Cancer in Australia 1996

Incidence and mortality data for 1996 and selected data for 1997 and 1998

CANCER SERIES

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November 1999

Australian Institute of Health and Welfare
Australasian Association of Cancer Registries
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A comprehensive set of Excel tables for all cancer sites are available on the Institute's Internet web site <http://www.aihw.gov.au>.

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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 1996*, an important publication generated from the National Cancer Statistics Clearing House (NCSCH). This report contains the most recent available national cancer incidence and mortality data and is the most up-to-date national report that has ever been produced. This report, for the first time, includes data from another of the AACR members, New Zealand, and also reintroduces some international comparisons.

The cancer registries and the Institute have continued their efforts in improving national reporting timeliness. We acknowledge the efforts of all the cancer registries in compiling and providing timely data to the NCSCH so that this important public health data set could be published. We intend to continue improvement in this area and, in addition, undertake a work program that encourages further standardisation of cancer registry information and increased analysis of the national data collection (e.g. survival analysis).

Cancer registration is a legal requirement in all States and Territories. The data are collected to monitor cancer trends, assist national efforts to understand the causes of cancer, and assist prevention efforts and treatment decisions. Data confidentiality and the uses to which cancer registry data can be put are controlled by State and Territory registries (under State and Territory law) and within the AIHW under the *Australian Institute of Health and Welfare Act 1987*. The cancer registries together with the Institute and community organisations (e.g. cancer charity organisations) intend to promote further public awareness of their data collections and findings.

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Contributors

This AIHW National Cancer Statistics Clearing House report 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 together, through the Australasian Association of Cancer Registries, 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.

Funding and support of cancer registries in Australia is undertaken by State and Territory governments and various charity bodies. The AIHW acknowledges the support of the State and Territory governments, the New South Wales Cancer Council, the Anti-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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Executive summary

This report presents national cancer incidence and mortality statistics and is part of the cancer series yearly publications. The State and Territory cancer registries provide the incidence data. The Australian Bureau of Statistics, which gets its information from the State and Territory Registrars of Births, Deaths and Marriages, provide mortality information.

Each year, approximately 345,000 new cancer cases are diagnosed in Australia. A large proportion of these, approximately 270,000, are non-melanocytic skin cancers. Incidence data for this cancer are not collected on a routine basis by cancer registries, and are not reported in this publication.

Excluding non-melanocytic skin cancers, there were 77,666 new cancer cases and 34,089 deaths due to cancer in Australia in 1996. At the incidence rates prevailing in 1996, it would be expected that 1 in 3 men and 1 in 4 women would be directly affected by cancer in the first 75 years of life. Further, nearly 261,300 potential years of life would be lost to the community each year as a result of people dying of cancer before the age of 75. Cancer currently accounts for 28% of male deaths and 25% of female deaths.

In males, prostate cancer (10,055 new cases diagnosed in 1966) is the most common registrable cancer, followed by colorectal cancer (6,067), lung cancer (5,228) and melanoma (4,313). These four cancers account for 60% of all registrable cancers in males.

In females, breast cancer (9,621) is the most common registrable cancer, followed by colorectal cancer (4,931), melanoma (3,448) and lung cancer (2,393). These four cancers account for 58% of all registrable cancers in females.

The most common cancers causing death are lung (4,743), prostate (2,644) and colorectal (2,474) cancers in males, and breast (2,619), colorectal (2,132) and lung (2,021) cancers in females.

The risk of cancer increases with age. The age-standardised incidence rate in 1996 for all cancers (excluding non-melanocytic skin cancers) was 16.1 per 100,000 for people aged less than 15 years and 2,149.6 per 100,000 for people aged 65 years and over.

Between 1990 and 1996, age-standardised incidence rates for all cancers (except non-melanocytic skin cancers) rose for both males and females by an average of 2.1% and 1.4% per year respectively but death rates declined by an average of 0.4% per year for both males and females. A significant proportion of the rises in incidence rates can be attributed to the recent upturn in prostate (1990–1994) and breast cancer incidence. Much of the rise in the incidence rates of prostate and breast cancer can be attributed to detection of these prevalent cancers after the introduction of prostate-specific antigen testing and breast screening programs.

While breast cancer incidence rates have continued to increase in 1996 and 1997, incidence rates for prostate and cervical cancers and male lung cancer have continued their decline.

Cigarette smoking is estimated to have directly caused 10,148 new cases of cancer and 6,986 deaths in 1996. Between 1990 and 1996, the male incidence rate for smoking-related cancers fell by an average of 1.2% per year, while the rate for females rose by 0.6% per year. Over the same period, mortality rates fell by 1.2% per annum for males and rose by 0.8% per annum for females.

A comparison with some countries with similar economic development to Australia shows that Australia's male and female incidence rates are fairly average but that our mortality rates compare favourably to the selected countries. Australia's melanoma rates are amongst the highest in the world while our colorectal rates are also relatively high. Stomach and lung cancer rates in Australia are lower than in most other countries. In a direct comparison with

New Zealand, there appears to be substantial differences in female mortality rates for several cancers, with cancers of the breast and lung showing the largest differences. Cancer incidence rates in New Zealand males are slightly higher than those of Australian males for most types of cancer.

1 Introduction

Cancer is a notifiable disease in all States and Territories and is the only major disease category for which an almost complete coverage of incidence data is available. Cancer is also a major cause of death in Australia. If this situation is to be changed, good information on the occurrence of different types of cancer, on the characteristics of patients, and on survival and mortality is essential. Such information facilitates the monitoring of trends and the impact of interventions, and provides a sound basis for epidemiological studies and the initiation of prevention and treatment programs.

What is cancer?

Cancer describes a range of diseases in which abnormal cells proliferate and spread out of control. Other terms for cancer are tumours and neoplasms, although these terms can also be used for non-cancerous growths.

Normally, cells grow and multiply in an orderly way and have a specific function in the body. Occasionally, however, they multiply in an uncontrolled way after being affected by a carcinogen, or after developing from a random genetic mutation, and form a lump which is called a tumour or neoplasm. Tumours can be benign (not a cancer) or malignant (a cancer). Benign tumours do not invade other tissues or spread to other parts of the body, although they can expand to interfere with healthy structures.

The main features of a malignant tumour (cancer) are its ability to grow in an uncontrolled way and to invade and spread to other parts of the body (metastasise). Invasion occurs when cancer cells push between and break through other surrounding cells and structures. Spread to other parts of the body occurs when some cancer cells are carried by the bloodstream or the lymphatic system and lodge some distance away. They can then start a new tumour
(a secondary cancer) and begin invading again. They can cause serious damage by destruction, crushing or blocking.

