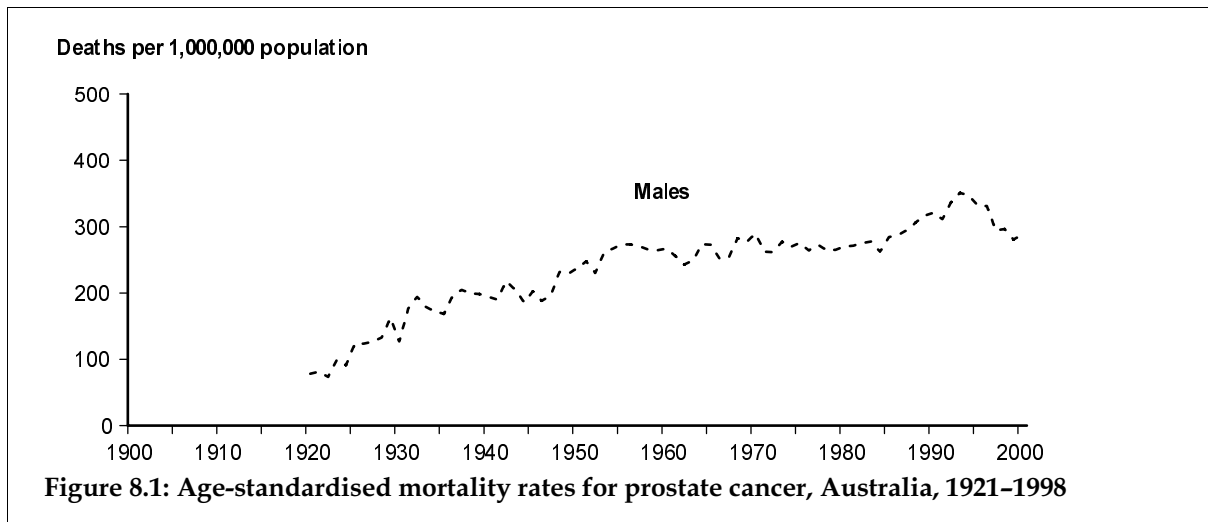# 8 Prostate cancer in males

Disease characteristics

Prostate cancer is not common in males younger than 40 years of age. But as age increases, so does prostate cancer mortality, and from the age of 80 years, prostate cancer is the most common cause of cancer death in males. While prostate cancer becomes more common with age, there are many males who may live with prostate cancer for years, or die from other causes without the cancer ever having been detected.

In 1996, the Australian Health Technology Advisory Committee (AHTAC) undertook a review of the benefits, risks and costs of prostate cancer screening. AHTAC concluded that an effective screening program was not yet possible, and recommended further research be undertaken into prostate cancer and the advancing technologies available for its screening, diagnosis and treatment.

In 1998, prostate cancer was responsible for about 6,000 PYLL before the age of 75 years. Prostate cancer is more common in older males, and is therefore not considered a leading cause of premature death. For instance, when compared with colorectal cancer mortality, prostate cancer has a similar number of deaths for males but about a third of the associated PYLL.

Historic view

Since 1921 (when national collection began for prostate cancer mortality data), the death rate for prostate cancer as been increasing slowly. The early 1990s saw a rise in the death rate for prostate cancer. Some of this increase may be attributed to greater efforts in detecting the cancer through PSA (prostate specific antigen) testing. Over the past 5 years to 1998, the rate has been decreasing by 4.2% per annum.

Deaths per 1,000,000 population

Males

Figure 8.1: Age-standardised mortality rates for prostate cancer, Australia, 1921–1998

Age distribution

In 1998, there were 2,556 deaths due to prostate cancer—3.8% of all male deaths. The mortality rate for prostate cancer was 296 deaths per million. Prostate cancer mortality increases with age and, in 1998, 83% of prostate cancer deaths occurred in males aged 70 years and older, and 44% occurred in males aged 80 years and older (Table 8.1).

