

# **Cancer in Australia 2000**

The Australian Institute of Health and Welfare is Australia's national health and welfare statistics and information agency. The Institute's mission is *Better health and wellbeing for Australians through better health and welfare statistics and information.*

The Australasian Association of Cancer Registries (AACR) is a collaborative body representing state and territory cancer registries in Australia and New Zealand. Most are members of the International Association of Cancer Registries. The AACR was formed in November 1982 to provide a formal mechanism for promoting uniformity of collection, classification and collation of cancer data.

The purposes of the AACR are:

- to provide a continuing framework for the development of population-based cancer registration in Australia and New Zealand;
- to facilitate the exchange of scientific and technical information between cancer registries and to promote standardisation in the collection and classification of cancer data;
- to facilitate cancer research both nationally and internationally; and
- to facilitate the dissemination of cancer information.

The Australian Institute of Health and Welfare has joined with the AACR to produce national cancer statistics from the National Cancer Statistics Clearing House.

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# **Cancer in Australia 2000**

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## Preface

The Australian Institute of Health and Welfare (AIHW) and the Australasian Association of Cancer Registries (AACR) are pleased to present *Cancer in Australia 2000*, the most recent report generated from the National Cancer Statistics Clearing House.

This report contains updates of the national cancer incidence and mortality data found in previous editions, and presents summary cancer statistics for several other national data sources held by the AIHW. These include screening, multiple cause of death statistics and trends in hospital statistics.

National monitoring of cancer is particularly important as it is a National Health Priority Area and one in three men and one in four women currently can expect to be diagnosed with a malignant cancer before the age of 75 years. As cancer is a disease that largely emerges in later life, ageing of the population means that numbers of cancer patients and the demand for cancer services are increasing faster than population growth. This report shows that the number of new cases of malignant cancers increased by 36% from 62,597 in 1990 to 85,231 in 2000, compared with population growth of 12%. This is placing pressure on treatment services and there has been an increase of 4.7% per year in the number of hospital inpatient separations for cancer patients. There has also been a sharp rise in the estimated number of new cases of skin cancers other than melanoma per year to 374,000 in 2002.

The statistics in this report are supplemented by additional tables, a national cancer data cube and further reports on the AIHW web site at <[www.aihw.gov.au](http://www.aihw.gov.au)>. There is a wealth of state and territory cancer data and many cancer research reports found on the state and territory cancer registry web sites listed in Appendix E. 'Related publications' lists many of the published reports available from state and territory registries.

Protection of the privacy of individual cancer patients is given the highest priority in the use of information on persons with cancer for statistics and research. National cancer statistics are compiled from the national minimum data set summary records of cancer patients in cancer registries, death registers, hospital inpatient records and other national statistical collections such as the national health survey of the Australian Bureau of Statistics. The statistics produced must not identify individuals and no identifiable records may be provided to researchers without the consent of the individuals concerned, and only for studies that have received appropriate ethics committee approvals. Records stored at the AIHW are protected by strong safeguards in the Australian Institute of Health and Welfare Act 1987 and the Commonwealth Privacy Act 1988 while state and territory cancer registries are subject to Commonwealth and state privacy law and state cancer legislation. There is similar legislation governing other collections that include information on persons with cancer.

The AACR and the AIHW wish to acknowledge the efforts of all the cancer registries in compiling and providing data to the National Cancer Statistics Clearing House so that this report could be published.

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## Contributors

This report has been prepared mainly by Kate Leeds and Ian McDermid of the Health Registers and Cancer Monitoring Unit of the Australian Institute of Health and Welfare with the assistance of other members of the Institute. However, this joint report between the Institute and the Australasian Association of Cancer Registries would not have been possible without the cooperation and effort of those who direct the operation, promotion and development of the state and territory cancer registries. These people, identified below, have all worked to produce the national cancer incidence statistics in this publication.

Incidence information provided by state and territory cancer registries is sourced predominantly from hospitals, pathologists and departments of radiation oncology, with supplementary information provided by medical practitioners in private practice. The major contributors of information on cancer deaths are the state and territory Registrars of Births, Deaths and Marriages and the Australian Bureau of Statistics. We thank them for their contribution.

