

# Net work: Exploring the net costs and benefits of the NDIS

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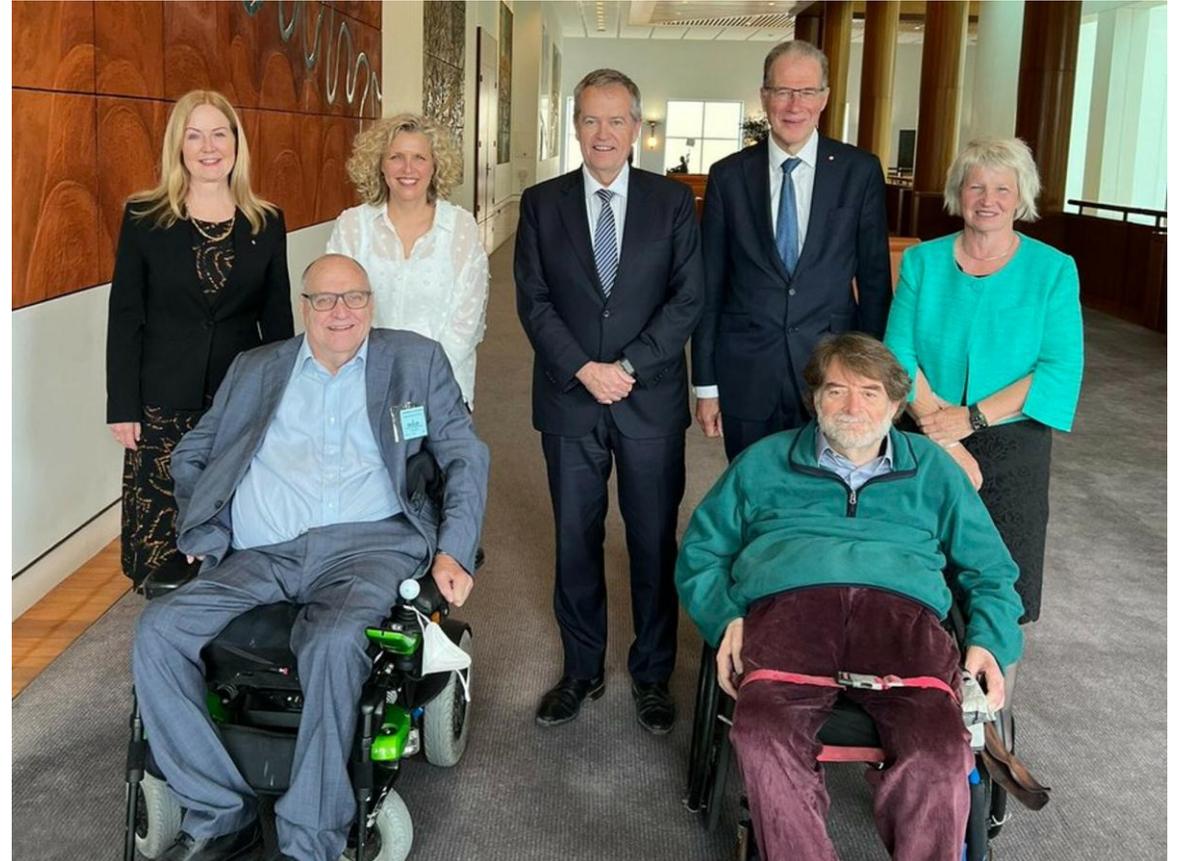
# Introduction



# The NDIS Review

Commissioned by Hon Bill Shorten in late 2022:

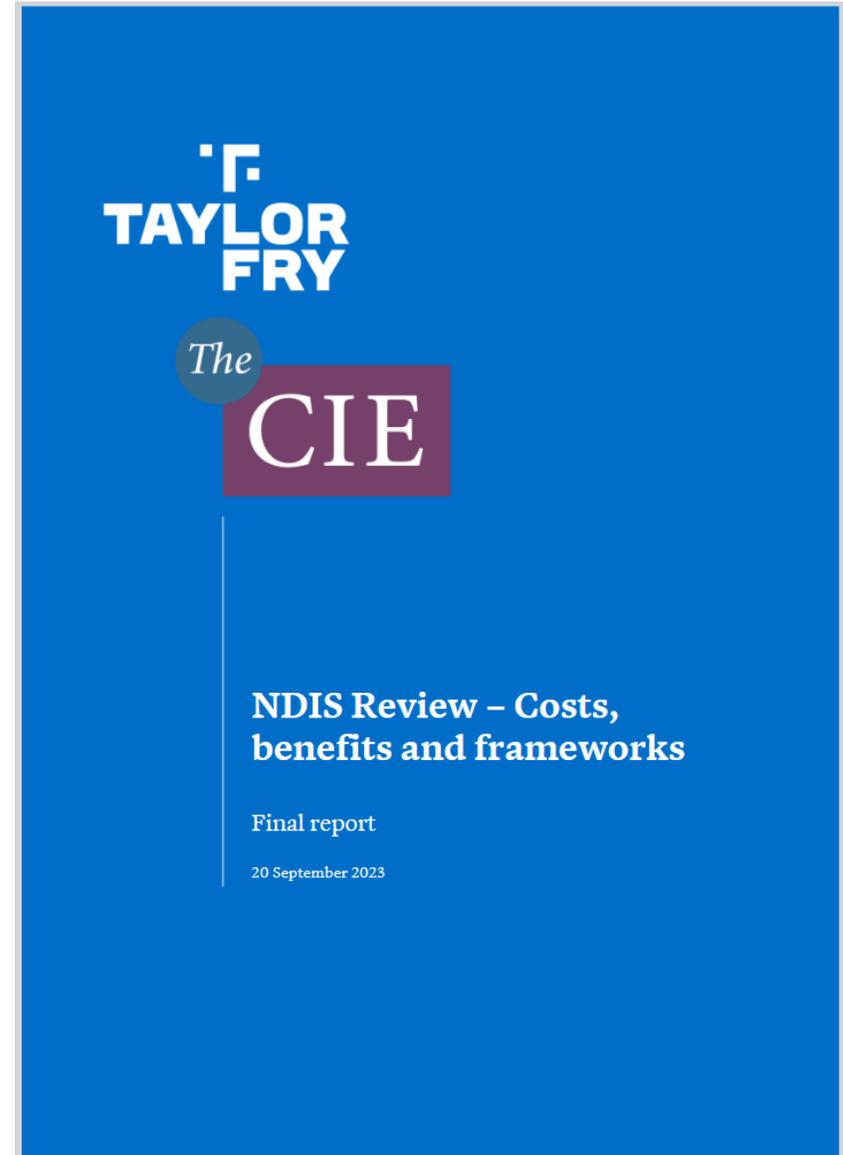
- Independent Review Panel – Two chairs (Bruce Bonyhady, Lisa Paul) and five panel members
- Supported by DPMC secretariat, with input from other departments
- One year timeline
- Large consultation process: 10,000 people consulted, 4,000 submissions
- Released after the Disability Royal Commission final report, so that this could be factored into the work.
- Terms of reference were broad, some key themes:
  - Participant experience and how to ‘rebuild trust’ in the design
  - Effectiveness and sustainability
  - Governance & interactions
  - Building a more responsive and supportive market and workforce



# The Taylor Fry Commissioned research

A small number of reports were commissioned in the review. Ours had a scope:

- Estimate the net costs of the NDIS, with consideration for legacy schemes and cost substitution effects
- Estimate the net benefits of the scheme, compared to outcomes under legacy schemes. This includes a broad view of social and economic benefits
- Assist with the development of a measurement framework for improved measurement of outcomes, benefits and investments in the future.



[https://www.ndisreview.gov.au/sites/default/files/2023-11/Taylor\\_Fry\\_NDIS%20Review\\_Cost\\_Benefit\\_Analysis.pdf](https://www.ndisreview.gov.au/sites/default/files/2023-11/Taylor_Fry_NDIS%20Review_Cost_Benefit_Analysis.pdf)

# A challenging scope...

## **Practicalities**

- Timeframes did not allow some types of analysis (e.g. proper linkage to employment and income)

## **Estimating costs**

- Comparison to legacy schemes ultimately somewhat unfair, since the NDIS was introduced to solve the inadequacies of these
- Private and NGO costs disability spending prior to the NDIS are not recognised, and would represent substantial offset amounts

## **Estimating benefits**

- Some benefits not measured, or will take time to manifest, or are challenging to measure at all.
- Examples of benefits not measured: Relationships, justice & child protection outcomes, less maltreatment, post-school education, community benefits

# The big picture ...

For the 2022-23 year

## Costs

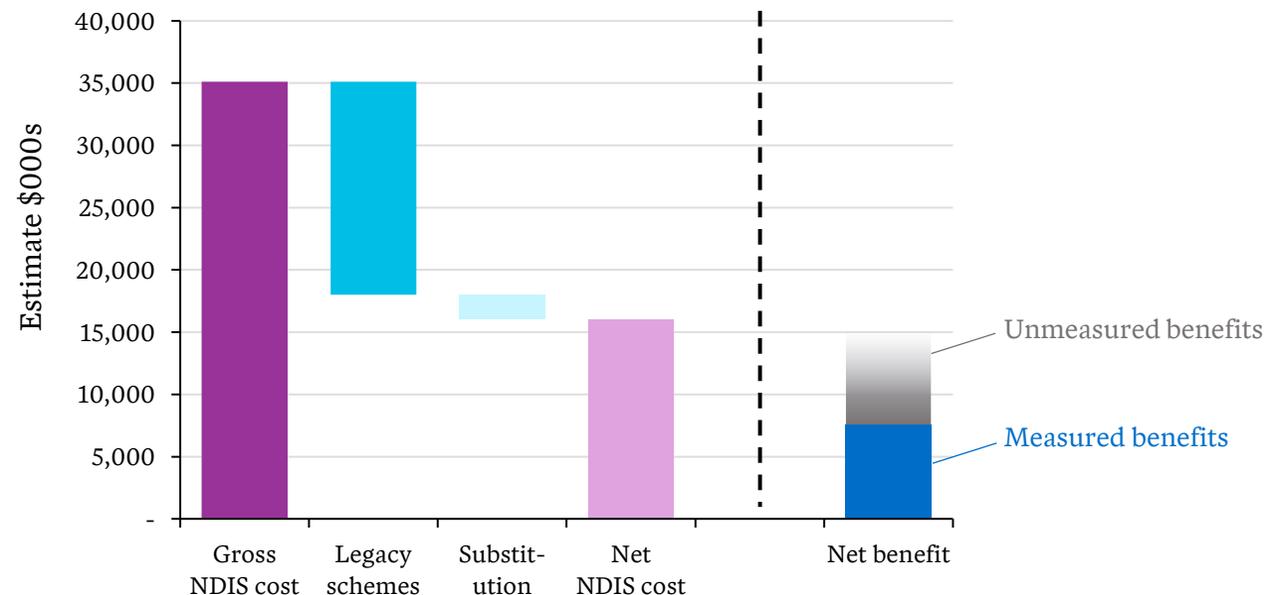
- Net NDIS costs in 2022-23 are estimated at **\$16.0B**. This represents \$35.1 billion in NDIS supports less \$17.1 billion for our estimate of legacy scheme costs and \$2.0 billion in substitution of government spending.
- This shows a large increase in supports for people with disability under the NDIS, for both the number of people supported and the average level of supports

## Benefits

Measured net benefits in 2022-23 are estimated at **\$7.5B**, most likely an underestimate:

- Only recognise currently visible, measurable quantified benefits
- Additional ‘unmeasured’ benefits which could be estimated with additional data and modelling.

