6 Projections of future demand

Levels and patterns of future demand for disability services will be affected by the interaction of a number of factors over time, such as population ageing, disability prevalence, life expectancy of people with a disability, patterns of informal care and service provision policies. Data available to date do not provide a solid basis for forward projections that consider all these factors. Therefore, it is not the purpose of this chapter to predict the future demand for disability services. Rather, it provides broad indicators of the impact of population changes on future demand for disability services to aid in service planning.

The number of people with a severe or profound core activity limitation is generally accepted as a broad indicator of potential need for disability services. This chapter presents projections of future demand for disability services in terms of the projected growth in the number of people with a severe or profound core activity limitation in Australia, including within main disability groups. Short-term (2006–2010) rather than long-term projections are conducted for two main reasons: long-term projections of the prevalence of severe or profound core activity limitations would not be reliable because of the various factors mentioned above; the next ABS Survey of Disability, Ageing and Carers will be conducted in 2009 and the data may be available in 2010.

Section 6.1 provides some background information about assumptions used in the ABS population projections and discusses the projected population growth. Section 6.2 starts with a discussion of the methods and assumptions that underpin the projections of future demand, followed by an analysis of the projected growth in the number of people with a severe or profound core activity limitation.

6.1 Projected growth in population

The estimates of projected growth in the number of people with a severe or profound core activity limitation use the ABS population projections (2002–2101) Series 8. Population growth is determined by the demographic factors of fertility, mortality and migration. The population projections are based on a combination of assumptions of future fertility, mortality and migration (ABS 2003).

Assumptions of ABS population projections

The projection Series 8 was chosen for use in this study as it produces mid-range estimates of growth in the Australian population. It assumes that the total fertility rate⁴ will decline to 1.6 births per woman by 2011, and will thereafter remain constant (medium fertility assumption). Series 8 assumes that annual increases in life expectancy of 0.3 years for males and 0.25 years for females will continue through to 2050–51 (low mortality assumption).

⁴ Total fertility rate is a summary measure based on age-specific fertility rates. The rate for a given year indicates the average number of children that women would have over their lifetimes if they experienced the rates of child-bearing experienced by women at each age in the given year.

Series 8 also assumes medium overseas migration (annual net overseas migration gain will reach 100,000 by 2005–06 and then remain constant) and medium interstate migration.

Projected population growth

The Australian population is projected by ABS to grow from 19.7 million in 2002 to around 21 million in 2010 (ABS 2003). The ABS projections suggest that the ageing of the Australian population will continue, as the inevitable result of low levels of fertility and increasing life expectancy at birth. The median age at June 2002 of 35.9 years will increase to between 40.4 years and 42.3 years in 2021 (ABS 2003).

The population age structure is projected to change considerably as a result of population ageing. The proportion of the population aged under 15 years is projected to decline from 20% at June 2002 to between 12% and 15% in 2051. The proportion of the population aged 65 years and over will increase from 13% at June 2002 to between 27% and 30% in 2051.

Projection Series B (medium)⁵ projects a continuing population growth between 2002 and 2051 for all states and territories except South Australia and Tasmania. New South Wales is projected to remain the most populous state in Australia. Victoria will be replaced by Queensland as the second most populous state by 2051.

Between 2002 and 2051, the population will grow by 73% in Queensland, 55% in the Northern Territory and 49% in Western Australia, well above the projected growth for the total Australian population (34%).

6.2 Projected growth in the population with a severe or profound core activity limitation

Methods and assumptions of projections

As discussed in Chapters 2 and 5, the ABS survey definition of a severe or profound core activity limitation is based on the need for frequent or continual personal support with any of the three core activity areas (self-care, mobility and communication). This corresponds closely to the CSTDA 'target population' (Section 1.2). The estimates of numbers of people with a severe or profound core activity limitation are therefore generally accepted as broad indicators of potential need for CSTDA-funded services.

However, it should be noted that the ABS disability survey questions about limitation in core activities are mainly focused on physical abilities, and may emphasise the presence of limitations arising from physical impairment (Madden et al. 1995). Therefore, using the number of people with a severe or profound core activity limitation may mismatch, to some extent, the number of people for whom CSTDA-funded services would be appropriate. For example, some people with an intellectual or psychiatric disability who are current clients of CSTDA-funded services or who need support might be classified, under the ABS survey definition, as having a 'mild' or 'moderate' core activity limitation.

