

Actuaries Summit

Think Differently



**Actuaries
Institute**

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Actuaries working to support public policy – developments in social welfare and beyond

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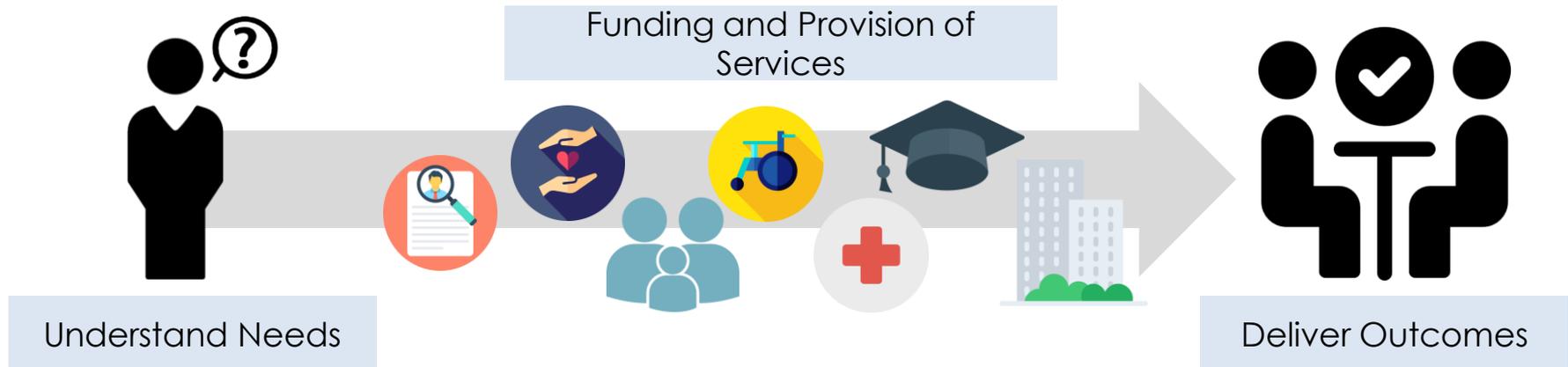
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Introduction

“a new flexible social support system that is simpler, sustainable, coherent and outcomes focused, with investments directed towards achieving clear, measurable improvements for people at risk of income support reliance” – McClure Review, 2015



The Investment Approach

Aims: reducing welfare dependence and improving the lifetime wellbeing of people and families

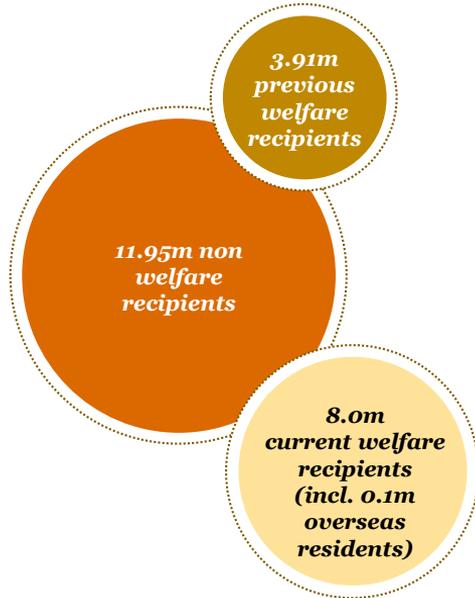
Premise: the idea that there are some segments of the population for whom investment / early interventions can deliver positive changes in their life trajectories, helping them achieve better outcomes and become more self-sufficient

Goals:

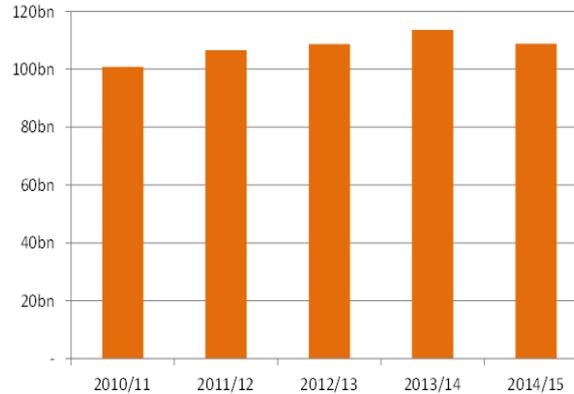
- Identifying the 'segments' where there is potential to deliver positive changes in people's life trajectories.
- Investing to move people away from being at risk to leading productive, happy and fulfilling lives.
- Reducing avoidable spend.

