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CANCER IN AUSTRALIA

in brief

2012

Australasian Association of Cancer Registries

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Cancer in Australia: in brief 2012

The Australasian Association of Cancer Registries (AACR) is an association of the state and territory population-based cancer registries of Australia, the New Zealand cancer registry and the AIHW. The AACR was formed in November 1982 to provide a formal mechanism for promoting uniformity of collection, classification and collation of cancer data.

This publication, along with *Cancer in Australia: an overview, 2012,* is available from the Institute's website <www.aihw.gov.au>.

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contents

acknowledgments

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introduction

Cancer is a major cause of illness in Australia and has a significant impact on individuals, families and the health-care system. Despite a decline in cancer mortality and an increase in survival over time, 1 in 2 Australians will develop cancer and 1 in 5 will die from it before the age of 85.

This booklet provides highlights from the full report *Cancer in Australia: an overview, 2012*. The report is part of a series of national statistical reports on cancer produced by the Australian Institute of Health and Welfare and the state and territory members of the Australasian Association of Cancer Registries. It presents information on incidence, mortality, survival, prevalence, burden of disease due to cancer, hospitalisations and the national cancer screening programs.

As a short version, this booklet is selective. It presents key findings from the main report, with the focus on incidence, mortality and survival statistics.

The main report *Cancer in Australia: an overview, 2012*, is available free at <www.aihw.gov.au>.

Box 1.1: Terminology used in this report

Incidence rate: the number of new cancers diagnosed per 100,000 population during a specific time period, usually 1 year.

Mortality rate: the number of deaths per 100,000 people for which the underlying cause was cancer.

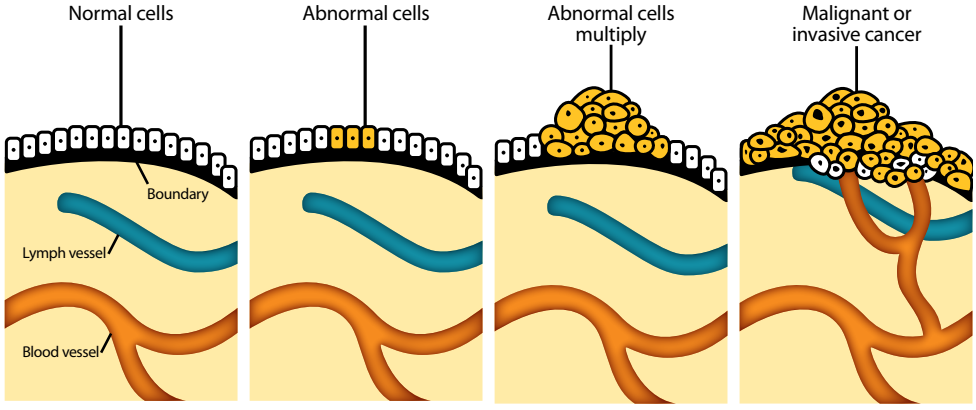
Relative survival: the average survival experience. It compares the survival of people diagnosed with cancer (that is, observed survival) with that experienced by people in the general population of equivalent age and sex in the same calendar year (that is, expected survival).

What is cancer?

Cancer is a diverse group of diseases in which some of the body's cells become defective and multiply out of control. These abnormal cells invade and damage the tissues around them, and sooner or later spread (metastasise) to other parts of the body and can cause further damage. If the spread of these tumours is not controlled, they can result in death. Not all tumours are invasive. Some are benign, which means they do not spread to other parts of the body and are rarely life-threatening.

Cancers can develop from most cell types and are distinguished from one another by the location in the body where the disease began (known as site) or by the cell type involved (known as histology).

The beginning of cancer



Note: Adapted from Cancer Council image (Cancer Council Queensland 2010).

Find out more: Chapter 1 in *Cancer in Australia: an overview, 2012*

What are the risk factors?

A risk factor is any factor associated with an increased likelihood of a person developing a health disorder or health condition, such as cancer. Understanding what causes cancer is essential to successfully prevent, detect and treat the disease. For most cancers the causes are not fully understood. However, some factors that place individuals at a greater risk are well recognised and are listed below (IARC 2008).

While some risk factors cannot be changed, others—mainly those related to behaviours and lifestyle—are modifiable.

It should be noted that having a risk factor does not mean that a person will develop cancer. Many people have at least one cancer risk factor but will never get cancer, while others with this disease may have had no known risk factors.

Risk factors for cancer

Note: *Iatrogenic factors are inadvertent adverse effects or complications resulting from medical treatment or advice.

Find out more: Chapter 1 in *Cancer in Australia: an overview, 2012*

Incidence in 2012

In 2012, it is estimated that 120,710 new cases of cancer will be diagnosed in Australia (excluding basal and squamous cell carcinomas of the skin). More than half (56%) of these are expected to be diagnosed in males, and nearly three-quarters (70%) will occur among those aged 60 and over.

The age-standardised incidence rate of all cancers combined is estimated to be 474 per 100,000. The overall cancer incidence rate is expected to be higher among males than females (558 and 405 per 100,000 respectively).

In 2012, the risk of being diagnosed with cancer before the age of 85 is expected to be 1 in 2 for males and 1 in 3 for females.

Estimated incidence of all cancers combined[(a)(b)], Australia, 2012

	Males	Females	Persons
Number of cases	67,260	53,460	**120,710**
Age-standardised rate[(c)]	557.9	404.5	**474.4**
Per cent of all cancer cases	55.7	44.3	**100.0**

(a) 2012 estimates are based on 2000–2009 incidence data. The estimates are rounded to the nearest 10. The estimates for males and females may not add to the estimates for persons due to rounding.