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⁵ Projection Series B is one of the three main Series published by the ABS. Series 8 is one of the projection sets of Series B.

Two data sources are used to project the growth in the number of people with a severe or profound core activity limitation between 2006 and 2010:

- ABS 2003 Survey of Disability, Ageing and Carers, which provides the latest national information on the number of people with a severe or profound core activity limitation and their need for and receipt of assistance
- ABS 2003 population projections data, which provide projected population sizes, and age and sex profiles between 2002 and 2101. The projections take account of possible future changes in fertility, mortality and migration and thus factor in the effects of population ageing resulting from the interaction of these components.

The projections rely on three underlying assumptions:

- The age- and sex-specific prevalence rates of severe or profound core activity limitation in 2003 remain constant over the projection period.
- The trend in population growth follows the ABS 2003 population projections.
- Other factors affecting the prevalence of severe or profound core activity limitations remain unchanged in the future.

It is important to be aware that any departure from these assumptions could result in different estimates. Therefore, the projected growth in the population with a severe or profound core activity limitation should be interpreted in the context of the assumptions outlined above.

The method used to calculate the estimated number of people with a severe or profound core activity limitation over the period 2006–2010 is as follows:

- Step 1: Data from the 2003 ABS Survey of Disability, Ageing and Carers are used to derive age- and sex-specific rates of severe or profound core activity limitation.
- Step 2: These rates are applied to the projected 2006–2010 age and sex distributions of the Australian population and each state and territory (from the ABS Series 8 projections) to calculate the expected number of people with severe or profound core activity limitation, by age and sex, for each jurisdiction and for the total Australian population.
- Step 3: The resulting numbers for each age and sex group are summed to give an estimate of the total projected number of people with a severe or profound core activity limitation in that jurisdiction or in the Australian population.

The national age- and sex-specific rates of severe or profound core activity limitation, rather than the rates of jurisdictions, are applied to the population data of each jurisdiction. Because of the relatively small survey sample size for some states and territories, such jurisdiction-level estimated rates would have large sampling errors.

The projected growth at state and territory level thus relies on underlying assumptions that each state or territory has the same age- and sex-specific prevalence rates as those of the overall Australian population, and that the projected numbers are not affected by factors other than demographic variations, for example, changes in disability prevalence due to increase in perception and awareness of disability.

Growth estimates of severe or profound core activity limitation (2006–10)

The number of Australians with a severe or profound core activity limitation is projected to increase by 8.7% (116,200 people) between 2006 and 2010 (Tables 6.1 and 6.2). This is largely due to high growth in the age groups of 65 years and over (13.1%, or 81,600 people) and 45–64 years (10.3%, or 32,800 people). In contrast, negative growth is projected in the 0–14 years age group. These trends reflect continued low birth rates and population ageing. In the working age population (15–64 years) the total projected increase in the number of people with a severe or profound core activity limitation is 6.9%, or 37,500 people, largely attributable to growth in the 45–64 years age group. The growth rate is lower (4.8%) in the broader 0–64 years age group, due to the negative growth projection for 0–14 year olds.

The projected overall growth rates between 2006 and 2010 differ considerably between states and territories (Table 6.1). Queensland and Western Australia have markedly higher growth rates than the national average of 8.7% (11.5% and 10.5% respectively). The lowest projected growth rates are in Tasmania (5.9%) and South Australia (6.3%).

In all states and territories, the highest rates of increase in the number of people aged under 65 years with severe or profound core activity limitations are projected to occur in the 45–64 years age group. Queensland, Western Australia and the Northern Territory all have higher than average growth rates in this age group. However, the relatively young population in the Northern Territory diminishes the effect of growth in this age group on overall population growth (Table 6.1).

Growth is predicted for all age groups in Queensland and the Northern Territory, and all ages above 14 in New South Wales, Victoria, South Australia and the Australian Capital Territory. Negative growth in the age groups 0–14 and 30–44 years in South Australia, and 0–19 and 30–44 years in the Northern Territory, corresponds to the projected decline in the population aged under 65 years in these states between 2006 and 2010.