Welfare in Australia

Australian resident population of 23.9m at 30 June 2015

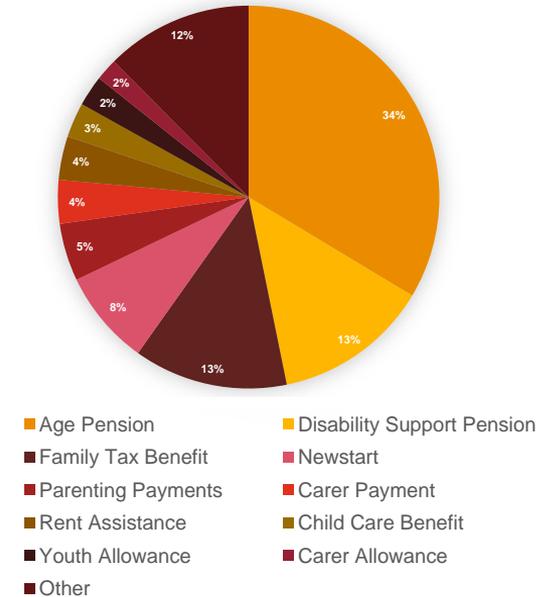


In 2014/15 DSS provided \$109bn* of entitlements



* Note 2014/15 data is not fully mature

Age pension is the largest spend by payment type



The investment approach to welfare in New Zealand and Australia - (Recent) History

2011



NZ Welfare Working Group (Feb 2011)
Recommendation:
Manage the system using actuarial calculation of the forward liability

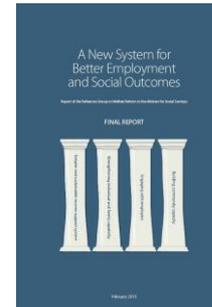
2013

2012



NZ Work and Income valuation reports
June 2011 onwards

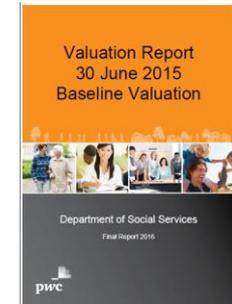
2014



McClure Review (Feb 2015)
Recommendation: Develop and implement an Australian investment approach

2015

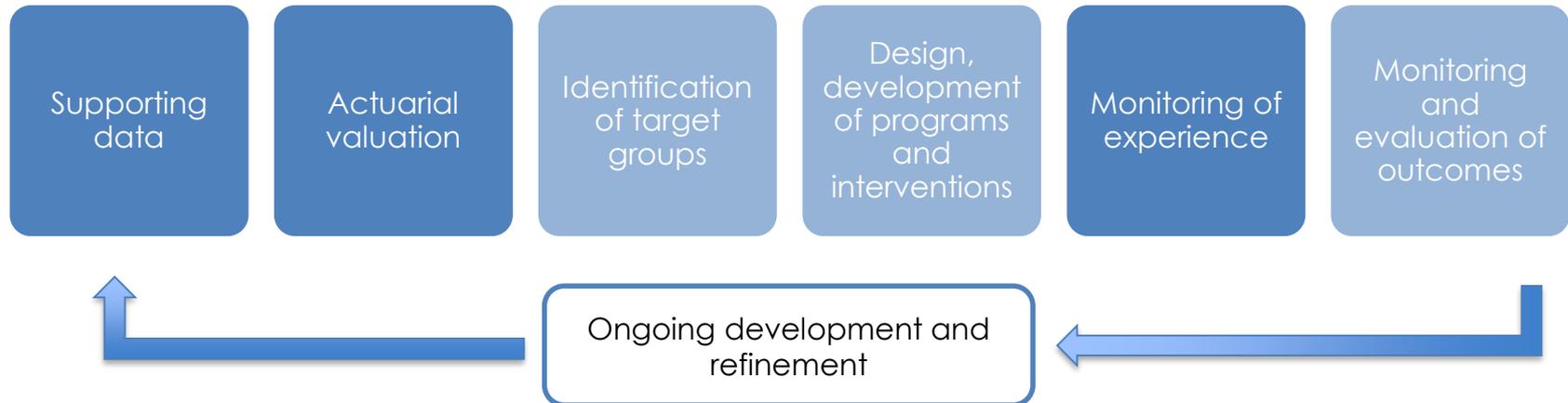
2016



Australian Priority investment Approach, baseline valuation report (Sept 2016)