Cancer can develop from most types of cells in different parts of the body, and each cancer has its own pattern of growth and spread. Some cancers remain in the body for years without showing any symptoms. Others can grow, invade and spread rapidly and are fatal less than a year after detection. Apart from the cancer's natural behaviour, its effects can also depend on how much room it has before it damages nearby structures, and whether it starts in a vital organ or is close to other vital organs.

Although a number of cancers share risk factors, most cancers have a unique set of risk factors that are responsible for their onset. Some cancers occur as a direct result of smoking, dietary influences, infectious agents or exposure to radiation (e.g. ultraviolet radiation), while others may be a result of inherited genetic faults. It should be noted that for some cancers the causes are unknown. While some of the causes are modifiable through lifestyle changes, some others are inherited and cannot be avoided. However, the risk of death due to particular cancers may be reduced through intensive monitoring of individuals at high risk, reducing external risk factors, detecting and treating cancers early in their development, and treating them in accordance with the best available evidence.

Many cancers can be serious and even fatal. However, medical treatment is often successful if the cancer is detected early. The aim is to destroy the cancer cells and stop them from returning. This can be done by surgery to cut out the growth or by other methods such as cancer-destroying drugs (chemotherapy) or ray treatment (radiation therapy). The growth of some cancers can also be controlled through hormone therapy.

The treatment approach often combines a number of these methods and uses them in stages. The first line of treatment aims to remove as many cancer cells as possible; the second line, which may go on for a long time, aims to ensure the cancer does not recur.

Cancer surveillance in Australia

National data on cancer deaths have been available since the early 1900s, based on information in medical certificates of cause of death, as provided to the Registrar of Births, Deaths and Marriages in each State and Territory. The Australian Institute of Health and Welfare (AIHW) and the Australian Bureau of Statistics (ABS) use these data to report national cause of death statistics. Information concerning cancer deaths and non-cancer deaths of cancer cases is also collected by State and Territory cancer registries, based on death certificates and other diagnostic information.

The only effective method of obtaining cancer incidence data is through universal registration of cancer diagnoses. In Australia, cancer registration is required under State and Territory legislation. The cancer registrations are collated by cancer registries that are supported by a mix of State and Territory government and non-government charity organisations. Some State and Territory cancer registries have been operating for more than 20 years and obtain their information from hospital, pathology, radiotherapy and physician records (Appendix D). It was not until 1982, however, that cancer registration was universal in Australia (data were published in *Cancer in Australia 1982* (Giles et al. 1987)). Before then, there was no registration in some States, and in some others, registries covered only particular areas, hospitals or cancer sites.

The National Cancer Statistics Clearing House

In June 1984 the National Health and Medical Research Council endorsed the concept of a national collection of cancer statistics. In April 1985 the National Committee on Health and Vital Statistics agreed that the National Cancer Statistics Clearing House (NCSCH) should be operated by the then Australian Institute of Health under the supervision of the Australasian Association of Cancer Registries (AACR).

Following the enactment of Commonwealth legislation establishing the then Australian Institute of Health as a statutory body in 1987, and subsequent legislation providing for the protection of confidentiality of records supplied to it, the Institute and the AACR established the NCSCH. This provides a facility for compiling data produced by individual State and Territory registries on a continuing basis.

The aim of the NCSCH is to foster the development and dissemination of national cancer statistics for Australia and specifically to:

- enable computation and publication of national statistics on cancer;
- allow tracking of interstate movement of cancer cases via record linkage;
- facilitate exchange of scientific and technical information between cancer registries and promote standardisation in the collection and classification of cancer data; and

- facilitate cancer research both nationally and internationally.

The NCSCH receives data from individual State and Territory cancer registries on cancer diagnosed in residents of Australia. This commenced with cases first diagnosed in 1982. The data items provided to the NCSCH by the State and Territory cancer registries enable record linkage to be performed and the analysis of cancer by site and behaviour.

The NCSCH produces reports of national incidence and mortality data. Periodically, analyses of specific cancer sites, cancer histology, differentials in cancer rates by country of birth, geographical variation, trends over time and survival are undertaken on an accumulation of data which permits examination of the data in greater depth. The section 'Related Publications' sets out the range of publications based on these data.

In 1999 and 2000 there will be an emphasis placed on data development in cancer registry collections. This project will look at the transition of existing collections toward the National Health Data Dictionary (NHDD) standards, where they do not currently comply, and the development of cancer registry specific NHDD definitions.

The NCSCH is able to make available a broad range of statistical data. Data identifying individuals may only be released to bona fide researchers after a strict scientific and ethical review process which involves the AACR executive, the AIHW Health Ethics Committee and the State and Territory cancer registries. General database enquiries and enquiries about the release of statistical data should be addressed to:

Australian Institute of Health and Welfare
National Cancer Statistics Clearing House
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Structure of this report

This report is divided into four major components:

- an introduction and overview of cancer in Australia in 1996;
- summary tables for all cancer sites for 1996;
- a series of data tables for the most common cancer sites, and some less common but topical cancer sites, for 1996;
- appendixes comprising cancer coding system, methods, State and Territory registration features, glossary and reference sections.

The overview of cancer in Australia provides a selection of highlights from the data tables. It describes the patterns of cancer incidence and mortality by site, age, sex, and State and Territory. Trends in cancer incidence and mortality are discussed and a series of graphs are provided presenting the most common cancers by sex and age group, and trends in national cancer incidence (1983–1996) and mortality (1983–1997). An international comparison is made for selected cancers.

Summary tables of incidence and mortality for 1996 for all cancer sites are provided. These tables list numbers of new cases and deaths, and crude and age-standardised incidence and mortality rates for Australia. Cumulative rates are given for incidence, while the mortality tables provide estimates of the person-years of life lost. Sex ratios are presented in both the incidence and mortality tables.

The series of data tables for the most common or topical cancers in 1996 contain age-specific, crude, and age-standardised incidence and mortality rates for males, females and persons for each cancer site. The order of the tables is based on the International Classification of Diseases (World Health Organization 1977). All rates are expressed per 100,000 population and, at the Australian level, are directly age-standardised to both the total estimated resident population of Australia at 30 June 1991 and the World Standard Population. Included in these tables are estimates of the lifetime risk of contracting each cancer, the person-years of life lost, and the numbers of each cancer as a proportion of the total (excluding non-melanocytic skin cancers).

