ARC CENTRE OF EXCELLENCE IN POPULATION AGEING RESEARCH

Sustainable Aged Care Financing in Australia

29th Colloquium on Pensions and Retirement Research

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Australian Government
Australian Research Council
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Outline

1. **Sustainability of Aged Care Financing Issues**
2. **Royal Commission into Aged Care Quality and Safety**
   - Aged Care Royal Commission Final Report
   - Sustainable Aged Care Financing
3. **Role of and Innovations in Long Term Care Insurance**
   - Role of Long Term Care Insurance
   - Innovations in Long Term Care Insurance
4. **Role of and Innovations in Equity Release Products**
5. **Discussion and Q and A**
6. **Actuarial Longevity Risk Research at CEPAR**
   - Actuarial Modelling of Functional Disability
   - Long Term Care Insurance and Equity Release
     - Risk Models, Pricing and Product Innovation

1 – Outline

1. **Sustainability of Aged Care Financing Issues**
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1 – Sustainability of Aged Care Financing Issues

- Sustainability of Government Taxpayer-funded Financing
  - Expected increase in aged care costs as the Australian population ages,
  - Eliminating waiting time for home care packages,
  - Improved levels of home care, and higher costs of quality care,
  - Improved staffing levels in residential care,
  - Indexing inflation in costs, and higher staffing costs,
  - Preferences for ageing in place and changes to the design and funding of home care, and
  - Issues with provider sustainability.
- Lessons from the Dutch and Japanese aged care systems - changes to means testing, entitlements, increased co-payments. Dutch system - rationing of supply due to budgetary constraints, increasing waiting lists, deterioration in the quality of care. Japanese system - mandatory contributions and government tax, increased co-payments.
- Deloitte modelling "expenditure on aged care in 2050 is likely to be 2.75% of gross domestic product in total—or 1.41% of gross domestic product higher than it would be if the current policy settings were maintained."

2 – Outline

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2 – Aged Care Royal Commission Final Report

- Recommendations of the Royal Commission into Aged Care Quality and Safety [RC2, 2021]
  - "funding for aged care is insufficient, insecure, and subject to the fiscal priorities of the Australian Government of the day",
  - "universal entitlement to receive high quality aged care based on assessed need" and "diminished or non-existent role for mandatory means tested fees and co-payments by people when they are receiving aged care later in life".
  - Royal Commission's recommendations not accepted by Australian Government: investigation into an Aged Care Levy, indexing costs to wage increases, residential aged care indexation, changes to means test.
    - Recommendation 110: Amendments to residential aged care indexation arrangements; Recommendation 129: Changes to the means test (Commissioner Pagone); Recommendation 141: Changes to the means test (Commissioner Briggs); Recommendation 138: Productivity Commission investigation into financing of the aged care system through an Aged Care Levy (Commissioner Pagone); Recommendation 144: a new earmarked aged care improvement levy (Commissioner Briggs),
- 2021–22 Federal Budget: Funding for aged care boosted to $23.9 billion, up $2.2 billion including $1.6 billion for 23,000 additional home care packages.
  - "proposed 17.7 billion aged care reform package is designed to deliver sustainable quality and safety in home and residential aged care services". $6.5 billion for an additional 80,000 Home Care Packages, $3.9 billion to increase front line care for senior Australians living in residential aged care, $3.2 billion to support providers to deliver better care and services through a new Government Basic Daily Fee supplement.

