



South Australian Centre for Economic Studies, School of Economics and Public Policy

Disability Employment Landscape Research Report

Report commissioned by
Disability and Carer Reform Branch
Department of Social Services
Australian Government

Report prepared by
The South Australian Centre for Economic Studies
School of Economics and Public Policy
University of Adelaide

June 2021

adelaide.edu.au

Copyright: All rights reserved. The Copyright Act 1968 permits fair dealing for study, research, news reporting, criticism or review. Selected passages, tables or diagrams may be reproduced for such purposes provided acknowledgement of the source is included. Otherwise, no part of this publication may be reproduced, stored or transmitted in any form or by any means without the prior permission in writing of SACES and the Department of Social Services.

Disclaimer: This study, while embodying the best efforts of the investigators is but an expression of the issues considered most relevant, and neither SACES, the investigators, nor the University of Adelaide can be held responsible for any consequences that ensue from the use of the information in this report. Neither SACES, the investigators, nor the University of Adelaide make any warranty or guarantee regarding the contents of the report, and any warranty or guarantee is disavowed except to the extent that statute makes it unavoidable.

Authors: Steve Whetton, Deputy Director, SACES
Dr Tania Dey, Research Economist, SACES
Dr Diana Dorstyn, Senior Lecturer, School of Psychology
Dr John Kandulu, Research Associate, SACES
Dr Genevieve Knight, Senior Research Economist, SACES
Anthony Kosturjak, Senior Research Economist, SACES
A/Professor Michael O'Neil, Executive Director, SACES

Contents

Executive Summary.....	i
This project.....	i
People with disability.....	i
People with disability who are potentially job ready.....	iii
Addressing under-employment can also deliver gains	iv
Potential benefits of increased employment of people with disability	iv
Financial and economic benefits of employment for people with disability	iv
Lifetime impacts of increasing employment of people with disability	v
Acknowledgements.....	vi
Glossary.....	vii
1. Introduction	1
1.1 Background.....	1
1.2 Definitions of disability and data sources	1
2. People with disability	4
2.1 People with disability in Australia	4
2.2 Working age people with disability	5
3. Working Age People with Disability in Employment.....	9
3.1 Labour market participation of working age people with disability	10
3.2 Main source of income by severity of core limitation	11
3.3 Employment rates, people with disability.....	12
3.4 Changes in employment rates over time	12
3.5 Demographics of working age people with disability in employment	14
3.6 Differences in employment rates by disability type	14
3.7 Hours worked of working age people in employment.....	17
3.8 Regional differences in the employment rates	18
3.9 Occupation and industry of employment	18
3.10 Impact of restrictions and limitations on employment.....	19
3.11 Wage income of people with disability in employment	21
4. Working Age People with Disability who are Under-employed	25
4.1 Under-employment by gender	26
4.2 Under-employment by age	26
4.3 Under-employment by hours worked.....	27
4.4 Under-employment by occupation and industry	28
4.5 Under-employment by disability type.....	30
4.5 Under-employment by limitations or restrictions in activities	30
5. People with Disability Who are Unemployed.....	33
5.1 Unemployment by gender.....	34
5.2 Unemployment by age.....	34
5.3 Unemployment by level of education.....	35
5.4 Difficulties finding work	36
5.5 Unemployment by limitations or restrictions in activities	37
5.6 Unemployment by disability type	38

6.	Working Age People with Disability who are Not in the Labour Force	40
6.2	People not in the labour force by gender.....	41
6.2	People not in the labour force by age.....	41
6.3	People not in the labour force by education	42
6.5	People not in the labour force by disability type	44
7.	Education and Pathways to Work and Further Study.....	45
7.1	Educational attainment	45
7.2	Participation in school.....	46
7.3	Post-school education and training	47
7.4	Transition from education to work or further study	50
8.	Job readiness	51
8.1	Defining job readiness	51
8.2	Barriers to participation in employment and training	52
8.3	People with disability who are potentially job ready	55
8.3.1	Potentially job ready people with disability by sex.....	55
8.3.2	Potentially job ready people with disability by age	55
8.3.3	Potentially job ready people with disability by limitations in core activities	56
8.3.4	Potentially job ready people with disability by disability type.....	57
8.3.5	Potentially job ready people with disability by employment related restriction.....	57
8.3.6	Potentially job ready people with disability by highest level of educational attainment.....	58
8.3.7	Potentially job ready people with disability by region of residence.....	59
8.4	Other potential target groups for employment policy.....	59
9.	Potential impacts of increased employment of people with disability.....	61
9.1	Potential income effects of employment for people with disability	61
9.2	Potential economic impact of increased employment of people with disability	62
9.3	How economic impact findings compare with other studies	63
9.4	Estimated 'lifetime' benefits of increasing the number of people with disability in employment	64
	Current expected lifetime benefit payment costs.....	65
	Expected lifetime impacts of additional employment of people with disability	67
9.5	The broader benefits of work	68
10.	Data used, and potential for further data analysis.....	71
10.1	Use of ABS MADIP data.....	71
10.2	Modules and Data used from MADIP for the current project.....	71
10.3	Scope of future analysis	71
	Bibliography	73
	APPENDIX A - Methodology for estimating impacts of employment	75
A.1	Model for estimating impact of employment for people with disability	75
	Model choice.....	75
A.2	Estimating the potential income effects of employment to people with a disability (Section 9.1) ...	75
A.3	Estimating the potential economic impact of increased employment of people with disability (Section 9.2).....	77
	The methodology used in other studies to estimate impacts on GDP.....	77
	Estimating the impact on current year benefit payment costs.....	78
A.4	Estimating the impact on expected lifetime benefit payment costs (Section 9.3)	78

Converting estimates from PIA and the structural model to a common basis.....	78
Calculate weighted average lifetime payments by benefit type.....	79
Estimating the average reduction in lifetime benefits cost per person	79
Limitations of the lifetime cost savings estimates.....	80

Executive Summary

This project

This research and statistical report has been commissioned by the Department of Social Services (DSS) to produce data to inform disability employment policy development.

The project has two broad aims:

- To explore the characteristics of working age people with disability, including identifying those cohorts who are potentially 'job ready'; and
- To assess the potential benefits – to people with disability, and to the economy – of increasing employment rates amongst people with disability, with a particular focus on economic impacts.

The key datasets used in this research have been the detailed microdata file of the Australian Bureau of Statistics' (ABS) 2018 Survey of Disability, Ageing and Carers (SDAC), and the ABS's Multi-Agency Data Integration Project dataset (MADIP) which links data from the Census and the SDAC to a range of administrative datasets such as social security data from the Department of Social Services (DSS), incomes data from the Australian Tax Office, and data on enrolment in higher education courses from the Department for Education, Skills and Employment. The labour market effects of COVID-19 does not yet appear in these datasets.

People with disability

There are 4.4 million people with disability in Australia, around 18 per cent of the total population. The prevalence of disability increases with age. People with disability make up around 8 per cent of those aged 13 years or younger but 60 per cent of those aged 75 years and older. Given its employment focus, the analysis in this report is focused on the working age population (those aged 15 to 64 years). There are just over 16 million Australians of working age, almost 2.1 million of whom are people with disability (see Figure E.1).

People with disability of working age generally experience poorer employment outcomes than people without disability.

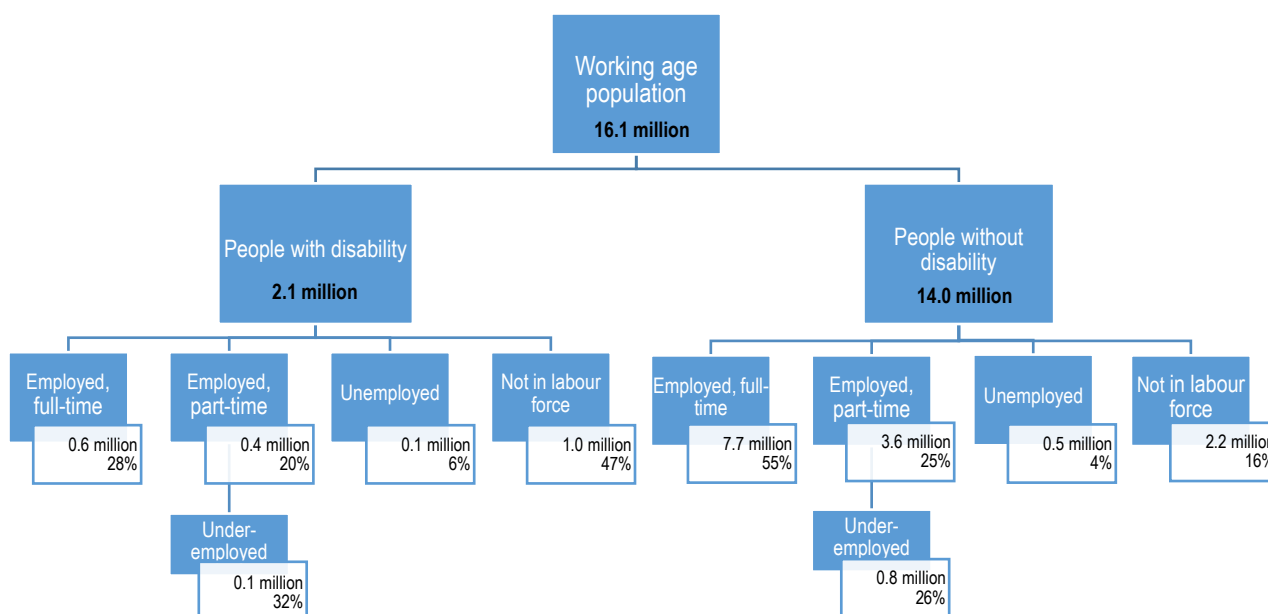
- The labour force participation rate for people with disability is two-thirds that of people without disability.
- People with disability are more than twice as likely to be unemployed, with an unemployment rate of 10.5 per cent compared to 4.6 per cent for people without disability.
- Under-employment is 10.1 per cent for working age people with disability and 6.9 per cent for those without disability. People with disability working part-time are also more likely to be under-employed, with 32 per cent wanting more hours compared to 26 per cent of part-time workers without disability.
- Wage income for people with disability in employment is around 10 per cent lower than for those without disability.

Classifying labour force status

Data on the labour force collected by the ABS splits the adult population into mutually exclusive statuses which do not necessarily line up with the categories used in administrative data¹:

- Those who are in a job (even if temporarily away from it) are **employed**. Employed persons are those who have worked at least one hour in the past fortnight, and those who are in work but currently away from their job.
- Employed people are further split between **full-time** (working 35 hours per week or more), and **part-time** (less than 35 hours per week). A part-time employee is classified as **under-employed** if they would like a job that offers more hours of work than they currently have.
- Those who are not employed, but who are both actively looking for work and could start a job within the next week if it were offered to them, are classified as **unemployed**.
- The combined total of those who are employed and those who are unemployed is the **labour force**.
- Anyone not fitting into these categories is categorised as **not in the labour force**. Whilst many of those not in the labour force are not in employment by choice, due to other responsibilities, or due to impairment or ill-health, others are seeking work but either could not immediately take up a job offer, or had not actively sought work in the week before the survey.

Figure E.1 Working age population by disability status and labour force status, 2018



Note Percentages are rounded to the nearest whole number and will not necessarily sum to 100 per cent.
 Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

Employment outcomes for people with disability in Australia appear to be significantly poorer than the outcomes achieved by many of our international peers. This poor relative performance is notable, as across the broader population, the Australian economy and policy settings have been very successful in generating employment. The employment rate of Australians of working age (15-64) in jobs as at 2018 in the Organisation for Economic Co-operation and Development (OECD) dataset² is 73.8 per cent, well above the OECD average of 68.8 per cent (OECD, 2020). This suggests, with the right policy mix and greater engagement by employers, it should be possible to improve the employment rate of people with disability in Australia.

People with disability generally experience lower average levels of **educational attainment** and **participation in education** compared to those without disability. Only 19 per cent of working age people with disability have a bachelor's degree or higher, compared to 34 per cent for those without disability.

¹ For example, categories for the way eligibility for income support payments is determined
² Data in the OECD.stat dataset will not necessarily match countries' own published data as it is adjusted to be on a more consistent basis across OECD countries, in this case the OECD employment rate for Australia in 2018 is slightly lower than the employment rate estimated in the SDAC

Amongst those aged 15-24 years, people with disability are around half as likely to be attending university, and are almost three times as likely to have left school before age 16.

People with disability are also less likely to successfully **transition from school to work** or further study than people without disability. Eighteen per cent of school leavers with disability do not enter the labour force for up to seven years post school leaving (compared to 5 per cent for those without disability). Important drivers of these poor transitions out of school identified include:

- Gaps in coordination of services between governments; and
- Incorrect views on the ability of children with disability to successfully participate in the labour market, or complete further education, amongst influential people in their lives.

Research has also identified a gap in transition supports, where in many cases support is potentially available in the transition out of school to work, but not in the transition from further education to work.

Studies have also found that there is a low awareness amongst employers of the supports available through the Australian Government to facilitate employment of people with disability. Participation in employment by people with disability appears to be hampered by negative employer and community attitudes to the potential performance of people with disability in work.

People with disability who are potentially job ready

There will always be a significant cohort of people with disability who are unable to work due to their condition or other life circumstances. However, analysis undertaken in this report has identified a cohort of people with disability who appear to be relatively more 'job-ready' and therefore represent a potential target group for policy aimed at increasing employment participation. This cohort combines:

- people with disability who are unemployed (not in employment and actively looking for work); and
- people with disability who are not currently in the labour force, but who intend to seek work within the next year.

In all there are **253,000 people** with disability who are not currently employed but who are in this potentially job ready cohort. This is about 12 per cent of the working age population of people with disability. This potentially job ready cohort of people with disability are:

- **Younger** than the average working age of people with disability, with almost 20 per cent in the 15 to 19 year age group.

This higher prevalence of younger people suggests that employment outcomes could be improved by reforming the nature and range of supports available as they come towards the end of their schooling and begin to enter work or further study. This could include support to:

- build work skills while still at school,
- transition out of school (whether that be to work or further education),
- successfully participate in higher education,
- transition from higher education to work, and;
- transition out of temporary unemployment, to employment or to study.

- **Have relatively less severe limitations in core activities** - the most common level of limitation amongst the job ready cohort is 'mildly limited in core activities' identified in just over 80,000 people with disability. A further 64,000 people with disability in the job ready cohort are 'not limited in core activities but restricted in schooling or employment'³. 25,000 experience no limitations or restrictions arising from their disability(ies). This suggests that the adjustments needed to support participation in work are more likely to be employment related than targeted at support with core activities; and

- **Are more likely to need person focussed employment services.** The most common level of restriction amongst people with disability in this cohort are 'Restricted in type of job' (155,000 people with disability), 'Difficulty changing jobs or getting a preferred job' and 'Restricted in number of hours'. This suggests employment services and supports would be more effective if they focussed on:
 - tailored job matching;
 - support in retaining the job once it has been secured;
 - liaising with employers to gain flexibility in hours worked while workplace skills and confidence are developed, and

³ Meaning they have reported that they do not face any limitations in undertaking core activities, but that they do face at least one restriction in undertaking employment of schooling such as the restrictions on employment detailed in Figure 24.

- assisting employers in redesigning jobs and facilitating reasonable adjustments.

It also indicates that people with disability in this particular cohort are more likely to need programs delivering person focussed supports rather than programs focussed on support equipment or support people at work.

Addressing under-employment can also deliver gains

For some, their current level of hours do not reflect their preferences or capabilities but rather the hours offered in their current job. This latter case is called under-employment.

People with disability who are under-employed are more likely to be:

- **Female** – females with disability in part-time or casual work have a much higher rate of under-employment than females without disability (30 per cent of part-time workers compared to 23 per cent). Females with disability are also much more likely to be under-employed than males, 61 per cent of under-employed people with disability are female.
- **Early career** – the largest gaps between the under-employment rates of people with disability and those without disability occur amongst those aged 25 to 34 years. For people with disability aged 25 to 29 and working part-time, 58 per cent are under-employed (compared to 33 per cent for people without disability).
- **Affected by less severe limitations on core activities** – people with disability who are working part-time are most likely to be under-employed if their degree of limitation ranges from ‘not limited in core activities or restricted in employment or schooling’ through to ‘mildly limited in core activities’⁴. Just under 50,000 people with disability who are ‘mildly limited in core activities’ are under-employed.

Greater difficulty in changing jobs has been identified as an important driver of under-employment for people with disability. Providing job search support to people with disability seeking to increase their hours, as well as to people with disability who are unemployed, may help address this gap.

The extent to which under-employed people with disability are early in their career may also suggest that poor transitions from school, or from higher education, to work are resulting in people with disability ending up in jobs that do not match their aspirations in terms of available hours of work.

There are potentially significant gains to economic activity, and to individual welfare, through supporting under-employed people with disability to find jobs with more hours or to secure more hours in their current job.

Potential benefits of increased employment of people with disability

Supporting people with disability to secure and sustain employment is important because of the benefits employment can deliver for people with disability and for the whole of society.

These benefits are not only financial. There are broader benefits of shifting into employment, particularly if the individual feels a sense of control in their work setting, and reasonable adjustments have been made for their conditions. People in work, including people with disability, typically have higher levels of emotional and physical wellbeing and lower levels of ill-health than people not in work with similar health conditions. An expanded discussion of the financial and non-financial benefits of employment is in Section 9 of the Report.

A structural model was developed as part of this project to support the quantification of the benefits to people with disability, and to society of increased sustainable employment of people with disability.

Financial and economic benefits of employment for people with disability

People with disability will benefit financially from paid work, even after factoring expected reductions in government benefits due to tapering. The average net financial benefit for a person with disability shifting into work (after income tax and tapering of income support benefits) is estimated to be between \$33,379 and \$35,779 per-person per-year.⁵

⁴ This indicates that people with more severe limitations are less likely to be under-employed. Part of this is explained by lower employment rates as severity of limitations in core activities increase. However, it is also the case that people with disability with more significant limitations in core activities are more likely to be satisfied with the level of hours they have, e.g. the lower hours are an adjustment to their condition or suit other elements of their life, rather than something imposed from an employer.

⁵ These estimates are based upon average annual gross wage income of between \$50,986 and \$53,423 (Note: these per-person averages incorporate those in part-time as well as full-time work, the expected wages per full-time equivalent employee are between \$61,116 and \$64,253)

Depending on what assumptions are made about the demographics of the people with disability who gain employment, the model estimates that gross domestic product (GDP) would increase by between \$69.7 million and \$72.6 million in the first year for every 1,000-person increase in employment of people with disability. A 1,000-person increase in the employment of people with disability is also estimated to result in a reduction in expected spending on income support payments of between \$8.9 million and \$9.5 million per year. There are likely to be additional savings in non-income support payments such as family tax benefits, but there may be also be additional expenditures such as greater spending on child care subsidy payments.

Converted to a 'per full-time equivalent employee with disability' basis this suggests an increase in GDP of between \$84,899 and \$87,301 per additional full-time equivalent (FTE) employee with disability.

Lifetime impacts of increasing employment of people with disability

DSS maintains and operates the Priority Investment Approach (PIA) model, a large scale forecasting model of Australia's expected demand for income support payments and benefits. Outputs from the PIA model, combined with the model of GDP, allow the estimation of potential 'lifetime' financial impacts of increasing employment of people with disability.

Modelling estimates for a sustained increase in the employment of 1,000 people with disability – suggesting a lifetime impact on GDP estimated to range between \$676 million and \$833 million in present value terms, and a present value of total lifetime savings of benefit payments estimated between \$76 million and \$83 million.

Acknowledgements

We would like to acknowledge the support and contribution of the DSS staff who contributed to the design and implementation of this project.

We would like to acknowledge the useful comments from reviewers both within DSS and in other Australian Government agencies.

We would also like to acknowledge the support of the ABS's Datalab team for their assistance in providing access to the MADIP and support in its use.

Glossary

ABS Australian Bureau of Statistics

AIHW Australian Institute of Health and Welfare

Core activities Core activities are communication, mobility and self-care

Disability A person is defined as having disability in SDAC if, as a result of their answers in the survey, they are having a limitation, restriction, or impairment, which lasted or is likely to last, for at least six months and restricts everyday activities. The answers to over 120 questions in the SDAC are considered in determining whether a respondent is defined as a person with disability.

Disability Status The level of specific limitation (ranging from mild to profound) or restriction (in terms of schooling or employment) experienced by people with disability. The survey determines this by the amount of difficulty experienced, the level of assistance needed from another person, or the use of an aid to undertake a particular core activity and/or to participate in education or employment activities. The survey variable also asks whether a person has long term condition without disability.

Disability - Groups SDAC identifies six separate disability groups (sensory, intellectual, physical restrictions, psychosocial, head injury, stroke or acquired brain injury and other long term conditions). These groups were determined based on the particular type of disability listed in the definition of disability above.

Disability - Main condition A long-term health condition identified by a person as causing the most problem. It is based on mapping disabilities to the ICD-10 classification structure used for illnesses, e.g. 'Diseases of the musculo/skeletal system and connective tissue' and 'Diseases of the eye and adnexa'. In the MADIP datafile this is encoded at the 4 digit detailed condition level (180 detailed conditions) with identification based on responses from survey participants. Data on main condition in the microdata file aggregates this to 20 high level categories:

- Certain infectious and parasitic diseases
- Diseases of the respiratory system
- Diseases of the digestive system
- Diseases of the skin and subcutaneous tissue
- Diseases of the musculo/skeletal system and connective tissue
- Diseases of the genitourinary system
- Certain conditions originating in the perinatal period
- Congenital malformations, deformations and chromosomal abnormalities
- Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified
- Injury, poisoning and certain other consequences of external causes
- 2018 codes which have no ICD-10 equivalent
- Neoplasms (tumours/cancers)
- Diseases of the blood and blood forming organs and certain disorders involving the immune system
- Endocrine, nutritional and metabolic disorders
- Mental and behavioural disorders
- Diseases of the nervous system
- Diseases of the eye and adnexa
- Diseases of the ear and mastoid process
- Diseases of the circulatory system

Disability - Type The ABS classification 'Disability Type' groups disabilities based on the nature of impairment experienced by people with disability. In the microdata file these are aggregated into 19 disability type categories:

- loss of sight (not corrected by glasses or contact lenses)
- loss of hearing where communication is restricted, or an aid to assist with, or substitute for, hearing is used
- speech difficulties
- shortness of breath or breathing difficulties causing restriction
- chronic or recurrent pain or discomfort causing restriction
- blackouts, seizures, or loss of consciousness
- difficulty learning or understanding
- incomplete use of arms or fingers
- difficulty gripping or holding things
- incomplete use of feet or legs
- nervous or emotional condition causing restriction
- restriction in physical activities or in doing physical work
- disfigurement or deformity
- mental illness or condition requiring help or supervision
- memory problems or periods of confusion causing restriction
- social or behavioural difficulties causing restriction
- long-term effects of head injury, stroke or other acquired brain injury causing restriction
- receiving treatment or medication for any other long-term conditions or ailments and still being restricted
- any other long-term conditions resulting in a restriction

Employed According to the ABS in the survey, “*People who reported that they had worked in a job, business or farm during the reference week (the full week prior to the date of interview); or that they had a job in the reference week, but were not at work.*” (ABS, 2018)

Employed – Full-Time “*Employed persons who usually worked 35 hours or more a week (in all jobs) and those who, although usually working less than 35 hours a week, worked 35 hours or more during the reference week.*” (ABS, 2018)

Employed – Part-Time “*employed persons who usually worked less than 35 hours a week (in all jobs) and either did so during the reference week, or were not at work during the reference week.*” (ABS, 2018)

ICD 10 International Classification of Diseases, Tenth Revision

Limitations or restrictions Limitations refer to core activities i.e. whether a person has limitations in communication, mobility or self-care. Restrictions refer to schooling and employment. In order to identify particular type of limitations or restrictions, SDAC collects information on a person’s need for assistance, difficulty experienced or use of aids or equipment.

NDIS National Disability Insurance Scheme aims to provide more than \$22 billion in funding a year to an estimated 500,000 Australians who have permanent and significant disability. For many people, it will be the first time they receive the disability support they need.

Not in Labour Force People in the working age population who are neither in employment nor categorised as unemployed. It includes individuals who are actively seeking work if they are not able to commence work within the reference week of the survey, those whose most recent job search was more than four weeks prior to the survey, as well as individuals who are not currently seeking to enter the labour force (ABS, 2018)

Participation rate Number of people in the labour force as a percentage of the population aged 15 years and over in the same group. In the survey the age group refers to 15 to 64 years only.

SEIFA Socio-Economic Indexes for Areas has been developed by the ABS to rank areas in Australia according to relative socio-economic advantage and disadvantage

SDAC Survey of Disability, Ageing and Carers

Unemployed “Persons aged 15 years and over who were not employed during the reference week, and had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week”. (ABS, 2018)

Under-employed “A person is considered under-employed if they:

- are employed,
- usually work less than 35 hours per week,
- would like a job with more hours, and
- are available to start a job with more hours in the next four weeks if one was offered

In ABS data collections the definition of 'under-employed' “excludes those who are normally employed full-time who worked only part-time hours in the reference week for economic reasons (e.g. through being stood down or due to insufficient work available).” (ABS, 2018)

Working age people People belonging to the age group 15 to 64 years

1. Introduction

1.1 Background

This research has been commissioned by the Department of Social Services (DSS) to produce data to inform disability employment policy development. There is a particular focus on people with disability of working age, and their ability to engage with the labour market. DSS also requires a better understanding of the economic and social effects of increasing the employment rate for people with disability.

Key research questions for this project are:

Objective 1 - Investigate the key characteristics of working age people with disability in Australia

RQ 1. What are the characteristics and demographics of the working age population of people with disability by their employment status?

RQ 2. What proportion of the working age population of people with disability are currently employed, by type and amount of work, and whether they use workplace modifications and/or support?

RQ 3. What proportion of the working age population of people with disability could be considered 'job ready', and at what capacity, based on a definition of 'job ready' agreed with the department?

Objective 2 – Model the impact on economic and social outcomes of employing people with disability

RQ 4. What are the **benefits** to the individual, and the economy, through increased employment of people with disability?

RQ 5. What **gains are possible** for people with disability through:

- Increasing the number of people in employment (both through increasing labour force participation, and /or reducing unemployment), and
- Reducing under-employment?

RQ 6. What are the **life costs** of a person with disability not in employment compared with in employment? How does this **vary** depending on when they became ill, injured or disabled (e.g. acquired vs congenital conditions)? How does this vary depending on when they **access services and supports** from the Australian Government - and what services and supports they access?

1.2 Definitions of disability and data sources

The World Health Organisation (WHO) defines disability as any limitation or impairment that restricts a person's core activities (i.e. self-care, mobility, communication, cognitive or emotional tasks, health care, reading or writing, transport, household chores, property maintenance, meal preparation). Disability may be acquired, genetic, or caused by a disease process whilst resulting impairments may be partial or complete, temporary or permanent (WHO, 2011).

The definition of disability adopted by the Australian Bureau of Statistics (ABS) in the Survey of Disability Ageing and Carers (SDAC) aligns with the WHO definition. This comprehensive definition includes qualifiers i.e. disability involves at least one impairment which restricts everyday activities and which has lasted, or likely to last, for at least 6 months. Disability severity is further classed as mild/moderate/severe. People who 'always' or 'sometimes' need help with one or more of the aforementioned core activities are considered to have 'severe or profound disability' (ABS, 2019; Coleman et al., 2018)

The National Disability Insurance Scheme (NDIS) adopts a narrower concept of disability, with eligibility requiring a substantial impairment to one's functional capacity (NDIA, 2020).

Similarly, the way in which disability is defined in the Census of Population and Housing focuses on restrictions in the ability to undertake core functions, providing only a partial picture of people with disability in Australia.

The ABS SDAC provides the most robust method of identifying disability (ABS, 2019) amongst wide scale survey or administrative data. **The 2018 SDAC survey (the most recent version of it) is the primary source used in this study** for data on the characteristics and employment outcomes of people with

disabilities. As such, most data in this report relates to the experiences and outcomes of people with disability as at 2018.

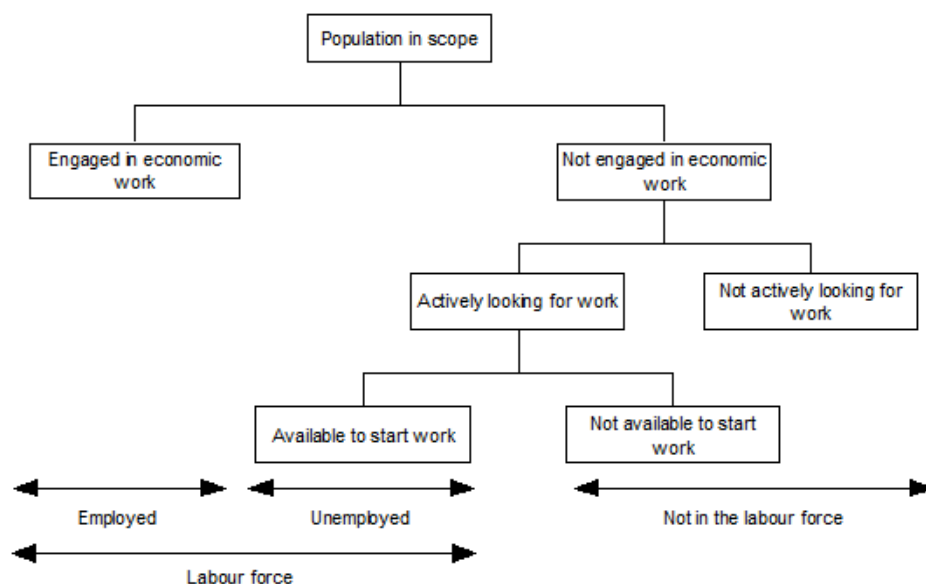
The ABS data groups the type of disability in two ways. The ‘**disability type**’ grouping is effectively based on the nature of the functional impairment, e.g. ‘Restriction in physical activities or work’ and ‘loss of hearing’. The alternative approach taken to grouping is a variable called ‘**main condition**’ which is based on mapping disabilities to the ICD-10 classification structure used for illnesses, e.g. ‘Diseases of the musculo/skeletal system and connective tissue’ and ‘Diseases of the eye and adnexa’.

Each of these approaches has advantages and disadvantages, however analysis in this report more frequently uses the ‘disability type’ classification structure as analysis of SDAC microdata suggests it has a slightly higher level of explanatory power in the analysis of employment probabilities and wages, and as it is focused on the functional impairment experienced by people with disability.

Some data items which are not available through the ABS’s Tablebuilder database were accessed through the ABS’s Multi-Agency Data Integration Project (MADIP) which links administrative data (largely up to 2016) with a range of ABS survey data, which for this project includes a link to the 2015 SDAC survey. Administrative data in MADIP includes social security data from the Department of Social Services (DSS), incomes data from the Australian Tax Office, and data on enrolment in higher education courses from the Department for Education, Skills and Employment. For these limited items accessed through MADIP, data relates to 2015 or 2016.

1.3 Definitions of employment

Figure 1 The Labour Force Framework



Source ABS, 2018

A person is categorised as employed in Australian statistical data if they had a job, business or farm during the reference week (the full week prior to the date of interview). More formally, the ABS categorises someone as employed if they have either:

- worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (comprising employees and owner managers), or
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers), or
- were employees who had a job but were not at work and were:
 - away from work for fewer than four weeks up to the end of the reference week, or
 - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week, or
 - away from work as a standard work or shift arrangement, or
 - on strike or locked out, or
 - on workers' compensation and expected to be returning to their job, or

- *were owner managers who had a job, business or farm, but were not at work. (ABS, 2018)*

A person is categorised as **unemployed** if they either:

- *are not currently in work, but have actively searched for work in the past four weeks, and would be able to start work within the reference week of the survey if a job was offered to them; or*
- *if they are waiting to start a job that will commence in four weeks or less, and would have been able to start the job in the week of the survey if it had been available. (ABS, 2018)*

The **labour force** is defined as the combination of those who are employed and those who are unemployed.

Not in the labour force is then defined as the working age population who are neither in employment nor categorised as unemployed. It includes:

- individuals who are actively seeking work but were not able to commence work within the reference week of the survey,
- those whose most recent job search was more than four weeks prior to the survey, and
- individuals who are not currently seeking to enter the labour force. (ABS, 2018)

Further information on data used to build this report, including data from the Multi-Agency Data Integration Project (MADIP) dataset, and the potential for further data analysis, are explored in Section 10.

2. People with disability

- According to 2018 data 1 in 6 Australians (17.7 per cent of the population, or 4.4 million people) have some form of disability.
- Disability prevalence increases with age. Almost 1 in 10 people aged 15-24 years have disability (or 9.3 per cent), which rises to 1 in 4 (or 26.9 per cent) for those 60-64 years and 6 in 10 (or 63.7 per cent) of people aged 75 years and older (AIHW, 2020).
- There are almost 2.1 million people with disability of working age (15 to 64 years).
- The most common primary disability types amongst people of working age are 'Other disability types(s)', 'Restrictions in physical activity or work', 'Chronic or recurring pain or discomfort', and 'Nervous or emotional condition'.
- Amongst working age people with disability the most common degree of restriction is 'Mildly limited in core activities' (660,000 people).
- 300,000 people with disability are not limited in core activities nor are they restricted in accessing schooling or employment.
- 200,000 people with disability are profoundly limited in terms of their ability to undertake core activities.
- People with disability of working age are more than twice as likely as people without disability to report that their highest level of education is 'Year 10 or below' and are roughly half as likely to report that their highest level of education is a Bachelor's degree, or a higher degree.
- People with disability of working age are slightly more likely to live in an 'Inner Regional' area than in a major city compared to people without disability, and people with disability are significantly more likely to live in locations with socioeconomic disadvantage.

2.1 People with disability in Australia

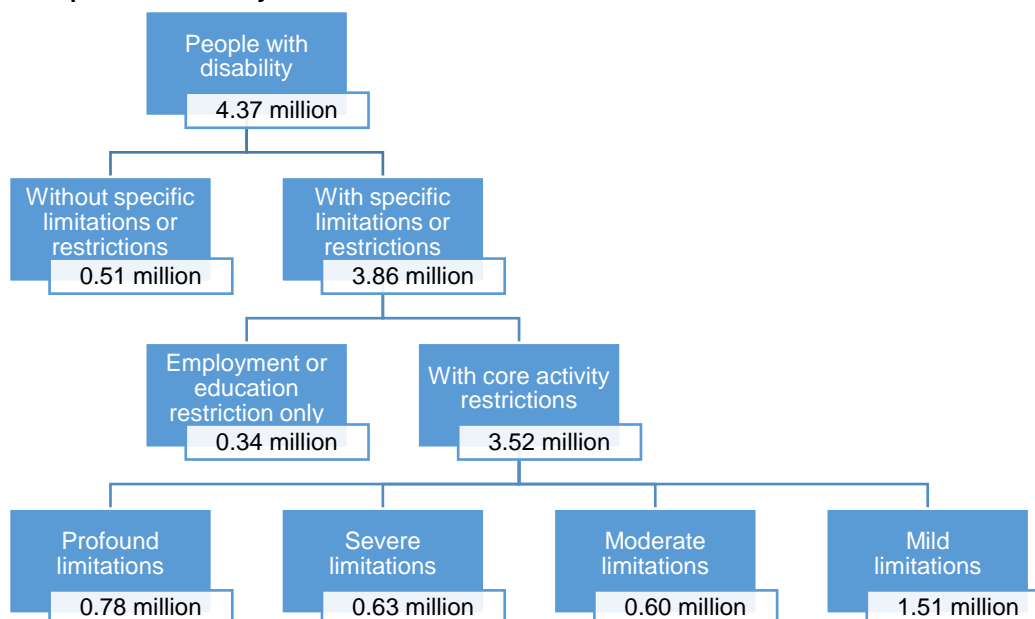
Around 1 in 6 Australians (17.7 per cent of the population, or 4.4 million people) have some form of disability.

One in three people with disability (or around 6 per cent of the national population) have a severe or profound disability (AIHW, 2020).

Disability prevalence increases with age, almost 1 in 10 people aged 15-24 years have disability (or 9.3 per cent), which increases to 1 in 4 for those 60-64 years (or 26.9 per cent) and 6 in 10 people for those aged 75 years and older (or 63.7 per cent) (ABS, 2020).

Regarding Indigenous Australians with disability - the SDAC does not collect data in remote areas or in "discrete indigenous communities" and the dataset does not include a publicly available identifier for Aboriginal and Torres Strait Islander people (AIHW, 2020). This means that it is not possible to undertake comprehensive analysis of the characteristics of Aboriginal and Torres Strait Islander people with disability given the populations excluded from the survey. In those areas that were in-scope for the SDAC, the ABS reports that 24 per cent of Aboriginal and Torres Strait Islanders had a disability, a moderately higher prevalence than across the whole Australian population (ABS, 2021c). The AIHW reports that as at June 2019, 9.5 per cent of Aboriginal and Torres Strait Islander people aged 16 to 64 were receiving the Disability Support Pension compared to 3.9 per cent of non-Indigenous Australians (AIHW, 2020, p. 326).

Figure 2 People with disability in Australia



Source ABS, 2019

Sex differences in disability prevalence are apparent in children aged 0-14 years, 6 per cent boys are people with disability, compared to 3 per cent of girls (AIHW, 2020). Amongst working age people with disability the split by sex is roughly even.

The most frequent disability types (multiple responses are possible so the total adds to more than 100 per cent) for people with disability are: physical restrictions such as arthritis or back pain, 63.7 per cent of people with disability; sensory or speech disabilities such as hearing loss or vision impairment, 31.6 per cent; and psychosocial disabilities such as mental illness or dementia, 26.1 per cent. (ABS, 2020).

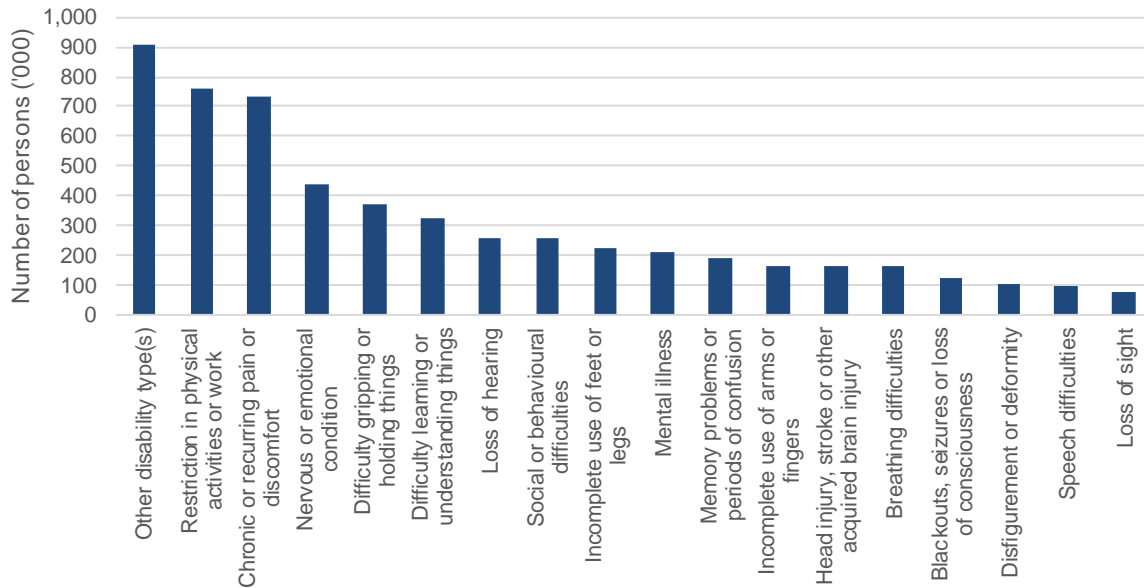
Three in 5 people with disability (59.8 per cent or 2.5 million people) need assistance with day-to-day activities, including health care (30 per cent) and mobility (23 per cent). (ABS, 2020; AIHW 2020).

2.2 Working age people with disability

There are almost 2.1 million people with disability of working age (15 to 64 years) in Australia, and 14 million people of working age who do not have disability. In addition, there are 3.7 million Australians of working age with a long-term health condition who are not disabled (ABS, 2020).

The most common primary disability types amongst people of working age with disability are ‘Other disability’, ‘Restrictions in physical activity or work’, ‘Chronic or recurring pain or discomfort’, and ‘Nervous or emotional condition’, see Figure 3.