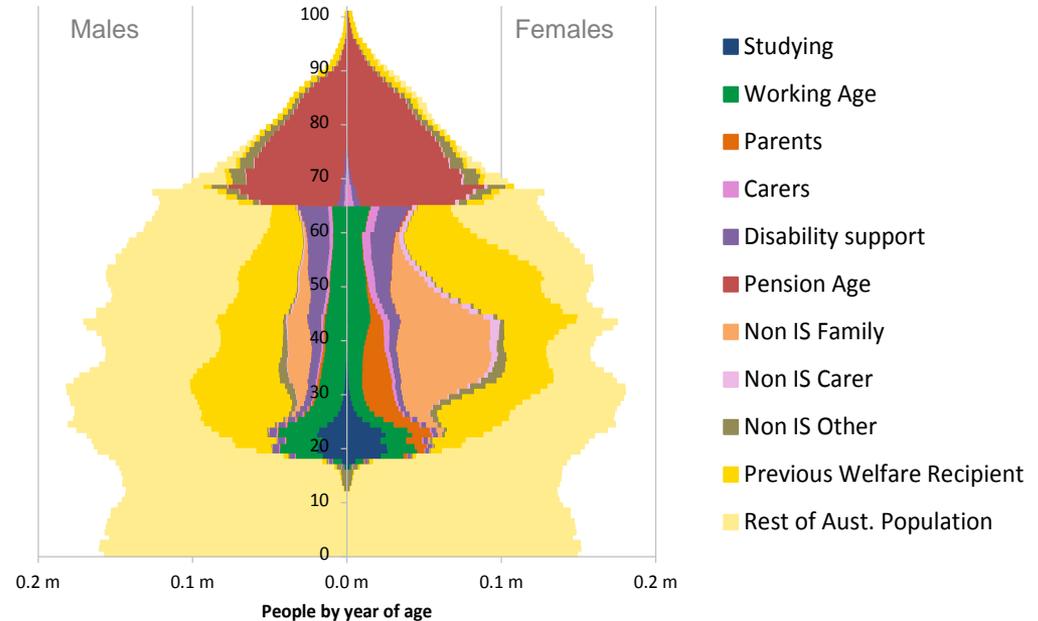
How actuaries are involved

Australian Priority Investment Approach

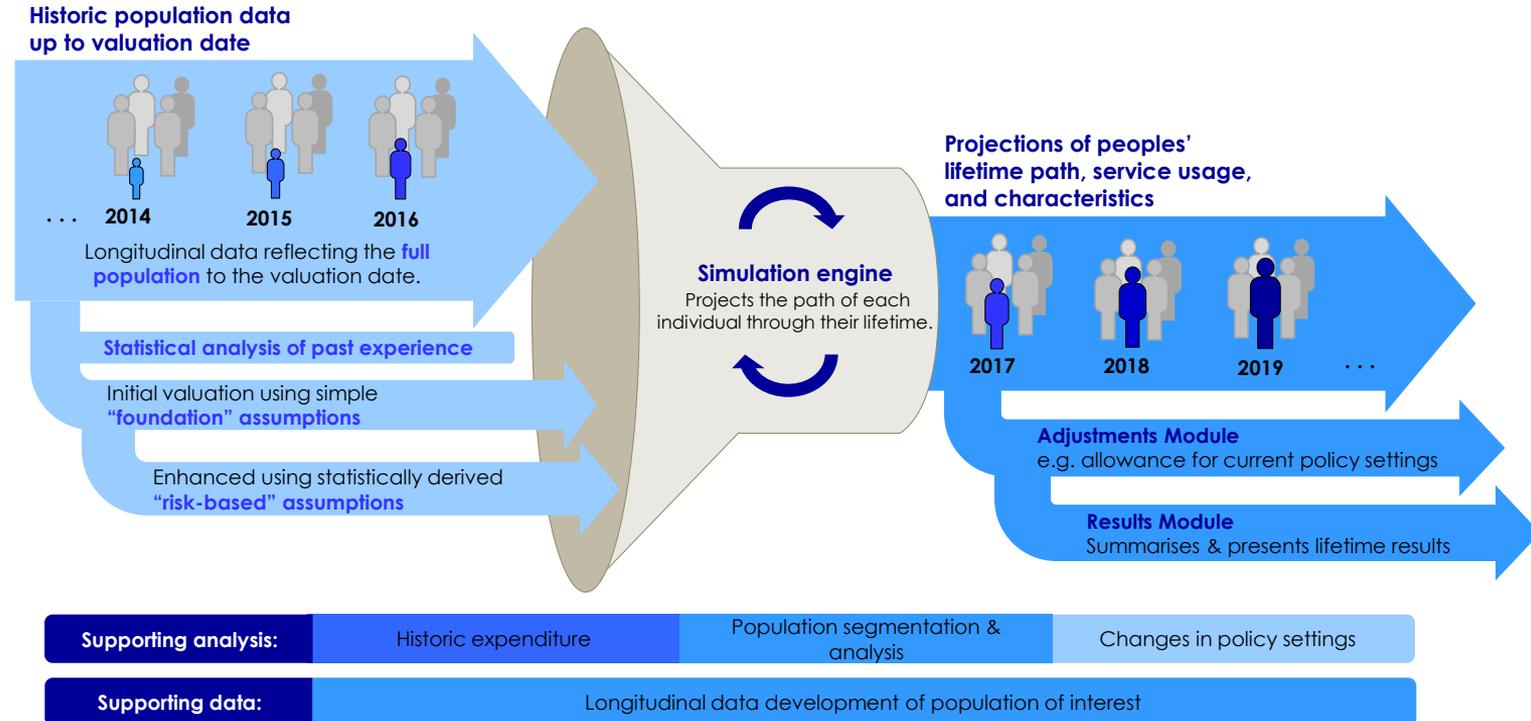


Model population

- Contains record for each person in population (23.9m).
- Developed using administrative data for current and previous welfare recipients and census derived 'synthetic' data for rest of population.