The projected growth rates in the number of people with a severe or profound core activity limitation are slightly higher for females than males, both overall and in the 0–64 years age group (Table 6.1). While it is expected that, overall, there will continue to be more females than males with a severe or profound core activity limitation in 2010 (836,400 compared to 621,000), there will be similar numbers of males and females with a severe or profound core activity limitation aged under 65 years (Table 6.2).

Projected populations of people with severe or profound core activity limitations in all states and territories, and in the age groups 0–64, 65 years and over, and the overall population, are provided in Tables 6.3, 6.4 and 6.5. (For detailed growth estimates and annual growth rates within states and territories, see Tables A6.1–A6.17.)

Table 6.1: Changes in the projected population of persons with a severe or profound core activity limitation, by age, sex and state/territory, 2006–10

	% char	% change in number of persons with severe or profound core activity limitation							
Age	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males									
0–14	-1.9	-2.2	0.5	-0.6	-4.8	-6.5	-2.3	0.2	-1.7
15–19	2.7	3.4	8.0	2.4	-0.3	-1.9	0.6	5.1	3.6
20–29	3.6	3.6	7.9	6.7	2.3	2.6	1.6	5.5	4.6
30–44	0.5	0.8	3.1	1.6	-4.2	-6.8	1.0	1.3	0.7
45–64	9.1	9.2	11.7	11.8	7.3	5.8	7.1	9.8	9.6
65+	13.9	14.6	19.1	19.2	12.3	14.2	20.6	20.4	15.5
Total 0-64	3.4	3.4	6.2	5.3	1.0	-0.6	2.3	4.2	3.9
Total 15-64	5.7	5.9	8.8	7.9	3.4	2.1	4.3	6.4	6.3
Total	7.4	7.7	10.8	10.0	5.7	5.3	7.8	6.7	8.2
Females									
0–14	-1.8	-2.4	0.7	-0.8	- 5.1	-6.1	-2.4	0.7	-1.6
15–19	1.8	2.6	7.7	2.4	0.6	-1.4	-0.5	3.6	3.1
20–29	3.4	4.1	6.2	6.3	2.0	1.0	1.2	5.1	4.2
30–44	0.5	0.3	3.2	1.2	-4.5	-7.1	0.1	2.2	0.5
45–64	9.9	10.1	14.1	13.0	7.6	7.5	8.3	13.7	10.8
65+	10.4	11.4	15.2	14.4	9.6	9.9	16.8	17.0	11.8
Total 0-64	5.1	5.2	8.7	7.3	2.6	1.7	3.8	6.9	5.8
Total 15-64	6.6	6.7	10.4	8.9	4.1	3.3	5.0	8.7	7.3
Total	8.0	8.6	12.0	10.8	6.7	6.3	9.5	9.1	9.0
Persons									
0–14	-1.9	-2.3	0.6	-0.7	-4.9	-6.3	-2.3	0.4	-1.7
15–19	2.3	3.0	7.9	2.4	0.1	-1.7	0.1	4.4	3.3
20–29	3.5	3.8	7.0	6.5	2.1	1.8	1.4	5.3	4.4
30–44	0.5	0.5	3.1	1.4	-4.4	-6.9	0.5	1.7	0.6
45–64	9.5	9.7	13.1	12.5	7.5	6.8	7.8	11.9	10.3
65+	11.6	12.5	16.6	16.1	10.5	11.4	18.1	18.5	13.1
Total 0-64	4.3	4.3	7.4	6.3	1.8	0.6	3.1	5.5	4.8
Total 15-64	6.2	6.3	9.7	8.4	3.8	2.8	4.7	7.6	6.9
Total	7.7	8.2	11.5	10.5	6.3	5.9	8.8	7.8	8.7

Table 6.2: Projected population of persons with a severe or profound core activity limitation, by age and sex, 2006–10 ('000)