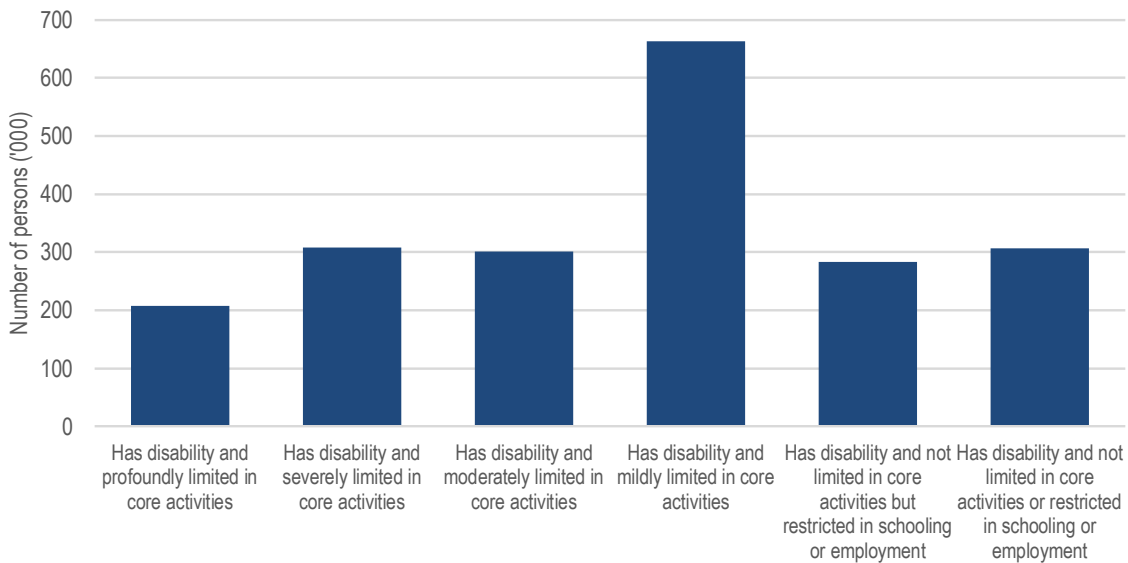
Figure 3 Disability type(s) of working age people with disability, Australia 2018, '000 of persons



Note: The disability type variable is non-exclusive, and respondents can be identified as having more than one type of disability.
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

Amongst working age people with disability the most common degree of restriction is 'Mildly limited in core activities' with 660,000 people having this degree of limitation. Around 300,000 people with disability have a disability that 'does not limit them in core activities nor does it restrict them in terms of accessing schooling or employment'. Conversely around 200,000 people with disability are profoundly limited in terms of their ability to undertake core activities (Figure 4).

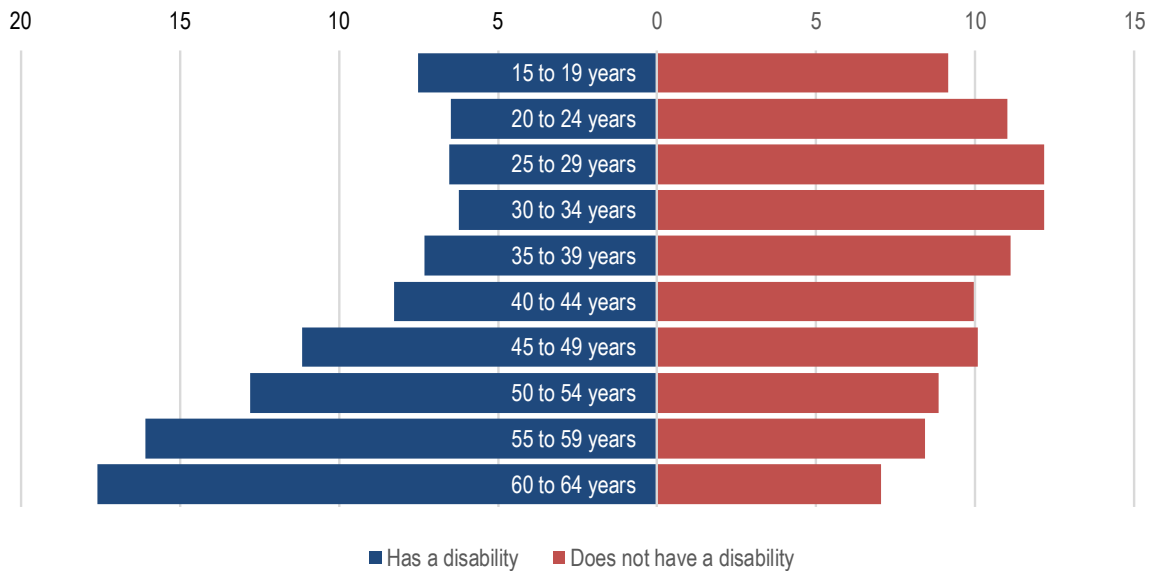
Figure 4 Degree of limitation of working age people with disability, Australia 2018, '000 of persons



Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

The characteristics of working age people with disability differ at times significantly from the population of people without disability. For example, people with disability of working age are significantly more likely to be 50 years and older (Figure 5).

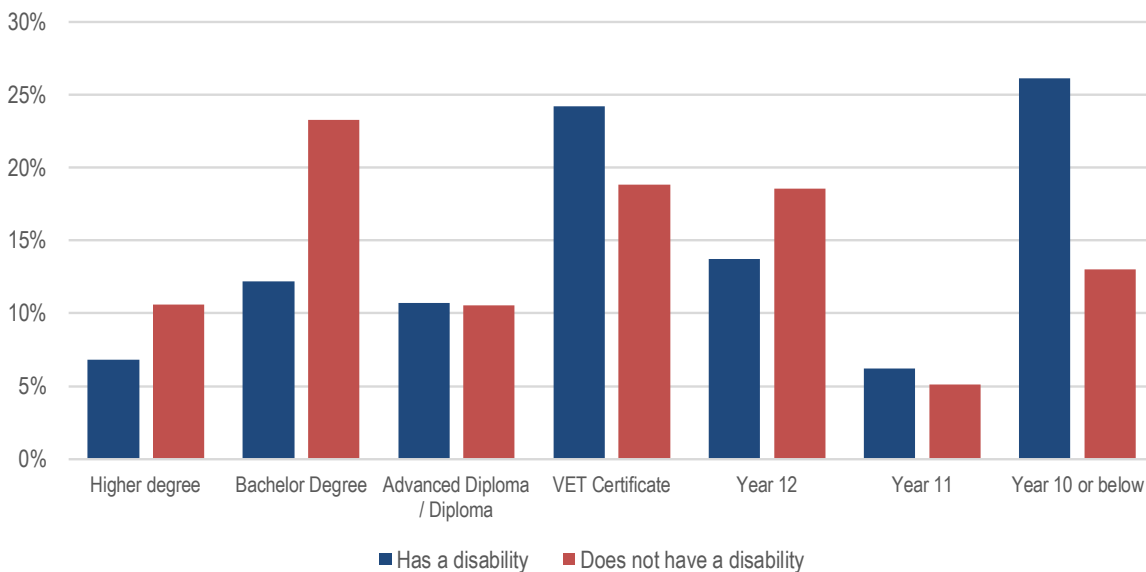
Figure 5 Age structure of working age people with disability and those who do not have disability, Australia, 2018, per cent of total working age population with the same disability status



Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

There are also significant differences in the highest level of educational attainment of people with disability compared to those without disability. People with disability are more than twice as likely to report that their highest level of education is ‘Year 10 or below’ and are roughly half as likely to report that their highest level of education is a Bachelor’s degree, or a higher degree (Figure 6).

Figure 6 Highest level of educational attainment by disability status, Australia, 2018, per cent of total working age population with the same disability status

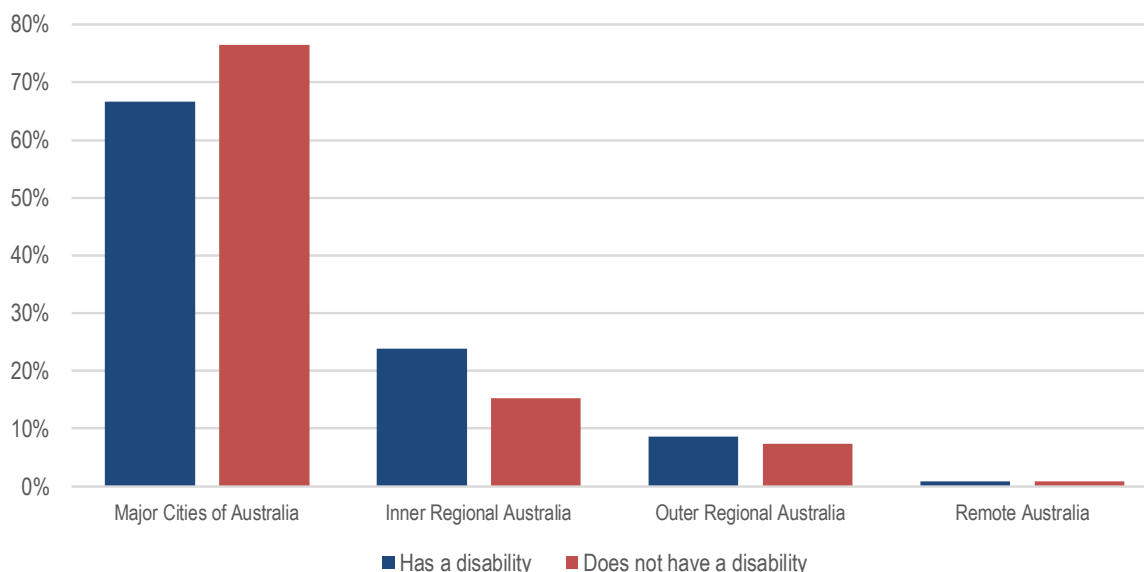


Note: Year 10 or below combines the educational attainment categories ‘Year 10 or below’ and ‘No education’ ‘Higher degree’ combines the categories ‘Postgraduate degree’ and ‘Graduate Diploma/Graduate Certificate’ Those whose highest level of educational attainment could not be determined, and those whose highest level of educational attainment was classified as Not applicable (those still in school education) are excluded

Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

There are some differences in where people with disability live, being slightly more likely to live in an ‘Inner Regional’ area than in a major city compared to people without disability, see Figure 7.

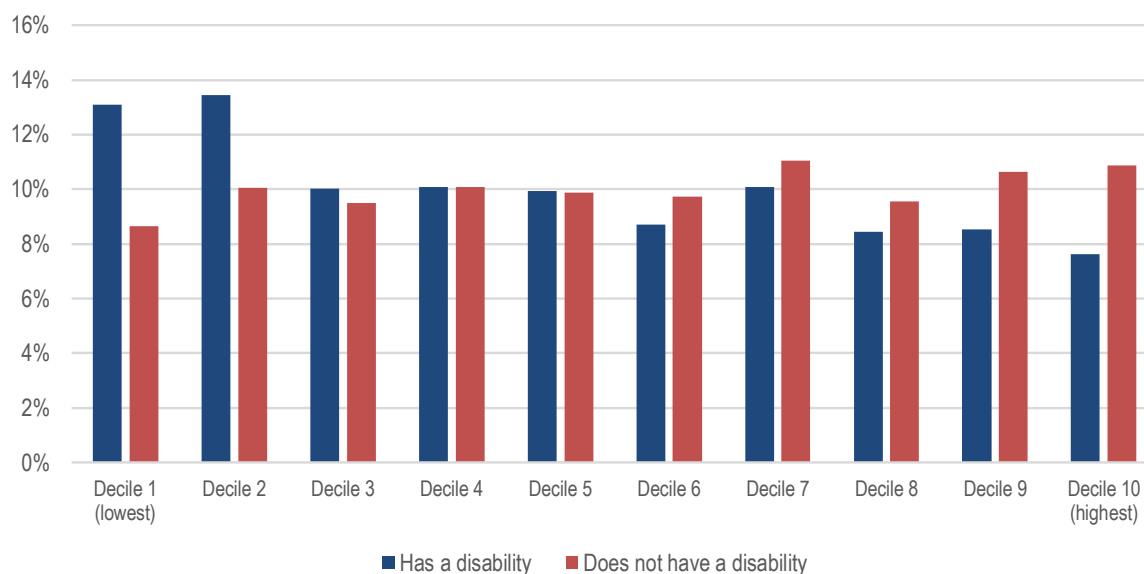
Figure 7 Working age population by disability status and remoteness classification, 2018



Note: Not applicable excluded
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

Significantly more working age people with disability live in locations with relative socioeconomic disadvantage (locations in the two lowest deciles of the Socio-Economic Indexes for Areas (SEIFA)), and fewer live in locations with the highest levels of relative socioeconomic advantage (locations ranked in the two highest deciles for SEIFA scores), see Figure 8.⁶

Figure 8 Working age population by disability status and SEIFA decile of place of residence, 2018

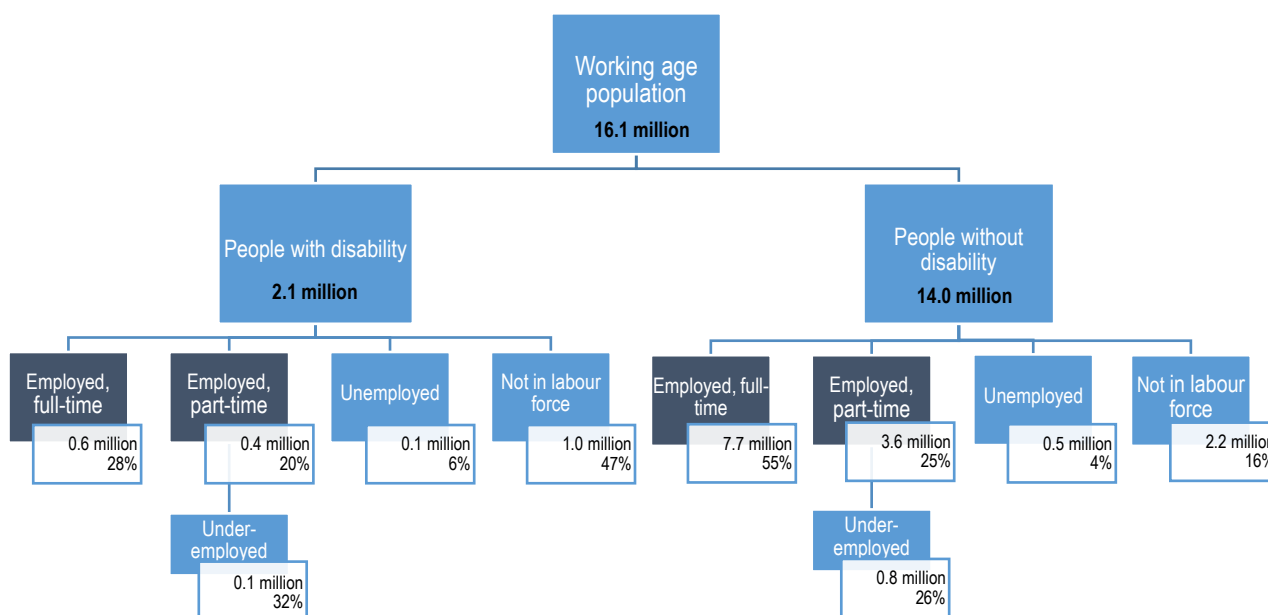


Note: Not applicable excluded
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

⁶ The ABS classifies the relative socio-economic advantage or disadvantage of regions using an index known as SEIFA. This rates regional outcomes across a number of domains such as employment opportunity, wealth, welfare dependence which seek to measure “people’s access to material and social resources, and their ability to participate in society”. To facilitate comparison between regions, regions are grouped into deciles with the 10 per cent of regions with the greatest level of socio-economic disadvantage grouped into Decile 1 through to the 10 per cent of regions with greatest socio-economic advantage in Decile 10.

3. Working Age People with Disability in Employment

- There is a significant difference in labour market participation and outcomes between people with disability and people without disability.
- As at 2018, people with disability are much less likely to be active in the labour force, with only 53 per cent of working age people with disability in the labour force compared with 84 per cent of those without disability.
- If they are active in the labour market, people with disability of working age are significantly more likely be unemployed; 10.5 per cent of people with disability are unemployed compared to 4.6 per cent of people without disability.
- Whilst overall employment rates have increased over the past 15 years for those without disability (from 77 per cent to 80 per cent), employment rates for people with disability have been effectively flat (49 per cent in 2018 and 48 per cent in 2003).
- People with disability in employment are more likely to be employed part-time, 41 per cent compared to 32 per cent of employed people without disability, and are also much more likely to be working very low hours.
- There are substantial differences in employment rates between different types of disability. Only 12.5 per cent of people with disability with mental illness are employed, compared to the average rate for people with disability of 47.5 per cent. Conversely, those with 'loss of hearing' as a disability type have the highest average employment rate.
- People with disability living in 'Inner Regional' and 'Outer Regional' locations have lower employment rates than those who live in 'Major Cities', however this difference is not present for those without disability.
- The greatest number of people with disability in employment (350,000) are 'mildly limited in core activities', followed by those who are neither limited in core activities nor in employment (just under 250,000). There are almost 100,000 people who are 'severely limited in core activities' and in employment
- Employment rates for those with disability vary substantially based on the nature of employment related restrictions. A 'need for ongoing supervision or assistance' and a 'need for time off from work (at least one day per week)' are linked with much lower rates of employment, particularly full-time employment.



3.1 Labour market participation of working age people with disability

There is a significant difference in labour market participation, and labour market outcomes, between people with disability and people without disability.

Regarding labour market participation, people with disability of working age are three times as likely to **not be in the labour market**, and half as likely to be in **full-time employment**, as people without disability, see Figure 9 (2018 data).

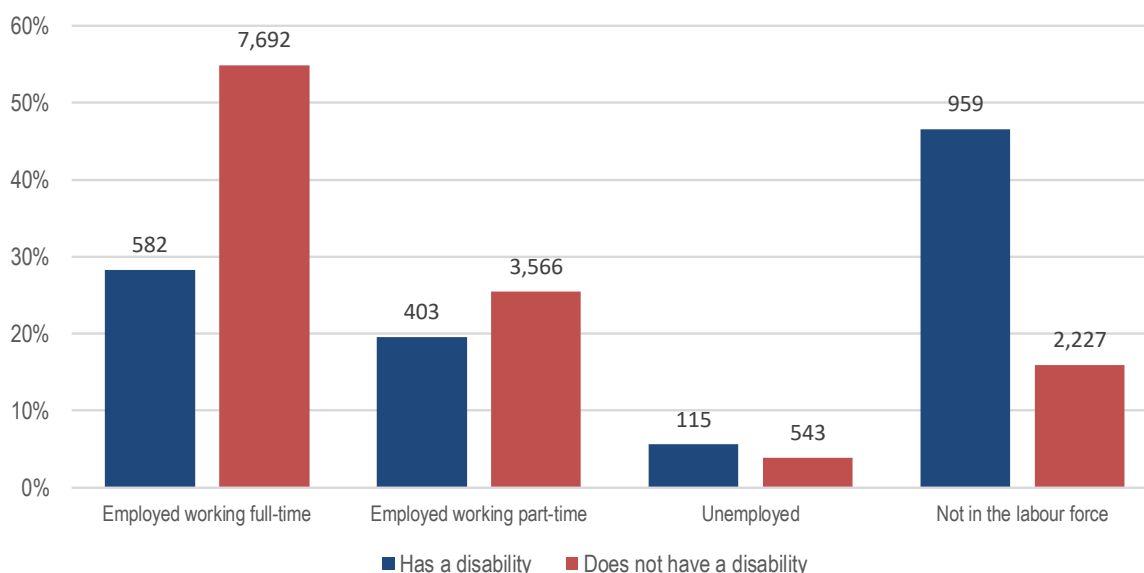
People with disability are also significantly more likely to be **unemployed**; 10.5 per cent of people with disability are unemployed compared to 4.6 per cent of people without disability, see Figure 9.

Similar numbers of working age people with disability are in employment, and not in the labour force, 985,000 and 959,000 respectively. A much smaller number, 115,000, are unemployed, most of whom are either looking for part-time work or would be happy with either full-time or part-time work (Figure 9).

Only 47.9 per cent of working age people with disability are in employment, compared with 80.3 per cent of those without disability (Figure 9).

Regarding its international performance, Australia ranks 21st among 29 Organisation for Economic Co-operation and Development (OECD) nations for employment rates of people with disability (Stafford et al., 2017).

Figure 9 Working age population by disability status and labour force status, 2018, per cent of total working age population by disability status (total number of persons '000 in column labels)

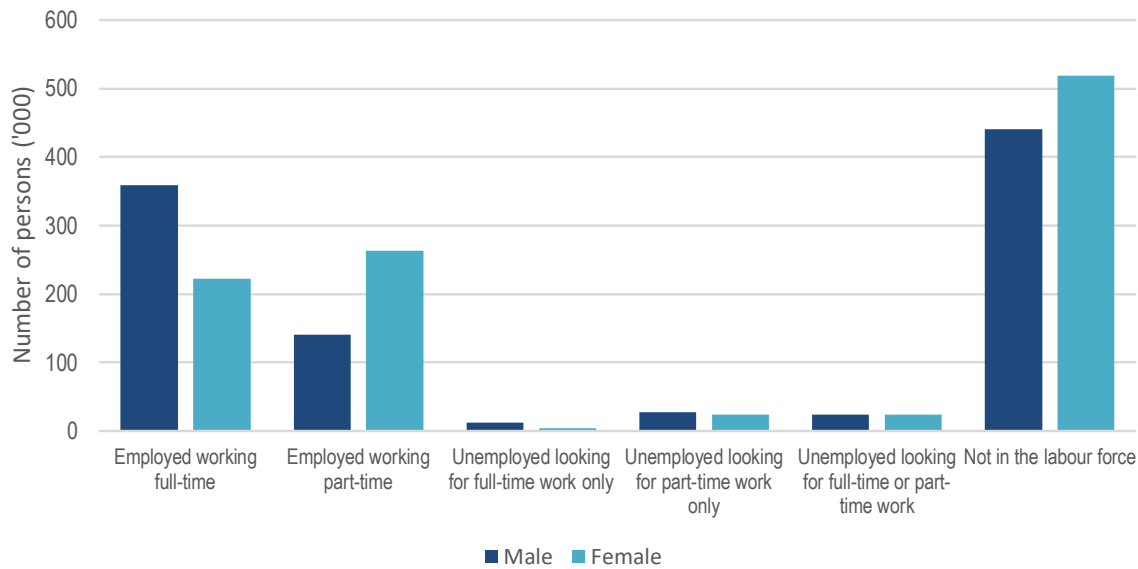


Note: Not applicable excluded

Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

Breaking down labour force status by **sex** (Figure 10) males with disability are somewhat more likely to be employed than to be not in the labour force; 500,000 compared to 440,000. For females with disability this pattern is reversed with 485,000 in employment and 520,000 not in the labour force.

Figure 10 Number of working age people with disability by sex and labour force status, Australia, 2018, persons ('000)

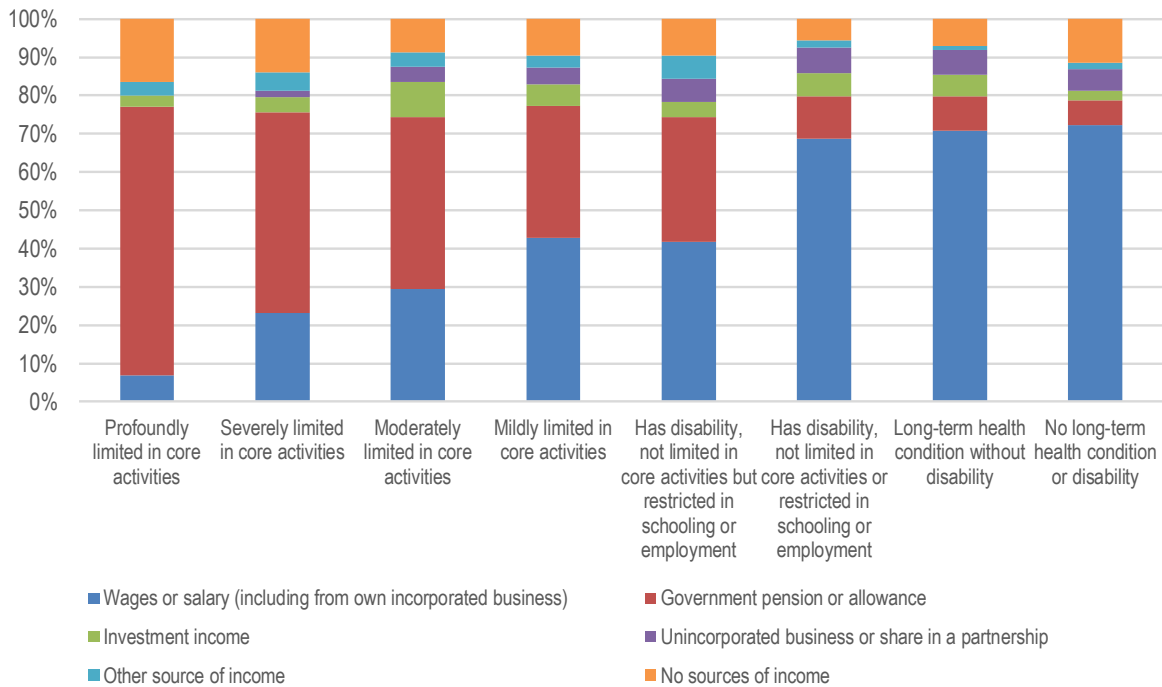


Note: Not applicable excluded
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

3.2 Main source of income by severity of core limitation

Not unexpectedly given the differences in labour market participation, there are significant variations in the **main source of personal income** for people of working age across the severity of limitations. Around 70 per cent of those whose ‘disability does not limit their core activities, schooling or employment’ have wages or salary as their main source of income; this is effectively the same share as for those without disability. With ‘restrictions in accessing schooling or employment’, or ‘mild limitations in core activities’ this share falls to 40 per cent, and falls further as the severity of limitation in core activities increases (Figure 11).

Figure 11 Main source of income by nature of limitation, Australia, 2018, per cent of total working age population with that level of limitation



Note: Not applicable excluded
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

The characteristics of working age people with disability in employment, those who are under-employed, those who are unemployed and those who are not currently in the labour force are explored in the following chapters.

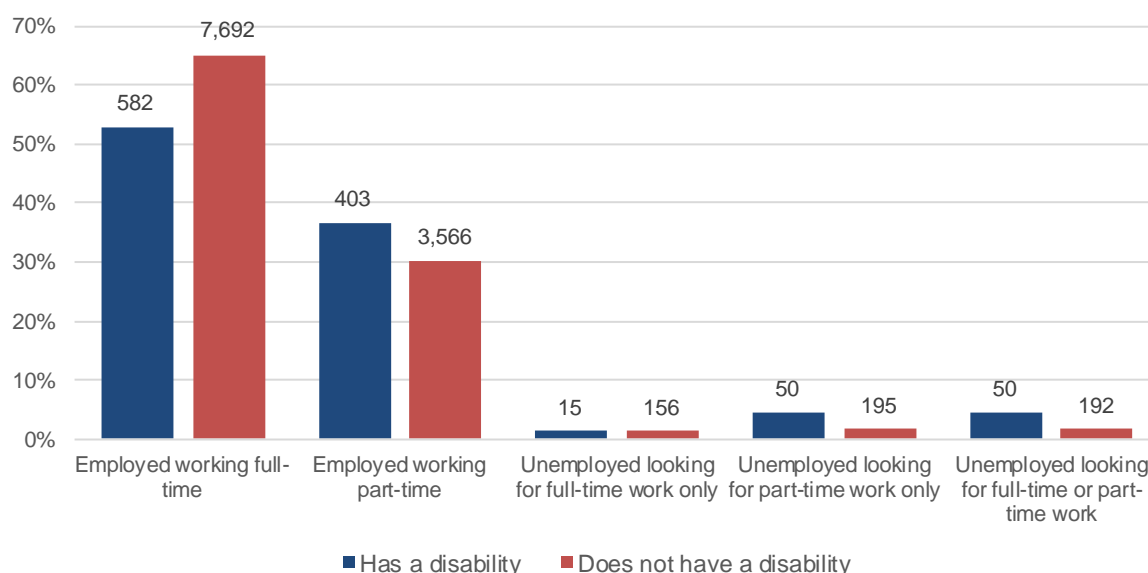
3.3 Employment rates, people with disability

The main way in which the relative labour market disadvantage of people with disability manifests is through much lower rates of labour force participation (employed or actively looking for work). Only 53 per cent of working age people with disability are in the labour force compared with 84 per cent of those without disability, see Figure 9.

However, even amongst people with disability who are active in the labour force, employment rates are lower with 89.5 per cent of people with disability who are active in the labour market in employment compared to 95.4 per cent of people without disability (Figure 12).

The combined impact of lower labour force participation and lower employment rates amongst those active in the labour market is that only 47.9 per cent of working age people with disability are in employment, compared with 80.3 per cent of those without disability.

Figure 12 Labour force status by disability status, proportion of persons in the labour force of working age, Australia, 2018, (total number of persons '000 in column labels)

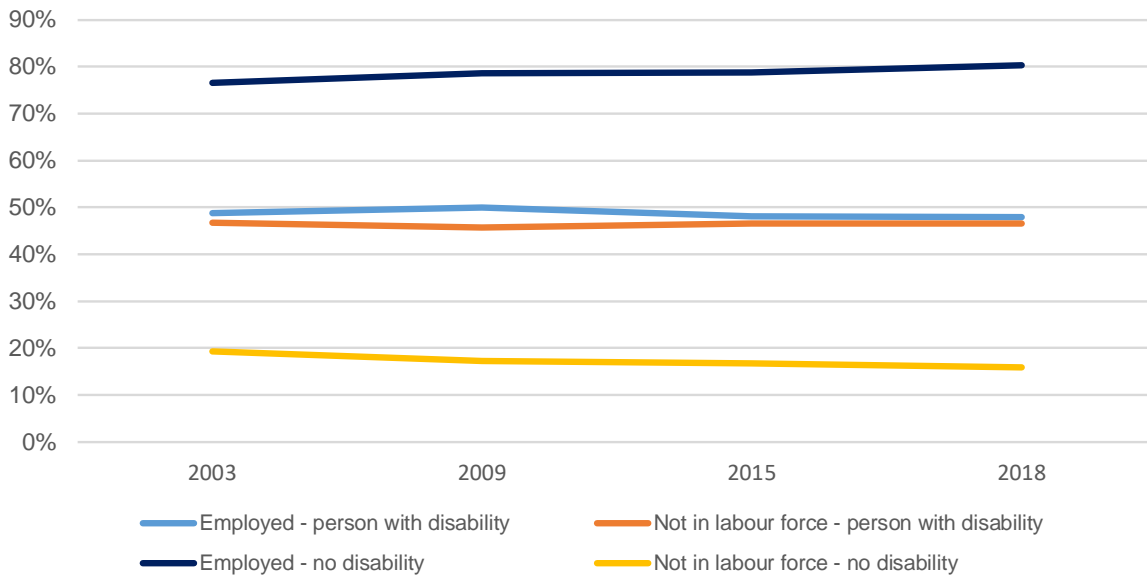


Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

3.4 Changes in employment rates over time

A pattern of declining relative labour market performance can be observed in the SDAC data over time (Figure 13). Employment rates for working age people without disability increased over the life of the SDAC surveys from 2003 to 2018 from 76.6 per cent to 80.3 per cent, with the proportion 'not in the labour force' declining by a similar amount. Employment rates amongst people with disability of working age over the same period were effectively flat (declining very slightly from 48.8 per cent to 47.8 per cent) as was the proportion not in the labour force.

Figure 13 Change in employment and ‘not in the labour force’ over time, people with disability and people without disability, Australia, 2003 to 2018, share of working age population

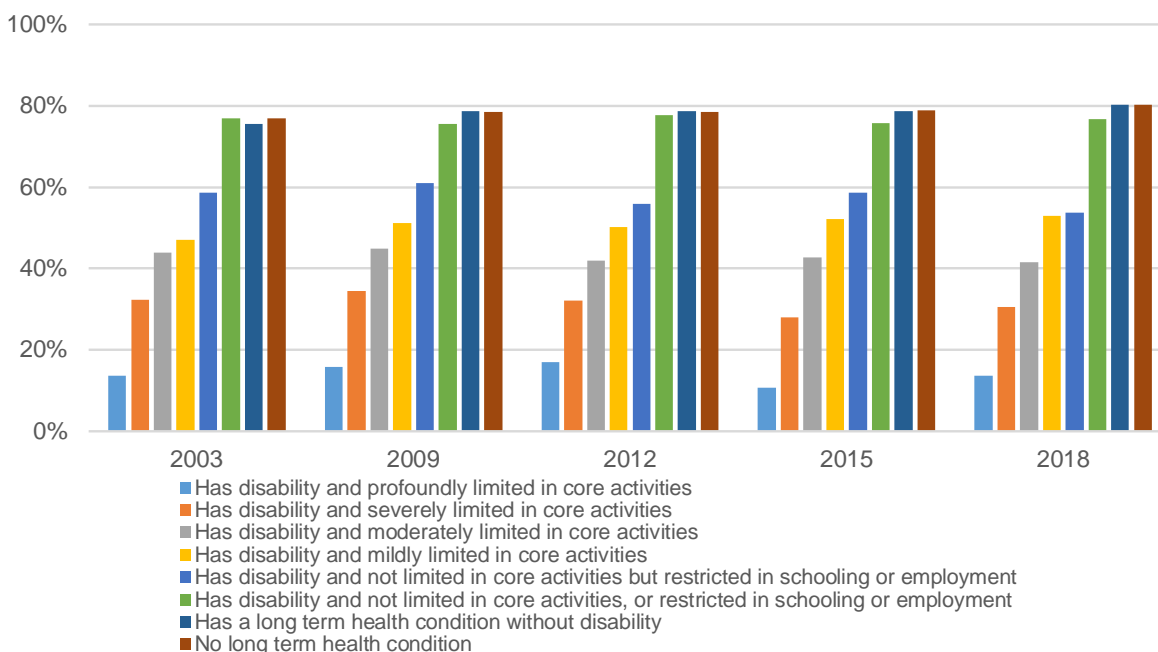


Source ABS, Survey of Disability, Ageing and Carers, 2003, 2009, 2015, and 2018, microdata file

Disaggregating the employment data on the working age population by level of restriction in core activities shows some differences in underlying trends (Figure 14). Employment rates for those who have ‘no long term health condition’ and those who have a ‘long term health condition without disability’ both increased by about 3 percentage points over this period to 80 per cent of the population. Employment rates of people with disability who are ‘mildly limited in core activities’ also increased, although almost all of the improvement had occurred by 2009.

In contrast, employment rates for those people with disability who are ‘not limited in core activities but restricted in schooling or employment’, and people with disability, who experience ‘moderate limitations in core activities’, both fell over this period. And whilst their employment rate did not fall, people with disability who are neither ‘limited in core activities nor restricted in schooling or employment’ saw no change in their employment rate after being level with those without disability at the start of the period. If these falls in employment rates for the three core limitation categories had not occurred, there would be 22,000 more people with disability in employment.

Figure 14 Change in employment rates over time by degree of limitation or restriction in activities, Australia, 2003 to 2018, share of working age population with that level of restriction

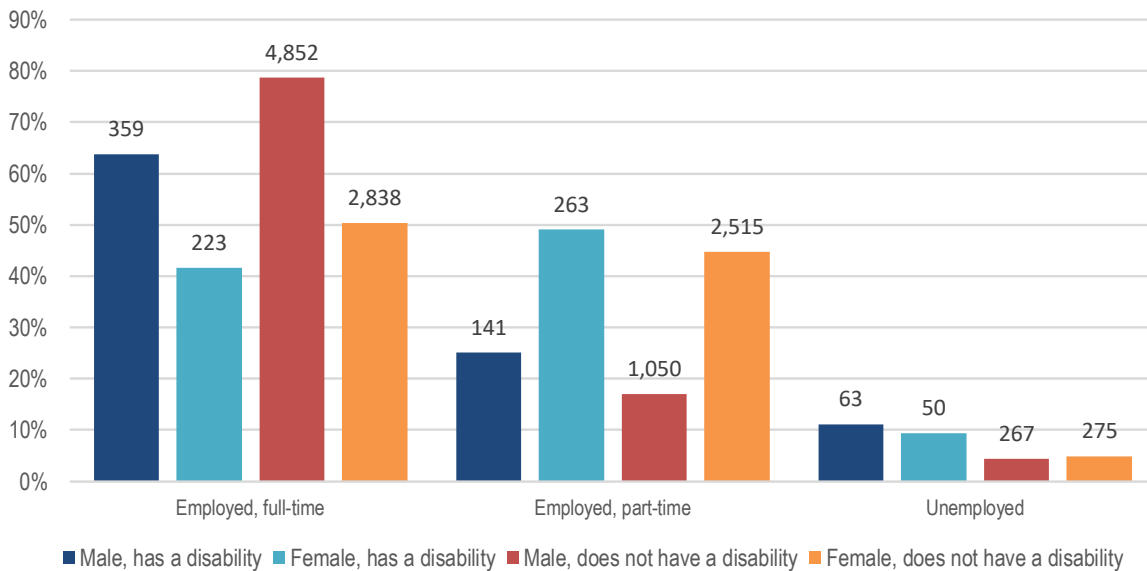


Source ABS, Survey of Disability, Ageing and Carers, 2003, 2009, 2015, and 2018, microdata file

3.5 Demographics of working age people with disability in employment

Employment status by sex follows a very similar pattern for both people with disability and those without disability; in both cases females are substantially more likely to be in part-time work than males. People with disability of both sexes are more likely to be in part-time work, and more likely to be unemployed than those without disability (Figure 15).

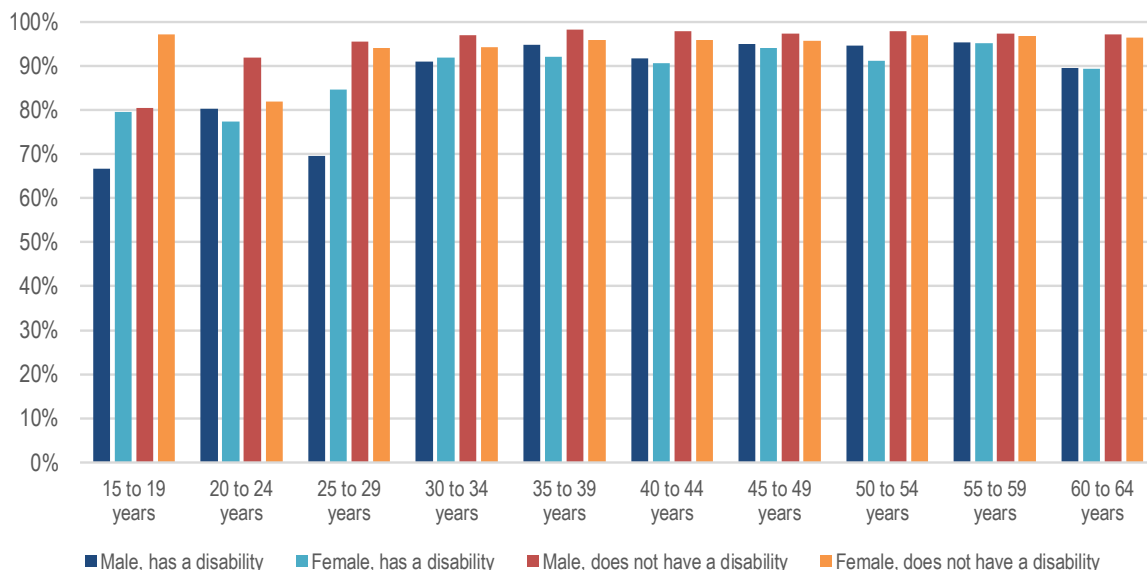
Figure 15 Employment rates by disability status and sex, proportion of persons in the labour force of working age, Australia, 2018, per cent (total number of persons '000 in column labels)



Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

For people with disability of both sexes, employment rates reach their peak at an older age than for those without disability (Figure 16).

Figure 16 Employment rates by disability status, age and sex, proportion of persons in the labour force of working age, Australia, 2018, per cent



Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

3.6 Differences in employment rates by disability type

Data shows substantial differences in engagement with employment between different disability types (see Figure 17 and Table 1). As the groups are non-exclusive it is possible that differences in employment rates for specific disability types are driven by a high rate of comorbidity with some other disability type that has a high or low employment rate.

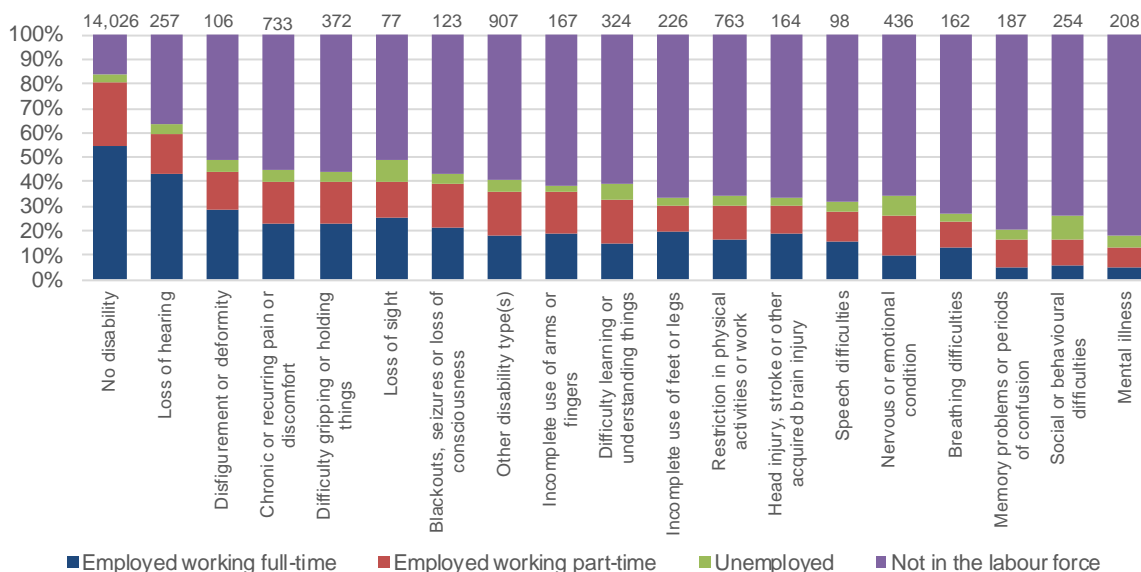
People with disability with mental illness as a disability type are significantly less likely to be in employment, with an employment rate of 13.2 per cent, compared to the average rate for people with disability of 47.9 per cent.⁷

‘Social or behavioural difficulties’, ‘memory problems or periods of confusion’, and ‘breathing difficulties’ are the other disability types whose employment rates are less than half the average for people with disability.