2 – Aged Care Royal Commission Final Report - Commissioner Pagone's recommendations

- "The amount of funding necessary to secure sufficient funds to provide expected benefits to meet assessed needs should be arrived at using the best available evidence, knowledge and expertise. The calculations underlying these projected amounts should be actuarially-based, using appropriate statistical procedures." Royal Commission into Aged Care Quality and Safety, Final Report, 2021, Volume 3b, The New System, page 767.
- "The Aged Care Levy I envisage would finance an Aged Care Fund on a long-run pay as you go basis over, say, a thirty-year horizon, based on actuarial principles." Royal Commission into Aged Care Quality and Safety, Final Report, 2021, Volume 3b, The New System, page 778.
- "..it would be necessary to establish an office to be held by skilled actuaries who would be responsible for management of the fund generated by the revenue from the Aged Care Levy-an Aged Care Fund Actuary." Royal Commission into Aged Care Quality and Safety, Final Report, 2021, Volume 3b, The New System, page 779.

2 – Sustainable Aged Care Financing

- Considerations in Sustainable Aged Care Financing in Australia
  - an integrated insurance based model for the assessment and payments made to fund home support, home care and residential care,
  - care co-payments and incentives to limit moral hazard, with lifetime cap,
  - equitable and sustainable means testing for co-payments while receiving aged care, integrated with Age Pension,
  - integration of aged care financing with retirement income and health financing,
  - balancing intergenerational equity with government PAYG financing from consolidated revenue, contributions from individuals during their working lives, and means-tested co-payments from individuals for care costs,
  - actuarially based funding with regular actuarial reviews, and
  - private market insurance and financing mechanisms for individual co-payments and aged care costs including living and accommodation during residential care.
- Actuarial modelling of alternative financing arrangements - horizontal and vertical equity, resilience to actuarial, demographic and economic risks.

3 – Outline

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3 – Long Term Care Insurance

- Long term care insurance can be designed to insure and finance:
  - Individual care co-payments with lifetime cap,
  - Payments for residential care living costs and additional home care, and,
  - Residential care accommodation costs.
- Health underwriting requirements, payment trigger based on difficulties with 2+ or 3+ ADL's, waiting periods.
- Impact of individual wealth, health status and housing equity.
  - For individuals in good health and reasonable levels of wealth.
  - For less wealthy individuals, long-term care insurance premiums unaffordable.
  - For individuals with significant levels of wealth, including housing equity, self-insurance.

3 – Long Term Care Insurance

- Impact of frictional costs and systematic risks on risk pooling.
  - Underwriting costs, adverse selection, investment costs, taxation, claims assessment and management costs.
  - Regulatory costs, solvency capital for guarantees.
  - Systematic risks - uncertainty in improvement trends in longevity and functional disability trends, uncertainty in inflation, changes in technology - impact all individuals to a greater or lesser extent.
- Loadings
  - guaranteed life annuities, around 10-15%, long term care insurance as much as 30-40%.
  - benefits of risk pooling reduced,
  - reduced demand from higher premium prices.
- Mutual risk sharing pools, or government provided products, reduce capital costs for guarantees,
- Economies of scale.

3 – Long Term Care Insurance

- Innovations in product design.
  - long term care insurance policies with indexed cash benefits, fixed inflation rates, versus indemnity-based policies,
  - long term care insurance riders,
  - age care annuities, combining life annuity with higher annuity payments when functionally disabled: natural hedging reduces capital and loadings, broader health underwriting,
  - variable annuities with long term care riders, equity exposure from variable annuity, long term care benefits 2 or 3 times annuity single premium, broader health underwriting,
  - individual and joint lives long term care insurance,
  - mutual pooled long term care insurance.

4 – Outline

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4 – Equity Release Products

- Equity release products - home equity significant asset for many retirees, assets means test favours home equity.
- Home equity provides insurance against residential care costs, reducing potential demand for long term care insurance.
  - Reverse mortgages
    - Conservative loan-to-value ratios in Australia, limited risk in no negative equity guarantee,
    - Lump sums versus income, product provider risks,
    - Risk based capital requirements for banks.
  - Home reversions
    - Provider capital requirements high for residential home equity,
    - Limitations on securitization of residential home equity.
- Product innovations
  - Lump sum reverse mortgage packaged with life annuity or long term care insurance,
  - Deferred equity release, triggered by first life moving into residential care, paid as a (life care) indexed annuity,
  - Home reversions offered through superannuation funds used to create new residential home equity asset class for members.