Twelve-year trends 1987–1998

For the period 1987–1998, prostate cancer mortality rates increased significantly, by 2.3% per year. There were no statistically significant trends in age-specific mortality rates.

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

Between the periods 1987–1991 and 1994–1998, prostate cancer mortality increased in Victoria. There were no statistically significant changes in the other States and Territories between the two periods.

During the 1987–1991 period, there were no statistically significant differences for any of the States and Territories compared with the national prostate cancer mortality rate.

During the 1994–1998 period, mortality rates were significantly higher in Victoria and Tasmania when compared with the national prostate cancer mortality rate, and significantly lower in the Northern Territory.

Geographic category (by metropolitan, rural and remote area)

The mortality rates for prostate cancer did not vary statistically significantly between geographic areas: the rate was highest for males living in rural areas (319 deaths per million population) and lowest for those living in metropolitan areas (298) (Table 8.3).

Country of birth

For the period 1992–1994, the world-standardised mortality rate for prostate cancer for Australian males born in Australia was 216 deaths per million population (Table 8.5).

Socioeconomic status

There were no statistically significant differences in prostate cancer mortality, using the SEIFA Index of Relative Socioeconomic Disadvantage (see Appendix D) (Table 8.4).

Deaths per 1,000,000 population

Figure 8.2: Age-standardised mortality rates and fitted trend for prostate cancer, Australia, 1987–1998