Those with ‘loss of sight’, ‘nervous or emotional condition’, and ‘social or behavioural difficulties’ have the highest unemployment rates.

Those with ‘loss of hearing’ as a disability type have the highest average employment rate.

Figure 17 Labour force participation by disability type, people of working age, Australia, 2018, per cent of total (total number of persons ‘000 in column labels)



Note: Disability type categories are non-exclusive, and with the exception of 'No disability' respondents can have more than one type of disability.
 Not applicable and inadequately described excluded
 Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

Table 1 Labour force participation by disability type, people of working age, Australia, 2018, per cent of total

	Employed, working full-time	Employed, working part-time	Unemployed	Not in the labour force
No disability	54.8	25.4	3.9	15.9
Loss of hearing	43.2	16.3	3.6	36.9
Disfigurement or deformity	28.9	15.1	5.0	51.0
Chronic or recurring pain or discomfort	22.8	17.6	4.4	55.2
Difficulty gripping or holding things	22.7	17.2	4.2	55.8
Loss of sight	25.2	14.5	9.2	51.2
Blackouts, seizures or loss of consciousness	21.7	17.4	4.2	56.8
Other disability type(s)	17.9	17.7	5.1	59.4
Incomplete use of arms or fingers	18.7	16.9	2.7	61.7
Difficulty learning or understanding things	14.8	17.7	6.8	60.6
Incomplete use of feet or legs	19.9	10.3	3.4	66.4
Restriction in physical activities or work	16.1	13.8	4.6	65.5

⁷ Employment rates are calculated excluding those people whose labour force status is recorded in the ABS data as 'not applicable'

	Employed, working full- time	Employed, working part- time	Unemployed	Not in the labour force
Head injury, stroke or other acquired brain injury	19.2	11.1	3.4	66.3
Speech difficulties	15.9	12.3	4.0	67.8
Nervous or emotional condition	10.1	15.7	8.4	65.8
Breathing difficulties	12.8	10.8	3.6	72.8
Memory problems or periods of confusion	5.2	11.3	3.8	79.7
Social or behavioural difficulties	5.9	10.5	9.6	74.1
Mental illness	5.3	7.9	4.8	82.1

Note: Disability type categories are non-exclusive, and with the exception of 'No disability' respondents can have more than one type of disability.

Not applicable and inadequately described excluded

People with disability whose labour force status was 'not applicable' have been excluded

Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

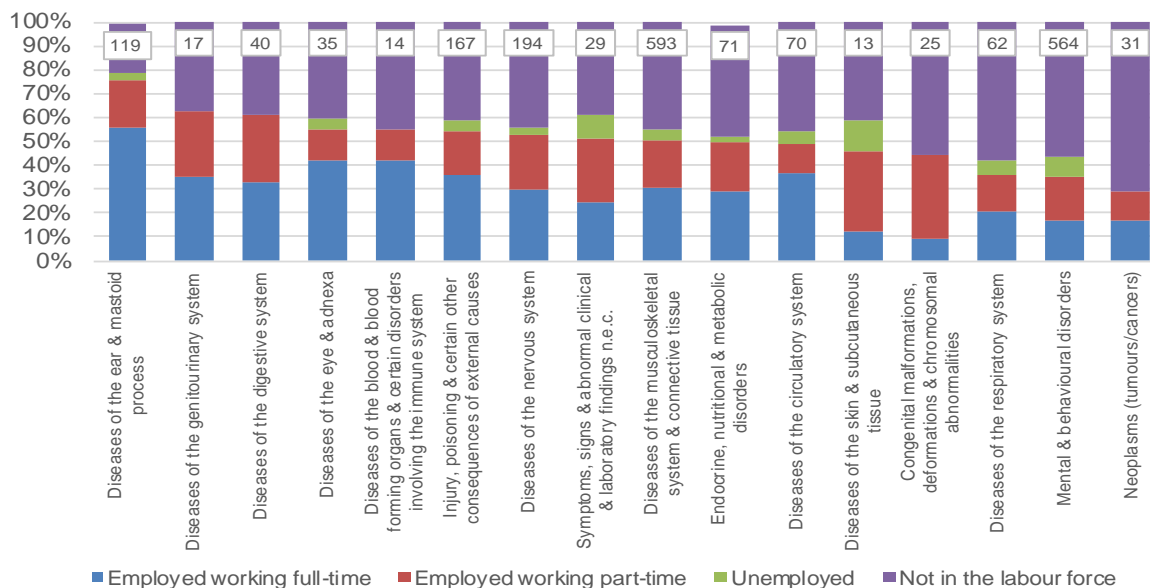
The low employment rates for people with mental illness and social and behavioural difficulties may reflect broader barriers to participation. For example, people with disability with a **mental/psychosocial disability** were found to have poorer outcomes for choice and control, satisfaction and wellbeing in the evaluation of the NDIS (DSS, 2018, p. 102). There were also found to be more limitations to the access to mainstream services for those people with disability with mental health conditions and psychosocial disability (DSS, 2018, p. 211-218).

The alternative way the nature of a person's disability is grouped in the SDAC is through the variable 'main condition'. This maps conditions to International Classification of Diseases (ICD-10) codes, rather than grouping them based on the impact they have on the person with disability. The disadvantage of this classification structure is that it groups together some types of condition which appear to have quite different impacts on labour market participation. For example the 'main condition' classification groups mental illness with intellectual and developmental disorders.

Notwithstanding this limitation, the condition based classification does highlight some additional impacts on employment participation of people with disability. In particular, this data highlights the significant negative impact of conditions grouped under 'congenital malformations, deformations and chromosomal abnormalities' and 'diseases of the skin and subcutaneous tissue' on the employment participation of people with disability experiencing them, see Figure 18.

It also identifies the notably different impact of cancers on employment participation compared to other groups of conditions, only 30 per cent of people with disability with a cancer as their main condition are in work, and all of those not in work were not in the labour force.

Figure 18 Labour force participation by main condition, people with disability of working age, Australia, 2018, per cent of total (total number of persons with each condition '000s in column labels)

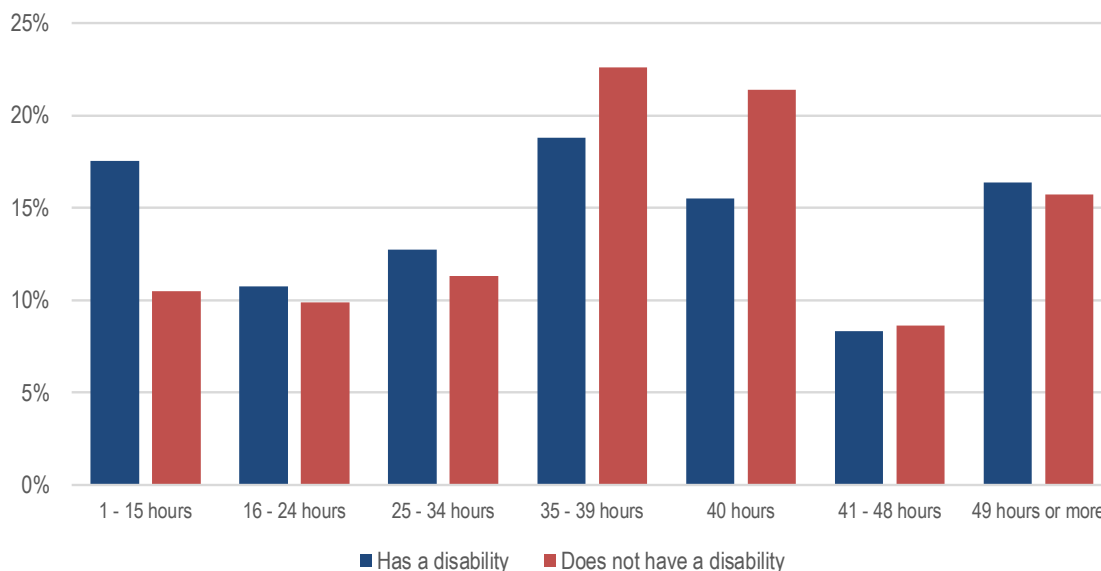


Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file
 Note Certain infectious and parasitic diseases; Certain conditions originating in the perinatal period; and 2018 codes which have no ICD-10 equivalent have been excluded as they have relative standard errors greater than 50 per cent

3.7 Hours worked of working age people in employment

People with disability are much more likely to be working very low hours. Eighteen per cent of people with disability in employment work 1 to 15 hours per week compared to 10 per cent of people with no disability (Figure 19). However, there is little difference in the proportions of those with/without disability working more than 40 hours per week.

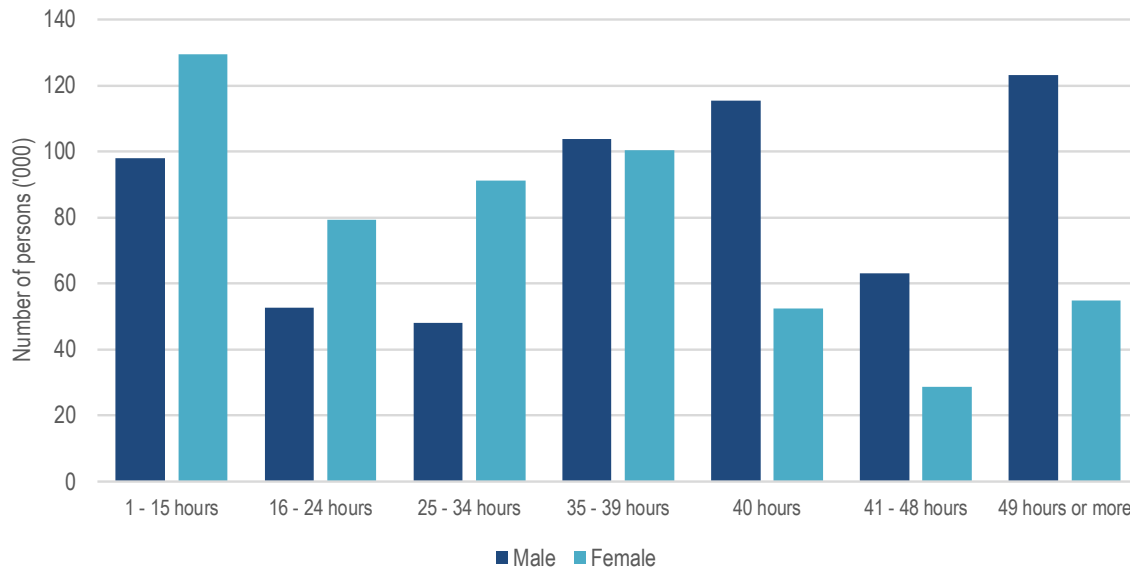
Figure 19 Hours worked by disability status, working age population, Australia, 2018



Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

There are some substantial differences in the hours worked by people with disability by sex (Figure 20). Females have a higher prevalence in all of the part-time employment categories. For example there are 130,000 women working between 1 to 15 hours per week compared to 98,000 males. Conversely, for the full-time and higher hours worked categories males are much more prevalent. There are 55,000 females working 49 hours per week or higher, but 123,000 males.

Figure 20 Hours worked by working age people with disability, by sex, Australia, 2018, persons



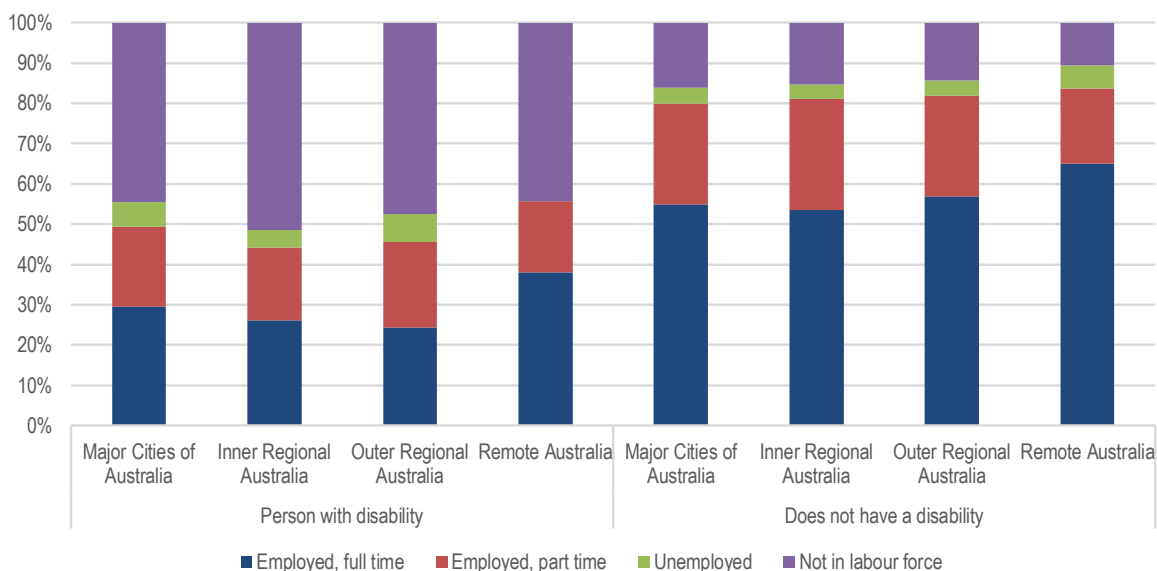
Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

3.8 Regional differences in the employment rates

There is also a difference in employment rates by location; people with disabilities living in ‘Inner Regional’ and ‘Outer Regional’ locations have lower employment rates than those who live in ‘Major Cities’, see Figure 21. This difference is not present for those without disability. The lower employment rates appear to be driven by a lower rate of full-time employment. If there was no gap between employment rates (as is the case for those without disability) 30,000 more people with disability would be in employment.

It is not clear what is driving the difference in employment outcomes but it is worth further investigation to explore whether it arises from differences in the characteristics of people with disability between types of regions, differences in local support networks, differences in the attitudes of local employers, or differences in industry structure.

Figure 21 Labour force status by disability status and remoteness of region, working age population, Australia, per cent of category total



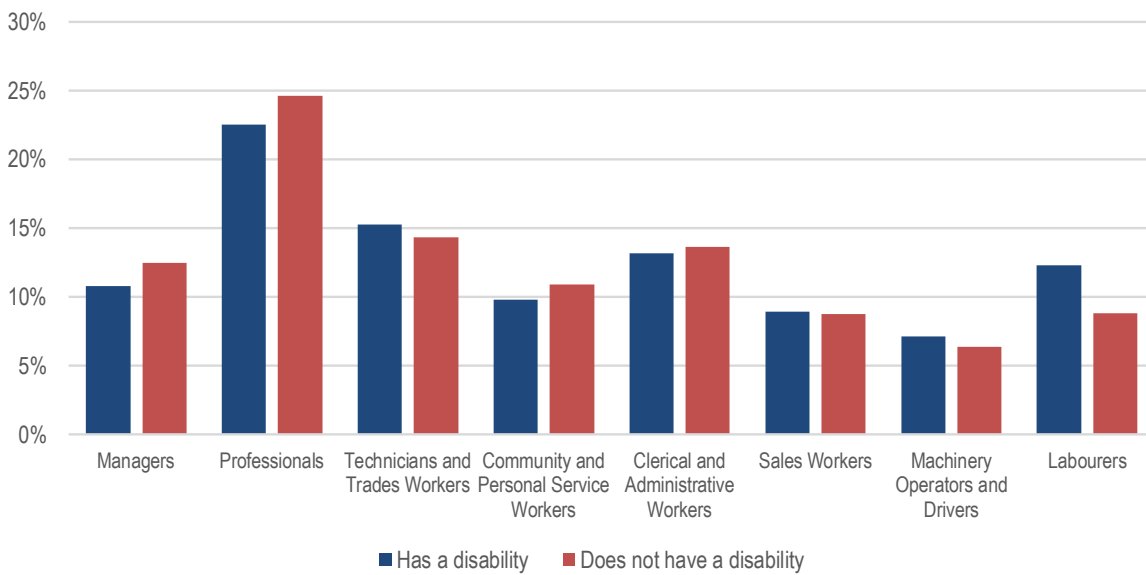
Note: Not applicable excluded
 Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

3.9 Occupation and industry of employment

There are few differences in the occupations of people with disability (at least at the aggregated level) and those without disability, with the largest gap being the higher share of people with disability working as

labourers, and the slightly lower proportions of people with disability who are working as ‘managers’ and ‘professionals’, see Figure 22.

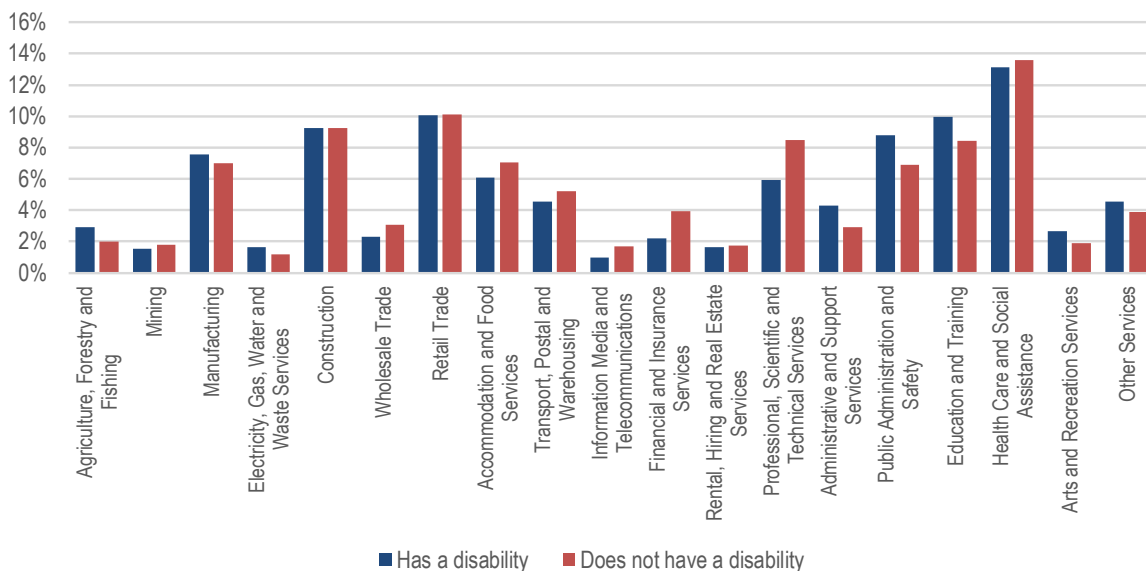
Figure 22 Broad occupation by disability status, employed people of working age, Australia, per cent of total



Note: Not applicable and inadequately described excluded
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

Similarly the patterns of industry of employment are very similar by disability status. People with disability are slightly more likely to be working in ‘administrative and support services’, ‘public administration and safety’ and ‘education and training’ and less likely to be employed in ‘financial and insurance services’ and ‘professional, scientific and technical services’, see Figure 23.

Figure 23 Broad industry of employment by disability status, employed people of working age, Australia, per cent of total

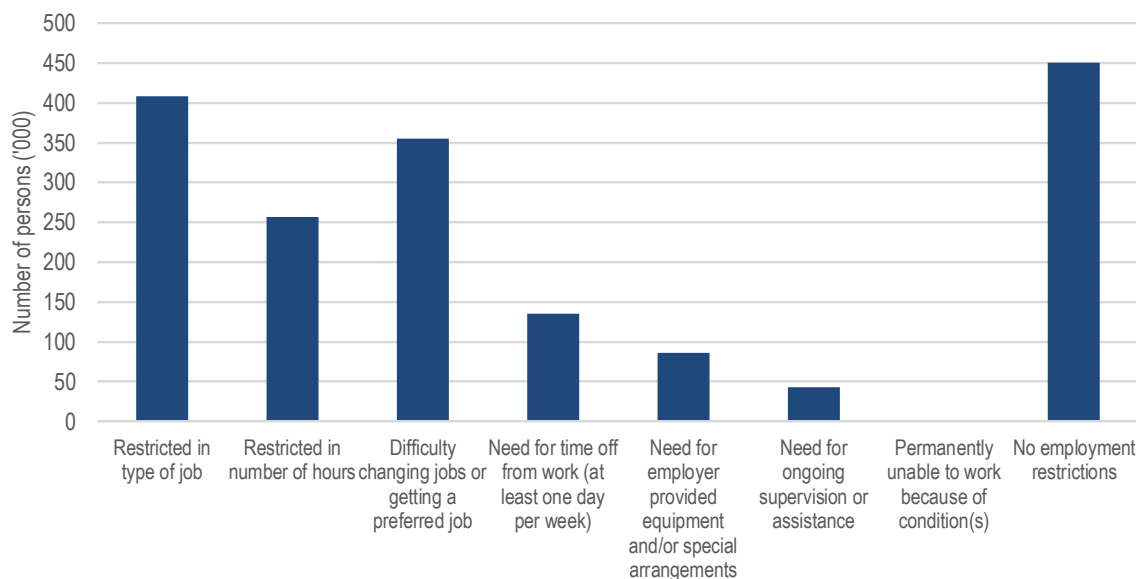


Note: Not applicable and inadequately described excluded
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

3.10 Impact of restrictions and limitations on employment

The most common response to the SDAC from people with disability who are in employment is that they do not experience any employment related restriction, with 450,000 people providing this response (n.b. this is a multiple response question), see Figure 24. However other restriction categories also have a high prevalence, with just over 400,000 ‘restricted in the type of job’ they can undertake, and just over 350,000 experiencing ‘difficulty in changing jobs or getting a preferred job’.

Figure 24 Number of people with disability in employment by type of employment related restriction(s), working age population, Australia 2018, persons

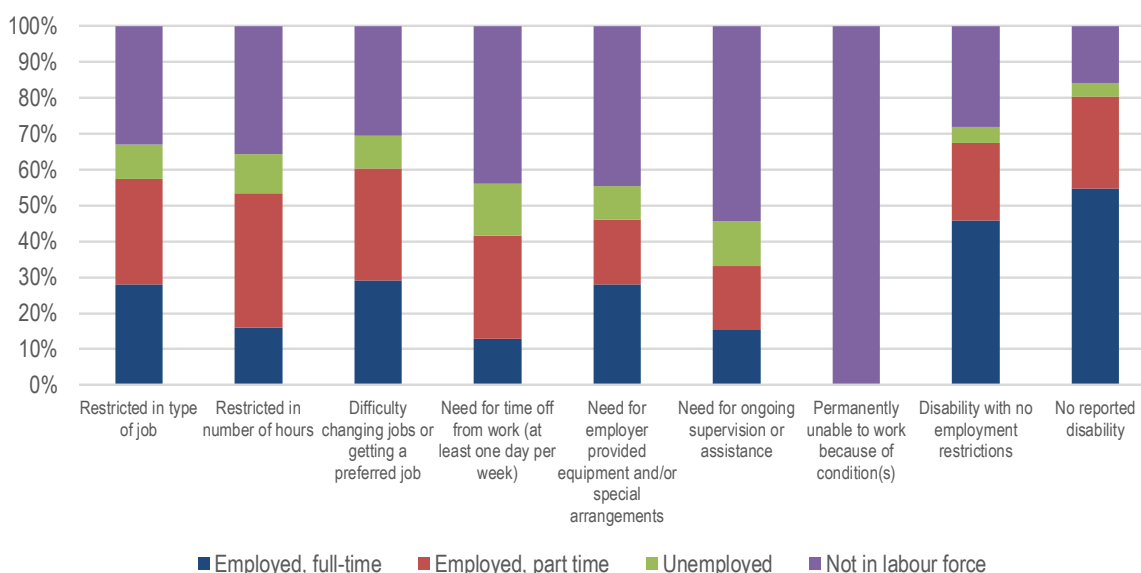


Note: Not applicable excluded
 Restriction categories are non-exclusive (except for no employment restrictions)
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

Employment rates vary substantially based on the employment related restrictions. People with disability with restrictions of the type ‘need for ongoing supervision or assistance’ and a ‘need for time off from work (at least one day per week)’ have much lower rates of employment, particularly full-time employment. In contrast, those people with disability who are ‘restricted in the type of job’ or who face ‘difficulty in changing jobs or getting a preferred job’ have employment rates that were only slightly lower than those who report ‘no employment related restrictions’, Figure 25.

It is also notable that even amongst those with no employment related restrictions, the employment rate is substantially lower than that for those without disability; 68 per cent compared to 82 per cent (Figure 25).

Figure 25 Labour force status by type of employment related restriction(s), working age, Australia 2018, per cent of total



Note: Not applicable excluded
 Restriction categories are non-exclusive (except for no employment restrictions and no reported disability)
 All employment related restriction categories other than ‘no disability’ relate to people with disability
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

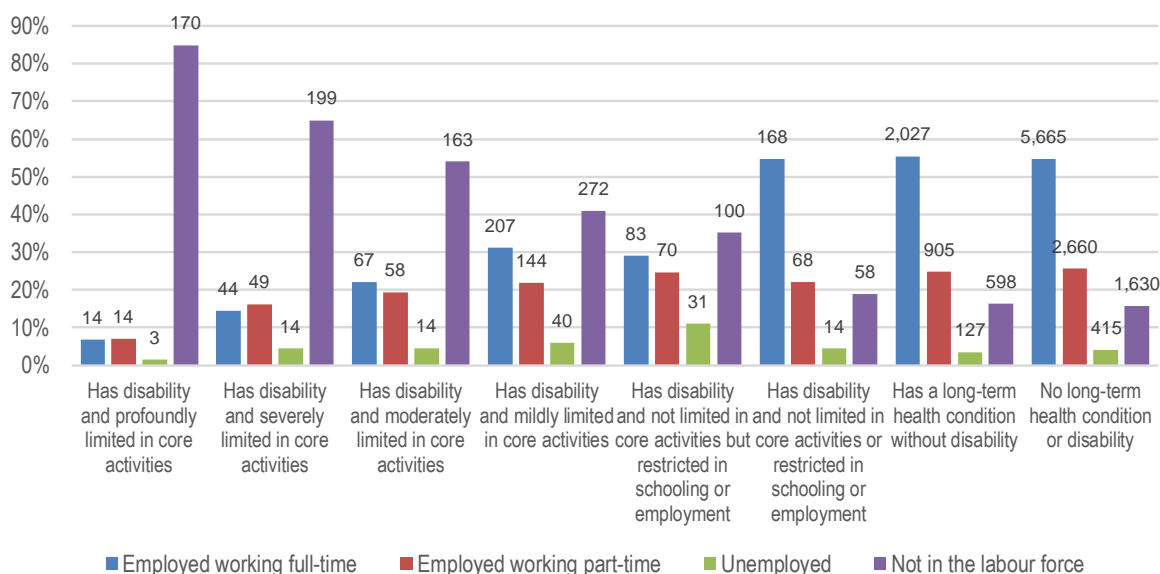
Working age people with disability who do not have a limitation in core activities and who ‘do not face restrictions in accessing employment or schooling’, have an employment rate of 77 per cent, which is only slightly lower than people with no disability but with a long-term health condition, and people with no

disability with no long-term health condition, 80 per cent. Rates of full-time employment are 55 per cent in all three of these categories with the difference occurring in part-time employment, see Figure 26.

As activity restrictions become more severe, employment rates fall sharply. People with disability who are ‘mildly limited in core activities’ have an employment rate of 53 per cent. People with disability with profound limitations in core activities have an employment rate of 14 per cent, with only 7 per cent in full-time employment, Figure 26.

The greatest number of people with disability in work are ‘mildly limited in core activities’, 351,000 people with disability, followed by people with disability who are ‘not limited in core activities or restricted in schooling or employment’, 253,000 people (Figure 26).

Figure 26 Labour force status by degree of limitation in activities, working age, Australia 2018, per cent of category total, (total number of persons ‘000 in column labels)



Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

3.11 Wage income of people with disability in employment

Wage income for people with disability in employment is around 10 per cent lower than for those without disability, with the differential being constant between males and females, see Table 2.

It is important to note that the wage data are the mean, or average, values. Average wages are higher than most people earn as the smaller number of very high income earners push the average upwards. For all Australian wage earners around 60 per cent of wage and salary earners have a wage income that is below the average wage. This is likely to also be the case for people with disability.

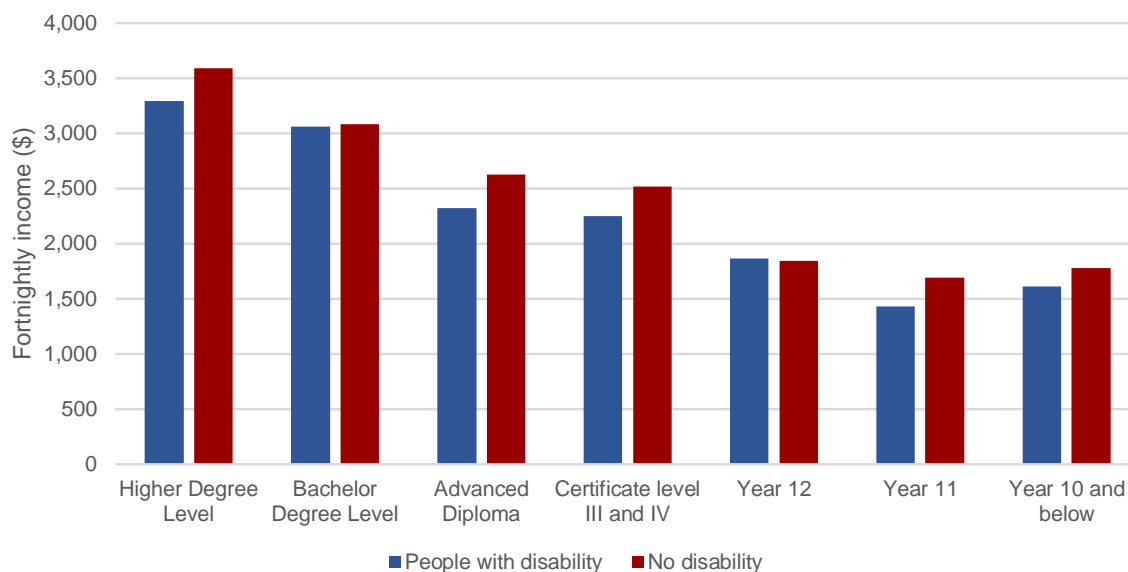
Table 2 Mean fortnightly wages and salary income, by sex and disability status, Australia, 2016 (2016 \$ values)

	People with disability (\$)	People with no disability (\$)
Male	2,727.09	3,043.80
Female	1,933.65	2,153.69

Source ABS, Survey of Disability, Ageing and Carers, 2016, MADIP dataset

Average wage income for people with disability with educational attainment of ‘bachelor’s degree’ and ‘Year 12’ are the same as for people without disability, see Figure 27. For other levels of educational attainment, average wages of people with disability are lower than for those without disability, with the largest gap in wages for people with disability being those whose highest level of educational attainment is ‘Year 11’ and ‘Certificate III and IV’.

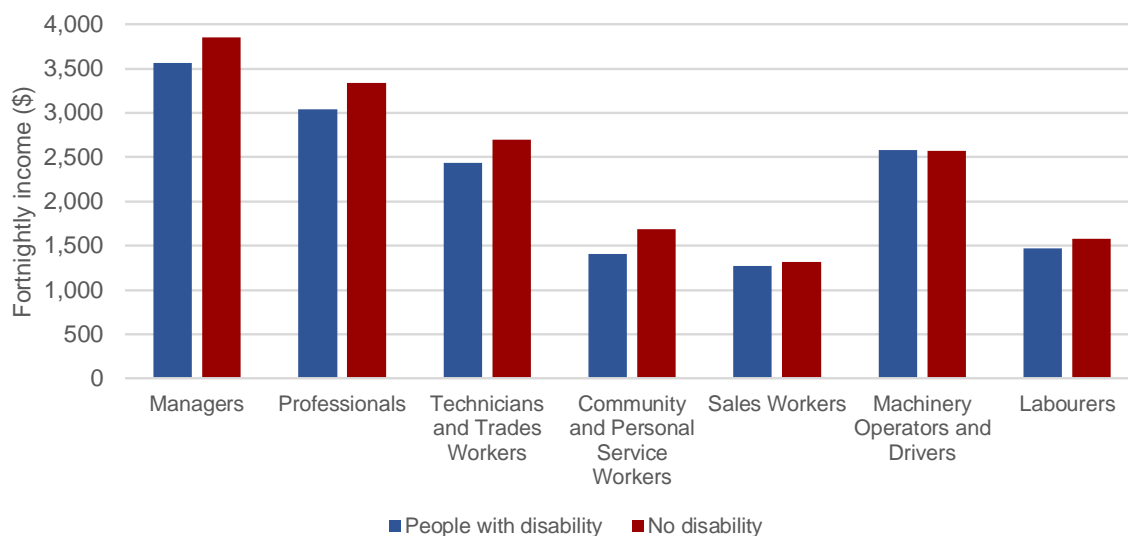
Figure 27 Mean fortnightly wages and salary income, by highest level of educational achievement and disability status, Australia, 2016 (2016 values)



Note Levels of educational attainment 'Certificate level I/II' and 'Not determined' excluded due to low frequency
 Source ABS, Survey of Disability, Ageing and Carers, 2016, MADIP dataset

Breaking down average salary levels by broad occupation groups shows that people with disability have similar wage levels to people without disability if they are working as ‘sales workers’ or ‘machinery operators and drivers’ (Figure 28). However wages for people with disability are lower for the other occupation groups, with the largest gap being for ‘community and personal service workers’.

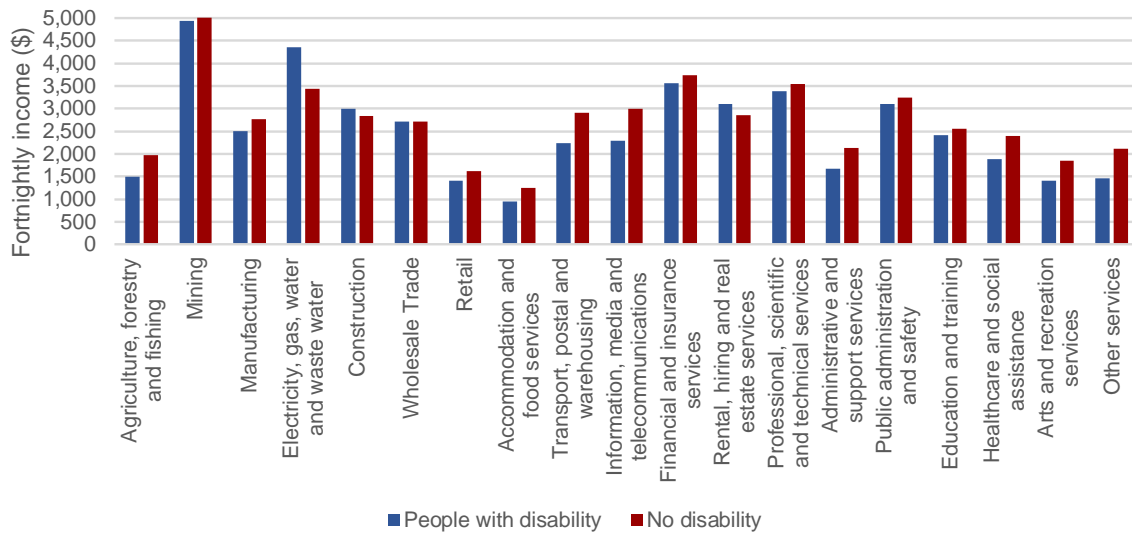
Figure 28 Mean fortnightly wages and salary income, by occupation and disability status, Australia, 2016 (2016 values)



Note 'Clerical and administrative workers' and 'Not determined' excluded due to low frequency
 Source ABS, Survey of Disability, Ageing and Carers, 2016, MADIP dataset

People with disability working in the industry sector ‘electricity, gas, water and waste water’ have higher average wages than those without disability working in the sector, as do those people with disability working in ‘rental, hiring and real estate services’ and ‘construction’, see Figure 29. Wages for people with disability are lower in all other industry sectors, with the gap largest for people with disability working in ‘Other services’.

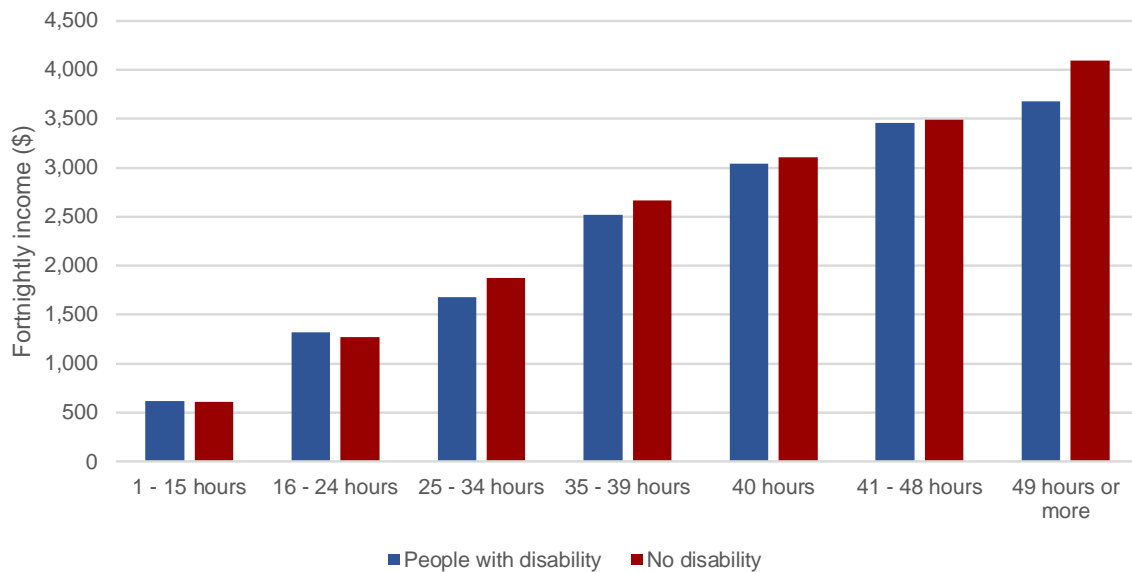
Figure 29 Mean fortnightly wages and salary income, by industry of employment and disability status, Australia, 2016 (2016 values)



Source ABS, Survey of Disability, Ageing and Carers, 2016, MADIP dataset

In most hours worked brackets, the wage income of people with disability and those without disability is quite close, suggesting that differences in average hours worked is an important driver of differences in incomes. However, wages for people with disability working between 25-34 hours per week and working 49 hours or more each week remained notably lower than wages for those without disability, see Figure 30.

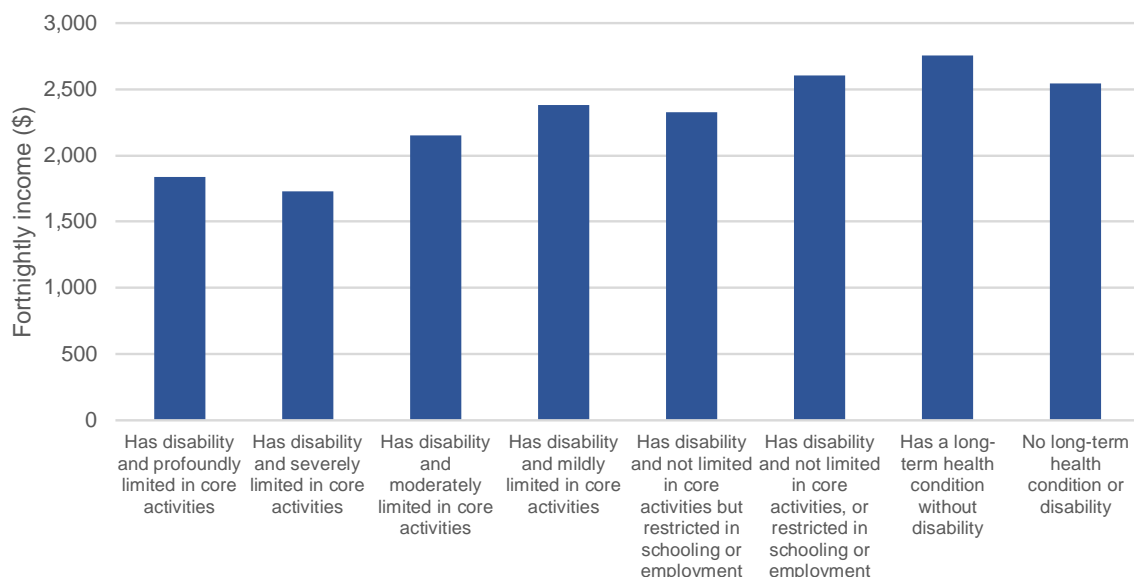
Figure 30 Mean fortnightly wages and salary income, by hours worked and disability status, Australia, 2016 (2016 values)



Source ABS, Survey of Disability, Ageing and Carers, 2016, MADIP dataset

The degree of limitation in core activities has a strong negative correlation with wage income. People with disability experiencing no limitation in core activities and no restriction in schooling or employment have average wage incomes that are in line with those of people without disability. As the severity of core limitations increases, average wages income of people with disability decreases, see Figure 31.