5 – Outline

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5 – Discussion and Q and A

Discussion

Q and A

Feedback welcome

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CEPAR Honours student presentation:
Concurrent Session 2: 11.15am to 11.40am Breakout Room 2A
Ellora Shirodkar (Risk & Actuarial Studies, UNSW)
Assessing Sustainable Aged Care Financing in Australia.

6 – Outline

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6 – CEPAR Actuarial Long Term Care Research

1. Modelling functional disability.
    - Transitions models with HRS data, actuarial GLM models [Fong et al., 2015].
    - Transitions models with trend and uncertainty, healthy life expectancy, morbidity compression or expansion [Li et al., 2017] [Fu et al., 2021].
    - Joint modelling of transitions with health and functional disability, trends and uncertainty, applied to actuarial pricing innovative long term care insurance products [Sherris and Wei, 2020].

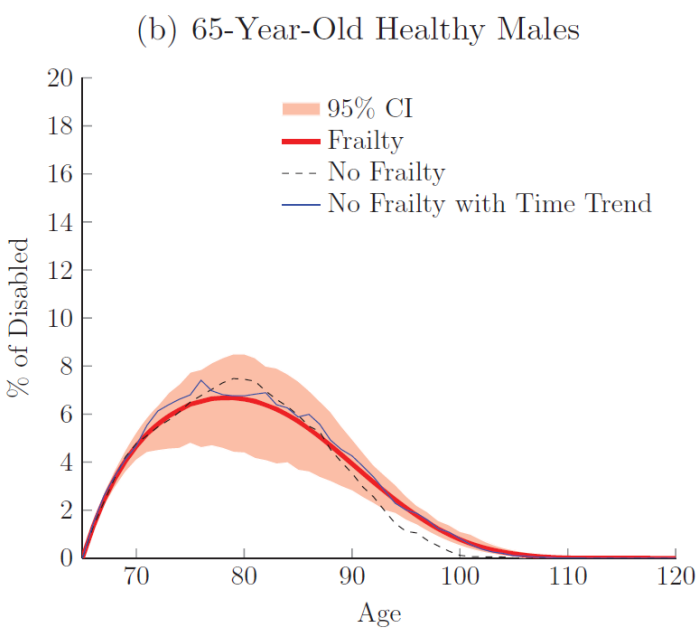
6 – Actuarial Modelling Of Health Status and Functional Disability

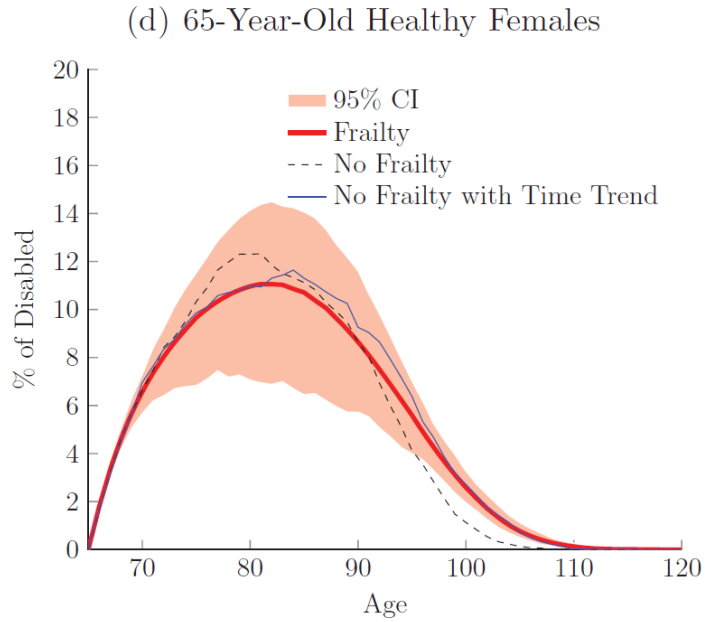
TABLE 7
Simulated Expected Lifetime and Related Statistics for Good Health (State 1)