(b) Includes cancers coded in ICD-10 as C00–C97, D45, D46, D47.1 and D47.3, with the exception of those C44 codes that indicate a basal or squamous cell carcinoma of the skin.

(c) The rates were standardised to the Australian population as at 30 June 2001 and are expressed per 100,000 population.

Source: AIHW Australian Cancer Database 2009.

Find out more: Chapter 2 in *Cancer in Australia: an overview, 2012*

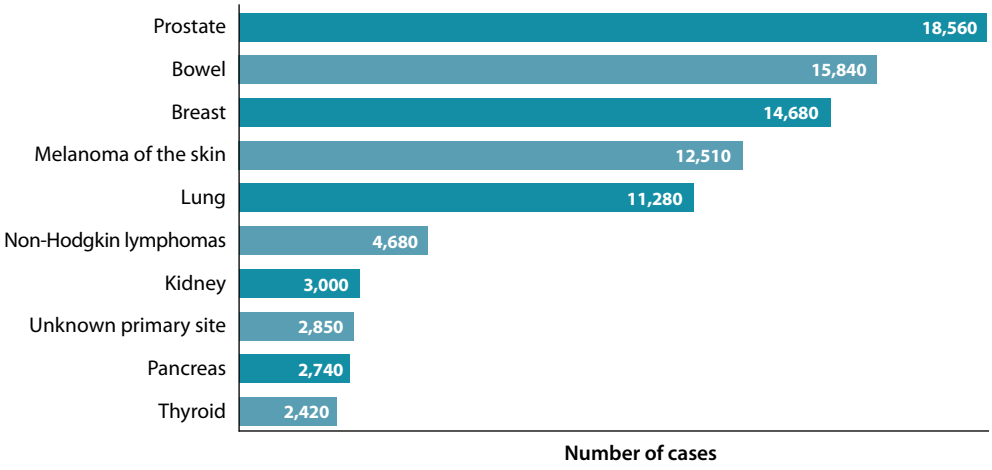
Which cancers are most common?

In 2012, it is estimated that the most commonly reported cancers will be:

- prostate cancer
- bowel cancer
- breast cancer
- melanoma of the skin
- lung cancer.

Grouped together, these five cancers are expected to account for more than 60% of all cancers in 2012.

Estimated 10 most commonly diagnosed cancers, Australia, 2012



Source: AIHW Australian Cancer Database 2009.

Find out more: Chapter 2 in *Cancer in Australia: an overview, 2012*

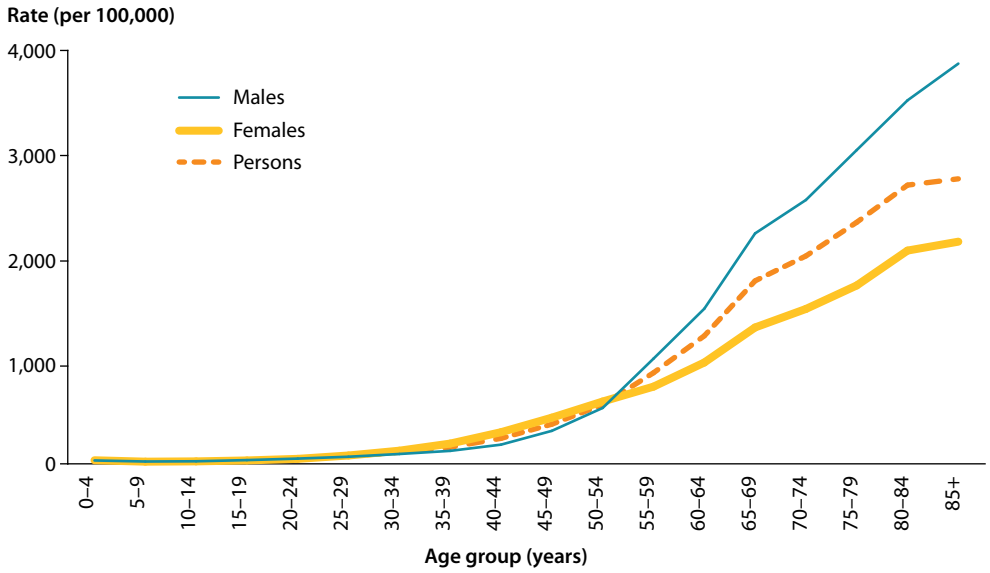
Incidence rates increase with age

The likelihood of being diagnosed with cancer increases as a person gets older.

Some differences between males and females are expected. The incidence rate for all cancers combined is expected to be:

- higher for females than males among those aged 30–54
- higher for males than females among those aged 55 and over.

Estimated age-specific incidence rates for all cancers combined, Australia, 2012



Notes

1. 2012 estimates are based on 2000–2009 incidence data.
2. Data pertain to cancers coded in ICD-10 as C00–C97, D45, D46, D47.1 and D47.3, with the exception of those C44 codes that indicate a basal or squamous cell carcinoma of the skin.

Source: AIHW Australian Cancer Database 2009.