Deaths per 1,000,000 population

Figure 8.3: Age-specific mortality rates for prostate cancer, Australia, 1987–1991 and 1995–1997
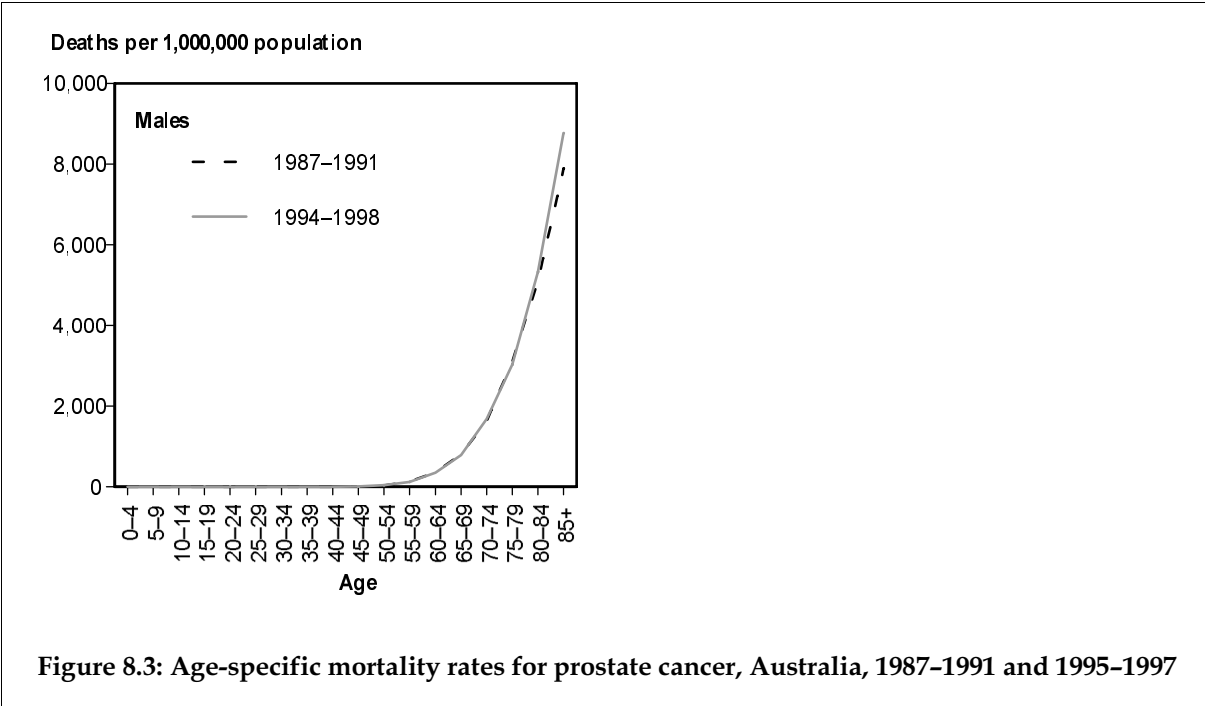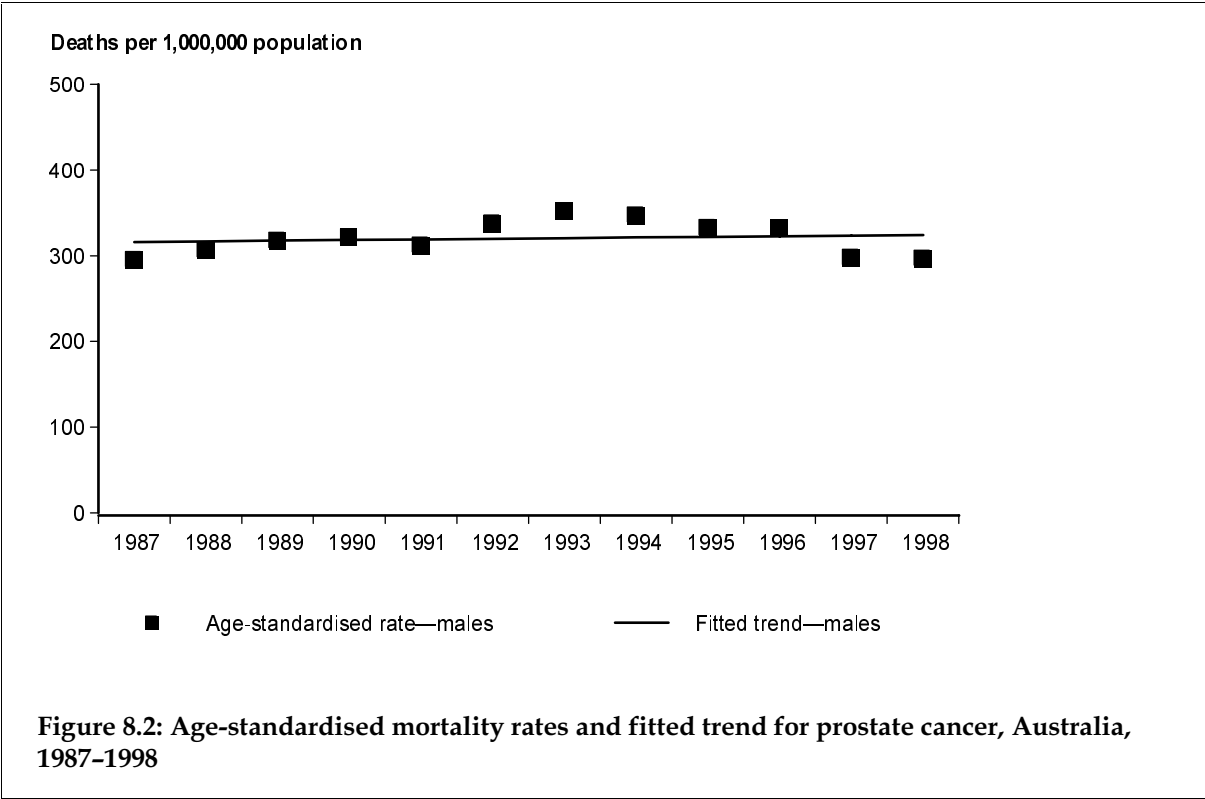
Table 8.1: Age-specific and age-standardised mortality rates for prostate cancer per million population, Australia, 1987–1998