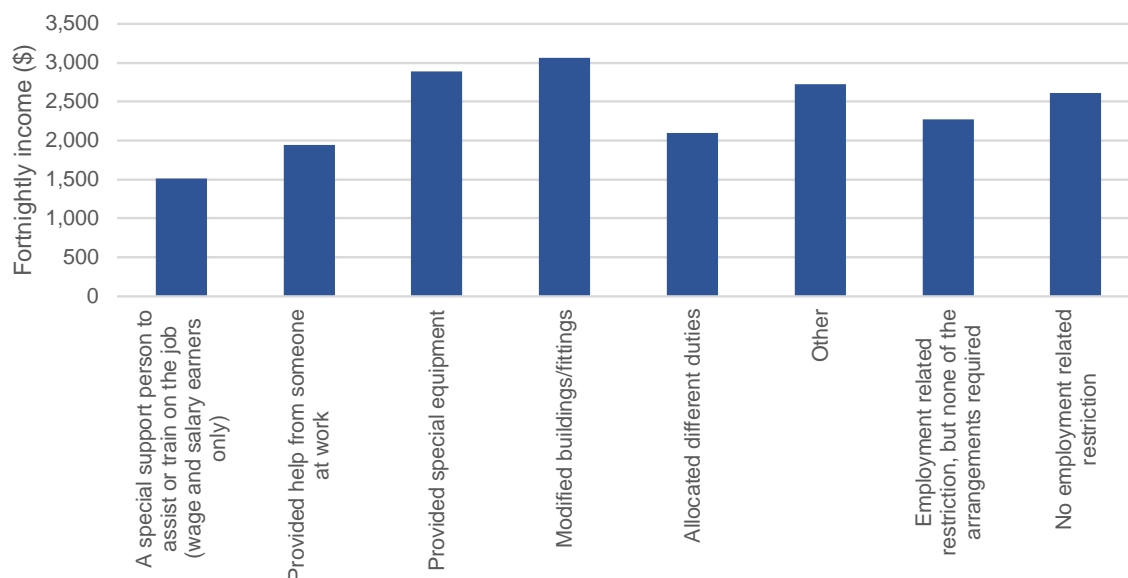
Figure 31 Mean fortnightly wages and salary income, by degree of limitation in core activities, Australia, 2016 (2016 values)



Source ABS, Survey of Disability, Ageing and Carers, 2016, MADIP dataset

There is considerable variance between the mean wages income of people with disability based on the type of arrangements they require in their employment. People with disability who require ‘a special support person to assist or train them on the job’; or need to be ‘provided help from someone at work’, or who need to be ‘allocated different duties’ have wages well below the average for all people with disability, see Figure 32.⁸ People with disability who have an employment related restriction that requires ‘modified buildings/fittings’ or for them to be ‘provided with special equipment’ have wages above the average for all people with disability.

Figure 32 Mean fortnightly wages and salary income, by other employer arrangements required, Australia, 2016 (2016 values)



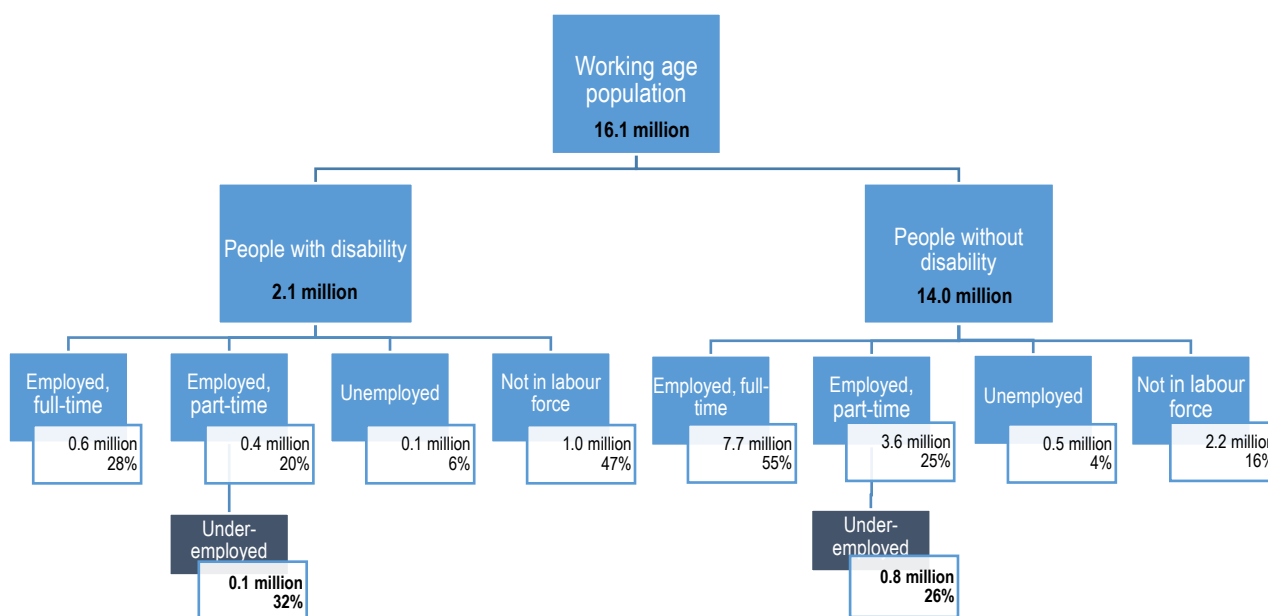
Note Arrangement types ‘Provided special/free transport or parking’ and ‘Provided training/retraining’ excluded due to low frequency. People with disability can have multiple arrangements required, the averages are calculated across every person with disability in employment for whom that type of arrangement is required.

Source ABS, Survey of Disability, Ageing and Carers, 2016, MADIP dataset

⁸ Part of the difference may arise from higher proportions of people with disability who require these types of support in work being paid productivity based wages, but this cannot be identified in the available data.

4. Working Age People with Disability who are Under-employed

- Working fewer hours than would be preferred is called under-employment.
- In total there are 62,000 females with disability who are under-employed, and 39,000 males.
- 10.1 per cent of people with disability in employment are under-employed compared to 6.9 per cent of people without disability.
- Females with disability are much more likely to experience under-employment than those without; 24 per cent of part-time workers compared to 19 per cent.
- Young people with disability experience a much higher relative rate of under-employment; 43 per cent of people with disability aged 25 to 34 years and working part-time are under-employed compared to 29 per cent of young people without disability.
- Those working 15 hours a week or less make up more than half the total under-employed people with disability. There are 48,000 people with disability working 15 hours or less who would like to work additional hours, compared to 21,000 people working 16-24 hours a week and 25,000 working 25 to 34 hours.
- The largest numbers of people with disability who are under-employed work in 'retail trade' and in 'healthcare and social assistance' (25,000 and 23,000 under-employed people respectively).
- The gap between the under-employment rate of people with and without disability is greatest for Managers, with 27 per cent of people with disability under-employed compared to 10 per cent of people without disability.
- People with disability are most likely to be under-employed if their degree of limitation in core activities is 'has a disability and not limited in core activities but restricted in employment or schooling' and 'mildly limited in core activities'. Forty thousand people with disability who are 'mildly limited in core activities' are under-employed.



Twenty per cent of all working age people with disability are working part-time (defined by the ABS as less than 35 hours per week). This equates to 41 per cent of people with disability in work. For many of these people with disability, part-time work aligns with their preferences, allowing time for other commitments and responsibilities, or reflects the individual's current capabilities in terms of hours worked. However, for other people with disability, their current level of hours do not reflect their preferences or capabilities but rather the hours offered in their current job. This latter case is called **under-employment**. The ABS identifies under-employment by asking those in employment but working less than 35 hours per week whether they would prefer a job which offered more hours and, if so, whether they would be able to take a job with more hours within the next four weeks if it were offered to them.

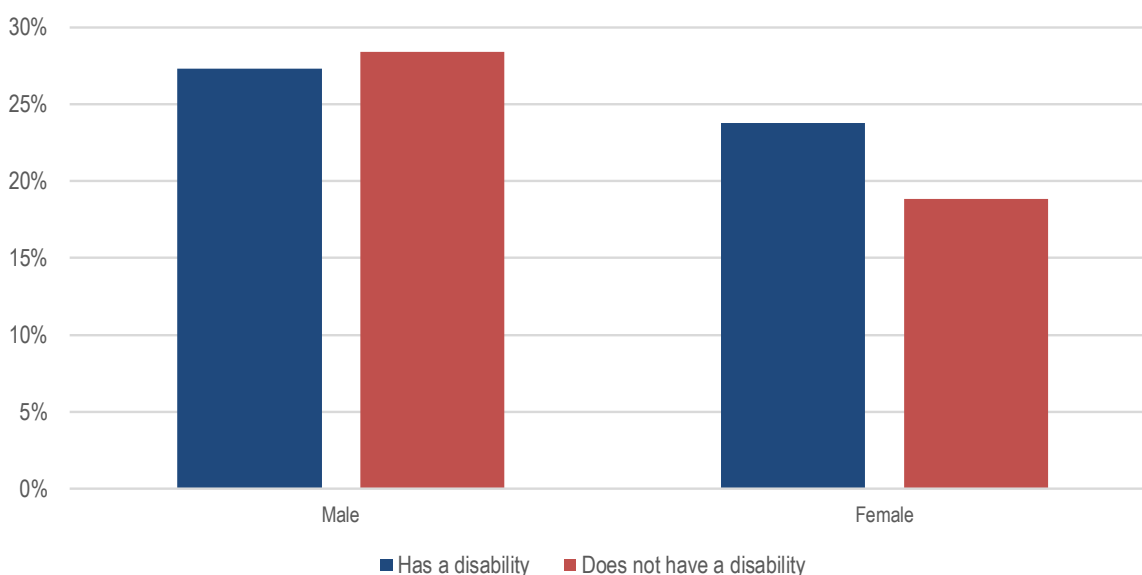
Under-employment is more commonly experienced by people with disability than it is by people without disability; 10.1 per cent of people with disability in employment are under-employed compared to 6.9 per cent for people without disability (ABS, 2019).

4.1 Under-employment by gender

The pattern of under-employment for males is remarkably similar between people with and without disability, with around 27 per cent of part-time workers under-employed. However, females with disability are much more likely to experience under-employment than those without disability; 24 per cent of part-time workers compared to 19 per cent, see Figure 33.

In total, there are 62,000 females with disability who are under-employed, and 39,000 males.

Figure 33 Sex based difference in under-employment, by disability status, working age, Australia 2018, per cent of total part-time employees



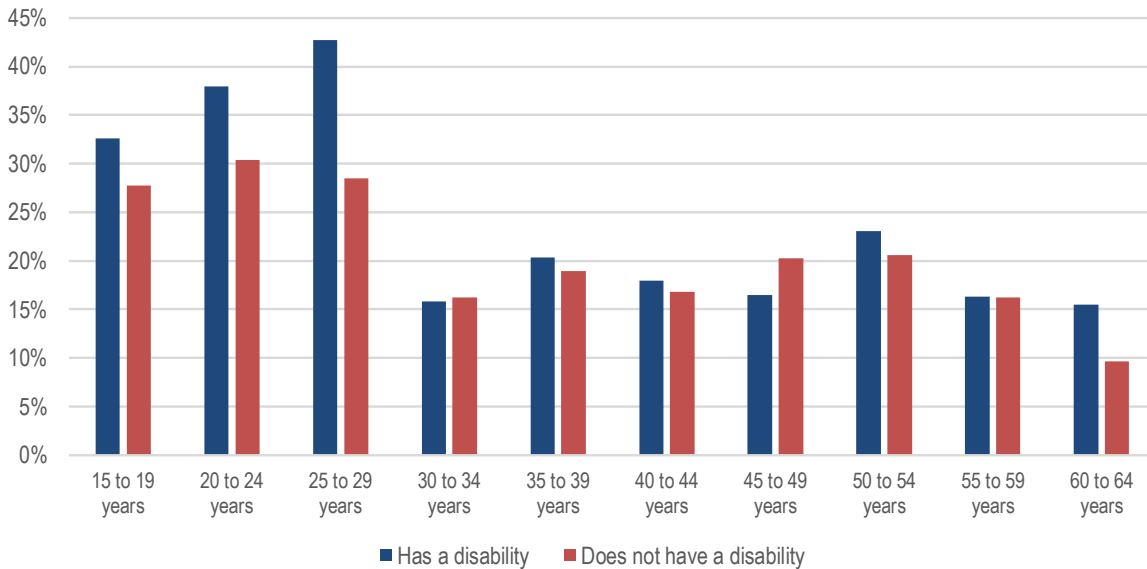
Proportion of people working part-time who indicated that they would like a job with more hours and that they could take a job with more hours within the next four weeks if one was offered to them

Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

4.2 Under-employment by age

A degree of 'excess' under-employment of people with disability is present across all but the youngest age groups, but the largest gaps between the under-employment rates of people with disability and those without disability occurs amongst those aged 20 to 29 years (see Figure 34). Amongst those aged 25 to 29 and working part-time, 43 per cent of people with disability are under-employed compared to 29 per cent of people without disability. This has the potential to have lasting implications over the working life as these are ages at which workers are typically consolidating their careers.

Figure 34 Age based differences in under-employment by disability status, working age, Australia 2018, per cent of total part-time employees

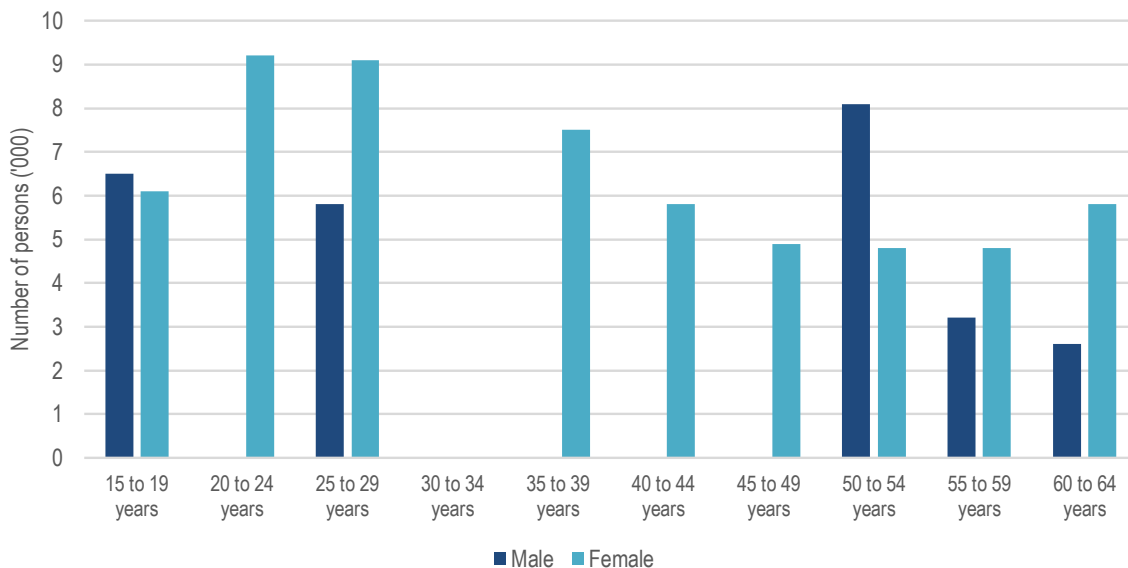


Proportion of people working part-time who indicated that they would like a job with more hours and that they could take a job with more hours within the next four weeks if one was offered to them
 Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

There are more females with disability who are under-employed than males in all age groups other than 15 to 19 years and 50 to 54 years (Figure 35).

The largest groups of under-employed people with disability are females aged 20 to 24 years and 25 to 29 years, with just over 9,000 females with disability in each age group under-employed. For males the largest number of under-employed people with disability is in the 50 to 54 year age group.

Figure 35 Age and sex based differences in under-employment, working age people with disability, Australia 2018, numbers ('000)

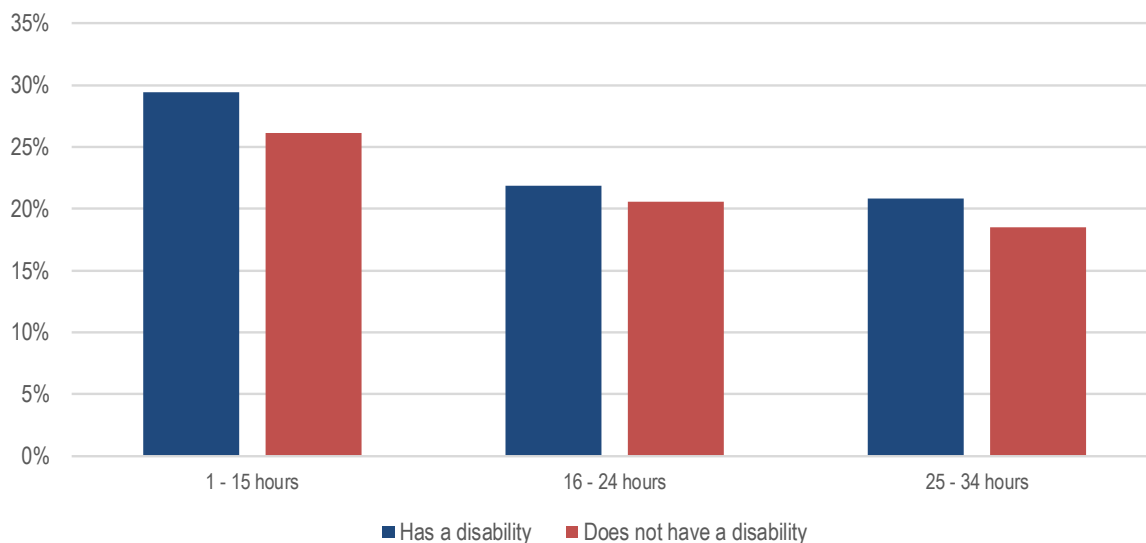


Proportion of people working part-time who indicated that they would like a job with more hours and that they could take a job with more hours within the next four weeks if one was offered to them
 Note The relative standard error for the estimate for males aged 20-24, 30-34, 35-39, 40-44, and 45-49 and for females aged 30-34 were all greater than 50 per cent and so the data has not been reported.
 Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

4.3 Under-employment by hours worked

The proportion of part-time workers who are under-employed decreases as average hours worked increases, with the pattern holding for both people with disability and people without disability, see Figure 36.

Figure 36 Differences in under-employment by hours usually worked per week and disability status, working age, Australia 2018, per cent of total part-time employees

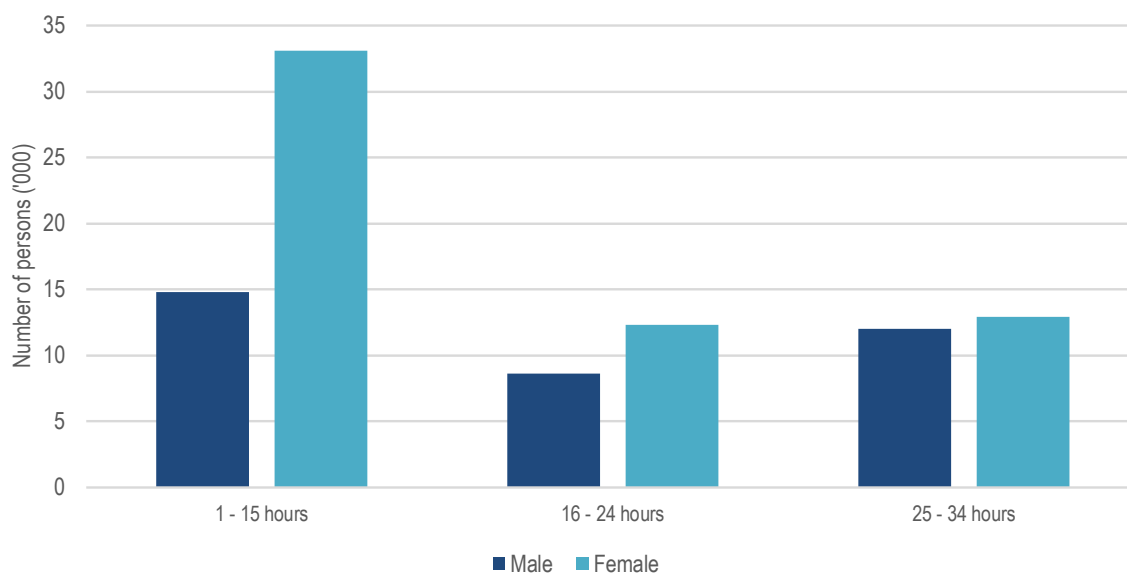


Proportion of people working part-time who indicated that they would like a job with more hours and that they could take a job with more hours within the next four weeks if one was offered to them
 Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

People with disability working 15 hours a week or less make up more than half the total people with disability who are under-employed. There are 48,000 people with disability working 15 hours or less who would like to work additional hours (51 per cent of all under-employed people with disability), compared to 21,000 people working 16-24 hours a week and 25,000 working 25 to 34 hours, see Figure 37.

This is particularly true for females with disability, 33,000 working 15 hours or less are under-employed (Figure 37).

Figure 37 Number of people under-employed by hours usually worked per week, working age people with disability, Australia 2018, numbers ('000)



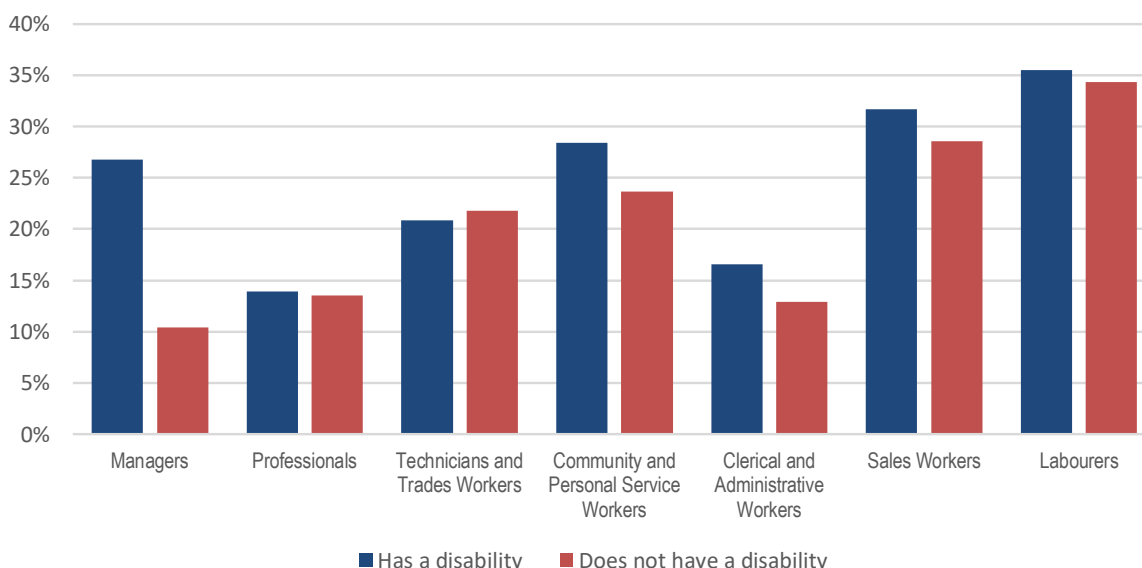
Proportion of people working part-time who indicated that they would like a job with more hours and that they could take a job with more hours within the next four weeks if one was offered to them
 Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

4.4 Under-employment by occupation and industry

People working part-time as labourers are most likely to be under-employed. This is true for both people with disability and people without disability, see Figure 38.

The gap between the under-employment rate of people with disability and people without disability is greatest for Managers, with 27 per cent of people with disability under-employed compared to 10 per cent of people without disability (Figure 38).

Figure 38 Differences in under-employment by occupation and disability status, working age, Australia 2018, per cent of total part-time employees



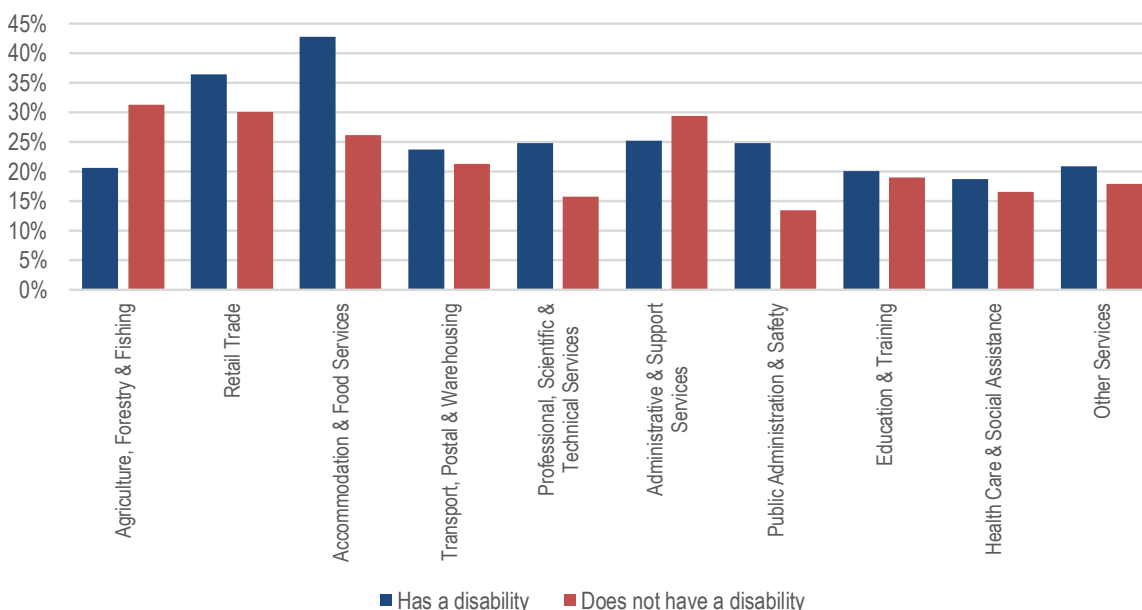
Proportion of people working part-time who indicated that they would like a job with more hours and that they could take a job with more hours within the next four weeks if one was offered to them

Note Machinery Operators and Drivers are excluded, as the relative standard error for people with disability is greater than 50 per cent

Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

‘Accommodation and food services’ has the largest proportion of part-time workers with disability who are under-employed — over 45 per cent, see Figure 39. This is partly a consequence of part-time and casual working arrangements being more common in this sector, however, this sector also has the largest gap between the under-employment rate of people with disability and those people without disability. The largest numbers of people with disability who are under-employed work in ‘retail trade’ and in ‘accommodation and food services’ (22,000 and 19,000 under-employed people respectively).

Figure 39 Differences in under-employment by industry of employment^a and disability status, working age, Australia 2018, per cent of total part-time employees



Proportion of people working part-time who indicated that they would like a job with more hours and that they could take a job with more hours within the next four weeks if one was offered to them

Note: Relative standard errors for the estimate of under-employed people with disability in the sectors ‘Mining’; ‘Manufacturing’; ‘Construction’; ‘Electricity, Gas, Water and Waste Services’; ‘Wholesale Trade’; ‘Rental, Hiring and Real Estate Services’; ‘Information Media & Telecommunications’; and ‘Financial & Insurance Services’ are greater than 50 per cent and so these sectors have been excluded from the graph.

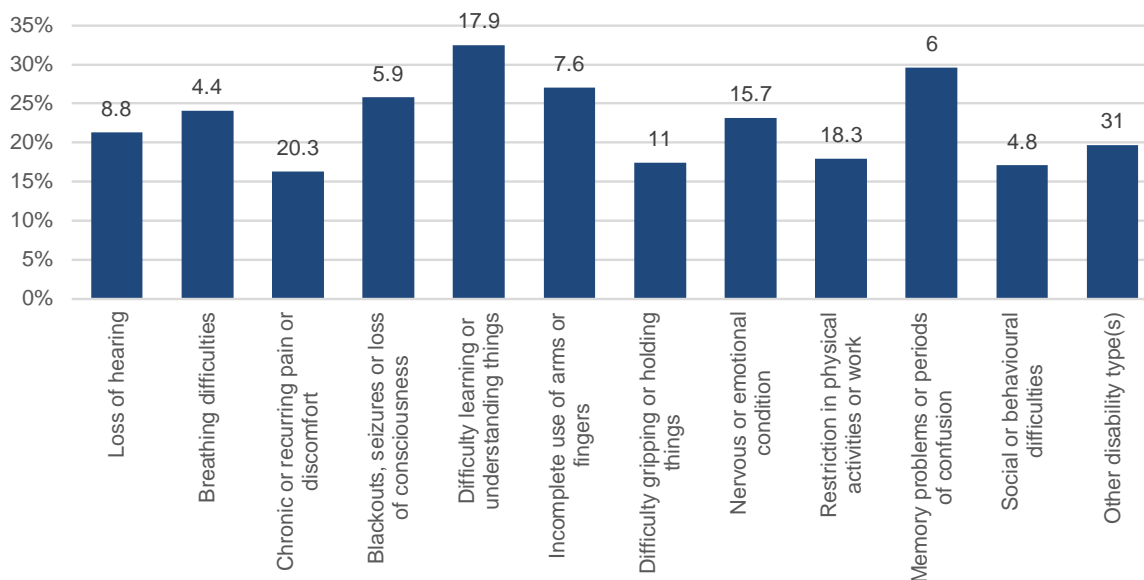
Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

4.5 Under-employment by disability type

People with disability are relatively more likely to be under-employed if they have the disability types ‘difficulty learning or understanding things’, and ‘memory problems or periods of confusion’, see Figure 40.

The greatest numbers of under-employed people with disability are those whose specific disability type is ‘chronic or recurring pain or discomfort’ (20,000 people) and ‘restriction in physical activities or work’ (18,000 people) reflecting the greater numbers of people in part-time work with these conditions.

Figure 40 Under-employment amongst people with disability by disability type, working age, Australia 2018, per cent of part-time employees (total number of persons ‘000 in column labels)



Proportion of people working part-time who indicated that they would like a job with more hours and that they could take a job with more hours within the next four weeks if one was offered to them

Note: Multiple responses are possible for this question.

Relative standard errors for the estimate of under-employed people with disability with the disability types ‘Loss of sight’; ‘Speech difficulties’; ‘Incomplete use of feet or legs’; ‘Disfigurement or deformity’; ‘Mental illness’; and ‘Head injury, stroke or other acquired brain injury’ and so these disability types have been excluded from the graph.

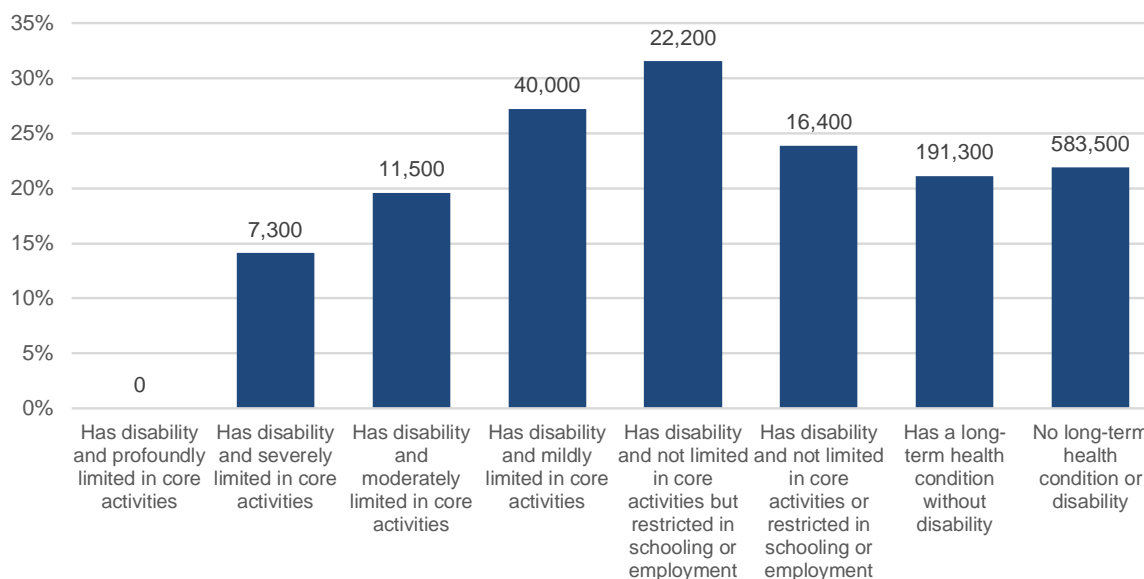
Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

4.5 Under-employment by limitations or restrictions in activities

People with disability who are working part-time are most likely to be under-employed if their degree of limitation in core activities is ‘has a disability and not limited in core activities but restricted in employment or schooling’ or ‘mildly limited in core activities’, see Figure 41.

Forty thousand people with disability who are ‘mildly limited in core activities’ are under-employed.

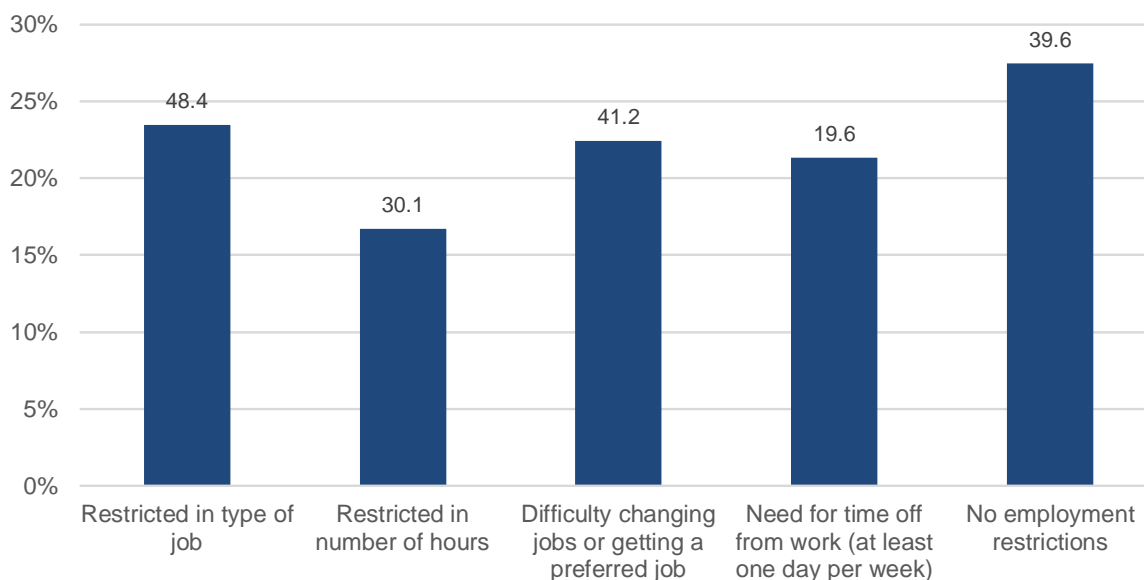
Figure 41 Under-employment amongst people with disability by degree of limitation in core activities, working age, Australia 2018, per cent of part-time employees (total number of persons '000 in column labels)



Proportion of people working part-time who indicated that they would like a job with more hours and that they could take a job with more hours within the next four weeks if one was offered to them
 Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

The highest rates of under-employment for people with disability were amongst those with 'no employment related restrictions', see Figure 42. In terms of absolute numbers, the employment related restriction(s) 'restricted in type of job' and or 'difficulty changing jobs or getting a preferred job' were experienced by the most people who were under-employed (Figure 42).

Figure 42 Under-employment amongst people with disability by employment related restriction, working age, Australia 2018, per cent of part-time employees (total number of persons '000 in column labels)



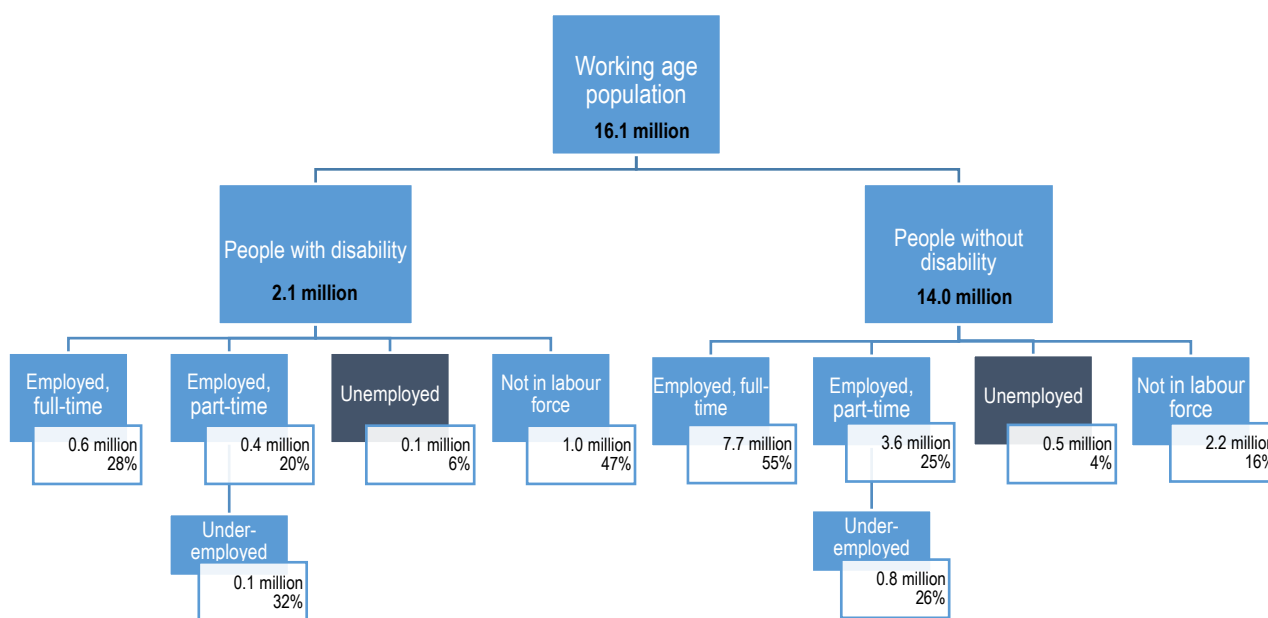
Proportion of people working part-time who indicated that they would like a job with more hours and that they could take a job with more hours within the next four weeks if one was offered to them
 Note Multiple responses are possible to this question and so the totals reported for each restriction type will add up to more than the total number of people with disability who are under-employed
 The relative standard error for the employment related restrictions 'Need for support person at work'; 'Need for employer provided equipment and/or special arrangements'; and 'Need for ongoing supervision or assistance' were greater than 50 per cent and so these restriction categories have been excluded from the graph.
 Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

There is also broader evidence that job mobility is restricted for those with a disability, and this may be only partly related to the modifications/equipment needed not being easily transferred. An evaluation of JobAccess, which includes the Employment Assistance Fund (EAF) that gives financial help to eligible people with disability and employers to buy work related modifications, equipment, Auslan services and support services, suggests there is little evidence of EAF users changing jobs (DSS 2019, p.46). These employment related restrictions act as barriers to job mobility and may partially explain why rates of

under-employment are higher for people with disability, as changing jobs can be an important way of increasing hours.

5. People with Disability Who are Unemployed

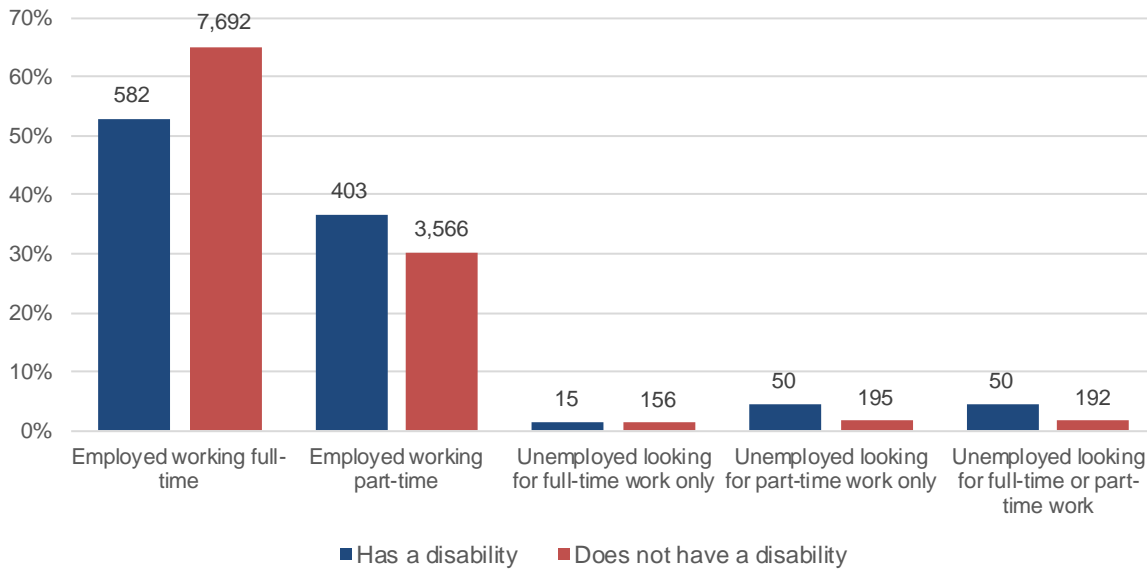
- There are 115,000 people with disability who are unemployed, an unemployment rate of 10.5 per cent. This is a substantially higher rate of unemployment than for those working age people without disability, which is 4.6 per cent (2018 data).
- Males with disability are much more likely to be unemployed than females.
- Unemployment rates are generally high amongst the youngest age category regardless of disability status, however unemployment rates for people with disability remain substantially higher than for people without disability through to those aged 64 years.
- The most common employment related restriction experienced by people with disability who are unemployed is 'restricted in type of job', which is experienced by around 70,000 of the 115,000 people with disability.
- For thirty eight per cent of unemployed people with disability 'own ill health or disability' was a barrier to finding employment, compared to 2 per cent of people without disability. People with disability were also more likely to be 'considered too old by employers', and less likely to report 'too many candidates for available jobs' than people without disability.