## Overall costs and benefits estimate



[https://www.ndisreview.gov.au/sites/default/files/2023-11/Taylor\\_Fry\\_NDIS%20Review\\_Cost\\_Benefit\\_Analysis.pdf](https://www.ndisreview.gov.au/sites/default/files/2023-11/Taylor_Fry_NDIS%20Review_Cost_Benefit_Analysis.pdf)

# The NDIS population, 2023

We aligned with NDIS definitions, acknowledging it carries some limitations

Data shows large variation:

- Different levels of coverage in legacy schemes
- Severity evolves (on average, worsening) over time
- Within segments, significant plan variation

Number of participants, March 2023 quarter

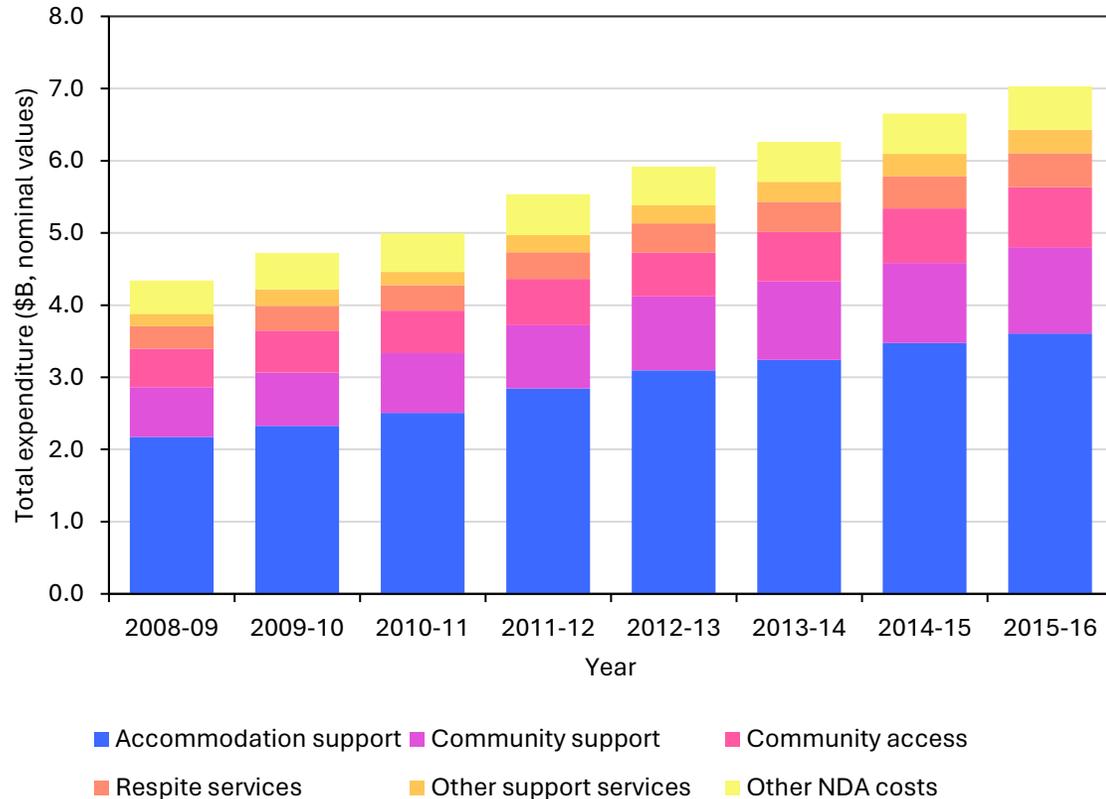
|                                | Greater severity → |         |        |        |     | Total          |
|--------------------------------|--------------------|---------|--------|--------|-----|----------------|
|                                | A                  | B       | C      | D      | E   |                |
| <b>Acquired Brain Injury</b>   | 4,025              | 4,742   | 7,905  | 786    |     | 17,458         |
| <b>Autism</b>                  | 40,299             | 116,520 | 10,264 | 32,022 |     | 199,105        |
| <b>Cerebral Palsy</b>          | 7,035              | 10,203  |        |        |     | 17,238         |
| <b>Delay</b>                   | 83,401             | 1,914   |        |        |     | 85,315         |
| <b>Hearing</b>                 | 20,470             | 5,992   |        |        |     | 26,462         |
| <b>Intellectual</b>            | 20,831             | 32,379  | 22,663 | 22,805 |     | 98,678         |
| <b>Multiple sclerosis</b>      | 3,255              | 4,014   | 2,786  |        |     | 10,055         |
| <b>Other Neurological</b>      | 6,386              | 5,162   | 10,765 |        |     | 22,313         |
| <b>Other Physical</b>          | 8,969              | 5,150   | 6,586  |        |     | 20,705         |
| <b>Other</b>                   | 6,903              |         |        |        |     | 6,903          |
| <b>Psychosocial disability</b> | 12,019             | 12,501  | 35,916 |        |     | 60,436         |
| <b>Spinal Cord Injury</b>      | 896                | 1,172   | 1,619  | 1,353  | 651 | 5,691          |
| <b>Stroke</b>                  | 1,989              | 5,917   | 791    |        |     | 8,697          |
| <b>Visual / other sensory</b>  | 7,500              | 5,682   |        |        |     | 13,182         |
| <b>Total</b>                   |                    |         |        |        |     | <b>592,238</b> |



# Net costs

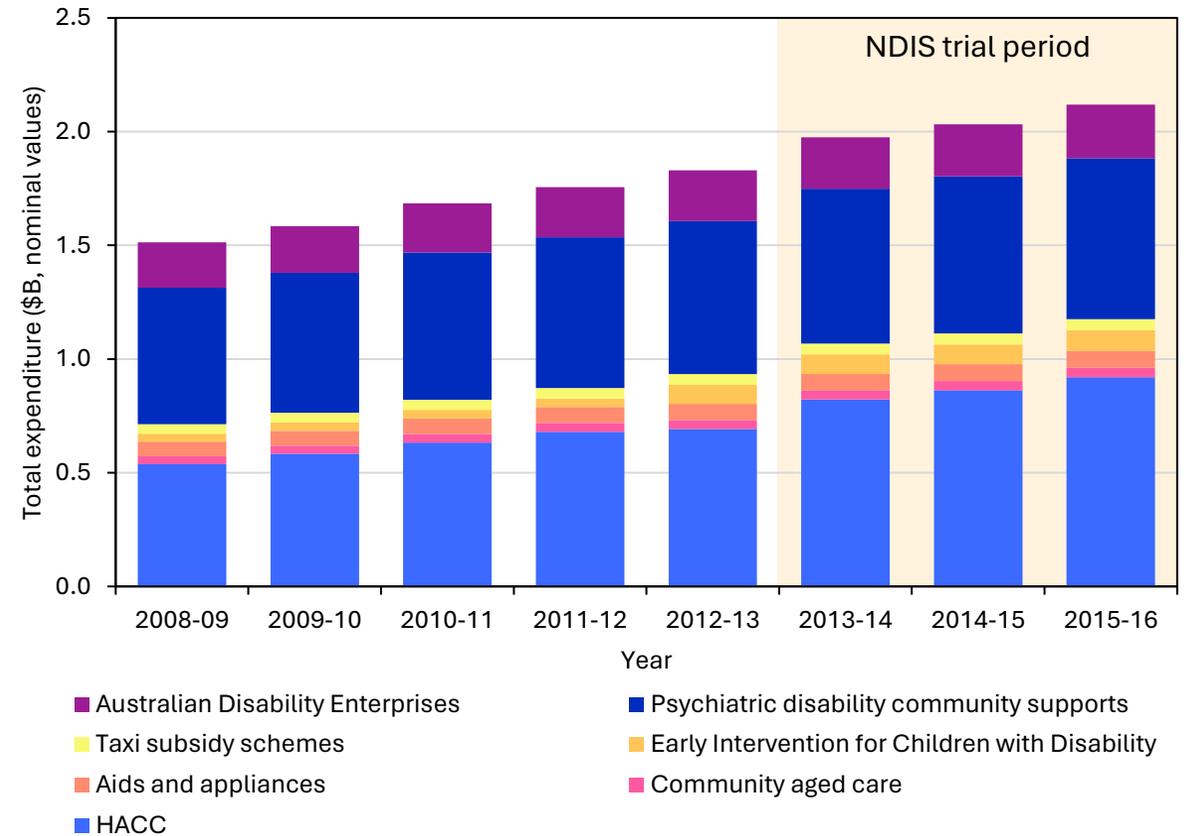
# Understanding historical legacy costs

## Old National Disability Agreement expenditure



NDA costs grew at 7% p.a.

