National Disability Insurance Scheme

Annual Financial Sustainability Report

2018-19

Version 1.1

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Scheme Actuary

Board deliberations relating to its statutory functions are confidential
(see Board Resolution of 4 September 2017)

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Overview

This annual financial sustainability report (AFSR) for 2018-19 has been prepared as required under section 180B of the National Disability Insurance Scheme Act 2013 (the NDIS Act), providing an overall assessment of the Scheme's financial sustainability as at 30 June 2019.

The Scheme has been growing rapidly

The Scheme has experienced rapid growth over its three year transition period to 30 June 2019. The 2018-19 year saw the number of participants with active plans increasing from 172,333 to 286,015, a growth rate of 66%. A total of $14.5 billion of support was committed in participant plans for the support year of 2018-19. The Scheme made $10.0 billion in payments to meet participant supports needs in 2018-19.

Scheme baseline projections indicate continued rapid growth

The baseline projection can be considered the best estimate, based on the evidence available to date, of the longer term cost trajectory for the Scheme when it reaches maturity. An experience-based model has been used to project participant numbers and Scheme costs, with allowances made for known phase-in biases in the transition schedules. The results of the baseline projection is shown in Table 1.

Table 1 Baseline projection of participant numbers and total Scheme costs

Number of participants	As at 30 June							
	2019	2020	2021	2022	2023	2024	2025	2030
0-64 years	279,039	359,211	409,818	451,891	477,937	495,781	512,345	585,637
65+ years	6,976	9,907	14,071	18,724	23,554	27,943	32,272	51,008
Total	286,015	369,118	423,889	470,615	501,491	523,723	544,617	636,645
Prevalence (0-64)	1.29%	1.64%	1.85%	2.02%	2.11%	2.16%	2.21%	2.39%

Scheme Costs ($m)	Projection Year						
	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2029-30
Committed Supports	21,621	26,607	30,560	33,780	36,370	38,787	54,780
Utilisation rate	76%	77%	78%	79%	79%	79%	80%
Participant Costs (0-64)	15,716	19,707	22,619	24,912	26,670	28,222	38,575
Participant Costs (65+)	611	896	1,272	1,701	2,147	2,598	5,148
Total Participant Costs	16,327	20,603	23,891	26,613	28,817	30,820	43,723
Operating Costs	1,430	1,454	1,647	1,780	1,815	1,942	2,755
Total Scheme Costs	17,757	22,057	25,538	28,393	30,632	32,761	46,477
Scheme Cost as % of GDP	0.89%	1.06%	1.16%	1.23%	1.25%	1.27%	1.38%
Scheme Cost as % of GDP (0-64)	0.85%	1.02%	1.10%	1.15%	1.16%	1.16%	1.21%

The Scheme is projected to have a Steady Intake Date[1] population at 30 June 2023 of just over 500,000 participants, of which about 478,000 are expected to be aged 0 to 64 which is equivalent to a prevalence rate of 2.1% of the Australian general population aged 0 to 64. The projected Scheme cost for 2022-23 is $28.4 billion, including $1.7 billion for people aged

[1] The point in time when participant intake primarily represents participants with new incidence of disability, as opposed to participants transferring into the Scheme with existing disabilities.

over 65 years and $1.8 billion in operating costs. This figure is relatively unchanged from the previous AFSR and represents 1.23% of estimated Gross Domestic Product (GDP).

The baseline projection is in line with the estimate of reasonable and necessary supports in the Portfolio Budget Statements from 2019-20 to 2020-21, but is 8% and 14% higher in the respective years of 2021-22 and 2022-23 reflecting increasing numbers of participants aged over 65 years and increasing numbers of participants with autism.

This projection is in line with last year's financial sustainability report estimate and is also in line with the estimates shown in the 2017 Productivity Commission report[2] in the short to medium term, after allowing for costs not included in the Productivity Commission estimate, such as the introduction of school transport, personal care in schools, coverage for children with developmental delay and the current implementation of the National Injury Insurance Scheme.

Table 2 Estimates of Scheme costs in the 2017 Productivity Commission report

	2019-20	2022-23	2029-30
2017 Productivity Commission report	$22.3b	$26.7b	$40.9b
less operating costs	-$1.5b	-$1.5b	-$2.8b
2017 Productivity Commission participant costs	$20.8b	$25.2b	$38.1b
add unanticipated costs:			
Decrease in NIIS offset as not fully operational	$0.4b	$0.5b	$0.9b
Children with developmental delay	$0.2b	$0.4b	$0.8b
School transport	$0.3b	$0.4b	$0.5b
Personal care in schools	$0.2b	$0.3b	$0.4b
Participant cost allowing for unanticipated costs	**$21.9b**	**$26.8b**	**$40.7b**
Baseline projected participant costs	**$16.3b**	**$26.6b**	**$43.7b**

However, in 2029-30 the baseline projected participant cost increases to $43.7 billion. This is 7% above the $40.7 billion expected in the 2017 Productivity Commission report, after allowing for inflation and unanticipated costs. This difference is mainly driven by higher than expected numbers of participants with autism.

The Scheme's rapid growth has come with operational challenges

The focus on the timely transitioning of people with disability into the Scheme[3] has led to some operational challenges such as eligibility reassessment, recovery of compensation amounts, and the timely provision of assistive technology supports. There has also been evidence of inconsistency in decision making for access decisions and plan budget levels.

There has also been an escalation in average plan budgets for participants in supported independent living (SIL). SIL costs are projected to be a material component of total future participant expenditure, and the average SIL participant has annualised plan budgets of over $290,000, an increase of 34% since 30 June 2017.

[2] Productivity Commission 2017, *National Disability Insurance Scheme (NDIS) Costs*, Study Report, Canberra (Table 2.3)

[3] Almost all eligible Australians have access to the Scheme as at 1 July 2019 and nearly all regions have begun phasing participants into the Scheme.

Improvements are possible in decision making consistency, operational stability, and controls around aspects of the participant pathway and plan budget determinations.

Emerging experience from the NDIS Outcomes Framework is promising

The achievement of participant outcomes is vital to the financial sustainability of the Scheme. The Scheme takes a lifetime approach to supporting people with disability. This means investing in participants in the short-term to provide better outcomes over their lifetime, as well as to reduce the long term costs of disability support.

The NDIS Outcomes Framework measures and tracks outcomes over time for participants and their family/carers. The first longitudinal study of changes in outcomes for participants who have been in the Scheme for at least two years (i.e. entered the Scheme between 1 July 2016 and 30 June 2017) have shown early positive results, with increases in participant employment outcomes[6] and social and community participation outcomes[7] between the baseline and second plan review for participants over 15 years old. Further, there have been increases in employment rates for families/carers of participants in the Scheme.[8]

Participant plans are currently under-utilised

An ultimate utilisation rate of 72% is projected for the 2018-19 support year. Although the baseline projections allow for an increase in utilisation as participants spend more time in the Scheme and as Scheme processes mature, the modelling assumes an element of under-utilisation will persist in the long term.

The Agency should undertake further analysis to better understand utilisation of committed supports. This analysis should focus on linkages between plan utilisation and participant/carer outcomes, further understanding of causes of under-utilisation and forming a view on the longer term expected utilisation rate of the Scheme.

Proactive management responses to emerging risks will be important

A range of cost pressures are emerging from a number of sources, particularly in relation to how the Scheme interfaces with mainstream services, and community and informal supports. This is testing the boundaries of who can access the Scheme[9] and what constitutes “reasonable and necessary” supports. These cost pressures will require proactive responses from the Agency to help manage the outcomes of these pressures and to ensure that the Scheme does not become a “funder of last resort”, especially where other arrangements may be better suited to provide the required supports.

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[6] A one percentage point increase in paid employment for participants aged 15 and over.
[7] An eleven percentage point increase in social and community participation for participants aged 15 and over.
[8] A three percentage point increase in employment rates for families/carers of participants aged under 25 years over a one year time period.
[9] For example, people with a support need solely related to chronic health conditions were not assumed to enter the Scheme in the Productivity Commission estimates.

One of the key focuses of the Agency's response over the shorter term should be to better embed a culture based on insurance principles. For example, there are some issues with the current resource allocation process, and specifically the lack of a mechanism for robust functional assessment of support need. Work is currently underway on the collection of more robust functional assessments and an improved guided planning process as part of the Insurance Support Program.

There is also a need for a greater consistency in Agency decision-making processes across many areas, including eligibility assessments, funding allocation and functional assessment. For example, the Agency is currently redeveloping its eligibility reassessment strategy, and it is recommended that eligibility reassessment recommence as soon as practicably possible, as it is important to the outcomes focus and insurance-based principles of the Scheme.

Alternative plausible scenarios have material cost impacts

A number of alternative plausible scenarios have been constructed to highlight the financial impact if key risks impacting on the Scheme are not managed appropriately. Key findings for these scenarios, all other things being equal, are:

- Scheme costs are very sensitive to the ability of the Scheme to interface effectively with existing mainstream supports. For example, if people with a support need solely related to chronic health conditions became eligible for the Scheme, then depending on the eligibility criteria used, Scheme costs could be around 13% to 27% higher for 2022-23.
- If committed supports continue at current levels and payment utilisation increases from current levels to 85% for non-SIL participants and 100% for SIL participants, then costs would emerge at about 19% above the baseline projection for 2019-20 and about 13% above that projected for 2029-30.
- An additional superimposed inflation[10] rate assumption of 3% per annum in payment costs from 2020-21, which is not inconsistent with recent Scheme experience, would increase Scheme costs by 8% above the baseline projection for 2022-23 and 28% above the baseline projection for 2029-30. The current superimposed inflation experience is thus not sustainable in the shorter term.
- Participants living in SIL represent a large proportion of Scheme cost, and there has been a 34% increase in average SIL plan budgets, inclusive of normal inflation, over the two years to 30 June 2019. Total Scheme costs could be reduced by about 10% if average SIL costs were reduced to levels seen two years ago, or could increase by about 12% if the long-term proportion of participants accessing SIL were to increase from 7% to 10%. This highlights the importance of having robust SIL operating procedures and promoting innovation in the delivery of these supports, both of which could lead to cost efficiencies.

[10] Participant costs are assumed to increase over time with inflation, both from normal inflationary sources and from additional cost pressures, termed "superimposed inflation".

Acronyms

AAT	Administrative Appeals Tribunal
ACT	Australian Capital Territory
AFSR	Annual Financial Sustainability Report
CB	Capacity Building
COAG	Council of Australian Governments
CPI	Consumer Price Index
CRM	Client Relationship Management
DHS	Department of Human Services (Australian Government)
GDP	Gross Domestic Product
ICT	Information and Communications Technology
LAC	Local Area Coordinator
LFOF	Long-Form Outcomes Framework
NDIS	National Disability Insurance Scheme
NER	New Entrant Rate
NIIS	National Injury Insurance Scheme
NSW	New South Wales
NT	Northern Territory
PBS	Portfolio Budget Statements
PC	Productivity Commission
QLD	Queensland
SA	South Australia
SACS	Social and Community Services
SAP	Systems, Applications and Products
SAS	Statistical Analysis System
SDAC	Survey of Disability Ageing and Carers
SFOF	Short-Form Outcomes Framework
SIL	Supported Independent Living
TAS	Tasmania
TTP	Temporary Transformation Payment
VIC	Victoria
WA	Western Australia
WHODAS	World Health Organisation Disability Assessment Schedule

Definitions used in this report

the Agency	National Disability Insurance Agency
Committed supports	The reasonable and necessary supports outlined in a participant's plan that will be funded for a specific duration, typically a year. Committed supports represent the dollar amount of support that has been made available to participants in their plan.
Commonwealth participants	Participants entering the Scheme from existing Commonwealth programs
Current AFSR	*National Disability Insurance Scheme: Annual Financial Sustainability Report 2018-19*
In-kind supports	Before the NDIS was established, States/Territories and the Commonwealth governments paid providers to deliver services to people with disability. States/Territories and the Commonwealth continue to pay for some services. State/Territory and Commonwealth governments receive a revenue offset.
Level of function	A participant's functional ability, measured using a range of widely accepted and validated tools which were selected based on expert advice from professionals with specialist disability knowledge, such as disability organisations, clinicians and researchers.
Mature participants	Participants active at both 31 December 2018 and 30 June 2019, and had their first plan approved on or prior to 31 December 2017.
NDIS Act	*National Disability Insurance Scheme Act 2013*, as amended
New and Commonwealth participants	This refers to participants entering the Scheme from existing Commonwealth programs and from participants accessing disability supports for the first time.
New entrants	Participants with a newly acquired disability accessing the Scheme
Participant intake	All participants entering the Scheme
Participants new to disability supports	Participants accessing disability supports for the first time, regardless of whether the disability was existing or newly acquired
Previous AFSR	A summary of the 2017-18 AFSR was included in Chapter 3.1 of the *National Disability Insurance Agency Annual Report 2017-18*, from pages 58 to 60. The annual report was tabled on 23 October 2018 and can be found here: https://www.ndis.gov.au/about-us/publications/annual-report
Projection Group	Each Projection Group represents a group of participants with similar characteristics. The Projection Groups have been determined by age band, primary disability, level of function, gender and whether the participant is in supported independent living.
the Scheme	National Disability Insurance Scheme
State participants	Participants entering the Scheme from existing State/Territory programs
Steady Intake Date	The point in time where participant intake primarily represents participants with new incidence of disability (i.e. new entrants). For this report 30 June 2023 has been assumed.
Supported Independent Living	This includes the assistance with and/or supervising tasks of daily life to develop the skills of individuals to live as autonomously as possible. These are the supports provided to a participant in their home, regardless of property ownership, and can be in a shared or individual arrangement.

1. Introduction

This annual financial sustainability report (AFSR) for 2018-19 has been prepared as required under section 180B of the *National Disability Insurance Scheme Act 2013* (the NDIS Act). This report provides an overall assessment of the Scheme's financial sustainability after the third year of transition, as at 30 June 2019, which followed a three year trial period.

In accordance with Part 3 of the *National Disability Insurance Scheme – Rules for the Scheme Actuary 2013*[11], this report encompasses detailed analyses and discussion on recent Scheme experience, best estimate projections of future participant numbers and costs (based on emerging experience and future expectations), key risks and issues impacting financial sustainability and recommendations to manage risks and address issues.

Background

The purpose of the National Disability Insurance Scheme (NDIS) is to provide reasonable and necessary funding to people with a permanent and significant disability so that they have choice and control over the supports and services they need to pursue life opportunities. A key cornerstone underlying the operation of the Scheme is strong insurance principles, where evidence-based decisions on access and funding are made by drawing on the longitudinal data that is collected on participants in the Scheme. Experience is closely and regularly monitored to allow emerging risks and issues to be identified and where required, remediation strategies to be implemented.

Importantly, the Scheme has a lifespan, person-centric approach to its model of support for people with disability, where early investment in core, capacity building and capital supports are anticipated to drive better outcomes for participants and their family/carers over their lifetime.

The *NDIS Insurance Principles and Financial Sustainability Manual*[12] outlines the insurance model in detail and defines financial sustainability as the state where:

- *the scheme is successful on the balance of objective measures and projections of economic & social participation and independence, and on participants' views that they are getting enough money to buy enough goods and services to allow them reasonable access to life opportunities - that is, reasonable and necessary support;*
- *contributors think that the cost is and will continue to be affordable, under control, represents value for money and, therefore, remain willing to contribute.*

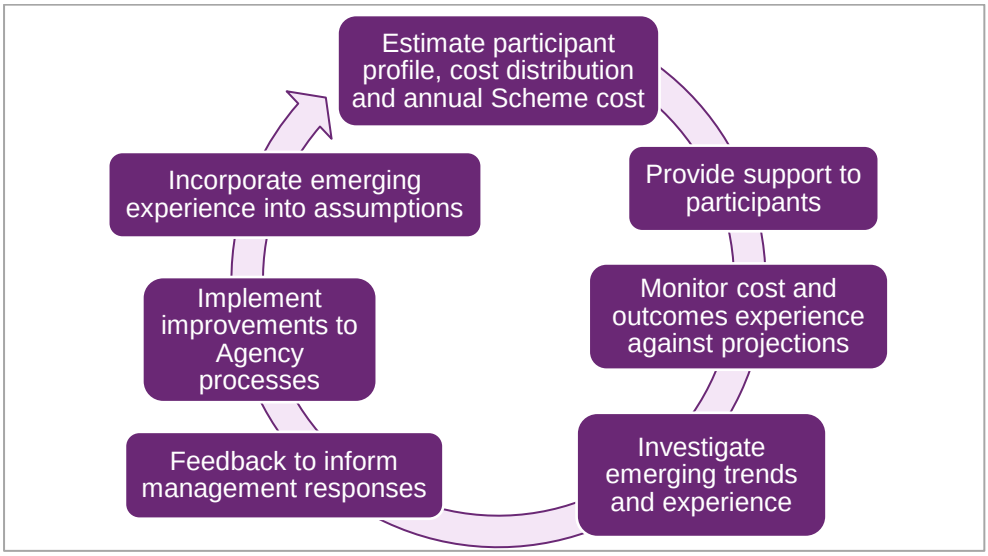
It is thus not only the financial cost of the Scheme that is important within the context of financial sustainability, but also the outcomes achieved by the Scheme and the trust that stakeholders and funders have in the Scheme.

[11] https://www.legislation.gov.au/Details/F2013L01184
[12] Version 5 published November 2016

Insurance control cycle

Since inception on 1 July 2013, the Scheme has adopted an insurance control cycle approach to estimating and managing costs. The following figure shows that there is a continuous feedback loop as experience emerges to both refine projections of participant profile and costs, and improve Agency processes to lead to better outcomes.

Figure 1 NDIS insurance control cycle



For example, monitoring of participant experience showed that non-mortality exit rates due to participant request[13] have ranged from 0.3% and 0.7% per annum. A qualitative review of exiting participants indicated that a number of participants have exited the Scheme because they did not understand the purpose of the Scheme or how to use the funded supports, especially for participants with a psychosocial disability. Based on consultation and feedback from participants, providers and other stakeholders, a tailored participant pathway[14] is being implemented for people with psychosocial disability, who have more specific needs.

"Well-functioning scheme"

All the elements of financial sustainability in this report are considered from the perspective of how a well-functioning scheme could ideally operate in the medium to long term. In particular, this perspective drives the recommendations to address the current challenges identified throughout the report. It will be several years until the Scheme's participant intake and costs stabilise, and the longitudinal data collected is consistent and sufficient enough, to draw reliable indicators of future experience. However, it is worth keeping the concept of a well-functioning scheme in mind given the importance of having a lifetime view of participant costs and outcomes within a scheme founded on insurance principles.

[13] Please see Section 4.3 for details on Scheme exits.
[14] The participant pathway encompasses the experience that participants have with the Scheme, from their first interaction to their ongoing engagement.

2. Information and data integrity

An integral part of an insurance model is the collection of accurate data in a timely manner. This is because quality data drives the ability of the Agency to monitor emerging experience, perform meaningful analyses and make consistent evidence-based decisions. The success of the Scheme is thus dependent on the body of information that can be relied upon.

The data collected by the Agency is varied and broad-reaching, and covers information across each step of the participant pathway, from Scheme access and eligibility to participant plan approval and plan review. Payments received for supports and outcomes for participants and their family/carers are also collected regularly to track how participants and the Scheme is progressing over time. In that sense, the Agency is building one of the most comprehensive, longitudinal data sources on disability in the world.

Information and data used for analysis

The detailed actuarial analysis underlying this report uses information from the Agency's case management system, finance system and data warehouse, as well as external sources (such as various industry benchmarks and information from the States/Territories and Commonwealth). While there is a substantial amount of data in the current Information and Communications Technology (ICT) business system, this section focuses on the data utilised for the analysis presented in this AFSR.

The analysis in this report is based on data at 30 June 2019, unless stated otherwise. The sources of data are summarised in Table 3.

Table 3 Summary of data utilised for actuarial analysis

Data	Description
Access requests to the NDIS	• Demographic information • Outcome of request (for example: eligible, ineligible)
NDIS participant plans	• Plan approval date and length of plan • All committed supports included in the plan
Payments to service providers	• Service provider submitting the claim for payment • Participant for whom the support was provided • The support item, cost and date support was provided
Payments to participants	• Participant submitting the claim for payment • Total cost spend by support category • Period of reimbursement
In-kind supports data	• In-kind support details from State/Territory and Commonwealth programs including support type, level, duration of coverage at a unit record level

Data	Description
Data on level of function	• Since 1 July 2016 information on level of function has generally been made available for all participants[15]
Guided planning questionnaire	• The guided planning questionnaire collects data across eight domains[16]
Data on outcomes	• Short-Form Outcomes Framework (SFOF) and Long-Form Outcomes Framework (LFOF) questionnaire responses from participants and family/carers
Data provided by the State/Territory and Commonwealth governments	• List of clients receiving support from service providers in the existing disability system • Projected Scheme costs and numbers from the State, Territory and Commonwealth bilateral agreements
Australian Bureau of Statistics (ABS) information	• 3222.0 Population Projections, Australia, 2012 (base) to 2101 (Series B) • Prevalence of disability in Australia, including demographic and socio-economic profile of people with disabilities from the ABS Survey of Disability, Ageing and Carers • Census of Population and Housing (need for assistance variable)
Financial information	• Data from the SAP Client Relationship Management (CRM) system were reconciled with financial information in SAP
Epidemiological benchmark data	• New incidence, prevalence and mortality rates on a range of disabilities, from injury support schemes, and the Australian Institute of Health and Welfare Burden of Disease Study
Productivity Commission reports	• The 2011 Productivity Commission costings of the Scheme[17] • The Productivity Commission 2017, National Disability Insurance Scheme (NDIS) Costs, Study Report, Canberra

Data integrity

In the past year, progress has been made on data issues identified in the previous AFSR[18]. Some data integrity issues have persisted, which place limitations on the ability to perform more meaningful actuarial trend analysis. Nonetheless, these issues are not expected to

[15] In some cases (<3% of participants) a default value is assigned in the CRM. In addition, the tool used is not always the preferred one. There is extensive use of the WHODAS 2.0 tool, and evidence that the quality of these assessments are less robust than the disability-specific preferred tools.
[16] At 30 June 2019, 88% of participants have information collected through the guided planning process. The eight domains are daily activities, social participation, consumables, transport, support co-ordination, assistive technology, home modifications, and capacity building.
[17] This was based on the 2009 ABS Survey of Disability, Ageing and Carers, and the cost of supports from injury support schemes, and government disability systems.
[18] See Section 8.1.3 for details.

materially influence the conclusions and analysis contained within this report. Improving data quality and ensuring data integrity should remain an Agency priority.