Actuarial model - overview

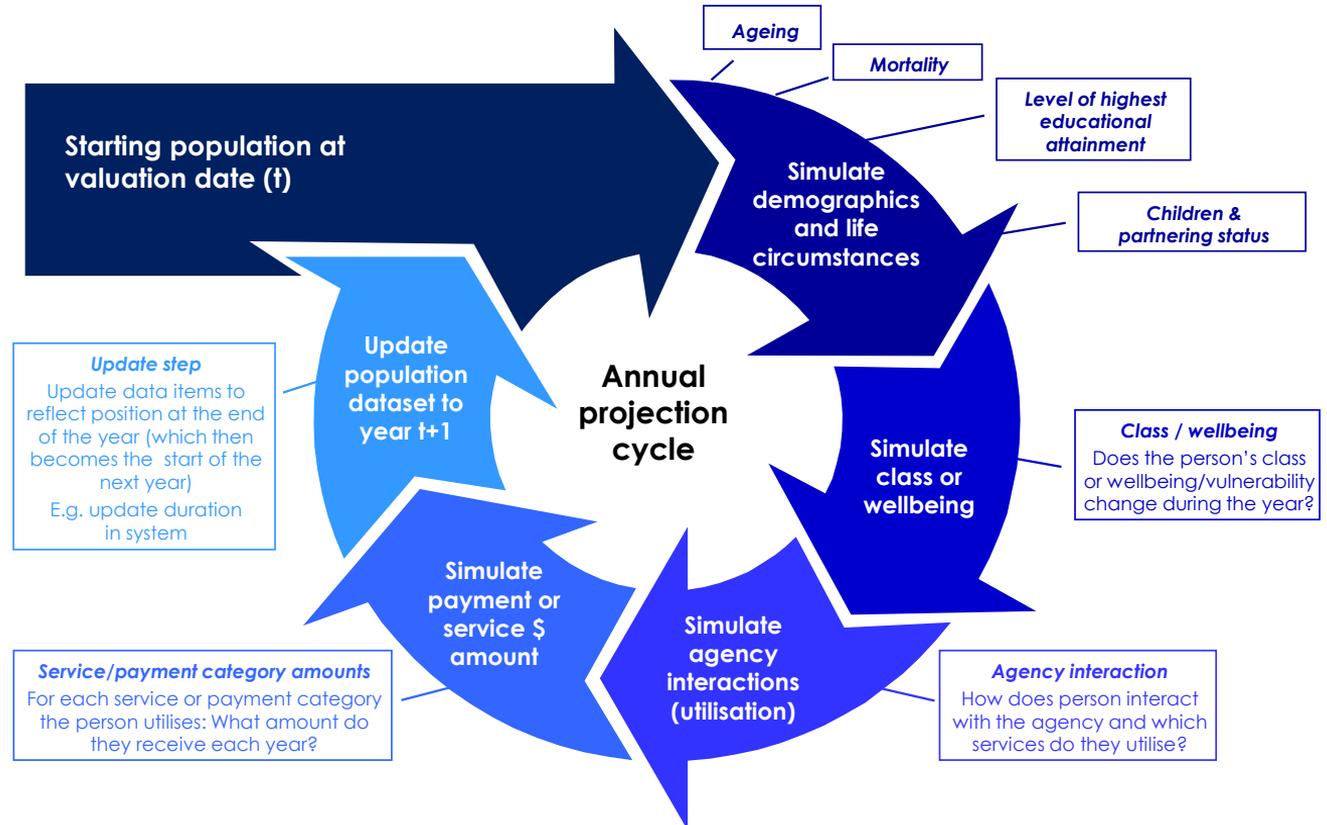


Actuarial model – simulation cycle

Starting population

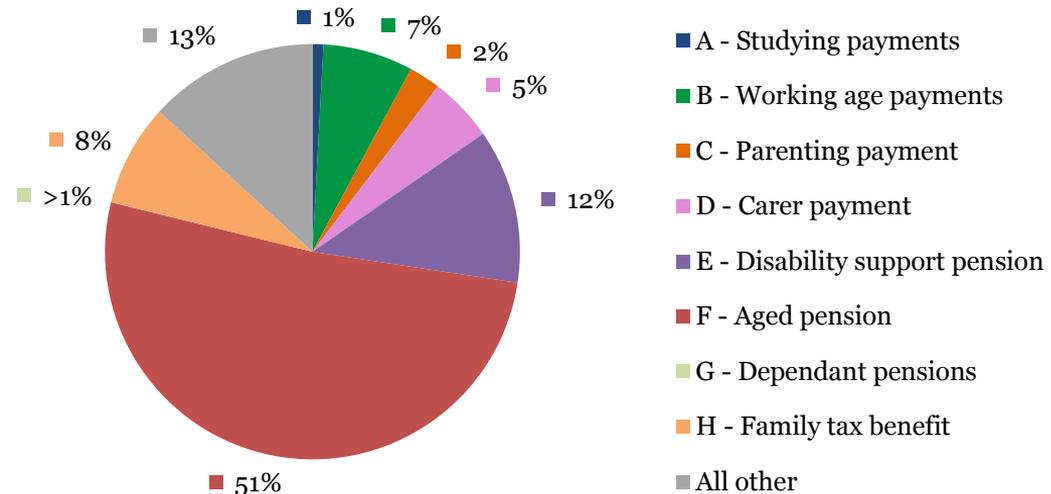
For each person:

- What are their current demographic characteristics? (e.g. age, gender, indigenous status)
- What is their current and past interaction with the system? (e.g. age at entry to system, recent payments)



A few results – total lifetime costs

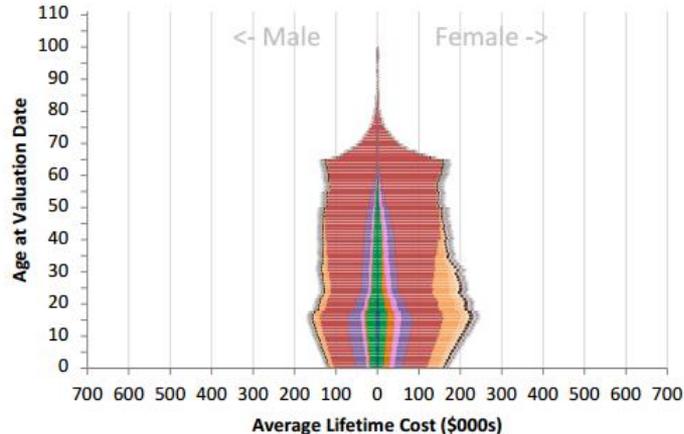
