

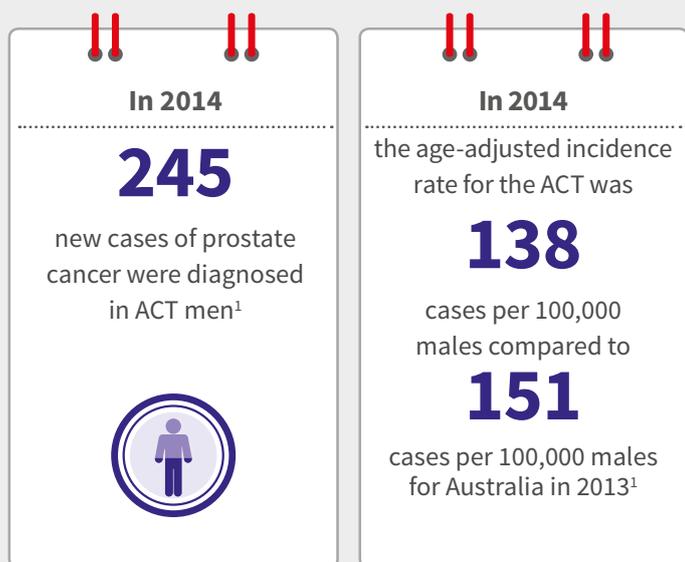
# FOCUS ON PROSTATE CANCER IN THE ACT

## KEY MESSAGES

- Prostate cancer is the leading cancer among men in the ACT (2010-2014).
- The causes of prostate cancer are poorly understood. It is more common in older men and men with a family history of prostate cancer, but prostate cancer is not clearly linked to any preventable risk factors.
- One of the major risk factors is older age, so the number of men in the ACT with prostate cancer is likely to increase as the proportion of older men in our population grows.
- An increase in the incidence of prostate cancer was seen in the ACT after Prostate Specific Antigen (PSA) testing was introduced in the late 1980s, but the incidence rate is now lower than that of 20 years ago.
- Survival from prostate cancer is high and improving (95% compared with 54% twenty years ago).

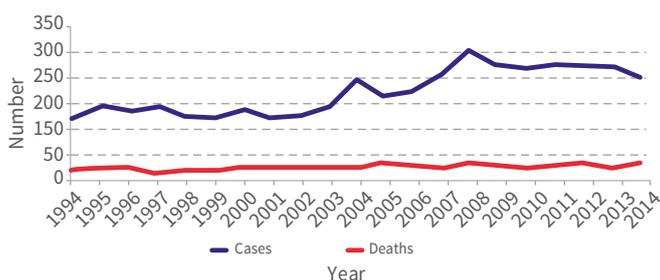
## PROSTATE CANCER INCIDENCE

What do we know about prostate cancer incidence in the ACT?



With an average of around 260 cases diagnosed annually, prostate cancer outnumbers the next two most common cancers in men, colorectal and melanoma, combined (2010-2014).<sup>1</sup>

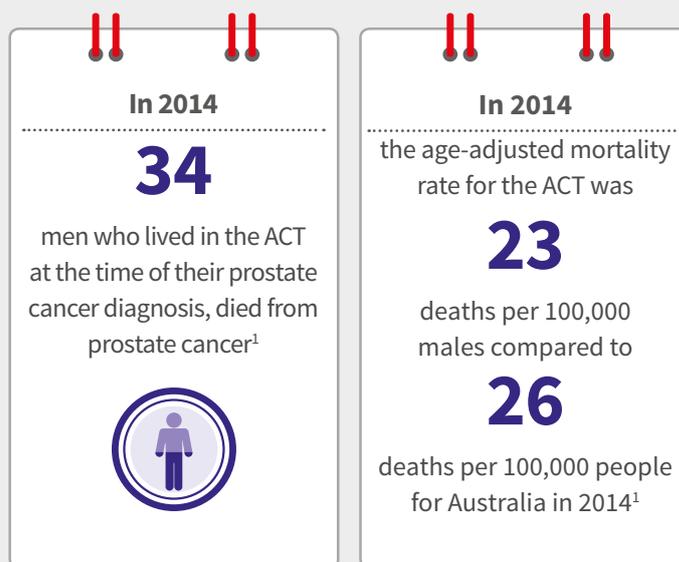
**Figure 1: Number of prostate cancer cases diagnosed and number of deaths due to prostate cancer, ACT, 1994-2014, males**



Source: ACT Cancer Registry.

## PROSTATE CANCER DEATHS

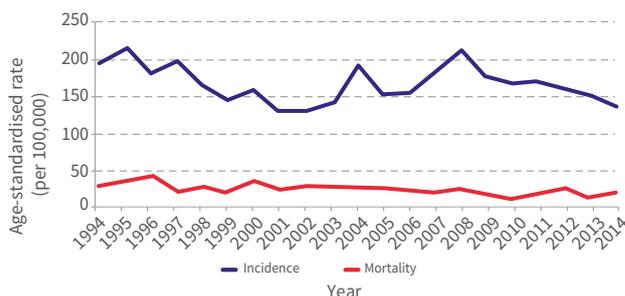
What do we know about prostate cancer deaths in the ACT?



