



Prostate cancer

What is prostate cancer?

The prostate gland forms part of the male reproductive system. It is a walnut-sized organ that surrounds the urethra at the base of the bladder. The main function of the prostate is to produce the fluid that protects and enriches sperm. Prostate cancer results from the uncontrolled replication of cells in the prostate.

Cancer of the prostate is the second most commonly diagnosed cancer in Australia after non-melanoma skin cancers (AIHW 2013).

Premature mortality refers to deaths that occur at a younger age than a selected cut-off. For this analysis, deaths among people under 75 are considered premature.

Who dies prematurely from prostate cancer?

In 2012, there were 772 premature deaths due to prostate cancer in Australia.

Almost half of premature deaths due to prostate cancer (45% or 348 deaths) were among men aged 70–74. There were very few deaths among men under 50 and no deaths among males under 40 (Figure 1).

The risk of developing prostate cancer increases with age, and rises rapidly once a male is aged over 50 (AIHW 2013).

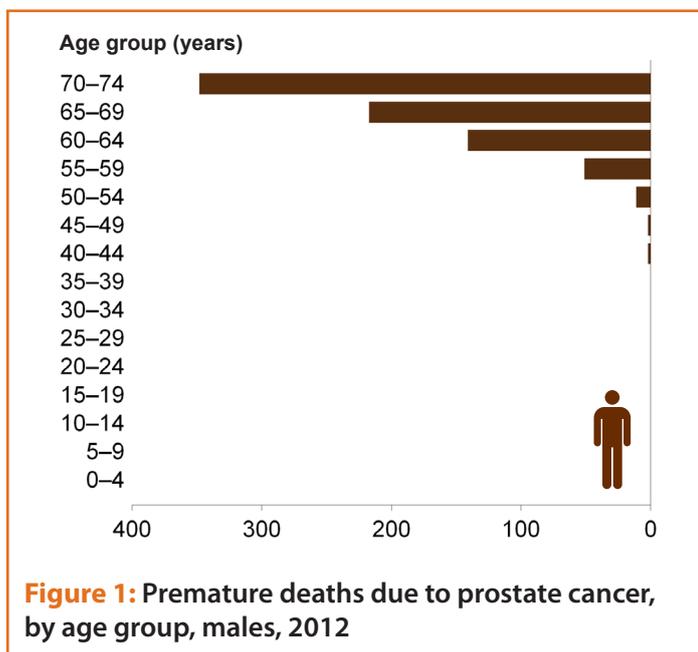


Figure 1: Premature deaths due to prostate cancer, by age group, males, 2012

Quick facts

Prostate cancer was the **18th** leading cause of premature death in Australia in 2010–2012 and the **10th** leading cause among males.

18

Almost **1 in 2** premature deaths due to prostate cancer in 2012 were among males aged 70–74 (45%).



The premature death rate due to prostate cancer decreased by **34%** over the 3 decades from 1982 to 2012.

34%

It is interesting to note that, while the risk of a diagnosis of prostate cancer for men under 75 was 1 in 7 in 2011, the risk of death from prostate cancer was 1 in 106 (AIHW 2015a).

What population-level approaches target premature deaths due to prostate cancer?

The risk factors for prostate cancer are poorly understood but research suggests that age, family history, ethnicity, lifestyle and environmental factors may contribute to its development (Alam et al. 2009; Boyle & Levin 2008). There are few population-level interventions that target premature mortality due to prostate cancer. Rather, interventions focus on education—of practitioners and of individuals—about early detection of the cancer before it has the opportunity to spread.

Two common tests for detecting risk of prostate cancer are the prostate-specific antigen (PSA) test and the digital rectal examination. Neither are diagnostic tests but rather indicate an increased risk of prostate cancer. A biopsy is needed to confirm diagnosis (AIHW 2013).

The PSA test is commonly used to detect potential prostate cancer but an elevated PSA level does not necessarily mean cancer is present. Practitioners are therefore encouraged to undertake shared decision making and discuss the possible benefits (for example, early detection) and harms (for example, false-positive results, over-diagnosis or overtreatment with patients) (NHMRC 2014).



Not having a PSA test is appropriate for many men. Most prostate cancers are slow-growing and therefore not life-threatening and may not cause harm to a man over the course of his life. In other words, many men die with prostate cancer rather than from it (NHMRC 2014). In Australia, the prevalence of prostate cancer in men aged over 50 who died from other causes is estimated to be 25.7% (Orde et al. 2009).

For these reasons, guidelines, not prescriptive screening, inform the detection and treatment of prostate cancer and there is no population-based screening for prostate cancer in Australia.

Not all prostate cancers require treatment. Guidelines for the treatment of localised prostate cancer include no initial treatment but active surveillance; removal of the prostate; and radiotherapy (NHMRC 2003). More advanced prostate cancer may require chemotherapy and hormone therapy.

Australian guidelines also outline the possible side effects of treatments that may affect quality of life— including urinary incontinence, erectile dysfunction and bowel dysfunction—that should be considered by patients and health practitioners (NHMRC 2014).

New guidelines for PSA testing and early management of test-detected prostate cancer are under development. Draft guidelines were subject to public consultation which finished in early 2015 and have been submitted to the National Health and Medical Research Council for consideration.

Premature deaths due to prostate cancer are classified as 'potentially avoidable in the context of the present health system' according to nationally agreed definitions (AIHW 2015b). The definition includes deaths from conditions that are potentially preventable through individualised care and/or treatable through existing primary or hospital care.

How have premature death rates due to prostate cancer changed over time?

The age-standardised rate of premature deaths due to prostate cancer increased from a low in 1920 (4 deaths per 100,000 males) to a peak in 1992 (13 per 100,000) (Figure 2).

In the following 20 years, however, premature death rates nearly halved, to 6.5 per 100,000 in 2012.

Deaths per 100,000

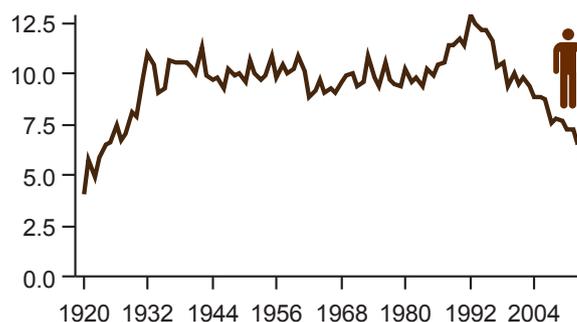


Figure 2: Age-standardised rate of premature deaths due to prostate cancer, males, 1920–2012

What has influenced trends in premature deaths due to prostate cancer?

The early detection and management of prostate cancer is a complex and widely debated issue and, in Australia, there is currently no population-based screening program for prostate cancer (AIHW 2013).

Improved treatment options, combined with earlier detection of prostate cancers, may have contributed to declines in premature mortality and improvements in survival from prostate cancer (AIHW 2013).

Research has concluded that, while PSA testing may be responsible for some of the decline in the premature mortality rate for prostate cancer in the United States, it is likely that some of the improvement was due to treatment changes (Etzioni et al. 2008; Feletto et al. 2015).

Where can I find out more?

Premature mortality in Australia (including references):
<<http://www.aihw.gov.au/deaths/premature-mortality/>>.

AIHW GRIM books:
<<http://www.aihw.gov.au/deaths/grim-books/>>.

AIHW web pages and publications:
<<http://www.aihw.gov.au/cancer/prostate/>>.

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