



# Breast cancer

## What is breast cancer?

Breast cancer is a disease in which abnormal cells in the breast tissues multiply and form an invasive (or malignant) tumour. This malignant tumour may spread to nearby lymph nodes—usually those in the armpit—and from these nodes to any of the other body organs (Chabner 2001).

Analysis in this fact sheet includes breast cancer among both males and females, however just 0.7% of diagnoses are among males (AIHW 2014).

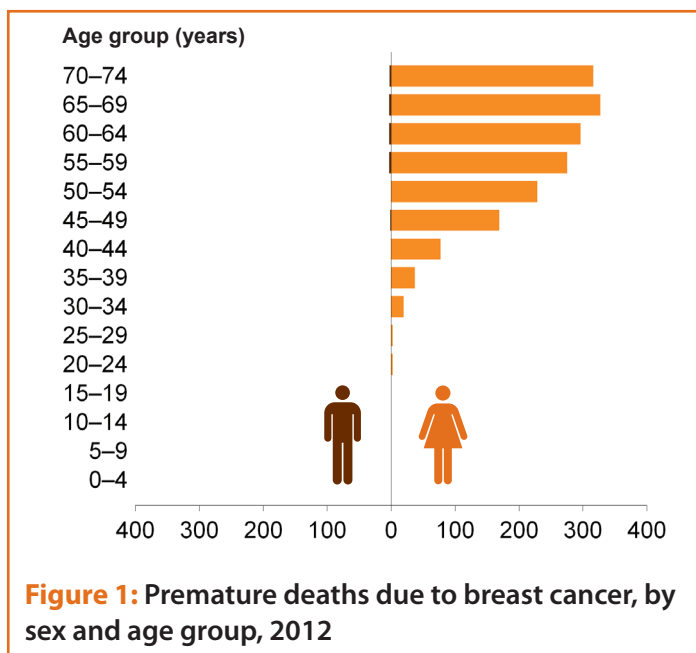
**Premature mortality** refers to deaths that occur at a younger age than a selected cut-off. For this analysis, deaths among people under 75 are considered premature.

## Who dies prematurely from breast cancer?

In 2012, there were 1,760 premature deaths from breast cancer in Australia. Almost all (99%) of these deaths were among females.

Breast cancer deaths among females more than doubled between the ages of 40–44 and 45–49 (from 77 to 169 deaths) and then peaked in the 65–69 age group (327 deaths) (Figure 1).

Breast cancer was ranked second in the leading causes of death among 25–44 year old females; it was the leading cause of death among 45–64 year old females and ranked third among females aged 65–74.



**Figure 1: Premature deaths due to breast cancer, by sex and age group, 2012**

## Quick facts

Breast cancer was the **6th** leading cause of premature death in Australia in 2010–2012 and the **2nd** leading cause among females.

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More than **1 in 2** premature deaths due to breast cancer in 2012 were among females aged 60–74 (54%).



The premature death rate due to breast cancer decreased by **37%** over the 3 decades from 1982 to 2012.

37%

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

Screening through mammography can detect unsuspected cancers at an early stage of development and prompt treatment that reduces illness and premature mortality from breast cancer. The earlier the breast cancer is detected, the better the chance of survival (BreastScreen Australia 2015b; Department of Health 2015). This is because finding breast cancer early often means that the cancer is small, which allows more options for treatment (NBOCC 2009) and improved survival (AIHW & NBCC 2007).

Large-scale research in Canada found that screening with mammography in women aged between 40 and 74 years reduced mortality by an average of 40% (Coldman et al. 2014).

Various public awareness campaigns have been conducted by federal, state and territory governments which encourage breast cancer screening among women.

BreastScreen Australia, established in 1991, is the national breast screening program, implemented by the state and territory governments coordinated by the Australian Government. This program actively invites women aged 50–74 to participate in free 2-yearly mammograms. Women aged 40–49 and over 75 are also eligible to attend.

In 2015 the 'An invitation that could save your life' campaign was introduced, which aimed to boost early detection of breast cancer. Prior to 2015 the program targeted women aged 50–69. The inclusion of women aged 70–74 who had not previously been specifically targeted in breast cancer screening campaigns was in response to a key



recommendation of the evidence based *BreastScreen Australia Evaluation (2009)*. This reflects the increased risk of getting breast cancer as a woman ages.

There are BreastScreen services in more than 600 locations in every Australian state and territory (BreastScreen Australia 2015a).

Further to preventive screening measures, estimates also suggest that 40% of breast cancers can be prevented by addressing major modifiable risk factors—factors which health practitioners and individuals can take action to address—such as overweight and obesity, physical inactivity and alcohol consumption (Baade et al. 2012). Note that there are also non-modifiable risk factors for breast cancer. For a detailed summary, see AIHW 2012.

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

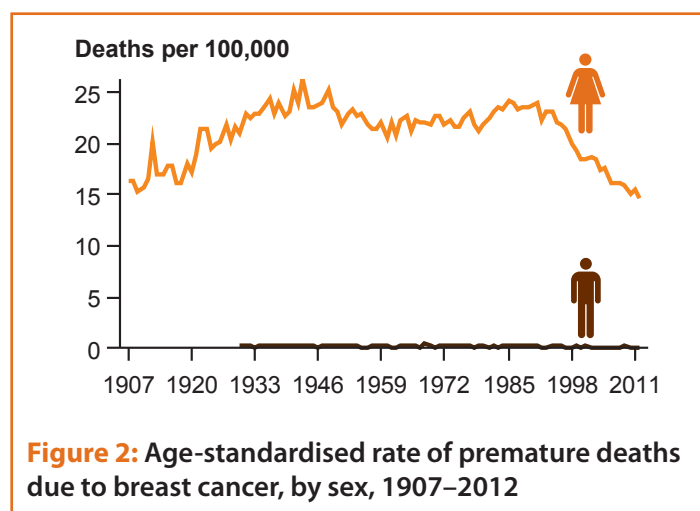
## How have premature death rates due to breast cancer changed over time?

Over the long term, the age-standardised premature death rate has decreased overall among females, with some fluctuation.

The highest premature death rate among females was in 1943 (26 deaths per 100,000 females) (Figure 2). The past three decades, in particular, have seen substantial improvements in the age-standardised premature death rate due to breast cancer, including:

- a 4% decrease between 1982 and 1992 (from 23 to 22 deaths per 100,000 females)
- a 16% decrease between 1992 to 2002 (from 22 to 19 deaths per 100,000 females)
- and finally a 21% decrease between 2002 and 2012 (from 19 to 15 deaths per 100,000 females).

Overall this equates to a 37% decrease in premature mortality between 1982 and 2012.



**Figure 2: Age-standardised rate of premature deaths due to breast cancer, by sex, 1907–2012**

## What has influenced trends in premature deaths due to breast cancer?

The decreasing trend in premature mortality coincides with the introduction of breast screening in 1991, along with access to more effective treatments, both of which are likely to have contributed to this decline.

Mammographic screening enables the detection of small cancers that are unable to be detected during a physical examination, leading to an increase in the annual incidence rates of breast cancer. However, alongside this increase, the mortality rate for breast cancer has decreased as cancers are being detected at an earlier stage, providing increased treatment options and improved treatment outcomes (AIHW 2014).

Additional reductions in mortality are attributed to advances in treatment, including the introduction of new systemic therapies (for example, chemotherapy and hormone therapies).

## 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/breast/>>.