A key issue is the inconsistency in assessment of level of function. An internal Independent Assessment Pilot and other audit reviews of participant records have indicated concerns with the collection of level of function and disability data, for example the lack of quality documentation and consistency in decision-making. Section 8.3 discusses the Insurance Support Program, which is an Agency initiative aimed at remediating many of the identified issues around limitations in functional assessments to improve the robustness of functional assessment scores.

Recommendation #1: Improvement in functional assessments

Improved functional assessments should be a continued focus for the Scheme. This will help facilitate more rigorous and consistent capture of disability type and levels of functional ability to better inform access and planning decisions.

Date of disability acquired and date of exit are two important fields that are not consistently and reliably captured. Data collected on the date that a disability was acquired is often incomplete. Further, the date recorded is often very recent, perhaps indicating that the field is incorrect, rather than the date a condition was acquired. This limits the ability to analyse new incidence of non-congenital disabilities, which means projections of new entrants cannot be modelled using date of disability acquired.[19]

Exits are identified through merging multiple data sources, including the use of staff inboxes for participants who have exited the Scheme. This process, rather than being fully captured in the participant pathway variables, introduces additional data risk on the accuracy of exit dates. The lack of data capture on the reason for exit also limits the use of the information, although data matching dates of death has improved the quality of this data.

Recommendation #2: Improvement in data quality in the ICT system

Improvements to the ICT system are required to better monitor and manage Scheme financial sustainability. These include continuing the development of the system to consistently capture key fields (such as date of disability acquired and date of exit), implementing and tracking compensation recovery amounts, and the introduction of business intelligence rules to enable more consistent decision-making.

[19] For people with congenital disabilities, this would be the date of birth. For people with disability resulting from accidents, this would be the date of injury. For people with disability related to degenerative conditions, this would be the date of diagnosis.

3. Modelling approach

An experience-based projection model has been used to project Scheme numbers and costs. The modelling approach splits participants into Projection Groups based on characteristics which reflect differences in average cost, new entrant rates and/or exit rates that may be expected to occur amongst different groups of participants. The characteristics adopted are age, primary disability, level of function, gender and whether a participant is in SIL[20]. Separate cost, new entrant and exit assumptions have been developed for each of these characteristics.

Scheme experience continues to be immature in many respects. There are also many biases in the experience due to the phase-in timetable and the lack of consistent longitudinal data with which to inform Scheme projection assumptions[21]. Scheme operational procedures continue to rapidly evolve, meaning that past experience may not be the best indicator of future experience. As the Scheme continues to mature, and the training and capability of frontline staff improves, there is an expectation that the Scheme experience will change, perhaps materially, and this would impact on the cost estimates in this document. There is an expectation that the modelling approach will continue to evolve over time to reflect the maturing of the Scheme.

Figure 2 summarises the modelling approach in graphical format, with the main components of the modelling approach noted below.

- Aggregate participant numbers for ages 0 to 64 are estimated using actuarial techniques combined with the phase-in schedules in the State/Territory bilateral agreements.
- The assumed Steady Intake Date represents the point in time when participant intake into the Scheme are primarily participants with new incidence of disability, rather than participants transferring into the Scheme with an existing disability.
- The profile of participants at the Steady Intake Date has been determined by Projection Group, after allowing for known phase-in biases into the Scheme. Each Projection Group is differentiated by age band (nine groups), primary disability and level of function (57 groups), gender (two groups) and whether a participant is in SIL (two groups). This leads to 2,052 unique Projection Groups.
- The population projection from the current Scheme population to Steady Intake Date population is determined by extrapolating the phase-in schedule by Projection Group.

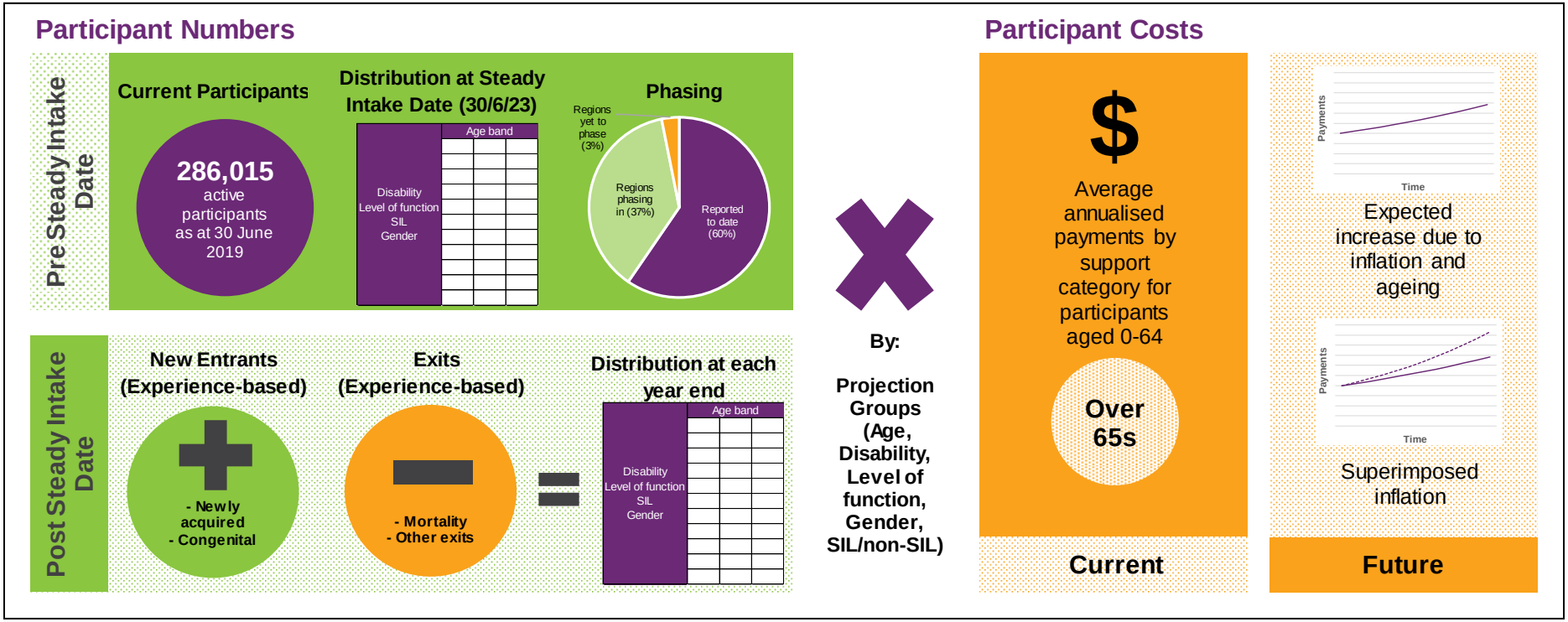
[20] Some participant housing needs cannot be currently met in the community, or the costs of providing support for them to live independently in the community are prohibitive. This may be due to the complexity of their disability and/or limitations in their informal support network. For this reason there are a number of SIL options available.

[21] For example, the participants who have transitioned to date are more typically those from existing State/Territory-based programs, and these participants are likely to be lower functioning and have higher support budgets. The modelling approach has made adjustments for known participant profile biases where appropriate.

- Participant projections after the Steady Intake Date are calculated for each Projection Group by adding on new entrants and subtracting mortality and non-mortality exits from the starting population.
- Participant costs are estimated by Projection Group using annualised payment levels for the six months[22] to 30 June 2019 for mature participants. Mature participants have been defined as those who were active at both 31 December 2018 and 30 June 2019, and had their first plan approved on or prior to 31 December 2017. Projected payments are split between 15 different support categories[23] and include an allowance for in-kind supports. A reduction in average payments is assumed for participants who have been in the Scheme for less than a year.
- Participant plan budget costs are also estimated by Projection Group for the 15 different support categories using annualised committed support levels for mature participants of the six months to 30 June 2019. This is used to determine projected utilisation rates[24] of the Scheme.
- Inflation of costs is added in future years from both normal inflationary sources, such as wage inflation and consumer price inflation, and sources of superimposed inflation, such as known changes in the Scheme which would affect payments.
- Operating expenses are added to total participant costs to calculate total Scheme costs.

[22] A six month period was selected to maximise the number of participants who would meet the criteria of having been a participant for at least one year prior to the start of the period. Due to the large number of participants who phased into the Scheme during transition, using a twelve month period would result in significantly fewer participants who meet the criteria, thereby reducing the representativeness of the payment experience.
[23] The previous AFSR modelled cost assumptions at an aggregate Scheme level. The 15 support categories include four core supports (transport, consumables, daily living and community/social/civic), two capital supports (assistive technology and home modifications) and nine capital building supports (support coordination, relationships, lifelong learning, home living, health/wellbeing, employment, daily activities, choice/control and community/social/civic).
[24] The proportion of plan budgets which is used is referred to as the “utilisation rate”.

Figure 2 Schematic of modelling approach



Scheme Costs

Uncertainty of Scheme experience

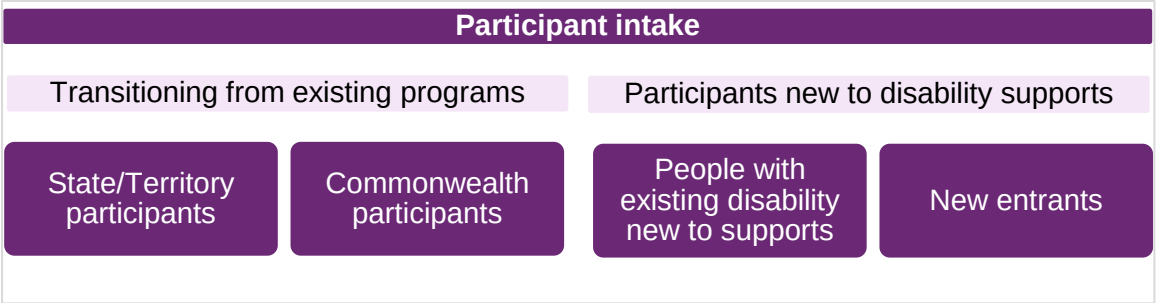
- Mainstream interface
- SIL numbers & cost
- Increase in utilisation
- Phasing
- Erosion of informal supports
- Non-mortality exits
- Agency policy determination
- Superimposed inflation

4. Participants

The Scheme has experienced rapid growth over its six years in operation to 30 June 2019. Regions across Australia have phased into the Scheme at different dates according to the bilateral agreements signed between the Commonwealth government and the States/Territories. From 1 July 2019, nearly all regions have begun phasing participants into the Scheme, meaning that nearly all Australian residents with disability who meet the eligibility requirements can access to the Scheme.[25]

However, it may be some time before all people with an existing disability will be active participants of the Scheme. In this context it is useful to consider the different ways by which participants are accessing the Scheme, as illustrated in Figure 3.

Figure 3 Participant intake groups



The characteristics of the participant intake groups in Figure 3 are very different. For example, those participants who have transferred into the Scheme from State/Territory programs are more likely to have high core support needs and/or live in SIL, while those new to disability supports are more likely to be higher functioning and require lower levels of support.

Compared with the bilateral agreements, it is taking longer than anticipated for participants new to disability supports to approach the Scheme, and actionable records have been lower than expected for people with existing disability supports[26]. The mix of participant intake will therefore change over time until those entering the Scheme primarily represents those who have recently been born with a disability or recently acquired a disability (referred to as “new entrants”), as opposed to participants transferring into the Scheme with existing disabilities.

Section 4.1 discusses recent Scheme experience in more detail with reference to the above participant intake groups. Future participant intake assumptions are then discussed in Section 4.2. The rate and number of participant exits from the Scheme is discussed in Section 4.3. Participant projections are presented in Section 4.4.

[25] For some regions the phase-in schedule has only just begun. For example, some regions in WA (Midwest-Gascoyne, Great Southern, Central North Metro and South East Metro) only commenced phasing on 1 July 2019. Christmas Island and Cocos (Keeling) Islands will transition on 1 July 2020.
[26] The availability of data and difficulty contacting transitioning participants from State/Territory and Commonwealth programs are the primary challenges in obtaining actionable records. Other reasons include some individuals making a decision not to apply to the Scheme, and others no longer requiring support.

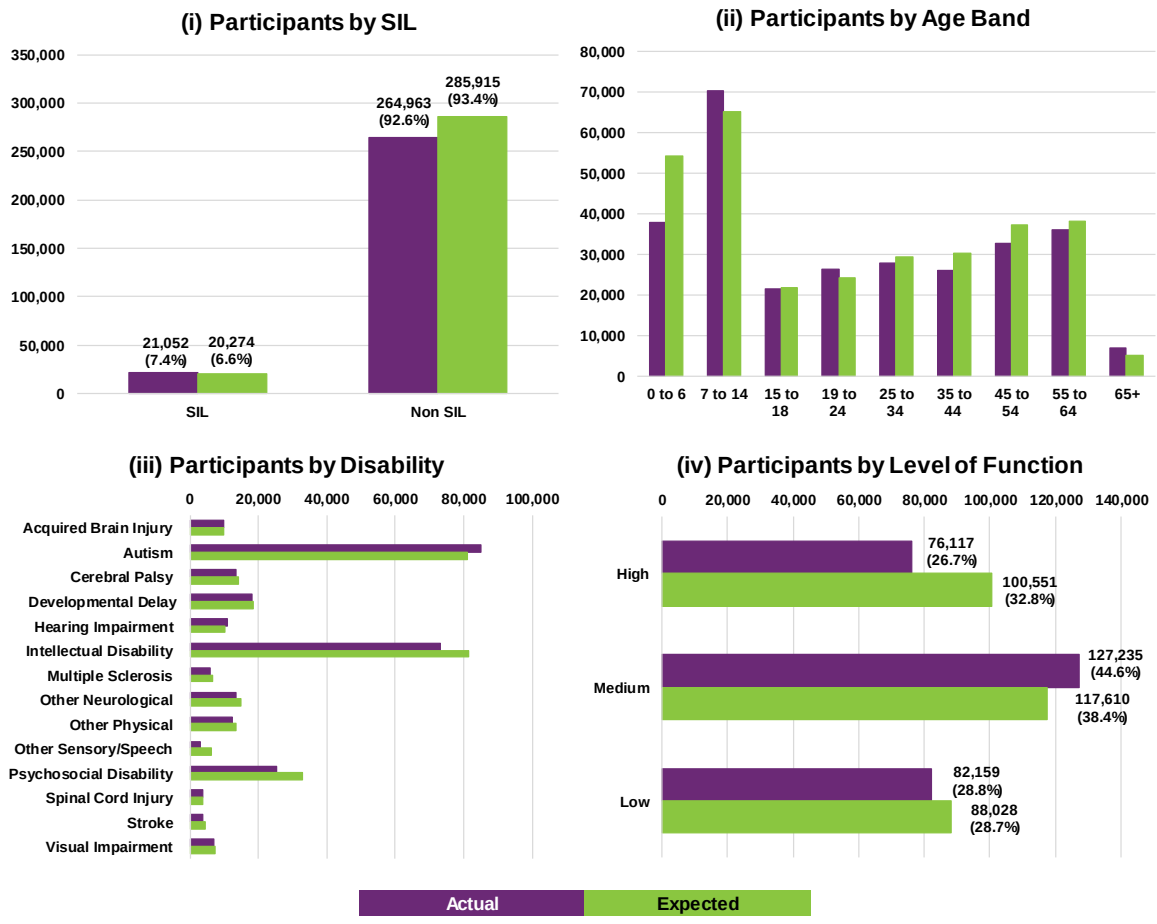
4.1 Recent experience

As at 30 June 2019, there were 286,015 active participants[27] in the Scheme. This is 20,174 lower than the 305,189 participants projected in the previous AFSR[28] (or 7%). The slower rate of plan approvals in 2018-19 is mainly attributable to delays in the processing of eligibility decisions[29]. However, this still represents rapid Scheme growth over the year to 30 June 2019, with active participant numbers increasing by 66% (from 172,333 to 286,015).

The characteristics of participants entering the Scheme over 2018-19 have been influenced by phase-in patterns, especially from those transitioning in from existing State/Territory disability programs. A high proportion of people in those existing programs have already phased into the Scheme, except for in WA.

Figure 4 shows how the characteristics of actual participants in the Scheme at 30 June 2019 compares to expectations from the previous AFSR.

Figure 4 Participant characteristics as at 30 June 2019 (actual vs expected)



[27] A participant is considered active if they currently have a plan.
[28] A summary of the 2017-18 AFSR was included in Chapter 3.1 of the *National Disability Insurance Agency Annual Report 2017-18*, from pages 58 to 60. The annual report was tabled on 23 October 2018 and can be found here: https://www.ndis.gov.au/about-us/publications/annual-report
[29] The backlogs in access decisions have been reducing over recent months.

Figure 4 shows that compared to the previous AFSR:

- There has been a bias towards participants in SIL, as a high number of SIL participants transitioned into the Scheme over 2018-19, particularly in QLD and SA (graph i). It is important to closely monitor the emerging SIL experience as the ultimate proportion of SIL participants in the Scheme will have a material impact on the Scheme's costs and financial sustainability: average annualised payments for mature participants in SIL is currently about $264,000, compared to about $32,500 for those who are not, while noting the different profile of these participants.
- Children aged 0 to 6 are entering the Scheme slower than expected (graph ii), and this has been impacted by known issues regarding access. The Agency is committed to improving the experience for children with disability in accessing supports, with interim initiatives currently underway to address the backlog[30].
- There are lower levels of participants with an intellectual disability entering the Scheme than expected (graph iii). There also continues to be more participants with autism and fewer with a psychosocial disability compared to expectations in the previous AFSR. The disability-specific participant pathway being implemented for people with a psychosocial disability is expected to help address some of their potential barriers of entry into the Scheme.

Recommendation #3: Tailored participant pathways

The Agency is doing work to develop participant pathways to manage barriers impacting on the continued participation of certain cohorts of participants within the Scheme. One particular focus is for those adults with a psychosocial disability. This work, and the other participant pathways work, should continue, and may include the development of further strategies to provide information and support coordination to help minimise participant disengagement.

- There has been a bias towards participants with low and medium levels of function[31] (graph iv). While not shown, the proportion of participants identified as low function is significantly higher than anticipated from the 2011 Productivity Commission costings of the Scheme. In response, the 2017-18 Annual Report[32] noted:

  "A pilot is underway to consider the introduction of independent functional assessments to more objectively inform access and ongoing eligibility decisions,

[30] In June 2019, the Minister for Government Services and the National Disability Insurance Scheme announced a six-month initiative aimed at resolving the delays and backlogs in accessing supports for children with disability. Interim plans of $10,000 covering a period of six months can be issued for children who have been found eligible for the Scheme, but who are likely to experience a wait time of greater than 50 days between an access decision and getting a plan. See: https://www.ndis.gov.au/news/2990-children-get-faster-access-ndis-supports

[31] The Agency determines functional assessment scores to understand how a person's disability impacts their functioning in daily life. High, medium and low function is relative within the NDIS population and not comparable to the general population.

[32] *National Disability Insurance Agency Annual Report 2017-18* p. 60

particularly for children who have entered the Scheme under the early intervention requirement."

The characteristics of participants transitioning from existing State/Territory programs differ to participants new to disability supports and participants transitioning from existing Commonwealth programs ("New and Commonwealth participants"). State/Territory participants generally have higher support needs, with Table 4 also showing a higher proportion in SIL (12.4%) compared to New and Commonwealth participants (0.9%). This compares to an overall 7.4% of Scheme participants in SIL.

Table 4 Number and proportion of participants in SIL as at 30 June 2019

Entry Type	Number of SIL participants	Number of Scheme participants	% of SIL participants
State/Territory participants	19,958	161,555	12.4%
New and Commonwealth participants	1,094	124,460	0.9%
Total	21,052	286,015	7.4%

4.2 Participant intake

Participant intake up to the Steady Intake Date will include people from existing government disability programs, people with existing disability new to supports and new entrants. After the Steady Intake Date participant intake will primarily represent new entrants. This section separately considers participant intake prior to the Steady Intake Date and thereafter.

4.2.1 Participant intake to the Steady Intake Date

Estimation of aggregate population at the Steady Intake Date

An experience-based model using standard actuarial techniques (chain ladder methodology[33] and population propensity methodology[34]) has been used to estimate the Steady Intake Date Scheme prevalence, allowing for known phase-in biases within the transition schedules, and the expected phasing pattern of participant intake into the Scheme.

The ultimate number of active participants aged 0 to 64 for regions that have phased in to date has been projected to calculate prevalence rates, although certain jurisdictions have been excluded because of the way they have phased[35]. Table 5 shows that the results of the

[33] The chain ladder methodology considers the historical, quarterly phasing pattern of participant intake into the Scheme to project future experience.
[34] The population propensity methodology assumes that a predictable proportion of each region's expected Steady Intake Date population will enter the Scheme over time.
[35] SA and TAS phased in by age, while NT and WA have had inconsistent phasing patterns. These jurisdictions have therefore been excluded from this analysis as the adopted methodologies do not cater well for these types of phasing. Given that these methods have only been used to estimate ultimate Scheme prevalence and the Steady Intake Date, these exclusions should not have a material impact on the adopted Scheme projections.

projection are close to those projected in the previous AFSR, although the results vary by phasing period and region.

Table 5 Projection results by phasing period for selected jurisdictions (ages 0 to 64)[36]

Phasing Period	Reported To Date	Future Reported	Total by Phasing Qtr	Projected Prevalence	Previous AFSR Prevalence	Difference Prevalence
Trial	25,239	1,015	26,254	2.59%	2.60%	-0.01%
Transition Y1	86,286	32,303	118,589	2.03%	1.87%	0.16%
Transition Y2	72,545	43,246	115,791	2.00%	2.15%	-0.15%
Transition Y3	45,767	67,358	113,125	2.14%	2.19%	-0.05%
Total	229,837	143,922	373,759	2.08%	2.10%	-0.02%

This analysis indicates that the expected Steady Intake Date population of 2.1% of the total Australian population aged 0 to 64 from the previous AFSR remains appropriate. While not shown in Table 5, the analysis also indicates that most people eligible to enter the Scheme as participants will have done so by 30 June 2023, and this has been adopted as the "Steady Intake Date". The participant intake patterns arising from this analysis has been used to inform the growth in Scheme population to the Steady Intake Date.