ABS data makes a distinction for people not in paid work between those who are currently **unemployed** and those who are not in the labour force. The difference is based on whether or not the person not in employment has actively searched for employment in the past four weeks, and whether or not a person is able to take up work within the current week (see Figure 1). For a person not in work to be classified as unemployed they need to be both actively seeking work and able to start work within the current week if a job were to become available.

There are 115,000 people with disability who are unemployed, translating into an unemployment rate of 10.5 per cent, see Figure 43. The unemployment rate for people with disability is substantially higher than those for working age people without disability (4.6 per cent), despite people with disability also being more likely to not be in the labour market. People who are not actively seeking work and who are unable to start a job within the current week are not in the labour force.

Figure 43 Employment and unemployment by disability status, per cent of those in the labour force, Australia, 2018 (total number of persons '000 in column labels)

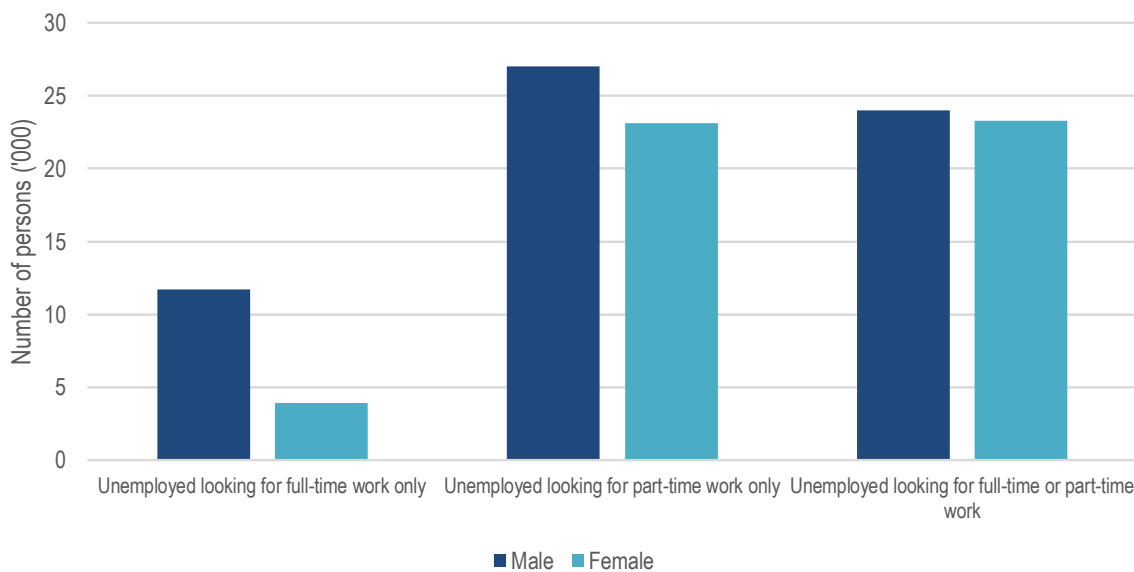


Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

5.1 Unemployment by gender

Males with disability are much more likely to be unemployed than females with disability, with the gap particularly large in the sub-category of those looking for full-time work only (noting there are comparatively less people in this category), see Figure 44.

Figure 44 People with disability who are unemployed by sex, working age population, Australia, 2018, persons ('000)

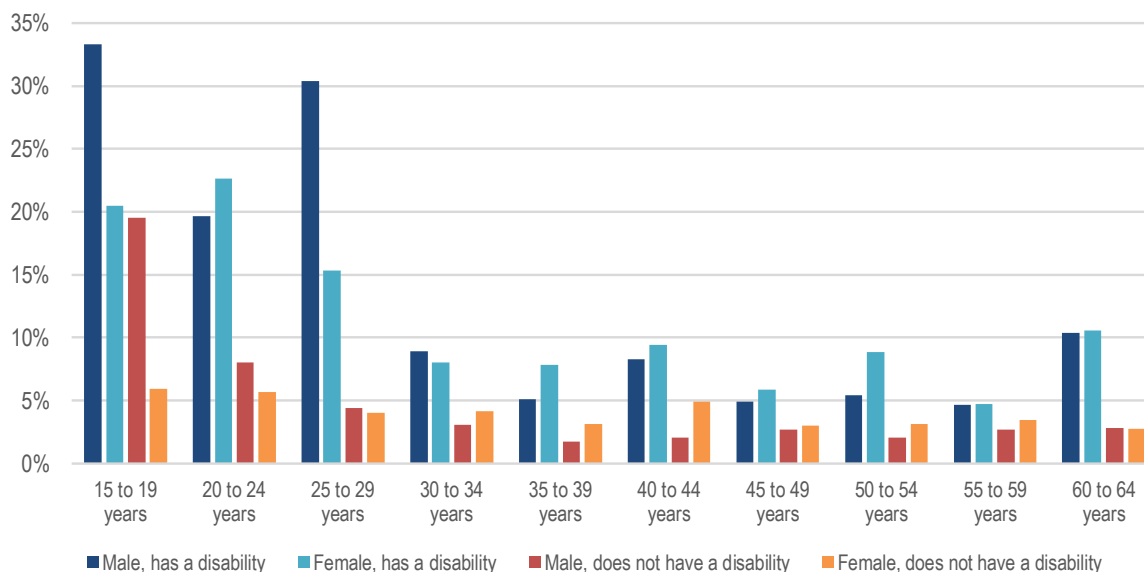


Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

5.2 Unemployment by age

Unemployment rates are higher amongst the youngest age categories for both people with disability and people without disability. For people without disability, the unemployment rate falls below 5 per cent by 25 to 29 years old and does not exceed that level in any subsequent age group. This is not the case for people with disability, where the substantial fall in unemployment rates does not occur until the 30 to 34 year age range. Even then, unemployment rates for people with disability remain substantially higher than those for people without disability through to 64 years, see Figure 45.

Figure 45 Unemployment rates by disability status, age and sex, Australia, 2018, per cent of those active in the labour force in each age/sex/disability status group

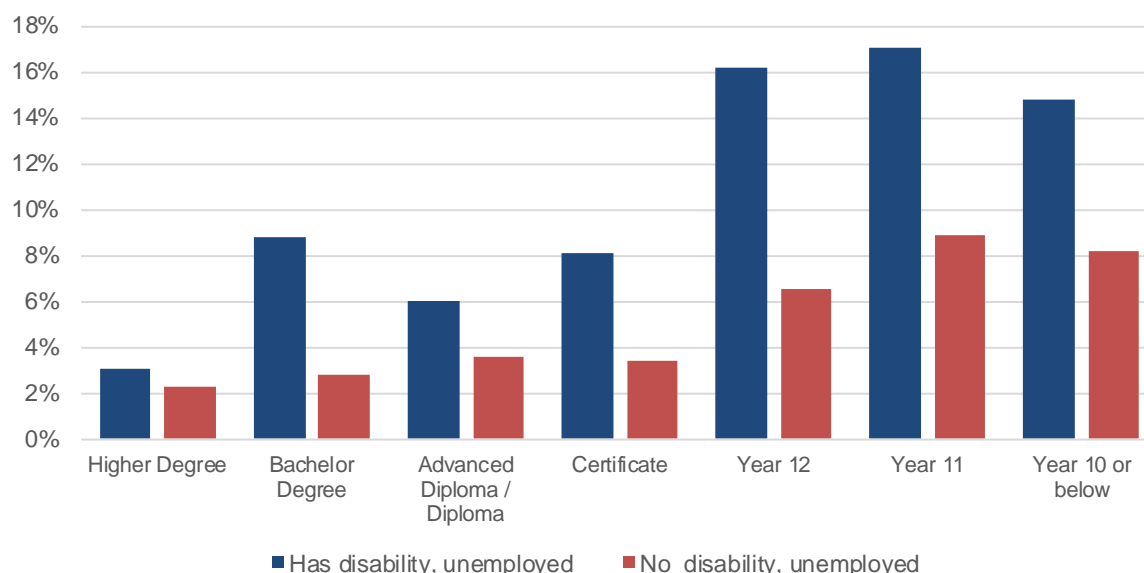


Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

5.3 Unemployment by level of education

For most of the levels of educational attainment, unemployment rates show a similar trend between people with disability and those without disability, albeit at a higher rate of unemployment for people with disability for each category, see Figure 46. Unemployment rates gradually increase with lower levels of educational attainment, peaking for those whose highest level of educational attainment is year 11 and year 12, and falling somewhat for those whose highest level of attainment is year 10 or less. The notable exception to this similar pattern is those with bachelor’s degrees, where the unemployment rate for people with disability is more than three times higher than the rate of those without disability (8.8 per cent compared to 2.8 per cent).

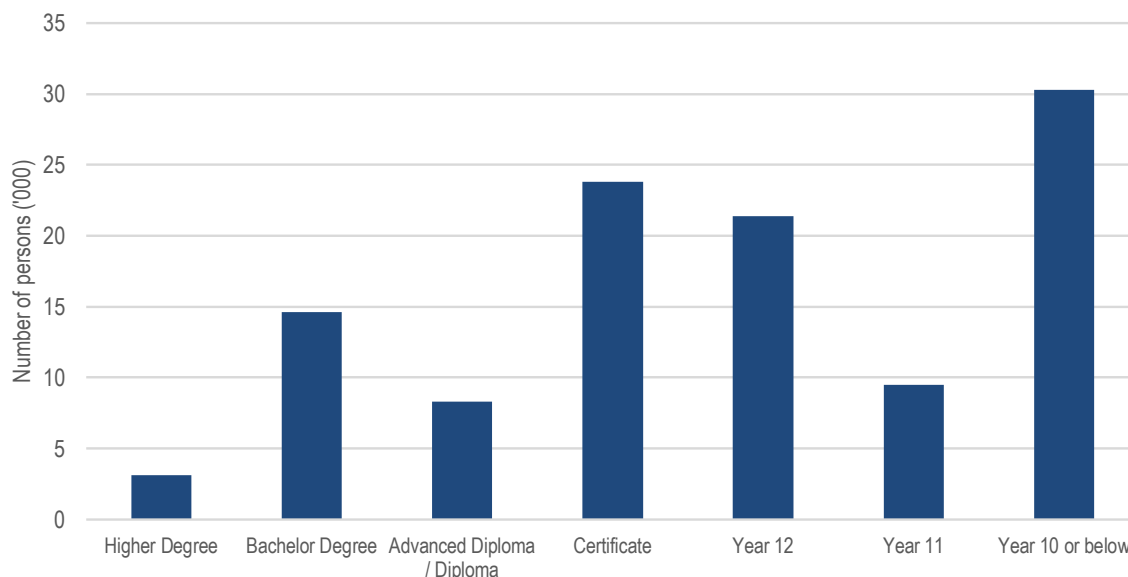
Figure 46 Unemployment rates by disability status and highest level of educational attainment, Australia, 2018, per cent of those active in the labour force in each educational attainment/disability status group



Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

The picture is somewhat different when the data is expressed in numbers of people, see Figure 47. Due to the high prevalence of ‘Year 10 or below’ as the highest level of educational attainment amongst people with disability roughly a quarter of the unemployed people with disability have this level of educational attainment. The next most common level of educational attainment amongst unemployed people with disability is a Vocational Education and Training (VET) certificate.

Figure 47 Working age people with disability who are unemployed by highest level of education, Australia, 2018, persons ('000)



Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

5.4 Difficulties finding work

The barriers to securing work experienced by those who are unemployed differ sharply between people with disability and people without disability. There were 94 per cent of people with disability who experienced at least one barrier to securing employment. Three times more people without disability experienced no specific difficulties in finding employment than people with disability (17 per cent compared to 6 per cent), see Figure 48.

Thirty eight per cent of unemployed people with disability experienced 'own ill health or disability' as a barrier to finding employment, compared to 2 per cent of people without disability.

People with disability were also more likely to be 'considered too old by employers', and less likely to report 'too many candidates for available jobs' than people without disability.

Figure 48 Difficulties in finding work for people looking for employment, by disability status, Australia, 2018

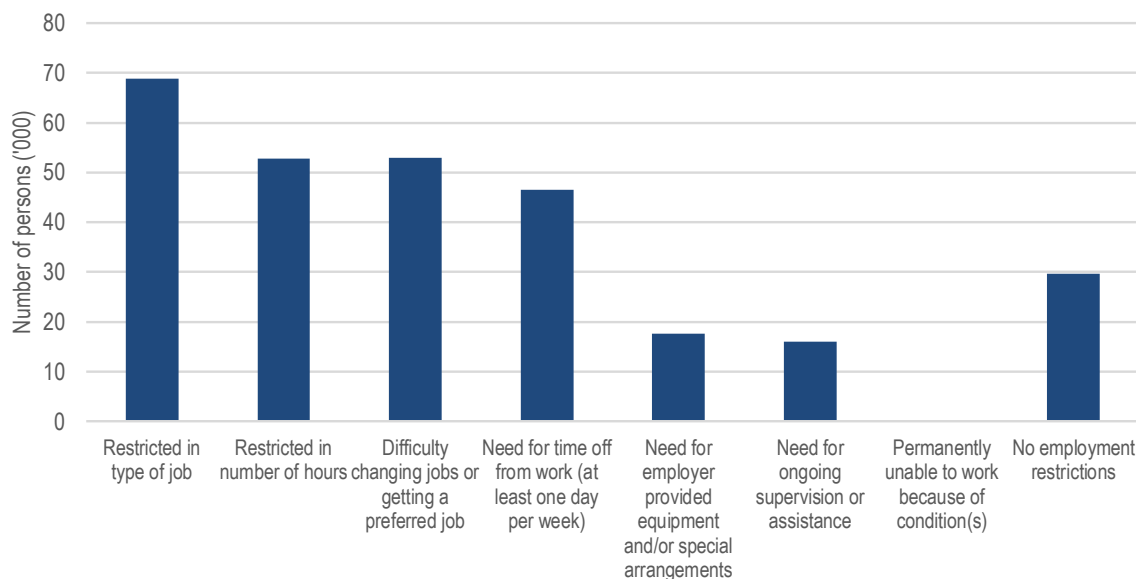


Note: Respondents can experience more than one type of difficulty and so responses will sum to more than 100%.
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

5.5 Unemployment by limitations or restrictions in activities

The most common employment related restriction faced by people with disability who are unemployed is ‘restricted in type of job’, which is experienced by around 70,000 of the 115,000 people with disability who are unemployed. ‘Restricted in number of hours’, ‘difficulty in changing jobs or getting a preferred job’, and ‘need time off from work (at least one day per week)’ were each experienced by around 50,000 people with disability. Around 30,000 people with disability who are unemployed experienced no employment related restrictions, see Figure 49.

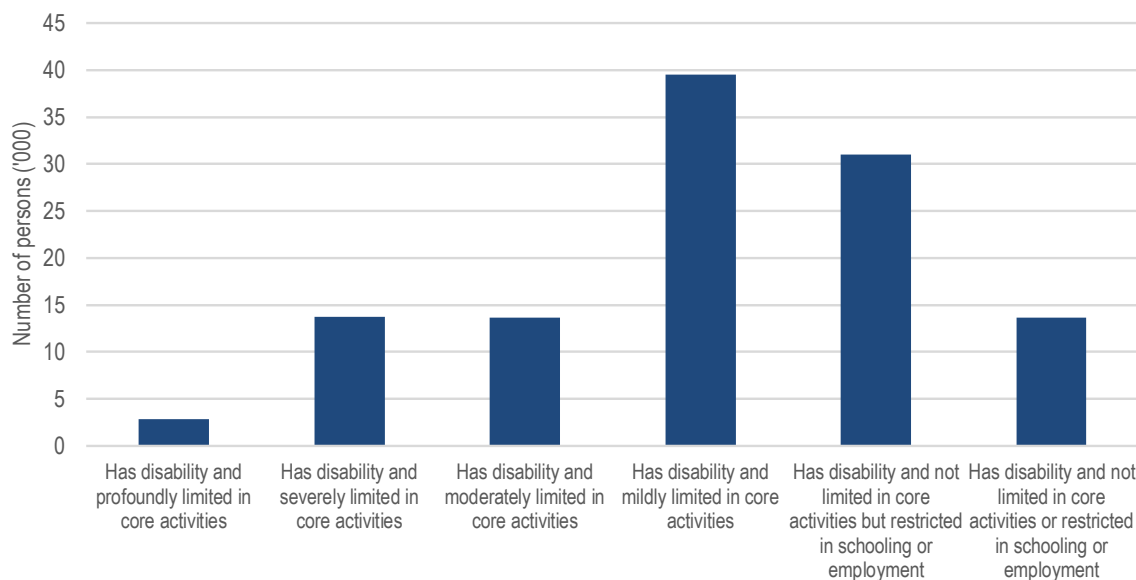
Figure 49 Working age people with disability who are unemployed by employment related restriction, Australia, 2018, persons ('000)



Note: Respondents can experience more than one type of employment related restriction and so responses will sum to more than 100%.
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

A clear majority (70,000 out of 115,000) of people with disability who are unemployed had limitations in core activities that were relatively less severe, either ‘mildly limited in core activities’ or ‘not limited in core activities but restricted in schooling or employment’. There are twice as many people with disability unemployed with moderate to severe limitations in core activities than there are with no limitations or restrictions related to work or school, see Figure 50.

Figure 50 Working age people with disability who are unemployed by severity of limitations in core activities, Australia, 2018, persons ('000)



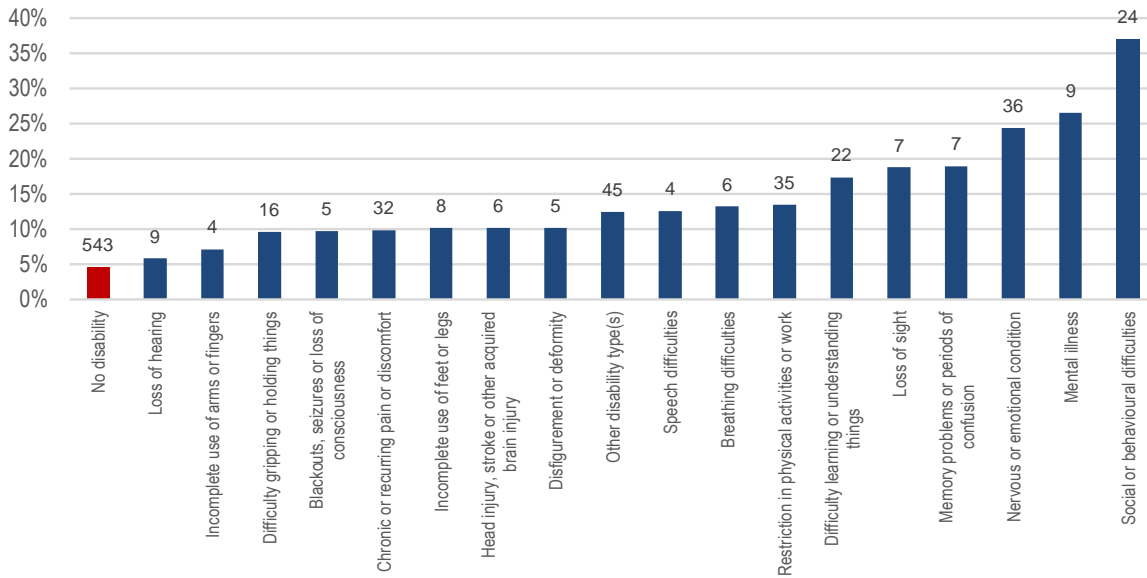
Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

5.6 Unemployment by disability type

There are significant variations in unemployment rates across disability types, although all disability types have unemployment rates above those for people without disability, see Figure 51.

In terms of absolute numbers, there are four disability types which each account for over 30,000 unemployed people with disability each. These are ‘Other disabilities’; ‘Nervous or emotional condition’; Restriction in physical activities or work’, and ‘Chronic or recurring pain or discomfort’ (Figure 51).

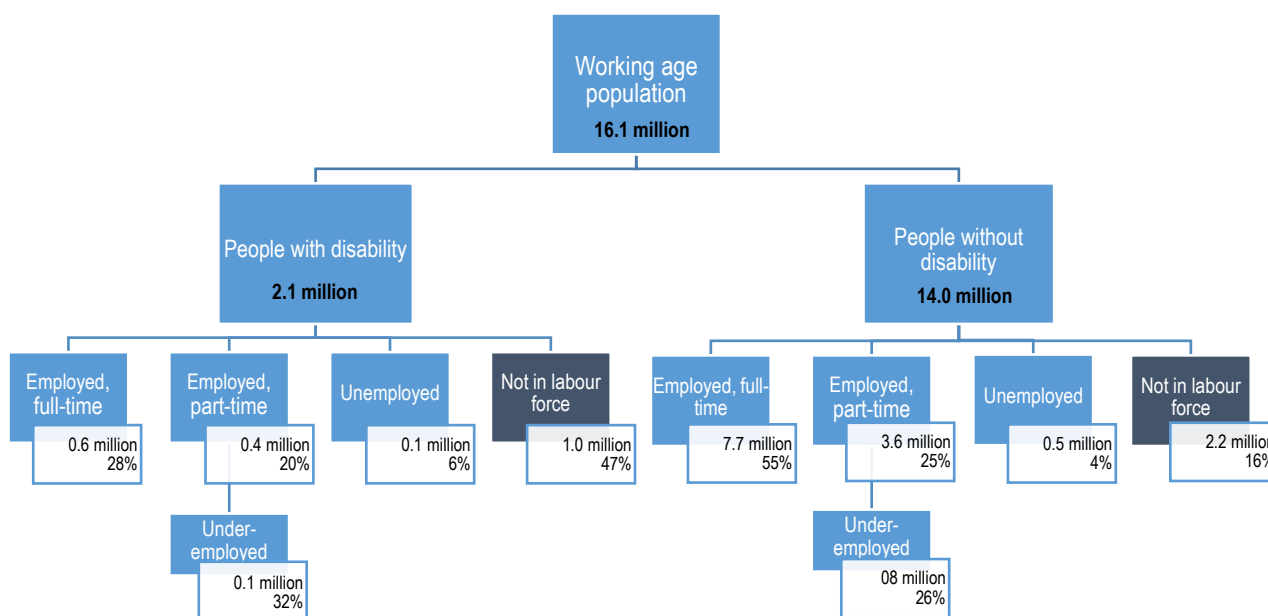
Figure 51 Unemployment rates by disability type, Australia, 2018, per cent of those active in the labour force in each disability type (total number of persons '000 in column labels)



Note Individuals can have more than one disability type and so totals may sum to more than the total population of people with disability who are unemployed.
 Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

6. Working Age People with Disability who are Not in the Labour Force

- The proportion of working age people with disability who are not in the labour force is significantly higher than for those without disability, 47 per cent compared to 16 per cent.
- Females with disability are more likely to be not in the labour force than males, with just under 450,000 males and just over 500,000 females with disability not in the labour force.
- As they enter prime working age (20 to 24 years), the proportion of people with disability not in the labour force by age group remains around 30 to 40 per cent (compared to around 5 per cent for males and to 15 to 20 per cent for females without disability).
- The most common employment related restrictions amongst people with disability who are not in the labour force is ‘permanently unable to work because of condition(s)’, a restriction experienced by just over 500,000 of the 959,000 people with disability not in the labour force. The next most common restriction is ‘restricted in type of job’.
- Just under 200,000 of the working age people with disability who are not in the labour force experienced no employment related restrictions.
- ‘Mildly limited in core activities’ was the most common limitation in core activities among people with disability who are not in the labour force.



Those who are either not currently actively seeking work, or who would not be able to take a job within the current week if one became available are classified as ‘not in the labour force’.

This status does not mean some won’t transition into employment over the medium term. A proportion of those not in the labour force have either: ceased active search for employment as they are discouraged, but would take employment if it were offered; or have short to medium term factors preventing them from currently taking a job, but which will resolve over the medium term.

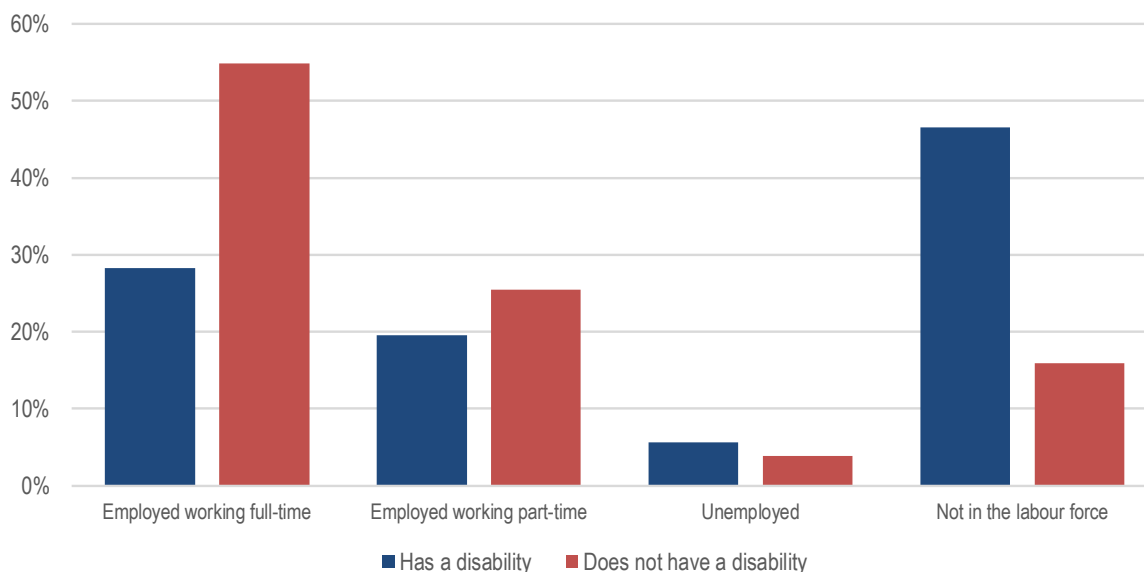
Of the 959,000 people with disability whose labour force status is ‘not in the labour force’, 138,000 were intending to seek work in the next 12 months and a further 124,000 were not currently sure whether or not they would seek work in the next 12 months.. This pool of *potential* jobseekers is in addition to the 115,000 people with disability who are currently unemployed⁹.

This Section will review the characteristics of those people with disability who are not in the labour force.

⁹ Combined, these groups make up the 253,000 people with disability who are not currently employed, but who are potentially job ready – which is the focus of Section 8 of this report. It is worth noting a further 124,000 reported that they were uncertain whether or not they would seek work in the next 12 months.

The proportion of working age people with disability who are not in the labour force (47 per cent) is significantly higher than the proportion of those without disability (16 per cent), see Figure 52.

Figure 52 Labour force participation by disability status, Australia, 2018, per cent of working age population

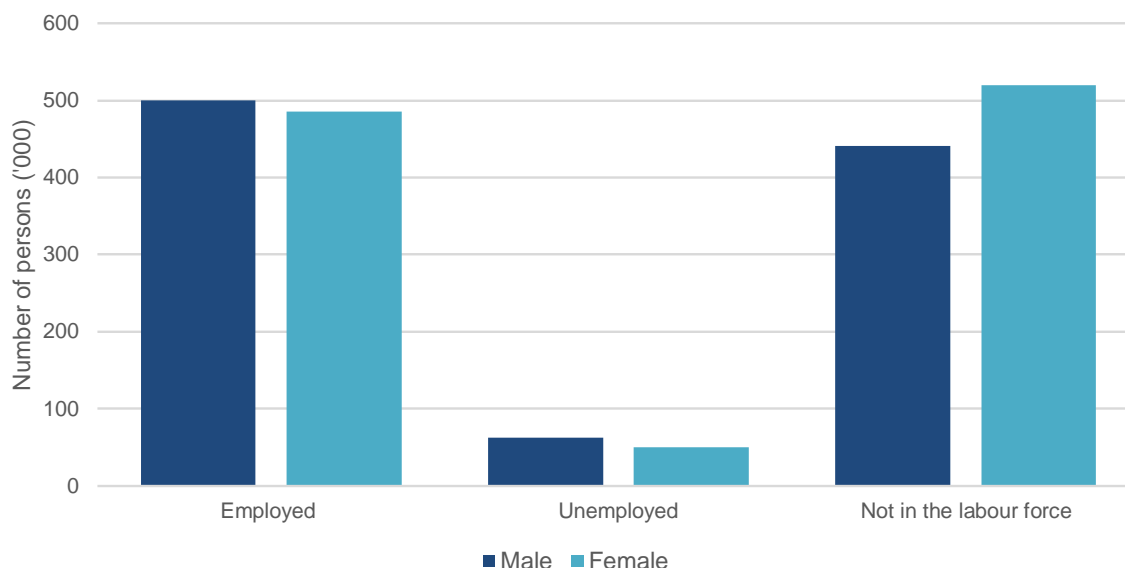


Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

6.2 People not in the labour force by gender

The number of people with disability who are not in the labour force is similar to the number who are employed (958,500 people with disability are not in the labour force and 984,600 are employed full-time or part-time). Females with disability are more likely to be ‘not in the labour force’ than males. There are just under 450,000 males with disability not in the labour force, and just over 500,000 females not in the labour force (Figure 53).

Figure 53 Labour force participation by people with disability, Australia, 2018, persons ('000)

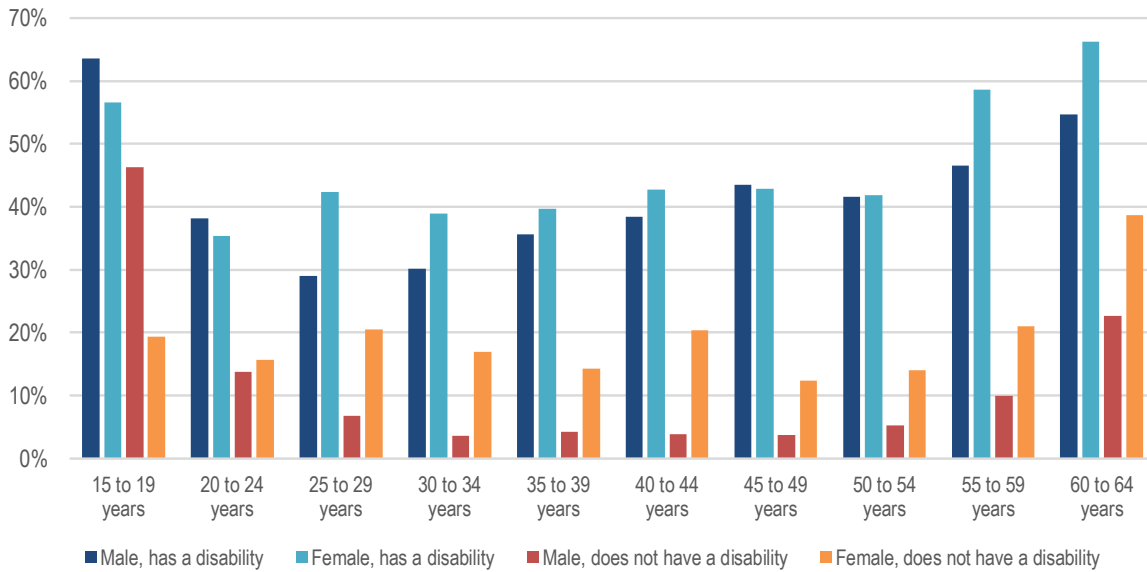


Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

6.2 People not in the labour force by age

The proportion of people with disability by age who are not in the labour force follows a similar pattern to that of those without disability. However there are some important differences. Whilst for those without disability the proportion not in the labour force falls to around 5 per cent for males and to 15 to 20 per cent for females as they enter prime working age (20 to 24 years), the proportion of people with disability not in the labour market remains around 30 to 40 per cent. The gap in labour force participation between males and females is also smaller for people with disability, particularly through the ages of 35 to 54, see Figure 54.

Figure 54 Proportion of the working age population not in the labour force by disability status, sex and age group, per cent of age group/disability status group



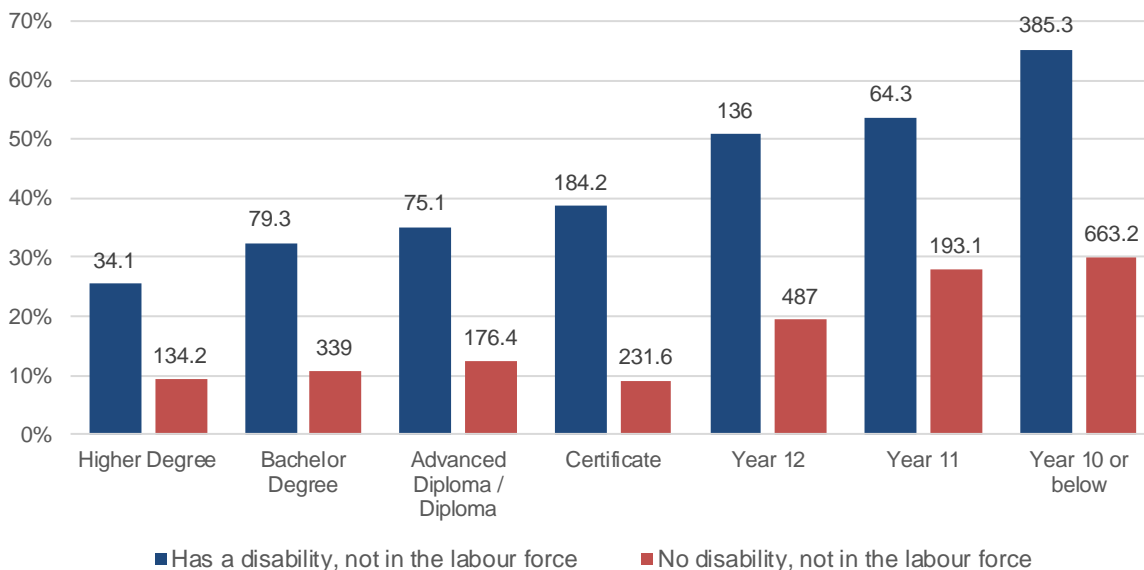
Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

6.3 People not in the labour force by education

The proportion of people with disability not in the labour force follows the same pattern of educational attainment as for those without disability, but with around two and a half times the proportion of the population not in the labour force at each level of educational attainment, see Figure 55.

Almost 400,000 people have ‘year 10 or below’ as their highest level of educational attainment. The next most common level of educational attainment is a VET certificate, with almost 200,000 people with disability not in the labour force having this as their highest level of education (Figure 55).

Figure 55 Proportion of working age people not in the labour force by disability status and highest level of educational attainment, Australia, 2018, per cent (total number of persons ‘000 in column labels)



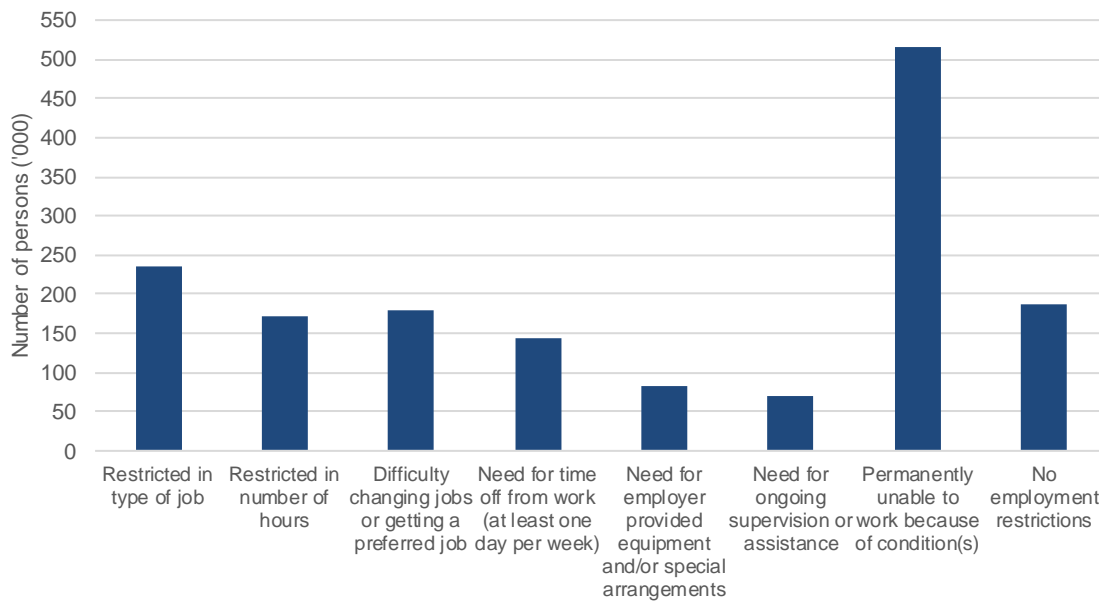
Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

6.4 Restrictions and limitations in activities among people not in the labour force

Employment related restrictions are very common amongst people with disability who are not in the labour force. Most common is ‘permanently unable to work because of condition(s)’, a restriction experienced by

just over 500,000 of the 960,000 people with disability not in the labour force, see Figure 56.¹⁰ The next most common restriction is ‘restricted in type of job’. Just under 200,000 of the working age people with disability who are not in the labour force have no employment related restriction.

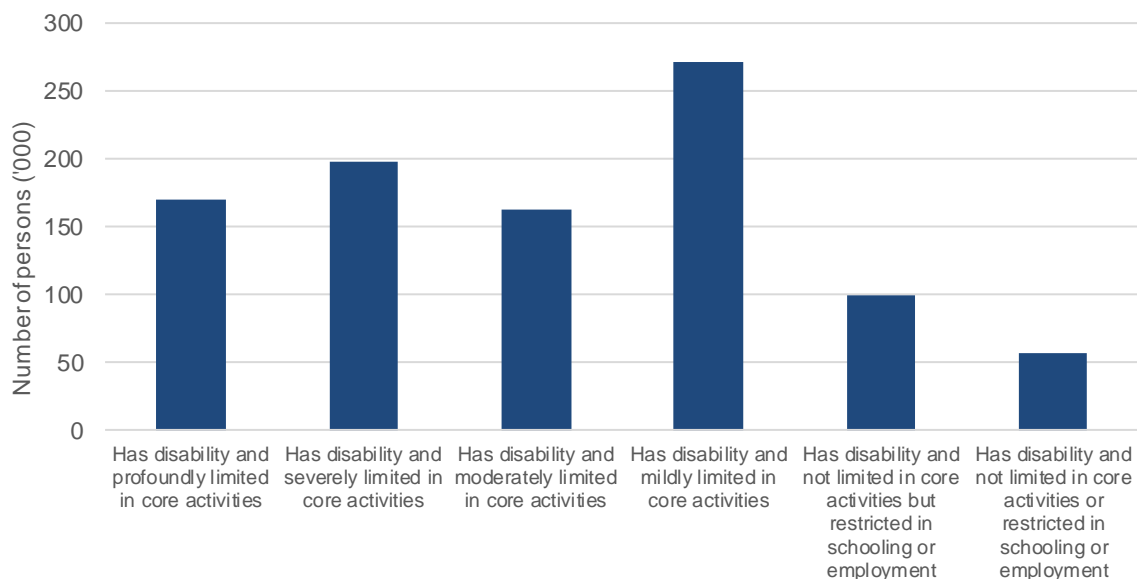
Figure 56 Employment related restrictions amongst people with disability who are not in the labour force, Australia, 2018, working age population, persons ('000)



Note: Respondents can experience more than one type of employment related restriction and so the numbers experiencing each restriction will sum to more than the total.
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

Whilst ‘mildly limited in core activities’ was the most common limitation experienced by people with disability who are not in the labour force, a substantial number experienced the most severe limitations – 170,000 are profoundly limited in core activities and 200,000 are severely limited in core activities (Figure 57). Around 50,000 of those not in the labour force had no limitations in core activities or restrictions in schooling or employment.