The data tables also include average annual numbers of new cancer cases and deaths, and age-standardised incidence and mortality rates for each State and Territory. **It should be noted that the State and Territory incidence and mortality rates have been directly age-standardised to the total estimated resident population of Australia at 30 June 1991. Therefore, particular care should be taken not to compare these State and Territory rates with previous Cancer Series publications—*Cancer in Australia 1989–1990 (with Projections to 1995), Cancer in Australia 1986–1988* or *Cancer in Australia 1983–1985*— where age-standardisation used the World Standard Population.** The NCSCH is able to provide State and Territory rates that have been age-standardised to the World Standard Population on request or the cancer registries can be contacted directly.

The appendixes include the International Classification of Diseases coding system; a methods section providing formulae, explanations and examples of the techniques used to present the data in the report; population data for Australia for 1996; and a summary table of State and Territory cancer registry characteristics.

This report together with a comprehensive set of Excel tables for all cancer sites are available on the Institute's Internet web site <http://www.aihw.gov.au>.

If you are unable to access these data via computer then contact the Australian Institute of Health and Welfare for a hard copy.

2 Cancer in Australia

General

Each year, approximately 345,000 new cancer cases are diagnosed in Australia. A large proportion of these, approximately 270,000, are non-melanocytic skin cancers. Incidence data for this cancer are not collected on a routine basis by cancer registries, and are not reported in this publication, however data are collected on a survey basis (Staples et al. 1998).

Excluding non-melanocytic skin cancers, there were 77,666 new cancer cases and 34,089 deaths due to cancer in Australia in 1996. At the incidence rates prevailing in 1996, it would be expected that 1 in 3 men and 1 in 4 women would be directly affected by cancer in the first 75 years of life. Further, nearly 261,300 potential years of life would be lost to the community each year as a result of people dying of cancer before the age of 75. Cancer currently accounts for 28% of male deaths and 25% of female deaths.

The latest survey-based estimates show age-standardised incidence rates (standardised to the World Standard Population) for treated non-melanocytic skin cancers in 1995 were 1,374 per 100,000 for males and 857 per 100,000 for females (Staples et al. 1998). These rates are eight times the next most common male cancer (prostate) and seven times the next most common female cancer (breast). Despite non-melanocytic skin cancer's high incidence rate it has a relatively low mortality rate at 1.8 per 100,000 compared with the high mortality rates of male lung cancer at 56.0 per 100,000, female breast cancer (24.9) and prostate cancer (33.0). Non-melanocytic skin cancer will be excluded from any further comparisons in this publication. The totality of other cancers will be referred to as 'registrable cancers'.

In this publication the term 'cancer site' is used to represent cancers located in specific organs or tissues as well as systemic cancers such as leukaemia and lymphoma.

Most common cancers

Among all persons, the combination of cancers of the colon and rectum (10,998 new cases), often referred to as bowel or colorectal cancer, is the most common registrable cancer in 1996 (Table 1). Colorectal, prostate (10,055), breast cancer (9,706), melanoma (7,761), and lung cancer (7,621) together account for 59% of all registrable cancers in 1996.

In males, the most common registrable cancers after prostate cancer are colorectal cancer (6,067 new cases diagnosed in 1996), lung cancer (5,228) and melanoma (4,313) (Table 1, Figure 1). These four cancers account for 60% of all registrable cancers in males.

In females, breast cancer (9,621) is the most common registrable cancer, followed by colorectal cancer (4,931), melanoma (3,448) and lung cancer (2,393) which in total account for 58% of all cancers in females.

The most common cancers causing death are lung (4,743), prostate (2,644) and colorectal (2,474) cancers in males, and breast (2,619), colorectal (2,132) and lung (2,021) cancers in females (Table 1). The number of person-years of life lost due to cancer is generally dominated by the most common cancers due to the large numbers of cases diagnosed,

rather than by those less common cancers which occur earlier in life. Lung cancer is responsible for the highest number of person-years of life lost before 75 years of age (46,020 in 1996), followed by breast cancer (31,143) and colorectal cancer (30,903). Cancer of the brain and nervous system is responsible for the fourth-highest number of person-years of life lost (17,260). This contrasts with its ranking as the thirteenth most common cancer (1,300 new cases diagnosed in 1996). Further, the ratio of person-years of life lost to new cases for cancer of the brain and nervous system (13.3) is much higher than that for lung cancer (6.0), colorectal cancer (2.8) or breast cancer (3.2). This is a direct result of the relatively large number of younger people diagnosed with, and dying from, cancer of the brain and nervous system.

The most common cancers vary depending on age (Figure 2). In people aged less than 15, the most common cancers diagnosed are lymphatic leukaemia and cancers of the brain and central nervous system. These two cancer sites account for 47% of all cancers in this age group. In those aged 15–44, melanoma and breast cancer are the most common cancers, while breast, colorectal, melanoma, prostate and lung cancers are predominant in people aged over 45 years.

The ranking of the most frequently occurring cancers by age group (Figure 2) is based on the number of new cases, and for those cancers the number of deaths is also shown. However, some cancers that would be ranked in the top five cancers based on number of deaths (rather than new cases) are not presented in Figure 2. Cancers which have a substantial number of deaths in each age group that are not presented in Figure 2 are those of the other endocrine glands (16 deaths) and myeloid leukemia (15 deaths) in the 0–14 age group and cancer of the brain (165) in the 15–44 age group. In the age group 45–64, cancers of unknown primary site (477 deaths) and cancer of the brain and nervous system (360 deaths) are responsible for a substantial number of deaths. Cancers of unknown primary site (1,789 deaths) are also a significant cause of death in the 65 and over age group.

The mortality to incidence ratio (MIR) gives a rough indication of the survival rates for people diagnosed with cancer. Cancers affecting vital organs or systems tend to have a high MIR as few people survive from these cancers. Cancers of the liver, pancreas and oesophagus have MIRs of more than 0.9 while cancers of the brain and lung, and myeloid leukemia, have ratios of between 0.8 and 0.9. MIRs for some other important cancers are 0.42 (colorectal), 0.33 (cervix), 0.26 (prostate) and 0.27 (female breast cancer). Melanoma is one of the few common cancers with a consistently low MIR of approximately 0.12.

