Measuring outcomes and comparative value in the NDIS

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Director Targeted Research and Strategic Evaluation

MUCHE Seminar - March 2023
I would like to acknowledge the Traditional Owners and Custodians of the Country on which we meet today, the Gadigal people of the Eora Nation, and their continuing connection to land, sea, and community. I pay my respects to their Elders, past present and emerging.

I would like to extend that acknowledgement and respect to any First Nations peoples here today."
What I will talk about today

1. An overview of the NDIA’s Research and Evaluation Branch.
2. How the NDIA measures outcomes for NDIS participants.
3. Developing new ways to analyse and report NDIS participant outcomes.
5. Working collaboratively on future NDIA research priorities.
The Research and Evaluation Branch
The Research and Evaluation Branch

- Undertaking research and building an evidence base is contained within the NDIS Act 2013 and is integral to the insurance approach that underpins the NDIS (Insurance Principle 3).
- The Research & Evaluation Branch was established in 2019 with responsibility for ensuring that NDIA policies, practices and priorities are informed by trustworthy and robust evidence.
- Currently operating under a 5-year strategy.

- Generate new evidence of what works
- Testing innovations (Pilots and RCTs)
- Measuring outcomes and benefit (including how)
- Turning evidence into action
The Research and Evaluation Strategy
2022-2027

Four major streams of work

1) Information gathering for access and planning
2) Early Intervention and high volume cohorts
3) Home and living
4) Markets and employment

Available on our website:
Research and Evaluation Strategy | NDIS
What we do

Data analytics and outcome measurement
Use administrative data (NDIA and other government and external sources) to understand measure and monitor outcomes, benefits and costs of the NDIS on participant and Scheme outcomes.

Qualitative research
Collect and analyse non-numerical data (from participants, providers, service delivery staff) through in-depth interviews or focus groups to hear the unique stories, experiences and voices of people.

Quantitative research
Collect and analyse numerical data to find patterns and averages, make predictions, test causal relationships, and generalise results to wider populations.

Synthesis and meta-analysis
Find, appraise, synthesise and communicate the best available existing evidence in a systematic way, to inform NDIA decisions. This includes systematic reviews and meta-analyses.

+ capacity building in research and evaluation methods & R&E governance across the Agency
Who we are

- ~ 27 FTE aligned to our main approaches

- Multidisciplinary mix of ex academic, public sector, commercial and clinical R&E experts.
- Currently working on 12 research and evaluation projects
- Partnering on 3 x tier 1 grants
- Involved in 17 external research projects (access to data, staff & NDIS participants)
Measuring NDIS participant outcomes
Outcome measurement in the NDIS

Since 2016, the NDIA has used a participant outcomes framework to take a long term view of the impacts of the NDIS on participants across 8 domains.

The NDIA operationalises the outcomes framework through two surveys:

1) **A short form questionnaire** – administered to all participants or their supporters during the NDIS planning and plan review process (>30 indicators).

2) **A long form questionnaire** – administered annually to a longitudinal sample of participants (~50 indicators)
A strength of the outcomes framework is that it is comprehensive across areas that are important for people with disability and government.

...but the complexity is a limitation for evaluating NDIS effectiveness and making investment decisions.

How can we reduce this complexity?
Measuring outcomes for participants with a psychosocial disability using latent transition analysis and growth mixture modelling

Dr Geoff Hammond
LTA and GMM approaches

- **LTA** identifies distinct (but unobservable) classes of individuals based on categorical or ordinal data about them (i.e. $X_n$) and then characterises transitions between classes over time.
- In our case, classes are based on the likelihood of participants giving certain responses to items in the NDIS short form outcomes questionnaire.

- **GMM** identifies cohorts of participants based on similarities in their longitudinal trajectories on a measure.
- In our case, trajectories are identified based on repeat WHODAS scores.
Example LTA solution (15-24 year age group)

Class 1 are:

- Most likely to make decisions for themselves, know people in their community.
- Likely to participate in education and training.
- Likely to feel safe at home and in the community

...but class ordering is subjective.

Which outcomes are **most important** to NDIS participants?