Figure 57 Working age people with disability who are not in the labour force by severity of limitations, Australia, 2018, persons ('000)



Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

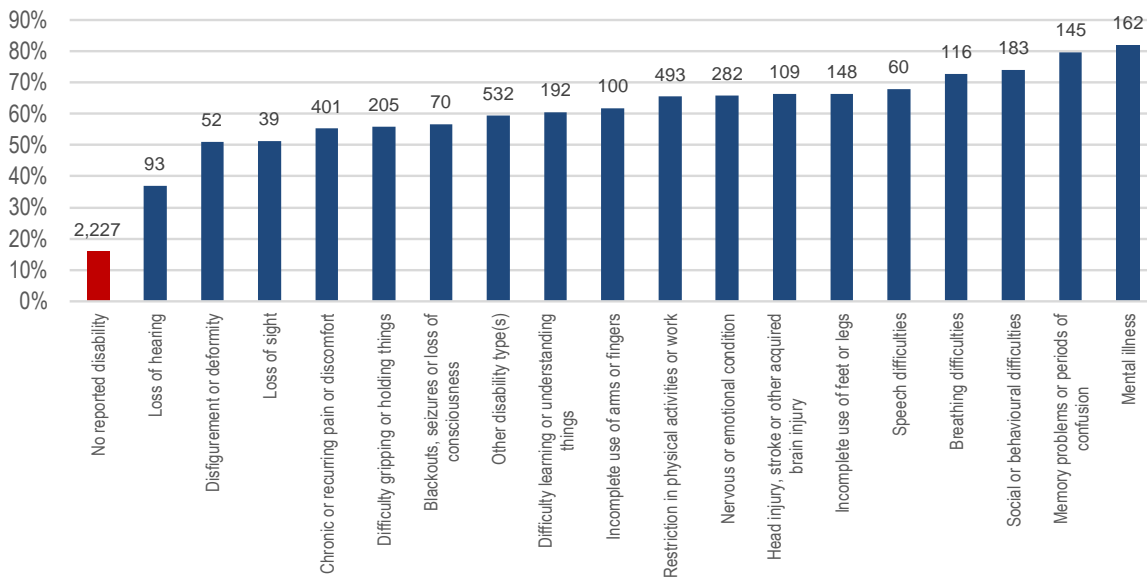
¹⁰ At first sight the high frequency of this employment related restriction amongst people with disability who are not in the labour force suggests it is a potentially important target for policy intervention. However in disaggregating the data on types of restriction we found that people with disability reporting this type of limitation were predominantly older; 63 per cent were aged 50 year or older.

6.5 People not in the labour force by disability type

There are significant variations in the proportions of people with disability who are not in the labour force across disability types, although all disability groups have a substantially higher share not in the labour force, see Figure 58.

Those people with disability in the group 'loss of hearing' have the smallest share not in the labour market (37 per cent) – which is still roughly three times the share of people without disability. Other disability groups have proportions not in the labour force that are much higher. Around 80 per cent of working age people with 'mental illness' and 'memory problems or periods of confusion' are not in the labour force.

Figure 58 Proportion 'not in the labour force' by disability type, Australia, 2018, per cent of working age population (total number of persons '000s in column labels)



Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

7. Education and Pathways to Work and Further Study

- The proportion of people with disability who have completed a higher education qualification (Bachelor's degree or higher) is substantially lower than people without disability for all disability types.
- Conversely, the proportion of people with disability whose highest level of educational attainment is Year 10 or lower is substantially higher than for people without disability for all disability types.
- Those with disability types 'disfigurement or deformity', 'loss of hearing', and 'incomplete use of feet or legs' were most likely to have completed a university qualification. Those with the disability types 'mental illness' and 'learning and understanding difficulties' were least likely to have completed a university qualification.
- There is significantly lower educational attainment in school for children with disability compared to children without disability. Children with disability are almost three times as likely to leave school before 16, and have a Year 12 completion rate 17 percentage points lower than those without disability.
- People with disability aged 15 to 24 are significantly less likely to be studying at a university or TAFE/technical college than those without disability. The proportions are somewhat closer in the 20 to 24 year age group suggesting that a slower transition out of schooling may account for some of this gap.
- Secondary school transition takes time in the contemporary Australian economy where pathways to work are more diverse. Hence programs supporting young people with disability to transition to work need to be flexible to reflect this changing environment, and need to be potentially available over a longer period of time.

7.1 Educational attainment

Lower levels of educational attainment amongst people with disability have a strong correlation with lower levels of employment, however it is not clear whether the lower levels of education reduce employability, or whether similar barriers exist to accessing both education and employment.

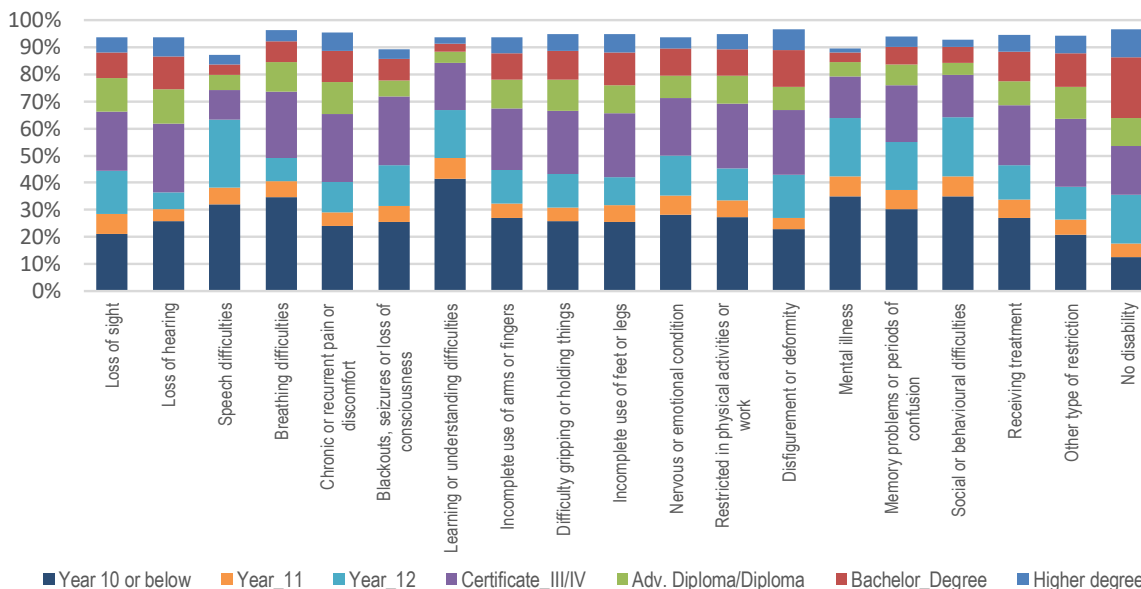
As noted, there are substantial differences in the educational participation and attainment of people with disability compared to those without disability. This appears to reflect a number of factors, including:

- barriers to accessing education, including gaps in the level and nature of support provided;
- poor support for children with disability to transition out of school education into further education; and
- incorrect views on the ability of children with disability to successfully participate in the labour market or complete further education amongst influential people in their lives such as career counsellors, teachers and parents, with parents at times being overprotective and discouraging young people with disability from working. (Stafford et al., 2020; Hall et al., 2020; DSS, 2012; Lindsay et al., 2013)

There are also substantial differences in the patterns of highest level of educational attainment amongst people with disability by disability type. For all disability types, the proportion of people with disability who have completed a higher education qualification (Bachelor's degree or higher) is substantially lower than for people without disability. Conversely the proportion whose highest level of educational attainment is Year 10 or lower is substantially higher for people with disability with all disability types, see Figure 59.

Those people with disability with the disability types 'disfigurement or deformity', 'loss of hearing', and 'incomplete use of feet or legs' were most likely to have completed a university qualification. Those with the disability types 'mental illness' and 'learning and understanding difficulties' were least likely to have completed a university qualification.

Figure 59 Highest level of educational attainment by disability type, people of working age, Australia, 2018, per cent of disability type total



Note: Disability type categories are non-exclusive, and with the exception of 'No reported disability' respondents can report more than one type of disability. Not applicable and inadequately described excluded. Certificate I/II was also excluded as its frequency was too low to publish for most disability categories. As a result disability types will not sum to 100 per cent.
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

7.2 Participation in school

One in ten school students have disability (12 per cent males vs. 8.2 per cent females). Of people with disability aged 5-18 years old, 89 per cent attend school – the majority of whom (89 per cent) attend a mainstream school. Of the children with disability attending a mainstream school, 21 per cent were attending special classes in a mainstream school (AIHW 2020). Students with severe or profound disability are more likely to go to a special school (ESA 2017).

Fifty seven per cent of school students with disability receive support in school, although almost 1 in 4 of those receiving support need more support. One in ten school students with disability (or around 40,000 children) need support in school but do not receive any (Table 3).

Table 3: Support provided to school students with disability

	Number ('000)	Share of school students with disability (%)
Do not receive or need support	122.1	32.2
Do not receive support but need support	39.7	10.5
Receive support but need more	79.5	20.9
Receive support and do not need more	136.7	36.0
Total	379.6	

Note: Data for individual responses does not add up to 100% due to a combination of rounding and perturbation of data by the ABS to protect confidentiality
 Source: AIHW, 2020

Notwithstanding the supports available in the school system, there is a significant gap in educational attainment in school for children with disability compared to those without disability as a child. Children with disability are almost three times as likely to leave school before 16 and have a Year 12 completion rate 17 percentage points lower than that of those without disability (Table 4).

Table 4: Educational attainment in school by disability status as a child, share of population

	Young people with disability (%)	No recorded childhood disability (%)
Aged 15-24 years, left school before 16	11	4
Aged 20-24 years, completed year 12	68	85

Source: AIHW, 2020

A total of 48 per cent of young people with disability surveyed by Mission Australia in 2019 identified university as their post-school plan – this is much lower than the 66 per cent of respondents without disability (Hall et al., 2020).

7.3 Post-school education and training

The number of undergraduate students with disability in Australian education has increased in the last decade (from 23,447 in 2008 to 89,400 in 2019) – however, retention and success of these students remains an issue.

People with disability make up 6.2 per cent of undergraduates and 3.1 per cent of postgraduates based on self-reported data (QILT, 2019). One per cent of students attending university (or 17,700 students) are people with disability with a severe or profound disability (AIHW, 2020).

Eleven per cent of students (or 52,400 people) attending Technical and Further Education (TAFE) or technical college report that they have disability. Thirteen per cent of students (or 45,900) attending other educational institutions (i.e., business colleges, industry skills centres) have disability, with 3.1 per cent having severe or profound disability (AIHW, 2020).

Of those young people with disability who do pursue further training/education, more than 40 per cent report:

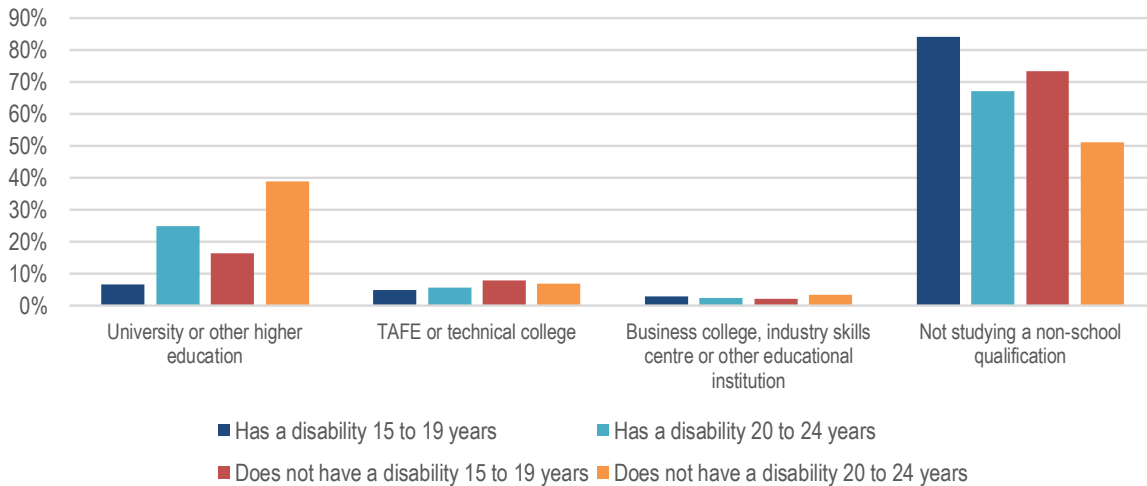
- dissatisfaction with educational content delivery,
- problematic access (e.g. little consideration paid to inclusive design for all disability types), and/or
- inconsistent approach across institutions regarding the provision of reasonable adjustments for students with disability (e.g. Learning Access Plans), or resources to enable their full participation in coursework.

Consequently, retention rates for university students with disability are consistently low (DSS, 2012; Hall et al., 2020; NCSEHE, 2017; NCSEHE, 2016).

Unfortunately the small sample sizes that result when the SDAC is limited to specific age groups restricts the data that can be extracted and so it is only partially possible to explore the pattern of post-secondary education amongst young people with disability.

People with disability aged 15 to 24 are significantly less likely to be studying at a university or TAFE/technical college than those without disability, see Figure 60. The proportions are somewhat closer in the 20 to 24 year age group suggesting that a slower transition out of schooling may account for some of this gap.

Figure 60 Type of post-school educational institution attended by disability status and age group, 15 to 24 year olds, Australia, 2018, per cent

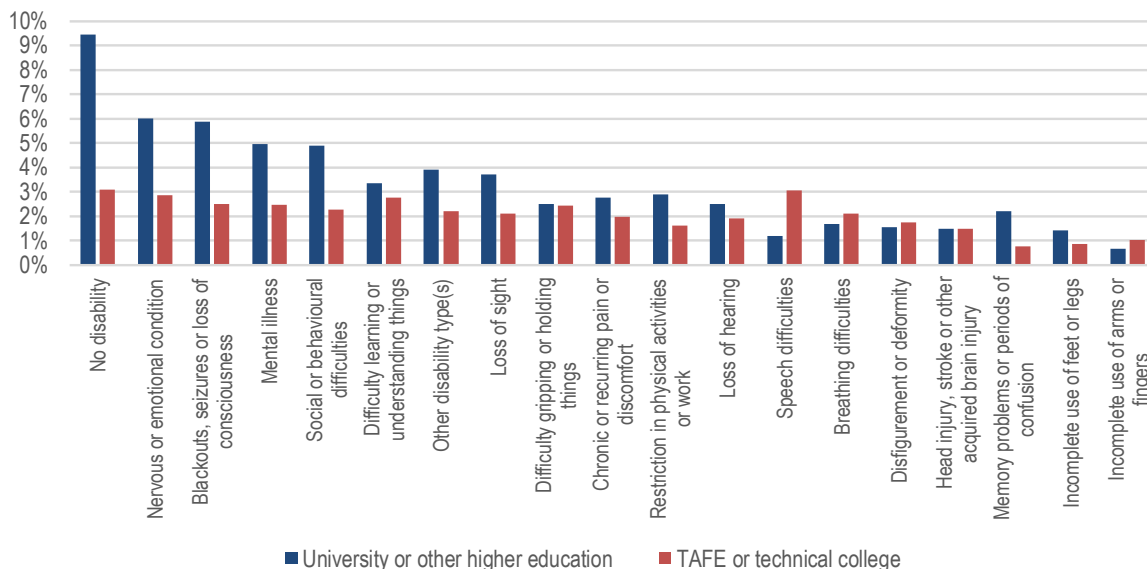


Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

It is not possible to break this data down by type of disability or level of impairment by five year age group as sample sizes become too small to be reliable. Instead data has been extracted for all people of working age, restricted to those people attending a post-school educational institution. This will obviously pick up post-school education that is occurring later in life but the majority of the people attending will be young people transitioning from school.

This data shows that rates of participation in university are significantly lower for people with disability regardless of disability types, see Figure 61. Even for those disability types with the highest rates of university attendance – ‘nervous and emotional conditions’; ‘blackouts, seizures or loss of consciousness’; ‘mental illness’; and ‘social or behavioural difficulties’ – the rates of university attendance are at best two-thirds that of those without disability.

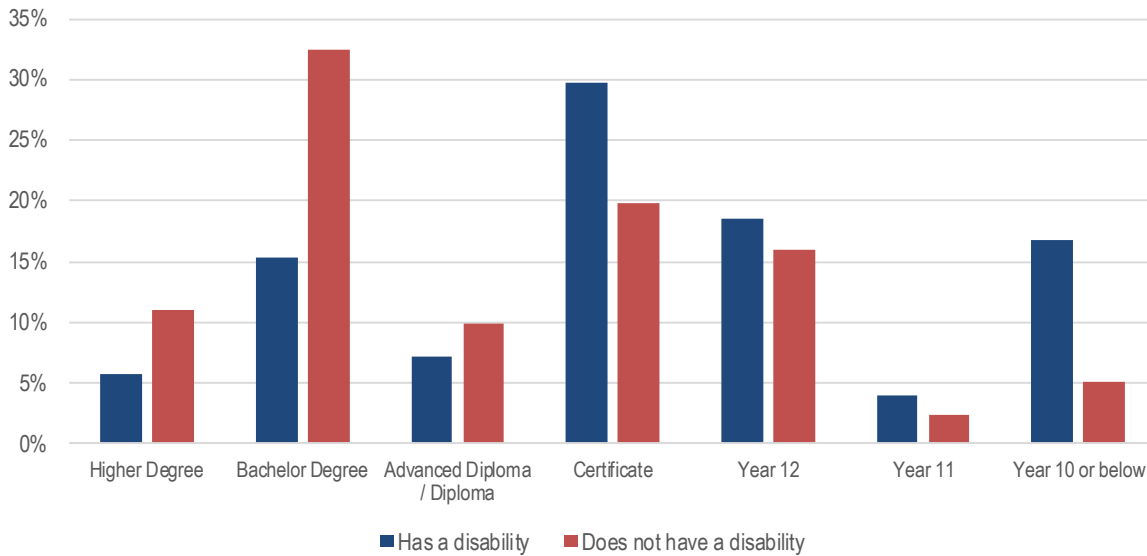
Figure 61 Type of post-school educational institution attended by disability type, working age population, Australia, 2018, per cent



Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

An alternative way to assess the level of post-school educational participation of young people with disability is to look at the educational attainment of 25 to 29 year olds. This will not capture all of the post-school activity as some, particularly those undertaking post-graduate degrees, will still be studying in that age range however it should be a reasonable approximation. This data tells a similar story, with young people with disability less than half as likely to hold a higher degree or bachelor’s degree as those without disability, and more than three times as likely to have ‘year 10 or below’ as their highest level of educational qualification, see Figure 62.

Figure 62 Highest level of educational attainment by disability status, 25 to 29 year olds, Australia, 2018, per cent

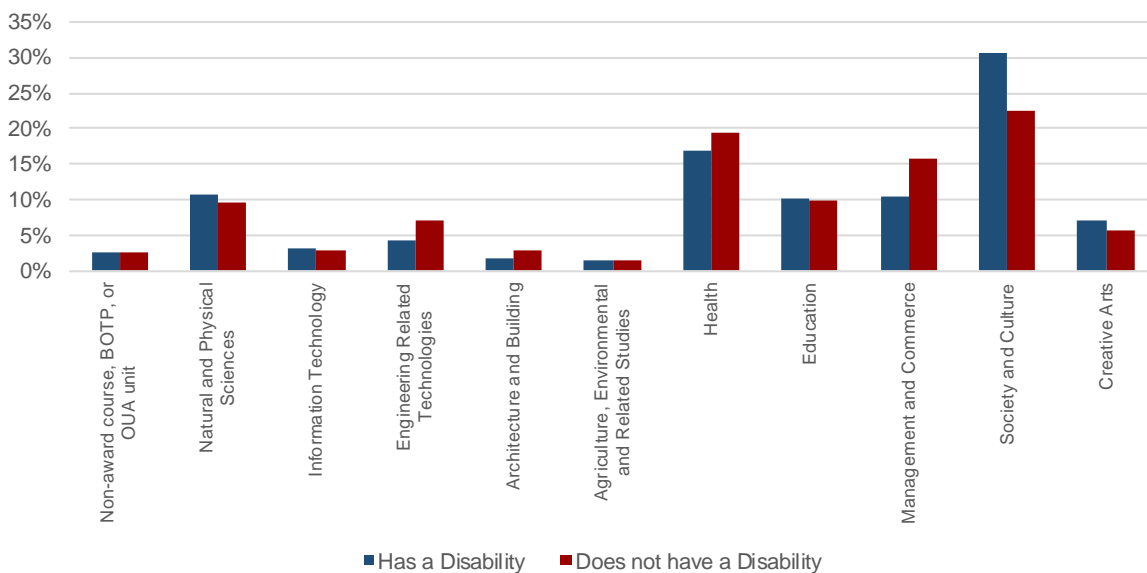


Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

The primary administrative data collection for higher education students includes a self-reported field where students can indicate that they are a person with disability. Of the 535,000 people of working age included in the Higher Education Module of the MADIP data, 10 per cent were people with disability and 90 per cent did not have any disability in 2016. This data indicates that the top three fields of education chosen by people with disability are society and culture (31 per cent), health (17 per cent), natural and physical sciences (11 per cent), see Figure 63. The top two fields of study are also the top two choices among those without disability, but for those without disability ‘management and commerce’ is the third most popular field of study.

People with disability are significantly less likely than those without disability to be enrolled in courses within the fields of study ‘management and commerce’, ‘engineering and related technologies’ and ‘health’ and are significantly more likely to be enrolled in courses within the field of study ‘society and culture’.

Figure 63 Field of study of a person’s highest enrolled course by disability status, 15 to 64 year olds, Australia, 2016, per cent



Note BOTP = bridging for overseas trained professionals; OUA = Open Universities Australia
 Source: ABS, MADIP data, Higher Education Module

7.4 Transition from education to work or further study

The high-level findings about participation and outcomes in education from the data analysis in this report mesh with program and policy evaluations which have explored the transition out of school for young people.

There is both quantitative and qualitative evidence of poor transition from school to work, and from further education to work, for young people with disability. Some 18 per cent of school leavers do not enter the labour force for up to seven years post school leaving, compared to 5 per cent for those without disability (AHRC, 2005; Hall et al., 2020).

Stafford et al. (2017) found that, notwithstanding the significant progress that has been made since the introduction of the 2011 National Disability Strategy, there remains a lack of national coordination and responsibility in terms of post school transition policy and programming, and wide variation in the appropriateness of the support offered to young people with disability in their transition out of school

Post school pathways are offered to young people with disability in Australia, but they are not necessarily all pathways to open employment. Nor do existing programs necessarily reflect the current evidence on successful transitions out of school for the broader population, which have become increasingly complex and varied including 'churning' between entry level jobs, and complexities transitioning out or higher education into work (see for example Cebulla and Whetton, 2018).

8. Job readiness

- Research has highlighted that people with disability face a wide range of barriers in accessing, and sustaining, employment. This highlights the importance of targeted, person centred support in placing people with disability in employment, and in ensuring that they have the supports needed to sustain that employment.
- Of the working age people with disability not in work, 51 per cent (or almost 500,000 people) are either 'permanently unable to work', or have 'never worked more than two weeks'. A further 37 per cent of people with disability not in employment, (around 360,000 people) have been out of employment for two years or more.
- Analysis of the SDAC data has identified a 'job ready' cohort of 253,000 people with disability. This group consists of:
 - 138,000 people not in the labour force, but intending to seek work in the next 12 months; and
 - 115,000 people with disability who are currently unemployed.
- This job ready cohort of people with disability differs in some respects from the total population of people with disability who are not in employment. In particular, they are:
 - **Younger** than the average for working age people with disability, with almost 20 per cent of the job ready cohort in the 15 to 19 year age group, suggesting that supports targeted at their establishment of careers are likely to be particularly important.
 - Have **relatively less severe limitations in core activities** than the average for people with disability not in employment, suggesting that the adjustments needed to support participation in work are more likely to be employment related than targeted at support with core activities.
 - Are **more likely to need person focussed employment services**. The most common employment related restrictions amongst people with disability in this cohort are 'restricted in type of job' (155,000 people with disability), 'difficulty changing jobs or getting a preferred job' and 'restricted in number of hours'.

8.1 Defining job readiness

Various authors in discussing job readiness stress the importance of finding a job that matches needs and capabilities instead of job readiness. This is consistent with active labour market policies that utilise skills development programs, training through to employment placement and then, critically, post-placement support with the individual and the employer.

In Australian Government employment support programs, job readiness (and potential barriers to work) are assessed through an Employment Services Assessment (ESAt) conducted by an allied health professional. The outcome of this assessment may indicate that the job seeker is unlikely to benefit from jobactive services and may be more appropriately serviced in the Disability Employment Services (DES) program. An ESAt may also set baseline work capacity if the job seeker is unable to work full-time.

There is no strict definition of being 'job ready' although intuitively it implies that an individual has the personal qualities, skills and capabilities that an employer is seeking. Prior to that, presenting for employment job readiness is demonstrated through preparation of an application, a CV outlining skills, experience and personal attributes and finally interview preparation including communication skills. DES providers describe the assistance they can provide as "get ready to work, training in specific job skills, write your resume, train in interview skills and look for a job that suits you." Specific DES supports for an individual are included in an employment plan. In addition, people with disability who are eligible for the National Disability Insurance Scheme (NDIS) may be able to access support for reasonable adjustments in accessing the labour market, or to support them in retaining a job, through their NDIS plan.

The Department of Education, Skills and Employment (DESE) has an extensive list of factors to determine 'job readiness' for services under jobactive, in part based on answers to the Job Seeker Classification Instrument (JSCI), see Table 5.

Table 5 Assessment of job readiness

Factors taken into account
Age and gender
Income support & crisis payment history
Educational attainment level
English language and literacy level
Language spoken at home
Indigenous location – disadvantaged labour market
Proximity to labour market
Telephone contactability
Stability of residence
Criminal convictions
Carers of adult persons
Recent work experience
Duration on income support
Vocational qualifications
Country of birth
Indigenous status
Geography
Access to transport
Disability/medical conditions
Family status
Personal factors, e.g. anger issues, caring responsibilities, domestic violence and drug treatment
Multiple disadvantage

Source Department of Education, Skill and Employment

While disability/medical conditions are identified as a discrete category that may impact on job readiness – depending on severity – other factors are relevant considerations that ultimately define job readiness and success in the labour market. Each of these will be different for individuals, to illustrate that job readiness is assessed on a case-by-case basis.

8.2 Barriers to participation in employment and training

Research and survey data identifies a wide range of barriers to participation in employment and training by people with disability. These barriers, and the optimal approach to addressing them, vary significantly from person to person. Research also emphasises that it is not typically the disability per se that creates a barrier to employment, but rather the interaction of society and workplaces with the disability. This creates the need for person centred and flexible approaches to enabling people with disability to enter employment, and sustain their employment.

Specific employment arrangements required by people with disability may include modified equipment, specialised transport/parking to work, different duties, and restricted hours (requiring part-time work, specific leave arrangements or flexible working hours).

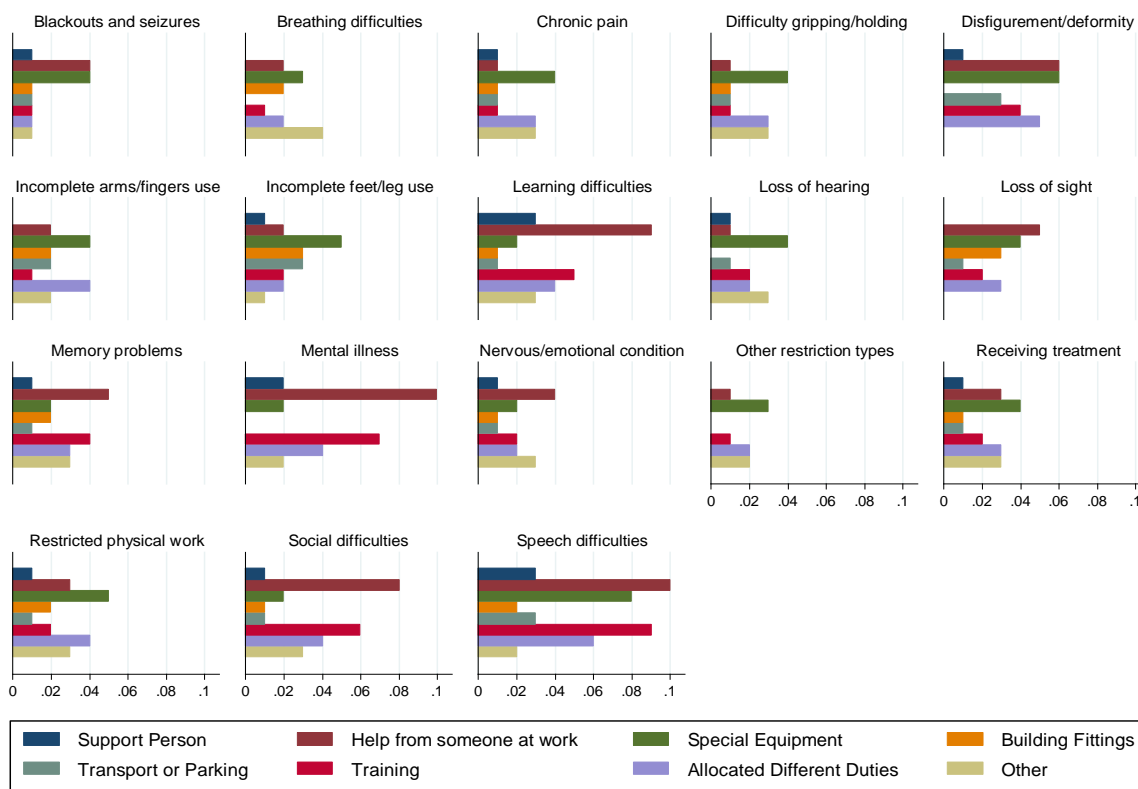
While there are programs and policies in place to address some of these needs, many of the barriers to securing employment faced by people with disability cannot be fully addressed in the short-term, and many people with disability have experienced persistent barriers to participating in the labour market. Of the working age people with disability not in work, 51 per cent (or almost 500,000 people) are either ‘permanently unable to work’, or have ‘never worked more than two weeks’ (see Figure 55 in Section 6). A further 37 per cent of people with disability not in employment¹¹ (around 360,000 people) have been out of employment for two years or more.

¹¹ i.e. a combination of those people with disability who are unemployed and those people with disability who are not in the labour force

The range, and extent of support needed in the workforce varies significantly between disability categories. Those with ‘speech difficulties’ had the greatest propensity to need support, with four types of support required by over 60 per cent of respondents with this disability type, see Figure 64.

‘Help from someone at work’ was identified as a form of support needed by 100 per cent of respondents with ‘speech difficulties’ and ‘mental illness’ and by 90 per cent of those with ‘learning difficulties’.

Figure 64 Support needs in employment by disability type, people of working age, Australia, 2018, per cent of disability type total



Note: Disability type categories and support needs are non-exclusive, and respondents can be identified as having more than one type of disability and more than one type of support need.
 Not applicable and inadequately described excluded
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

Research undertaken around employer understanding and attitudes suggests that there remains a need to educate employers about Australian Government disability resources that are available to assist them in employing people with disability - including financial incentives and guidelines on reasonable workplace modifications/adjustments. Whilst written and online resources are available (e.g. the JobAccess website, managed by DSS and the Employers Guide to Partnering with Disability Employment Services, published by Disability Employment Australia), some employers are still unaware of economic incentives that would make hiring people with disability more attractive and cost-effective – or the incentives may not be significant enough to alter hiring practices. Employers and businesses frequently see job applicants with disability as ‘not suitable’ or ‘not appropriate for our work’. (AHRC, 2020, ABS, 2019, AIHW, 2020, Australian Network on Disability, 2017).

Workplace discrimination remains a problem for Australians with disability, with 20 per cent having experienced active or covert discrimination in the workplace. People with disability also report facing a range of misconceptions about their needs and abilities during job searches and in the workplace, for example that people with disability are less productive than people with no disability, that they entail higher labour – including insurance – costs, and concerns from potential employers that co-workers and/or customers will react negatively to employees with disabilities (AHRC, 2020).

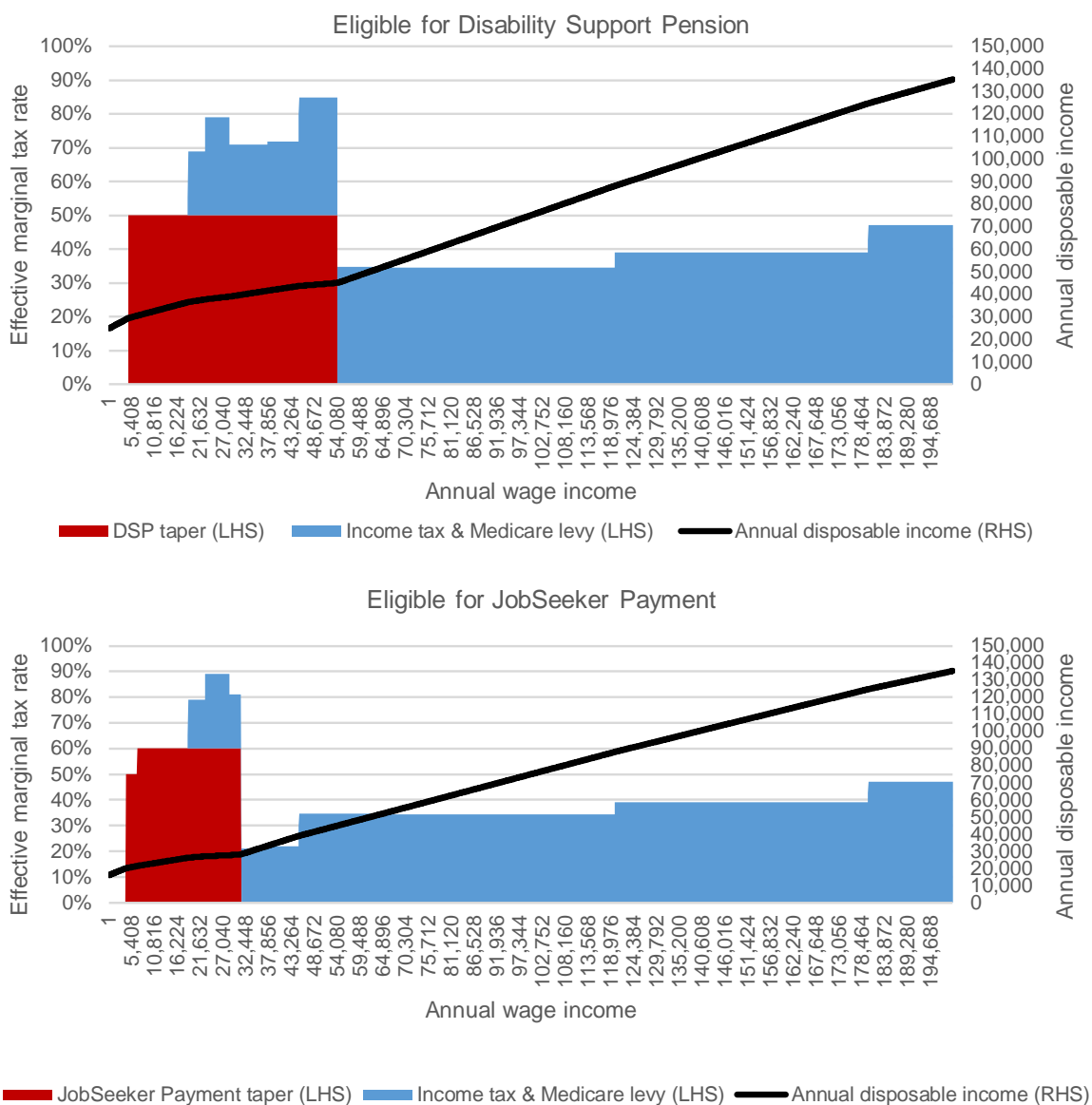
Interactions between employment income and the benefits system are also a potentially significant influence on individuals’ willingness and/or ability to transition into work, or to undertake more hours at work. These interactions are quantified using an approach known as effective marginal tax rates (EMTR) which combine

the marginal income tax rates with the rates at which various benefits phase out, or households become ineligible for benefits, to identify the percentage of an additional dollar of income that is lost across the income distribution.

As can be seen from Figure 65, for both DSP and JobSeeker Payment recipients, there are levels of wage income where the combined impact of income tax and benefit tapering results in an EMTR on addition income in excess of 80 per cent i.e. each additional dollar of wage income only increases their take home pay by 20 cents). For example, for a single person with no children aged over 22 and eligible for the DSP entering paid work, the EMTR is above 70 per cent for wage income between \$439 and \$865 per week, and above 80 per cent for wage income between \$866 and \$1,042 per week. These EMTRs are significantly higher than the highest level of marginal income tax.

This has an impact on the attractiveness of moving into paid work for those earning incomes at levels where the EMTRs are high, and on the ability to fund the additional expenses that shifting from unemployment to paid work can entail such as transport costs or purchasing clothing appropriate for the new workplace.

Figure 65 Effective marginal tax rates and annual disposable income under the Disability Support Pension and the JobSeeker Payment and wage income, 2020-21 financial year, per cent of income and \$



Note Benefits calculations assume:

- a single person, who is an Australian citizen resident in Australia, aged 21 years or older;
- the recipient of the benefit payment has no dependent children;
- that assets are below the minimum threshold for the asset test for the benefit;
- no rent relief or regional supplements are included in the calculation;
- DSP income assumes the person is in receipt of the maximum pension supplement and the energy supplement; and
- complying health insurance is held once income exceeds the level at which the Medicare Levy supplement would otherwise be payable.

Source Calculated using the approach outlined in Ingles and Plunket, 2016, formula and parameters for calculating income tax liability from ATO, 2020, Payment rates and taper rates for income support payments from Services Australia website

8.3 People with disability who are potentially job ready

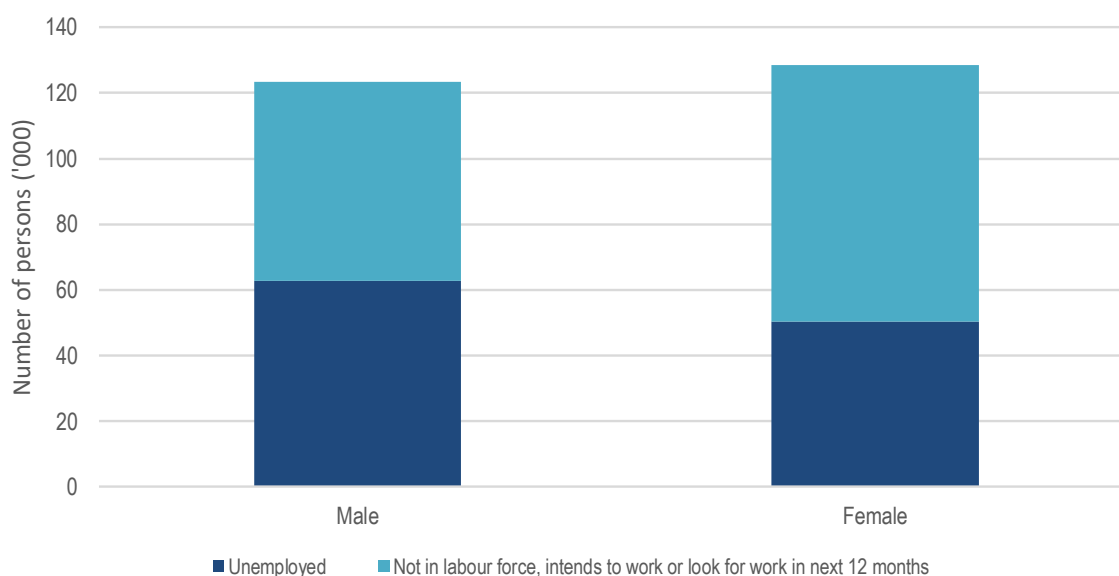
Whilst available data sources do not allow a direct assessment of ‘job readiness’ they do identify two sub-groups which appear to be better positioned to move into employment in the short- to medium-term if provided with the right support and employment environment. These two groups are those who are unemployed (and therefore already engaged in active job search), and those not in the labour force who intend to search for employment at some point within the next year. In practice the identification of the latter subgroups may require the introduction of regular data collection to identify the point at which they are interested in seeking employment.

There are 253,000 people with disability who are not currently employed, but who are potentially job ready.

8.3.1 Potentially job ready people with disability by sex

The split by sex of those people with disability who are potentially job ready is very even, with 123,000 males and 128,000 females.¹² Males are more likely to be currently unemployed, and females are more likely to be currently not in the labour force, see Figure 66.

Figure 66 Potentially job ready people with disability by sex and labour force status, Australia, 2018, working age, number of persons ('000)



Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

8.3.2 Potentially job ready people with disability by age

People with disability interested in entering employment are more likely to be young, with almost 20 per cent in the 15 to 19 year age group alone, see Figure 67.

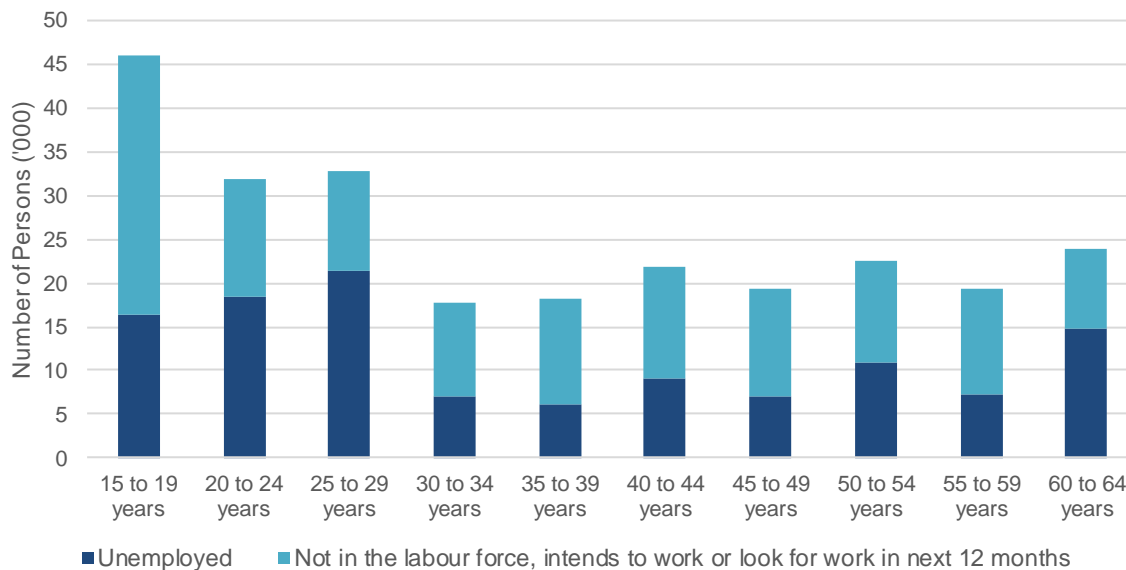
This prevalence of younger people may suggest that there is a need to reform the nature of supports offered for the transition out of school (whether that be to work or further education), and the support provided through further education and in the transition from further education to work. Historically the transition out of school into work or further study, and the transition from further study to work, have been identified as gaps in Australian service delivery (see Section 7.4). Targeted programs for the transitions of young people could include support to:

- build work skills while still at school;
- transition out of school (whether that be to work or further education) including support for less ‘linear’ pathways such as a period of time in which they are ‘churning’ between entry level jobs and short-term unemployment;
- successfully participate in higher education;
- transition from higher education to work; and,
- transition out of temporary unemployment, to employment or to study.