- The total lifetime cost is estimated to be **\$4,764bn**.
- Largest payment category is Aged Pension (51% of total cost, \$2,451bn).
- Second largest is Disability Support Pension (12% of total cost, \$573bn).



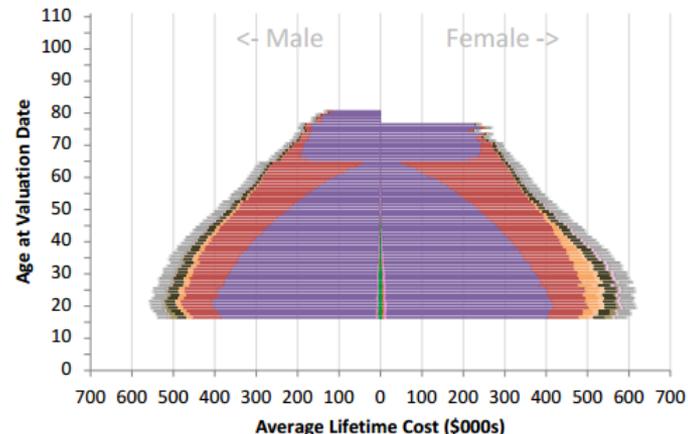
A few results – average lifetime costs & groups of interest

- The average lifetime cost across the 24m people in Australia is **\$200,000**.
- Wide variation between lifetime cost for different groups.