Year	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	ASMR Aust 1991
1987	0	0	0	0	0	0	0	0	2	11	21	124	363	800	1,447	2,869	4,988	7,641	215	295
1988	0	0	0	0	0	0	0	0	2	13	28	136	349	770	1,707	3,136	5,042	7,391	228	306
1989	0	0	0	0	0	0	0	0	3	8	42	143	392	785	1,583	3,318	5,281	7,854	240	317
1990	0	0	0	0	0	0	0	0	2	6	29	95	332	825	1,827	3,177	5,150	8,517	246	321
1991	0	0	0	0	0	0	0	0	2	13	30	150	352	840	1,589	3,107	5,118	7,960	245	311
1992	0	0	0	0	1	0	0	1	2	9	43	147	347	932	1,906	2,999	5,659	8,808	272	337
1993	0	0	0	0	0	0	0	0	0	10	39	149	346	946	1,776	3,509	5,665	9,533	289	351
1994	0	0	0	0	0	0	0	0	0	11	34	124	372	830	1,835	3,454	5,632	9,516	291	347
1995	0	0	0	0	0	0	0	0	5	11	40	113	413	829	1,752	3,133	5,438	9,037	286	332
1996	0	0	0	0	0	0	0	0	1	15	35	133	328	836	1,691	3,185	5,309	9,552	292	331
1997	0	0	0	3	0	0	0	0	3	6	36	119	303	750	1,542	2,798	4,925	8,319	268	297
1998	0	0	0	0	0	0	1	0	3	14	44	120	315	695	1,603	2,685	5,386	7,691	274	296

Note: ASMR = age-standardised mortality rate.

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Table 8.2: Number of deaths and age-standardised mortality rates for prostate cancer per million population, States and Territories, 1987–1991 and 1994–1998

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
				Deaths					
1987–1991	3,534	2,551	1,658	787	920	299	74	25	9,848
1994–1998	4,407	3,430	2,282	1,012	1,159	415	121	28	12,853
				Deaths per million population					
1987–1991	316	318	310	294	306	331	295	295	310
1994–1998	313	344	324	295	309	374	302	220	320
				Confidence intervals (95%)					
1987–1991	306–327	306–331	295–325	273–315	285–326	292–369	222–367	165–425	304–317
1994–1998	304–322	332–355	311–337	277–314	291–327	337–410	246–358	131–310	314–325

Table 8.3: Age-standardised mortality rates for prostate cancer per million population, by geographic area, 1995–1997

	Males	
Geographic area	ASMR	95% confidence interval
Metropolitan	298	289–306
Rural	319	306–332
Remote	313	262–363

Note: ASMR = age-standardised mortality rate.
Source: AIHW Mortality Database, based on *Statistical Local Area* resident population estimates compiled by the ABS.

Table 8.4: Age-standardised mortality rates for prostate cancer per million population, by socioeconomic status, 1995–1997

	Males	
SEIFA quintile	ASMR	95% confidence interval
1 High SES	318.6	303–334
2	311.0	295–327
3	309.4	294–325
4	333.7	317–350
5 Low SES	321.9	306–337

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 8.5: Age-standardised mortality rates per million population for prostate cancer, by birthplace, 1992–1994

Country of birth	ASMR (world)	95% CI
Finland	332	83–582
Chile	235	0–511
Israel	233	0–556
United Kingdom & Ireland	228	215–241
Australia	**216**	**210–222**
Canada	206	65–347
Hong Kong & Macau	205	41–368
New Zealand	203	156–250
Germany	199	147–251
Mauritius	193	31–354
Austria	191	103–279
USA	183	99–267
France	167	16–317
Switzerland	165	3–327
Italy	165	143–187
Hungary	162	103–221
Poland	153	117–189
Netherlands	151	114–189
Greece	136	100–172
Malta	129	73–186
Japan	110	0–327
China	97	56–138
Singapore	46	0–136
Portugal	23	0–67
Korea	0	0–0

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

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