<table>
<thead>
<tr>
<th>Domain</th>
<th>Question</th>
<th>Response</th>
<th>Class 1 (29.5%)</th>
<th>Class 2 (25.0%)</th>
<th>Class 3 (21.0%)</th>
<th>Class 4 (24.4%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice &amp; Control</td>
<td>Who makes most decisions in your life?</td>
<td>I do</td>
<td>0.92</td>
<td>0.27</td>
<td>0.04</td>
<td>0.79</td>
</tr>
<tr>
<td>Choice &amp; Control</td>
<td>Who makes most decisions in your life?</td>
<td>My family</td>
<td>0.06</td>
<td>0.33</td>
<td>0.86</td>
<td>0.14</td>
</tr>
<tr>
<td>Choice &amp; Control</td>
<td>Have you ever participated in a self-advocacy group meeting, conference, or event?</td>
<td>Yes</td>
<td>0.07</td>
<td>0.02</td>
<td>0.04</td>
<td>0.12</td>
</tr>
<tr>
<td>Health &amp; Wellbeing</td>
<td>Hospitalisation in the last 12 months?</td>
<td>Three or more</td>
<td>0.13</td>
<td>0.40</td>
<td>0.11</td>
<td>0.13</td>
</tr>
<tr>
<td>Health &amp; Wellbeing</td>
<td>Do you feel safe getting out and about in your community?</td>
<td>Yes</td>
<td>0.69</td>
<td>0.91</td>
<td>0.81</td>
<td>0.43</td>
</tr>
<tr>
<td>Lifelong Learning</td>
<td>Do you currently participate in education, training or skill development?</td>
<td>Yes</td>
<td>0.77</td>
<td>0.87</td>
<td>0.60</td>
<td>0.68</td>
</tr>
<tr>
<td>Relationships</td>
<td>Are you happy with how often you see your family?</td>
<td>Yes</td>
<td>0.60</td>
<td>0.25</td>
<td>0.73</td>
<td>0.67</td>
</tr>
<tr>
<td>Relationships</td>
<td>Are you happy with how often you see your family?</td>
<td>No, see them more</td>
<td>0.27</td>
<td>0.61</td>
<td>0.26</td>
<td>0.26</td>
</tr>
<tr>
<td>Home</td>
<td>How do you feel in your home?</td>
<td>Very safe/Safe</td>
<td>0.69</td>
<td>0.30</td>
<td>0.85</td>
<td>0.80</td>
</tr>
<tr>
<td>Home</td>
<td>How do you feel in your home?</td>
<td>Unsafe/Very unsafe</td>
<td>0.09</td>
<td>0.37</td>
<td>0.07</td>
<td>0.10</td>
</tr>
<tr>
<td>Social Community and Civic Participation</td>
<td>Do you spend time doing activities that interest you?</td>
<td>Yes</td>
<td>0.44</td>
<td>0.71</td>
<td>0.31</td>
<td>0.19</td>
</tr>
<tr>
<td>Social Community and Civic Participation</td>
<td>Do you know people in your community?</td>
<td>Yes</td>
<td>0.93</td>
<td>0.71</td>
<td>0.55</td>
<td>0.01</td>
</tr>
<tr>
<td>Social Community and Civic Participation</td>
<td>How often do you have a say in services provided to you?</td>
<td>All/Most of the time</td>
<td>0.58</td>
<td>0.12</td>
<td>0.21</td>
<td>0.63</td>
</tr>
<tr>
<td>Social Community and Civic Participation</td>
<td>How often do you have a say in services provided to you?</td>
<td>Some of the time</td>
<td>0.30</td>
<td>0.48</td>
<td>0.47</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Class 1 represents the reference class, ^: 20% reduction in likelihood relative to reference class, *: 20% increase in likelihood relative to reference class.
GMM trajectories are more objective

15 to 24 years

- Clearly some trajectories are better than others based on whether WHODAS scores decrease (i.e. function improves), increase (i.e. function deteriorates) or stay the same (i.e. function is maintained).

25 to 34 years

- WHODAS is also a widely used and validated measure of disability for people with a psychosocial disability (agnostic of assistive technology).
Optimal LTA & GMM solutions show greater life course heterogeneity than the NDIS outcomes framework conceptualises.

