

# 18 Dementia and related disorders

## Disease characteristics

This disease category includes some of the conditions also included in the previous disease category *mental disorders*.

Dementia is a general and usually worsening loss of brain power, and affects memory, understanding and reasoning. This affects a person's ability to carry out tasks of daily living, and can also affect social and emotional life.

Dementing illnesses have an insidious onset and usually progress slowly. Dementia can be described in terms of a series of stages, from the initial and mild symptoms to a terminal decline of the central nervous system. The symptoms that occur during the course of the illness and the effects on the individual vary considerably. Eventually, the effects of damage to the brain tissue are cumulative, disabling and terminal (Victorian Department of Human Services 1997).

The most common forms of dementia are Alzheimer's disease, vascular dementia (resulting from one or more strokes that destroy tissue in the brain related to memory and intelligence), and a mixed form of dementia that includes features of both Alzheimer's disease and multi-stroke dementia (Henderson & Jorm 1998).

The causes of dementia are not fully understood, but a number of risk factors have been identified. They differ by type of dementia.

- The risk factors for Alzheimer's disease include a family history of the disease (a genetic component has been isolated), head trauma, age and Down syndrome.
- The risk factors for vascular dementia include family history and a genetic component, age, and cardiovascular related risk factors that include stroke, diabetes mellitus, hypertension, blood cholesterol and smoking.

In 1997, the ABS introduced an automatic system for the coding of death certificates. The introduction of this system has resulted in changes in the coding rules for this cause of death. Consequently, there has been a break in the time series for deaths due to dementia and related disorders and therefore this report only includes data up until 1996.

## Age–sex distribution

In 1996, 3% of all deaths were due to dementia and related disorders. Of these 3,873 deaths, 1,294 were of males and 2,579 were of females (Table 18.1).

- For males, 99% of male dementia deaths occurred from the age of 60 and over, and 36% occurred from age 75.
- For females, 100% of the deaths occurred from the age of 60 and over, and 93% occurred from age 75.

In 1996, the overall mortality rates for males (171 per million population) and females (182) were similar. Mortality rates tended to be higher for males than females between 65 and 84 years, and 63% of deaths in females occurred after the age of 84.

## Ten-year trends 1987–1996

There has been an increase over time in the mortality rates for dementia and related disorders. The increase has been significant for both males (2.9% per year) and females (5.3%). This upward trend has been particularly influenced by the significant increases in the population of males aged 80 and older, and females aged 75 years and older. It is possible that more reliable diagnoses and varying practices in death certification may also have contributed to this increase (DHAC & AIHW 1998b) (Table 18.1; Figure 18.1).

## Geographic differences in mortality

As discussed in Chapter 4, geographic differences are a complex interplay of many factors including socioeconomic status, occupational and environmental risk, migrant population, Aboriginal and Torres Strait Islander population, and proportion of the population living in rural and remote areas. Areas with a higher proportion of Aboriginal and Torres Strait Islander people will have higher mortality rates because of the higher mortality rates experienced by the Aboriginal and Torres Strait Islander population. Some of these factors are discussed separately below.

### State and Territory comparison

The mortality rates due to dementia and related disorders increased between the two periods 1987–1991 and 1994–1996 for males and females in all States and Territories, except in Tasmania where the rate for females decreased. The mortality rates for dementia and related disorders also showed some variation among the States and Territories (Table 18.2).

During the 1987–1991 period, compared with the national mortality rate for dementia and related disorders:

- Mortality rates for males in Victoria and Tasmania were significantly higher.
- The mortality rate for males in the Australian Capital Territory was significantly lower.
- Mortality rates for females in Victoria and Tasmania were significantly higher.
- Mortality rates for females in New South Wales, Queensland and the Australian Capital Territory were significantly lower.

During the 1994–96 period:

- Mortality rates for females in Victoria and South Australia were significantly higher.
- The mortality rate for females in Australian Capital Territory was significantly lower.

### Geographic category (by metropolitan, rural and remote area)

In the 2-year period 1995–1996, the risk of death from dementia and related disorders was significantly lower for males living in remote areas (97 deaths per million population) than for males living in rural areas (158 deaths per million population) and metropolitan areas (169 deaths per million population).

There were no significant differences between areas for females, and mortality rates varied by about 14% across areas, with the highest rate in metropolitan areas (178 deaths per million population) (Table 18.3; Figure 18.2).

## Country of birth

For the period 1992–1994, the world-standardised mortality rate for dementia and related disorders for Australian males and females born in Australia was 79 deaths per million population for males and 82 deaths per million population for females (Table 18.5).

