%

- Tax Free Threshold: $18,200 - $0 contributed
- Amount above TFT: $46,800 - $702 contributed
Methodology – Cost-Sharing Mechanisms (Means Testing)

Current means testing is very complex, different income tests for home and residential care.

Lack of age-specific income and assets data for individuals above 65 (and 85).

Use full, part and non-age pensioner distribution to apply means testing.

### Age Pension Distribution

<table>
<thead>
<tr>
<th>Age Group</th>
<th>% on Age Pension</th>
</tr>
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<tbody>
<tr>
<td>65-69</td>
<td>40.95</td>
</tr>
<tr>
<td>70-74</td>
<td>64.75</td>
</tr>
<tr>
<td>75-79</td>
<td>74.85</td>
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<tr>
<td>80-84</td>
<td>81.3</td>
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<tr>
<td>85+</td>
<td>73.75</td>
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Source: 2021 Intergenerational Report (Treasury, 2021) and Australian Institute for Health and Welfare
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Disability Transition Model

- Profound and severe CAL contribute the most to aged care costs – important these trends are captured

- Exact fit not possible due to data limitations and recovery assumptions

- Difference between model and 2018 SDAC is below 5% for almost all age groups and CAL categories

- Overall, model captures the overall trend in prevalence rates for both sexes
Population Projections – Ageing Population

By 2077-78, 25% of the population will be aged 65 and above (Pre-COVID19 w/ mortality improvements)

Next 20 to 40 years sees steepest rise in individuals 65-85 and 85+, regardless of mortality improvements – increased pressure on the current system

Number of individuals 65+ unaffected by COVID-19 migration and fertility falls in the short term

Old age dependency ratio falls due to COVID-19 migration shock on younger cohorts (15-39) – eventual convergence to pre COVID-19 levels.

Projections in line with 2021 IGR and Centre for Population 2020 Population Statement
Population Projections – Age and Disability Distribution

Projections at 2030-31 similar for all improvement scenarios (No, Low & High)

Mortality/disability improvement effects seen in later projection years and younger cohorts

Females live longer but likely to spend this time with a severe disability, compared to males

Profound CAL has the largest growth by age

Interaction between disability and mortality has a large effect on older individuals in CAL states

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Pre-COVID19 – High Improvements
Interaction between mortality and disability has a large influence on future aged care demand – important to understand if disability prevalence for older ages is increasing, decreasing or stable over time.

Potential for those requiring aged care to be 5-10% of the population

CHSP, HCP L4 and residential care significant contributors of demand (mild and profound CAL)

Next 10 years, all improvement scenario’s have similar trajectories

COVID-19 does not affect disability distributions, only the total population – assumption of modelling
Aged Care Costs

Costs very sensitive to disability improvement assumptions.

Costs largely driven by residential care and higher level HCP’s (L3 and L4).

Increased preference for home care may not always lead to less costs, increase in HCP L3 and L4 is greater than the reduction in residential care costs due to indexation.

COVID-19 impacts lead to lower costs over time (cohort affects), but largely indifferent in the next 20 years.
Cost-Sharing - Means Testing

Means-testing

Initial rise in % of total costs covered due to more part and non-pensioners

Aged care costs grow faster than Age Pension, causing the % of total costs means testing covers to fall over time

Only dependent on indexation and pensioner distribution

In Scenario 2 (Home), a higher preference for home care, specially HCP L4, causes means-testing to cover less costs under current arrangements

Levy generates a similar amount in all improvement scenarios – risk of mortality and disability improvement levels placed on government.
### Cost-Sharing – Sustainability

Universal entitlement is financially unsustainable and would require a high fixed rate levy to be placed.

Means-testing reduces the pressure on government expenditure and is necessary for a sustainable aged care financing system.

If aged care supply were to be uncapped, current financing is unsustainable.

#### Fixed rate levy required for Pre-COVID19 & S2 (Home);

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<td>Current</td>
<td>Max</td>
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<td><strong>Means Testing</strong></td>
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<td>Max</td>
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<tr>
<td>2021 IGR</td>
<td>4%</td>
<td>3.00%</td>
<td>0%</td>
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<td></td>
<td></td>
<td>5%</td>
<td>3-4%</td>
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<td><strong>Full Coverage</strong></td>
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#### High Improvements

|                      | Universal Entitlement            | Current                             | Max                                 |
|                      | 1.5% (2047-)                     | 1.5% (2040-)                        | 0% (under the 2021 IGR)             |
| 2021 IGR             | 2% (2044-), 2.5% (2040-)         | 2% (all years)                      |                                     |
|                      | 4% (2052-)                       | 4% (2042-)                          | 1.5% (2052-2063)                    |
|                      | 5% (2043-)                       | 5% (2032-)                          | 2% (2041-2081)                      |
|                      |                                  |                                     | 2.5% (2032-2107)                    |
|                      |                                  |                                     | 3% (all years)                      |
Universal entitlements with a levy in place is not equitable. A higher levy is needed for sustainability, meaning younger cohorts will contribute more to their own aged care than current cohorts in aged care.

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Cost-Sharing - Equity

Means testing creates a more equitable situation, older cohorts bear a higher % of total costs, reducing the levy needed

A combination of means-testing for current cohorts with a levy and transition to universal entitlement for future cohorts is likely to be more equitable.

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Applying the maximum (with 0% levy) while equitable across generations and sustainable, is likely to be politically infeasible and create more unspent funds in HCP’s.

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Contribution and Limitations

Literature:
• Expands existing research in disability rates to cover more recent data
• Adds to limited research surrounding aged care financing

Policy
• Aids the Royal Commission in actuarially assessing an Aged Care Levy
• Provides estimates for future demand of aged care
• Evaluates sustainability and equity of current means-testing and uncapping supply

- Level of publicly available data, especially for older ages, leads to more assumptions made
- Estimates, especially at longer years, have a significant amount of uncertainty to them, especially from economic assumptions
- New home care system in response to the Royal Commission may require re-assessment of costs and sustainability

Need to investigate interaction of mortality and disability improvements as it significantly impacts the sustainability of the aged care system
References

- Australian Government Actuary, 2019, Australian Life Tables 2015-17
References


• Pagone, T. and Briggs, L., 2021, *Royal Commission into Aged Care Quality and Safety Final Report: Volume 3b*