The Scheme is therefore expected to reach about 478,000 participants aged 0 to 64 at 30 June 2023, and over 500,000 participants if participants over the age of 64 are included. This is equivalent to a prevalence rate of 2.1% of the projected Australian population 0 to 64. The current number of active participants therefore represents about 60% of the projected Steady Intake Date population.

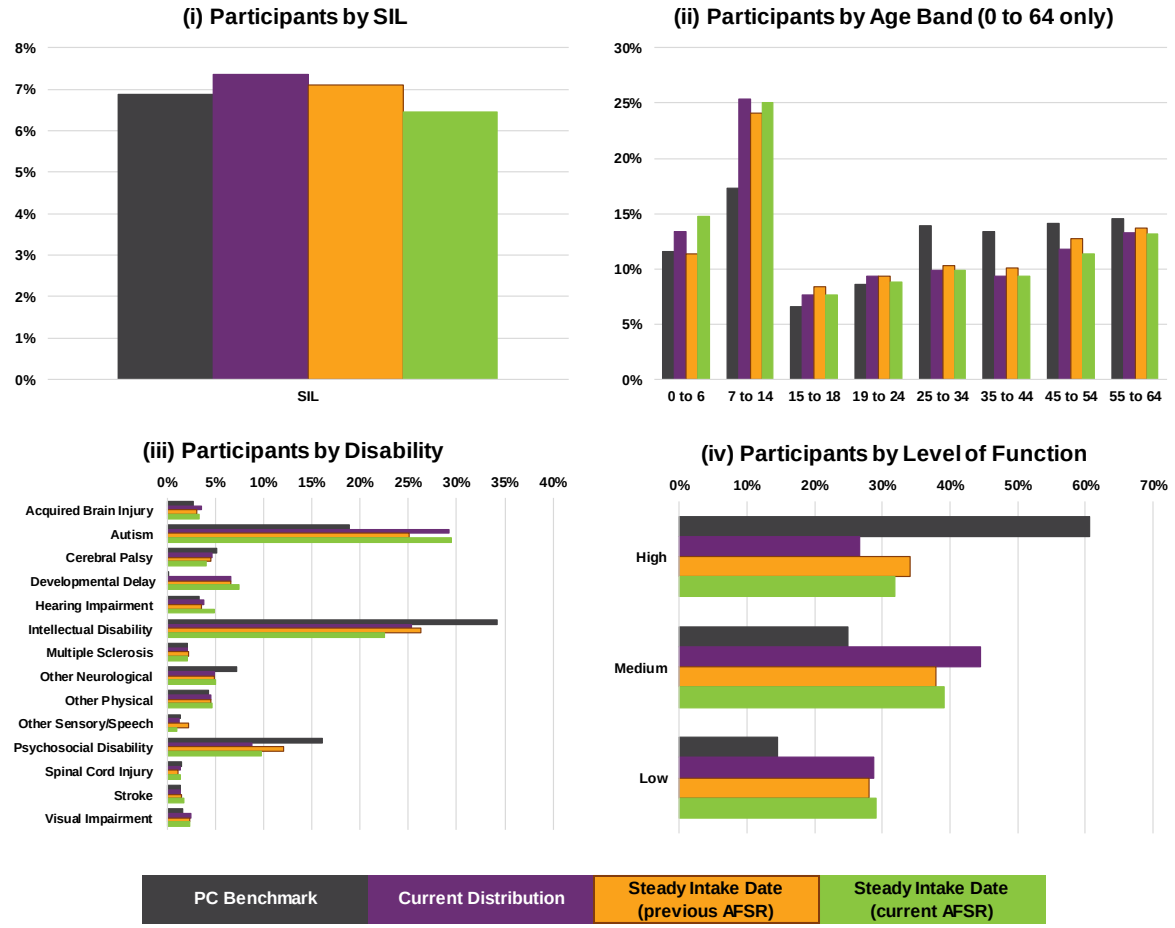
Participant profile at the Steady Intake Date

The analysis in Section 4.2.1 calculates the aggregate number of participants expected at the Steady Intake Date, but does not help inform the participant profile. The participant profile at the Steady Intake Date is projected using existing Scheme data and other benchmark information, bearing in mind that the profile of participants yet to enter the Scheme will differ from the current profile. In particular, a higher proportion of existing State/Territory participants have transitioned to the Scheme compared to New and Commonwealth participants, and State/Territory participants typically have a lower average level of function (and higher support need) than New and Commonwealth participants as well as a different mix of participants by type of disability.

Figure 5 displays some key characteristics of the projected participant profile at the Steady Intake Date (green bars). This is compared against the projected distribution from the 2016-17 AFSR which was based on the 2011 Productivity Commission report[37] (grey bars); the current distribution of active participants (purple bars); and the projected distribution from the previous AFSR (boxed orange bars).

[36] Expected prevalence here is defined as the Scheme prevalence from the previous AFSR, scaled to phase-in region using ABS Census Need for Assistance regional information.
[37] Productivity Commission Inquiry Report. 2011. *Disability Care and Support*

Figure 5 Projected Scheme participant profile – at Steady Intake Date



Many of the experience items discussed after Figure 4 have been extrapolated into changes in assumptions for either age, disability or functional distribution at the Steady Intake Date. This is not the case for the assumed proportion of participants in SIL; noting that while the number of SIL participants has been higher than expected from the previous AFSR[38], the assumption at the Steady Intake Date has been reduced this year.

The proportion of participants in SIL is expected to decrease over the shorter to medium term. This is because a higher proportion of participants new to disability supports are expected to enter the Scheme over a time horizon of 4 years to the Steady Intake Date, and these participants tend to not be in SIL (as shown in Table 4).

Over the longer term (2029), a similar number of participants are projected to be in SIL (as displayed in Figure 9) to address the unmet need of current or potential participants who may need or may benefit from SIL. This also allows time for accommodation options to become available; Section 6.2.2 outlines the current Agency initiatives aimed at incentivising the building of new SIL residences.

[38] The previous AFSR projected 6.6% of participants to be in SIL at 30 June 2019 compared to actual experience of 7.4% (see Figure 4).

Table 6 provides a two-way summary of the projected number of participants, by age band and primary disability at 30 June 2023.

Table 6 Projected Scheme population as at 30 June 2023 – by age band and primary disability

Disability Type	0-6	7-14	15-18	19-24	25-34	35-44	45-54	55-64	65+	Total	Percent
Acquired Brain Injury	182	468	314	665	1,788	2,688	3,929	4,824	1,799	16,658	3.3%
Autism	24,687	74,230	19,479	15,800	9,220	2,561	1,228	643	167	148,015	29.5%
Cerebral Palsy	2,639	4,396	1,756	2,232	3,024	2,288	1,982	1,538	460	20,315	4.1%
Developmental Delay	28,676	8,791	49	12	4	1	0	0	1	37,533	7.5%
Hearing Impairment	5,114	3,679	1,150	1,245	2,240	2,229	3,422	3,944	1,285	24,309	4.8%
Intellectual Disability	4,942	19,123	10,983	16,936	18,638	14,088	13,830	11,187	3,531	113,258	22.6%
Multiple Sclerosis	0	5	7	64	510	1,650	2,823	3,830	1,691	10,580	2.1%
Other	91	123	44	47	90	109	129	148	75	855	0.2%
Other Neurological	978	2,208	952	1,243	1,500	1,957	3,762	8,827	3,684	25,112	5.0%
Other Physical	1,037	1,651	621	813	1,425	2,454	4,445	7,560	3,156	23,162	4.6%
Other Sensory/Speech	1,702	3,028	252	106	56	40	48	97	3	5,332	1.1%
Psychosocial Disability	38	451	404	1,861	6,521	11,269	13,596	11,405	3,711	49,257	9.8%
Spinal Cord Injury	33	89	113	232	687	1,106	1,547	2,016	856	6,679	1.3%
Stroke	38	98	65	103	228	619	1,526	3,947	1,903	8,527	1.7%
Visual Impairment	555	1,212	572	696	1,098	1,353	2,233	2,950	1,231	11,899	2.4%
Total	70,712	119,552	36,760	42,054	47,030	44,412	54,500	62,916	23,554	501,491	100.0%
Percent of Total	14.1%	23.8%	7.3%	8.4%	9.4%	8.9%	10.9%	12.5%	4.7%	100.0%	100.0%

4.2.2 Participant intake after Steady Intake Date

After the Steady Intake Date the participant intake will reflect increased participant numbers due to new incidence of disability. The new incidence may be congenital and present from birth, or acquired as a result of injury from accidents, or emerge as an adult due to the onset of degenerative conditions. It may take some time for these people to approach the Scheme after being born with or acquiring a disability and hence this participant intake has been referred to as new entrants in this report.

Methodology

For projections up until the Steady Intake Date, the annual number of new entrants is not explicitly estimated. This is because, as discussed in Section 4.2.1, the total participant intake up until the Steady Intake Date is estimated at an aggregate level.

For projections after the Steady Intake Date, an implicit new entrant rate was derived using the prevalence rate for areas phasing into the Scheme in 2017-18 or prior that did not phase-in by age[39]. The model presumes that for age X:

Actual Prevalence Rate (X) = Actual Prevalence Rate (X-1) + Assumed New Entrant Rate (X) – Assumed Exit Rate (X) [40]

[39] The methodology is inappropriate for regions that phased by age. Hence SA, TAS, Nepean Blue Mountains and Townsville were excluded from the analysis.
[40] Details on the assumed exit rate are provided in Section 4.3 of this Report.

From this relationship, a raw new entrant rate for each age was calculated[41]. In the regions considered, it is estimated that 2.01%[42] of the general population aged 0 to 64 have a disability and are eligible for the Scheme. This prevalence rate varies substantially by age and gender, and is similar to that projected from the previous AFSR.

The projections allow for a reduction in new entrants in respect of workplace and motor vehicle accidents. This is because from 30 June 2016, the majority of participants injured from these accidents (mostly in respect of traumatic brain injuries and spinal cord injuries) will have the majority of their future supports provided for by a National Injury Insurance Scheme (NIIS)[43], which have been established in all States/Territories. Injuries arising from medical treatment and other general accidents are still included in the projections[44].

Adopted assumptions

After the Steady Intake Date, new entrants are expected at the rate of 0.16% per annum of the Australian population aged 0 to 64. Almost 70% of the new entrants are expected to have autism, developmental delay and sensory disabilities. This is equivalent to 36,759 new entrants during 2023-24, which is slightly higher than the previous assumed incidence rate of 0.14%.

As shown in Figure 6, the assumed new entrant rate (NER) is highest in children aged 0 to 6 years, largely driven by congenital conditions (acquired at birth), noting that in many cases it can take time for children to approach the Scheme for support. Most people with a disability are expected to approach the Scheme during the first decade of childhood.

After age 6, the assumed NER decreases until age 30. A number of conditions may require early intervention supports up to a certain age, after which participants no longer have an ongoing need for support.

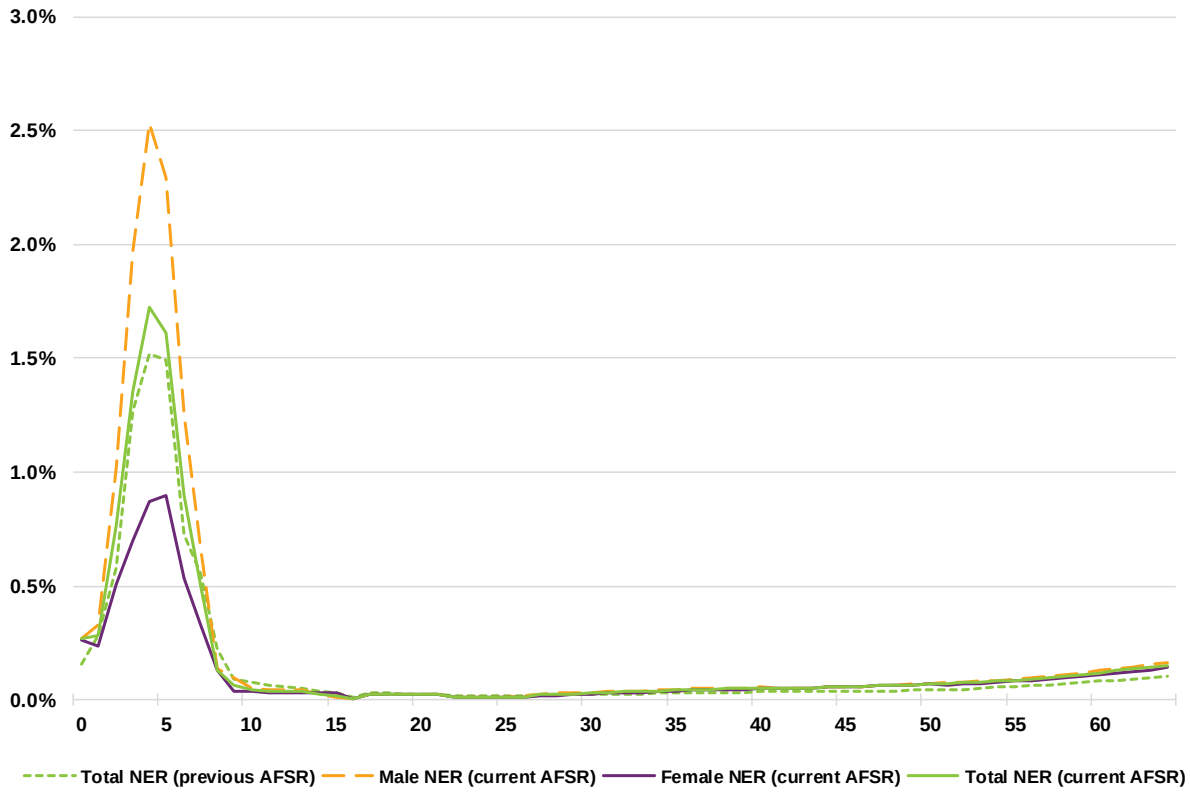
The assumed NER does not reflect the brief increase between the ages of 16 and 21 observed in the Scheme. This experience was largely driven by intellectual disability, and more specifically people transferring to the Scheme from State/Territory government programs targeted at school leavers[45]. These programs appear to be shorter term, after which participants exit these State/Territory programs. Thus, these programs may be considered early intervention programs, after which participants may not need to remain in the Scheme. There is some uncertainty regarding whether these participants would remain

[41] An underlying assumption of this relationship is that the rate of onset for each disability and in total has stayed constant over time, while noting that this may not be true for some disabilities.
[42] Note that this is a different cohort of participants to that presented in Table 5 and hence the projected prevalence is slightly different.
[43] The Council of Australian Governments (COAG) made a decision in 2017 to not progress, for the time being, with coverage for no fault catastrophic medical treatment accidents in a NIIS. The Commonwealth and the States/Territories will continue to assess the feasibility of a NIIS for catastrophic general accidents in good faith, through the Standing Council on Federal Financial Relations. The bilateral agreements contain the commitment to continue to assess the feasibility of a NIIS for catastrophic general accidents.
[44] About 690 participants with acquired brain injuries and 235 participants with spinal cord injuries are still assumed to enter the Scheme each year.
[45] Examples of such programs are Transition to Work in NSW and Futures for Young Adults in VIC.

in the Scheme long-term. Allowing for schools leavers with an intellectual disability would have increased the assumed overall NER between ages 16 and 21. The extent to which these participants exit the Scheme after receiving school leaver supports will thus have an impact on long term financial sustainability.

After age 30, the assumed NER steadily increases with age. This reflects increasing new entrant rates for most non-congenital disabilities acquired at the older ages (including sensory impairments, physical and neurological disabilities).

Figure 6 Assumed NER after Steady Intake Date – by age



The total disability new entrant rate is 74% higher for males compared to females. This reflects a higher NER for a number of conditions among males (for example autism).

4.2.3 Summary of participant intake assumptions

Table 7 summarises the participant intake assumed in this report, and noting that after 2022-23 the participant intake represents new entrants (implicitly new incidence of disability only), while prior to this it includes people with existing disabilities phasing into the Scheme.

Table 7 Participant intake projections by age band

Age Band	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2029-30
0-6	25,135	21,921	24,661	23,058	24,376	24,658	26,041
7-14	10,781	9,158	10,032	7,051	3,074	3,110	3,284
15-18	4,472	2,615	2,220	1,528	247	250	264
19-24	3,268	2,180	1,930	1,217	383	388	410
25-34	7,365	4,472	3,015	1,681	927	938	990
35-44	9,908	5,993	3,962	2,204	1,660	1,679	1,773
45-54	12,779	8,000	5,549	3,156	2,240	2,266	2,393
55-64	15,416	9,847	7,007	4,120	3,851	3,896	4,114
65+	0	0	0	0	0	0	0
Total	89,125	64,186	58,377	44,016	36,759	37,184	39,270

4.3 Participant exits

Participants may exit the Scheme for various reasons and are grouped into the following categories for projection purposes.

1) **Mortality exits:** represent those participants who have died.
2) **Non-mortality exits:** represent those participants who exit the Scheme if they have had their eligibility revoked by the Agency, have chosen to leave the Scheme of their own accord, or have moved into the aged care system if over the age of 65.

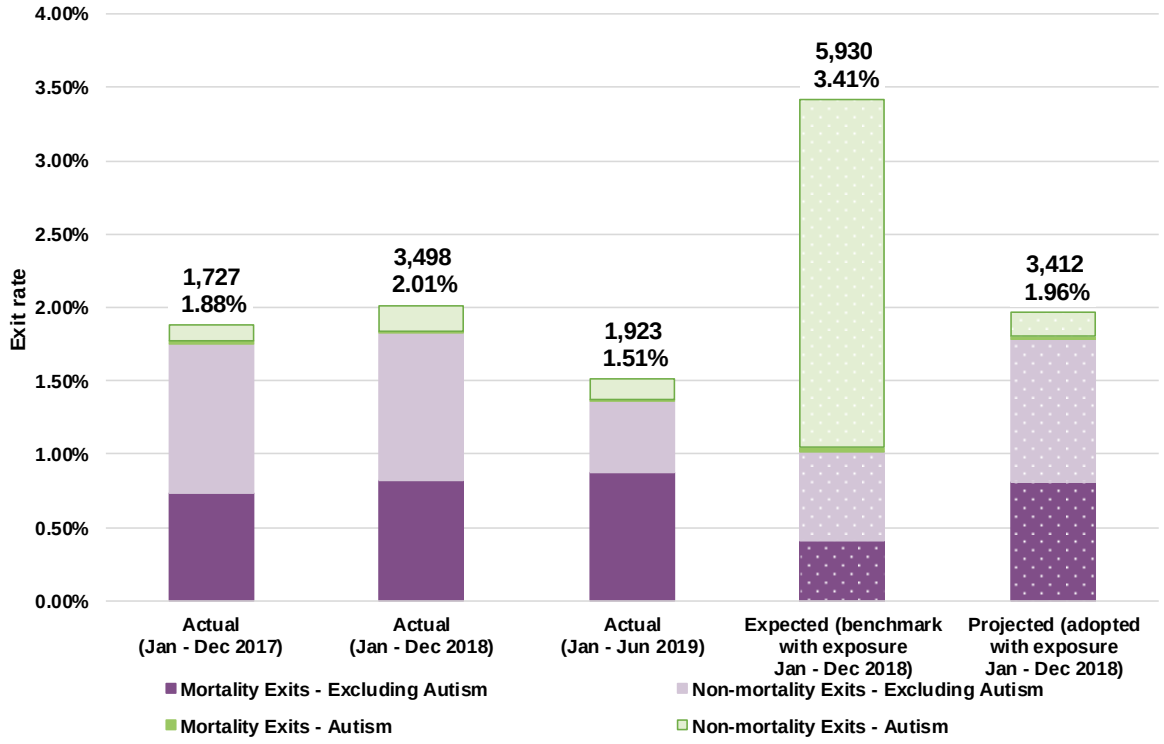
Monitoring non-mortality exit experience is important within the context of financial sustainability as only participants who continue to meet the access criteria of the NDIS Act should continue to receive individualised funding. One of the major outcome focuses of the Scheme is to provide early intervention supports for people with newly acquired disabilities, particularly for those accessing the Scheme through the early intervention requirements (Section 25 of the NDIS Act). This enables participants to build up capacity, increase independence and hence lead to positive outcomes. This can lead to a reduction in funded supports or participants no longer requiring supports within the Scheme. This is particularly appropriate for children.

4.3.1 Exit experience

Scheme exit experience is relatively immature. An investigation into Scheme exits was conducted using data to 31 December 2018. The Scheme had 3,498 exits (1,449 mortality exits and 2,049 non-mortality exits) identified over the 12 months ending 31 December 2018. The total number of participants who exited the Scheme almost doubled in 2018 compared to 2017 (from 1,727 to 3,498), however the overall annual exit rate only slightly increased after adjusting for exposure (1.88% in 2017 versus 2.01% in 2018).

The following graph compares Scheme exits with the exits expected to have occurred (using exit assumptions from the original benchmark assumptions from the 2016-17 AFSR).

Figure 7 Mortality and non-mortality exits – actual vs expected



The actual versus expected experience for 2018 has differed considerably for mortality and non-mortality exits. The actual mortality exit rate is higher than expected (0.83% versus 0.43% respectively), while the actual non-mortality exit rate is much lower than expected (1.18% versus 2.98% respectively), resulting in an overall exit rate below expectations.

Notably, non-mortality exits for participants with autism have been significantly lower than expected in both 2017 and 2018, driving the overall lower than expected exits experience. This is a trend that has continued since the previous AFSR. The expected exit rates assumed that some participants with autism would exit the Scheme, particularly those accessing the Scheme through the early intervention requirements. To the extent that this does not occur, this can have a large impact on the Scheme's financial sustainability in the longer term.

Monitoring for the period from 1 January 2019 to 30 June 2019 has shown a general continuation of the mortality trends identified in 2018 (0.89% in first half of 2019 versus 0.83% in 2018). However, there has been a material reduction in the rate of Agency-initiated non-mortality exits during the first half of 2019 (0.62% in the first half of 2019 versus 1.18% in 2018). This is due to the redesign of the eligibility reassessment process in February 2019; the eligibility reassessment strategy is being redeveloped prior to the processing of any further exits. For projection purposes this recent experience has been ignored, implicitly assuming that Agency-initiated exits will recommence at similar levels to that seen in 2018.