Funding and support of cancer registries in Australia is undertaken by state and territory governments and various charity bodies. We recognise the support of the state and territory governments, the New South Wales Cancer Council, the Cancer Council of Victoria, the Queensland Cancer Fund, the Cancer Foundation of Western Australia, the Northern Territory Anti-Cancer Foundation and the Australian Cancer Society. Finally, the contributions of the staff and volunteers who work with the state and territory cancer registries are acknowledged.

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Contact details for the state and territory cancer registries are provided in Appendix E.

## Executive summary

This report presents national cancer incidence and mortality statistics for 2000 and information on cancer screening and cancer hospital inpatients. It is part of a series of publications concerning cancer patterns in Australia. The state and territory cancer registries provide the incidence data for this report whereas the mortality data are provided by the state and territory Registrars of Births, Deaths and Marriages and coded by the Australian Bureau of Statistics. Other data sources include the AIHW National Hospital Morbidity Database and the 2001 National Health Survey conducted by the Australian Bureau of Statistics.

Colorectal cancer, currently the subject of a national pilot screening program, is profiled in this report.

The main findings are as follows.

### *New cases of cancer and mortality*

- Excluding skin cancers other than melanoma, there were 85,231 new cancer cases and 35,466 deaths due to cancer in Australia in 2000. At the incidence rates prevailing in 2000, it would be expected that 1 in 3 men and 1 in 4 women would be diagnosed with a malignant cancer in the first 75 years of life. Further, an estimated 253,000 potential years of life would be lost to the community as a result of people dying of cancer in 2000 before the age of 75. Cancer currently accounts for 30% of male deaths and 25% of female deaths (28% of all deaths, compared with 25% in 1990).

### *New cases of cancer in males and females*

- In males, prostate cancer (10,512 new cases diagnosed in 2000) is the most common registrable cancer, followed by colorectal cancer (6,863), lung cancer (5,278) and melanoma (4,770). These four cancers account for 60% of all registrable cancers in males.
- In females, breast cancer (11,314) is the most common registrable cancer, followed by colorectal cancer (5,542), melanoma (3,761) and lung cancer (2,782). These four cancers account for 60% of all registrable cancers in females.

### *Cancer deaths*

- The most common cancers causing death are lung (4,594 deaths in 2000), prostate (2,665) and colorectal (2,569) cancers in males, and breast (2,521), lung (2,317) and colorectal (2,149) cancers in females.
- In Australia there were 35,628 deaths registered in 2000 where the underlying cause was malignant cancer and 4,289 additional deaths where cancer was an associated cause reported on the death certificate.
- Among the 4,289 cases where cancer was an additional cause of death, the most common underlying causes of death were ischaemic heart disease, stroke and chronic lower respiratory disease.

### *Prevalence*

- In 2001, there were an estimated 267,600 persons in Australia with malignant cancer living in private households (National Health Survey, Australian Bureau of Statistics).

### *Age distribution*

- The risk of cancer increases with age, with over four times as many cancers diagnosed in those over the age of 60 years as in those under 60 years.

### *Trends*

- In 1990 there were 62,597 new cases of cancer diagnosed (excluding skin cancers other than melanoma) – 34,006 for males (a rate of 517.3 per 100,000 population) and 28,591 for females (a rate of 355.7 per 100,000 population). This rose by 36% to 85,231 new cases in 2000 – 45,935 for males (a rate of 535.7 per 100,000 population) and 39,296 for females (a rate of 390.4 per 100,000 population).
- The 36% increase in new cases between 1990 and 2000 was much higher than the population growth of 12%. The reasons for this are high population growth in the older age groups of the population and cancers mainly being diagnosed in these age groups. In 2000 the average age of first diagnosis of a malignant cancer was 66 years for males and 64 years for females, while the median age was 69 years for males and 65 years for females.
- Between 1990 and 2000, age-standardised incidence rates for all cancers combined (except skin cancers other than melanoma) increased for males by an average of 4.4% per annum until 1994, and then declined by an average of 2.1% per annum until 2000. For females, age-standardised rates increased by an average of 1.9% until 1995 and then fluctuated around that level through to 2000.
- Between 1990 and 2000, age-standardised mortality rates for all cancers combined (except skin cancers other than melanoma) hovered around 270 cases per 100,000 for males until 1994 and then decreased by an average of 2.0% through to 2000. For females the age-standardised rates remained close to 160 cases per 100,000 until 1996 and then declined by an average of 2.0% through to 2000.
- A significant proportion of the rise in female incidence rates can be attributed to the increase in breast cancer incidence which in turn can be attributed in part to detection of prevalent cancers by the BreastScreen Australia program. The recent fall in male incidence rates is strongly influenced by the decline in prostate and lung cancer rates. The introduction of prostate-specific antigen testing in the early 1990s induced the rapid rise and subsequent fall in the rates of the incidence of prostate cancer in recent years.
- Cervical cancer incidence and mortality between 1990 and 2000 fell rapidly by an average of 5.7% and 4.5% per annum, respectively, largely due to early detection and treatment of pre-cancerous abnormalities and early cancers in the national cervical screening program, thereby preventing the onset of cancer in many cases, and allowing early treatment for others.