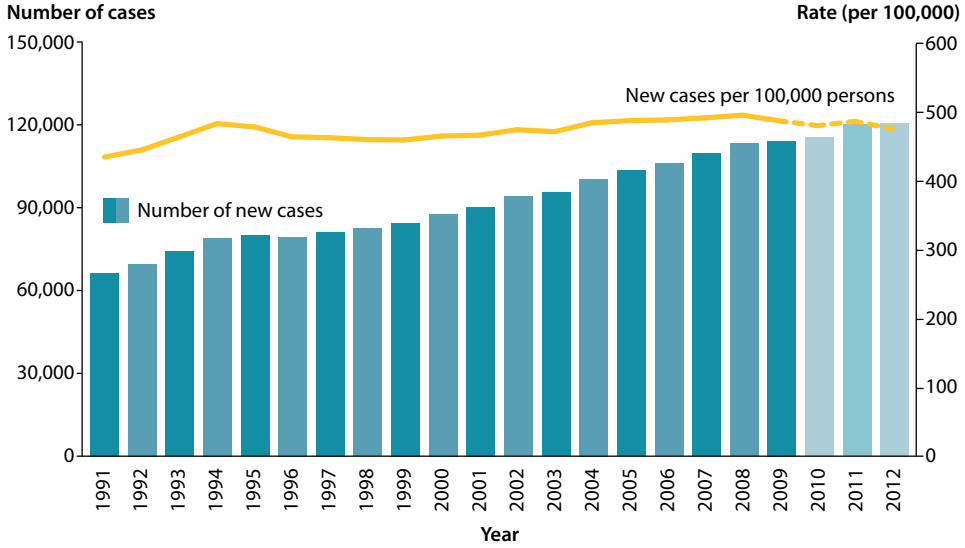
Find out more: Chapter 2 in *Cancer in Australia: an overview, 2012*

New cases have risen

Between 1991 and 2009, the number of new cancer cases diagnosed nearly doubled—from 66,393 in 1991 to 114,137 in 2009. The increase is, in part, due to available testing and screening programs for some cancers.

The age-standardised incidence rate for all cancers combined increased by 12% from 433 per 100,000 in 1991 to 486 per 100,000 in 2009.

Incidence of all cancers combined, Australia, 1991 to 2012



Notes

1. The graph presents actual data for 1991–2009 and estimates for 2010–2012.
2. 2010–2012 estimates are based on 2000–2009 incidence data.
3. The rates were age-standardised to the Australian population as at 30 June 2001.
4. Data pertain to cancers coded in ICD-10 as C00–C97, D45, D46, D47.1 and D47.3, with the exception of those C44 codes that indicate a basal or squamous cell carcinoma of the skin.

Source: AIHW Australian Cancer Database 2009.

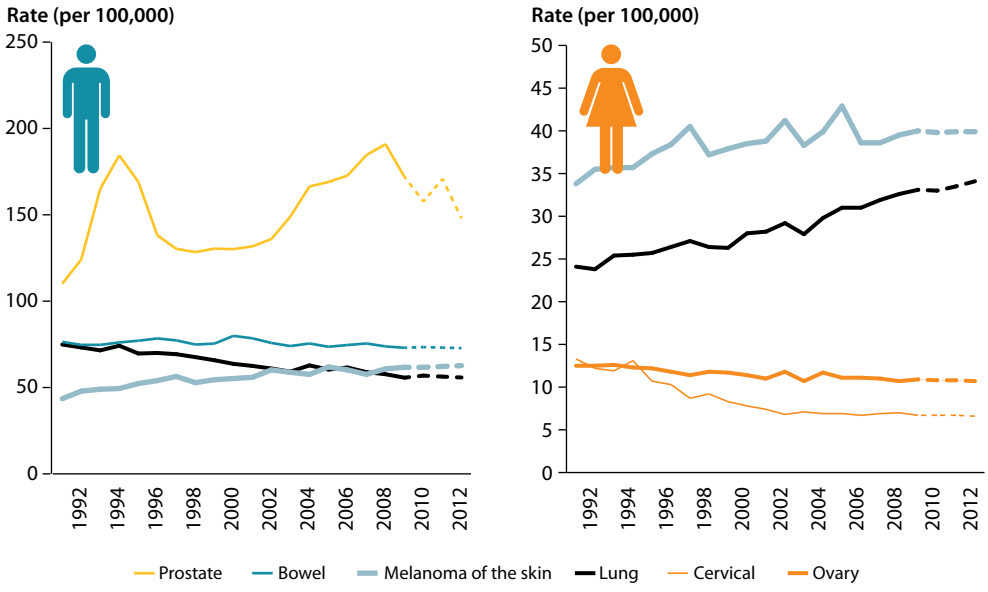
Find out more: Chapter 2 in *Cancer in Australia: an overview, 2012*

Incidence trend varies by cancer type

Between 1991 and 2009:

- for males, incidence rates increased for prostate cancer and melanoma of the skin, and decreased for lung cancer and bowel cancer
- for females, incidence rate increased for melanoma of the skin and lung cancer, and fell for cervical cancer and ovarian cancer.

Incidence of selected cancers, Australia, 1991 to 2012



Notes

1. 2010–2012 estimates are based on 2000–2009 incidence data. Estimates are displayed on the graph as a dotted line.
2. The rates were age-standardised to the Australian population as at 30 June 2001.

Source: AIHW Australian Cancer Database 2009.

Find out more: Chapter 2 in *Cancer in Australia: an overview, 2012*

Deaths in 2010

Cancer accounted for about 3 of every 10 deaths (30%) registered in Australia in 2010. This makes it the second most common cause of death, exceeded only by cardiovascular diseases (32% of all deaths) (ABS 2012).

In 2010, 42,844 people died from cancer. Of these, 24,328 were males (57%) and 18,516 were females (43%). The average age of death was 73 for both males and females.