Recommendation #4: Eligibility reassessment process

Eligibility reassessment by the Agency should recommence as soon as practicably possible, in line with the insurance-based principles of the Scheme. There should be a focus on those participants who have accessed the Scheme through the early intervention requirement, those transitioning through different life stages or for participants have showing evidence of increased functional capacity over time.

4.3.2 Adopted assumptions

For this report, experience-based exit rate assumptions have been adopted using the experience during 2018, moving away from the benchmark assumptions in previous AFSR's. Separate exit rate assumptions are made by age, gender, disability, duration, and participant functional capacity. The non-mortality exit rate assumptions have generally been increased for this AFSR, particularly for adults, where minimal exits were previously assumed. This reflects the emerging experience, while noting that exit rates for participants with autism have been the exception and have been reduced significantly.

Table 8 and Table 9 summarise projected mortality and non-mortality exits respectively.

Table 8 Mortality exit projections by age band

Age Band	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2029-30
0-6	39	51	56	67	74	84	102
7-14	52	67	76	82	86	91	121
15-18	35	44	49	52	54	53	60
19-24	64	76	84	92	97	100	102
25-34	113	148	166	176	182	184	206
35-44	212	295	331	348	351	348	355
45-54	541	746	834	872	876	859	802
55-64	1,139	1,624	1,859	1,972	1,981	1,965	1,869
65+	287	405	575	766	968	1,161	2,137
Total	2,482	3,455	4,030	4,428	4,668	4,846	5,752

Table 9 Non-mortality exit projections by age band

Age Band	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2029-30
0-6	828	1,263	1,449	1,804	2,241	2,378	2,689
7-14	1,476	2,731	3,552	3,806	4,119	5,307	8,403
15-18	180	271	337	392	442	492	912
19-24	200	278	326	374	427	470	691
25-34	123	189	253	294	329	347	414
35-44	129	217	296	341	366	371	383
45-54	199	319	445	511	545	548	521
55-64	243	394	542	629	686	694	695
65+	161	297	422	561	706	838	1,447
Total	3,540	5,960	7,620	8,712	9,859	11,444	16,155

The assumed exit rates for the current AFSR have been selected to better align with experience and hence, at an overall level, track closely to the actual experience of 2018 (0.83% actual versus 0.82% expected for mortality exits and 1.18% actual versus 1.14% expected for non-mortality exits). The Scheme exit rate is projected to be 1.8% per annum in

2019-20 and increase to 3.5% per annum in 2029-30, with expected exit rates of about 2% to 6% per annum from participants aged 7 to 14 through the impact of early intervention. This is reflected in the results shown in the table below.

Table 10 Projected exit rate by age band

Number of combined exits

Age Band	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2029-30
0-6	867	1,314	1,504	1,871	2,315	2,463	2,792
7-14	1,529	2,797	3,627	3,888	4,205	5,398	8,523
15-18	215	315	386	444	496	545	972
19-24	264	355	410	465	524	569	794
25-34	236	337	419	470	510	531	620
35-44	342	512	627	689	717	719	737
45-54	740	1,065	1,279	1,383	1,420	1,407	1,323
55-64	1,382	2,018	2,401	2,601	2,667	2,659	2,563
65+	447	702	997	1,327	1,673	1,999	3,584
Total	6,022	9,415	11,650	13,139	14,527	16,290	21,907

Average exit rate

Age Band	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2029-30
0-6	2.0%	2.4%	2.4%	2.7%	3.2%	3.3%	3.6%
7-14	2.0%	3.1%	3.5%	3.4%	3.4%	4.1%	5.7%
15-18	0.9%	1.1%	1.2%	1.3%	1.3%	1.4%	1.7%
19-24	0.9%	1.1%	1.1%	1.2%	1.2%	1.2%	1.4%
25-34	0.7%	0.9%	1.0%	1.0%	1.1%	1.1%	1.0%
35-44	1.1%	1.3%	1.5%	1.6%	1.6%	1.6%	1.5%
45-54	1.9%	2.3%	2.5%	2.6%	2.6%	2.6%	2.5%
55-64	3.2%	3.7%	4.0%	4.2%	4.2%	4.2%	3.9%
65+	5.3%	5.9%	6.1%	6.3%	6.5%	6.6%	7.3%
Total	1.8%	2.4%	2.6%	2.7%	2.8%	3.0%	3.5%
Total (0-64)	1.7%	2.3%	2.5%	2.5%	2.6%	2.8%	3.2%

The increase in exit rate over the shorter term is primarily attributable to lower levels of new participants entering the Scheme who would, all other things being equal, have lower levels of non-mortality exit rates. Over the longer term the projected exit rate is also increasing, due to the higher proportion of participants in the Scheme over the age of 65. The overall projected exits are higher than the previous AFSR.

4.4 Participant projections

The projection of future participant numbers for each Projection Group is built up from assumptions about participant intake and exits, as shown Table 7, Table 8 and Table 9.

Table 11 summarises the participant projections up to 30 June 2030, split by age band.

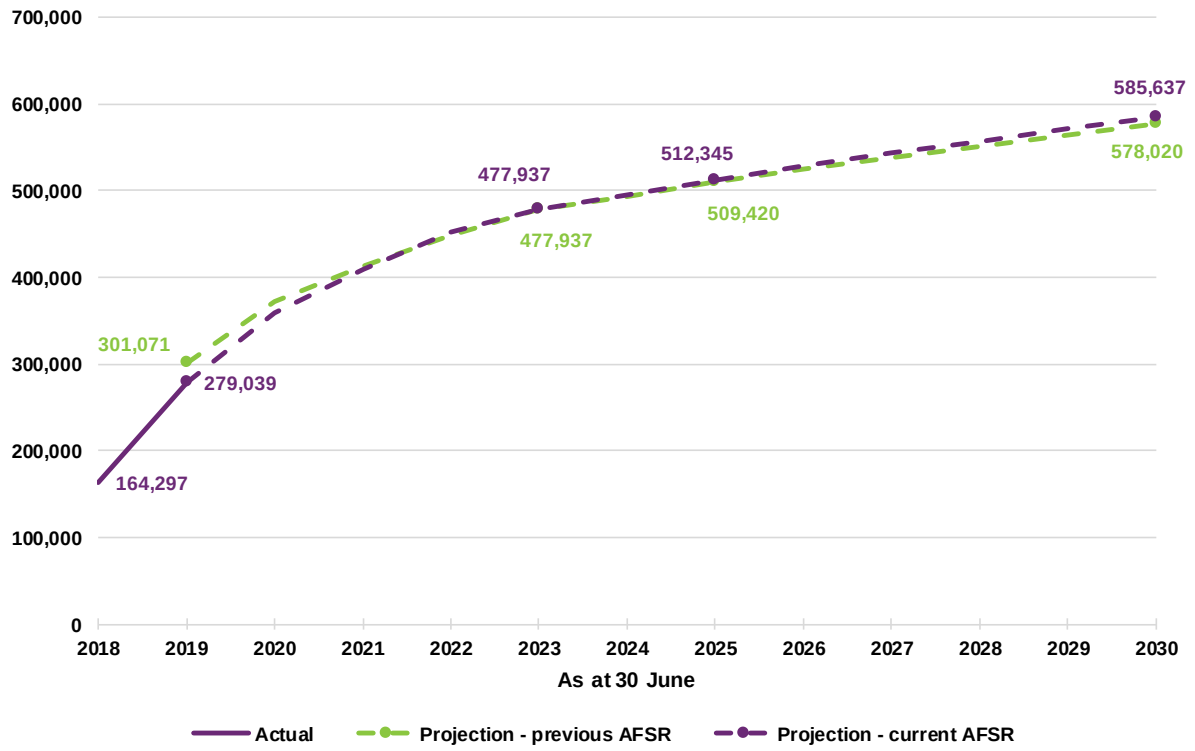
Table 11 Scheme participant population projection summary

Age Band	As at 30 June							
	2019	2020	2021	2022	2023	2024	2025	2030
0-6	37,841	50,972	57,473	65,645	70,712	73,629	74,730	78,494
7-14	70,464	84,587	97,434	110,009	119,552	127,186	134,688	150,856
15-18	21,459	26,818	30,734	34,087	36,760	38,405	40,657	58,540
19-24	26,347	31,119	34,753	38,649	42,054	44,594	47,256	59,636
25-34	27,830	35,810	40,809	44,449	47,030	49,023	51,041	66,726
35-44	26,114	35,531	40,543	43,398	44,412	44,927	45,647	50,758
45-54	32,774	44,149	50,266	53,680	54,500	54,328	54,066	54,008
55-64	36,210	50,226	57,806	61,975	62,916	63,689	64,260	66,618
65+	6,976	9,907	14,071	18,724	23,554	27,943	32,272	51,008
Total	286,015	369,118	423,889	470,615	501,491	523,723	544,617	636,645
Total 0-64	279,039	359,211	409,818	451,891	477,937	495,781	512,345	585,637
Prevalence (0-64)	1.29%	1.64%	1.85%	2.02%	2.11%	2.16%	2.21%	2.39%
Incremental increase in participant numbers								
Total		83,103	54,771	46,726	30,876	22,232	20,894	17,362
Total 0-64		80,172	50,607	42,072	26,047	17,843	16,564	14,038

The Scheme is projected to increase in size rapidly over the four years to 30 June 2023. The prevalence rate is projected to increase to 2.4% as at 30 June 2030, mainly due to increasing numbers of participants with autism.

Figure 8 shows the projected number of participants aged 0 to 64 graphically, including a comparison with the previous AFSR.

Figure 8 Participant numbers for ages 0 to 64 - actual vs expected



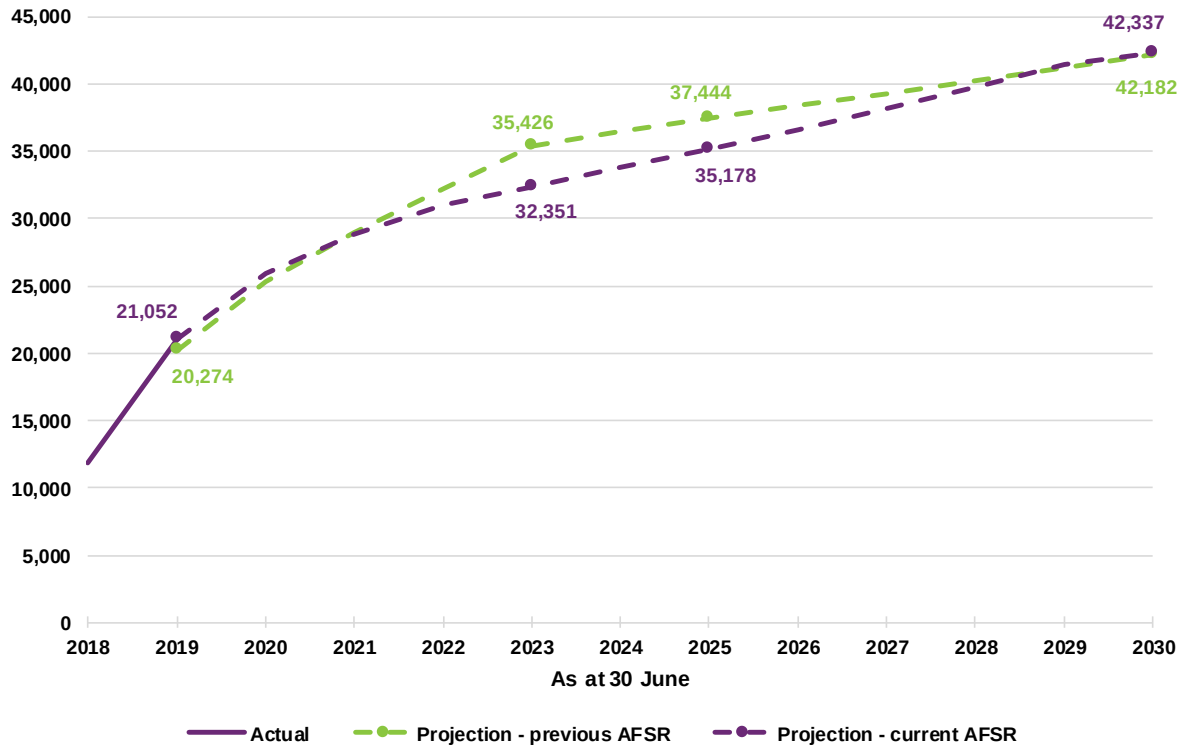
While the aggregate projected number of participants aged 0 to 64 as at 30 June 2023 remains unchanged from the previous AFSR, the rate at which they enter the Scheme over the next four years have changed. For this age group, participant numbers up to 30 June 2021 are lower than projected in the previous AFSR, but are expected to catch up over 2021-22 and 2022-23, reflecting the impact of phasing. After 30 June 2023, the participant numbers aged 0 to 64 in this report are projected to be higher than the previous AFSR, primarily reflecting the impact of lower autism non-mortality exits.

The proportion of participants aged 65+ is expected to grow from 2.5% to 8.0% over the next ten years[46]. The age group 65+ is expected to represent an increasing proportion of the participant population over time because, while only people under age 65 are initially eligible for the Scheme, they will remain in the Scheme once they reach the age of 65, unless they move to a residential aged care facility or exit the Scheme for other reasons. This report projects more participants aged 65 and over compared with the previous AFSR to reflect experience to date. However, from 2025, the number of participants aged 65 and over is expected to reduce relative to the previous AFSR due to higher assumed non-mortality and mortality exit rates.

4.4.1 SIL Projections

Figure 9 shows the projection of SIL participant numbers compared to the previous AFSR.

Figure 9 Projected number of participants with SIL (current vs previous AFSR)



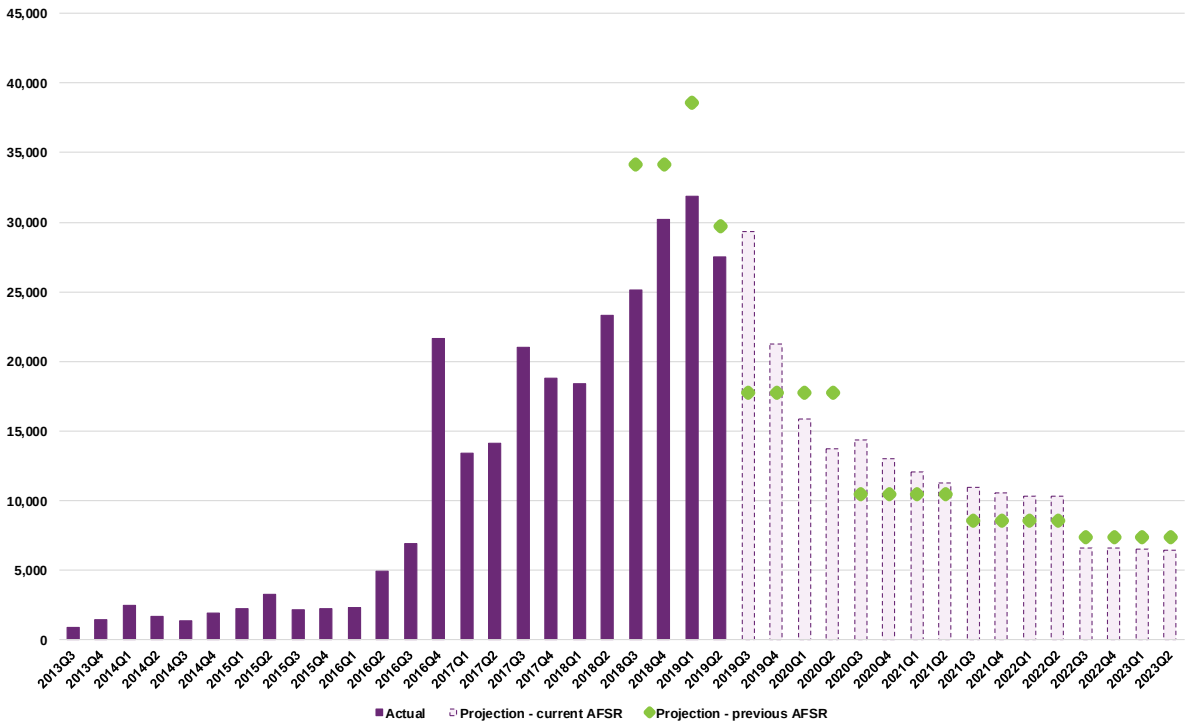
[46] Only participants aged 0 to 64 are eligible to access the Scheme. However, some participants aged 64 gain eligibility to the Scheme, but do not receive an active plan until after they turn age 65.

In particular, the slower SIL intake to the Steady Intake Date reflects the lower proportion of Scheme participants in SIL adopted over the medium term. Once a Steady Intake Date is reached, the number of SIL participants projected (purple line) increases to become closely aligned with the projected SIL participant numbers from the previous AFSR (green line), consistent with the long term view of SIL participants to address unmet need. There is a considerable degree of uncertainty around the projection of the number of SIL participants in the Scheme, which is discussed in Sections 6.2.2 and 6.3.

4.4.2 Quarterly Scheme population – history and projections

At a high-level, the following figure compares the actual number of participants entering the Scheme against expectations on a quarterly basis. This represents the overall participant intake, i.e. participants transferring from existing State/Territory and Commonwealth programs, people with existing disability new to supports and new entrants. The projected participant intake from 1 July 2019 is also displayed below, with the modelling underlying these estimates detailed in this section.

Figure 10 Incremental number of participants – actual and expected by reporting quarter for ages 0 to 64



This figure demonstrates the rapid Scheme growth over the transition period (1 July 2016 to 30 June 2019) and how current projections compare to the previous AFSR.

5. Costs

The prudent management of participant costs is important in maintaining the future financial sustainability of the Scheme. There are two components of costs covered in this section.

- **Payments:** made by the Scheme for supports provided to meet participant needs and assist in the achievement of goals set out in plans.
- **Plan budgets:** relate to the amount of supports committed within participant plans.

In a well-functioning Scheme, plan budgets should provide a robust indicator of the reasonable and necessary supports required for each participant if there were no supply constraints. However, not all committed supports within participant plans are being used. The proportion of plan budgets which is used is referred to as the "utilisation rate".

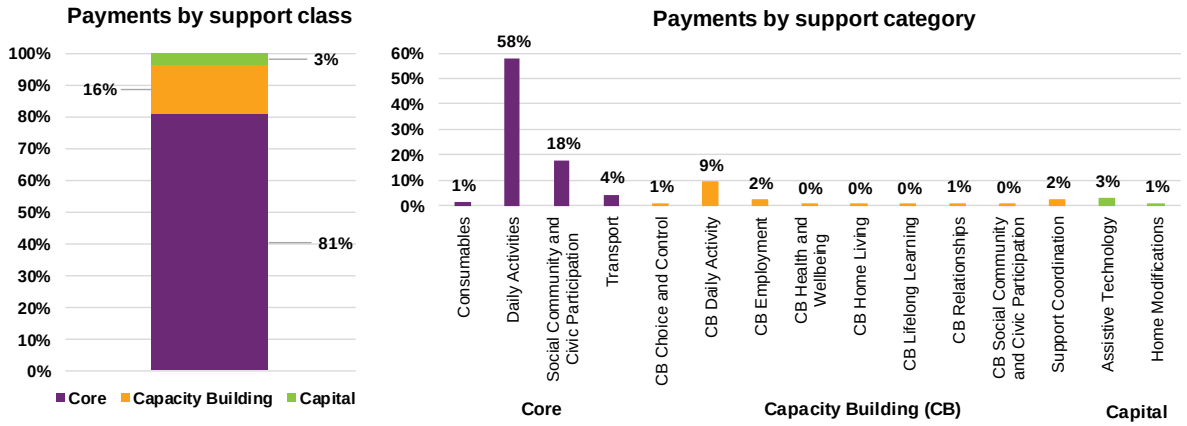
5.1 Recent participant cost experience

5.1.1 Payments

In 2018-19, actual payments made in respect of participant costs were $10.0 billion. This was $0.7 billion (or 7.6%) higher than expected from the previous AFSR, despite fewer participants entering the Scheme than projected during this period. This payment experience is partly due to a higher number of lower functioning participants entering the Scheme during 2018-19 and partly due to participants with first plans accessing supports faster than expected[47].

Figure 11 breaks down the 2018-19 payments by support class and support category.

Figure 11 Distribution of payments in 2018-19 by support class and category

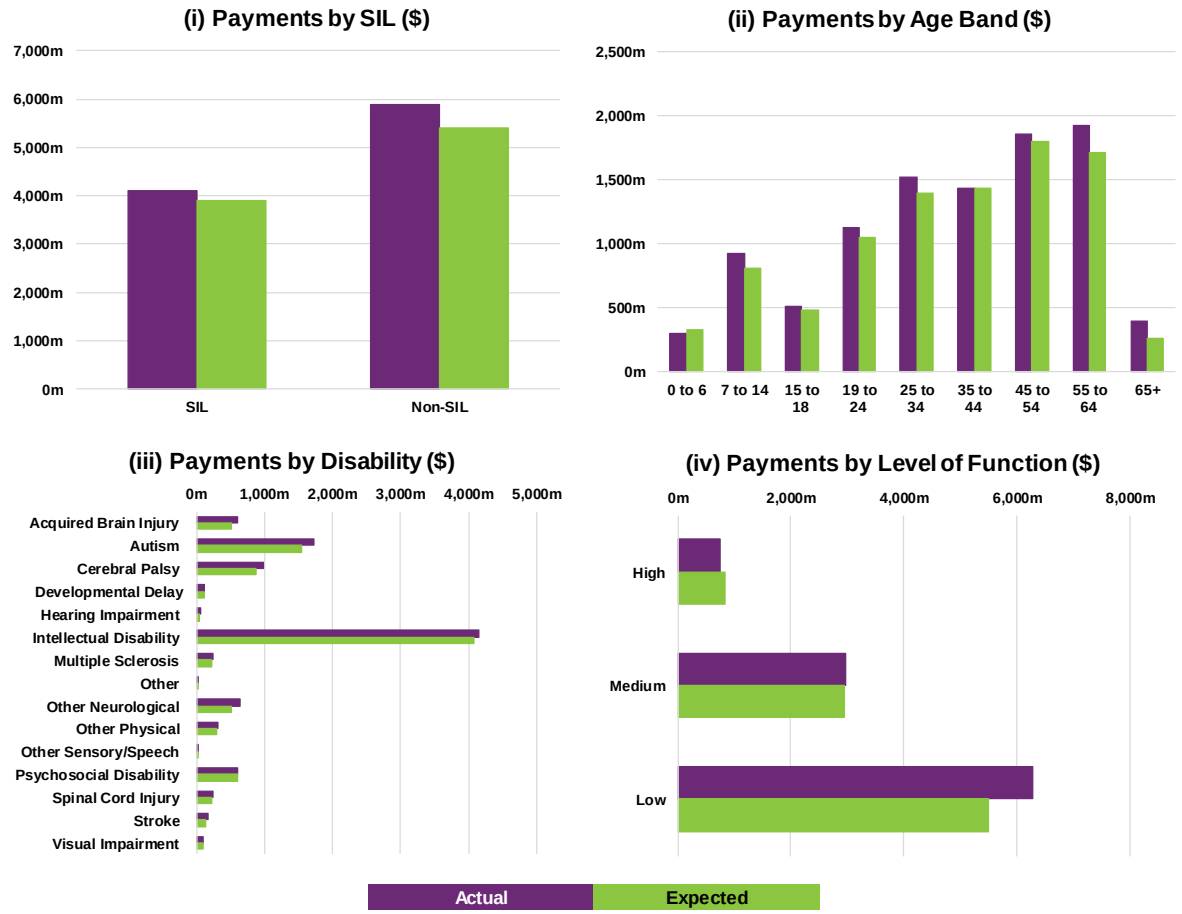


[47] The previous AFSR noted that payment rates were lower for a participants' first year in the Scheme as they were taking time to navigate the Scheme and to access supports. This effect remains, however barriers to timely plan implementation have reduced in the past year. Thus payments were higher than expected for participants in their first year, and closer to expectations thereafter.