	Number with severe or profound core activity limitation							
Age	2006	2007	2008	2009	2010			
Males								
0–14	110.2	109.8	109.4	108.9	108.3			
15–19	16.9	17.1	17.3	17.5	17.5			
20–29	31.9	32.3	32.7	33.1	33.4			
30–44	63.8	63.8	63.7	63.9	64.2			
45–64	137.2	140.9	144.7	147.8	150.4			
65+	213.9	221.7	229.4	238.0	247.0			
Total 0-64	360.0	363.9	367.8	371.0	374.0			
Total 15-64	249.9	254.1	258.4	262.2	265.6			
Total	574.0	585.6	597.2	609.0	621.0			
Females								
0–14	60.3	60.1	59.8	59.6	59.3			
15–19	15.0	15.2	15.3	15.4	15.5			
20–29	30.5	30.8	31.1	31.5	31.8			
30–44	70.7	70.7	70.7	70.8	71.1			
45–64	180.9	186.3	191.8	196.4	200.5			
65+	409.7	421.2	432.9	445.3	458.2			
Total 0-64	357.4	363.2	368.8	373.7	378.2			
Total 15-64	297.1	303.1	309.0	314.1	318.8			
Total	767.1	784.4	801.7	818.9	836.4			
Persons								
0–14	170.5	169.9	169.2	168.5	167.7			
15–19	32.0	32.3	32.6	32.9	33.0			
20–29	62.4	63.2	63.9	64.6	65.2			
30–44	134.5	134.5	134.4	134.7	135.3			
45–64	318.1	327.2	336.5	344.1	350.9			
65+	623.6	642.9	662.3	683.3	705.2			
Total 0-64	717.5	727.1	736.6	744.7	752.1			
Total 15-64	547.0	557.2	567.4	576.2	584.5			
Total	1,341.1	1,370.0	1,399.0	1,428.0	1,457.3			

Table 6.3: Projected population of persons aged 0-64 years with a severe or profound core activity limitation, by state/territory, 2006-10 ('000)

	Number with severe or profound core activity limitation						
	2006	2007	2008	2009	2010		
NSW	238.9	241.7	244.6	246.9	249.0		
Vic	175.6	177.7	179.8	181.5	183.2		
Qld	141.6	144.4	147.3	149.8	152.1		
WA	71.9	73.1	74.3	75.4	76.4		
SA	53.5	53.8	54.2	54.4	54.5		
Tas	16.8	16.8	16.9	16.9	16.9		
ACT	11.8	11.9	12.0	12.1	12.1		
NT	*7.4	*7.5	*7.6	*7.7	*7.8		
Australia	717.5	727.1	736.6	744.7	752.1		

Source: AIHW analysis of ABS 2003 Survey of Disability, Ageing and Carers confidentialised unit record file.

Table 6.4: Projected population of persons aged 65 years and over with a severe or profound core activity limitation, by state/territory, 2006–10 ('000)

	Number with severe or profound core activity limitation							
	2006	2007	2008	2009	2010			
NSW	216.8	222.8	228.7	235.2	241.9			
Vic	159.7	164.5	169.3	174.4	179.7			
Qld	110.9	115.2	119.5	124.3	129.4			
WA	54.3	56.4	58.5	60.7	63.1			
SA	56.6	58.0	59.5	61.0	62.5			
Tas	16.3	16.8	17.2	17.7	18.2			
ACT	*7.2	*7.5	*7.8	*8.1	*8.5			
NT	**1.7	**1.7	**1.8	**1.9	**2.0			
Australia	623.6	642.9	662.3	683.3	705.2			

Note: Estimated numbers were calculated by applying national age- and sex-specific prevalence rates derived from the ABS 2003 Survey of Disability, Ageing and Carers to ABS population projections (Series 8).

^{*} These estimates have an associated relative standard error of between 25% and 50% and should be used with caution.

^{*} These estimates have an associated relative standard error of between 25% and 50% and should be used with caution.

^{**} These estimates have an associated relative standard error of greater than 50% and are considered too unreliable for general use.

Table 6.5: Projected population of persons with a severe or profound core activity limitation, by state/territory, 2006–10 ('000)

	Number with severe or profound core activity limitation							
	2006	2007	2008	2009	2010			
NSW	455.7	464.5	473.3	482.1	490.9			
Vic	335.3	342.2	349.0	355.9	362.8			
Qld	252.5	259.6	266.8	274.0	281.5			
WA	126.2	129.5	132.8	136.1	139.5			
SA	110.1	111.9	113.6	115.3	117.0			
Tas	33.1	33.6	34.1	34.6	35.1			
ACT	19.0	19.4	19.8	20.2	20.6			
NT	*9.1	*9.2	*9.4	*9.6	*9.8			
Australia	1,341.1	1,370.0	1,399.0	1,428.0	1,457.3			

^{*} These estimates have an associated relative standard error of between 25% and 50% and should be used with caution.