Table 1: Most frequently occurring cancers in Australia, 1996 [a] [b]

	New cases					Deaths				
Cancer site	Number	% of all new cancer cases	ASR (A)	ASR (W)	Lifetime risk[c]	Number	% of all cancer deaths	ASR (A)	ASR (W)	PYLL[c]
Males										
Prostate	10,055	23.5	117.4	79.1	1 in 10	2,644	13.8	33.0	18.5	6,228
Colorectal	6,067	14.2	69.2	49.5	1 in 17	2,474	12.9	28.8	19.7	17,788
Lung	5,228	12.2	60.1	41.9	1 in 19	4,743	24.7	55.0	37.2	31,038
Melanoma	4,313	10.1	48.0	37.3	1 in 25	580	3.0	6.7	4.7	6,955
Bladder	1,921	4.5	22.4	15.3	1 in 56	543	2.8	6.6	3.9	2,108
NHL	1,718	4.0	19.4	14.6	1 in 63	707	3.7	8.2	5.6	6,750
Unknown site	1,625	3.8	19.0	12.7	1 in 72	1,189	6.2	14.1	9.2	7,663
Kidney	1,209	2.8	13.7	10.2	1 in 84	460	2.4	5.4	3.7	3,583
Stomach	1,190	2.8	13.8	9.3	1 in 91	752	3.9	8.8	5.8	5,373
Lip	826	1.9	9.2	7.1	1 in 131	5	0.0	0.1	0.0	63
Females										
Breast	9,621	27.5	95.5	78.4	1 in 12	2,619	17.6	24.9	19.1	30,955
Colorectal	4,931	14.1	46.0	33.0	1 in 26	2,132	14.3	19.0	12.9	13,115
Melanoma	3,448	9.9	35.0	29.0	1 in 34	323	2.2	3.0	2.2	3,820
Lung	2,393	6.9	23.0	16.9	1 in 47	2,021	13.6	19.1	13.7	14,983
Unknown site	1,406	4.0	12.5	8.5	1 in 109	1,142	7.7	10.0	6.5	6,015
NHL	1,387	4.0	13.3	10.1	1 in 85	681	4.6	6.2	4.3	5,135
Uterus	1,316	3.8	12.9	10.2	1 in 83	273	1.8	2.5	1.7	1,468
Ovary	1,166	3.3	11.4	9.0	1 in 98	797	5.4	7.6	5.5	7,290
Cervix	923	2.6	9.4	7.8	1 in 130	301	2.0	2.9	2.2	4,253
Pancreas	801	2.3	7.2	4.6	1 in 201	822	5.5	7.2	4.5	3,413
Persons										
Colorectal	10,998	14.2	56.6	40.7	1 in 21	4,606	13.5	23.4	16.0	30,903
Prostate	10,055	12.9	52.2	36.3	1 in 21	2,644	7.8	13.1	7.5	6,228
Breast	9,706	12.5	50.0	40.4	1 in 23	2,640	7.7	13.5	10.1	31,143
Melanoma	7,761	10.0	40.6	32.7	1 in 29	903	2.6	4.6	3.4	10,775
Lung	7,621	9.8	39.6	28.4	1 in 28	6,764	19.8	35.0	24.4	46,020
NHL	3,105	4.0	16.1	12.3	1 in 73	1,388	4.1	7.1	4.9	11,885
Unknown site	3,031	3.9	15.4	10.4	1 in 87	2,331	6.8	11.8	7.7	13,678
Bladder	2,544	3.3	13.1	9.1	1 in 91	778	2.3	3.9	2.3	2,745
Kidney	2,000	2.6	10.4	7.9	1 in 109	793	2.3	4.1	2.8	5,788
Stomach	1,857	2.4	9.5	6.6	1 in 129	1,225	3.6	6.2	4.1	8,098

(a) Rates are expressed per 100,000 population and age-standardised to the Australian 1991 Population ASR (A) and to the World Standard Population ASR (W). The rates age-standardised to the two populations (World and Australia 1991) differ due to the age distributions of these populations. For example the World population gives more weight to younger age groups where there are fewer cancers, consequently the rate is lower compared with the Australian 1991 population. A greater weight is given to the older age groups in the Australian 1991 population where there are more cancers, consequently these rates tend to be higher.

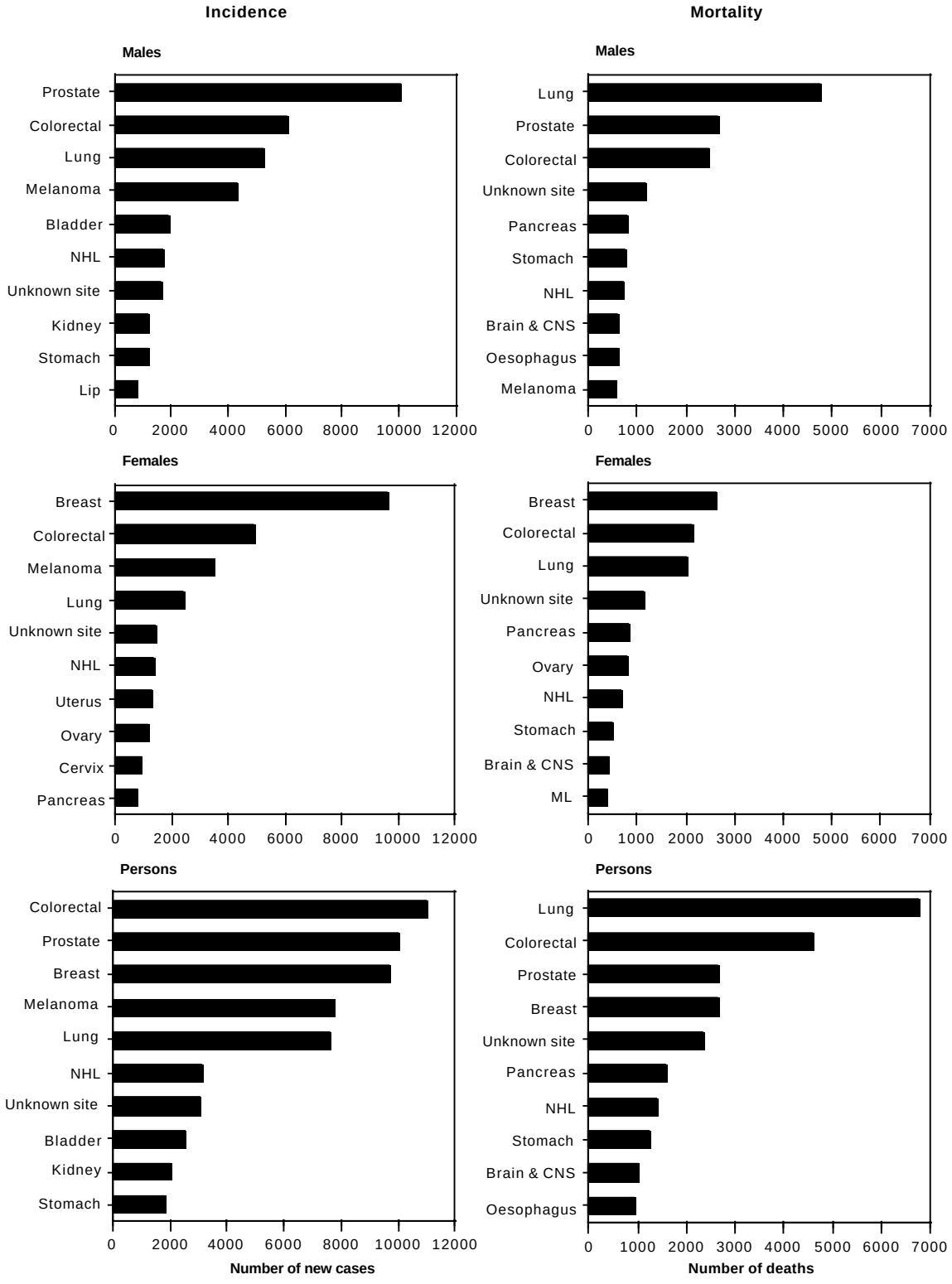
(b) Non-melanocytic skin cancer, known to be the most common cancer type, is excluded from this list, as it is not a registrable cancer.