¹² Data split by sex does not quite add up to the overall total of 253,000 due to perturbations made to the data by the ABS to protect confidentiality

It also highlights the potential need for interventions framed around informal networks. Peer and personal contacts/networks are critical to learning of opportunities and connecting people to work opportunities. Networks also help to convey information on hiring decisions, enriched by knowledge sharing. There is substantial theory and data to suggest that social contacts and networks are an influencing factor in successful job-seeking. Both job-seekers and service providers need to better understand the strong contribution that distant acquaintances (i.e. 'friends of friends') can make in contemporary job searching. (Brown et al., 2001; Granovetter, 1995). Internationally, peer support models have been successfully incorporated in employment programs, typically as a broader package of services. This includes workplace-based models with one-to-one mentoring provided by a peer advisor as well as group-based peer support programs to help individuals with disability move back into work, return to work after sick leave, or retaining a job. The evidence on peer support is still preliminary, but promising (McEnhill et al., 2012).

Figure 67 Potentially job ready people with disability by age group and labour force status, Australia, 2018, working age, number of persons ('000)



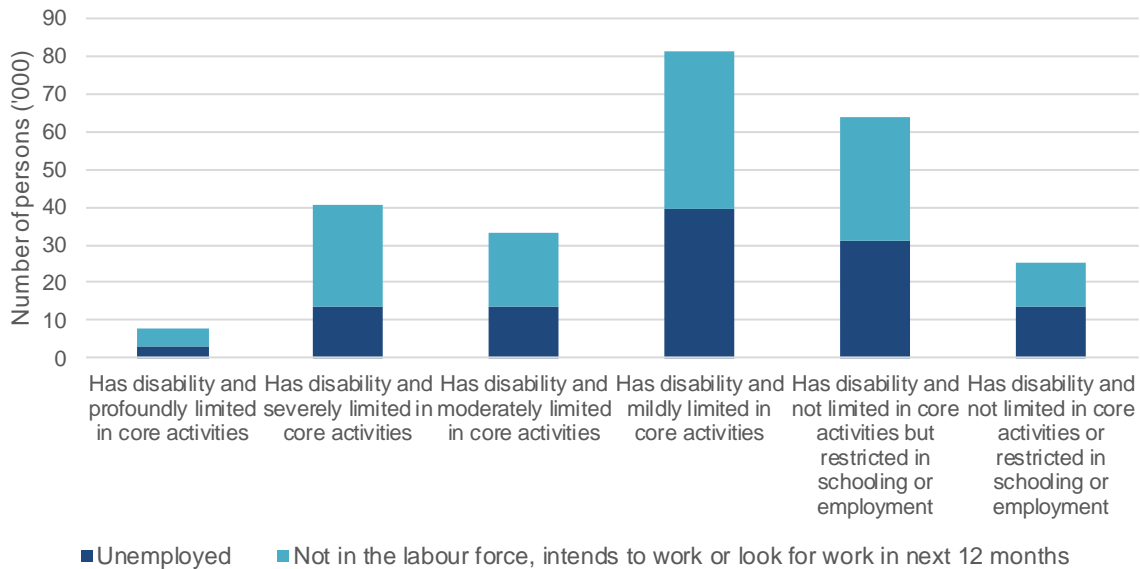
Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

8.3.3 Potentially job ready people with disability by limitations in core activities

Those people with disability not currently in work, but who are potentially job ready are more likely to have relatively less severe limitations in core activities, see Figure 68. The most common level of limitations is 'mildly limited in core activities' experienced by just over 80,000 people. A further 64,000 are 'not limited in core activities but restricted in schooling or employment', and 25,000 have no limitations or restrictions arising from their disability(ies).

This suggests that the adjustments needed to support participation in work are more likely to be employment related (e.g. careful job matching, support for employers in identifying the types of adjustment needed etc.).

Figure 68 Potentially job ready people with disability by extent of limitations in core activities and labour force status, Australia, 2018, working age, number of persons ('000)

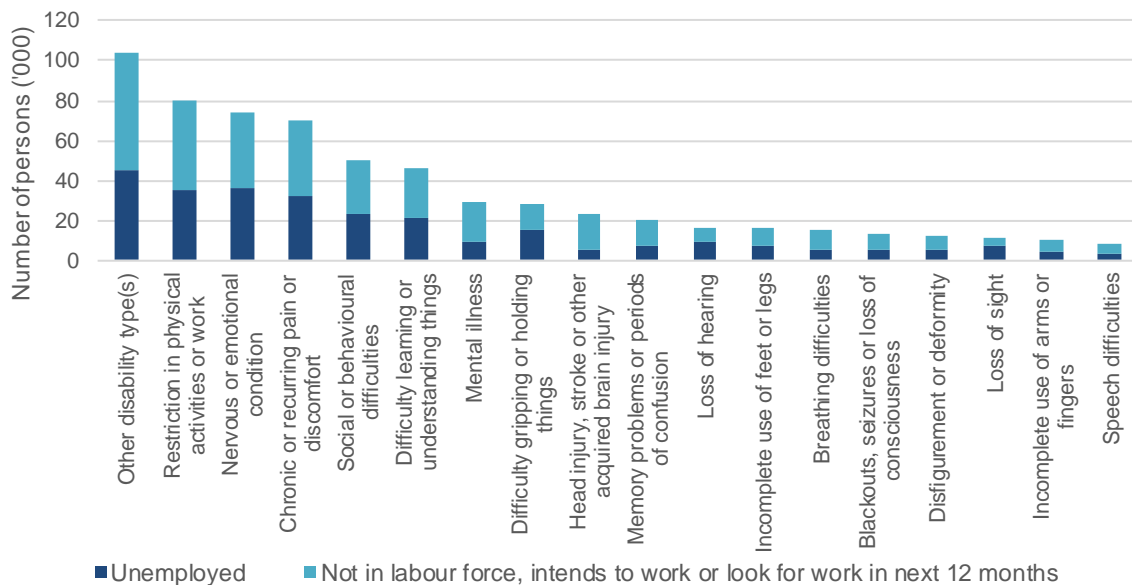


Note: Respondents can experience more than one type of employment related restriction and so the numbers experiencing each restriction will sum to more than the total.
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

8.3.4 Potentially job ready people with disability by disability type

The most frequent specific disability types amongst the potentially job ready sub-group of people with disability are ‘restriction in physical activity or work’; ‘nervous or emotional condition’ and ‘chronic or recurring pain or discomfort’ (Figure 69).

Figure 69 Potentially job ready people with disability by disability type and labour force status, Australia, 2018, working age, number of persons ('000)



Note: Respondents can experience more than one type of disability and so the numbers with each disability will sum to more than the total.
 Source: ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

8.3.5 Potentially job ready people with disability by employment related restriction

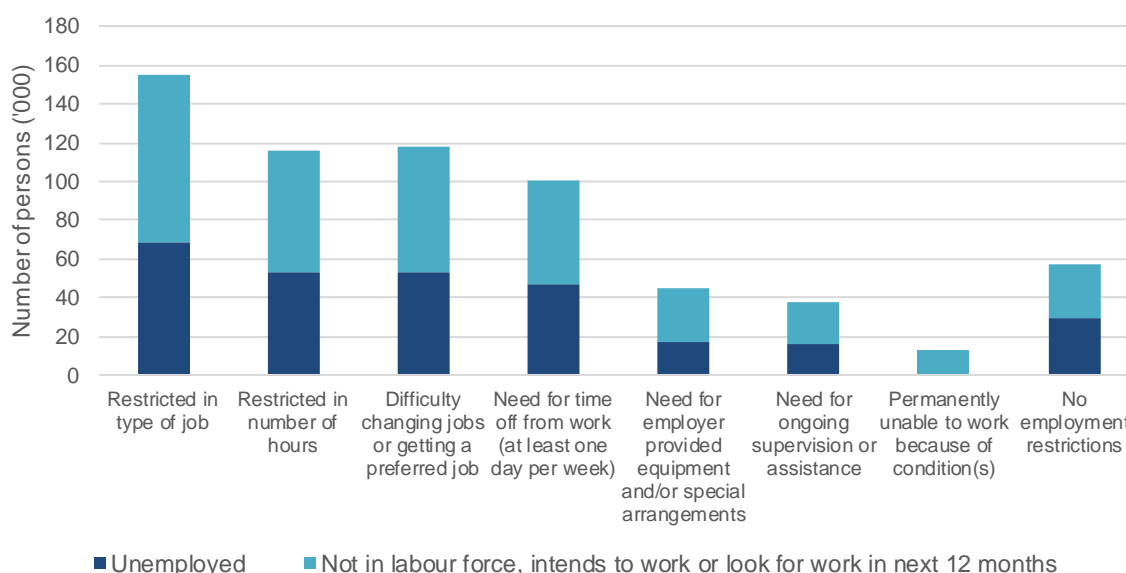
Most of those people with disability currently not in the labour force who are potentially job ready face one or more employment related restrictions. The most common employment related restrictions are ‘restricted in type of job’ (reported by 155,000 people), ‘difficulty changing jobs or getting a preferred job’ and ‘restricted in number of hours’. Around 57,000 respondents did not experience any employment related restriction, and 13,000 were permanently unable to work due to their condition but nonetheless were intending to seek work in the next 12 months, see Figure 70.

These more common employment related restrictions suggest that employment services and supports would be more effective for this potentially job ready group if they were focussed on:

- tailored job matching to individual aptitudes and restrictions, and support in retaining the job once it has been secured, which can be important for the substantial numbers of people with disability who are restricted in the type of job they can take, or who ‘face difficulty in changing jobs or getting a preferred job’;
- liaising with employers around flexibility in hours worked, or in flexibility to take time off more frequently than would normally be the case (for example through salary sacrificing for a greater number of days of leave) while workplace skills and confidence are developed or as an adjustment for an episodic condition; and
- assisting employers in redesigning jobs (as this is not typically a skill held by employers); support in the job redesign process, which can open up jobs that the employer would have previously thought were not suitable.

The types of employment related restriction experienced also indicates that this specific cohort of people with disability are less likely to need programs focussed on providing support equipment or support people if supports available were more person focused.

Figure 70 Potentially job ready people with disability by employment related restriction and labour force status, Australia, 2018, working age, number of persons ('000)



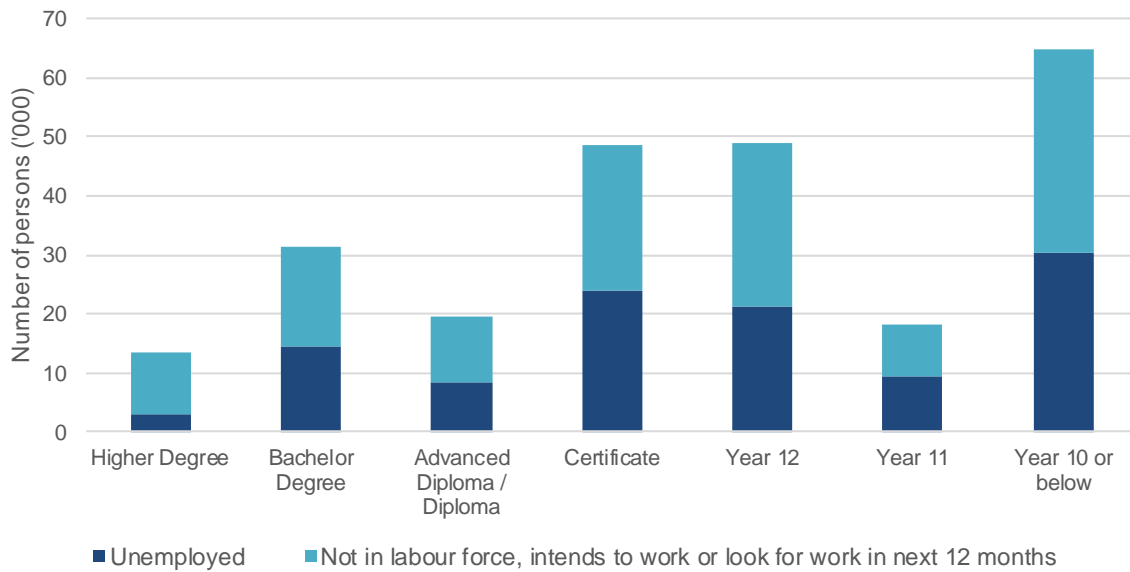
Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

8.3.6 Potentially job ready people with disability by highest level of educational attainment

The potentially job ready cohort of people with disability have a wide range of educational attainment, which is broadly reflective of the overall population of working age people with disability, see Figure 71. Around 65,000 job ready people report a highest level of educational attainment that is Year 10 or lower, with the next most common being Year 12 and VET Certificate. There are around 45,000 job ready people with disability who have a Bachelor’s degree or a higher degree.

The pattern of highest level of educational attainment amongst this job ready cohort suggests a diversity of needs/gaps in existing service provision. Lower levels of educational attainment, are linked with lower employment rates across the Australian population. The large numbers of people with disability not in employment whose highest level of educational attainment is ‘Year 10 or below’ and ‘Year 11’ suggest that support for school retention and completion would be valuable for a proportion of the potentially job ready cohort in the short term, as their low level of educational attainment is likely to act as a barrier to employment. Supports in the transition out of school are also important for this cohort.

Figure 71 Potentially job ready people with disability by highest level of educational attainment and labour force status, Australia, 2018, working age, number of persons ('000)

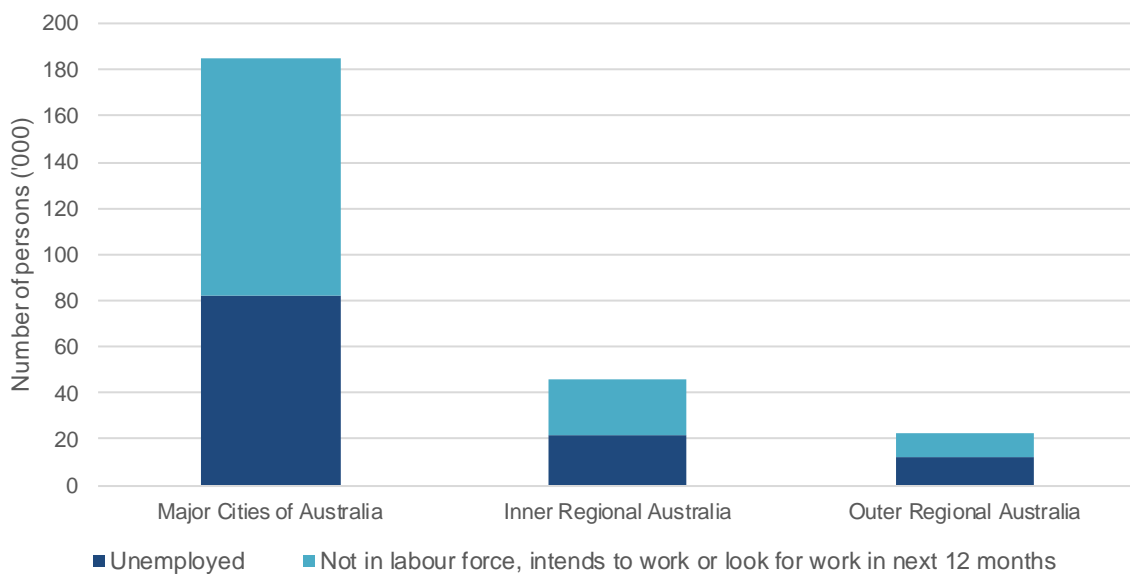


Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

8.3.7 Potentially job ready people with disability by region of residence

The potentially job ready population of working age people with disability predominantly live in the major cities, 185,000 out of the total 253,000 (Figure 72). This suggests that services will be able to be delivered through existing networks which are predominantly located in major cities and inner regional areas.

Figure 72 Potentially job ready people with disability by region of residence and labour force status, Australia, 2018, working age, number of persons ('000)



Source ABS, Survey of Disability, Ageing and Carers, 2018, microdata file

8.4 Other potential target groups for employment policy

Whilst potentially job ready people with disability identified in Section 8.3 appears to be a good focus for policy interventions, it should also be considered that there are potentially significant gains to individual welfare, and broader economic activity available through better supporting those people with disability who are in work but would prefer to work more hours to find employment that enables that.

It is also worth noting that this analysis around job readiness is based on current policy settings and understandings. There are a substantial number of people with disability who are not in the labour force and are not currently interested in seeking employment. If it is possible to identify supports and policy that better

address their barriers to employment the pool of potentially job ready people with disability, and of employed people with disability, could be expanded.

Of particular interest in this context are people with disability whose disability types have particularly low employment rates such 'mental illness', 'social or behavioural difficulties', 'memory problems or periods of confusion'. Data from earlier versions of the SDAC suggest that the greater levels of labour market disadvantage experienced by people with disability with these types of disability is a long-standing phenomenon in Australia but it is by no means inevitable.

International comparisons are potentially fraught in the context of employment policy targeted at people with disability, not least because of differences in the definition of disability, however there appear to be jurisdictions where people with disability with mental illness have much higher employment rates. For example, Luciano and Meara (2014) estimated employment rates for people with mental illness in the United States of America ranged from 68.8 per cent for people with disability whose mental illness was classified as 'mild', to 62.7 per cent for 'moderate' and to 54.5 per cent for 'serious'. Similarly, in data collated as part of a series of projects on mental illness and work, the OECD estimates that the employment to population ratio for people with mental illness in Switzerland experiencing 'severe ill-health' of 75 per cent and 81 per cent for those people with mental illness experiencing 'moderate ill-health'.¹³

Given the extent of disadvantage, not just in the labour market but also in accessing other services (see, for example, the lower satisfaction with levels of control over services found in the NDIS evaluation (DSS 2018)) it is likely that any policy interventions in this area will take some time to bear fruit.

¹³ See the [OECD reports on disability and work](#) for more information

9. Potential impacts of increased employment of people with disability

- Increasing the number of people with disability in employment is expected to deliver a range of economic and non-economic benefits for those people who secure employment.
- Modelling indicates that the annual increase in personal income received by a person with disability moving into employment is between \$33,379 and \$35,779 per year after adjusting for the effects of taxation and government benefit withdrawal (note: these per-person averages incorporate those in part-time as well as full-time work).
- Employment brings other benefits, particularly if the individual feels a sense of control in their work setting, and reasonable adjustments have been made for their conditions. Work is often associated with higher levels of welfare and lower levels of ill-health, particularly psychiatric illness.
- Regarding broader estimated economic impacts, for each 1,000 people with disability moving into employment:
 - GDP would increase by between \$69.7 million and \$72.6 million per year. This translates into a lifetime impact on GDP of between \$676 million and \$833 million in present value terms.
 - Current year spending on government benefit payments would reduce by between \$8.9 million and \$9.5 million per year, potentially translating into total lifetime savings of benefit payments of between \$76 million and \$83 million.

Analysis undertaken in this report has identified cohorts that may be relatively more job-ready. Securing and maintaining employment delivers a range of economic and non-economic benefits to individuals, and has a positive impact on the economy overall. This section explores and quantifies some of these benefits.

Assumptions about the prevalence of core limitations

Modelling results in the next sections depend partly on what assumption is made about the prevalence of each level of core limitations. There are substantial differences, for example, in average wage income depending on level of core limitation. Results for two sets of assumptions are generally presented, where the prevalence of core limitations:

- Matches the average for all working age people with disability not in employment; and
- Matches that of the 'job ready' cohort of people with disability identified in Section 8 of this report (who have less severe core limitations).

Modelling approach

The modelling for this report uses a 'structural' modelling approach. The main advantage of this approach compared to the computerised general equilibrium modelling or macroeconomic modelling used in other recent estimates is that it more accurately captures the expected hours worked and expected wage income of people with disability moving into employment. Its main disadvantage is that it is a static assessment and so it does not factor in the economic impact of increased employment on investment (caused by higher savings) which should increase average productivity. More information on how the results of this study compare to other studies is included below.

9.1 Potential income effects of employment for people with disability

The first type of benefit estimated is the increase in wage income for people with disability shifting into employment.

The positive impacts on wages are partially offset by reductions in government benefit payments due to the tapering of benefits through the application of income tests, and the effects of higher taxation. The end result is 'net increase in personal income'.

The **net average annual increase in personal income for a person with disability shifting into work is estimated to be between \$33,379 and \$35,779 per year** (see Table 6), based upon expected increases in average gross wage income of between \$50,986 and \$53,423. The expected gross pre-tax wages per full-time equivalent employee are between \$62,116 and \$64,253.

It should be noted that these estimated impacts are average, and many people with disability entering employment will have lower wage income than the average.

Details on the methodology, assumptions and data sources used in developing the model are described in **Appendix A**.

Table 6 Estimated net impact on the annual income of a person with disability shifting into employment, under two alternative demographic assumptions, 2020 values

Expected benefit if core limitations for the people with disability gaining employment match...	Expected average gross wage (\$)	Ave. fall in benefit payments (\$)	Ave. income tax on wages (\$)	Net increase in personal income (\$)
The average for people with disability not in employment	50,986	9,518	8,089	33,379
The average for people with disability who are 'job ready' (see Section 8.3)	53,423	8,873	8,771	35,779

Note impacts on receipt of non-income replacement payments, and on benefit payments to partners not currently included

9.2 Potential economic impact of increased employment of people with disability

Having estimated the increase in wage income, we then used the model to calculate the increase in GDP that would be implied by that level of wage income using an income concept of GDP. More details on the assumptions and data sources used in developing the model are described in **Appendix A**.

Box 9.1 What is GDP?

Gross domestic product (GDP) is a measure of the value of all 'final' goods and services produced within a region within a defined time period, typically a year or quarter. 'Final' here refers to goods and services that are sold to final users as opposed to being used as intermediate inputs into the production process of other goods and services. For example, a bottle of wine sold to a consumer is considered a final product whereas the grapes purchased by a winery to produce the wine is considered an intermediate input. Intermediate goods and services are excluded from GDP in order to avoid double counting economic production. Hence, in the previous example the value of the wine bottle purchased by a consumer already implicitly includes the value of the grapes purchased by the winery to produce the wine.

Expenditure on goods and services produced by firms ultimately flows as incomes to the factors of production. In other words, all payments to firms for the purchase of goods and services in turn accrues to labour as income, to capital in the form of profits (gross operating surplus) and government in the form of taxes. This equality of expenditure and income means that GDP can be calculated using several different approaches: by adding together all final expenditures made within an economy (the expenditure approach), by adding together the total incomes earned by the factors of production in an economy (the income approach), and summing the value added generated by each firm within the economy (the production approach).

Under the **expenditure approach**, GDP is calculated by adding together households' purchases of goods and services, investment undertaken by the private sector (i.e. firms' purchases of capital equipment, changes in inventories and expenditure on new housing by households), government expenditure on consumption and investment, and exports of goods and services less corresponding imports.

Under the **income approach**, GDP is calculated by adding together the incomes paid by firms to the factors of production in terms of wages and other compensation paid to employees, gross operating surplus earned by incorporated enterprises, gross mixed income of unincorporated enterprises which broadly aligns with incomes earned by small family businesses and self-employed people, and taxes less subsidies on production.

The **production approach** involves estimating the total output of each industry and subtracting the value of goods and services used to produce this output, to which taxes less subsidies on products are then added to arrive at GDP. The production approach explicitly considers the degree of intermediate inputs used in the production process of each industry in order to estimate each industries' net contribution to GDP.

In theory, each approach to calculating GDP should produce the same result. However, in practice, differences in the data sources used means that each approach typically produces slightly different results. To address this problem the ABS uses supply use tables which describe how goods and services are supplied and used within the national economy to ensure that the same estimate of GDP is produced using each estimation approach.

The model used in this project is based on the **income approach**, starting by estimating the factor incomes flowing to labour (i.e. the increase in wages), and then calculating the expected value of other factor incomes given the level of wages. The sum of all of the expected increases in factor incomes gives the expected increase in GDP.

Depending on what assumptions are made about the demographics of the people with disability who gain employment, the model estimates that **GDP would be between \$70 million and \$73 million higher per year for every 1,000-person increase in employment of people with disability**. These figures adjust for the average amount of work that might be expected across a 1000-person increase, incorporating part-time as well as full-time workers (that is, figures are not FTE unless otherwise stated).

Expressing the expected impact in a per full-time equivalent employee basis, increasing employment of people with disability is expected to increase GDP by between \$85,000 and \$87,000 per additional FTE employee.

Table 7 Estimated annual macroeconomic impacts of increasing employment of people with disability by 1,000 persons, under two alternative demographic assumptions in 2020 values

Expected benefit if core limitations for the people with disability gaining employment match...	Impact on GDP (\$ million)	Gross total impact on wages (\$ million)	Cost saving on benefits payments (\$ million)	GDP impact per FTE employee (\$)
The average for people with disability not in employment	69.7	51.0	9.5	84,899
The average for people with disability who are 'job ready' (see Section 8.3)	72.6	53.4	8.9	87,301

This GDP impact represents the estimated immediate impact. The long run increase in GDP from an increase in the employment of people with disability is likely to be higher due to the 'dynamic impacts' that will increase the impact on GDP such as the effect of greater household incomes leading to increased pools of savings available for investment, and reduced government expenditures on income replacement benefits allowing government spending to be re-directed to other uses.

However there may be other partially offsetting impacts on welfare that cannot be readily quantified, as increased participation in employment will reduce time available for informal activities (whether in the household or community), the impacts of which are not captured in GDP. On the other hand, there is also good evidence that in societies such as Australia there are a range of intangible benefits through increased welfare and self-reported health as a result of leaving unemployment for work.

The model also allows the calculation of impacts on individual incomes, and on government benefit expenditure. A 1,000 person increase in employment of people with disability is estimated to result in a **reduction in expected spending on government benefit payments of between \$8.9 million and \$9.5 million**.

This reduction is below the full payment amount of either DSP or JobSeeker Payment, for three main reasons:

- many people with disability who are not in work are not in receipt of an income support payment.
- not all people with disability entering work will receive a wage high enough to exceed the cut-off point for income replacement benefits and so will receive a part-payment whilst in work; and
- not all unemployed people with disability who are eligible for an income support payment receive the full payment amount.

9.3 How economic impact findings compare with other studies

SVA Consulting, as part of their 2020 evaluation of the 'Ticket to Work' program, compiled summary data on studies that had estimated potential GDP impacts of increased employment of people with disability as a result of the additional support available through the NDIS. SVA compiled estimates of the benefits modelled per FTE increase in employment by people with disability, see Table 8.

These values have been taken and converted to 2020 values by the authors using the long-run average growth rate of per capita GDP over the past 20 years - to adjust levels of benefit expected in the future to their 2020 value (these comparisons are necessarily imperfect, relying as they do on the identification of key parameters for the calculation in the published reports).

Table 8 Previous Australian estimates of the GDP benefits of increasing employment of people with disability

Source of estimate	Main result of study	Impact on annual GDP per full-time equivalent employee with disability Results rounded to nearest \$'000 and converted to 2020 values
Productivity Commission (2011) Potential impact of NDIS (Computerised General Equilibrium (CGE) model)	Increasing employment by 100,000 people with disability by 2050 will increase GDP by about \$8bn (assumes proportion of part-time work remains constant).	\$59,000 increase in annual GDP per person with disability FTE increase in employment (2020 dollars)
National Disability Insurance Agency (2018) Potential impact of NDIS, modelling by Deloitte Access Economics (Macroeconometric model)	Increasing employment of people with disability and their carers by 117,000 by 2030 will increase GDP by \$11.9bn (assumes proportion of part-time work remains constant).	\$92,000 per person with disability FTE increase in employment (2020 dollars) (GDP impact of increased employment of carers excluded from the per person calculation)
Deloitte Access Economics (2011) Potential impact of NDIS (Macroeconometric model)	GDP increase of \$21.9b with an increase of 191,000 people with disability in employment (assumes proportion of part-time work remains constant).	\$139,000 per person with disability FTE increase in employment (2020)
SVA Consultants (2020) Impact of 'Ticket to Work' Program (Structural model)	Average benefits of \$27,000 per participant over 3 years.	Average individual income related benefit of \$61,000 per FTE additional employee (2020 dollars) NB does not include GDP benefits beyond individual pre-tax incomes

Note Only studies which used CGE modelling or macroeconomic modelling have been included in this table, with the two studies reported by SVA consulting which used input-output analysis - NDS (2011) and CSU (2015) – excluded from this summary.
Impact per FTE calculated by SVA consultants, converted to 2020 values by the authors, original studies varied considerably in the basis that they expressed their results, with some using current values as at the time of the study, some using values for the year in which the benefits were expected to be realised.

Source SVA consultants, 2020, conversion to 2020 dollars basis by the authors

Converting our estimated impact on GDP (see Table 6) into a 'per full-time equivalent employee with disability' basis to allow comparison with the other studies (whose results are shown in Table 7) suggests an increase in GDP of between \$85,000 and \$87,000 per additional FTE employee with disability. This is somewhat higher than the estimates of the Productivity Commission (2011) and SVA Consultants (2020) but is considerably lower than the 2011 estimates calculated by Deloitte Access Economics (2011).

This is what was expected on an *a-priori* basis, as the approach used in this structural model will tend to slightly underestimate potential GDP gains as it cannot incorporate the "dynamic" benefits of increasing employment rates. On the other hand CGE model and macroeconomic model based approaches will tend to overstate the benefits of increasing employment rates of people with disability unless the way in which the increase in labour supply is modelled is carefully designed to match existing experiences in employment of people with disability with the same characteristics as those expected to gain employment.

9.4 Estimated 'lifetime' benefits of increasing the number of people with disability in employment

Successfully transitioning people with disability into sustained employment will lead to both long-term and short-term savings in government benefit payment expenditures. DSS maintains and operates a large scale forecasting model of the Australian population's expected demand for income support payments and benefits currently and across their lifetime called the Priority Investment Approach (PIA) model. The model allows forecasts to be developed on the expected lifetime cost of Australian Government Social Security payments¹⁴ by the type of payment and by the broad characteristics of beneficiaries, who are categorised by the benefit they were receiving (if any) at the end of the model reference year, which is 30 June 2019 in the current version of the model.¹⁵

¹⁴ The PIA model only forecasts expected lifetime payments on those payment types delivered through the social security system. Payments made by other Australian Government departments such as payments to veterans administered by the Department of Veterans' Affairs and Farm Household Allowance payments administered by the Department of Agriculture, Water and the Environment are not in scope for the model.

¹⁵ A description of the model structure and results can be found at [the Department of Social Services' website](https://www.dss.gov.au/about-us/our-work/our-research-and-analysis/our-research-and-analysis).

Current expected lifetime benefit payment costs

As an input to this project, the PIA team in DSS calculated expected lifetime government benefit cost estimates for people with disability by broad type of disability using the PIA model. Figures 73 and 74 set out the expected lifetime cost of government benefit payments for those people with disability in receipt of DSP and 'working age payments'¹⁶ respectively, by broad disability group. Allocation between the two types of income support payment for the purposes of the lifetime cost modelling was made based on the payment type that was being received by each person as at 30 June 2019.

As an example, a person with disability in receipt of DSP in June 2019 would be assigned to the 'DSP' category in the PIA model. Based on the person with disability's specific characteristics the model then estimates, for each future year, the probability that this person with disability would be:

- in receipt of DSP (full or partial); or
- in receipt of working age payment (full or partial); or
- in receipt of the Age Pension as they have reached the eligibility age; or
- in receipt of other benefits and supplements (full or partial); or
- not in receipt of benefits as either their income (or their income plus their partner's income) exceeds the cut off point for an income support payment; or
- deceased.

These expected payment amounts for each year, adjusted for the expected probability that the person will be in receipt of each type of payment, are then summed across the payment types, and across the expected lifetime to give the expected lifetime receipt of each payment/benefit. Summing these estimates for each individual person with disability based on the primary disability that they identify gives the estimated total payment cost by disability type.

As most of these costs occur in future years they need to be discounted to make them comparable to costs incurred in the present. Estimates of benefit payments received in the future in the PIA model are discounted at a real rate of 5 per cent. The PIA actuarial model uses discounting to allow for the time-value of money, meaning that amounts paid at an earlier date cost more as there is a lost opportunity for future investment.¹⁷ At this level of discounting a benefit that occurs ten years in the future is valued at around 60 per cent of the value it would have had if it occurred today.

As can be seen in Figures 73 and 74, average lifetime costs for those people with disability in receipt of DSP in the reference year are higher than average costs for those people with disability in receipt of working age payments in the reference year. Across all disability types the difference is around 25 per cent.

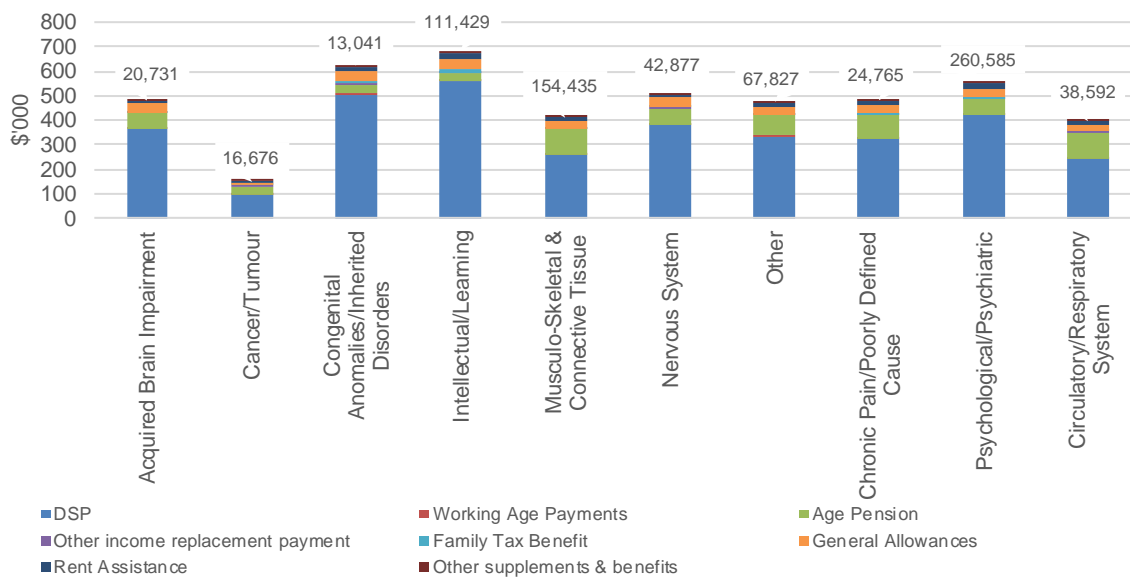
Average expected lifetime costs are highest for those people with disability with a condition categorised as 'intellectual/learning disorders' and 'congenital anomalies/inherited disorders', and lowest for those with a condition categorised as 'cancer/tumour'; 'musculo/skeletal & connective tissue'; and 'circulatory/respiratory system'.

The DSP is the most significant component of the lifetime benefit cost for those people with disability in receipt of DSP at the end of 2018/19 (Figure 73). Even for those people with disability in receipt of a working age payment at the end of 2018/19 (Figure 74), DSP is only a slightly smaller component of the expected lifetime cost than working age payments.¹⁸

¹⁶ Working age payments primarily consists of Newstart Allowance (subsequently replaced by JobSeeker Payment) and Youth Allowance (other)
¹⁷ For example, if \$1,000 is spent by the Government on payments now, that is \$1,000 dollars the Government doesn't have to accrue investment returns in the future. Whereas if that \$1,000 is spent in 10 years' time, that same \$1,000 may have been able to earn \$600 worth of income through investment for the Government over this time before it is spent.

¹⁸ Number of payment recipients provided in these graphs should not be used in place of official DSS reporting numbers due to differences in when and how the data is extracted and created.

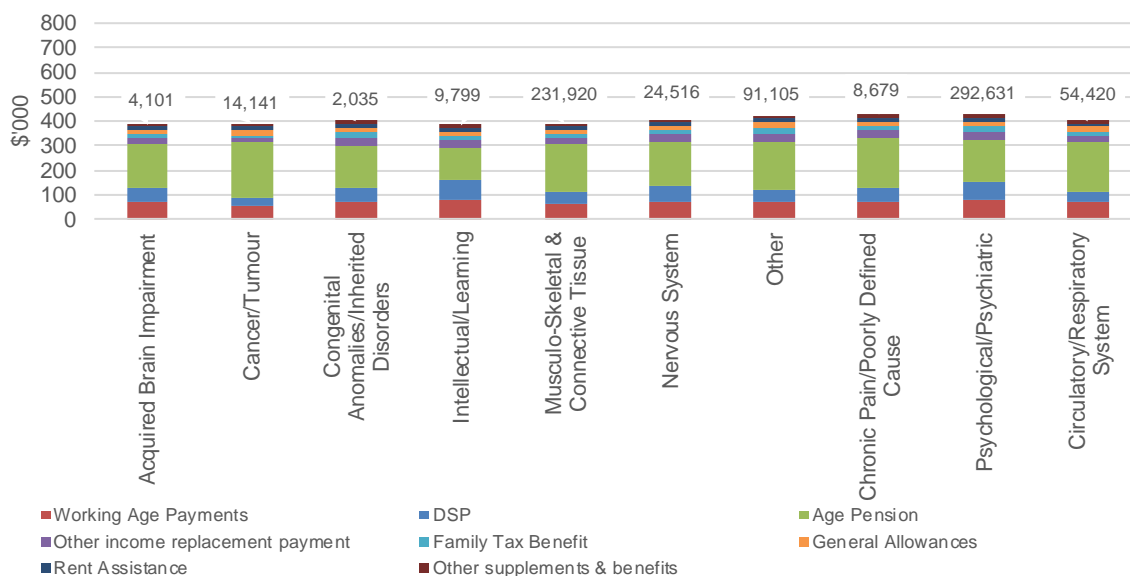
Figure 73 Expected average lifetime government benefit payment cost of people with disability in receipt of DSP as their last income support payment of 2018/19 by disability group and by main benefits, Australia, 2019 \$'000/person (data labels identify the number of people in each disability group)



Notes: Number of payment recipients provided in this graph should not be used in place of official DSS reporting numbers due to differences in when and how the data is extracted and created. The timing and method of extraction of the overall lifetime benefit payment cost estimates presented in Figures 73 and 74 differs slightly from the that of the lifetime payment costs by broad age group presented in Figure 75

Source: DSS, analysis of PIA model

Figure 74 Expected average lifetime government benefit payment cost of people with disability in receipt of a working age payment as their last income support payment of 2018/19 by disability group and by main benefits, Australia, 2019 \$'000/person (data labels identify the number of people in each disability group)



Notes: Number of payment recipients provided in this graph should not be used in place of official DSS reporting numbers due to differences in when and how the data is extracted and created. The timing and method of extraction of the overall lifetime benefit payment cost estimates presented in Figures 73 and 74 differs slightly Source: DSS, analysis of PIA model

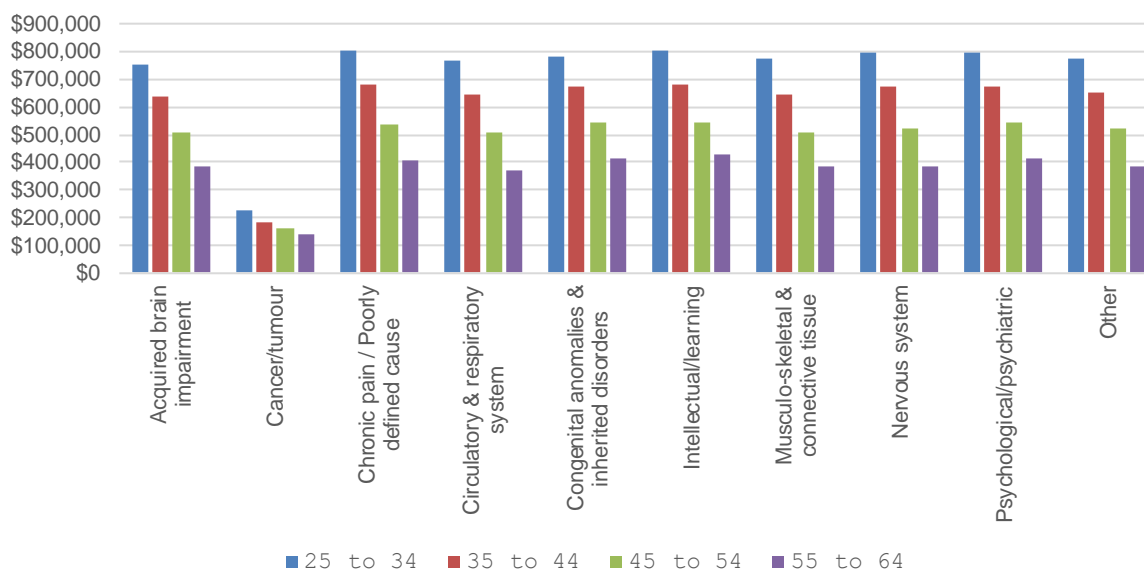
Another significant difference between average costs of people with disability in the two payment categories is that for those people with disability in the working age payments group, the Age Pension represents the largest component of expected lifetime costs, whereas in the DSP group, the DSP is the most significant contributor to expected lifetime costs. Indeed, expected Age Pension costs are about two to three times larger in absolute values for people on working age payments than they are for people with disability whose primary payment is DSP. This is likely due to the payment rate of Age Pension and DSP being the same.