Non welfare recipients

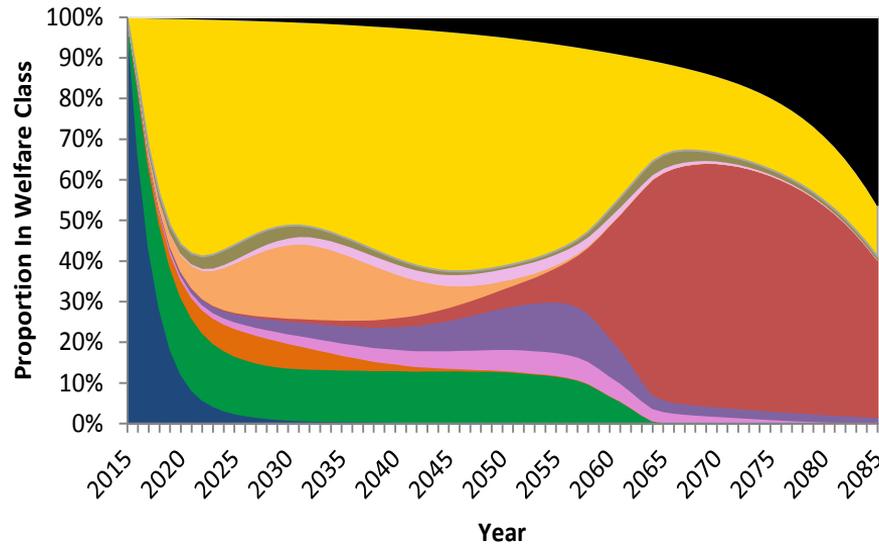


Disability support pension recipients



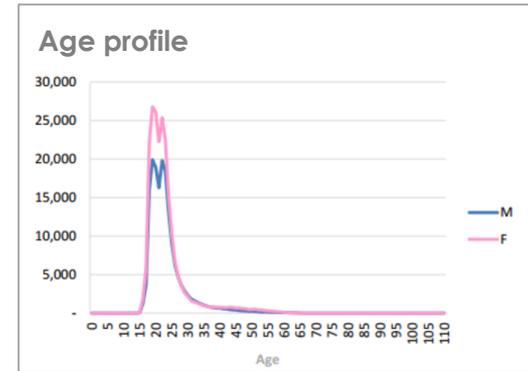
A few results – transitions from studying payment

- 392,000 studying payment recipients in 2015 – average lifetime cost **\$250,000**.



Class key:

- 1 Studying
- 2 Working Age
- 3 Parents
- 4 Carers
- 5 Disability Support
- 6 Pension Age
- 7 Non IS Family
- 8 Non IS Carer
- 9 Non IS Other
- 10 Previous Welfare Recipient
- 11 Dead
- 12 Rest of Aust. Population



How the model is being used

- Individual person model provides facility for detailed consideration of population and groups within it.
- Macro uses
- Micro uses
 - 2016-17 budget announced Try, Test and Learn Fund.
 - \$96.1m fund to trial new or innovative approaches
 - 389 ideas received for first tranche
 - Shortlist being developed for trial

Challenges with investment approach - modelling

- Design
 - Scope
 - Outcomes to model – Payments? Wellbeing? Other?
- Implementation
 - Require longitudinal data to underpin assumptions
 - Model is only as good as your data
 - Big datasets => Storage and processing considerations
 - Need for individual level and aggregate level results

Challenges with investment approach - other

- Communication
 - A different way of thinking
 - New concepts
 - Finding a common language
 - Modelling alone is only part of the solution
- Few guidelines



Beyond welfare?



- **Australia Welfare – since 2015**

- **NZ Welfare – since 2011**
- **NZ Ministry of Justice – under development**
- **NZ Housing – under development**
- **NZ Vulnerable Children – under development**



Questions?

Link to PwC baseline valuation report

https://www.dss.gov.au/sites/default/files/documents/09_2016/baseline_valuation_results_report_accessible_version_12_july_2016_2pwc._2.pdf