(c) These measures are calculated for ages 0–74 years; PYLL refers to person-years of life lost. Methods for the calculation of these measures are presented in Appendix B.

Note: NHL refers to non-Hodgkin's lymphoma.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Most frequently occurring cancers

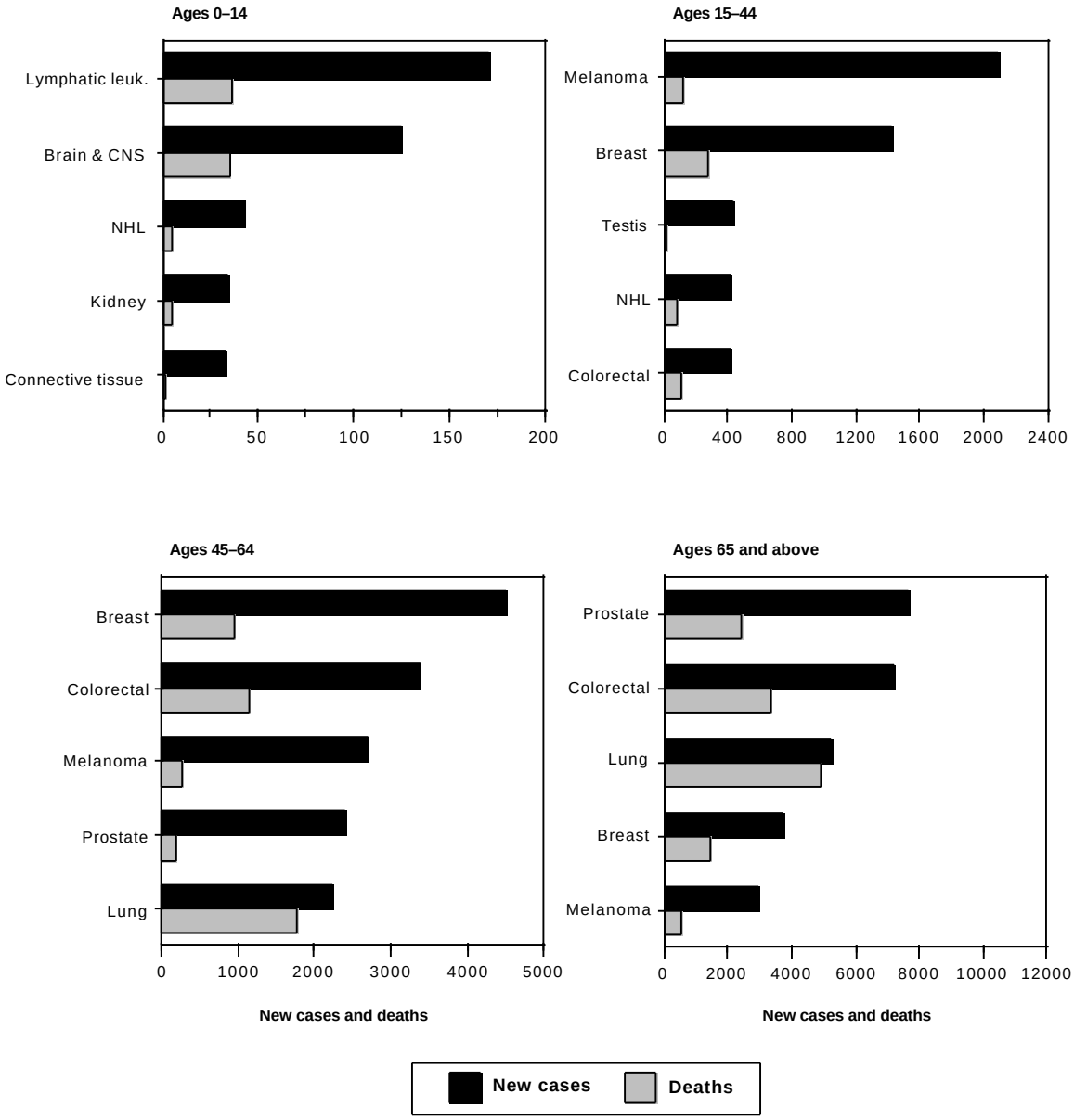


Note: NHL refers to non-Hodgkin's lymphoma, CNS refers to central nervous system, ML refers to myeloid leukemia.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Figure 1: Most frequently occurring cancers, Australia, 1996

Most frequently occurring cancers by age group



Notes

1. NHL refers to non-Hodgkin's lymphoma, CNS refers to central nervous system.
2. Each age group is graphed on a different scale.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Figure 2: Most frequently occurring cancers by age group, ranked by number of new cases (persons), Australia, 1996