- Of the 25 countries of birth analysed for Australian males and females, none had significantly higher mortality rates for dementia and related disorders than Australian males and females born in Australia.
- Mortality rates for Australian males born in China and Italy were significantly lower than for Australian males born in Australia.
- Mortality rates for Australian females born in Malta, China, Greece, Germany, New Zealand and Italy were significantly lower than for Australian females born in Australia.

## Socioeconomic status

In the 2-year period 1995–1996, there was no significant difference between the mortality rates in the highest and lowest of the five socioeconomic groups, using the SEIFA Index of Relative Socioeconomic Disadvantage.

The risk of death for males was greatest in the lowest socioeconomic group while for females the greatest risk tended to be in the three highest groups (Table 18.4) (see Appendix D).

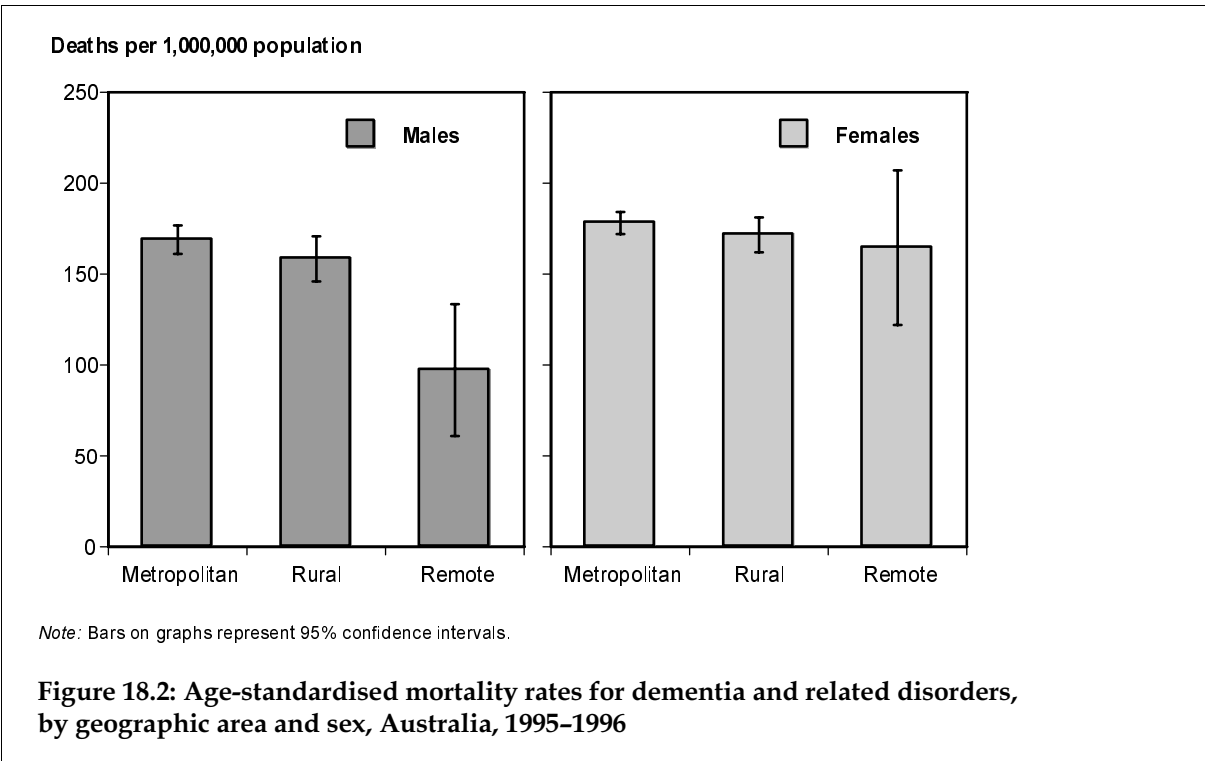
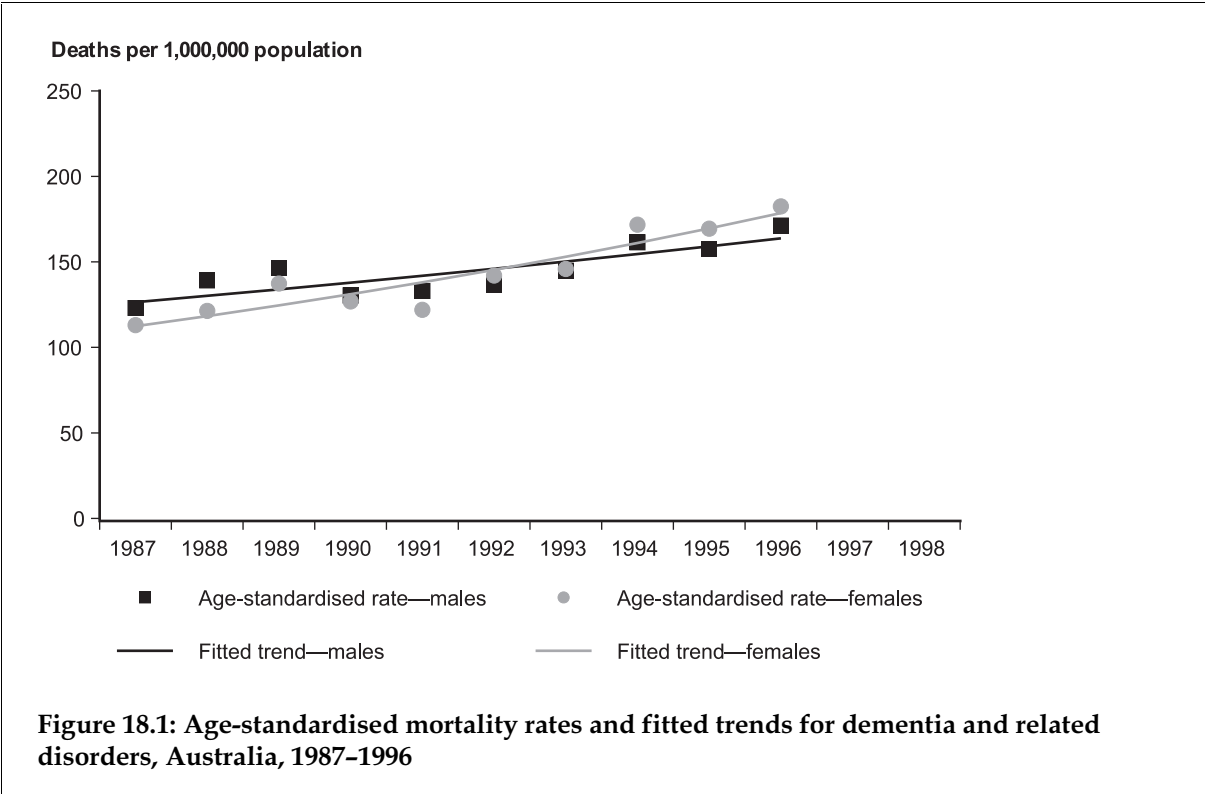