## Non-National Disability Agreement expenditure



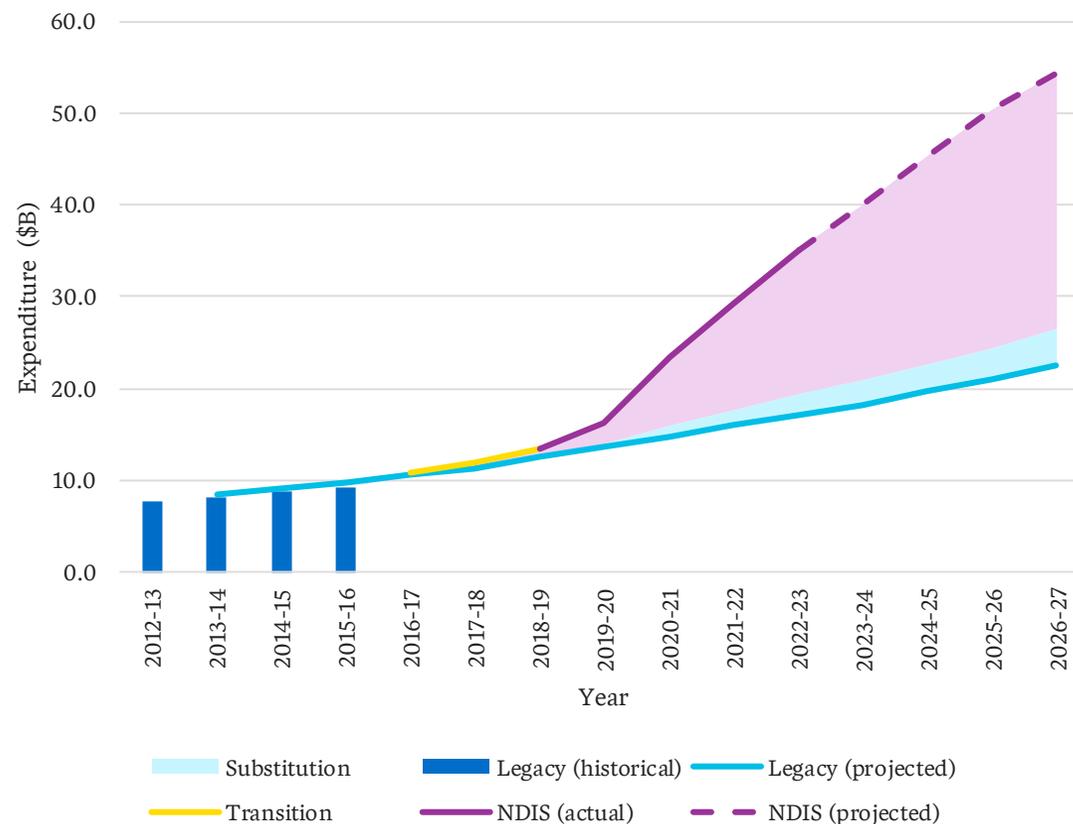
Non-NDA costs grew at 5% p.a.

# Past and projected net costs

We project net cost trajectories through to 2026-27.

NDIS net costs grow faster than the gross costs because of the lower trajectory of legacy scheme costs relative to the NDIS.

This reflects a range of differences, including plan growth, participant growth, and demographic change as the over 65 age group grows as a fraction of the NDIS population.



| Costs                 | 2022-23 (\$B) | 2026-27 (\$B) |
|-----------------------|---------------|---------------|
| Gross NDIS cost       | 35.1          | 54.4          |
| Legacy schemes        | 17.1          | 22.5          |
| Substitution          | 2.2           | 3.9           |
| <b>Net NDIS costs</b> | <b>15.8</b>   | <b>27.9</b>   |

# Aggregate results – NDIS vs legacy coverage

Legacy scheme costs estimated to be 49% of NDIS costs covered approximately 46% of NDIS participants

Average support levels in legacy schemes are estimated to be 62% of average NDIS support levels for legacy participants

Segmentation of the analysis can provide further insights on how support changes at point of transition and which segments of NDIS population are more or less likely to be receiving supports under legacy schemes

## NDIS versus projected legacy counterfactual in 2022-23

|   | <b>NDIS<br/>(A)</b> | <b>Projected<br/>legacy<br/>(B)</b> | <b>Ratio<br/>(B÷A)</b> |
|---|---------------------|-------------------------------------|------------------------|
| <b>Total cost (\$B)</b>   | 35.1                | 17.1                                | 49%                    |
| <b>Number of participants,<br/>Mar-23</b>                                 | 592,238             | 272,104                             | 46%                    |
| <b>Average annual cost per<br/>participant (\$)</b>                       | 59,300              | 62,800                              | 106%                   |
| <b>Average annual cost per<br/>participant (\$) –<br/>legacy subgroup</b> | 100,800             | 62,800                              | 62%                    |



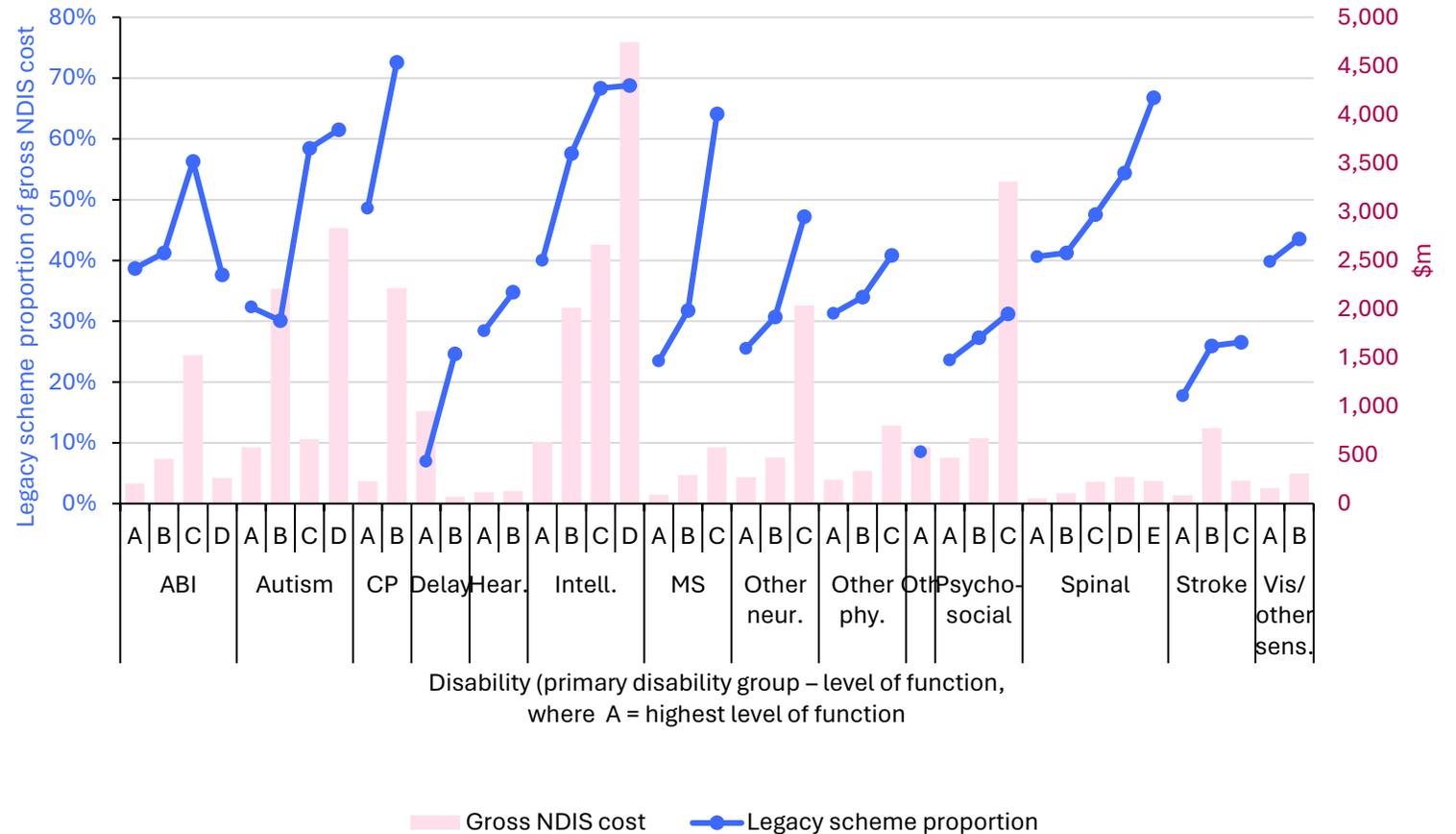
# Legacy scheme costs by disability segment

Estimated legacy scheme costs make up 49% of total NDIS costs in 2022-23.

Participants with more severe and profound disabilities among a primary disability group tend to make up a greater share of total NDIS costs

For example, intellectual disability band A is 40% and band D is 69% of corresponding total NDIS spending.