### *Screening*

- The proportion of women in the target age group (50 to 69 years) who were screened under the BreastScreen Australia program in a two-year period rose from 52.3% in the period 1996–1997 to 55.9% in the period 1999–2000.
- The proportion of women in the target age group who were screened under the National Cervical Cancer Screening Program in a two-year period rose from 62.3% in the period 1996–1997 to 65.5% in the period 1998–1999 and then declined to 63.3% in the period 1999–2000. The decline is unexplained but may be due to changes in measurement, to

lack of media campaigning in most states and to a reduction in encouraging younger women to screen in some states.

- For both screening programs, the 2001 National Health Survey has found that the highest rates of screening are achieved among women whose main language at home is English, who were born in Australia, the United Kingdom or New Zealand, and who are employed and have higher socioeconomic status. Lowest rates for screening are among non-English-speaking women and women who are not in the labour force and have low socioeconomic status.
- There are high rates of screening occurring more frequently than the recommended interval of 2 years. In the 2001 National Health Survey, more than 20% of women aged 30–59 years reported having an annual Pap smear, and 20% of 50–59 year olds and 16% of 60–69 year olds an annual mammogram.

### *Trends in cancer-related hospital separations*

- Hospital separations for patients with a principal diagnosis of cancer increased by an average of 4.7% per annum in the period 1997–98 to 2001–02. Separations for skin cancers other than melanoma increased by an average of 7.4% per annum, for prostate cancer by 7.0%, for non-Hodgkin's lymphoma by 5.7% and for colorectal cancer by 5.5%.
- The proportion of same-day separations for patients with a principal diagnosis of cancer increased from 36.9% in 1997–98 to 44.4% in 2001–02. Excluding same-day separations, the average length of stay in hospital declined only slightly from 8.5 days in 1997–98 to 8.4 days in 2001–02.
- The proportion of public patients amongst separations for patients with a principal diagnosis of cancer decreased from 52.0% in 1997–98 to 47.6% in 2001–02. Public hospitals accounted for 62.0% of separations with a principal diagnosis of cancer in 1997–98, but only 55.3% of such separations in 2001–02.

### *Colorectal cancer*

- Colorectal cancer has the highest incidence of all malignant cancers in Australia, (excluding skin cancers other than melanoma) as it has the second highest incidence for both men and women. There is currently a 1 in 17 lifetime risk of being diagnosed with colorectal cancer for men before the age of 75 years, and a 1 in 26 risk for women.
- Colorectal cancer is the second most common cause of cancer death.
- 60% of colorectal cancer cases occur in the rectum and distal colon.
- Five-year relative survival for persons diagnosed with colorectal cancer between 1992 and 1997 was 57.8% for males and 59.4% for females.
- In 2000–01 there were 25,238 hospital separations (average length of stay 8.6 days) and 2,000 hospital deaths from colorectal cancer in Australia.
- Of people diagnosed with colorectal cancer in 1997, it is estimated that 53.7% will be cured, that is, that their survival probability will become the same as that of the general population. Of those who ultimately die, the average time till death is 2.27 years.
- Of 173 countries for which colorectal cancer incidence rates are available, Australia is ranked fifth highest for men and second highest for women. Among the same countries, Australia is ranked fifteenth highest for colorectal cancer deaths among men and seventeenth highest for women.