Table 18.1: Age-specific and age-standardised mortality rates for dementia and related disorders per million population, Australia, 1987–1996

Year	Age																ASMR			
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Crude rate	Aust 1991
<b>Males</b>																				
1987	2	0	0	0	0	0	0	0	2	7	3	11	37	122	390	973	2,331	5,765	80	123
1988	3	0	0	0	0	0	0	0	2	4	5	16	33	123	339	1,104	3,036	6,335	92	139
1989	0	0	0	0	0	1	0	2	0	0	0	16	33	130	396	1,268	2,959	6,703	99	146
1990	2	0	0	0	0	0	0	0	0	0	10	16	46	118	307	1,042	2,414	6,520	89	130
1991	0	0	0	0	0	0	0	0	0	4	2	8	44	106	319	956	2,808	6,536	94	133
1992	0	2	0	0	0	0	3	0	0	2	9	11	17	142	359	987	2,478	7,139	99	137
1993	2	0	0	0	1	1	0	1	0	3	4	13	34	118	327	1,059	2,983	7,230	109	145
1994	2	0	0	0	0	0	0	1	2	0	4	5	45	132	447	1,176	3,065	8,239	126	161
1995	0	0	0	2	0	0	0	1	0	0	2	17	25	137	344	1,115	3,089	8,279	126	157
1996	0	0	1	0	0	1	0	0	0	0	4	21	31	122	424	1,270	3,250	8,955	142	171
<b>Females</b>																				
1987	3	0	0	0	0	0	3	2	0	0	0	11	62	98	254	810	1,931	6,081	138	113
1988	3	0	0	0	0	0	0	0	2	2	5	8	41	94	303	957	1,945	6,582	150	121
1989	0	0	0	0	0	0	0	0	2	2	8	14	38	140	316	861	2,511	7,528	173	137
1990	0	0	0	0	0	0	0	0	0	2	5	11	35	138	288	802	2,031	7,376	162	127
1991	0	0	0	0	0	1	0	0	0	4	0	20	22	91	223	825	2,132	7,062	160	122
1992	0	0	0	0	0	0	0	0	0	2	2	14	38	79	314	947	2,555	8,086	191	142
1993	0	0	0	2	0	0	0	1	0	2	5	3	58	96	264	935	2,672	8,388	203	146
1994	0	0	0	0	1	0	0	0	2	2	2	34	25	133	334	1,023	2,991	10,227	247	172
1995	0	2	0	0	0	0	0	1	3	3	6	20	34	99	319	994	2,946	10,266	252	169
1996	2	0	0	2	0	1	1	0	1	3	2	10	50	99	327	1,058	3,012	11,420	280	182

Note: ASMR = age-standardised mortality rate.