Growth estimates of severe or profound core activity limitation within different disability groups (2006–2010)

Growth projections for each of the five main disability groups were produced by applying national age- and sex-specific rates to ABS population projection data. Thus, differences in growth rates between disability groups reflect the different age and sex profiles of those groups, rather than projected changes in age-specific prevalence rates of particular disability types.

For all five disability groups, the overall estimated growth rate between 2006 and 2010 is highest in the age group 65 years and over, followed by 45–64 years (Table 6.6). Negative growth is projected for all disability groups in the age group 0–14 years.

Differences between the growth rates of individual disability groups are apparent in the 0-64 years age group. The projected growth in the numbers of people aged 0-64 years with physical/diverse disability (6.0%) and acquired brain injury (5.1%) is higher than the general growth rate in severe or profound core activity limitations in this age group (4.8%). In contrast, the projected growth rates for intellectual (1.8%) and sensory/speech (3.8%) disability groups are lower than the overall growth rate.

Overall, females have a higher projected growth rate in the number of people with a severe or profound core activity limitation than males (Table 6.1), which is reflected in the different disability groups. The exception is physical/diverse disability, in which the rates are similar for both sexes (Table 6.6). The higher growth rate in males aged 65 years and over within each disability group corresponds to the overall population projections (Table 6.1).

The number of females with a severe or profound core activity limitation is projected to remain higher than the number of males (Table 6.2). Within the acquired brain injury disability group, however, the number of males is higher than females (Table A6.21). Among people aged 0–64 years, the projected population of males is higher than females for the intellectual, sensory/speech and acquired brain injury disability groups (Tables A6.18, A6.20 and A6.21.)

The projected number of people with a severe or profound core activity limitation for each disability group, and for the age groups 0-64, 65 years and over, and all ages, are set out in Tables 6.7, 6.8 and 6.9. For details of the growth estimates, annual growth rates and projected population by age and sex within each disability group, see Tables A6.18–A6.27.

Table 6.6: Changes in the projected population of persons with a severe or profound core activity limitation, by age and sex, within disability groups, 2006–10

% changes in number with severe or profound core activity limitation Sensory/ **Acquired brain** Physical/ Intellectual **Psychiatric** speech injury diverse Males 0-14 -1.7 -1.7 -1.7 -1.6 -1.6 15-19 3.6 3.6 3.6 3.6 3.6 20-29 4.0 4.2 5.1 5.4 5.5 30-44 0.6 1.0 0.6 0.6 0.7 45-64 8.3 7.9 9.3 8.7 9.8 65+ 16.6 16.3 16.7 14.9 15.3 Total 0-64 1.2 3.0 3.4 4.3 5.2 Total 15-64 4.2 4.8 6.3 5.4 6.9 Total 5.3 7.7 9.5 7.6 9.8 **Females** 0-14 -1.7 -1.7-1.8 -1.6 -1.215-19 3.1 3.1 3.1 3.1 3.1 20-29 3.3 4.4 4.8 4.8 4.1 0.5 30-44 1.2 0.6 -0.7 0.0 45-64 10.9 10.4 10.9 10.5 12.5 65+ 13.2 12.4 13.0 13.4 11.8 Total 0-64 6.7 2.6 6.4 4.5 6.6 Total 15-64 5.7 7.4 7.5 7.2 7.7 Total 8.4 9.5 10.3 9.7 9.7 Persons 0-14 -1.7-1.7-1.7 -1.5-1.6 15-19 3.3 3.3 3.4 3.4 3.3 20-29 3.8 4.3 5.0 5.2 4.7 30-44 0.6 8.0 8.0 0.2 0.4 45-64 10.5 9.3 9.9 9.8 10.3 65+ 14.3 13.6 14.4 14.1 13.0 Total 0-64 1.8 4.8 3.8 5.1 6.0 Total 15-64 4.8 6.3 6.8 6.1 7.3 Total 6.9 8.8 9.9 8.5 9.7

Note: Estimated numbers were calculated by applying national age—and sex—specific prevalence rates derived from the ABS 2003 Survey of Disability, Ageing and Carers to ABS population projections (Series 8).