Legacy scheme proportions of NDIS costs for 2022-23, by disability segment



# NDIS substitution effects

Estimated \$2.2b of substitution effects, where NDIS is now paying for services previously provided by other parts of government

Key considerations:

- No formal estimation of change in spending **outside** of government
- No formal allowance for deadweight loss of taxation, or marginal excess burden, in our work

## Examples of substitution effects

| Item  | Adopted approach   |
|---|--|
| Residential Aged care – younger people<br>\$408m            | ~5,400 scheme-eligible participants aged under 65 in RAC (under legacy schemes)<br>× \$75,000 average annual cost of RAC   |
| Residential Aged care – older people<br>\$66m               | 3,500 participants aged over 65 years with SIL or SDA arrangement (who are not in RAC)<br>× 25% of these participants would enter aged care without the NDIS<br>× \$75,000 average annual cost of RAC  |
| Home care packages<br>\$336m                                | 16,200 participants aged over 65 without housing arrangements distributed across four tiers of packages based on current NDIS package<br>× 50% for effects like non-application and wait times   |
| Participants with chronic health conditions (CHC)<br>\$667m | 4,200 participants with dementia × \$75,000 average annual RAC cost<br>+ (\$248m in spending for participants with known physical CHC less DRHS<br>+ \$495m in spending for participants with known mental CHC less DRHS)<br>× 50% substitution factor |

# Net benefits



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# General process for estimating benefits

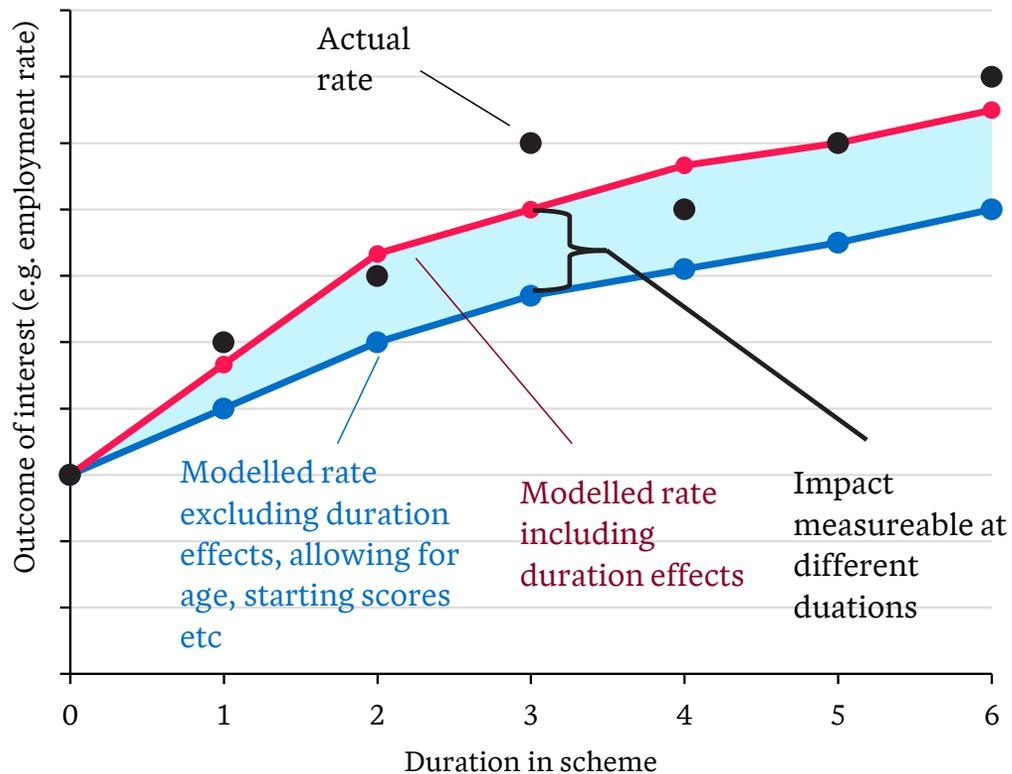


- 
- We include non-market benefits, most notably a value attached to improved subjective wellbeing
  - Recognise gross benefits will be much larger than net benefits.
  - Avoided some alternative benefit arguments sometimes applied:
    - Fiscal multiplier effects
    - Value to the disability support sector
    - Economic utility (and redistribution)

# Two roads to Rome...

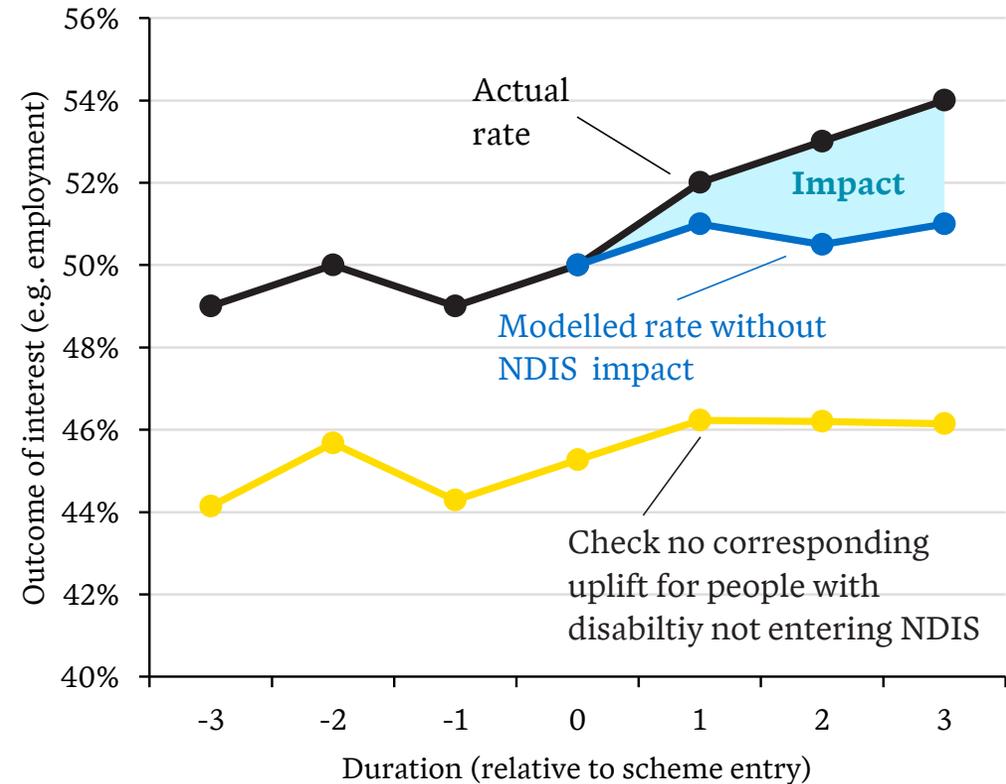
## NDIS outcomes modelling

Model how outcomes improve with time-in-scheme, compared to where we would expect it to after allowing for compositional and longitudinal factors



## HILDA outcomes modelling

For HILDA outcomes, we model the change in outcomes before-after entry in the NDIS, and also validate changes against non-participants.



# Benefits summary

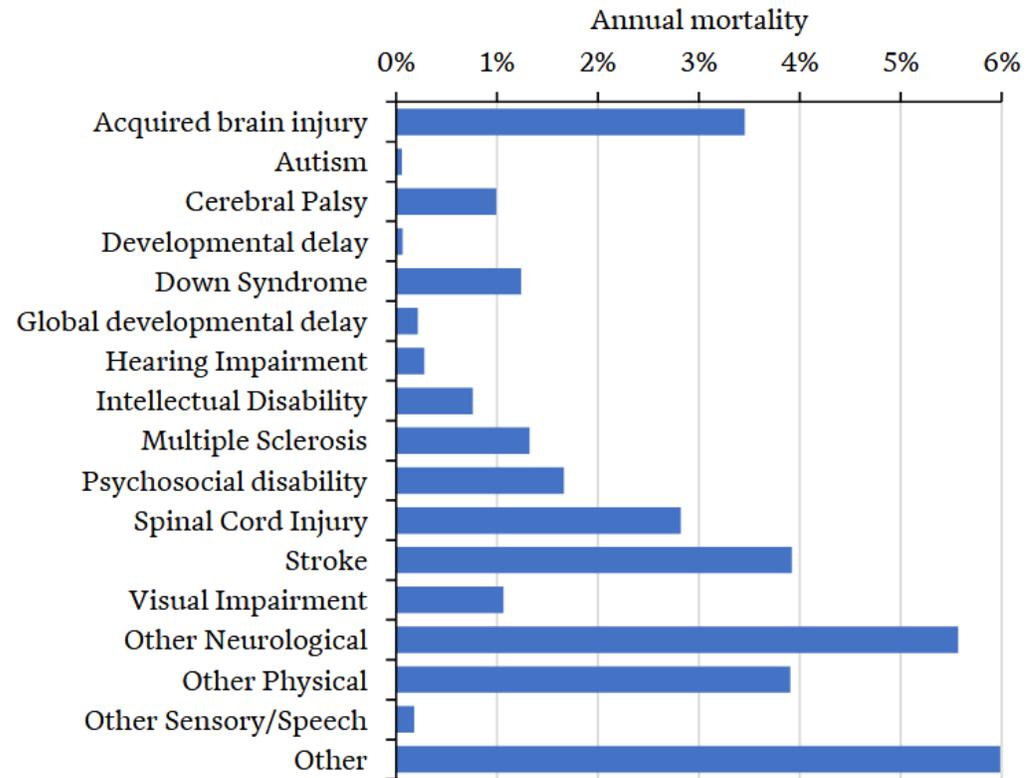
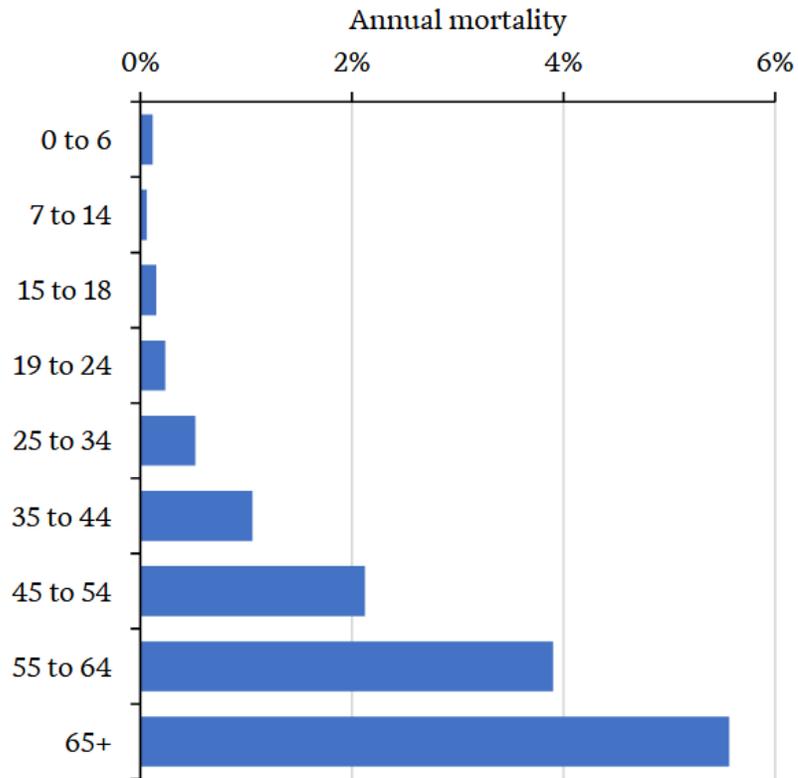