Supports can help to increase a participant's independence, encourage higher levels of social and economic engagement, and improve life outcomes for the Scheme's participants. The reasonable and necessary supports span a wide spectrum of domains, which are subsequently classified into three support classes and further sub-divided into 15 support categories. Core supports make up over 80% of Scheme payments, with a higher proportion of core supports provided for participants with a lower level of function.

Payments made in 2018-19 according to participant profile are shown in Figure 12. Actual payments have been higher than expected, particularly for participants with low function and for those over the age of 55.

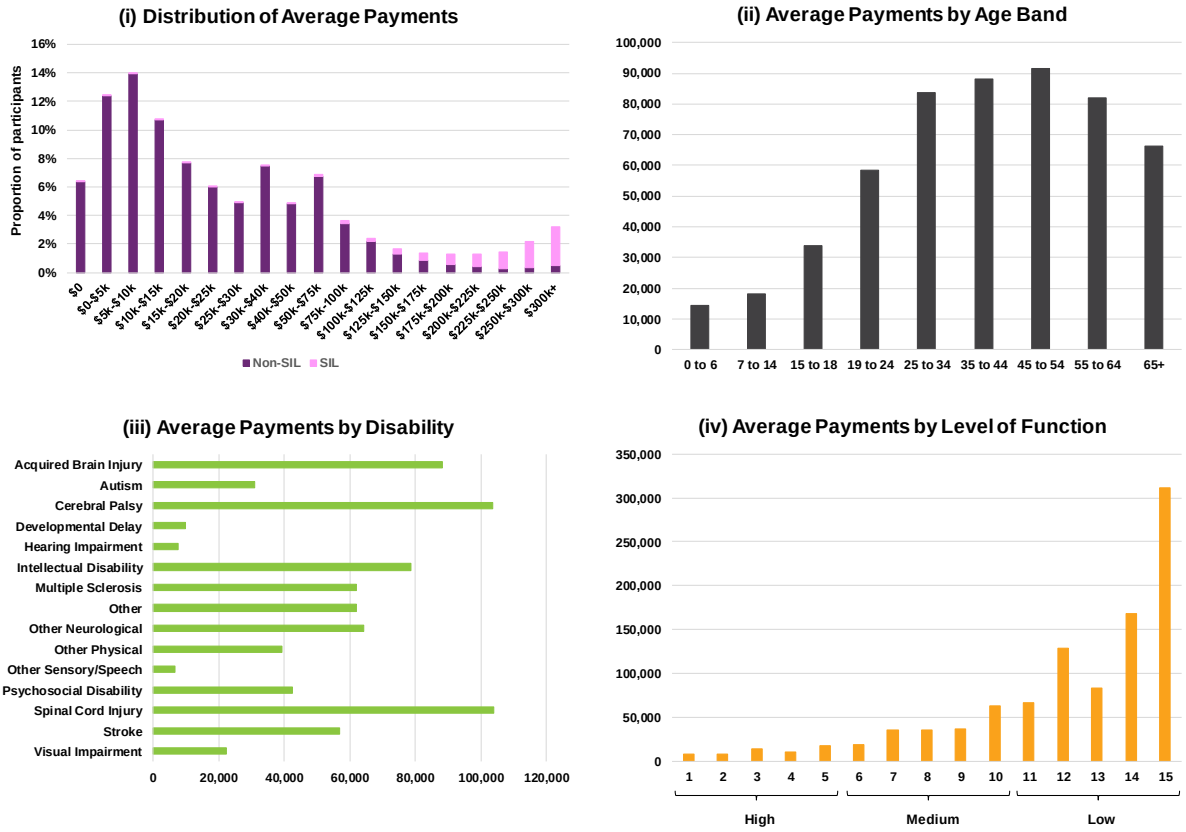
Figure 12 Scheme payments in 2018-19 by participant profile - actual vs expected



Mature participant payment experience has been used to inform the view of longer term payment experience. Figure 13 shows average annualised payments inflated to 30 June 2019[48] for these participants.

[48] Actual payments have been inflated to 30 June 2019 using an 8.8% p.a. inflation rate, which was the total inflation rate adopted in the previous AFSR. This includes a normal inflation rate of 4.3% p.a. and a superimposed inflation rate of 4.5% p.a.

Figure 13 Average annualised Scheme payments for mature participants



The overall average annualised payment for this cohort of participants is about $54,000. This average contains biases based on the phase-in patterns of the Scheme. For example, over 9% of these mature participants are in SIL. The average annualised payment for participants with SIL is about $264,000[49], compared to about $32,500 for those who are not (graph i).

Average payment sizes increase with both a decreasing level of function (graph iv), and with an increase in age prior to the age of 55 (graph ii). Average payment sizes also vary by disability group; on average, participants with spinal cord injury, cerebral palsy and an acquired brain injury have higher average payment amounts (graph iii).

5.1.2 Plan budgets

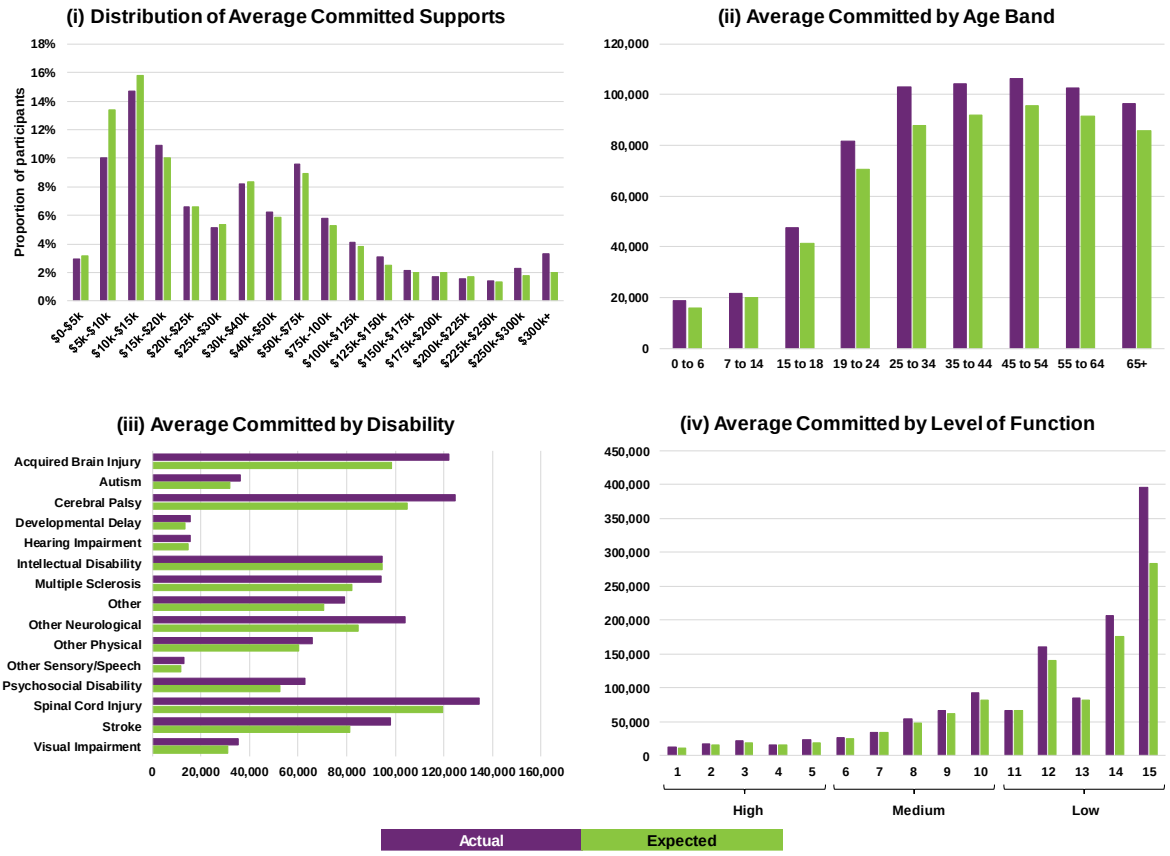
Committed supports for the 2018-19 support year is $14.5 billion, about 88% higher than for the 2017-18 support year. This represents continued rapid growth of the Scheme through the transition period.

The average committed supports per participant is around $66,000, which represents about $290,000 for participants in SIL and about $48,000 for participants not in SIL. Figure 14 shows the distribution of annualised committed supports for participants with an active plan at 30 June 2019. This is compared to the previous AFSR, noting that plan amounts have not

[49] Over 80% of these payments are related to assistance with and/or supervising tasks of daily life in a shared living environment. These daily living costs are high, stable and regular.

been adjusted for inflation. The impact of indexation[50] that occurred as a consequence of the 2018-19 Annual Pricing Review is evident, causing a large uplift in the average amount of committed supports in participant's latest plans.

Figure 14 Average annualised committed supports for active participants as at 30 June 2019



Average committed supports have generally increased across participant characteristics.

- There remains a high proportion of participants clustered in the low and middle cost bands, from $5,000 to $75,000 (graph i).
- Average committed supports increase by age, before stabilising between ages 25 to 54, and then decreasing slightly for older age groups[51] (graph ii).
- Participants with spinal cord injury, cerebral palsy and an acquired brain injury have higher committed support amounts on average (graph iii).
- Higher functioning participants having lower average committed supports and vice versa (graph iv).

[50] The amount of unused committed supports in a participant's plan is indexed by any price changes that occur as at 30 June of that year. This means that the purchasing power of a participant's plan in respect of their supports remains relatively unchanged as support prices change.
[51] Lower average committed supports from age 64 is contrary to the experience seen in some other injury support schemes providing lifetime care and support.

5.1.3 Utilisation

To estimate the ultimate utilisation rate in any support year, it is important to consider the estimated value of supports provided prior to 30 June 2019, but not yet included in the payments made to date. This has been estimated using information on committed supports contained within participant plans, the payment patterns emerging over time relating to these committed supports and the expected ultimate utilisation of those committed supports.

Table 12 provides an overview of the committed supports, projected ultimate payments and projected ultimate utilisation by support year.

Table 12 Projected ultimate payments and utilisation as at 30 June 2019 – by support year

Utilisation component	Support Year						Total
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	
Committed supports ($m)	$133	$497	$939	$3,237	$7,746	$14,537	$27,089
Projected ultimate payments ($m)	$86	$371	$704	$2,186	$5,436	$10,509	$19,291
Projected ultimate utilisation (%)	64.7%	74.7%	75.0%	67.5%	70.2%	72.3%	71.2%

Utilisation rates have increased since the start of the transition period (from 68% for support year 2016-17), and is projected to be 72% for support year 2018-19. Utilisation rates remain lower than at the end of the trial period (75% for support years 2014-15 and 2015-16), reflecting the rapid expansion of the Scheme.

Utilisation rates have remained below 100% as the Scheme has proceeded through the trial and transition period. These utilisation rates are likely to increase as the Scheme transitions towards the Steady Intake Date in the short to medium term, which will impact on the financial results of the Scheme. One of the main drivers of under-utilisation is that a participant's first plan typically has a materially lower utilisation rate than subsequent plans. Participants may take some time to learn to navigate Scheme processes or to build the capacity to implement the plan. Lower utilisation rates are also associated with higher functioning participants, participants in remote locations, capital and capacity building supports, participants with high levels of informal supports, participants with a hearing impairment and participants not in SIL.

Current utilisation rates may not be representative of longer term experience. Utilisation rates in a mature Scheme will remain below 100%[52], although it is not yet clear what an appropriate long term utilisation rate will be. This key risk is explored in Sections 6.2.3 and 6.3.

[52] For example, participant circumstances will inevitably change throughout their plan period meaning changes in the level of supports required. Alternatively, planners may be allocating supports to participants above what is needed – such as including some supports "just in case".

5.2 Participant cost assumptions

Participants in their first year in the Scheme tend to have lower payment levels and lower committed supports compared to later years. Hence, payment levels between newer and mature participants are considered separately. This is consistent with the modelling approach adopted in the previous AFSR.

In the previous AFSR, the estimated combined impact was a 38% reduction in the rate of payment in a participant's first plan. With barriers to timely plan implementation reducing over the past year, the effect has subsequently lessened. It is now estimated to be a 25% reduction for non-SIL participants and a 15% reduction for SIL participants.

The amount of committed supports in a participant's first year in the Scheme is estimated to be 10% less than the amounts funded in a participant's second or later year for both SIL and non-SIL. The projections of Scheme cost account for these effects, with the impact decreasing as the Steady Intake Date is reached and the Scheme participant growth rate decreases.

The payment experience of mature participants has been used to inform the view of the longer term cost of meeting participant support needs. The assumptions allow both a projection of future Scheme cost and a calculation of the estimated lifetime cost of participants who are currently in the Scheme, or who will enter the Scheme.

Another set of cost assumptions have been calibrated using mature participant experience based on the committed supports that have been "earned"[53]. This enables calculation of a projected utilisation rate, by comparing the projected payments to projected committed supports. In general, the earned committed supports are closely correlated, although higher, than the observed payment experience.

5.2.1 Inflation assumptions

Participant costs are assumed to increase over time with inflation, both from normal inflationary sources and from additional cost pressures, termed "superimposed inflation".

The following table sets out the annual inflation rates adopted for payments and committed supports, for 2019-20 onwards. These inflation assumptions compare with 6.5% in 2019-20, 5.0% in 2020-21 and 4.0% p.a. thereafter assumed in the previous AFSR.

[53] The exposure period used to calculate earned committed supports reflects the period in which the Agency is liable for payments to meet participant support needs, and is "earned" in this period while a participant's plan is active. It is assumed that committed supports are spread evenly over the plan duration. For example, in the case of a one-year plan, for each month that elapses one-twelfth of the committed supports is "earned".

Table 13 Projected normal and superimposed inflation rates

Normal inflation and superimposed inflation on payments

Inflation	Projection Year						
	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26+
Normal inflation	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Superimposed inflation	8.2%	-0.4%	0.1%	-0.2%	-0.4%	-0.6%	0.0%
Total inflation	12.2%	3.6%	4.1%	3.8%	3.6%	3.4%	4.0%

Normal inflation and superimposed inflation on committed supports

Inflation	Projection Year						
	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26+
Normal inflation	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Superimposed inflation	5.3%	-2.3%	-0.7%	-0.7%	-0.7%	-0.7%	0.0%
Total inflation	9.3%	1.7%	3.3%	3.3%	3.3%	3.3%	4.0%

Normal inflation

Normal inflation is applied to participant payments and committed supports to reflect general increases in wage rates and consumer prices. Table 14 gives a summary of forecast inflation rates from different benchmark sources. On balance, a long term inflation rate of 4.0% per annum is assumed to apply from 1 July 2019, unchanged from the previous AFSR.

Table 14 Projected normal inflation rates

Source	2019-20	2020-21	2021-22	2022-23	Long term
1. Economic inflation + impact of SACS[i]	4.3%				
2. Economic & fiscal outlook WPI forecast[ii]	2.8%	3.3%	3.5%	3.5%	
3. Inflation applied to in-kind supports in bilateral agreements[iii]	4.0%	4.0%	4.0%	4.0%	
4. 2015 Intergenerational report[iv]					4.0%
Adopted	**4.0%**	**4.0%**	**4.0%**	**4.0%**	**4.0%**

[i] This is implied by the short term current wage inflation in the attendant care industry (3.0%) and the Social and Community Services (SACS) award (1.3%).
[ii] Based on forecast wage growth, as measured by the Wage Price Index (WPI), in Table 2 of the *Pre-election Economic and Fiscal Outlook 2019* dated April 2019.
[iii] Based on annual unit price increase for in-kind programs across jurisdictions as per the recently released bilateral agreements.
[iv] This consists of a long term domestic inflation rate of 2.5% p.a. plus an additional 1.5% p.a for productivity growth based on page 30 of the '*2015 Intergenerational Report Australia in 2055*' dated March 2015.

It is worth noting that the benchmark inflationary sources above generally represent broader economic measures, which may not reflect the specific inflationary pressures of the Scheme. In particular, Scheme costs have a heavy bias towards the provision of attendant care supports, and the inflationary pressures in this domain may be influenced by shorter to medium term imbalances between supply and demand as the Scheme continues to mature.

Superimposed inflation

There have been high levels of superimposed inflation within the Scheme to date. The previous AFSR anticipated a relatively high superimposed inflation rate of 4.5% during 2018-19 and the anticipated cost pressures have largely been realised. As with the previous AFSR, a forward-looking quantitative analysis of the known cost pressures has informed the superimposed inflation assumptions in this report. In addition, separate analyses have been performed for payments and committed supports.

Table 15 shows that an overall superimposed inflation rate of 6.7% for payments (and 0.3% for committed supports) has been assumed to emerge over the six years ending

30 June 2025. For comparison, the previous AFSR assumed an overall superimposed inflation rate of 3.5% would emerge over the two years ending 30 June 2021.

Table 15 Superimposed inflation rates on payments and committed supports

Superimposed inflation on payments	Projection Year							
	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26+	Total
Assumed from previous AFSR	2.5%	1.0%						3.5%
Sources of superimposed inflation at current AFSR								
Pricing review	6.7%	-0.1%	-0.8%	-0.8%	-0.9%	-0.9%	0.0%	3.2%
Increase in utilisation	0.9%	1.1%	0.6%	0.3%	0.1%	0.0%	0.0%	3.0%
Other influences	0.6%	-1.4%	0.3%	0.3%	0.3%	0.3%	0.0%	0.5%
Adopted at current AFSR	**8.2%**	**-0.4%**	**0.1%**	**-0.2%**	**-0.4%**	**-0.6%**	**0.0%**	**6.7%**

Superimposed inflation on committed supports	Projection Year							
	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26+	Total
Assumed from previous AFSR	2.5%	1.0%						3.5%
Sources of superimposed inflation at current AFSR								
Pricing review	7.4%	-0.1%	-0.9%	-0.9%	-0.9%	-0.9%	0.0%	3.5%
Increase in utilisation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other influences	-2.1%	-2.1%	0.2%	0.2%	0.2%	0.3%	0.0%	-3.2%
Adopted at current AFSR	**5.3%**	**-2.3%**	**-0.7%**	**-0.7%**	**-0.7%**	**-0.7%**	**0.0%**	**0.3%**

A number of significant cost pressures remain within the Scheme, the most significant being the 2018-19 Annual Pricing Review. The introduction of price cap increases from 1 July 2019 were much larger than anticipated, leading to higher superimposed inflation rate assumptions for 2019-20. These price cap limit increases primarily impact attendant care (including a Temporary Transformation Payment (TTP)), transport and therapy supports. Because the TTP is expected to be temporary, the adopted superimposed inflation rates after 2019-20 are generally negative to reflect a reversal of the price cap increases.

An increase in projected utilisation rates has also been allowed for, as participants continue to become more familiar with the Scheme and access more supports. This is in addition to the allowance for participants after their first year in the Scheme, as payments and utilisation tend to continue to increase as they learn to better navigate the Scheme.

Other factors have also put upward pressure on the adopted superimposed inflation rates. A review of the way participants access assistive technology and home modifications supports is expected to continue increasing utilisation of capital supports and reduce the backlog of capital supports that are yet to be provided, thereby increasing future capital support costs. More participants are expected to access SIL over time, and this will have a flow-on impact as an increase to specialist disability accommodation costs. Accommodation costs for younger people currently in residential aged care are expected to increase, as those costs are currently paid for off-system and a proportion of existing younger people in residential aged care participants are expected to transfer to SIL (which are comparatively more costly than the aged care system) over time.

On the other hand, an allowance for payment calibration bias has partially offset the aforementioned sources of superimposed inflation. Participants within the same Projection Group phased in from existing State/Territory programs have shown higher payment levels than those from Commonwealth programs or those not previously receiving supports. As the Scheme currently has a high proportion of State/Territory participants, there is an implicit bias in the payment assumptions above the levels expected at the Steady Intake Date. A

decrease in projected Scheme payments is therefore expected as the participant profile changes.

It is worth noting that there are other factors expected to reduce Scheme costs that have not been accounted for in the adopted superimposed inflation. The Agency's compensation policy, when implemented, is expected to result in recoveries from both statutory and common law sources. However, there remains material uncertainty regarding timeframes around the operationalisation of these policies. The proportion of supports provided through in-kind programs is expected to reduce over time, progressively converting to cash arrangements, termed "cashing out". However, the financial impact of "cashing out" remains unclear due to uncertainty about the differences between NDIS prices and current in-kind prices and the utilisation rates of "cashed out" supports.

Additional superimposed inflation is assumed for participants aged over 64 for participants whose primary disability are expected to have cost assumptions that increase with age[54].