The age-standardised mortality rate for all cancers combined was 174 per 100,000. It was higher among males than females (222 and 138 per 100,000 respectively).

By the age of 85, the risk of dying from cancer was 1 in 4 for males and 1 in 6 for females.

Deaths from all cancers combined[(a)], Australia, 2010[(b)]

	Males	Females	Persons
Number of deaths	24,328	18,516	**42,844**
Age-standardised rate[(c)]	221.7	137.6	**174.3**
Per cent of all cancer deaths	56.8	43.2	**100.0**
Per cent of all deaths	33.1	26.5	**29.9**

(a) Data pertain to cancers coded in ICD-10 as C00–C97, D45, D46, D47.1 and D47.3.

(b) Mortality data for 2010 are preliminary and are subject to further revision.

(c) The rates were standardised to the Australian population as at 30 June 2001 and are expressed per 100,000 population.

Source: AIHW National Mortality Database.

Find out more: Chapter 3 in *Cancer in Australia: an overview, 2012*

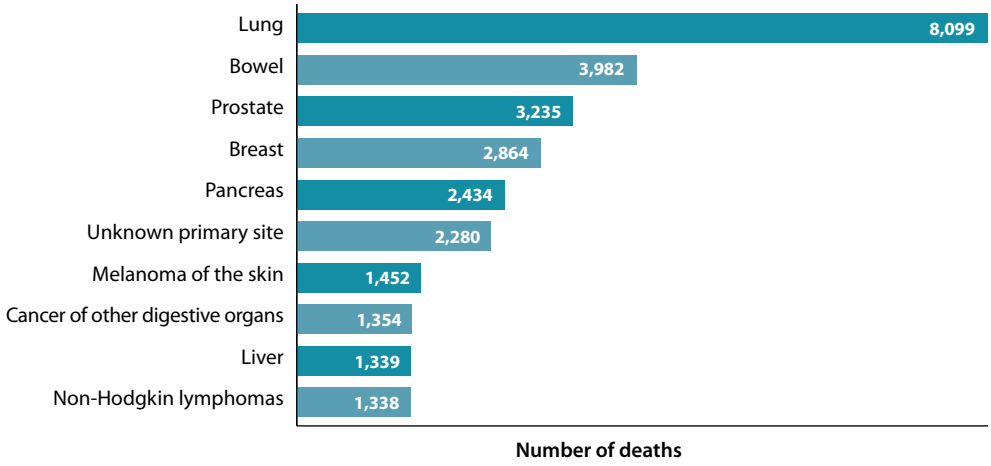
Top causes of death

In Australia in 2010, the most common causes of cancer death were:

- lung cancer
- bowel cancer
- prostate cancer
- breast cancer
- pancreatic cancer.

Together, these five cancers represented almost half (48%) of the total deaths from cancer, with lung cancer alone accounting for 1 in every 5 deaths (19%).

The 10 most common causes of death from cancer, Australia, 2010



Note: Mortality data for 2010 are preliminary and are subject to further revision.
Source: AIHW National Mortality Database.

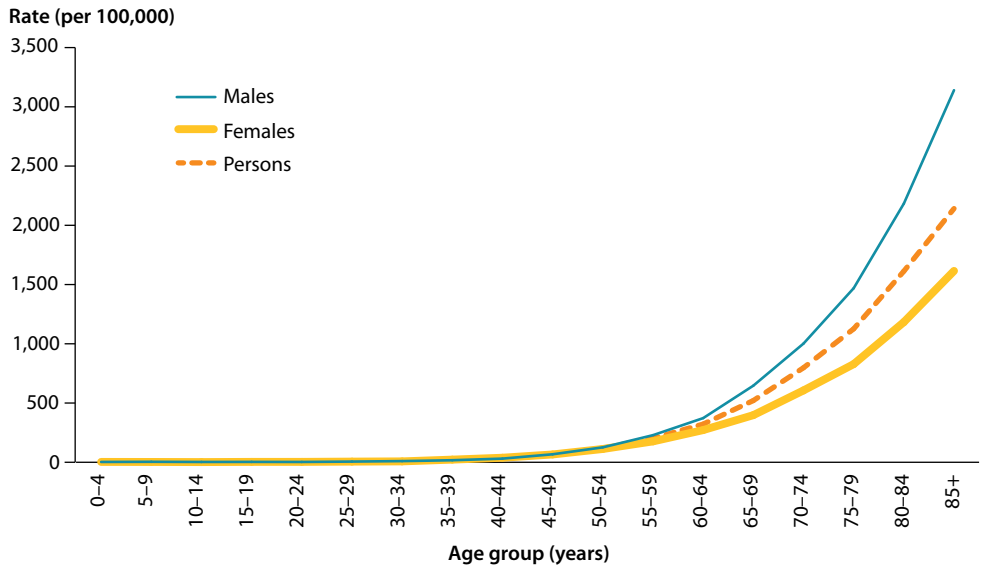
Find out more: Chapter 3 in *Cancer in Australia: an overview, 2012*

Mortality rates increase with age

The mortality rate for cancer increased as a person got older.

The likelihood of dying from cancer was similar for males and females up to the age of 50–54. After that, the mortality rates were higher and increased more steeply in males.

Age-specific mortality rates for all cancers combined, Australia, 2010



Notes

1. Mortality data for 2010 are preliminary and are subject to further revision.
2. Data pertain to cancers coded in ICD-10 as C00–C97, D45, D46, D47.1 and D47.3.