For ACT men, deaths from prostate cancer have remained relatively stable over time.<sup>1</sup>

Source: ACT Cancer Registry.

**Figure 2: Age-standardised incidence and mortality rates (per 100,000) for prostate cancer, ACT, 1994-2017, males**



Source: ACT Cancer Registry.

- Notes:**
1. Rates were age-standardised to the 2001 Australian population.
  2. Rates are 3-year leading averages (ie. the average of the year listed and the two previous years).

## How has prostate cancer incidence changed over time?

The number of new cases of prostate cancer diagnosed in ACT men increased from 144 in 1994, when cancer reporting became mandatory, to 245 in 2014 (Figure 1). Over the same period, the age-standardised incidence rate for the ACT decreased from 196.4 cases per 100,000 males (1994) to 137.6 cases per 100,000 males (2014) (Figure 2).

Despite incidence rates for prostate cancer decreasing between 1994 and 2014 (Figure 2), the number of new cases of prostate cancer in the ACT increased over that time (Figure 1) due to population increases and the ageing of the population.

Trends in prostate cancer incidence also reflect an effect of early diagnosis of asymptomatic cancers by prostate specific antigen (PSA) testing. Following the listing of the PSA test on Medicare Australia's Medical Benefits Schedule in 1988, incidence of prostate cancer increased dramatically, with age-standardised rates rising from around 44 to more than 200 diagnoses per 100,000 between 1987 and the peak in 2008. Since 2008, there has been a rapid and sustained decrease to 138 diagnoses per 100,000 men in 2014.

## How have prostate cancer death rates changed over time?

The number of deaths from prostate cancer in ACT men increased from 19 in 1994 to 34 in 2014 (Figure 1). Over the same period, the age-standardised mortality rate decreased from 30.9 deaths per 100,000 males (1994) to 23.1 deaths per 100,000 males (2014) (Figure 2).

While trends in mortality rates from prostate cancer have been relatively stable over time, there has been an increase in the number of deaths because of the increase in the population of the ACT and the growth in the proportion of older people in the population.

The role of PSA testing in mortality trends is unlikely to be seen for several more years.

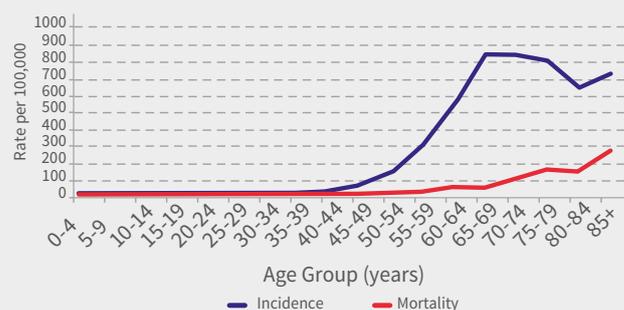
## TRENDS BY AGE

The median age at prostate cancer diagnosis in ACT men was 66 years and median age at death was 80 years (2010-2014). Prostate cancer mainly affects older men and becomes more common as men age. Numbers of prostate cancer deaths also increase significantly with age.

Age-specific trends for 2010-2014 (Figure 3) show that incidence of prostate cancer rises sharply from 50 years of age, likely due, in part, to PSA testing. Incidence rates for prostate cancer in the ACT are highest in men aged 65 to 74 years (2010-2014) (Figure 3).

The increase in mortality by age is more gradual, with a steady rise in deaths from age 60 years and above. A corresponding upward trend with age is seen for mortality rates, too, from 4.9 deaths per 100,000 males in the 45 to 49 age group to 271.9 deaths per 100,000 men in the 85+ age group (2010-2014) (Figure 3).

**Figure 3: Age-specific incidence and mortality rates for prostate cancer, ACT, 2010-2014, males**



Source: ACT Cancer Registry.

## SURVIVAL

### What we do measure?

#### Relative survival

Relative survival is a measure used by cancer registries to compare the survival of people with a specific disease to those who don't have the disease over a period of time (usually five years from the date of diagnosis for those with the disease).

Relative survival is calculated by dividing the percentage of people with the disease who are still alive at the end of the period by the percentage of people in the general population, of the same age and sex, who are alive at the end of the same time period.

Relative survival shows whether the disease shortens life.

## One-, two-, three-, four- and five-year survival from prostate cancer

During the period 2003-2012, compared to their counterparts in the general population, males diagnosed with prostate cancer in the ACT had a 98% chance of surviving for 1 year, falling to 95% surviving for five years (Table 1).