Age and sex differences

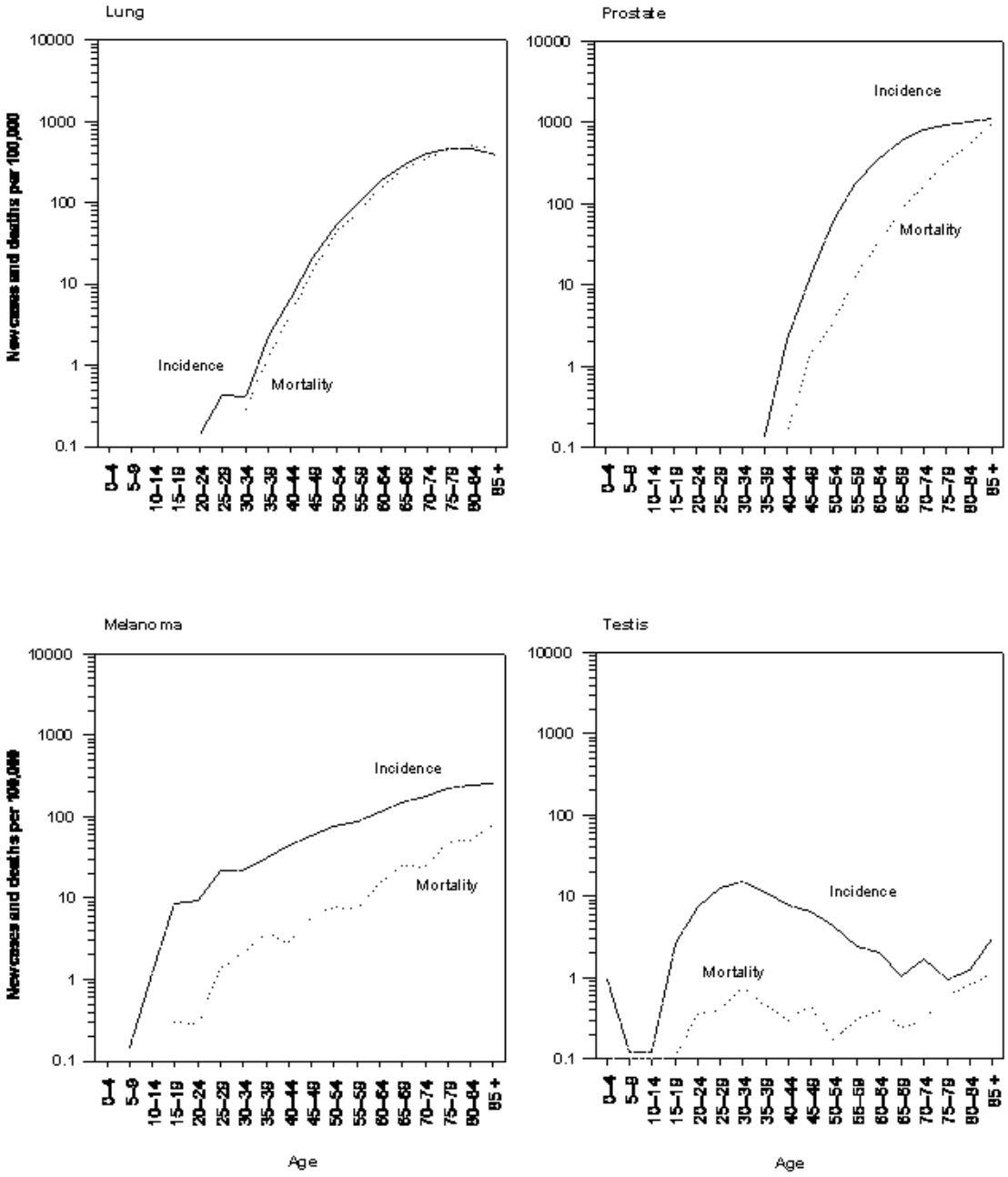
Cancer occurs more commonly in males than females. The age-standardised incidence rate in 1996 for all cancers (excluding non-melanocytic skin cancers) was 489.1 new cases per 100,000 for males and 338.8 per 100,000 for females, resulting in an age-adjusted sex ratio of 1.4. Males have a higher incidence rate for every cancer site, except for cancers of the breast, thyroid, gallbladder, peritoneum and parts of the nervous system.

The risk of cancer increases with age. The age-standardised incidence rate in 1996 for all cancers (excluding non-melanocytic skin cancers) was 16.1 per 100,000 for people aged less than 15 years; 97.5 per 100,000 for 15–44 year olds; 699.3 per 100,000 for 45–64 year olds; and 2149.6 per 100,000 for people aged 65 years and over.

Of people diagnosed with cancer, 0.8% of all cancers (excluding non-melanocytic skin cancers) occur in those aged less than 15 years, 10.5% in the 15–44 age group, 31.3% in the 45–64 age group, and 57.3% in those aged 65 and over. While the pattern of deaths across age groups is similar to that of incidence, a larger proportion (71.3%) of cancer deaths occurs in those aged 65 and over. Cervical and testicular cancers are exceptions to the age pattern with the number of cases in the 15–44 age group exceeding that in the 45–64 and 65 and over age groups.

Age-specific incidence and mortality rates vary depending upon the cancer site (Figures 3–6). For example, lung cancer incidence and mortality rates parallel each other closely, rising sharply from ages 20–24 through to 75–79 before falling slightly in the oldest age groups. The age-specific incidence rates for melanoma of the skin, on the other hand, rise much more steadily across the whole age range. Some cancers, however, have their highest rates in early or middle life and remain fairly constant in the higher age groups (i.e. cancer of the cervix) or even decline with age (incidence of cancer of the testis).