## Null (or v small) results for:

- Mortality and improved health
- Increased hours or wage rates, ppts and carers
- Housing suitability
- Improved safety, participants and carers
- Improved school readiness and Year 12 attainment
- Choice and control

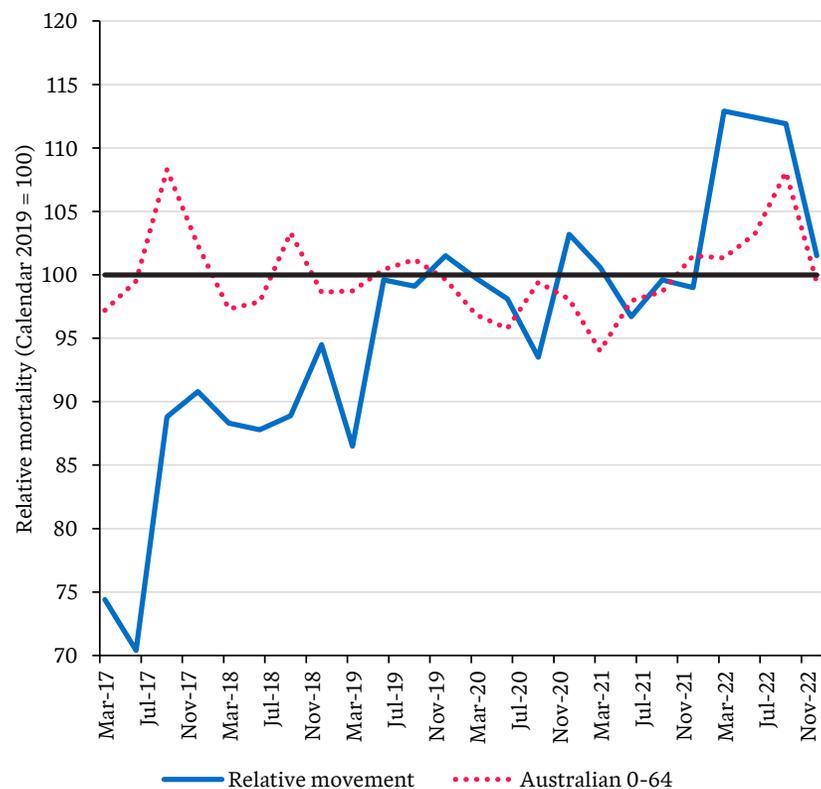
# Health – Mortality

Large variation in mortality by factors mean that we have to risk-control to assess trends

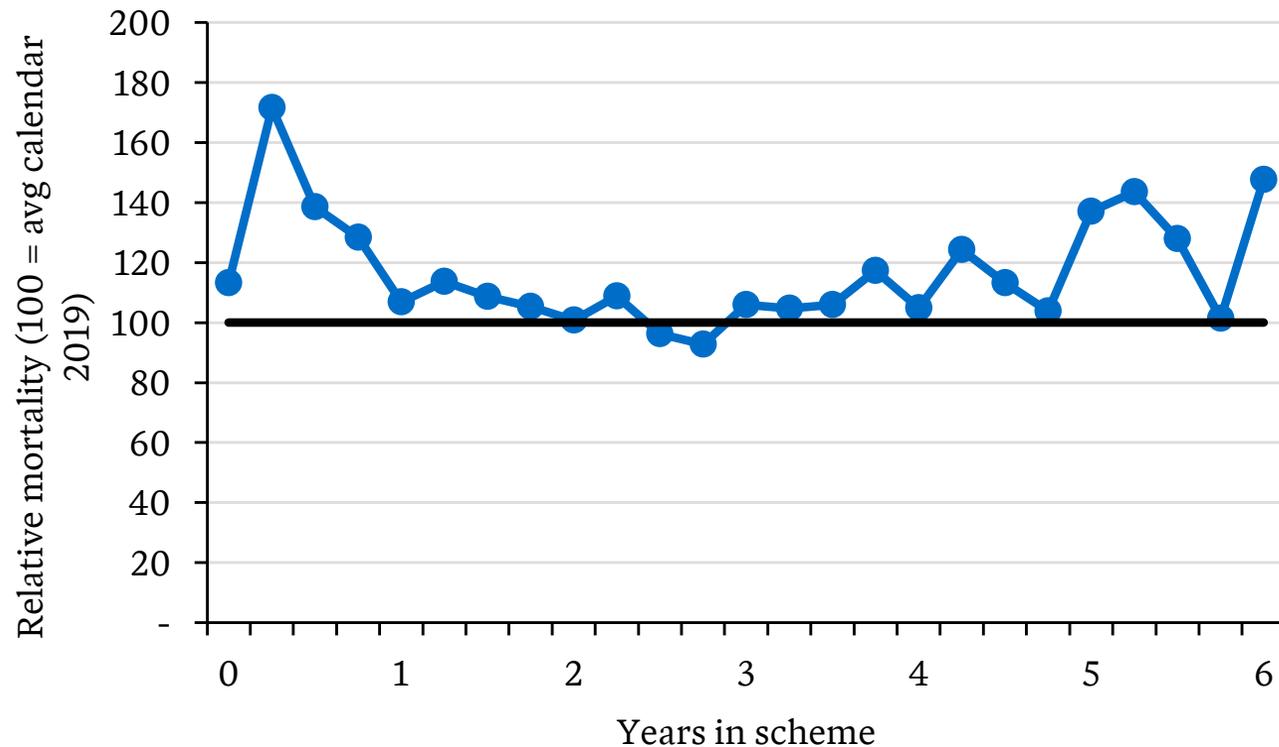


# Health – Mortality (2)

## Risk-adjusted mortality by time



## Risk-adjusted mortality by duration in scheme

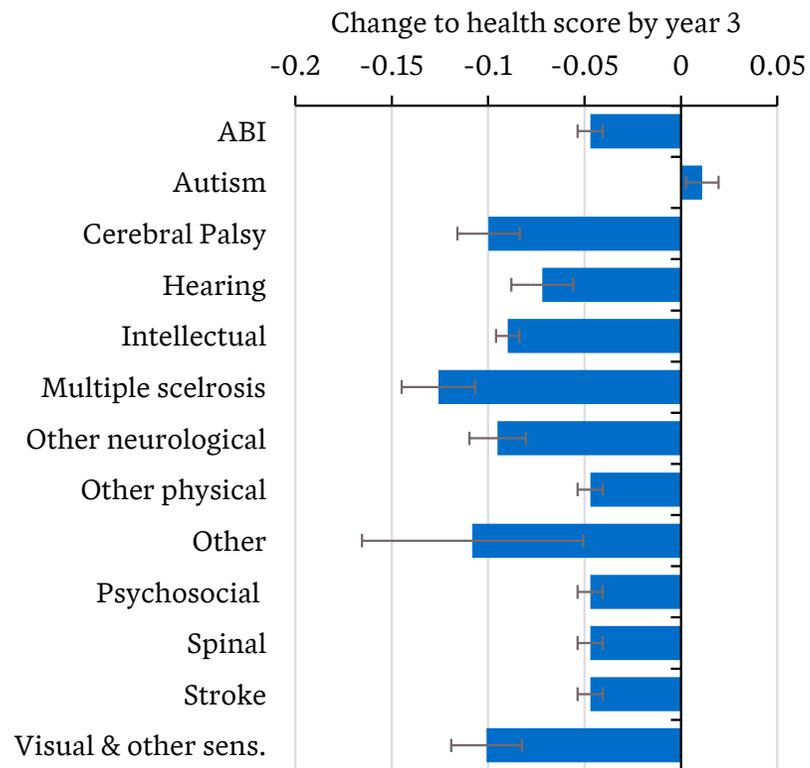


No evidence of improvements by time or duration – and some uncertainty on why the early years are different.

Spike in 2022 could well be COVID-19 related – out estimated excess mortality was 560

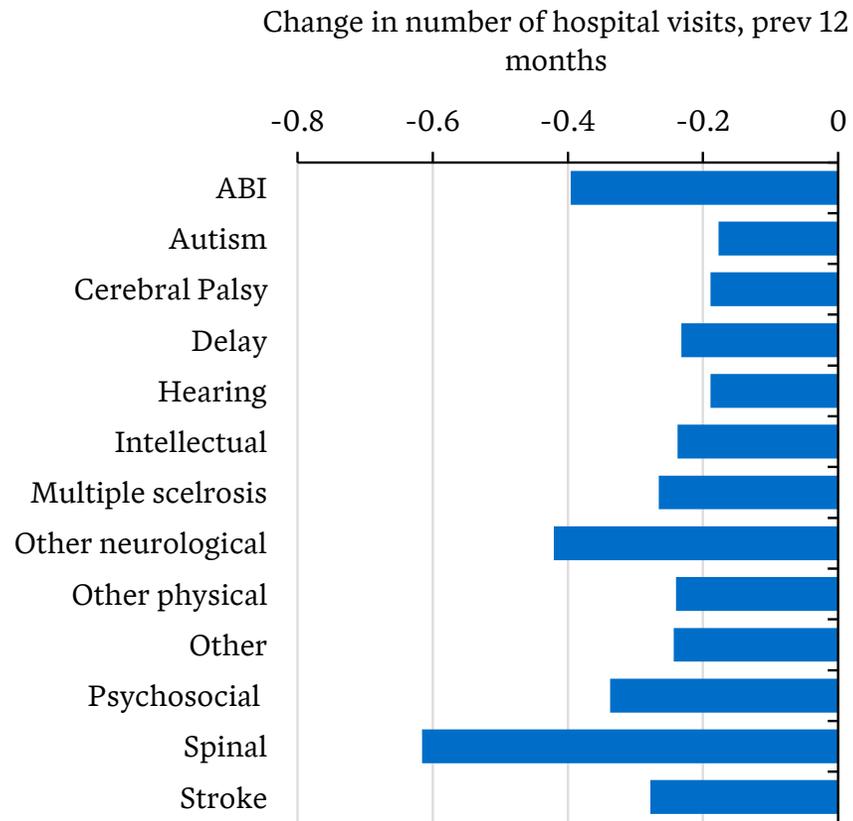
# Health – Self-rated physical health & hospital admissions