Table 6.7: Projected population of persons aged 0-64 years with a severe or profound core activity limitation, within disability groups, 2006-10 ('000)

	Number with severe or profound core activity limitation						
	2006	2007	2008	2009	2010		
Intellectual	223.6	224.8	225.9	226.8	227.6		
Psychiatric	293.4	297.3	301.2	304.4	307.4		
Sensory/speech	268.0	270.8	273.7	276.2	278.3		
Acquired brain injury	104.9	106.3	107.8	109.1	110.3		
Physical/diverse	547.3	556.4	565.5	573.2	580.4		

Source: AIHW analysis of ABS 2003 Survey of Disability, Ageing and Carers confidentialised unit record file.

Table 6.8: Projected population of persons aged 65 years and over with a severe or profound core activity limitation, within disability groups, 2006–10 ('000)

	Number with severe or profound core activity limitation						
	2006	2007	2008	2009	2010		
Intellectual	153.1	158.5	163.7	169.2	175.0		
Psychiatric	240.7	248.6	256.4	264.7	273.5		
Sensory/speech	365.8	378.6	391.3	404.6	418.5		
Acquired brain injury	64.0	66.2	68.3	70.6	73.1		
Physical/diverse	598.6	617.1	635.6	655.7	676.7		

Note: Estimated numbers were calculated by applying national age— and sex—specific prevalence rates derived from the ABS 2003 Survey of Disability, Ageing and Carers to ABS population projections (Series 8).

Source: AIHW analysis of ABS 2003 Survey of Disability, Ageing and Carers confidentialised unit record file.

Table 6.9: Projected population of persons with a severe or profound core activity limitation, within disability groups, 2006–10 ('000)

	Number with severe or profound core activity limitation						
	2006	2007	2008	2009	2010		
Intellectual	376.7	383.3	389.7	396.0	402.5		
Psychiatric	534.1	545.9	557.6	569.1	580.9		
Sensory/speech	633.8	649.4	665.0	680.8	696.8		
Acquired brain injury	169.0	172.5	176.1	179.7	183.4		
Physical/diverse	1,145.9	1,173.5	1,201.1	1,228.9	1,257.0		

Note: Estimated numbers were calculated by applying national age— and sex—specific prevalence rates derived from the ABS 2003 Survey of Disability, Ageing and Carers to ABS population projections (Series 8).

6.3 Summary

- Future demand for disability services is affected by changes in demographic factors, including population age structure, life expectancy of people with disability, and prevalence of different types of disability, as well as the availability of informal care and policies concerning formal service provision. The projections provided in this chapter account for population growth-driven demand only. Changes in other factors throughout the projection period may result in differences between projected and actual future demand for disability services.
- Projections in the number of people with a severe or profound core activity limitation provide a broad indicator of future demand for disability services. Compared with 2006, an estimated 116,200 more Australians will have a severe or profound core activity limitation by 2010—an increase of 9%. By 2010 almost 1.5 million people are projected to have a severe or profound core activity limitation. The broad CSTDA target population of people aged 0–64 years with severe or profound core activity limitations is projected to increase to 752,100 people (an increase of 34,600 people, or 4.8%) (Table 6.1).
- The age structure of the Australian population is projected to change due to low-medium levels of fertility and increased life expectancy at birth. As a result, growth in the number of people with a severe or profound core activity limitation in the period 2006–2010 is expected to be concentrated in older age groups. The projected growth rate is 13% (an increase of 81,600) among people aged 65 years and over; and 10% (32,800) among people aged 45–64 years. Within the same time frame, the number of children aged 0–14 years with a severe or profound core activity limitation is expected to decrease by 1.7%, or 2,800 people. The broad CSTDA target population of people aged 0–64 years with severe or profound core activity limitation is projected to increase by 752,100 people a growth rate of 4.8%.
- Among people aged 0–64 years, the broad disability groups with the highest projected growth rates are physical/diverse disability (6%) and acquired brain injury (5%).