Age-specific incidence and mortality rates—males

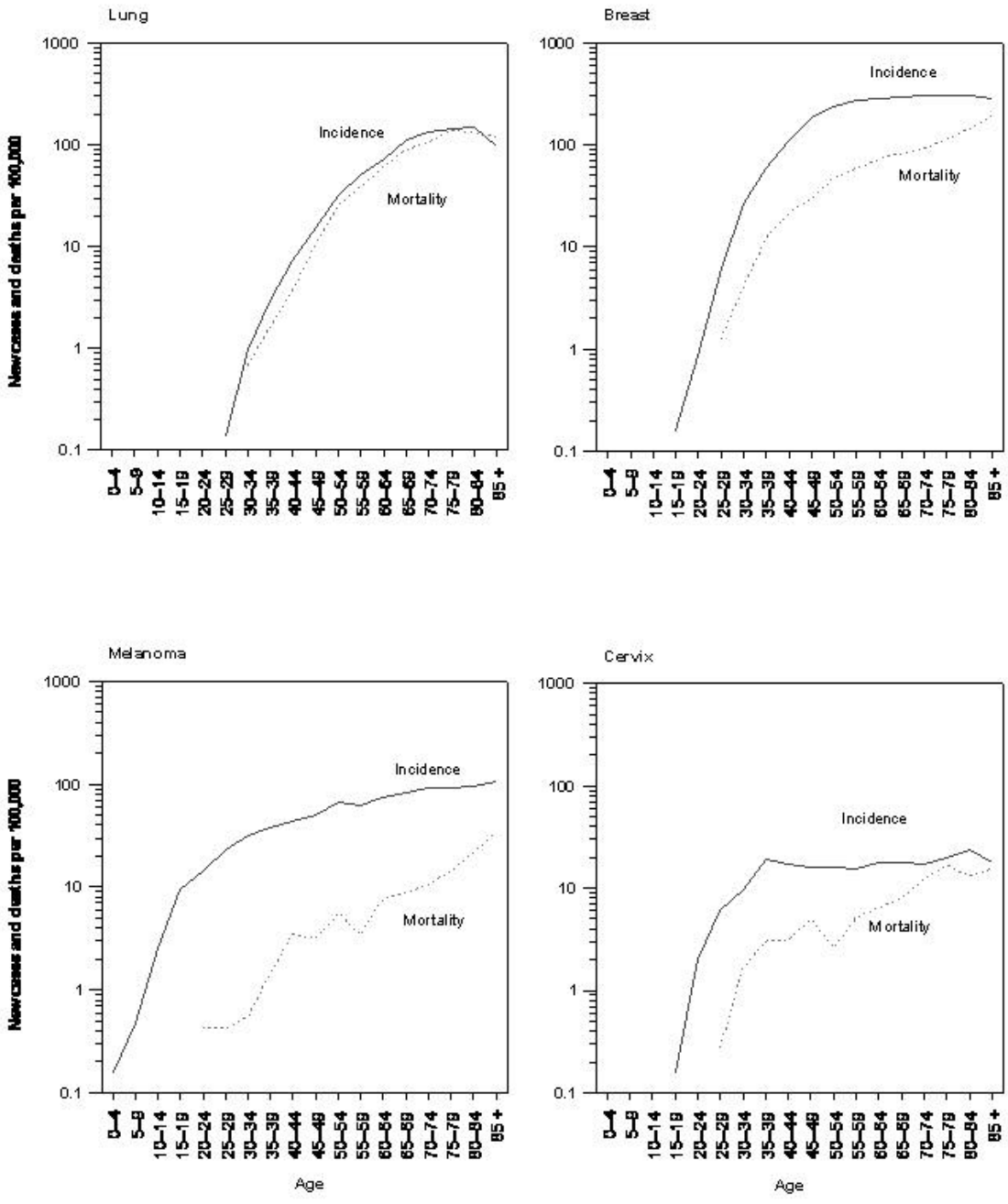


Note: Data for cancer of the testis have been averaged over 1992–1996 to provide more stable estimates.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Figure 3: Age-specific incidence and mortality rates for melanoma and cancers of the lung, prostate and testis in males, Australia, 1996

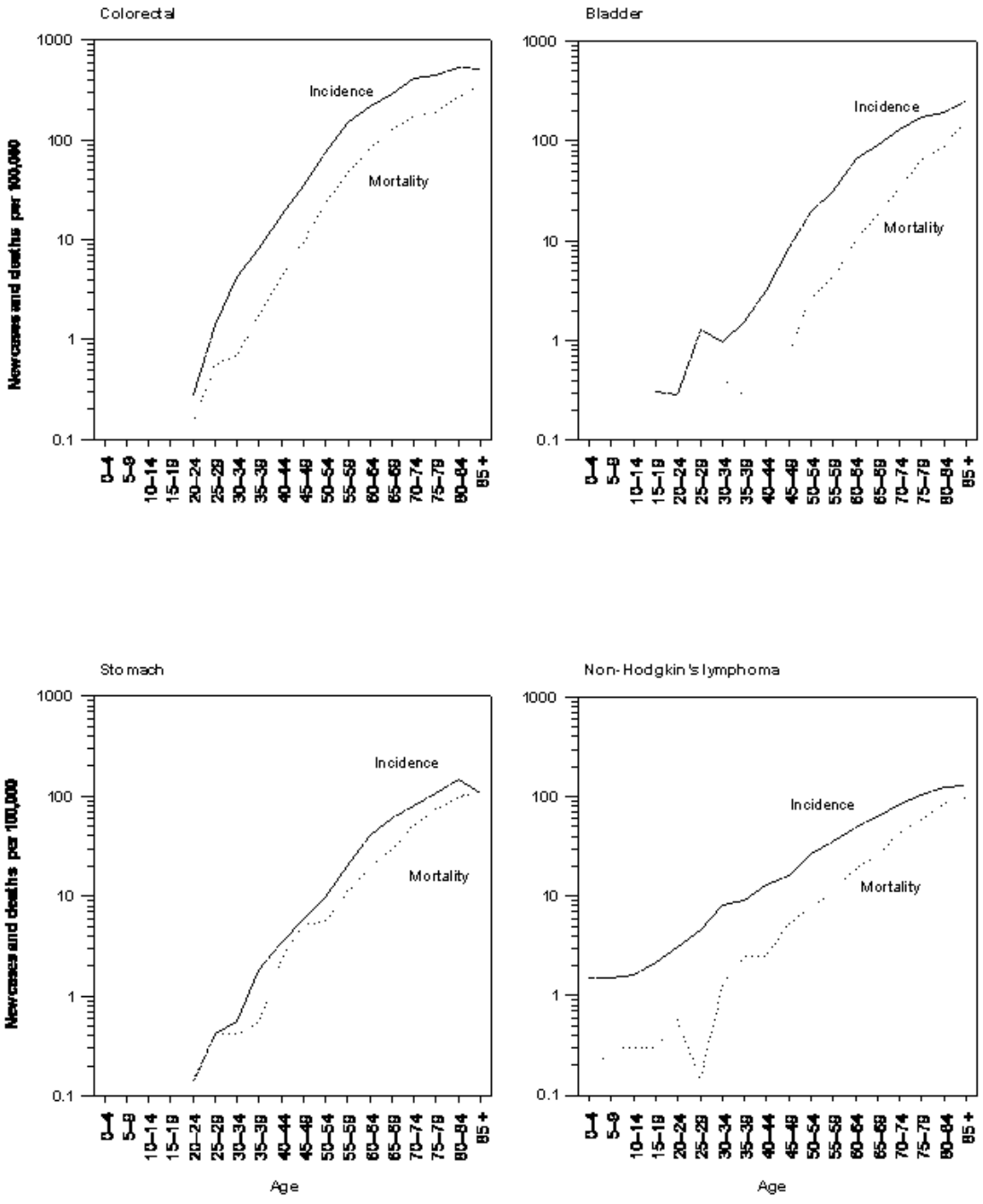
Age-specific incidence and mortality rates—females



Source: Cancer in Australia 1996, AIHW & AACR 1999.