Source: AIHW National Mortality Database.

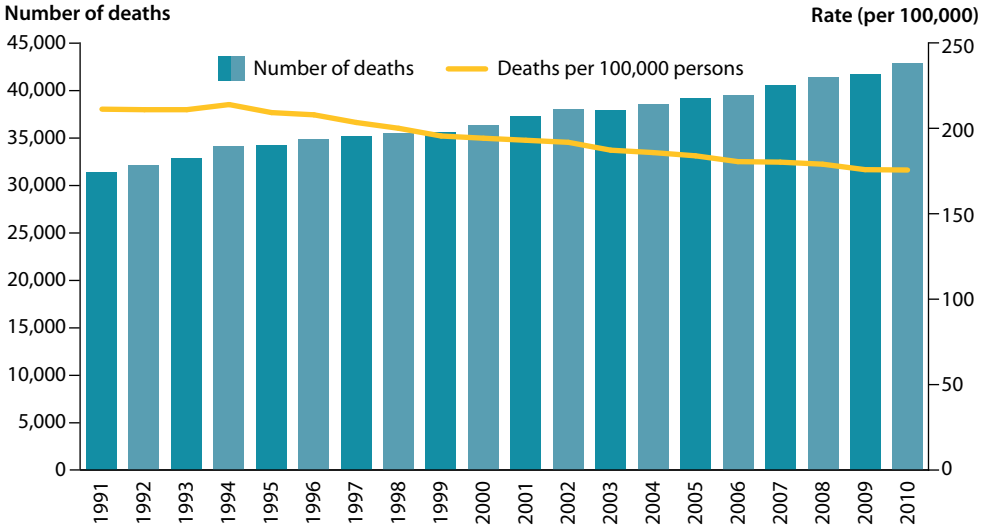
Find out more: Chapter 3 in *Cancer in Australia: an overview, 2012*

Overall mortality rates down

Between 1991 and 2010:

- the number of deaths from all cancers combined increased by 37% (from 31,356 deaths to 42,844 deaths). The number of deaths recorded for 2010 was the largest number reported in any year to date
- the age-standardised mortality rate decreased by 17% from 210 per 100,000 in 1991 to 174 per 100,000 in 2010.

Mortality from all cancers combined, Australia, 1991 to 2010



Notes

1. Mortality data for 2009 and 2010 are revised and preliminary, respectively, and are subject to further revision.
2. The rates were age-standardised to the Australian population as at 30 June 2001.
3. Data pertain to cancers coded in ICD-10 as C00–C97, D45, D46, D47.1 and D47.3.

Source: AIHW National Mortality Database.

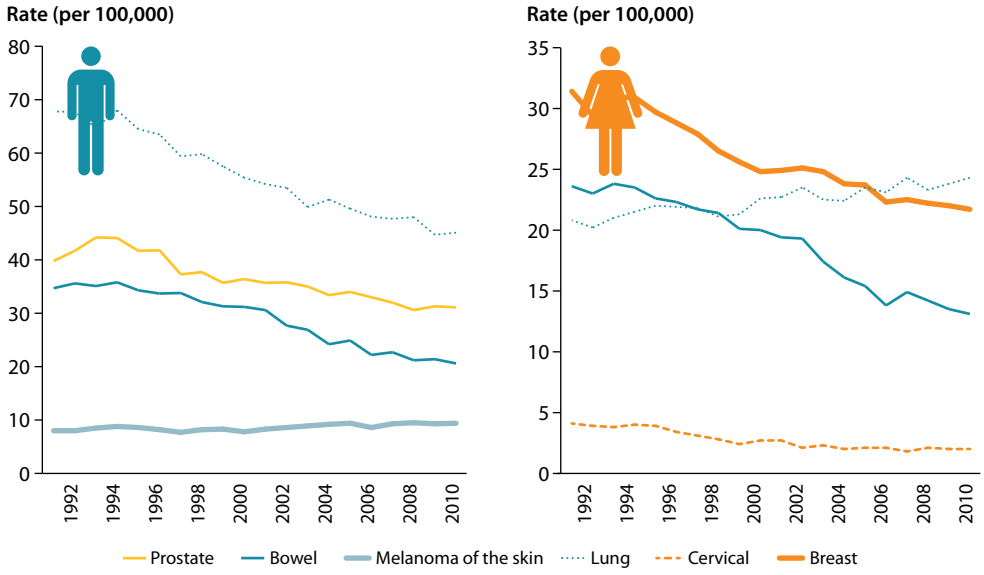
Find out more: Chapter 3 in *Cancer in Australia: an overview, 2012*

Mortality trend varies by cancer type

Between 1991 and 2010:

- for males, the mortality rate decreased for lung cancer, prostate cancer and bowel cancer, and increased for melanoma of the skin
- for females, the mortality rate decreased for breast cancer, bowel cancer and cervical cancer, and increased for lung cancer.

Mortality from selected cancers, Australia, 1991 to 2010



Notes

1. Mortality data for 2009 and 2010 are revised and preliminary, respectively, and are subject to further revision.
2. The rates were age-standardised to the Australian population as at 30 June 2001.

Source: AIHW National Mortality Database.