NDIS outcomes framework

Domain 1: Choice and control
Domain 2: Daily living
Domain 3: Relationships
Domain 4: Home
Domain 5: Health and wellbeing
Domain 6: Lifelong learning
Domain 7: Work
Domain 8: Social, community and civic participation

LTA

<table>
<thead>
<tr>
<th>Age Group</th>
<th>4 classes</th>
<th>4 classes</th>
<th>7 classes</th>
<th>6 classes</th>
<th>6 classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-24</td>
<td>10</td>
<td>10</td>
<td>6</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>25-34</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>35-44</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>45-54</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>55+</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

GMM
LTA and GMM improve the sensitivity and interoperability of outcome measurement

- A challenge with the NDIS outcome framework is that many items use binary scales and have low sensitivity to change (floor/ceiling effects).
- The NDIA reports longitudinal change in each individual indicator – typically we see a 5-8% change over time for participants with a PSD (generally backwards).
- But some outcomes improve and some deteriorate…so how do we know if the lives of NDIS participants are getting better overall?

Participants with a psychosocial disability (25+ years)

<table>
<thead>
<tr>
<th></th>
<th>LTA</th>
<th>GMM</th>
</tr>
</thead>
<tbody>
<tr>
<td>% move into a more</td>
<td>5.0%</td>
<td>16.2%</td>
</tr>
<tr>
<td>favourable class/trajectory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% maintain</td>
<td>89.2%</td>
<td>52.2%</td>
</tr>
<tr>
<td>class/trajectory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% move into a less</td>
<td>5.8%</td>
<td>31.6%</td>
</tr>
<tr>
<td>favourable class/trajectory</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GMM is attractive but different disability cohorts complete different assessment tools.

Short form outcomes questionnaire responses
Can we predict trajectories to maximise the benefit of NDIS packages?

- The association between NDIS expenditure and the likelihood of attaining single outcomes typically range from 0 to +/-2% per $1,000 per annum.
- Which outcomes are more important? Which funding mix maximises benefit?

**ME of $1,000 NDIS expenditure per annum on likelihood of class/trajectory transition (25+ years)**

<table>
<thead>
<tr>
<th></th>
<th>Core</th>
<th>Capacity building</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LTA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvement</td>
<td>0%</td>
<td>-7.1%</td>
</tr>
<tr>
<td>Deterioration</td>
<td>-0.3%</td>
<td>+3.6%</td>
</tr>
<tr>
<td><strong>GMM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvement</td>
<td>+1.6%</td>
<td>-0.5%</td>
</tr>
<tr>
<td>Deterioration</td>
<td>+5.5%</td>
<td>+3.8%</td>
</tr>
</tbody>
</table>

- Clinical diagnosis, remoteness and age are all associated with the likelihood of improvement or deterioration.
- Interactions with expenditure? Life-stage specific NDIS packages?
Development of a disability wellbeing index
A/Professor Gang Chen
Professor Dennis Petrie
Professor Anthony Harris

Professor Emerita Gwynnyth Llewellyn
Dr Kym Bulkeley

Professor Julie Ratcliffe
Why does the NDIS need a wellbeing index?

NDIS participant costs in 2021-22 were $29.2 bn and projected to be $59.3 bn in 2029-30.

The current NDIS outcomes framework does not support equitable assessment of NDIS impacts and resource allocation:

• **It is complex** - >30 outcomes in the adult questionnaires

• The items have **different scales** and **cannot be aggregated into reliable and valid measures**

• Many items exhibit **floor or ceiling effects**

• Some ‘outcomes’ are **not actually outcomes** that are realistic for NDIS participants (e.g. need for the NDIS in various aspects of function)

• All items and domains are **weighted equally** for all participants – invalid assumption.

In 2017, a paper to the NDIA Executive recommended developing a validated summary wellbeing measure and weighting to assist the NDIA assess the comparative value for money of supportive technologies and services.
Aim: Develop a composite preference-weighted index of wellbeing for people with disability to support priority setting in the NDIS and disability sector (15-24 years and 25+ years).

Must be capable of quantifying the holistic change in a person with disability’s life from improved access to supports in a way that is comparable across the range of available supports and disability cohorts.

1. Develop the wellbeing classification system
   - Analysis of NDIS data.
   - Lit review & review of other wellbeing classification systems
   - Disability sector consultation
   - Consultation with PWD
   - Online validation survey (PWD)

2. Valuation study
   - Discrete choice experiment (PWD and general public)
   - Develop item weights (cohort and the individual?)