A range of significant cost pressures are also emerging from a number of sources. These include less reliance on community and informal supports, testing the definition of "reasonable and necessary" in respect to support determination and additional costs relating to mainstream interfaces. There is thus a high level of uncertainty surrounding the future superimposed inflation rate, and this is explored further in Sections 6.2.4 and 6.3.

5.2.2 Average annual costs

Table 16 shows the projected average annual payment and committed support costs (in current dollars) and the implied utilisation rate split by disability and age band as at 30 June 2023. The table excludes any superimposed inflation impacts and excludes groups with less than 20 participants.

[54] These disabilities are acquired brain injury, spinal cord injury, autism, intellectual disability and cerebral palsy. The current loading is subjective, as there is limited experience to support this to date, being 1% per annum up to a maximum loading of 25% overall.

Table 16 Projected average payments, committed supports and implied utilisation rate by age band and disability (current dollars)

Average Payments ($)

Disability Type	0-6	7-14	15-18	19-24	25-34	35-44	45-54	55-64	65+
Acquired Brain Injury	32,112	37,340	45,262	77,820	84,024	86,069	89,797	79,599	82,038
Autism	13,659	15,110	26,507	46,575	75,189	110,150	119,323	117,947	138,530
Cerebral Palsy	23,249	37,682	65,915	108,475	129,242	160,548	150,728	142,175	147,283
Developmental Delay	9,228	7,996	21,191						
Hearing Impairment	8,181	7,370	9,011	7,515	6,551	7,190	6,859	6,610	6,599
Intellectual Disability	16,058	22,633	34,285	60,901	78,721	90,488	115,230	124,287	132,910
Multiple Sclerosis					32,778	46,127	60,220	65,078	70,528
Other	52,875	48,613	48,939	51,403	50,379	50,061	48,664	45,947	45,375
Other Neurological	23,245	30,746	50,449	77,950	91,812	87,693	73,545	59,844	56,613
Other Physical	16,630	19,479	27,003	41,159	50,486	44,339	44,884	37,970	37,060
Other SensorySpeech	6,915	5,620	6,899	17,391	23,167	21,816	20,321	20,414	
Psychosocial disability	9,665	11,573	29,608	38,147	35,431	35,436	36,407	37,715	38,582
Spinal Cord Injury	25,339	80,885	104,680	105,643	100,198	100,284	99,264	96,338	98,522
Stroke	12,629	18,462	22,616	28,688	53,594	52,000	54,569	60,617	59,525
Visual Impairment	10,601	9,388	10,870	19,560	25,861	26,844	27,639	25,156	23,935

Average Committed Supports ($)

Disability Type	0-6	7-14	15-18	19-24	25-34	35-44	45-54	55-64	65+
Acquired Brain Injury	47,585	55,045	69,405	102,786	111,224	113,837	118,738	108,944	111,645
Autism	19,409	20,430	37,722	61,876	92,447	128,560	140,367	137,275	158,287
Cerebral Palsy	33,548	49,504	85,867	133,567	156,083	185,998	176,218	170,593	187,535
Developmental Delay	14,224	11,405	33,292						
Hearing Impairment	14,891	12,231	15,236	14,763	12,990	14,159	14,146	13,835	13,814
Intellectual Disability	24,099	31,406	50,177	77,542	98,412	110,489	138,261	148,434	158,184
Multiple Sclerosis					49,608	67,219	84,454	92,255	99,002
Other	71,624	66,090	66,564	67,080	65,747	65,408	63,911	60,522	59,336
Other Neurological	30,806	43,842	72,161	102,089	119,638	114,806	107,706	101,935	95,909
Other Physical	26,638	30,191	42,223	60,757	68,835	64,418	65,034	59,494	57,438
Other SensorySpeech	11,645	8,665	12,837	21,400	31,040	30,211	28,637	28,719	
Psychosocial disability	14,769	16,623	48,824	58,743	54,015	53,520	55,711	57,819	58,895
Spinal Cord Injury	39,148	104,989	129,241	128,141	122,442	122,810	121,727	118,825	121,906
Stroke	19,561	29,440	34,493	41,379	83,999	82,288	86,687	96,719	94,507
Visual Impairment	18,787	15,502	19,571	30,532	37,279	37,929	39,134	36,296	34,504

Utilisation Rate

Disability Type	0-6	7-14	15-18	19-24	25-34	35-44	45-54	55-64	65+
Acquired Brain Injury	67%	68%	65%	76%	76%	76%	76%	73%	73%
Autism	70%	74%	70%	75%	81%	86%	85%	86%	88%
Cerebral Palsy	69%	76%	77%	81%	83%	86%	86%	83%	79%
Developmental Delay	65%	70%	64%						
Hearing Impairment	55%	60%	59%	51%	50%	51%	48%	48%	48%
Intellectual Disability	67%	72%	68%	79%	80%	82%	83%	84%	84%
Multiple Sclerosis					66%	69%	71%	71%	71%
Other	74%	74%	74%	77%	77%	77%	76%	76%	76%
Other Neurological	75%	70%	70%	76%	77%	76%	68%	59%	59%
Other Physical	62%	65%	64%	68%	73%	69%	69%	64%	65%
Other SensorySpeech	59%	65%	54%	81%	75%	72%	71%	71%	
Psychosocial disability	65%	70%	61%	65%	66%	66%	65%	65%	66%
Spinal Cord Injury	65%	77%	81%	82%	82%	82%	82%	81%	81%
Stroke	65%	63%	66%	69%	64%	63%	63%	63%	63%
Visual Impairment	56%	61%	56%	64%	69%	71%	71%	69%	69%

Table 16 shows that:

- Children have lower average payments and committed supports than adults, reflecting a higher proportion of early intervention participants, less usage of SIL and more informal supports, primarily provided by parents.
- Participants with spinal cord injury, cerebral palsy and acquired brain injury have the largest average costs, while participants with sensory disabilities and development delay have the lowest average costs.
- Participants with cerebral palsy, intellectual disability and spinal cord injury have the highest utilisation rates, while participants with hearing impairment, stroke, other neurological and psychosocial disability have the lowest utilisation rates.
- Utilisation rates tend to be higher for adults than children, partly reflecting the higher average utilisation rates for participants in SIL.

Similarly, the expected average annual payment and committed support assumptions (in current dollars) and implied utilisation at the Steady Intake Date, split by support category and age band, are shown in Table 17. The averages are a weighted combination of the assumptions by Projection Group for each support category at the Steady Intake Date.

Table 17 shows that the support categories with the largest average annualised costs are for assistance with daily life (Daily Activities), social & community participation (Social Community Civic) and for the improvement of daily living activities (CB Daily Activities), which make up around 83-84% of average costs.

- For the two largest categories of assistance with daily life and social & community participation, average committed supports tend to be higher for adults, noting that these participants are also more likely to utilise these supports.
- The support categories with the highest utilisation rates are for Transport, assistance with daily life and for finding and keeping a job (CB Employment). The utilisation rate of Transport for children is projected to be over 100%, reflecting a combination of in-kind transport supports, which are assumed to be 100% utilised, and the fungibility[55] of core supports.

[55] Fungibility refers to the ability of participants to use their funding flexibly between different support types, albeit within certain limitations.

Table 17 Projected average payments, committed supports and implied utilisation rate by age band and support category (current dollars)[56]

Average Payments ($)

Support Category	0-6	7-14	15-18	19-24	25-34	35-44	45-54	55-64	65+
Consumables	263	437	457	457	588	647	754	895	972
Daily Activities	1,580	5,606	13,129	28,113	38,950	42,562	45,145	41,238	41,550
Social Community Civic	101	1,298	5,562	16,096	19,228	15,440	13,476	11,496	11,336
Transport	688	2,201	3,864	1,849	1,723	1,543	1,463	1,404	1,430
Assistive Technology	720	527	839	1,036	1,353	1,691	2,085	2,834	3,155
Home Modifications	54	86	147	355	648	926	1,087	1,062	1,072
CB Daily Activities	8,536	5,357	3,671	2,550	2,495	2,363	2,438	2,586	2,665
CB Employment	0	0	1,147	2,115	1,872	1,771	1,433	965	553
Support Coordination	104	395	860	1,205	1,531	1,735	1,782	1,711	1,720
Remaining CB	142	719	1,286	1,398	1,348	1,147	1,038	885	824

Average Committed Supports ($)

Support Category	0-6	7-14	15-18	19-24	25-34	35-44	45-54	55-64	65+
Consumables	577	902	1,022	1,153	1,482	1,623	1,856	2,116	2,240
Daily Activities	1,953	6,758	16,919	33,018	45,598	49,720	53,408	52,225	52,886
Social Community Civic	203	1,899	8,677	21,001	24,632	21,148	19,898	18,424	18,501
Transport	661	1,963	3,407	1,857	1,800	1,661	1,610	1,543	1,558
Assistive Technology	1,050	830	1,215	1,492	1,940	2,470	3,059	4,111	4,572
Home Modifications	71	116	208	536	939	1,239	1,460	1,472	1,496
CB Daily Activities	13,251	8,368	7,043	5,402	5,257	4,981	5,037	5,178	5,245
CB Employment	0	0	1,939	2,926	2,461	2,099	1,706	1,127	620
Support Coordination	200	642	1,331	1,776	2,188	2,477	2,560	2,493	2,499
Remaining CB	219	1,368	2,648	2,814	2,695	2,206	2,027	1,664	1,462

Utilisation Rate

Support Category	0-6	7-14	15-18	19-24	25-34	35-44	45-54	55-64	65+
Consumables	45%	48%	45%	40%	40%	40%	41%	42%	43%
Daily Activities	81%	83%	78%	85%	85%	86%	85%	79%	79%
Social Community Civic	50%	68%	64%	77%	78%	73%	68%	62%	61%
Transport	104%	112%	113%	100%	96%	93%	91%	91%	92%
Assistive Technology	69%	64%	69%	69%	70%	68%	68%	69%	69%
Home Modifications	76%	74%	71%	66%	69%	75%	74%	72%	72%
CB Daily Activities	64%	64%	52%	47%	47%	47%	48%	50%	51%
CB Employment	26%	26%	59%	72%	76%	84%	84%	86%	89%
Support Coordination	52%	62%	65%	68%	70%	70%	70%	69%	69%
Remaining CB	65%	53%	49%	50%	50%	52%	51%	53%	56%

5.3 Operating expenses

Shorter term Agency operating costs have been based on a detailed activity-based costing of Agency operations. Operating expenses as a percentage of participant costs is higher in the shorter term, reflecting the higher costs associated with bringing new participants into the Scheme. In the longer term, it is assumed that expenses will comprise 6.3% of participant costs, compared with 6.0% for the previous AFSR. This expense rate is at the low end of the

[56] This table excludes groups with less than 20 participants. The utilisation rate is calculated using actual average payment and committed support values and may differ slightly from the utilisation rate implied by the rounded payment and committed support values presented in the tables.

range of expense rates seen in comparable injury support schemes around Australia, even allowing for the greater scale of the Scheme.

Operating costs are assumed to be 8.8% of participant costs during 2019-20, decreasing to 6.7% during 2022-23. After the Steady Intake Date, operating costs are then projected to decrease to the long term assumption of 6.3% of participant costs. Compared to the previous AFSR operational costs (in total dollars) are projected to be close to, but slightly higher, across all projection years.

5.4 Cost projections

Table 18 compares the current AFSR costs with the previous AFSR.

Participant costs at the Steady Intake Date in 2022-23 are estimated to be $26.6 billion, including $1.7 billion (previously $1.5 billion) for people aged over 65 years. Participant costs are relatively unchanged from the previous AFSR as shown in Table 18.

Table 18 Baseline projection of Scheme costs – compared to the previous AFSR

Total Scheme Costs ($m)	Projection Year						
	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2029-30
Current AFSR							
0-64 years	15,716	19,707	22,619	24,912	26,670	28,222	38,575
65+ years	611	896	1,272	1,701	2,147	2,598	5,148
Total Participant Costs	16,327	20,603	23,891	26,613	28,817	30,820	43,723
Operating Costs	1,430	1,454	1,647	1,780	1,815	1,942	2,755
Total Scheme Costs	17,757	22,057	25,538	28,393	30,632	32,761	46,477
Cost as % of GDP	0.89%	1.06%	1.16%	1.23%	1.25%	1.27%	1.38%
Cost as % of GDP (0-64)	0.85%	1.02%	1.10%	1.15%	1.16%	1.16%	1.21%
2017-18 AFSR							
0-64 years	15,176	19,240	22,266	25,079	27,553	29,202	38,634
65+ years	462	752	1,105	1,514	1,990	2,512	5,761
Total Participant Costs	15,638	19,992	23,371	26,593	29,543	31,715	44,395
Operating Costs	1,423	1,435	1,603	1,760	1,773	1,903	2,664
Total Scheme Costs	17,061	21,427	24,973	28,353	31,315	33,618	47,059
Cost as % of GDP	0.86%	1.02%	1.13%	1.21%	1.27%	1.29%	1.38%
Cost as % of GDP (0-64)	0.83%	0.98%	1.07%	1.14%	1.18%	1.19%	1.20%
Difference							
0-64 years	540	467	354	-167	-883	-981	-60
65+ years	149	144	167	188	157	86	-613
Total Participant Costs	689	610	521	20	-726	-895	-673
Operating Costs	7	20	44	20	43	39	91
Total Scheme Costs	696	630	565	40	-683	-856	-582
Cost as % of GDP	0.03%	0.04%	0.04%	0.01%	-0.02%	-0.02%	-0.01%
Cost as % of GDP (0-64)	0.02%	0.03%	0.03%	0.00%	-0.02%	-0.03%	0.01%

Because actual payments in 2018-19 were higher than the projections based on the previous AFSR ($10.0 billion vs $9.3 billion), participant costs are projected to be slightly

higher until 2022-23. Scheme costs are projected to be lower after the Steady Intake Date which is attributable to lower payment sizes, more exits and less SIL participants.

The proportion of costs attributable to participants over the age of 65 increases gradually over time, making up 4% of participant costs in 2019-20 and increasing to 12% of participant costs in 2029-30.

6. Scheme projections

6.1 Baseline projections

The baseline projection can be considered the best estimate, based on the evidence available to date, of the longer term cost trajectory for the Scheme when it reaches maturity. Hence, it is a useful basis from which to monitor the actual Scheme experience.

The Scheme is projected to have a Steady Intake Date population at 30 June 2023 of over 500,000 participants, of which about 478,000 are expected to be aged 0 to 64 which is equivalent to a prevalence rate of 2.1% of the Australian general population aged 0 to 64.

The projected Scheme cost for 2022-23 is $28.4 billion, including $1.7 billion for people aged over 65 years and $1.8 billion in operating costs. This figure is unchanged from the previous AFSR.

Table 19 Baseline projection of participant numbers and total Scheme costs

Number of participants	As at 30 June							
	2019	2020	2021	2022	2023	2024	2025	2030
0-64 years	279,039	359,211	409,818	451,891	477,937	495,781	512,345	585,637
65+ years	6,976	9,907	14,071	18,724	23,554	27,943	32,272	51,008
Total	286,015	369,118	423,889	470,615	501,491	523,723	544,617	636,645
Prevalence (0-64)	1.29%	1.64%	1.85%	2.02%	2.11%	2.16%	2.21%	2.39%

Scheme Costs ($m)	Projection Year						
	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2029-30
Committed Supports	21,621	26,607	30,560	33,780	36,370	38,787	54,780
Utilisation rate	76%	77%	78%	79%	79%	79%	80%
Total Participant Costs	16,327	20,603	23,891	26,613	28,817	30,820	43,723
Operating Costs	1,430	1,454	1,647	1,780	1,815	1,942	2,755
Total Scheme Costs	17,757	22,057	25,538	28,393	30,632	32,761	46,477
Scheme Cost as % of GDP	0.89%	1.06%	1.16%	1.23%	1.25%	1.27%	1.38%
Scheme Cost as % of GDP (0-64)	0.85%	1.02%	1.10%	1.15%	1.16%	1.16%	1.21%

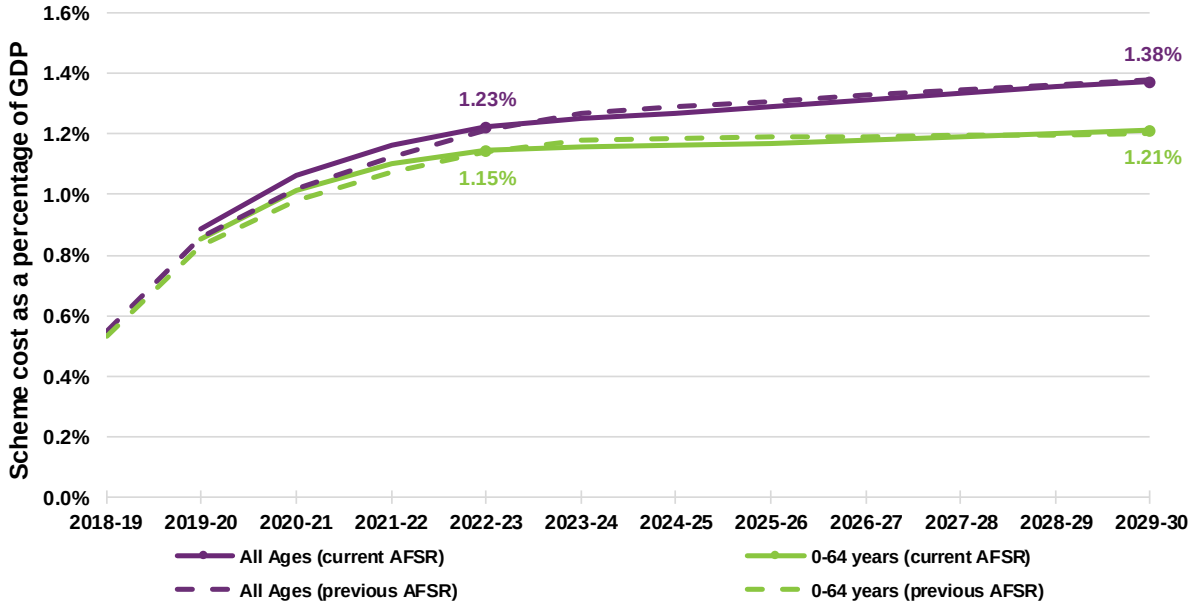
The baseline projection is in line with the estimate of reasonable and necessary supports in the Portfolio Budget Statements (PBS) for 2019-20 and 2020-21, but is 8% and 14% higher in the respective years of 2021-22 and 2022-23. Section 6.1.3 contains a comparison with the 2017 Productivity Commission report estimates.

6.1.1 Proportion of GDP

Total Scheme costs are estimated to represent 1.23% of GDP in 2022-23, increasing to 1.38% in 2029-30 (1.15% and 1.21% of GDP in 2022-23 and 2029-30 respectively for ages 0 to 64).

Figure 15 compares the projections from the current report (solid lines) to those from the previous AFSR (broken lines). Scheme costs as a proportion of GDP are projected to be relatively in line with the previous AFSR with some variations in the short to medium term.

Figure 15 Total Scheme costs as a proportion of GDP



6.1.2 Change in basis

This section presents the main drivers of movements in participant numbers and projected costs from the previous AFSR to this report, known as a "change in basis".

Table 20 shows the main drivers of movements in participant numbers at various points in time, as well as the total movement from the previous to current AFSR.

Table 20 Change in projected participant numbers from previous AFSR

	As at 30 June		
Change	**2020**	**2023**	**2030**
Previous AFSR *AFSR model as at 2017-18*	**380,490**	**499,340**	**636,922**
Previous AFSR, with one-year experience *AFSR 2017-18 model with 2018-19 experience*	-20,269	-21,222	-17,064
Phasing catch-up *Impact of new phasing assumptions*	+10,075	+35,037	+23,420
Higher new entrants *Impact of new entrant assumptions*	0	0	+32,624
Higher mortality exits *Impact of new mortality exit assumptions*	-900	-5,064	-14,987
Higher non-mortality exits *Impact of new non-mortality exit assumptions*	-277	-6,600	-24,269
Current AFSR *Projections based on assumptions in the report*	**369,118**	**501,491**	**636,645**
Total movement from previous to current AFSR	**-11,372 (-3.0%)**	**+2,151 (+0.4%)**	**-277 (-0.0%)**

For 30 June 2020, the largest change in population is due to slower phasing. About 370,000 participants are projected to have been phased in by this date, compared to about 380,000 previously.

For 30 June 2023, the projected population of participants aged 0 to 64 remains unchanged from the previous AFSR, although the projected characteristics of these participants have changed. The overall increase in Scheme participants is driven by the expected number of participants aged 65+ (21,403 aged 65+ in the previous AFSR versus 23,554 in this report). This reflects a higher than expected number of participants in this age cohort entering the Scheme to date.

As at 30 June 2030, the projected population of participants in this report is relatively unchanged from that in the previous AFSR (at about 637,000). Higher new entrants is largely offset by higher numbers of exits from the Scheme. This gives a longer term indication of the impact of the new entrant and exit rate assumptions on participant numbers.

Table 21 shows the main drivers of movements in participant costs at various points in time, as well as the total movement from the previous to current AFSR.

Table 21 Change in projected participant costs from previous AFSR

	Projection Year		
Change	**2019-20**	**2022-23**	**2029-30**
Previous AFSR *AFSR model as at 2017-18*	**$15.6b**	**$26.6b**	**$44.4b**
Previous AFSR, with one-year experience *AFSR 2017-18 model with 2018-19 experience*	-$0.2b	-$0.2b	-$0.2b
Age, disability and level of function mix *Impact of new long term population age, disability and level of function assumptions*	+$0.1b	+$1.1b	+$0.6b
Phasing catch-up *Impact of new phasing assumptions*	$0.0b	+$0.3b	+$0.4b
Higher new entrants *Impact of new entrant assumptions*	$0.0b	$0.0b	+$1.0b
Higher exits *Impact of new mortality and non-mortality exit assumptions*	$0.0b	-$0.3b	-$1.5b
Lower payments by support category *Impact of new payment assumptions split by support category, SIL/non-SIL and new/existing entrants*	+$0.3b	-$0.9b	-$1.7b
SIL assumptions *Impact of new SIL participant number assumptions distinguished between short, medium and long term*	$0.0b	-$1.0b	-$0.5b
Superimposed inflation *New superimposed inflation assumptions applied separately to payments and committed supports, SIL and non-SIL costs at the support category level*	+$1.1b	+$1.1b	+$1.3b
Current AFSR *Projections based on assumptions in the report*	**$16.3b**	**$26.6b**	**$43.7b**
Total movement from previous to current AFSR	**+$0.7b (+4.4%)**	**$0.0b (+0.1%)**	**-$0.7b (-1.5%)**

In 2019-20, the projected cost in this report is about $0.7 billion higher than the previous AFSR. The main driver of the increase in projected cost is superimposed inflation, which mostly reflects the 2018-19 Annual Pricing Review changes being higher than anticipated in the previous AFSR.