## Self-rated health scores (1=poor, 5 = excellent)



Worsening of health by duration (to year 3), although for some this might be expected

## Hospital admissions

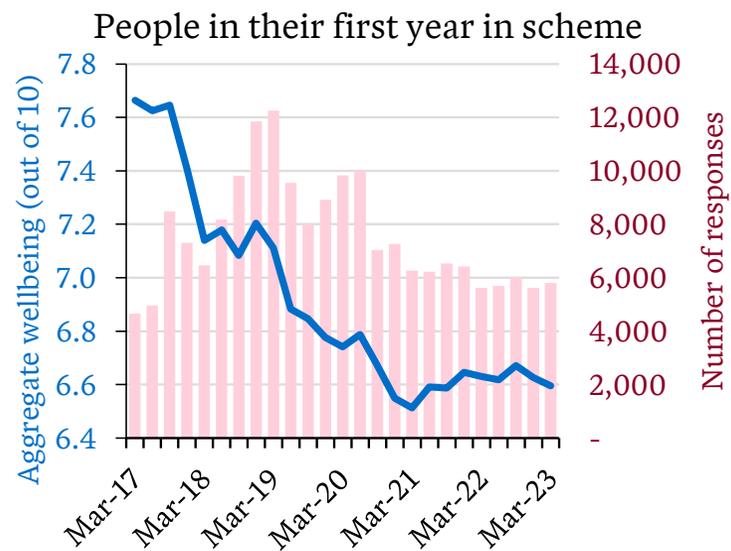
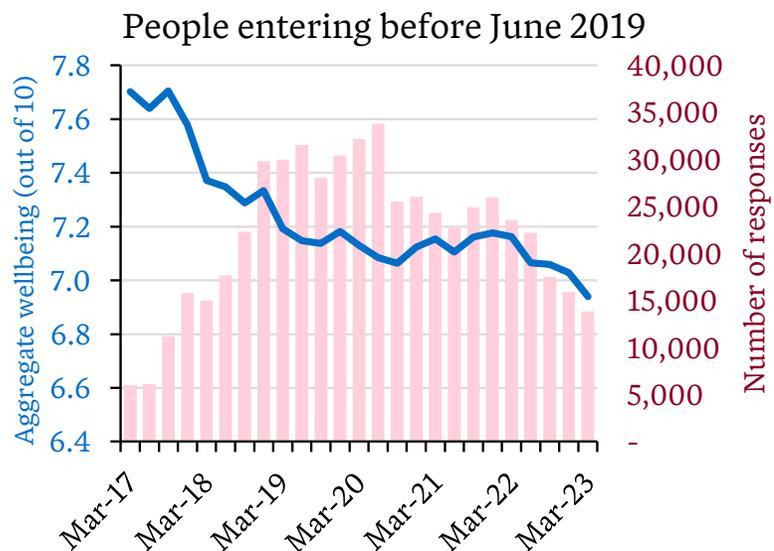


Decreased number of hospital admissions by duration 3

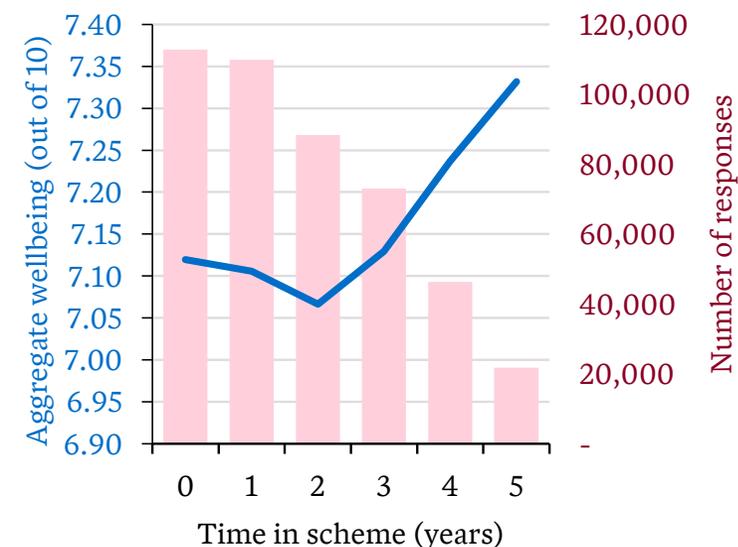
# Health – Wellbeing and life satisfaction

We constructed a wellbeing index based on survey responses across 26 indicators (0-10 scale, mean 6.7 and sd=1.7 over 2023)

## Wellbeing score over time



## ...and by duration in scheme



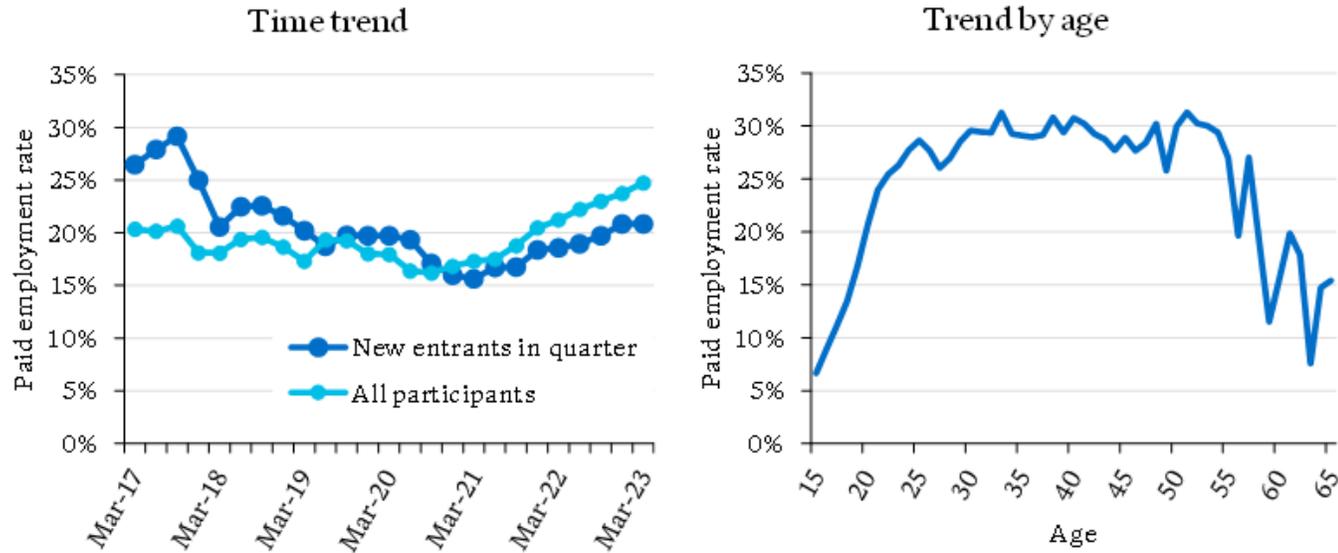
Can see downward trends for people over time, but true of people in scheme and new joiners

Duration-specific effect appear positive

Overall, we see +0.15 point change with duration for participants – aligns with other results for life satisfaction and reduced psychological distress.  
And +0.10 for carers (using straight life satisfaction)

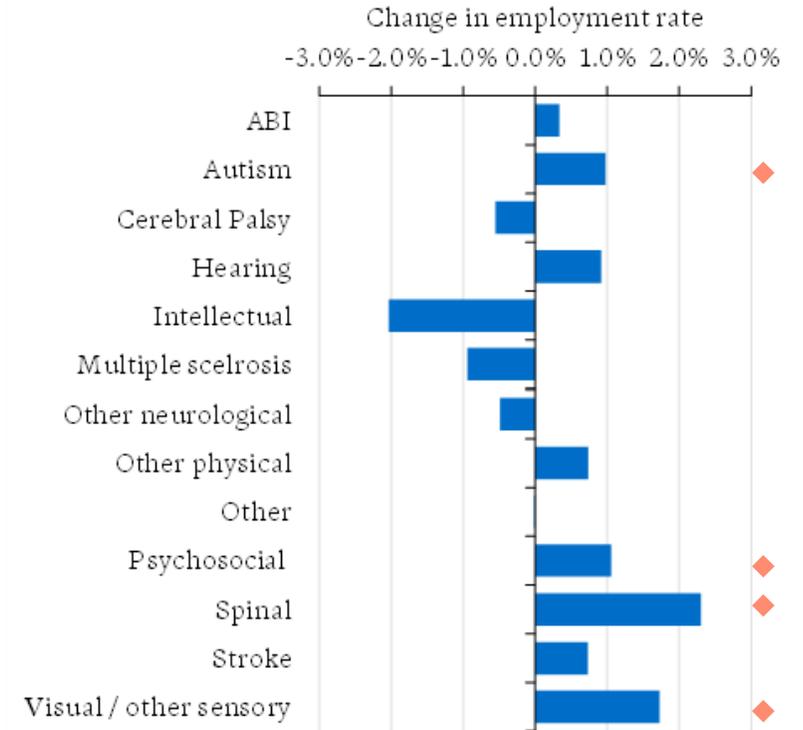
# Employment

## Participant employment trends by time and age



Improving rates, but appears to be primarily a time trend (broader labour market)

## Average modelled duration effect by disability type



- Model attributes 1,700 participant jobs to time in scheme, small aggregate effect.
- A more consistent effect seen for carers – 0.1 percentage points attributed to duration, but strong time effects and strong HILDA result (2pp) led to an intermediate assumption (1-2pp) – 9,700 additional jobs
- 2011 PC estimates probably overstated potential employment benefits for the scheme