3. Implementation, testing & refinement
   - Embed as part of routine NDIS data collection and priority setting
   - Testing & tailoring for priority cohorts (e.g. First Nations, CALD, LGBTIQA+)
   - Refine as volume of data grows
   - Children?
Principles for wellbeing domains and items

1. Reflective of outcomes that are important to people with different types of disabilities, different levels of functional capacity, and reside in different regions across Australia.

2. Representative of domains that are public policy relevant (i.e. Australia’s Disability Strategy and NDIS Outcomes Framework).

3. Easy to understand.

4. Brief and practical to collect and report over time.

5. Psychometrically valid and reliable.

6. Responsive to wellbeing differences between individuals and the services and supports they receive.
Step 1: Identify existing NDIS outcomes framework items that are appropriate for the DWI

**Rationale:** Items are already collected from all participants (approximately annually) and would allow retrospective evaluation.

- **86 items screened**
  - 44 excluded
  - **Rationale:**
    - Too broad or narrow
    - No clear positive or negative outcome
    - Clearly irrelevant to wellbeing
    - Not reflective of current wellbeing
    - Redundant

- **42 items selected for analysis**
  - Inconsistency in item phrasing and response scales

- **Δ Baseline to plan review 2 (~52K participants)**
  - All 42 excluded
  - **Rationale:**
    - Ceiling effects at baseline
    - Marginal responsiveness to time in NDIS and expenditure patterns (especially binary items)
    - Moderate to high correlation across domains

In practice, the NDIS outcome questionnaires are unlikely to be able to detect meaningful differences in important aspects of NDIS participants’ wellbeing.
Step 2: Review other wellbeing classification systems

**Rationale:** To identify potentially relevant domains, preliminary items and response options to refine with people with disability and stakeholders.

The starting point was **Australia’s Disability Strategy** and the **NDIS Outcomes Framework** (considerable overlap)

- NZ Disability Strategy
- Social Services and Well-being Act (Wales)
- Canadian Index of Wellbeing
- Irish Outcomes for Disability Services
- US National Core Indicators

- Adult Social Care Outcomes Toolkit
- EQ-HWB-S
- SF-6Dv2
- PROMIS-Preference (PROPr)
- PWI-ID
- QLI
- Brunnsviken Brief Quality of life scale
- EUROHIS-QoL-8
The domains of the ADS and NDIS outcomes frameworks are largely consistent with other relevant frameworks and wellbeing instruments with a few additions.
Step 3: Consultation and co-design

Preliminary domains & item bank

Disability advocates (n=12)

Government officials (n=12)

PWD and carers (n=27)

Also tested recall time

Updated DWI classification system

Draft DWI for piloting

Qualitative study (USyd)
Focus groups or 1:1 with 51 people with disability

 Intellectual disability, psychosocial disability, autistic people, women with disability, acquired brain injury, physical disability, First Nations, people living in group homes, independently or with their family.
Wellbeing domain evolution

Wellbeing Index (Mar 2022):
- Choice & Control
  - Daily Living Activities
- Relationships
  - Home
  - Health & Wellbeing
  - Lifelong Learning
  - Work
  - Social, Community & Civic Participation
- Financial Security
- Safety, Rights & Dignity
- Self-worth
- Achieving in Life

Wellbeing Index (Jun 2022):
- Independence
  - Daily Living Activities
  - Support
  - Personal Relationships
  - Living Situation
  - Health
  - Lifelong Learning
  - Work & Volunteering
  - Community
  - Leisure
  - Financial Situation
  - Dignity
  - Safety
  - Self-worth
  - Achieving in Life
- Choices
  - Daily Life
  - Support
  - Relationships
  - Housing
  - Health
  - Learning

Wellbeing Index (Jul 2022):
- Choices
  - Daily Life
  - Support
  - Relationships
  - Housing
  - Health
  - Learning
  - Work
  - Community
  - Leisure
  - Material Resources
  - Respect & Dignity
  - Safety

Wellbeing Index (Aug 2022):
- Choices
  - Daily Life
  - Support
  - Relationships
  - Housing
  - Health
  - Learning
  - Work
  - Community
  - Leisure
  - Finances
  - Respect & Dignity
  - Safety

ADS 2021-2031:
- Employment & Financial Security
- Inclusive Homes & Communities
- Safety, Rights & Justice
- Personal & Community Support
- Education & Learning
- Health & Wellbeing
- Community Attitudes
Example feedback on items from people with disability

(Example – potential items in the ‘Choice’ domain)

• Are the meaning and wordings of the proposed items clear and easy to understand?
• Which item(s) within each domain would you prefer?