**Table 18.2: Number of deaths and age-standardised mortality rates for dementia and related disorders per million population, States and Territories, 1987-1991 and 1994-1996**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Males</b>									
<b>Deaths</b>									
1987-1991	1,212	1,095	612	387	314	157	15	6	3,798
1994-1996	796	658	373	250	246	79	20	6	3,546
<b>Deaths per million population</b>									
1987-1991	124	153	129	144	128	191	60	88	135
1994-1996	155	178	147	183	192	193	151	179	164
<b>Confidence intervals (95%)</b>									
1987-1991	117-131	144-162	118-139	130-159	113-142	161-222	28-91	11-165	130-139
1994-1996	144-166	164-192	132-162	160-206	168-216	151-236	82-219	35-322	158-169
<b>Females</b>									
<b>Deaths</b>									
1987-1991	2,124	2,125	923	588	571	217	31	9	6,588
1994-1996	1,600	1,380	749	464	522	109	29	12	7,081
<b>Deaths per million population</b>									
1987-1991	113	150	111	115	135	149	79	106	124
1994-1996	165	194	167	172	225	145	120	274	175
<b>Confidence intervals (95%)</b>									
1987-1991	108-118	143-156	104-118	106-125	124-146	129-169	51-106	35-178	121-127
1994-1996	157-173	183-204	155-180	156-188	206-245	118-173	76-164	117-431	171-179

**Table 18.3: Age-standardised mortality rates for dementia and related disorders per million population, by geographic area, 1995–1996**

Geographic area	Males		Females	
	ASMR	95% confidence interval	ASMR	95% confidence interval
Metropolitan	169	161–177	178	172–184
Rural	158	146–170	172	162–181
Remote	97	61–134	164	122–207

Note: ASMR = age-standardised mortality rate.

Source: AIHW Mortality Database, based on *Statistical Local Area* resident population estimates compiled by the ABS.

**Table 18.4: Age-standardised mortality rates for dementia and related disorders per million population, by socioeconomic status, 1995–1996**

SEIFA quintile	Males		Females	
	ASMR	95% confidence interval	ASMR	95% confidence interval
1 High	153	139–167	171	160–181
2	169	153–184	184	172–196
3	169	154–184	197	186–209
4	153	138–167	161	150–172
5 Low	179	164–194	168	157–179

Notes

1. ASMR = age-standardised mortality rate; SES = socioeconomic status.

2. A description of the SEIFA Index of Relative Socioeconomic Disadvantage may be found in Appendix D.

Source: AIHW Mortality Database, based on *Statistical Local Area* resident population estimates compiled by the ABS.

**Table 18.5: Age-standardised mortality rates per million population for dementia and related disorders, Australians by birthplace, 1992–1994**

Males			Females		
Country of birth	ASMR (world)	95% CI	Country of birth	ASMR (world)	95% CI
Israel	246	0–588	Israel	290	58–522
Japan	139	0–411	Switzerland	177	31–323
Hungary	109	56–161	Finland	106	0–262
Canada	95	0–197	Poland	87	55–119
Netherlands	88	55–121	United Kingdom and Ireland	83	77–89
Germany	87	51–124	<b>Australia</b>	<b>82</b>	<b>79–85</b>
Singapore	86	0–255	Netherlands	78	51–104
Switzerland	84	0–200	Hungary	69	31–107
<b>Australia</b>	<b>79</b>	<b>76–83</b>	Italy	61	49–74
Finland	79	0–189	Austria	60	20–101
United Kingdom and Ireland	75	68–83	Canada	60	0–121
New Zealand	73	44–101	USA	59	11–106
Poland	71	47–94	Portugal	59	0–174
Malta	62	14–109	France	57	0–123
Italy	60	46–73	New Zealand	53	34–72
USA	57	0–118	Germany	49	30–68
Greece	53	30–76	Greece	48	29–67
France	52	0–125	Singapore	44	0–130
China	36	11–61	China	43	22–64
Austria	36	0–77	Hong Kong and Macau	38	0–90
Mauritius	33	0–96	Mauritius	35	0–84
Chile	—	—	Korea	31	0–92
Hong Kong and Macau	—	—	Malta	27	0–54
Korea	—	—	Chile	—	—
Portugal	—	—	Japan	—	—

*Notes*

1. ASMR = age-standardised mortality rate; CI = confidence interval.
2. Age-standardised mortality rates have been standardised to the World Standard Population.