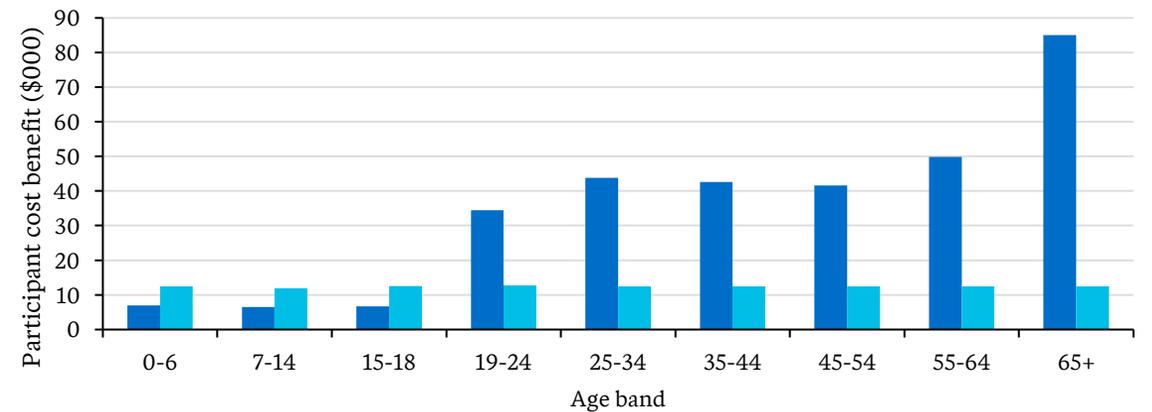
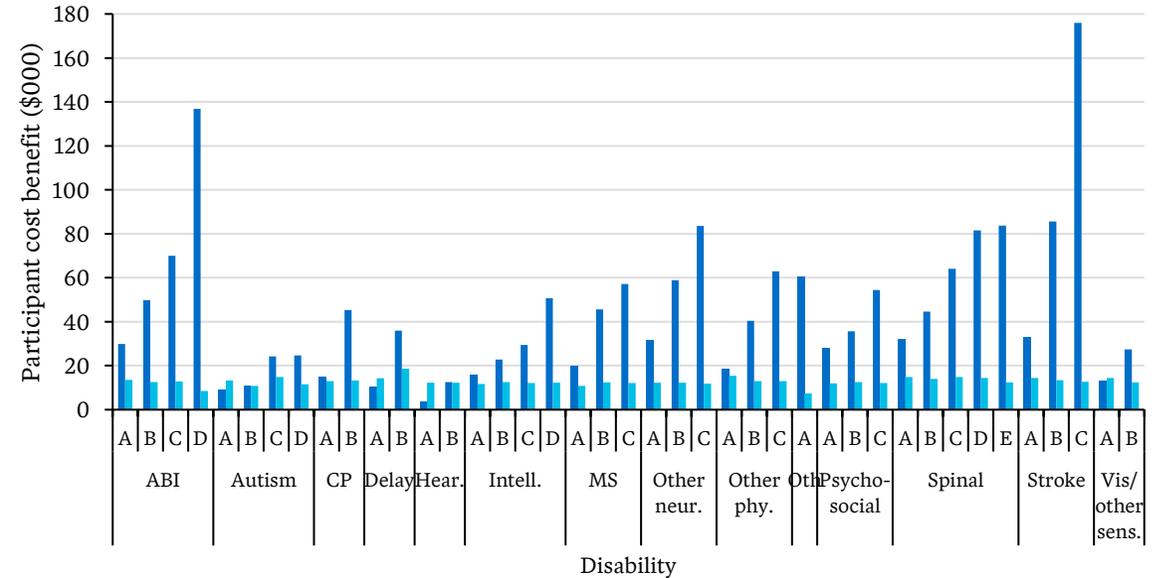
## ...and everything else

| Outcome   | Main trend  | Duration-specific trend, and cohort effects   | Economic recognition  |
|---|---|---|---|
| Satisfaction with where they live                           | Strong decreasing trend (driven by new entrants)          | Solid positive improvements, about +2pp. Much stronger for non-legacy entrants                        | Mainly no – overlap with wellbeing. Some direct benefits from fewer falls |
| Whether access to transport meets needs                     | Flat since 2019   | Very strong improvements (~20pp) Larger for SIL, plus psychosocial and neurological disability groups | No – overlap with wellbeing   |
| Community (involvement in activities, community groups)     | Moderate increasing trend with duration before regression | Not estimated   | n/a   |
| Safety (feeling safe in their home)                         | Slight decreasing trend with time                         | Slight decreasing trend   | Zero  |
| Desire for more choice and control                          | Increasing with duration (adverse movement)               | Not estimated   | n/a   |
| Safety & justice  | Decreasing feelings of safety                             | Decreases visible with duration   | Zero  |
| School readiness – number of flagged developmental concerns | Increasing number (6.3 → 6.7) with time                   | Strong increase of similar size, with duration  | Zero  |
| School attainment – Year 12 completion                      | Not reported  | Adverse trend for completion with years in scheme – 1-2pp worse per year                              | Zero  |

# Breakdown by segment and age

Care is needed in comparing benefits and costs, however we observe:

- Benefits (primarily life satisfaction) remain steady while costs increase as severity (as indicated by LoF band) increases.
- Cohorts for whom net benefits exceed net costs include the lowest severity bands of people with autism, delay, hearing and visual & other sensory. These groups tend to have lower per-person costs and wellbeing improvements remain solid.
- Our analysis shows a higher ratio of net benefits to net costs for children (and their families) compared to adult participants.



■ Net cost ■ Net benefit

# Measurement framework

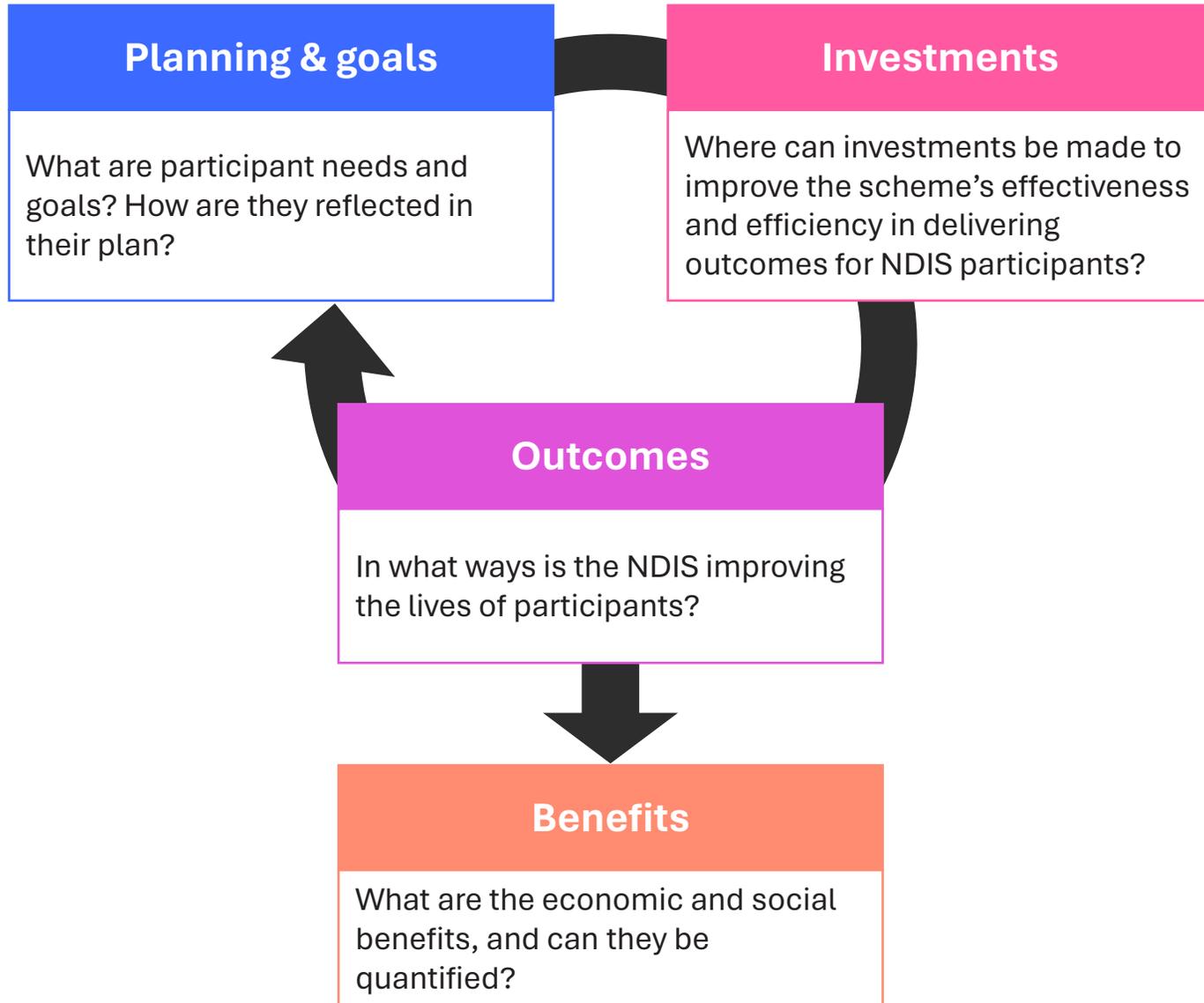


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# A framework



Our exploration of measurement reflected an appetite to more closely integrate goals, investments (or plan components) and outcome measurement. This is a challenging but worthy approach

# Some principles

1. There is value in aligning a framework with existing NDIS and Australian Disability Strategy (ADS) Outcomes Framework.
2. Outcomes for carers and family are needed as part of the framework.
3. There is value in having outcomes that can be tied to economic benefits, including those that are broader than core NDIS services.
4. Improved data linkage offers significant opportunities for improved outcome measurement and benefit estimation.
5. There is significant opportunity in building and using evidence around how NDIS spending relates to outcomes.
6. Participant goals are a central part of Scheme design.
7. An expanded framework requires a commitment to use it to drive activity and improvement.
8. Outcomes measurement and goal setting must be underpinned by good data to understand participant needs.

# Discussion



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# Discussion

- Net costs are large. Measurable benefits are significantly smaller, with subjective wellbeing improvements the biggest factor.
- Lots of unanswered questions (or answers that can be revisited and improved).
- Data can be significantly improved, but can still say a lot with the data we have



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Thank you!!