(#1) I feel in control of my life.
   (‘Control of life’ means having the choice to do things or have things done for you as you like and when you want).

(#2) I make my own choices about my day-to-day life (e.g. where to go, what to do, what to eat).

(#3) “I have choices about what I do each day (e.g., where I go, what I do).” ✓

(#4) I make decisions about my life. ✓
• 35 items (slight variation in some of the items for 25+ and 15-24 year olds).
• The items were piloted in an online survey with 28 NDIS participants and 13 sector reps for final item refinement and selection of response option.
<table>
<thead>
<tr>
<th>DWI Domain</th>
<th>Items</th>
</tr>
</thead>
</table>
| Relationships       | I am satisfied with the way | I get along with people (for example, friends, family, carers, support workers)  
                          | I am satisfied with the way | I get along with my family  
                          | I am satisfied with my friendships  
                          | I have the opportunity for intimate relationships  
                          | I am satisfied with the way | I get along with people who support me (for example, support workers, allied health, counsellors) |
| Daily life          | I am satisfied with my personal care (for example, eating, washing, dressing, with or without the help of others)  
                          | I am satisfied with my day-to-day activities (for example, cooking, shopping, sorting out problems, with or without the help of others) |
| Community           | I take part in my community as much as I want to (for example, doing sports, going to music and cultural events, religious groups)  
                          | I feel accepted and included in my communities, in person or online  
                          | I do things in my life that are important to me |
| Leisure time        | I spend my leisure time doing things I enjoy |
| Health              | I am satisfied with my physical health  
                          | I am satisfied with my mental health  
                          | I am satisfied with the way | my pain is managed |
| Housing             | I am satisfied with my living situation  
                          | I am satisfied with where | I live  
                          | I am satisfied with who | I live with |
| Work                | I am satisfied with the work | I do (for example, paid employment, unpaid caring, volunteering)  
                          | I am satisfied with the paid work | I do  
                          | I am satisfied with the unpaid activities that | I do for others  
                          | I am satisfied with the opportunity to follow my chosen career |
| Learning            | I learn new things as much as I want to  
                          | I am satisfied with my opportunities for education (for example, at school, vocational training, university) |
| Respect and dignity | I am satisfied with how | people treat me  
                          | I am satisfied with how | people treat me at home  
                          | I am satisfied with how | people treat me in the community  
                          | I am satisfied with how | people treat me when | I get services (for example, health services, education, employment, community services)  
                          | I am able to speak up about the things that are important to me |
| Choices             | I control how | I live my life |
| Safety              | I feel safe in my life  
                          | I feel safe in my home  
                          | I feel safe when | I am out in the community |
| Finances            | I have enough money to do things that are important to me (for example, going out with friends, buying food, buying medication)  
                          | I have control over my money to do the things | I want to do |
| Support             | I am satisfied with the support | I get (for example, services, unpaid support) |
## Feedback on response options

**Option 1**  Never, Rarely, Sometimes, Mostly, Always  

**Option 2**  None of the time, A little bit, Sometimes, Most of the time, All the time  

**Option 3**  Not at all, A little, Moderately, Mostly, Completely  

Which response option do you prefer for each life aspect?

<table>
<thead>
<tr>
<th>Life Aspect</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>None above</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Relationship</td>
<td>7.1</td>
<td>92.9</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Daily Life</td>
<td>14.3</td>
<td>78.6</td>
<td>7.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Community</td>
<td>7.1</td>
<td>78.6</td>
<td>7.1</td>
<td>7.1</td>
</tr>
<tr>
<td>Free Time</td>
<td>7.1</td>
<td>85.7</td>
<td>0.0</td>
<td>7.1</td>
</tr>
<tr>
<td>Health</td>
<td>7.1</td>
<td>78.6</td>
<td>7.1</td>
<td>7.1</td>
</tr>
<tr>
<td>Housing</td>
<td>14.3</td>
<td>64.3</td>
<td>14.3</td>
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<tr>
<td>Work</td>
<td>7.1</td>
<td>78.6</td>
<td>0.0</td>
<td>14.3</td>
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<tr>
<td>Learning</td>
<td>7.1</td>
<td>78.6</td>
<td>7.1</td>
<td>7.1</td>
</tr>
<tr>
<td>Respect and Dignity</td>
<td>7.1</td>
<td>85.7</td>
<td>0.0</td>
<td>7.1</td>
</tr>
<tr>
<td>Choices</td>
<td>7.1</td>
<td>85.7</td>
<td>0.0</td>
<td>7.1</td>
</tr>
<tr>
<td>Safety</td>
<td>7.1</td>
<td>85.7</td>
<td>0.0</td>
<td>7.1</td>
</tr>
<tr>
<td>Finances</td>
<td>14.3</td>
<td>71.4</td>
<td>7.1</td>
<td>7.1</td>
</tr>
<tr>
<td>Support</td>
<td>7.1</td>
<td>85.7</td>
<td>0.0</td>
<td>7.1</td>
</tr>
</tbody>
</table>
Step 4: Validation and psychometric analysis (online survey incl. Easy Read)