It is possible to break the PIA data down by age group, see Figure 75 for the relevant data for people with disability whose primary payment at the end of 2018/19 was DSP. This shows that expected lifetime costs

are quite similar between disability groups within the same age range, and that expected costs decline with age.

This suggests that the higher expected lifetime costs for those people with disability who have a condition type which is in most cases acquired before or at birth such as 'congenital anomalies/inherited disorders' and 'intellectual/learning disorders' is not because these conditions result in inherently higher average welfare system costs per year, but rather the higher estimated lifetime costs arise from the younger average age of the people with disability with those types of condition. For example, looking across the whole population of people with disability in receipt of DSP, a person with disability with an intellectual/learning disability has a much higher expected lifetime cost than a person with disability with a musculo/skeletal & connective tissue disorder; \$678,000 compared to \$414,000 (Figure 73). However, looking only at people with disability aged 25 to 34 shows that a person with disability with an intellectual/learning disability has an expected lifetime cost which is only slightly higher than that of a person with disability with a musculo/skeletal & connective tissue disorder; \$805,000 compared to \$775,000.

Figure 75 Expected average lifetime government benefit payment cost of people with disability in receipt of DSP at end of 2018/19 by disability group and by age group, Australia, 2019 \$'000/person



Notes: The timing and method of extraction of the overall lifetime benefit payment cost estimates presented in Figures 73 and 74 differs slightly
Source: DSS, PIA model DSP factsheet

Expected lifetime impacts of additional employment of people with disability

Data from the PIA model allows the current year impacts on employment of people with disability estimated in Section 9.1 to be converted to estimated impacts on lifetime benefits payment costs.

The methods used to estimate the potential impact on lifetime benefit costs, and its key assumptions, are explained in Appendix A.

There are a number of benefit types for which it is not possible to estimate a potential cost savings due to data limitations, and as such the model estimates are potentially underestimating the potential cost savings. Due to this limitation benefit cost savings estimates are driven by reductions in payments of the DSP and of working age payments.

Depending on what assumptions are made about the demographics of the people with disability who gain employment, the model estimates that the present value of **total lifetime savings of benefit payments would be between \$76 million and \$83 million for every 1,000-person increase in employment** (Table 9).

The impact of a *sustained* increase in the employment of people with disability can also be expressed as a 'lifetime' benefit, with the lifetime in this case being the expected working life of those entering employment. The lifetime impact on GDP is much larger than the expected lifetime saving in benefits. For a sustainable increase in the employment of 1,000 people with disability, the lifetime impact on GDP is **estimated to range between \$676 million and \$833 million in present value terms** depending on what is assumed about the demographics of the people with disability who secure work (Table 9).

Table 9: Estimated 'lifetime' impacts of increasing employment of people with disability by 1,000 people, under two alternative demographic assumptions \$'million, net present vales

Expected benefit if core limitations for the people with disability gaining employment match...	Estimated reduction in lifetime benefit costs (\$'million, NPV)	Impact on GDP (\$ million, NPV over assumed years remaining of working life)
The average for people with disability not in employment	82.6	676.8
The average for people with disability who are 'job ready' (see Section 8.3)	76.2	832.6

Notes Estimated reduction in lifetime benefits were calculated using a real discount rate of 5 per cent, impact on GDP was calculated using a real discount rate of 7 per cent, but assumed an average rate of increase in real GDP per capita of 1 per cent reflecting long run averages in the Australian economy, resulting in an effective discount rate of 6 per cent. Estimated reduction in lifetime benefits is the reduction in the base rate of DSP and working age payments, and the pension supplement and energy supplement for those receiving DSP. It doesn't include other income support or supplementary payments (e.g. Rent Assistance).

Based on the age profile of the people with disability included in each cohort, the modelling of lifetime impact on GDP of people with disability whose demographics matched the overall average for people with disability not in work assumes an expected 15 additional years in work, and the modelling for people with disability whose demographics match those of the 'job ready' cohort assumes an expected 20 additional years in work.

More details on the assumptions in developing the model are described in **Appendix A**. Note that prospective estimates of how lifetime payment costs would change as a result of an increase in employment are subject to significant uncertainty and should be treated with caution.

9.5 The broader benefits of work

The direct financial impacts are not the only benefit of securing employment for individuals who are out of work. There are also broader benefits to individual wellbeing of shifting into employment, particularly if the individual feels a sense of control in their work setting, and reasonable adjustments have been made for their conditions (if relevant).

There is a strong link between active participation in the labour market and individual health, which is recognised both in academic literature and in the recommendations of relevant professional associations. For example, in their position statement 'Realising the Health Benefits of Work' the Royal Australasian College of Physicians and the Australasian Faculty of Occupational and Environmental Medicine note that:

The evidence is compelling: for most individuals, working improves general health and wellbeing and reduces psychological distress.

Even health problems that are frequently attributed to work—for example, musculo/skeletal and mental health conditions—have been shown to benefit from activity-based rehabilitation and an early return to suitable work.

...

Research shows that long-term work absence, work disability and unemployment are harmful to physical and mental health and wellbeing.

Moreover, the negative impacts of remaining away from work do not only affect the absent worker; families, including the children of parents out of work, suffer consequences including poorer physical and mental health, decreased educational opportunities and reduced long term employment prospects. (p. 7)

Similarly, in a large scale review of the evidence of the impact of unemployment on health for the UK Government, Waddell and Burton (2006, pp. 10-11) found that there is a strong, positive association between involuntary unemployment and a range of poor health outcomes, including:

- *Strong evidence for increased rates of overall mortality, and for specific mortality risks from cardiovascular disease, lung cancer and suicide (Brenner & Mooney, 1983; Platt, 1984; Jin et al., 1995; Lynge, 1997, Mathers & Schofield, 1998; Brenner, 2002);*
- *Moderate evidence for a correlation between unemployment and poor general physical health (Mathers & Schofield, 1998), and increased prevalence of cardiovascular risk factors (Jin et al., 1995), respiratory infections (Cohen, 1999);*
- *Strong evidence linking unemployment to poorer general health status, increased rates of long-standing illness including limiting illness and disability, poorer mental health and*

psychological well-being, increased rates of psychological distress and minor psychological/psychiatric morbidity, and increased prevalence of self-harm and suicide attempts (Jin et al., 1995; Shortt, 1996; Mathers & Schofield, 1998; Lakey, 2001; Platt, 1984; Murphy & Athanasou, 1999; Fryers et al., 2003); and

- *Moderate evidence for a link between unemployment and greater health system costs (Hammarström, 1994b; Jin et al., 1995; Mathers & Schofield, 1998; Lakey, 2001).*

Whilst these correlations with unemployment do not in themselves provide evidence for causation (and, indeed, the causation could plausibly be poor health status leading to greater probability of unemployment), Waddell and Burton also report that there is **strong evidence** that unemployment can cause, contribute to, or aggravate most of these adverse health outcomes. (Bartley, 1994; Janlert, 1997; Shortt, 1996; Murphy & Athanasou, 1999).

There is robust evidence, across different countries and different population sub-groups, that individuals in work have higher self-reported levels of health – both physical and mental, and higher levels of wellbeing. It could be the case that the causation flows from higher levels of wellbeing to higher rates of labour force participation, however the available evidence suggests that both factors play a role in the difference in the wellbeing of the employed and unemployed.

Studies that have focussed on *transitions* in employment have found that there is a measurable reduction in wellbeing as a result of becoming unemployed, and a measurable impact on wellbeing as a result of regaining employment.

Much of the reduction in wellbeing from unemployment appears to arise from impacts of unemployment on mental health. A systematic review undertaken by van der Noordt and colleagues (2014) found that employment affected wellbeing strongly in the areas of mental health, whereas the impact was more ambiguous on broader measures of self-reported wellbeing and physical health. The impact of re-employment of an unemployed worker had a significant impact on depression; regaining employment significantly reduces the risk of depression compared with the risk faced by an equivalent worker who remains out of work (p. 733-734).¹⁹ Re-employment was also found to have a statistically significant protective effect for psychological distress and for psychiatric morbidity.

The evidence in the studies considered by van der Noordt and colleagues on the impact of re-employment on physical functioning was less definitive. A majority of the studies found higher levels of physical functioning amongst the re-employed compared to those who remained employed, but the strength of the evidence, and the differences between the studies, meant that the authors concluded that there was insufficient evidence to draw a definitive conclusion (2014, p. 734).

Despite ambiguity around the impacts on physical health, the overall effect of unemployment on quality of life appears to be significant. A recent study in Sweden found that, after adjusting for a range of individual characteristics, those who were unemployed had lower average quality of life than those in employment equivalent to 0.096 quality adjusted life years (QALYs) (Norström et al., 2019). QALYs measure the loss of wellbeing relative to a year in perfect health, so a condition experienced for a year that results in 0.1 QALYs lost is the same loss in welfare that would be expected from a person in perfect health losing 1/10th of a year of life. The lost QALYs due to unemployment observed by Norström and colleagues is an impact on quality of life that is slightly larger than moderate heart disease (which has a disability weight of 0.072) and a slightly lower impact than a moderate anxiety disorder (disability weight 0.133).²⁰

There is some evidence that the costs of losing a job are greater than the benefits of a person who is unemployed moving back into employment. For example, in a large analysis of British wellbeing survey data across time, which allowed them to assess changes in reported wellbeing after employment status had changed, Flint and colleagues (2013) found that:

The positive effects of moving into work from unemployment were not as large as the negative effects of job loss, possibly because an experience of unemployment instils a fear of future job loss. This was also true for the transition from permanent sickness into work, which did not affect GHQ-12 scores [the GHQ-12 is a 12 question survey instrument that measures non-psychiatric ill-health] as greatly as leaving work for permanent sickness. (p. 798)

¹⁹ The pooled odds ratio across all of the included studies for the impact of re-employment on the probability of depression was 0.52, which represents a meaningful reduction.

²⁰ Disability weights for heart disease and anxiety from: Global Burden of Disease Collaborative Network (2017), Global Burden of Disease Study 2016 (GBD, 2016) Disability Weights. Seattle, United States: Institute for Health Metrics and Evaluation (IHME).

This latter finding supports the importance of policies that reduce the risk of people with disability becoming unemployed, such as effective support for transitions out of school and further education into work.

10. Data used, and potential for further data analysis

10.1 Use of ABS MADIP data

An innovation in this project was the availability of data through the Multi-Agency Data Integration Project (MADIP). MADIP is a secure and linked dataset which links data across six partner agencies:

- Australian Bureau of Statistics;
- Australian Taxation Office;
- Department of Health;
- Department of Social Services;
- Department of Education; and
- Services Australia

This project uses MADIP Modular Product (MMP) which has a MADIP demographics core of linked data using a single identifier across data from various agencies. This allowed analysts to gain a more holistic understanding of different populations. Data linkage is available in MMP up to 2016.

An additional feature of the MMP is that it has been linked to approximately 80 per cent of the 2015 results of the Survey of Disability, Ageing and Carers (SDAC). However, even though 2018 SDAC data is available (and has been used in most of the analysis underlying this report), the MADIP core can only be linked to 2015 SDAC survey. Hence, for the purposes of this project we have used 2015 SDAC data linked to MADIP for the model inputs, where MADIP data has been used.

10.2 Modules and Data used from MADIP for the current project

Two key types of data within the MADIP were used in this project.

SDAC 2015 data linked to MADIP was used for working age population with and without disability. Other variables analysed from SDAC 2015 were sex, hours worked, highest level of educational attainment, occupation, industry of employment, degree of limitations in core activities, employment related restrictions, weekly income from salary and wages. Mean wage and salary income was calculated for the working age cohort linked to MADIP data for these variables across people with and without disability.

Data from the Social Security and Related Information (SSRI) module was linked to the MADIP core and 2015 SDAC module for analysis. Due to the file size and processing time only a single year of SSRI data was linked, and it was also restricted to data on the beneficiary themselves, with data on partner benefit income excluded to enable the merge to be completed in a single day. SSRI data was used to analyse the amount and duration of Disability Support Pension (DSP) and Newstart Allowance (NSA) receipts of populations included in the SDAC. This included analysis on levels and frequency of benefit income based on 'Disability Status', 'Disability Groups', 'Disability Types' and 'Main Condition'. This analysis was split across gender where possible, given data sensitivity.

10.3 Scope of future analysis

There were a large number of potentially interesting ways MADIP could have been used to explore issues related to the employment and labour force participation of working age people with disability that were not possible because of time constraints.

It would add value to the current study if salary and wages data from the personal income tax (PIT) module is used to identify those with disability in receipt of employment income, range of taxable income and the Australian and New Zealand Standard Industrial Classification (ANZSIC) industry of employer.

These include:

- Extending the analysis of the characteristics of the potentially job ready cohort of people with disability identified in this report by linking the data on higher education activity and achievement to the broader demographic information from the SDAC.
- Given the existing issue of a successful transition to work pathways for school leavers, analysis of the Apprenticeship and Traineeship (AT) module for people with disability can shed light on the field, level, type, occupation and industry of apprenticeship for people with disability and various disability types.
- Exploring how the characteristics of the potentially job ready cohort have changed over time could be undertaken using the ability to link SDAC with Census data.

- Identifying changes in income over time by linking the ATO PIT data into the SDAC.
- Analysis on SSRI module can be extended to include a span of years to explore transitions between and in and out of payment types, be expanded to include partner payments, and expanded to include other Social Security related payments such as rent assistance, Abstudy, family tax benefits etc., and to include analysis of multiple years of data to capture changes in eligibility and payment rates over time.

The MMP dataset is expected to be refreshed sometime in 2021. This will hopefully mean that the 2018 SDAC dataset will be linked to the MADIP core and be available for analysis.

The potential to use the very rich longitudinal data in the Household Income and Labour Dynamics Australia (HILDA) survey dataset was considered for this project but could not be undertaken due to the time required for analysis of MADIP data. However, we believe that there would be considerable merit in seeking to replicate the transitions based analysis of young people's pathways after school undertaken in Cebulla and Whetton (2018) with a focus on the subset of young people in HILDA who are people with disability.

Finally, much of the detailed analysis in this report has been focussed on the cohort of people with disability assessed as potentially job ready. However there may be merit in undertaking similar analysis to that undertaken in this report for the job ready cohort for those people with disabilities with disability types that have the lowest employment rates such as 'mental illness' and 'social or behavioural difficulties' in order to better understand the barriers faced in accessing employment.

Bibliography

- Australian Bureau of Statistics (ABS) (2013), 1220.0 - ANZSCO - Australian and New Zealand Standard Classification of Occupations, 2013, Version 1.2. Canberra: ABS.
- Australian Bureau of Statistics (ABS) (2018), Labour Statistics: Concepts, Sources and Methods, Feb 2018. Cat no. 6102.0.55.001. Canberra: ABS
- Australian Bureau of Statistics (ABS) (2019), Disability, ageing and carers, Australia: Summary of findings, 2018. Cat. no. 4430.0. Canberra: ABS.
- Australian Bureau of Statistics (ABS) (2019b), Employee Earnings and Hours, Australia, May 2018, Canberra: ABS.
- Australian Bureau of Statistics (ABS) (2020), Microdata file for the Survey of Disability, Ageing and Carers, 2018
- Australian Bureau of Statistics (ABS) (2021a), MADIP modular product linked to the unit record data of the Survey of Disability, Ageing and Carers, 2015
- Australian Bureau of Statistics (ABS) (2021b), Australian System of National Accounts, Table 46. Total Factor Income, by Industry and principal components, Current prices, cat. no. 5204.0
- Australian Human Rights Commission (AHRC). 2019-20 Complaint statistics. Sydney: AHRC. Report available at the [AHRC website](#)
- Australian Institute of Health and Welfare (AIHW) 2020. People with disability in Australia. Cat. no. DIS 72. Canberra: AIHW. Report available at the [AIHW website](#)
- Australian Network on Disability (2017), Disability Confidence Survey Report 2017. Sydney: Australian Network on Disability. Report available at the [the Australian Network on Disability website](#)
- Burton A.K., Kendall, N., Pearce, B., Birrell, L. and L. Bainbridge (2008), "Management of upper limb disorders and the biopsychosocial model", Centre for Health and Social Care Research, University of Huddersfield, Health and Safety Executive, Research Report 596.
- Burton A.K., Bartys, S., Wright, I., and C. Main (2005), "Obstacles to recovery to musculoskeletal disorders in industry", Salford Royal Hospital, University of Huddersfield, Health and Safety Executive, Research Report 323.
- Calmfors, Lars (1994), "Active Labour Market Policy and Unemployment – A Framework for the Analysis of Crucial Design Features", OECD Economic Studies No. 22, Spring.
- Cebulla, A and S Whetton (2018), 'All roads leading to Rome? The medium term outcomes of Australian youth's transition pathways from education', *Journal of Youth Studies*, 21(3), pp. 304-323
- The Centre of Research Excellence in Disability and Health (CRE-DH) (2018) A Fair Go? Measuring Australia's progress in reducing the disadvantage faced by working age adults with disabilities 2001-2016. Report available through the [figshare research repository](#)
- Coleman C et al. (2018), 'Aboriginal and Torres Strait Islander disability prevalence: making sense of multiple estimates and definitions'. *Indigenous Health*, 42(6): 562-566.
- Deloitte Access Economics. (2011) The Economic Benefits of Increasing Employment for People with Disability. Report available through the [Deloitte website](#).
- Department of Education, Skills and Employment (2019), QILT. 2019 Graduate Outcomes Survey National Report: October 2019. Report available at the [Quality Indicators for Learning and Teaching website](#)
- Department of Education, Skills and Employment (2018), QILT 2018 Graduate Outcomes Survey National Report: October 2018. Report available at the [Quality Indicators for Learning and Teaching website](#)
- Department of Social Services (DSS) (2018) Evaluation of the NDIS Consolidated Final Report. Report available through the [DSS website](#)
- Department of Social Services (DSS) (2019) Evaluation of JobAccess Service Report. The report is available at the [DSS website](#)
- Education Services Australia (ESA) (2017), Nationally Consistent Collection of Data on School Students with Disability. 2017 data on students in Australian schools receiving adjustments for disability. Carlton: ESA. Report available at the [Department for Education, Skills and Employment website](#)
- Flint E., M. Bartley, N. Shelton, and A. Sacker (2013), 'Do labour market status transitions predict changes in psychological well-being?', *Journal of Epidemiology and Community Health*, 67:796–802
- Graduate Careers Australia (GCA) (2018), GradStats 2017. Redcliffe North: GCA. Report available at the [Graduate Careers Australia website](#)
- Hall, S. Fildes, J. Liyanarachchi, D. Plummer, J. and Reynolds, M. 2020. Young, willing and able – youth survey disability report 2019. Sydney: Mission Australia. Report available at the [Mission Australia website](#)

- International Labour Organisation (ILO) (1983), R168 - Vocational Rehabilitation and Employment (Disabled Persons) Recommendation, 1983 (No. 168). The report is available at the [ILO website](#)
- National Centre for Student Equity in Higher Education (2017), NCSEHE Focus: Successful outcomes for students with disability in Australian higher education. National Centre for Student Equity in Higher Education (NCSEHE), Perth: Curtin University.
- National Disability Insurance Agency (2018), Increased labour force engagement among Australians with a disability
- National Disability Insurance Agency (NDIA) (2020), Operational guidelines. Canberra: NDIA. Available at the [NDIS website](#)
- National Disability Services. (2011). The Economics Benefits of Disability Employment Estimates of the Labour Supply Impacts of the OECD Integration Scenario and the National Disability Insurance Scheme Using SDAC 2009.”
- van der Noordt M., H. IJzelenberg., M. Droomers, K.I. Proper (2013), ‘Health effects of employment: a systematic review of prospective studies’, *Occupational and Environmental Medicine*, 71, 730–736
- Norström¹, F., A.-K. Waenerlund, L. Lindholm, R. Nygren, K.-G. Sahlén and A. Brydsten (2019), ‘Does unemployment contribute to poorer health-related quality of life among Swedish adults?’, *BMC Public Health*, 19, 457.
- Productivity Commission. (2011) Disability Care and Support Productivity Commission Inquiry Report Volume 2. Report available at the [Productivity Commission website](#)
- Royal Australian College of Physicians and the Australasian Faculty of Occupational and Environmental Medicine, (undated), “Realising the Health Benefits of Work: A Position Statement”.
- SVA Consulting (2021), Ticket to Work - Valuation of key outcomes
- Wilkins, R and Lass, I (2018), The Household, Income and Labour Dynamics in Australia Survey: selected findings from waves 1 to 16. Melbourne: Melbourne Institute: Applied Economic & Social Research. Report available at the [Melbourne Institute website](#)
- World Health Organization and World Bank (2011), World report on disability 2011. World Health Organization. Available at: <https://apps.who.int/iris/handle/10665/44575>

APPENDIX A - Methodology for estimating impacts of employment

A.1 Model for estimating impact of employment for people with disability

Model choice

A component of this project was to develop an easy to use **model** to quantify impacts on GDP and benefit costs of increasing employment among people with disability.

The requirement that the model be feasible for use to quickly test different policy impacts precluded the modification of an existing computable general equilibrium (CGE) model to reflect the characteristics of people with disability currently in employment, as CGE model modifications require significant resourcing each time new policy settings or potential target groups for policy are considered.

As an alternative we developed a structural model that linked increases in expected individual income through work to GDP and benefit costs.

The **benefits** of using a structural modelling approach are that:

- a) It supports a user friendly modelling framework;
- b) It more accurately captures the expected hours worked and expected wage income of people with disability moving into employment using actual data on current employment patterns rather than plausible assumptions; and
- c) It straightforwardly allows modelling to be focussed on the potential impacts of particular cohorts within the overall population of people with disability, giving it the flexibility to estimate the impacts of programs with different target populations.

The **key weakness** of this modelling approach is that it is much less sophisticated than either CGE modelling or macroeconomic modelling in capturing the second order economic effects of increased employment, such as increased savings rates, increased investment in the capital stock, the benefits arising from higher government spending enabled by the additional taxation revenue, and the potential (generally small) short term reductions in average wages that typically accompany increases in the labour supply.

Structural models are also 'static' in that they assume that relative wages and the profit margins on specific industry sectors will remain constant, rather than allowing them to alter in response to the increase in the labour supply as is the case with CGE or macroeconomic models.

On average we would expect CGE modelling or macroeconomic modelling to *over-estimate* the potential impacts of shifting specific cohorts of people with disability into employment, unless significant time were spent customising the model for the demographic characteristics of that specific cohort of people with disability.

On average we would expect a structural modelling framework such as the one we have employed in this report to *under-estimate* the potential benefits of increasing employment rates for people with disability, due to its inability to capture the second order and dynamic macroeconomic impacts.

A.2 Estimating the potential income effects of employment to people with a disability (Section 9.1)

The starting point for our structural model is data on the **proportion of people with disability with each level of core limitation covering both the:** overall working age population of people with disability who are not in work; and cohort identified in this report as potentially most 'job ready'.

Income data extracted from the MADIP dataset for people with disability *in employment* is used as the basis for calculating the mean wage that might be expected if these cohorts of interest moved into work. That is we assume the average wages of additional people with disability entering employment will be in line with the wages of people with disability already in work, adjusted for the severity of limitations in core activities.

Once a potential increase in the number of people with disability in employment has been entered into the model developed for this research, the **calculation of potential increases in wage income** involves several steps:

1. The probability that a person with disability gaining employment will be in each of the core limitations categories was identified from the SDAC data. The model currently includes two alternative demographic assumptions on this, that:

- a. the pattern of core limitations amongst people with disability who move into work will match those of people with disability in employment in work as at the 2018 SDAC; and
 - b. the pattern of core limitations amongst people with disability who move into work will match those of the potentially job ready cohort of people with disability identified in this report.
2. The average wages received by people with disability *currently in work* in each core limitation category was calculated from SDAC data in the MADIP dataset. These average wages reflect the existing pattern of hours worked by people with disability in employment.
 3. Wages data in the MADIP modular product is from 2016, so this was factored reflecting the increase in wages as measured by the wage price index from December 2016 to December 2020.
 4. It is likely that people with disability entering work would have lower average wages than those already in work. No data is available to identify the exact pay discount of people with disability when they are new entrants to the workforce. For the purposes of this analysis we have assumed that the average wage of new entrants to employment will be 15 per cent lower than the average for incumbents (this reflects the difference between average and median wages).

Discounted average wages were calculated for each of the limitation in core activity categories.

5. Average wages can produce misleading results if used to assess potential tapering of benefit payments as around 60 per cent of wage earners have an income that is below the average and will therefore experience less tapering of benefits than would be expected at the average wage. Data from the distribution of wages in the overall population (ABS 2019b) was used to estimate a distribution of wages for each level of limitations category, based on the relevant discounted average wage. Expected income levels were generated by income decile for the 10th through 90th decile.
6. People entering work do not, in most cases, receive the gross increase in their wage and so estimates are needed of expected income tax and expected tapering of benefits.
 - a. The formula for calculating expected tax payable from a given weekly wage was taken from ATO (2020) and was applied to the estimated wage at each decile from the 10th to the 90th for each core limitation category.
 - b. Personal income thresholds above which tapering of benefits begins, and the rate of taper, were taken from the Services Australia website. Single, aged 22 or older, payment rates were used for both DSP and JobSeeker payment.
 - c. Expected income tax payable, and expected tapering of DSP and JobSeeker payment was calculated for each of the income deciles for each of the limitation in core activities categories.
 - d. Not all people with disability entering work will receive a wage high enough to exceed the cut-off point for income replacement benefits. The model assumes a distribution of incomes around the average resulting in some people with disability remaining on part-payments after entering work. For DSP this ranged from an average payment rate of 38 per cent after entering work for people with disability who are 'severely limited in core activities' to an average payment rate of 21 per cent after entering employment for people with disability who are neither limited in core activities nor restricted in employment or study.
 - e. An average was calculated for each of expected income tax payable, expected benefit tapering for a DSP recipient and expected benefit tapering for a JobSeeker payment recipient for each of the limitation in core activities categories.
7. Average expected gross incomes were calculated using a weighted average of the average incomes for the limitation in core activity categories. Weighting was undertaken for two sets of demographics of potential people with disability entering employment. The first set of weights assumed the distribution of limitations in core activities would match that of the overall population of people with disability who are not in work. The second set of weights assumed that the distribution of limitations in core activities would match that of the potentially job ready cohort of people with disability identified in Section 8 of this report.
8. Expected gross income lost to tapering of benefits needs to be scaled down to reflect that many people with disability who are not in work are not in receipt of an income support payment. The proportion of people with disability not in employment receiving neither DSP nor NewStart Allowance (now replaced by JobSeeker Payment) in the SDAC ranges from 32 per cent of people with disability with profound limitations in core activities to 72 per cent of those people with disability with no limitations in core activities, or restrictions in schooling or employment (analysis of MADIP dataset linked to SDAC microdata file, ABS, 2021a).
9. Expected gross income lost to tapering of benefits needs to be scaled down again to reflect that not all people with disability who are not in employment and receiving an income support benefit will be in receipt of the full payment amount, due to factors such as partner income, compensation payments and asset test impacts. Analysis of the 2016 social security data in MADIP indicates that

people with disability who are not in employment and who were receiving the DSP were on average receiving 87 per cent of the full payment and those on Newstart Allowance averaged 81 per cent of the full payment.

10. The weighted average gross income calculated at step 7 is converted to expected net increase in income by deducting expected income tax calculated at step 6, and expected average loss of income due to benefit tapering calculated at steps 6, 8 and 9.

A.3 Estimating the potential economic impact of increased employment of people with disability (Section 9.2)

The expected impacts of shifting into employment on the average individual incomes of people with disability can also be used to approximate the impact on economic activity (as measured by GDP). This is because each additional person employed will increase the amount of economic output an employer can produce net of any purchased inputs (known as gross value added). A proportion of this gross value added will be paid to employees in wages to attract them to undertake the job, with the remaining gross value added used to pay the cost of any capital equipment needed, to pay taxes fees and charges to government, and retained as a surplus by the employer. This means that the wages paid to employees represent a share of the total GDP generated by activity in that sector which varies between industries.

Data on the share of wages in gross value added for each industry sector was sourced from the ABS's national accounts publication (ABS, 2021b). Data on the *existing* pattern of employment of people with disability between industry sectors was then used to allocate the increase in employment of people with disability being modelled across industry sectors.

The share of wage income in industry gross value added was used to estimate the total gross value added that would be expected in each industry sector based on the expected wages that would be earned in that sector by people with disability entering employment. Summing this across industry sectors gives an overall estimated increase in economic activity (GDP) as a result of the increased employment.

Methodology for calculating potential economic impact of increased employment of people with disability

The following steps were employed in the calculation

1. The **first step** is to scale expected gross wages excluding income tax (calculated using the approach set out in Section A.2) up to total compensation of employees (the measure of employee incomes used in the national accounts) by including employer superannuation contribution (for simplicity this was assumed to be at the legislated rate of 9.5 per cent of gross wages for all people with disability moving into employment), and deducting expected income tax.
2. The **second step** is to calculate what share of factor income (wages plus profits) wages make up in each of the sectors in the economy. The expected pattern of employment by industry of people with disability was used to calculate a weighted average of this factor income share for people with disability (68.5 per cent).
3. The factor income share of wages allows the calculation of overall expected factor incomes implied by the level of wages paid. For example, if expected wages, plus superannuation, and minus income tax was \$10,000 and the wages factor income share was 50 per cent, then the expected total factor income would be \$20,000. The **third step** is to divide the estimated total compensation of employees calculated at step 1 by the estimated wages factor income share calculated at step 2.
4. Factor incomes are not the only components of GDP, there are also taxes net of subsidies (this is why income tax was deducted from wages at step 1). The **fourth step** of the calculation is to factor up the estimated total factor incomes by taxes net of subsidies as a proportion of factor incomes. This is not available at the industry level and so the model uses the average level over the whole economy, adding an additional 10.99 per cent to the factor incomes to give an estimate of GDP.

The methodology used in other studies to estimate impacts on GDP

A number of studies (Productivity Commission, 2011; National Disability Insurance Agency, 2018; Deloitte Access Economics, 2011; NDS, 2011; CSU, 2015) have sought to estimate the potential impacts of increasing the participation of people with disability in employment, particularly in relation to the introduction of the NDIS. Four approaches have been used in making these estimates, Computerised General Equilibrium (CGE) modelling as used by the Productivity Commission, structural econometric models of the Australian economy as used by Deloitte Access Economics, input-output analysis as used by Charles Sturt University, and structural models such as that used by SVA Consulting in their Ticket to Work Evaluation.

Input-output models have a significant limitation – they do not include any allowance for price effects arising from changes in economic activity. (For example, if a large investment requires a large number of machinery operators then its demand for that type of employee would increase, which would be likely to increase wages for the skills that are experiencing increases in demand, potentially reducing employment by existing firms). This means that whilst input-output models can give accurate assessments of the impacts of relatively small changes to the economy, particularly in cases where there are higher levels of unemployment, they are not generally regarded as being suitable for estimating large changes to economies, such as large increases in employment amongst people with disability.

CGE and macroeconomic models are based on a large set of equations describing existing economic relationships (including sales between different industry sectors, the inputs used in production by each industry and the determinants of labour and capital supply) together with equations that describe how they change over time or in response to ‘shocks’. This allows very detailed analysis of potential economic impacts of changes to the economy including fully taking into account price changes and their impact on resource usage.

Estimating the potential impact of changes to employment of people with disability requires specific adjustments to this type of model as the standard treatment assumes that employees have characteristics that match the average existing values.

The third approach that can be used is ‘**structural modelling**’ which builds up a set of equations based on parameters derived from the existing experience of people with disability in the labour market to calculate how changes in employment are expected to flow through to aggregate changes in wage income and to changes in GDP. This report uses this approach.

Estimating the impact on current year benefit payment costs

A number of simplifying assumptions were made in calculating the estimated reduction in benefits as a result of increased wages. These assumptions are that:

- Each person with disability not in employment and in receipt of an income support payment was on the full rate of the relevant income support benefit prior to gaining employment (e.g. no reductions due to partner income or assets have been assumed);
- The receipt of other Australian Government payments and allowances such as family tax benefit and rent relief will not change. This assumption will tend to understate the saving in current year benefit payments as at least some people with disability moving from not working to employment would see a fall in these payment amounts. However, calculation of the expected changes in benefit amounts required modelling of **household** rather than individual incomes, which is not possible within this model due to restrictions on the availability of ABS data to preserve confidentiality;
- The proportions of people with disability on each income support benefit, and on no income support benefit, are in line with the averages for people with disability with that level of core limitation;
- Each person with disability was on the single rate of the relevant benefit prior to gaining employment;
- Each person with disability will earn the current mean wage and salary income for people with disability in employment with that level of core limitation if they move into employment; and,
- There will be no change in the eligibility of people with disability entering employment to other allowances and benefits such as family tax benefit or rent relief.

A.4 Estimating the impact on expected lifetime benefit payment costs (Section 9.3)

Estimates of the lifetime financial cost saving in terms of Australian Government social security payment expenditures draw on both the structural model outlined in Section 9.1 and data from the Department of Social Services Priority Investment Approach (PIA) model.

In order to combine estimates of increased employment and wage income from the structural model with results from the PIA model on expected lifetime benefit costs it is necessary to convert them to a common basis, and then assess the expected changes in benefit categories as a result of moving into employment.

Converting estimates from PIA and the structural model to a common basis

The PIA model is structured around benefits - what benefit (if any) individuals are receiving in the base year of the model - and so the employment estimates of the GDP model need to be structured in the same way. To do this, the averages for people with disability *not in work* in each core limitation category are distributed according to *income support payment type*, with the allocations made as follows. Those:

- a. In receipt of DSP - are allocated to the **DSP category of the PIA data**. Data from the SDAC suggests that around 40 per cent of working age people with disability who are not in work are receiving the DSP;
- b. In receipt of NewStart Allowance/Youth Allowance in the SDAC data - are allocated to the **working age payment category of the PIA data**. Data from the SDAC suggests that 13 per cent of working age people with disability who are not in work are receiving NewStart Allowance; and
- c. **Not** in receipt of DSP or NewStart Allowance - are assumed to have no lifetime benefit cost savings associated with their shift into employment as data limitation preclude the estimate of how their expected lifetime receipt of benefit payments would change if they were to find work. Data from the SDAC suggests that around 47 per cent of people with disability who are not in work are in this category. This assumption means that the estimates are likely to understate the potential reduction in lifetime costs as people with disability not in employment and not receipt of an income support benefit may still see a reduction in their expected lifetime receipts of benefits through moving into employment

Calculate weighted average lifetime payments by benefit type

PIA data presents estimated lifetime benefit costs by 'medical condition' within the broad payment categories. Data from the SDAC was used to estimate the proportion of people with disability not in employment who would be allocated to that medical condition in PIA, and these proportions were used to calculate a weighted average lifetime benefit cost for each payment type that was in scope by the broad payment categories used at Step 1.

Estimating the average reduction in lifetime benefits cost per person

The **third step** is to calculate what the *lifetime benefit cost savings* are for each of the broad payment categories for the benefit payments that are in scope for the analysis. Many of the payment types are either face data limitations which preclude the calculation of a lifetime benefit cost savings from a person with disability moving into employment at this point in time.

Data from Step 1 and Step 2 was used to calculate the expected weighted average lifetime benefit payments for each of the included

Payment types included in estimate

Those people with disability expected to gain employment, and allocated to either the DSP or the working age payment category, are assumed to save the average weighted lifetime payment cost calculated at step 2, for key payments that are related to not being in work. Payment types included in the estimate of cost savings are:

- Working Age Payments; and
- DSP;

Although there are a number of payments which were either out of scope, or precluded from calculation by data limitations, these two payment type categories include a significant share of estimated lifetime costs. For those for people with disability allocated to the DSP category in the PIA data, these payments account for 76 per cent of the weighted average lifetime benefit cost. For those for people with disability allocated to the working age payment category in the PIA data, these payments account for 32 per cent of the weighted average lifetime benefit cost.

Offsetting these reductions in lifetime benefits costs, people with disability who are in employment are more likely to access the child care subsidy payment than people with disability who are not in employment. Analysis of social security data in the MADIP dataset indicates that working age people with disability in work on average received \$187 per annum in 'Child Care Benefit (Formal)' in 2016, the most recent year for which data was available (ABS 2021, unpublished data). People with disability not in employment received an average of \$45 per annum in 'Child Care Benefit (Formal)' in 2016 (ABS 2021, unpublished data). For the purposes of this model we have assumed that on average a person with disability securing work has 10 years of child care subsidy payments remaining, giving an expected present value increase in costs of +\$1,295.

Payment types excluded from the estimate due to inconsistent data

The average impact of people with disability securing employment on expected lifetime receipt of Family Tax Benefit is indeterminate in the data. Family Tax Benefit A and B are subject to an income test and so all

other factors being equal one would expect that a person with disability moving into work would result in lower average lifetime receipts of Family Tax Benefits. However, analysis of social security data in the MADIP dataset shows that amongst people with disability of working age in 2016, those in work had a higher average family tax benefit payment rate than those not in work (\$3,673 compared to \$2,341). This could represent an actual difference in lifetime payment receipts, but it could equally be a statistical artefact driven by differences in the age distribution of working age people with disability in employment and not in employment. Due to this inconsistency potential savings in Family Tax Benefit payments have not been included in the model.

Payment types excluded from the estimate due to data limitations

There were a number of payment types where the data needed to estimate the extent to which payment rates could be expected to change as a result of people with disability gaining employment could not be extracted from the MADIP dataset due to restrictions on the data to protect confidentiality. These payment types are likely to disability entering employment, however data limitations around the differences in average payment rates for people with disability in employment and average payment rates for people with disability who are not in employment:

- Age Pension;
- Remote & Regional;
- General Allowances;
- All Other Allowances;
- Rent Assistance;
- Income Support Dependant ;
- Health & Disability;
- Study & Skills.

The most significant of these excluded payment types is the age pension. For people with disability in the 'working age payment group' this is the single largest component of expected lifetime benefit receipts. The reason the age was excluded from the estimate is that in order to estimate the potential for employment to reduce expected lifetime receipts of the age pension, it would be necessary to not only calculate lifetime earnings (as these drive payments into superannuation accounts) but to also estimate the returns on superannuation accounts, and non-superannuation savings. This is because income from superannuation funds, and the asset test, are the two factors most likely to impact age pension eligibility.

Payment types excluded from the estimate as they are more likely to be affected by life circumstances

There are a number of government payment types that are more likely to be driven by other life circumstances than by the chance that an individual can secure. **No reduction** in expected lifetime benefit costs is assumed for any of the following payment types:

- Student Payments;
- Parenting Payment;
- Carer Payment;
- New Parent; and
- Carer Allowance.

Limitations of the lifetime cost savings estimates

Prospective estimates of how lifetime payment costs would change as a result of an increase in employment **are subject to significant uncertainty and should be treated with caution.**

There is uncertainty around which payments people with disability moving into employment will cease to be eligible for, and the extent to which payments will reduce rather than cease. Estimates also implicitly assume that the demographics of people with disability moving into employment matches the demographics of people with disability in the DSP and working age payment categories of the PIA dataset, as factors such as age, sex and indigeneity of a benefit recipient affect total expected lifetime costs. It should also be noted that historically individuals have rarely moved from receiving DSP to no income support. Instead the main reasons for exit from DSP historically have been becoming eligible for the Age Pension or the death of the benefit recipient.

There is a considerable degree of uncertainty as to how reductions in benefit eligibility would map across the full range of benefits, as some benefits are contingent on household rather than individual incomes, or on lifetime earnings. For this reason a number of benefit types are excluded from the analysis of lifetime cost savings.

Eligibility for income support benefits is impacted by wage income, and the estimated benefit savings calculated in this report are driven by the estimated increase in wage income from a person with disability moving into employment. If average wages in work from additional people with disability securing employment are lower than those of the existing cohort of people with disability in work then these estimates of lifetime benefit cost savings may be overestimates.

The PIA estimates themselves also rely on a number of assumptions, both around important economic trends such as wages growth, employment rates and inflation and around individual behaviours such as household formation, which may or may not prove to be correct. They also necessarily assume that current policy will continue into the future around both eligibility criteria for benefit payments, and in the level of the benefits. The PIA estimates were also calculated prior to COVID-19, so any impact of this on lifetime costs has not been taken into account.