# Additional slides



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# The NDIS population, 2023

## Segment characteristics, selected groups

Descriptive statistics for selected segments shown, including our estimate of what % would have been covered by legacy schemes

| Disability group   | LoF band at 2 years (A = least severe) | Number of people | % legacy | SIL % | Child (<18) % | Over 65 % | Avg payments p/y | Avg plan p/y |
|--------------------|--|------------------|----------|-------|---------------|-----------|------------------|--------------|
| Delay              | A                                      | 83,401           | 5%       | 0%    | 100%          | 0%        | \$ 11,100        | \$ 19,900    |
|                    | B                                      | 1,914            | 22%      | 0%    | 98%           | 0%        | \$ 35,400        | \$ 47,500    |
| Intellectual       | A                                      | 20,831           | 41%      | 3%    | 61%           | 1%        | \$ 29,700        | \$ 41,600    |
|                    | B                                      | 32,379           | 63%      | 10%   | 22%           | 2%        | \$ 60,700        | \$ 76,800    |
|                    | C                                      | 22,663           | 74%      | 19%   | 19%           | 4%        | \$ 114,700       | \$ 136,300   |
|                    | D                                      | 22,805           | 85%      | 39%   | 9%            | 7%        | \$ 203,100       | \$ 227,400   |
| Multiple sclerosis | A                                      | 3,255            | 30%      | 0%    | 0%            | 9%        | \$ 27,800        | \$ 41,500    |
|                    | B                                      | 4,014            | 36%      | 2%    | 0%            | 18%       | \$ 71,000        | \$ 97,200    |
|                    | C                                      | 2,786            | 64%      | 14%   | 0%            | 24%       | \$ 202,200       | \$ 232,200   |

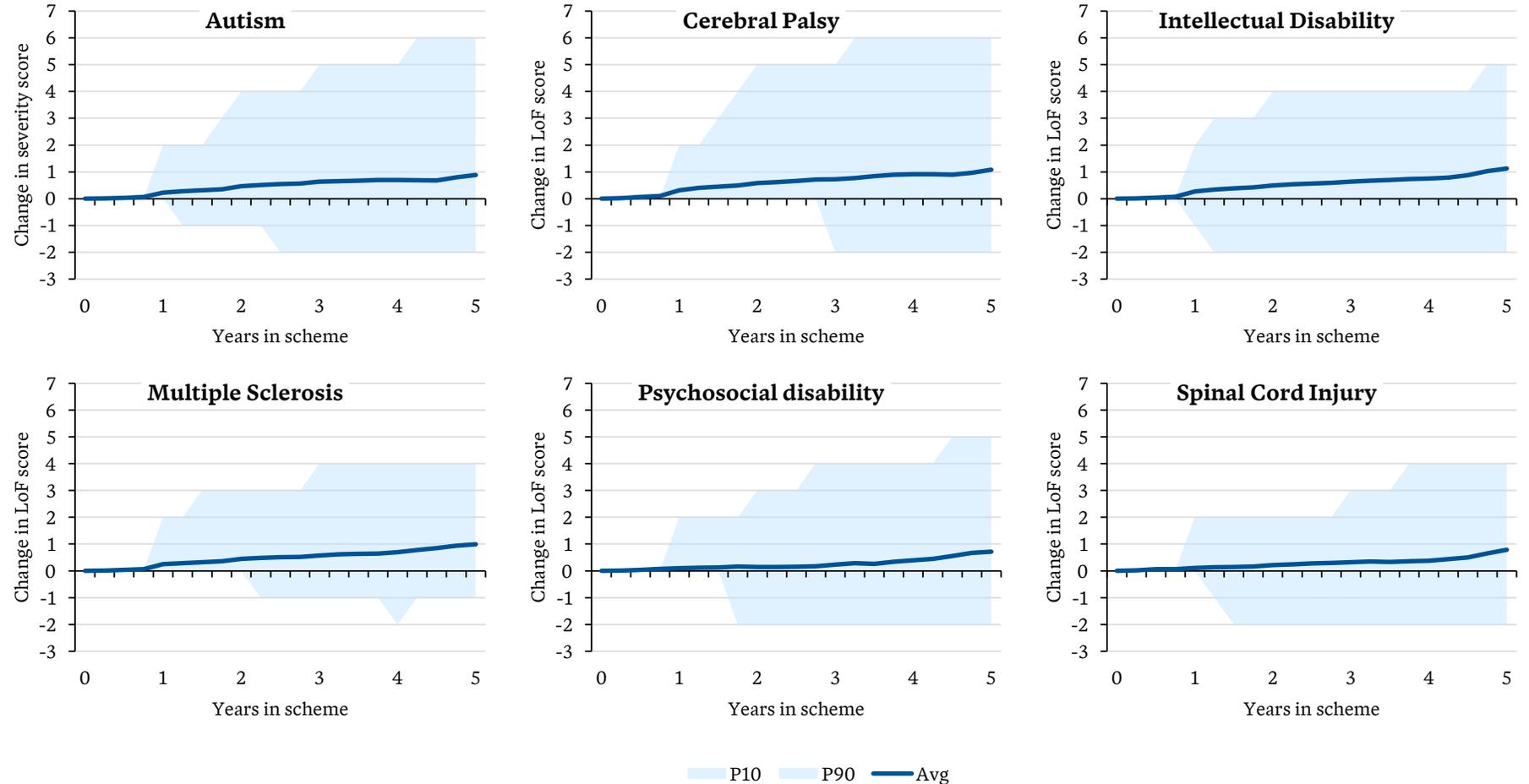
etc



# The NDIS population, 2023

Level of function scores are relatively volatile over time – makes comparisons hard. Particularly important for the estimates of outcomes, where rates will vary by severity

Average change in reported severity score (15-point scale) with scheme duration



# Variability in funded supports

Packages and payments are very variable, even within segments.

- For example, non-SDA/SIL payments at the 75<sup>th</sup> percentile are 3-10 times higher than those at the 25<sup>th</sup> percentile
- NDIS Review highlighted potential equity issues
- Some variation will relate to differing needs and goals, but some will be planning inconsistencies
- Also hard to tie to outcomes

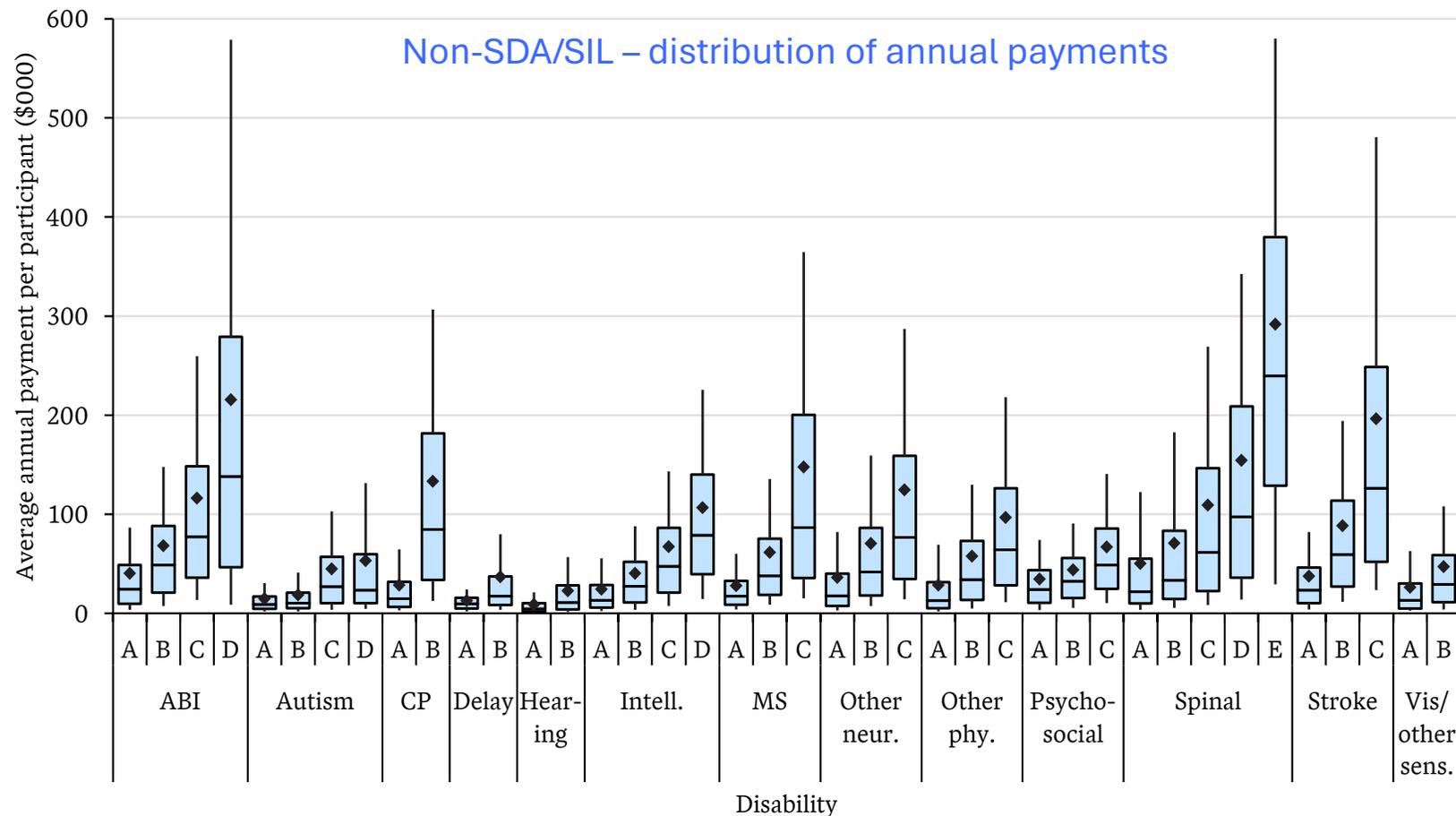


Chart legend: ◆ = Average (mean) payments, Boxes show 25<sup>th</sup> / 50<sup>th</sup> / 75<sup>th</sup> percentiles, whiskers show 10<sup>th</sup> and 90<sup>th</sup> percentiles. Zero payments excluded