In 2022-23, the projected cost of $26.6 billion in this report is unchanged from the previous AFSR. The impact of higher superimposed inflation and an increase in cost due to changes in the long term participant mix of age, disability and level of function is offset by lower projected numbers of SIL participants at this point in time, lower average payment sizes and more exits from the Scheme.

In 2029-30, the projected cost is slightly lower at $43.7 billion compared to $44.4 billion previously. The lower projected cost in 2029-30 is mainly attributable to lower payment sizes and higher exits. This is mostly offset by higher superimposed inflation, higher new entrant rates and an increase in cost due to the change in the participant mix of the Scheme, reflecting an increasing number of participants with autism and those aged over 65 years.

6.1.3 Comparison with 2017 Productivity Commission report

The baseline projection can be compared against the projections outlined in the Productivity Commission's 2017 report on National Disability Insurance Scheme Costs[57], updated for unanticipated costs.

Table 22 Estimates of Scheme costs in the 2017 Productivity Commission report[58]

	2019-20	2022-23	2029-30
2017 Productivity Commission report	$22.3b	$26.7b	$40.9b
less operating costs	-$1.5b	-$1.5b	-$2.8b
2017 Productivity Commission participant costs	$20.8b	$25.2b	$38.1b
add unanticipated costs:			
Decrease in NIIS offset as not fully operational	$0.4b	$0.5b	$0.9b
Children with developmental delay	$0.2b	$0.4b	$0.8b
School transport	$0.3b	$0.4b	$0.5b
Personal care in schools	$0.2b	$0.3b	$0.4b
Participant cost allowing for unanticipated costs	**$21.9b**	**$26.8b**	**$40.7b**
Baseline projected participant costs	**$16.3b**	**$26.6b**	**$43.7b**

Table 22 shows that the expected annual cost of the Scheme in 2019-20 was $22.3 billion, or $20.8 billion attributable to participant costs. By allowing for unanticipated costs such as children with developmental delay, school transport, personal care in school and a NIIS offset for motor/workplace injuries only, the annual cost of the Scheme is about $21.9 billion. The baseline projected participant costs of the Scheme in 2019-20 is about $16.3 billion, or

[57] Productivity Commission 2017, *National Disability Insurance Scheme (NDIS) Costs*, Study Report, Canberra (Table 2.3)

[58] The Productivity Commission costings did not include an explicit allowance for children with developmental delay or for the student transport and personal care in schools in-kind support programs, noting that these three items could account for an additional $1.1 billion per annum at the Steady Intake Date.

about 25% below the Productivity Commission estimate. The difference is primarily related to a slower assumed phase-in of people with existing disabilities (who did not previously receive services), with additional unmet demand expected over the three years to 2022-23.

Table 22 also shows that after allowing for unanticipated costs, the participant cost of the Scheme based on the 2017 Productivity Commission report is expected to be around $26.8 billion in 2022-23. This is close to the baseline projected participant cost of the Scheme in 2022-23 of about $26.6 billion.

However in 2029-30, the baseline projected participant costs increase to $43.7 billion. This is 7% above the $40.7 billion expected in the 2017 Productivity Commission report, after allowing for unanticipated costs. This difference is mainly driven by higher than expected participants with autism.

6.2 Key risks

This section outlines the most material challenges currently facing the Scheme, which then directly lead into the scenario analyses presented in Section 6.3.

6.2.1 Interfaces with mainstream, community and informal supports

The Scheme is facing a number of pressures related to Scheme entry and funding decisions. Many of these pressures relate to Scheme interfaces with mainstream services. For example, education-related supports of student transport and personal care in schools is now being included as an in-kind support for most jurisdictions up until 2022-23.

Chapter 6 of the 2017 Productivity Commission Study Report highlighted that interfaces are both important for the financial sustainability of the Scheme and also essential for good participant outcomes.

> "*By design, the NDIS is intended to complement these other supports, not replace them.*" (page 222)
>
> "*The NDIS is not designed nor funded to replace mainstream services. For the NDIS to be successful and financially sustainable, there must be clear lines of responsibility between mainstream services and the scheme. Also, as people with disability can require supports across a number of service systems, it is essential that service systems work well together so that people receive the right services and achieve the best possible outcomes.*" (Page 244)

At a Scheme level the Agency and the Department of Social Services have been negotiating with States and Territories through the Disability Reform Council's Senior Official Working Groups to try to resolve long standing, as well as emerging, operational issues across all of the mainstream interfaces – health, education, transport, mental health, and justice. Whilst the *COAG Applied Principles and Tables of Supports (2015)* defines responsibilities at a

high principle level, practical issues are difficult at an operational level, and constrained by the various funding and service arrangements across the eight States/Territories.

On an individual level, the interface pressures may manifest in the form of participant-initiated requests for reviews of decisions, as well as requests for an Administrative Appeals Tribunal (AAT) review. Whilst AAT decisions have no formal legal precedent value, as a result of the public nature of AAT decisions, in practice, AAT decisions may set 'practical precedents' that can lead to restrictions in the Scheme's ability to set policies and operational guidance.

The adverse financial impact of these decisions could potentially be material and Section 6.3 provides an example of how these pressures may manifest in the form of people with 'daily needs' or 'profound or severe' ageing-related chronic health and/or mental health conditions[59] being accepted as participants in the Scheme and being eligible for individual support packages. The potential additional costs represent a significant risk to the Scheme's financial sustainability.

A recent qualitative review of plans which were deemed to be overvalued highlighted "*that planners are unsure of the role of mainstream services…. and have funded things more appropriately funded by justice, family and community services, housing and health*." In some cases this funding has been at the participant request, without the involvement of the mainstream agency. There is therefore a training requirement for planners to better understand how supports should interface with mainstream supports.

While interfaces and testing of boundaries between mainstream services and Scheme supports represents a significant component of future unanticipated cost pressures, other emerging cost pressures are exacerbating these pressures on Scheme financial sustainability. Other significant cost pressures emerging include early indications of the erosion of community and informal supports[60] and testing the definition of "reasonable and necessary" in respect to support determination[61]. The latter is particularly important for participants in SIL.

It is evident that as time has progressed, the concept of the 'reasonable and necessary' supports that were envisioned at Scheme inception may be changing. Consideration should also be given to how best to contribute to the review of the legislation to clarify the funding roles and responsibilities of the Scheme.

[59] These health conditions include heart disease, depression & anxiety, chronic obstructive pulmonary disease (lung diseases), arthritis, diabetes, back pain, osteoporosis, cancer, and kidney disease.
[60] Some emerging AAT decisions involve parents seeking high proportions of formal care support while other volunteer-based community organisations are asking participants to use Scheme funds to provide supports.
[61] There are a number of AAT decisions where this is currently being tested. For example, the allowance for ordinary costs of living or the determination of whether expensive "gold-standard" supports fall under the definition of reasonable and necessary.

Recommendation #5: Legislative review of the NDIS Act

The Agency should consider how to best contribute to the review of the legislation governing the Scheme in areas where interpretations of the NDIS Act are acting as a barrier to the implementation of policy that is consistent with the insurance principles of the Scheme and/or the original intent of the Scheme. Some examples of this are in the ability of the Scheme to recover compensation amounts, collect information to enable robust assessment of ongoing Scheme eligibility, assess eligibility (or otherwise) of people with chronic health conditions, interpret the Scheme's interface requirements with other mainstream supports, and determine reasonable and necessary supports with respect to ordinary living expenses.

Recommendation #6: Improving effectiveness of interfaces

The Agency should prioritise initiatives to improve the effectiveness of the interfaces between the Scheme and other support providers[62], so that these other supports are not eroded over time and the Scheme does not become a "funder of last resort". The Agency should identify any potential erosion of supports provided by others and develop proactive strategic responses to incentivise the continuation of these supports, which may be more effective than funded supports. Similar proactive strategies should be considered to address other emerging areas of cost inflation, such as the interpretation of reasonable and necessary in the context of the determination of funded supports[63].

6.2.2 SIL

The ultimate proportion of SIL participants in the Scheme will have a material impact on the Scheme's costs and financial sustainability. Currently, participants with SIL are expected to account for about 40% of the total expected participant support costs in the Scheme but only about 7% of the participant population.

SIL does not have fixed price limits, and providers can quote for the specific SIL service that they offer to each participant. Given an increasing level of supports are being provided to participants in SIL over time, and a high number of participants have entered the Scheme in SIL over the last year, the cost of SIL represent a key risk to financial sustainability.

The unmet need of SIL for people not currently in SIL, as well as the timeframe over which the supply of new disability-specific accommodation will be built to meet unmet SIL needs, is unclear. Alternative, and existing, accommodation options are being explored by the Agency, called 'Contemporary Individual Living Options'. Providers can administer a number of potential alternative living arrangements, including:

[62] In this context, other support providers would be broad, but would include mainstream services, informal supports and community supports.
[63] This may include improving guidance given to planners and LAC's on the determination of reasonable and necessary supports or responding to AAT cases with the provision of the potential financial sustainability impact of certain interpretations of reasonable and necessary decisions.

- living alone with a package of formal supports including flexible drop-in support
- co-residency with people providing an agreed level of care for subsidised rent
- arrangements with a non-related person, where the host provides disability-related home supports for an agreed level of reimbursement from the participant's plan
- living together with others (with or without disabilities) through existing relationships with flexible drop-in supports.

The Agency has established a Supported Independent Living Project, with the objective to consolidate known activities addressing SIL issues and to provide better SIL governance. The project has addressed provider SIL quote backlogs over the last year and has implemented a new standardised SIL quote assessment process, including the development of updated SIL resources and tools. The intention of this work is to provide consistency in the decision-making of SIL. Despite this, a recent qualitative audit review of SIL concluded that:

"Whilst some internal guidance specific to Supported Independent Living (SIL) is in place, the absence of SIL policy has resulted in both policy gaps and inconsistencies in decision making and planning practices. To address these issues, a fundamental re-design of SIL, including clarification of the definition of SIL, a complete review of processes and the development of comprehensive policy and guidance, is recommended."

Recommendation #7: Improve processes for SIL

The cost pressures impacting participants in SIL should be a continued focus for the Agency. The Agency should concentrate efforts on implementing policies to assess the appropriateness of both new and continuing participants to be supported by SIL to ensure consistency and fairness in decision-making. Exploration around alternative innovative and cost effective models of support should also continue.

6.2.3 Utilisation

Participant plans are currently under-utilised. Although the projections allow for an increase in utilisation as participants spend more time in the Scheme and as Scheme processes mature, the modelling assumes an element of under-utilisation to persist in the long term. This may not be the case going forward; for example the development of provider markets may lead to larger increases in the utilisation of participant plan supports than currently assumed.

Recommendation #8: Better understand utilisation

The Agency should undertake further analysis to better understand utilisation of committed supports. This analysis should focus on linkages between plan utilisation and participant/carer outcomes, understanding causes of under-utilisation and forming a view on the longer term expected utilisation rate of the Scheme.

6.2.4 Superimposed inflation

Historic superimposed inflation within the Scheme has been high. Common causes of this superimposed inflation have included participants moving into more expensive accommodation arrangements, changes to in-kind arrangements, participants having a change in their level of function, changes in levels of informal supports and higher utilisation rates. This key risk thus, in a way, encapsulates the preceding risks that have been discussed and relates to the importance of all the proactive cost management recommendations outlined throughout this report.

However, the Scheme operates in a dynamic and rapidly evolving environment and future inflationary pressures may emerge from other, as yet unknown, sources. For example, there are many AAT cases which may create practical precedence for future cost inflation or additional participant numbers. Although a forward-looking approach was used to calibrate a reasonable level of projected superimposed inflation, costs may emerge above expectations and there may also be other unanticipated sources of costs.

6.3 Scenario analysis

To assess the level of uncertainty that surrounds the projections in this report, a number of plausible alternative scenarios have been modelled, with the results compared to the baseline projection. These scenarios are based on assumptions that are most material to Scheme costs, thereby reflecting the main drivers of uncertainty for financial sustainability. This section presents the financial impact of, if all else being equal, certain aspects of Scheme experience emerging differently to that adopted in the baseline projection.

The high-level results of the scenario analyses run against participant numbers (Table 23) and participant costs (Table 24) are summarised below.

The three scenarios below relate to mainstream interfaces (discussed in Section 6.2.1) and explore the impact on projected participant numbers if people with ageing-related health conditions gain access to the Scheme. Each scenario reflects different eligibility criteria that could be used, ranging from a severity status of ‘profound’ to ‘severe’.

Table 23 Summary of scenarios – change in projected participant numbers

Scenario	As at 30 June		
	2020	2023	2030
Cost shifting from mainstream supports to the Scheme, specifically if people with chronic health conditions access the Scheme			
A 25% increase in the number of adult participants aged 35 or over eligible to access the Scheme	+12%	+9%	+8%
A 37% increase in the number of adult participants aged 35 or over being eligible to access the Scheme	+18%	+14%	+12%
A 50% increase in the number of adult participants aged 35 or over being eligible to access the Scheme	+24%	+19%	+16%

The impact of these three scenarios on projected participant costs has also been considered, as shown in the following table. These scenarios illustrate that the overall cost of the Scheme is very sensitive to the ability of the Scheme to interface effectively with existing mainstream supports. Scheme costs could be around 13% to 27% higher for 2022-23 if people with chronic health conditions enter the Scheme.

Alternative scenarios related to costs for participants in SIL (Section 6.2.2), utilisation rates (Section 6.2.3) and superimposed inflation (Section 6.2.4) have also been considered given the materiality of these assumptions to Scheme costs and financial sustainability. The total number of participants remains the same as the baseline in these scenarios.

Table 24 Summary of scenarios – change in projected participant costs[64]

Scenario	Projection Year		
	2019-20	2022-23	2029-30
Cost shifting from mainstream supports to the Scheme, specifically if people with chronic health conditions access the Scheme			
A 25% increase in the number of adult participants aged 35 or over eligible to access the Scheme	+18%	+13%	+12%
A 37% increase in the number of adult participants aged 35 or over being eligible to access the Scheme	+27%	+20%	+17%
A 50% increase in the number of adult participants aged 35 or over being eligible to access the Scheme	+37%	+27%	+24%
Alternative SIL arrangement assumptions			
Higher proportion of participants in SIL over the long term[65]	+1%	+4%	+12%
Longer timeframes for the SIL market to mature[66]	0%	-1%	-3%
Innovations in the delivery of SIL supports[67]	-9%	-9%	-10%

[64] Note that changes in participant numbers will have flow-on effects to operational expenses. These expenses are not considered in this table.
[65] This scenario tests the impact of increasing the long term proportion of SIL participants in the Scheme from 7% to 10%.
[66] This scenario assumes that the long term proportion of SIL participants in the Scheme of 7% is achieved over 20 years instead of 10 years.
[67] This scenario allows for a 30% reduction in costs for SIL participants from 2019-20 onwards as a result of innovation in the delivery of supports, effectively unwinding the increase in average SIL costs that have been seen over the last two years.

Scenario	Projection Year		
	2019-20	2022-23	2029-30
85%/100% utilisation rate for non-SIL/SIL respectively[68]	+19%	+14%	+13%
Additional superimposed inflation from 2021			
Additional 3% p.a.	0%	+8%	+28%
Additional 1% p.a.	0%	+3%	+9%

As shown in Table 24, some of these scenarios lead to considerable additional costs for the Scheme.

- Increasing the long term proportion of SIL participants in the Scheme from 7% to 10% results in costs being higher across all years with the difference increasing over time as the long term SIL proportion is reached. By 2029-30, costs would be 12% above the baseline projection.
- If committed supports continue at current levels and payment utilisation increases from current levels to 85% for non-SIL participants and 100% for SIL participants, then costs would emerge at about 19% above the baseline projection for 2019-20 and about 13% above that projected for 2029-30. This means that financial sustainability is heavily dependent on the under-utilisation of current support levels.
- An additional superimposed inflation rate assumption of 3% per annum in payment costs from 2020-21, which is not inconsistent with recent Scheme experience, would increase Scheme costs by 8% above the baseline projection for 2022-23 and 28% above the baseline projection for 2029-30. These results highlight the importance of ensuring that historic sources of superimposed inflation are controlled. The current superimposed inflation experience is thus not financially sustainable.

These scenarios pose a material risk to the long term financial sustainability of the Scheme. Thus, the recent experience of high inflation, additional unanticipated supports being covered by the Scheme, higher SIL numbers and increasing Scheme utilisation will lead to significant increases in Scheme costs over the medium to longer term if not addressed. Robust management responses are required to respond to these emerging cost pressures.

Some scenarios displayed result in reduced costs, such as longer timeframes for the SIL market to mature and innovations in the delivery of SIL supports. Participants living in SIL represent a large proportion of Scheme cost, and there has been a 34% increase in average SIL plan budgets, inclusive of normal inflation, over the two years to 30 June 2019. Total Scheme costs could be reduced by about 10% if average SIL costs were reduced to levels seen two years ago. This highlights the importance of having robust SIL operating procedures and promoting innovation in the delivery of these supports, both of which could lead to cost efficiencies.

It is worth noting that the relatively lower cost of operational expense initiatives can have multiplicatively favourable impacts on the financial sustainability of the Scheme. This

[68] This scenario assumes a maturing of the provider market and increased participant engagement, leading to utilisation rates increasing progressively to 85%/100% for non-SIL/SIL respectively.

reaffirms the opportunity for the Scheme to invest in appropriate management responses to deliver a financially sustainable Scheme.

6.4 Lifetime cost estimates[69]

Lifetime cost estimates summarise the average expected cost of Scheme supports over a participant's entire lifetime. They provide a useful benchmark to monitor the financial sustainability of the Scheme, as better outcomes for participants should generally result in lower long term costs of disability support in the future. Therefore, as more experience emerges, the lifetime cost estimates for participants may be expected to reduce, on average.

Average participant lifetime costs have been projected based on the assumptions underlying the baseline projections, excluding operating expenses, and then discounted to a present value as at 30 June 2019 assuming a discount rate of 6% per annum.[70].

Table 25 shows these calculated average lifetime costs by disability type, which are then applied to the estimated annual population of new entrants after the Steady Intake Date.

Table 25 Average and Total Lifetime Costs for New Entrants after Steady Intake Date

Disability Type	New Entrants Population	Average Lifetime Costs ($m)	Total Lifetime Costs ($m)
Acquired Brain Injury	674	$1.14	$770
Autism	10,822	$1.21	$13,101
Cerebral Palsy	740	$2.43	$1,800
Hearing Impairment	1,451	$0.15	$215
Intellectual Disability	2,983	$1.60	$4,767
Multiple Sclerosis	577	$0.99	$573
Developmental Delay	9,480	$0.05	$488
Other	64	$0.72	$46
Other Neurological	2,355	$0.74	$1,749
Other Physical	1,846	$0.45	$825
Other Sensory/Speech	1,619	$0.04	$65
Psychosocial Disability	2,343	$0.67	$1,558
Spinal Cord Injury	243	$1.72	$418
Stroke	632	$0.71	$451
Visual Impairment	931	$0.44	$406
Total	**36,759**	**$0.74**	**$27,233**

% of GDP	**1.40%**

The total lifetime costs for an annual cohort of new entrants is projected to be $27.2 billion, representing 1.40% of current GDP levels. Ongoing monitoring of changes in lifetime costs at the support class level will provide insight into how long term costs for Scheme

[69] There is considerable uncertainty in the calculation of lifetime cost estimates in this section of the report. There is limited longitudinal experience within the Scheme to inform assumptions, with most participants having been in the Scheme for three years or less. These estimates therefore reflect emerging experience, assuming the same costs and exit rates were to continue over the lifetime of participants.

[70] The inflation rate used for this analysis is 4.0% p.a. and when combined with the discount rate of 6.0% p.a. assumes a real gap of 2.0% p.a. The results are very sensitive to the real gap.

participants may change over time, prior to the actual experience being reflected in the assumption base. For example, participants utilising more capacity building supports may increase lifetime cost estimates today, but could also indicate a reduction in future lifetime costs if capacity building is able to reduce their needs for other supports in the long term.

Lifetime costs for participants with autism

Table 25 indicates that almost 50% of total lifetime costs attributable to an annual cohort of new entrants into the Scheme are attributable to participants with autism. However, there is considerable uncertainty surrounding these estimates.

High numbers of children are currently presenting to the Scheme with autism and there have been relatively few exits. In addition, there are relatively few participants with autism aged over 30. The average plan budget for these participants over age 30 is above $100,000, and a significant number are in SIL.

If this experience continues, there would be a significant increase in the projected number of participants with autism over the medium term, especially for older ages. Indeed, this experience has a material impact on Scheme costs, accounting for the majority of the increase in baseline Scheme costs over time.

7. Outcomes

The achievement of participant outcomes is critical to the financial sustainability of the Scheme. As an insurance-principles based support model, the Scheme takes a lifetime approach to supporting people with disability. This means investing in participants in the short term in order to maximise their opportunities for independence and economic and social participation over their lifetime[71]. Over time the Scheme is expected to provide better outcomes for people with a disability as well as reduce the long term costs of disability support.

The perception of the Scheme by participants and the general public who contribute to the Scheme through taxation is also important. Evidence of positive outcomes, both for participants and their families/carers, will demonstrate the success of the Scheme and engender trust in the Scheme. This will promote the financial sustainability of the Scheme in the context of receiving continuing support from participants and the general public.

7.1 The NDIS Outcomes Framework

A key component of the NDIS Outcomes Framework[72] is a series of questionnaires that collect information on how participants and their families and carers are progressing in different areas (domains) of their lives. The questionnaires are collected on an approximately annual basis, so that changes in individual outcomes can be tracked over time[73]. This longitudinal data will be used to assess how changes in outcomes impact funded supports and overall Scheme costs. Other aspects of the NDIS Outcomes Framework include satisfaction surveys, broader economic benefits, usage of mainstream and community supports, and participant goals.