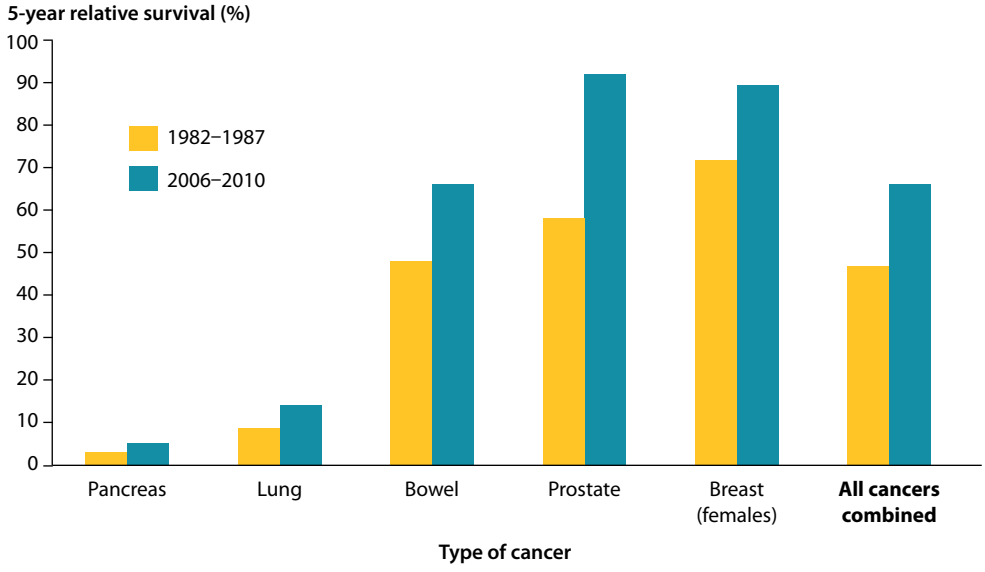
Find out more: Chapter 3 in *Cancer in Australia: an overview, 2012*

Survival improves

Between 1982–1987 and 2006–2010:

- 5-year relative survival for people diagnosed with cancer increased from 47% to 66%.
- 5-year relative survival improved for the commonly diagnosed cancers—breast cancer in females (from 72% to 89%), bowel cancer (from 48% to 66%) and prostate cancer (from 58% to 92%)
- some cancers that already had low survival in 1982–1987 showed only small gains in survival, such as pancreatic cancer (from 3% to 5%) and lung cancer (from 9% to 14%).

Five-year relative survival for selected cancers, Australia, 1982–1987 to 2006–2010



Note: All cancers include cancers coded in ICD-10 as C00–C97, D45, D46, D47.1 and D47.3, with the exception of C44 codes that indicate a basal or squamous cell carcinoma of the skin.

Source: AIHW Australian Cancer Database 2007.

Find out more: Chapter 4 in *Cancer in Australia: an overview, 2012*

Survival varies by cancer types

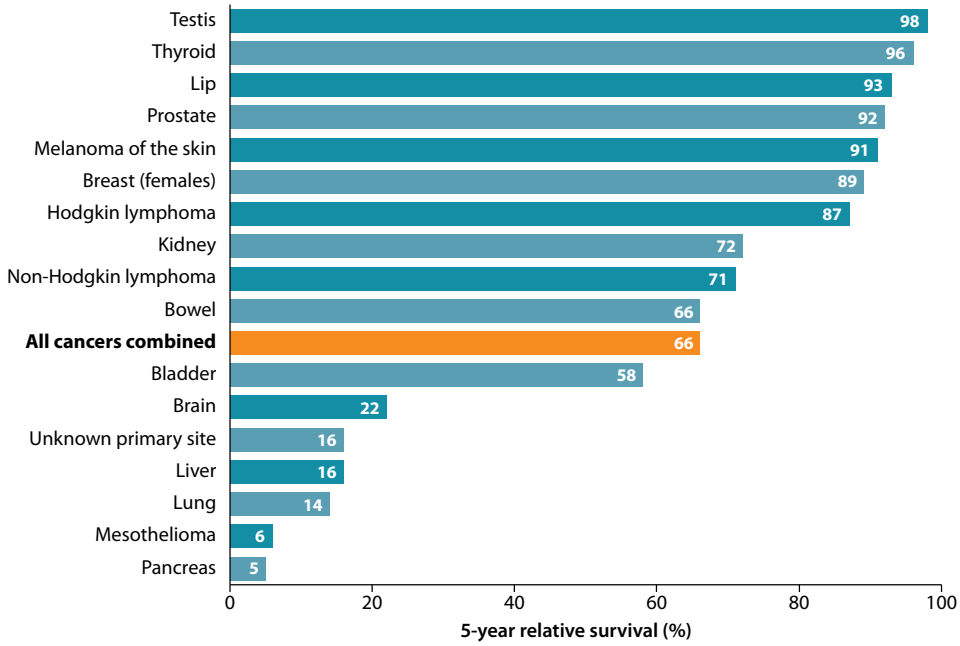
In 2006–2010, cancers with the highest 5-year relative survival were:

- testicular cancer (98%)
- thyroid cancer (96%)
- lip cancer (93%)
- prostate cancer (92%)
- melanoma of the skin (91%).

In 2006–2010, cancers with the lowest 5-year relative survival were:

- pancreatic cancer (5%)
- mesothelioma (6%)
- lung cancer (14%).

Five-year relative survival for selected cancers, Australia, 2006–2010



Note: All cancers include cancers coded in ICD-10 as C00–C97, D45, D46, D47.1 and D47.3, with the exception of C44 codes that indicate a basal or squamous cell carcinoma of the skin.

Source: AIHW Australian Cancer Database 2007.