- ~18,000 NDIS participants or their nominees aged 25+
- ~11,000 aged 15-24 (oversampled rarer disabilities and rural and remote)

People with disability aged 18+ (non-NDIS participants) (via an online panel)

- How difficult it was to answer each item.
- The importance of each life aspect to overall wellbeing.
  
  +

  - Satisfaction with Life Scale.
  - Overall assessment of life.
  - Personal Wellbeing Index.
  - Demographic information including the respondent’s disabilities and the impacts on their life.

1,245 respondents representing participants aged 25+
397 respondents representing participants aged 15-24

(~70% proxy report but a good mix of disability types, ages and geography represented)
## Exploratory factor analysis (adults 25+)

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Items</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
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<td>0.813*</td>
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<td>0.685*</td>
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<td>0.318*</td>
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</table>

### Final item inclusion considered:
- Ceiling/floor effects (>40%)
- % NA/missing/unsure (>40%)
- Respondent rating of importance (>50% extremely/very important)
- Correlation with overall QoL rating (>0.3)
- Within factor explained variation on SWLS and PWI (lowest within each factor)
- Re-test reliability (>40% agreement & ICC >0.5)
- IRT (response disorder, poor fit)

### Then (qualitative considerations):
- DWI domain coverage
- Concept overlap/parsimony
- Policy relevance
- Outcome profiling
### Summary of DWI item performance by latent factors (Adults)

<table>
<thead>
<tr>
<th>#</th>
<th>DWI DOMAINS</th>
<th>DWI ITEMS</th>
<th>Baseline</th>
<th>Re-test reliability*</th>
<th>Item Response Theory (IRT)</th>
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<td><strong>FACTOR 1 - RELATIONSHIP</strong></td>
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<tr>
<td>D11</td>
<td>Relationship</td>
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<td>D12</td>
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<td>Family</td>
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<td>D14</td>
<td>Relationship</td>
<td>Intimate Opportunity</td>
<td>8.0%</td>
<td>0.35</td>
<td>0.07</td>
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</tbody>
</table>

| **FACTOR 2 - HEALTH & ACTIVITIES** | | | | | |
| D51 | Health | Physical Health | 7.0% | 0.18 | 0.17 | 0.16 |
| D31 | Community | Participating | 10.2% | 0.47 | 0.46 | 0.45 |
| D22 | Daily Life | Everyday Activities | 13.1% | 0.39 | 0.10 | 0.09 |
| D53 | Health | Pain Management | 11.1% | 0.37 | 0.03 | 0.03 |
| D41 | Leisure Time | Leisure | 10.3% | 0.37 | 0.10 | 0.09 |
| D21 | Daily Life | Personal Care | 27.1% | 0.47 | 0.07 | 0.07 |
| D52 | Health | Mental Health | 8.0% | 0.47 | 0.03 | 0.03 |
| D121 | Finances | Enough Money | 25.2% | 0.43 | 0.07 | 0.07 |

| **FACTOR 3 - WORK** | | | | | |
| D72 | Work | Paid Work | 5.7% | 0.43 | 0.32 | 0.32 |
| D71 | Work | Overall Work | 8.0% | 0.48 | 0.07 | 0.07 |
| D74 | Work | Career Opportunity | 3.8% | 0.49 | 0.05 | 0.05 |
| D73 | Work | Unpaid Activities | 6.8% | 0.41 | 0.03 | 0.03 |