**Table 1: Relative survival from prostate cancer, by years after diagnosis, ACT, 2003-2012, males**

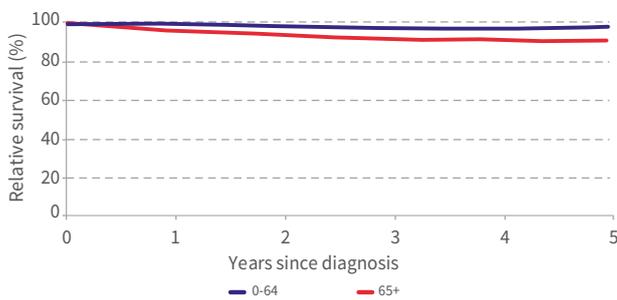
Years after diagnosis	Survival (%)	95% confidence interval
1	98.1	97.3 - 98.9
2	96.6	95.4-97.7
3	95.6	94.2-96.9
4	95.2	93.6-96.7
5	94.9	93.1-96.6

## Prostate cancer survival by age

Most cancers show decreasing survival with age.

Almost 98% of men in the ACT diagnosed with prostate cancer aged 0-64 years survived for five years or more, compared with 93% of men diagnosed aged 65 and over (2003-2012) (Figure 4).

**Figure 4: Five-year relative survival from prostate cancer, by age group, ACT, 2003-2012, males**



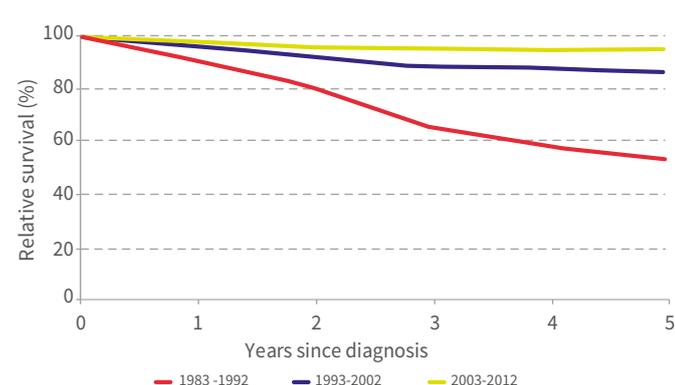
Source: ACT Cancer Registry.

## Prostate cancer survival trends over time

Prostate cancer survival is increasing.

In 2003-2012, 95% of ACT men with prostate cancer survived five years after diagnosis, an increase from 54% in 1983-1992 and 86% in 1993-2002 (Figure 5).

**Figure 5: 5-year relative survival from prostate cancer, ACT, 1983-1988 to 2003-2012, males**



Source: ACT Cancer Registry.

## Australian burden of disease for prostate cancer

Despite improvements in survival since the early 1980s, prostate cancer (responsible for around 3,400 deaths a year) accounts for 5.1% of the burden of dying early from cancer in Australia.<sup>2</sup>

Due to the older age at which men die from prostate cancer (the average age of death from prostate cancer in Australia in 2011 was 80 years) it is the leading cause of non-fatal cancer burden (ie. the burden of living with cancer) in males from age 45 onwards (32.4%).<sup>2</sup>

## PSA testing

Based on recognised limitations in the PSA test's characteristics, uncertainty regarding optimal treatment for localised disease and the risk of significant adverse effects associated with treatment, population-wide screening for prostate cancer remains controversial; however, opportunistic testing (case-finding among men with or without urological symptoms) is widely used.<sup>3</sup> It is estimated that around 1 in 5 Australian men aged 45-74 years had a PSA test in 2012.<sup>3</sup>

Men of average risk, who decide to undergo PSA testing for prostate cancer, are advised to discuss the harms and benefits of testing with their general practitioner.

## The ACT Prostate Cancer Outcomes Registry

The ACT arm of the National Prostate Cancer Outcomes Registry Australia New Zealand (PCOR ANZ) was established in July 2015 with the aim of improving knowledge about diagnosis, patterns of care and outcomes of treatment following a diagnosis of prostate cancer.

The data collected will help to guide best clinical practice, improve quality of patient care and provide information about where ACT Health resources are most needed.

## For more information, see:

<https://pcor.com.au>

## REFERENCES

1. ACT Cancer Registry. Canberra.
2. Australian Institute of Health and Welfare. Burden of Cancer in Australia: Australian Burden of Disease Study 2011 series no. 12 Cat. no. BOD 13. AIHW, Canberra 2017.
3. Prostate Cancer Foundation of Australia and Cancer Council Australia. PSA Testing Guidelines Expert Advisory Panel. Draft clinical practice guidelines for PSA testing and early management of test-detected prostate cancer. Prostate Cancer Foundation of Australia and Cancer Council Australia, Sydney 2016.