Find out more: Chapter 4 in *Cancer in Australia: an overview, 2012*

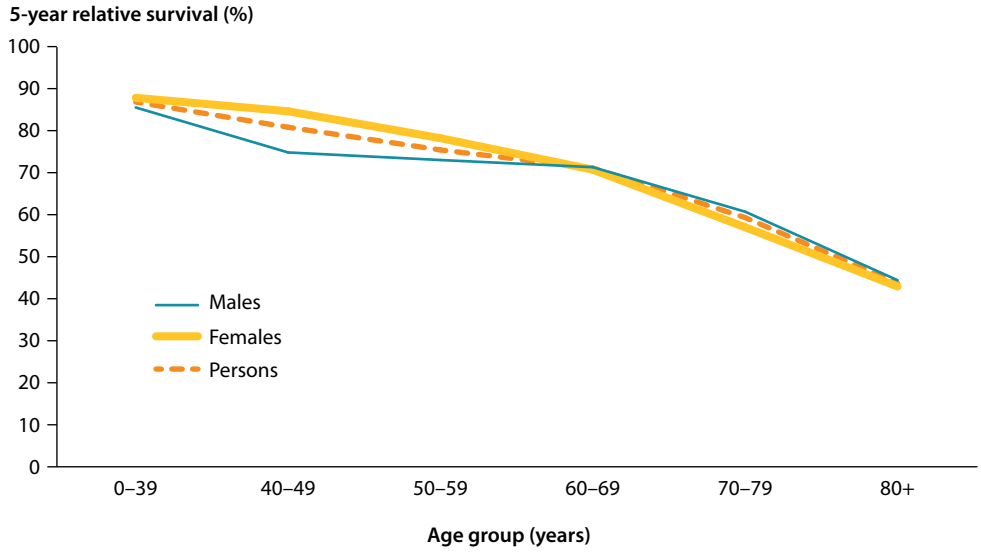
Survival prospects decrease with age

In 2006–2010 for all cancers combined, 5-year relative survival decreased as a person got older.

When comparing the age-specific relative survival for males and females:

- females had a survival advantage up to the 60–69 year age group
- males had a slightly higher 5-year survival after aged 60–69, with a significant difference for those aged 70–79.

Five-year relative survival for all cancers combined, by age at diagnosis, Australia, 2006–2010



Note: Data pertain to cancers coded in ICD-10 as C00–C97, D45, D46, D47.1 and D47.3, with the exception of those C44 codes that indicate a basal or squamous cell carcinoma of the skin.

Source: AIHW Australian Cancer Database 2007.

Find out more: Chapter 4 in *Cancer in Australia: an overview, 2012*

High Indigenous rates

Incidence

In the 5 years from 2004 to 2008:

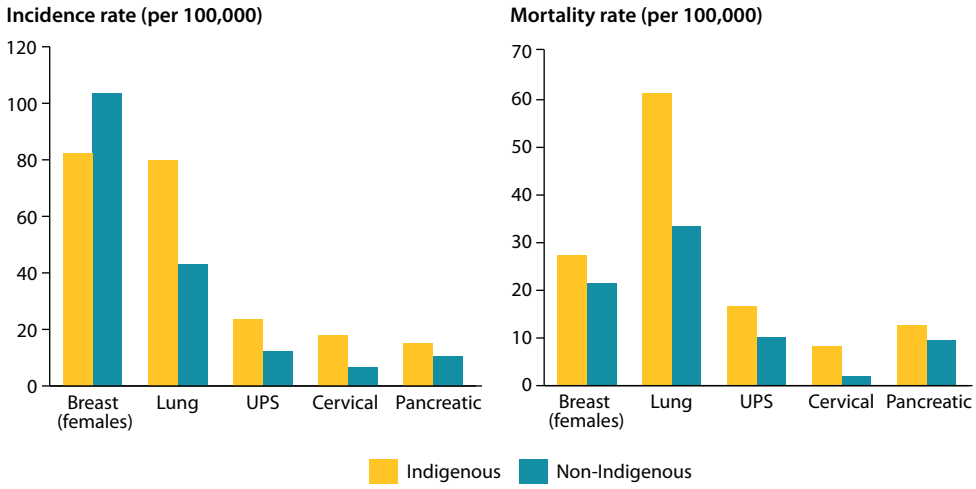
- 3,875 Indigenous Australians were diagnosed with cancer
- the age-standardised incidence rate was significantly higher for Indigenous than non-Indigenous Australians for cervical cancer, cancer of unknown primary site, lung cancer and pancreatic cancer.

Mortality

In the 5 years from 2006 to 2010:

- 2,120 Indigenous Australians died from cancer
- the age-standardised mortality rate was significantly higher for Indigenous than non-Indigenous Australians for cervical cancer, lung cancer, cancer of unknown primary site, breast cancer in females and pancreatic cancer.

Incidence and mortality for selected cancers by Indigenous status, 2004–2008 for incidence and 2006–2010 for mortaltiy



Notes

1. Incidence data pertained to New South Wales, Queensland, Western Australia and the Northern Territory from 2004 to 2008. Mortality data pertained to New South Wales, Queensland, Western Australia, South Australia and the Northern Territory from 2006 to 2010.
2. Mortality data for 2009 and 2010 are revised and preliminary, respectively, and are subject to further revision.
3. The rates were age-standardised to the Australian population as at 30 June 2001.
4. UPS=cancer of unknown primary site.

Source: AIHW Australian Cancer Database 2009, AIHW National Mortality Database.