| **FACTOR 4 - HOME** | | | | | |
| D62 | Housing | Where I Live | 43.9% | 0.31 | 0.04 | 0.04 |
| D61 | Housing | Overall Living | 38.2% | 0.48 | 0.07 | 0.07 |
| D63 | Housing | Who I Live With | 30.2% | 0.29 | 0.03 | 0.03 |
| D92 | Respect & Dignity | Home | 32.8% | 0.31 | 0.04 | 0.04 |

| **FACTOR 5 - RESPECT & SUPPORT** | | | | | |
| D93 | Respect & Dignity | Community | 8.8% | 0.36 | 0.03 | 0.03 |
| D94 | Respect & Dignity | Service | 14.7% | 0.32 | 0.02 | 0.02 |
| D91 | Respect & Dignity | Overall Treatment | 10.5% | 0.47 | 0.05 | 0.05 |
| D131 | Support | Support | 19.0% | 0.35 | 0.05 | 0.05 |
| D32 | Community | Belonging | 10.5% | 0.47 | 0.05 | 0.05 |
| D15 | Relationship | Support Team | 19.9% | 0.31 | 0.04 | 0.04 |

| **FACTOR 6 - CHOICES** | | | | | |
| D101 | Choices | Control | 14.9% | 0.31 | 0.04 | 0.04 |
| D122 | Finances | Control Money | 26.5% | 0.23 | 0.01 | 0.01 |
| D95 | Respect & Dignity | Speak Up | 14.9% | 0.45 | 0.06 | 0.06 |
| D82 | Learning | Education Opportunity | 6.9% | 0.38 | 0.06 | 0.06 |
| D81 | Learning | New Things | 11.2% | 0.41 | 0.07 | 0.07 |

| **FACTOR 7 - SAFETY** | | | | | |
| D111 | Safety | Overall Safety | 28.0% | 0.23 | 0.23 | 0.23 |
| D112 | Safety | Home | 46.3% | 0.46 | 0.09 | 0.09 |
| D113 | Safety | Community | 14.7% | 0.41 | 0.07 | 0.07 |
Next steps

1. Final acceptability testing with people with disability and policy makers.

2. **Valuation study** to elicit population and individual preference weights for the items from both people with disability and the general public.
   
   • Stated preference approach (discrete choice experiment) to elicit population preference weights.
   
   • Individual preferences will be elicited using either a rating or ranking task (will be determined during piloting).

The aim is to trial the final DWI in late 2023 and then systemically incorporate implement in 2024-25.
Working collaboratively on future NDIA research priorities
Future priorities to transform the NDIS

Information gathering for access and planning
• Consistent gathering of information about a person’s disabilities and support needs.

Home and living
• Smart technologies to support greater independence at home.
• Accessible and inclusive housing and development.

Early intervention & high volume cohorts
• Effective intervention for children with atypical developmental.
• What outcomes should we measure for children and how?
• Encouraging greater acceptance of pre/non-NDIS support?
• Technologies for intellectual disability

Markets and employment
• Cost effectiveness threshold for resource prioritisation.
• Further development of the DWI and outcome measurement for intersectionality groups (First Nations, CALD, LGBTIQA+).
• Tele-enabled NDIS services.
• Alternative commissioning models.
How we support researchers

We help researchers and the disability sector carry out work that benefits participants and relates to our corporate plan and priorities.

We support researchers through:

• Access to publicly available data
• Access tailored NDIS data (summary or individual-level data)
• Access NDIA staff (employees, contractors, and volunteers) as study subjects in research project team members, steering committee experts, working parties or similar
• Collaboration or partnering with the Agency on research or evaluation

For more information head to our website Research partnerships | NDIS
Accessing NDIA publicly available data

- The NDIA has made a large amount of data publicly available.
- Data includes downloadable cubes on participants, providers, plans and budgets.
- This data can be found on our "data and insights" page of our website National Disability Insurance Scheme (NDIS).
- **Quarterly Reports | NDIS** also contain publicly available data and are very useful resources.
- More features are being added all the time, including data visualisation tools which will make it easier to use the data available.
- You can explore this data and also register for notifications for when new data is released.
- **Explore data | NDIS** is an interactive tool to help you find information you need. The data can be filtered or sorted by participant type, reporting period, location or support class and category.
Thankyou for listening

Questions?
(andrew.goodell@ndis.gov.au)