	Males			Females		
	No frailty	No frailty with trend	Frailty	No frailty	No frailty with trend	Frailty
Mean years of life	17.02	21.70	21.20 (20.31, 22.09)	19.60	23.85	23.52 (22.77, 24.28)
Mean years with disability	1.47	1.67	1.80 (1.53, 2.07)	2.62	2.82	3.06 (2.58, 3.54)
Mean years with major illness	6.18	10.85	10.49 (9.84, 11.14)	6.23	10.44	10.20 (9.70, 10.70)
Mean years in state 1	10.35	10.50	10.31 (9.96, 10.67)	12.38	12.69	12.52 (12.06, 12.98)
Mean years in state 2	5.19	9.53	9.09 (8.24, 9.94)	4.60	8.34	7.95 (7.14, 8.75)
Mean years in state 3	0.48	0.35	0.40 (0.33, 0.47)	0.99	0.71	0.80 (0.64, 0.96)
Mean years in state 4	0.99	1.32	1.40 (1.18, 1.61)	1.63	2.11	2.25 (1.92, 2.59)
HLE/TLE(%)	60.82	48.37	48.66 (47.72, 49.6)	63.17	53.23	53.21 (52.51, 53.91)
Average age of first disability, conditional on becoming disabled	78.37	82.07	81.55 (80.90, 82.2)	79.49	82.27	82.00 (81.48, 82.53)
Average age of first major illness, conditional on being diagnosed with a major illness	74.38	75.26	75.04 (74.69, 75.4)	76.51	77.30	77.06 (76.59, 77.53)

Health: heart problems, diabetes, lung disease, or stroke. Functional disability: two or more difficulties in any of the six ADLs. State 1 H: Good health and not functionally disabled, State 2 M: Ill health and not functionally disabled, State 3 D: Good health and functionally disabled, State 4 MD: Ill health and functionally disabled, State 5 Dead. Source: [Sherris and Wei, 2020]

6 – Trends and Uncertainty in Functional Disability





Estimated probability of being alive and functionally disabled for healthy 65 year old - based on transition and mortality rates from HRS data.
Shading shows extent of uncertainty in estimated probabilities - systematic risk. Source: [Li et al., 2017]

6 – CEPAR Actuarial Long Term Care Research

1. Long term care insurance.
   - Actuarial pricing and product design of long term care insurance, deferred periods, definitions of functional disability, capital requirements for solvency [Shao et al., 2017].
   - Actuarial pricing of long term care insurance with systematic trends, inflation, long term care insurance combined with life annuities, benefits in pricing and risk of pooling annuities with long term care insurance [Sherris and Wei, 2020].

6 – CEPAR Actuarial Long Term Care Research

1. Equity Release Products.
   - Actuarial modelling of house prices, actuarial risks, prices of risk for pricing no-negative-equity guarantee [Alai et al., 2014].
   - Equity release risks and profitability from provider perspective for lump sum versus income products [Cho et al., 2015].
   - Inclusion of longevity risk and idiosyncratic house price risk in reverse mortgage non negative equity pricing [Shao et al., 2019].
   - Financing long term care insurance with equity release, individual perspective [Shao et al., 2019].

6 – References I

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[Alai et al., 2014] Alai, D., Chen, H., Cho, D., Hanewald, K., and Sherris, M. (2014).
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Product pricing and solvency capital requirements for long-term care insurance.
Insurance: Mathematics and Economics, 2017(2):175–208.

6 – References III

[Sherris and Wei, 2020] Sherris, M. and Wei, P. (2020).
A multi-state model of functional disability and health status in the presence of systematic trend and uncertainty.
North American Actuarial Journal, 25(1):17–39.