Find out more: Chapter 6 in *Cancer in Australia: an overview, 2012*

Rates differ by remoteness areas

Incidence

In the 5 years from 2004 to 2008:

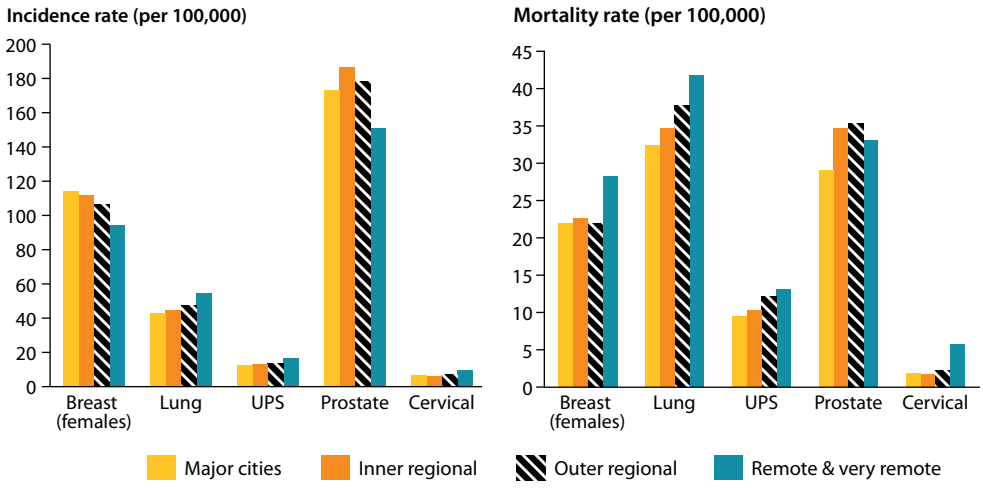
- people living in *Remote and very remote* areas of Australia had higher incidence rates of cervical cancer, cancer of unknown primary site and lung cancer than people living in *Major cities*, but had lower rates of prostate cancer, breast cancer in females and non-Hodgkin lymphoma.

Mortality

In the 5 years from 2006 to 2010:

- people living in *Remote and very remote* areas of Australia had higher mortality rates of cervical cancer, cancer of unknown primary site, breast cancer in females and lung cancer than those living in *Major cities*.

Incidence and mortality for selected cancers by remoteness areas, Australia, 2004–2008 for incidence and 2006–2010 for mortaltiy



Notes

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3. UPS=cancer of unknown primary site.

Source: AIHW Australian Cancer Database 2009, AIHW National Mortality Database.

Find out more: Chapter 6 in *Cancer in Australia: an overview, 2012*

Rates differ by socioeconomic status

Incidence

In the 5 years from 2004 to 2008:

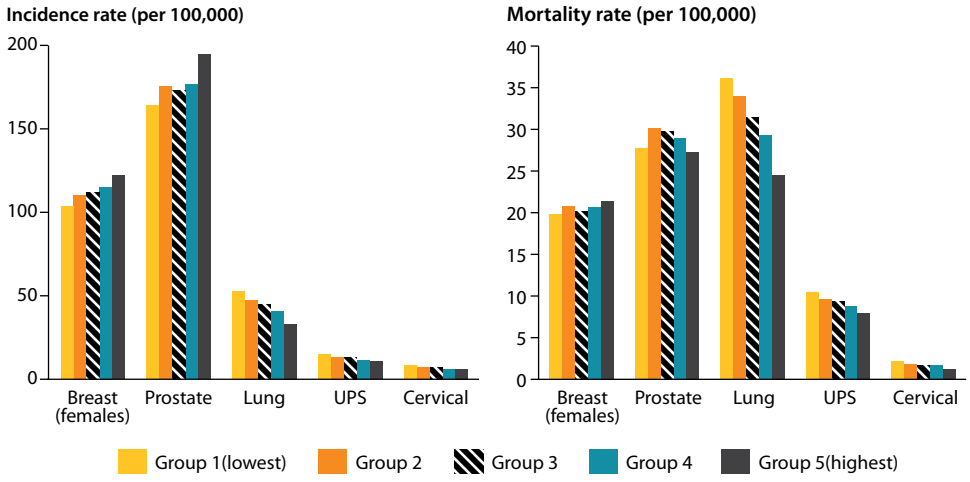
- people living in the lowest socioeconomic status areas had higher incidence rates of cervical cancer, cancer of unknown primary site, lung cancer and bowel cancer than those living in the highest socioeconomic status areas, but they had lower rates of non-Hodgkin lymphoma, breast cancer in females and prostate cancer.

Mortality

In the 5 years from 2006 to 2010:

- people living in the lowest socioeconomic areas had higher mortality rates of cervical cancer, lung cancer and cancer of unknown primary site than those living in the highest socioeconomic areas.

Incidence and mortality for selected cancers by socioeconomic status, Australia, 2004–2008 for incidence and 2006–2010 for mortaltiy



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3. UPS=cancer of unknown primary site.

Source: AIHW Australian Cancer Database 2009, AIHW National Mortality Database.

Find out more: Chapter 6 in *Cancer in Australia: an overview, 2012*

references

ABS (Australian Bureau of Statistics) 2012. Causes of Death, Australia, 2010. ABS cat. no. 3303.0. Canberra: ABS.

IARC (International Agency for Research on Cancer) 2008. World cancer report 2008. Lyon: IARC.

Cancer in Australia: in brief 2012 presents key points and trends from the Australian Institute of Health and Welfare's latest biennial report about cancer in Australia, *Cancer in Australia: an overview, 2012*.