7.2 Outcomes experience

7.2.1 Participant outcomes

Monitoring changes in participants' economic and social participation is important for understanding whether the reasonable and necessary supports funded by the Scheme are resulting in better participant outcomes. In the NDIS Corporate Plan 2019-2023, Aspiration 1 is "*a quality experience and outcomes for participants"*, and there are specific performance

[71] In comparison, the previous disability support system took a welfare approach, generally providing short term block funding which gave participants little choice and control over supports they received.
[72] For details on the NDIS Outcomes Framework, please see the *NDIS Family and Carer Outcomes 30 June 2018 report*, which can be found here: https://www.ndis.gov.au/about-us/data-and-insights/reports-and-analyses/family-and-carer-outcomes-report
[73] At 30 June 2016, 23,461 Short-Form Outcomes Framework (SFOF) questionnaires had been completed by trial participants: 13,082 for participants and 10,379 for their family/carers. For participants entering the Scheme from 1 July 2016, this information has been collected from about 99% of all participants, with the intention to collect information from all participants.

metrics and targets outlined, such as the proportion of participants in work (as shown in Table 26) and the proportion of participants involved in community and social activities (as shown in Table 27). Changes in outcomes have been measured for participants who have been in the Scheme for at least two years (i.e. entered the Scheme between 1 July 2016 and 30 June 2017). This allows sufficient time for the reasonable and necessary supports provided by the Scheme to have an influence on participant outcomes.

Employment

For participants who have been in the Scheme for at least two years, the following table shows the changes in reported employment outcomes observed between their baseline plan and second plan review as at 30 June 2019.

Table 26 Longitudinal changes in participant employment outcomes between baseline and second plan review

Participants in paid work	Baseline	Year 2	2019-20 Target
Aged 15 to 24 years	13%	22%	24%
Aged 25+	26%	25%	
Aged 15+ (average)	23%	24%	

After two years in the Scheme, there has been a nine percentage point increase in the number of participants aged 15 to 24 in paid work, from 13% at baseline to 22% at their second plan review. For participants aged 25 and older, the percentage in paid work has reduced by one percentage point over the same period, with the majority of the reduction due to participants leaving open employment. Across both age groups, there has been an overall one percentage point increase in the employment rate after two years in the Scheme to 24%.

The increase in reported employment outcomes for the 15 to 24 year old age group may be partially attributable to age-related development, as a greater proportion of these participants will have finished school after two years in the Scheme and will be actively looking for a job. However, the increase in employment has also been found to reflect the positive impact of Scheme reasonable and necessary supports on employment for young adult participants. In particular, the School Leaver Employment Supports program is a funded support for eligible school leavers to help them transition from school to employment. This program aims to build capacity, deliver vocational skills and contribute to the participant achieving a positive employment outcome[74].

[74] A statistical analysis of employment outcomes for participants aged 15 to 24 found that building capacity, increasing independence and working in an unpaid job improved the likelihood of the participant finding paid work, which are all key supports available through the program.

Recommendation #9: Reassessment of ongoing eligibility

There are a number of shorter term school leaver and transition to work programs which the State/Territories currently fund. These programs could be considered early intervention programs, after which participants may not continue in the Scheme. Particular strategies should be developed to test ongoing Scheme eligibility at this life stage.

For participants aged 25 and over, the reduction in employment rates may also be a result of age-development as more participants will be nearing or have reached retirement age after two years in the Scheme. Some participants may also have fewer skills and lower levels of confidence due to long breaks from paid employment[75]. Participants aged 25 and over are also more likely to report that they do not want a paid job in the SFOF (53%) compared to 28% of participants aged 15 to 24.

In November 2018, the Department of Social Services and the Agency formed a participant employment taskforce. The taskforce, in consultation with a number of stakeholders, will develop a Participant Employment Strategy to guide the Agency over the next 3-5 years in becoming a leader and advocate of disability employment. As part of this strategy, the taskforce will make recommendations to improve employment outcomes for participants and people with disability more broadly.

Social and community participation

Similarly, Table 27 shows the changes in reported social and community participation for the same cohort of participants.

Table 27 Longitudinal changes in participant community and social participation outcomes between baseline and second plan review

Participants in community and social activities	Baseline	Year 2	2019-20 Target
Aged 15 to 24 years	31%	43%	47%
Aged 25+	36%	47%	
Aged 15+ (average)	35%	46%	

After two years in the Scheme, the percentage of participants aged 15 and over involved in community and social activities has increased from 35% to 46%. A considerable proportion of this growth in community participation is a result of participants becoming involved in groups for people with disability. This improvement in participant social outcomes provides evidence of the effectiveness of Scheme supports, as assistance with social and community participation is a core funded support in participants' plans.

[75] Productivity Commission Inquiry Report. 2011. *Disability Care and Support* p. 960

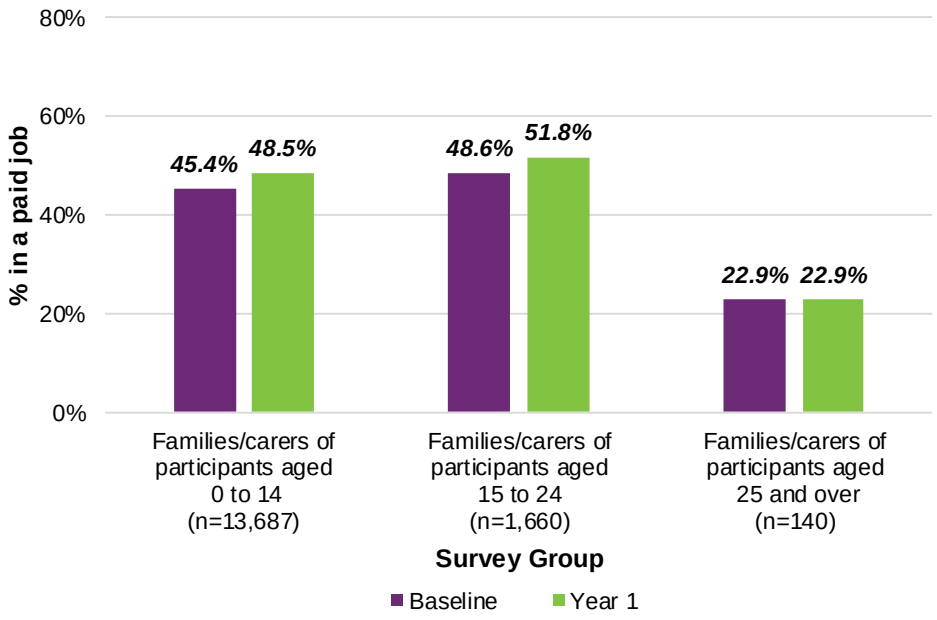
7.2.2 Family and carer outcomes

The NDIS Outcomes Framework measures outcomes for both participants and their families and carers, recognising that the outcomes for people with a disability and the people who care for them are likely to be closely linked. Families and carers of participants who are well supported under the Scheme are likely to find the caring role easier, which may lead to increased wellbeing and greater opportunities for social and economic participation. The improved situation for families and carers should in turn translate into further improvement in outcomes for participants[76].

Employment

The changes in employment outcomes for the families and carers of Scheme participants are outlined in Figure 16[77]. Changes in employment outcomes have only been measured between baseline and first plan review, which may not allow sufficient time for the impact of the Scheme on family/carer employment outcomes to emerge.

Figure 16 Longitudinal changes in family and carer employment outcomes between baseline and first plan review, as at 30 June 2018



After one year in the Scheme, the families and carers of participants aged 0 to 14 and 15 to 24 have increased their rates of paid employment by approximately three percentage points. For the families and carers of participants aged 25 and older, the percentage in paid work is considerably lower than the other age groups and has not changed over the first year of participation. This likely reflects the older age of the families and carers in this cohort, who may be at or reaching retirement age.

[76] Productivity Commission Inquiry Report. 2011. *Disability Care and Support* pp. 54-55,131
[77] The family/carer employment analysis comes from the *NDIS Family and Carer Outcomes 30 June 2018* report using data as at 30 June 2018.

7.2.3 "Has the NDIS helped?"

On the whole, perceptions of the Scheme have been positive, with participants and their families/carers more likely to report that the Scheme had helped them in various areas of their lives the longer the participant was in the Scheme. These results suggest a growing level of support for the Scheme by its participants and the family members and carers of participants, and promotes the ongoing financial sustainability of the Scheme.

For parents and carers of child participants aged 14 and under, positive perceptions of the Scheme increased in all outcome domains after the child's second year in the Scheme. For example, 94% of parents and carers of children aged 0 to starting school thought the Scheme had improved their child's development in their second year of participation, compared to 91% in their first year. For school-aged children, the percentage of parents/carers who thought that the Scheme had helped their child to become more independent increased from 56% in their first year to 65% in their second year.

For adult participants aged 15 and older, perceptions of whether the Scheme has helped them with daily living, choice and control, relationships, health and wellbeing, and community and social participation improved by more than five percentage points on average in their second year. However, adult participants generally did not perceive that the Scheme had helped them with finding paid work, choosing a home, or helping them to learn; this view has deteriorated further between the first and second plan review.

Perceptions of whether the Scheme has improved access to services and the level of support for the family increased by more than five percentage points for all families and carers in the second year of participation compared to the first year. Improvements were also observed at second plan review regarding the Scheme helping families/carers to advocate effectively, as well as the Scheme helping family members and carers to support the development and independence of participants aged under 25. However, perceptions of whether the Scheme had improved the health and wellbeing of families and carers were generally low and did not considerably improve with time spent in the Scheme.

7.2.4 Participant satisfaction

Existing survey

Each quarter, a selection of participants are contacted by a member of the Agency's engagement team after their plan is agreed with their planner to rate their satisfaction with the Agency's planning process. The overall satisfaction rating is calculated as an average of the satisfaction ratings of each participant surveyed. The percentage of participants who rated their overall experience with the planning process as either 'Very good' or 'Good' continues to be high, having increased from 85% to 90% over the three years of transition.

New survey

In September 2018, the Agency introduced a new version of the participant satisfaction survey that allows for a more comprehensive understanding of the participant experience.

The new survey assesses participant satisfaction at the four primary stages of the participant pathway – access, pre-planning, planning and plan review – whereas the existing survey gathers responses at the planning stage only.

Participant satisfaction has been measured as the percentages of participants who rated their overall experience with each stage of the Scheme planning process as either 'Very good' or 'Good' up to 30 June 2019. The rates of participant satisfaction with the pre-planning and planning process improved over the last year to be greater than 80%, although satisfaction with the access and plan review process remained lower at 69% and 73% respectively for the quarter ending 30 June 2019.

8. Administrative infrastructure, processes and risk management

8.1 Information systems

During the three years of trial, the Department of Social Services hosted the Agency's information systems. From 1 July 2016, the Department of Human Services has been the Agency's ICT supplier.

The Agency has a clear vision around the future direction of data management and business intelligence. While some progress has been made over the past year on the data issues identified in the previous AFSR, further work needs to be done as detailed in Section 2.

8.1.1 Case management systems

The Agency currently uses SAP CRM as its case management system. The CRM system was deployed as a Minimum Viable Product on 1 July 2016. The primary objective of this delivery was to enable critical operational activities, such as plan approvals and payments. This approach was not specifically tailored to the needs of the Agency, and as a consequence, has meant the implementation of necessary enhancements to the CRM has not been straightforward.

The CRM is subject to a number of limitations. The design does not easily allow for necessary enhancements to meet changing business requirements and has limited ability to adequately capture and/or manage some aspects of information for important business processes. Instead, manual processes have been developed in lieu of an appropriate CRM solution, and these do not always have the appropriate risk management or governance structures to ensure the reliability of the data. It would be useful to improve the functionality of the CRM to be able to capture and manage information on participants receiving in-kind services[78], process compensation recovery amounts[79], and more effectively deliver capital supports to participants[80].

[78] Furthermore, there are many examples where there is a known difference between the NDIS benchmark price and the in-kind agreed price, requiring an adjustment to be made to the committed supports in a participant's plan to accurately reflect the support provision.
[79] Functionality is being developed to build this capability, although current CRM limitations are impacting the ability of the Agency to adequately recover compensation amounts. The Agency also relies on manual data matching with other injury support schemes in Australia to identify mutual participants to assist in identifying potential recovery amounts.
[80] The Agency's service delivery operating model for capital supports (assistive technology and home modifications) has historically been lengthy, resulting in significant delays for participants in accessing these supports. Recent improvements have been made to both the operating model and the CRM system to enable quicker access to capital supports, however the transformation process of the delivery of these capital supports is ongoing.

Further enhancements to the CRM will remain of key priority over the coming years as the focus of the Agency shifts from prioritising participant intake to consolidating operational robustness, consistent decision-making and improved business intelligence capability. In a well-functioning Scheme, the CRM is expected to have the capability to facilitate these requirements.

8.1.2 Finance systems

SAP Finance is the Agency's finance system. All payments to and from the Agency are made using SAP Finance. In line with the Department of Human Services practice, the Agency commenced the use of SAP Public Sector Collection and Disbursement as an intermediary between the case management system and SAP Finance from 1 July 2016. This process appears to be working well.

8.1.3 Data warehouse

There have been continuous improvements to the data warehouse over the last 12 months. Good progress has been made on data issues identified in the previous AFSR.

There have been continued improvements in both the breadth of data being reported and the quality of data being reported through efforts of the Agency Data Management Committee and Data Warehouse Steering Group. The data office has also introduced refined datasets better tailored for actuarial analysis. The improved databases and analytical tools allow the Office of the Scheme Actuary to:

- monitor, analyse and provide operational support to the Agency
- work more closely with Operations to understand experience
- allow this monitoring to occur in a more timely way.

Examples of this include SAS Visual Analytics reporting and the Integrated Data Store 2.0 project which has commenced and is expected to improve data quality. While good progress has been made in improving data quality and promoting data integrity in the past year, there are still improvements that can be made[81]. This should therefore remain a priority in 2019-20.

8.2 Monitoring

The Office of Scheme Actuary has processes in place to monitor the emerging experience of the Scheme. A suite of regular monthly actuarial reporting spreadsheets provide analysis relevant to the financial sustainability of the Scheme, and these modules are listed in the following table.

[81] For example, there are opportunities to improve the data quality of participant information on rural and remote area location, and for culturally and linguistically diverse participants.

Table 28 Regular monitoring reporting modules

Regular reporting module	Description
1. Access and eligibility	Profile of participants seeking access and eligibility to the Scheme
2. Plan approvals	Profile of participants with approved plans
3. Plan monitoring	Utilisation of committed supports by profile of participant
4. Plan reviews	Analysis of increases in committed supports at plan review
5. Provider monitoring	Profile of registered providers delivering supports for the Scheme
6. Reference packages	Analysis of the guided planning process and reference packages
7. Exits	Analysis of source of exits from the Scheme
8. Payments	Analysis of participant payment levels within the Scheme

The monitoring includes one-way tabulations for various participant cohorts, a comparison of Scheme experience against benchmark expectations, monthly trends over time and functionality for multi-way analysis. The content of this regular reporting is constantly evolving to meet the monitoring requirements of the Scheme.

Quarterly actuarial reports[82] are provided to the Agency's Sustainability Committee. These reports leverage the regular monitoring process to compare emerging Scheme experience to projections from the latest FSR. These reports also identify issues and trends that are discussed at the Sustainability Committee, with issues escalated if necessary through formal management responses. Over time, the impact of the Agency's formal responses can then be assessed through the regular monitoring process.

8.3 Insurance principles culture

One of the key focuses of the Agency's response over the shorter term should be to better embed a culture based on insurance principles. For example, there are some issues with the current resource allocation process, and specifically the lack of a mechanism for robust assessment of support need. The lack of robust functional assessment information impacts the Agency's ability to make consistent access, eligibility and funding decisions across the Scheme.

One of the main recommendations from the previous AFSR was to strengthen the processes used to assess the functional capacity of participants as part of the guided planning process. This has been captured in a more broad-ranging Insurance Support Program, aimed at embedding insurance principles within the Scheme.

[82] Note that the quarterly actuarial report is different to the publicly available quarterly reports provided to the COAG Disability Reform Council (see: https://www.ndis.gov.au/about-us/publications/quarterly-reports) which contain information (including statistics) about participants in each jurisdiction and the funding or provision of supports by the Agency in each jurisdiction.

Insurance Support Program

This program has been designed to provide a consistent approach to assessing Scheme eligibility and developing plan budgets that help to support a participant's goals. For the program to be successful, the Agency should have a clear access strategy with consistent decision-making criteria. It should also develop a resource allocation strategy through its guided planning process to allow the determination of fair and consistent plan outcomes. The program also aims to support plan flexibility and introduce a goal attainment framework to maximise the support that is provided to participants. This includes the monitoring of progress against plan goals and the measurement of plan effectiveness.

The Independent Assessment Pilot, launched in November 2018, is an important foundation of the program and looks to facilitate robust functional assessments to enable both consistent access eligibility decisions and an equitable allocation of plan budgets. The Scheme disability list will also be reviewed, including the types and sources of evidence accepted for eligibility assessments. Part of the scope will be to develop a set of assessment tools to determine a person's level of function across different life domains. The program also covers an extensive review of the guided planning process within the Agency to support the introduction of best-practice methods for allocating plan budgets to participants with similar characteristics, including a review of current flexibility arrangements.

This is a broad-ranging project which will cover extensive stakeholder engagement, CRM system changes and refined operating procedures. A successful implementation will see changes in culture across the Agency, with the ultimate goal towards a greater focus on insurance principles and consistency in decision-making.

Work is thus underway on the introduction of robust functional assessments and a more robust guided planning process as part of the Insurance Support Program to improve the consistency of data and the efficiency of reporting within the Agency.

Recommendation #10: Embedding insurance principles within Scheme culture

The Insurance Support Program work should be continued to better embed insurance principles within the Scheme. The program has proposed the introduction of more robust functional assessments, a participant goal attainment framework and a detailed review of the guided planning and resource allocation process (including increased flexibility). The eligibility criteria for children should be a continued point of focus and work should continue to be undertaken within the Insurance Support Program to develop robust functional assessments that result in clear and consistent eligibility and access decision making.

8.4 Risk management

The Agency has a comprehensive enterprise risk management framework in place, including the adoption of APRA's Prudential Standard CPS 220 and a 'three lines of defence' model for risk management. Core risk management elements, such as risk guidance documents

and supporting tools, have been published within the Agency that meet the requirements of the risk management framework stipulated by APRA.

The Agency has continued to build its core risk management capability over 2018-19, as evidenced by the Comcover Risk Management Benchmarking Survey 2019. Much of the focus has been on enhancing the risk management framework with additional functionalities and scope. For example, some of the key achievements during 2018-19 have included the continued development of a new Integrated Risk Management System; the introduction of a stand-alone incident management framework; ongoing monthly Key Risk Indicator monitoring; and formulation of a risk appetite statement. Further, the addition of new risk management resources, including some dedicated first line resources, and the introduction of broader Agency-wide risk training are first steps towards bringing risk into the everyday thinking of the Agency.

In assessing the quality and consistency of decision making by Agency staff and partners, the Office of the Scheme Actuary engaged the Agency's Quality branch to perform a number of qualitative "hot-spot" reviews in the areas of plan exits, SIL plan construction and plan inflation. One of the consistent themes from these qualitative reviews was the need for more consistency in decision making and improved controls around aspects of the participant pathway and plan budget determination.

Recommendation #11: Quality assurance reviews and business intelligence rules

The Agency should continue to implement risk-based quality assurance reviews to better understand Scheme experience. The incorporation of business intelligence around key business processes will also ensure more effective and consistent decision-making.

There is also evidence that the insurance principles culture within the Scheme can be improved. Many examples within this report have shown inconsistency in access and eligibility decision making and formulation of participant plan budgets. There are also many examples of staff not understanding the financial sustainability consequences of some decisions and/or projects. This represents a key risk to the Scheme and the Agency should continue work to better embed a culture based on insurance principles, for example through the Insurance Support Program. Further, management responses should be formulated to better support frontline staff and Agency partners to make eligibility and planning decisions consistent with the legislation and to understand the impact of those decisions.

The Agency acknowledges that as a relatively young organisation, one of the challenges is to continue to develop and improve on the depth and maturity of its risk management processes. Future development in risk maturity should focus on embedding positive risk behaviours within the Agency and its decision making processes. A number of specific improvements have been identified for 2019-20, including the deployment of the Integrated Risk Management System, the continued expansion of dedicated risk staff, and the development of risk literacy within the Agency.

There are a number of tensions over the coming years of trying to balance the need to grow at a sufficiently rapid pace while ensuring the development of high quality participant plans. The risk management strategy will play an important role in identifying and managing these tensions.

Many of the risks (both strategic and operational) are currently assessed at levels above those considered acceptable. Managing these risks such that they are at an acceptable level is fundamental to the success of the Scheme. While strategies to mitigate these risks are articulated in current risk reporting, it will be important to monitor the effectiveness of these strategies in real time to ensure that they are having the desired impact. Significant work will be required to manage these risks to an acceptable level over the next one to three years, particularly given the pace and scale of the rollout during this time.

9. Reliances and limitations

This work was conducted for the sole use and benefit of the National Disability Insurance Agency and the NDIA Board to assist with monitoring, reporting, and management of the financial sustainability of the Scheme as at 30 June 2019.

No liability is accepted for loss or damage howsoever arising in the use of this document by the Agency or third parties for other than the purpose stated above, or for any use of this document, without full understanding of the reliance and limitations noted herein, or for errors or omissions arising from the provision of inaccurate or incomplete information.

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Scheme experience continues to be immature and many aspects remain difficult to interpret. There are many biases in the experience due to the phase-in timetable and the lack of consistent longitudinal data with which to inform Scheme projection assumptions. Scheme operational procedures continue to rapidly evolve, meaning that past experience may not be the best indicator of future experience. In addition, there are some issues with the current resource allocation process, and specifically the lack of a mechanism for robust functional assessment of support need. As the Scheme continues to mature, and the training and capability of frontline staff improves, there is an expectation that the Scheme experience will change, perhaps materially, and this would impact on the cost estimates in this report.

This report has been prepared in accordance with all relevant Code of Professional Conduct guidelines of the Institute of Actuaries of Australia. Further, where appropriate, this Report has also been prepared in accordance with the International Standard of Actuarial Practice 2: Financial Analysis of Social Security Programs.