Figure 4: Age-specific incidence and mortality rates for melanoma and cancers of the lung, breast and cervix in females, Australia, 1996

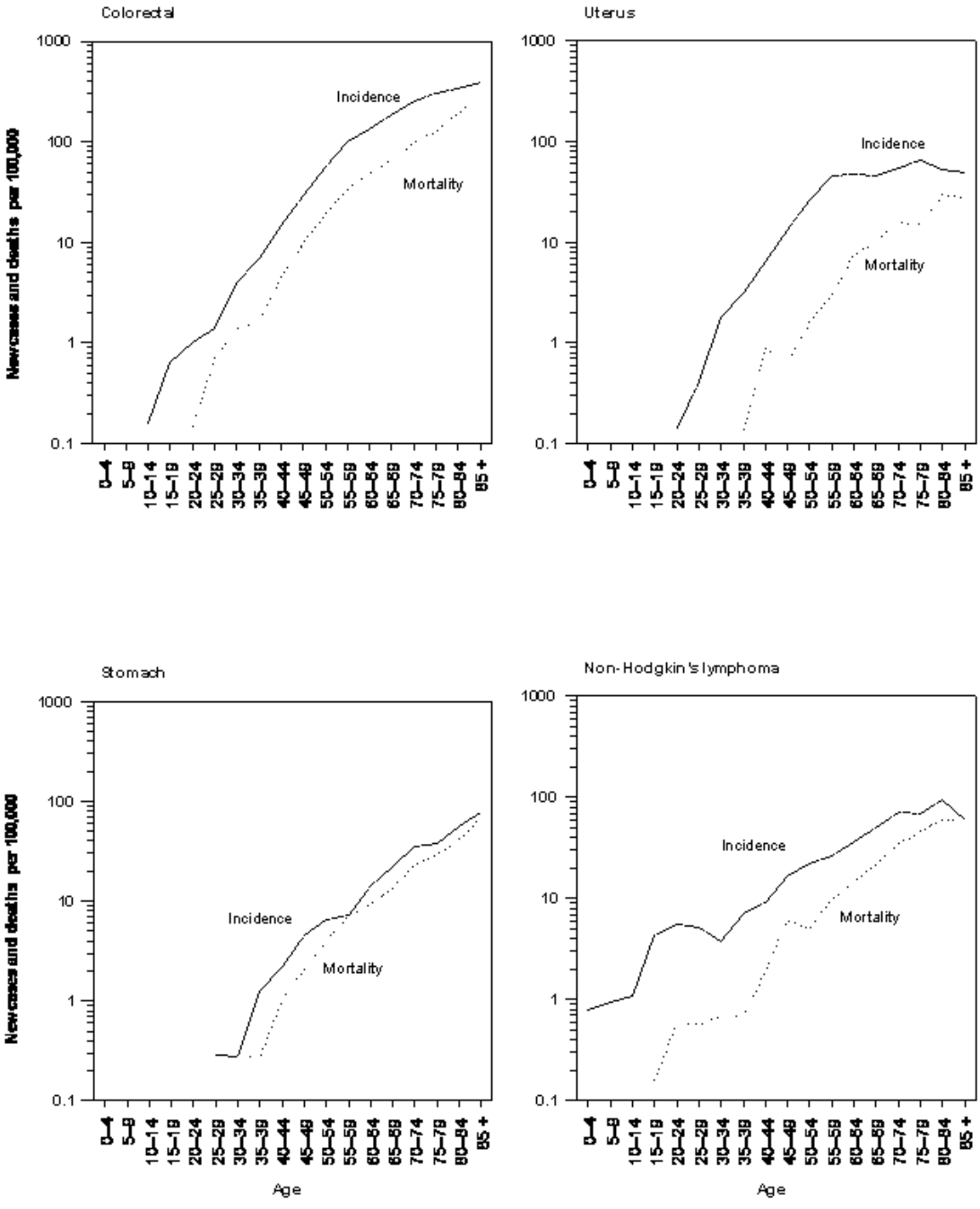
Age-specific incidence and mortality rates—males



Source: Cancer in Australia 1996, AIHW & AACR 1999.

Figure 5: Age-specific incidence and mortality rates for colorectal cancer, cancers of the bladder and stomach, and non-Hodgkin's lymphoma in males, Australia, 1996

Age-specific incidence and mortality rates—females



Source: Cancer in Australia 1996, AIHW & AACR 1999.

Figure 6: Age-specific incidence and mortality rates for colorectal cancer, cancers of the uterus and stomach, and non-Hodgkin's lymphoma in females, Australia, 1996

Alcohol- and smoking-related cancers

Alcohol and smoking are risk factors for some cancers. In 1996, alcohol-related cancers accounted for 0.8% of all new cancers, while smoking-related cancers accounted for 13.1%. Smoking-related cancers also accounted for a large proportion of deaths from cancer in 1996 (20.5% of all cancer deaths). These data and those in Tables 24–25 are derived from a series of age- and sex-specific aetiological fractions developed by English et al. (1995) and the cancer incidence estimates for specific cancer sites for 1996. These fractions are based on an analysis of international and Australian studies and estimate the probability that a specific agent (alcohol or tobacco) causes a specific disease (cancer). The cancers thought to be directly attributable to smoking (excluding passive smoking) and alcohol are listed in Table 2.

Table 2: Cancer site and per cent of cancers attributable to alcohol and smoking

	Males (%)	Females (%)
Alcohol-related cancers		
Oropharynx	21	8
Oesophagus	14	6
Liver	18	12
Larynx	21	13
Female breast cancer	—	3
Smoking-related cancers		
Oropharynx	57	51
Oesophagus	54	46
Stomach	14	11
Anus	48	41
Pancreas	24	19
Larynx	73	66
Lung	84	77
Uterus	—	10
Cervix	—	19
Vulva	—	40
Penis	30	—
Bladder	43	36
Renal parenchyma	28	21
Renal pelvis	55	48

Source: English et al. 1995.

It is estimated that 657 new cases of cancer were directly attributable to hazardous and harmful alcohol consumption in 1996 at a rate of 3.4 per 100,000, as were 307 deaths at a rate of 1.6 per 100,000. While other cancers may be indirectly caused by alcohol consumption in combination with other risk factors, alcohol is believed to be the primary causative agent for differing proportions of specific cancers. The mechanism by which alcohol causes cancer has not been fully determined, but the major metabolite of ethanol has been shown to be carcinogenic in animal experiments (English et al. 1995). The lifetime risk of an alcohol-related cancer is 1 in 237 for males and 1 in 309 for females. Between 1990 and 1996, the incidence rate for alcohol-related cancers in males fell by an average of 1.1% per annum, while the rate in females increased by 2.9% per annum.

Smoking-related cancers account for 17.8% of all new cases of cancer in males and 7.3% of all new cases of cancer in females. This large difference is attributable to the higher rates of smoking among men than women in the past 30 years. Twenty-five years ago, smoking rates in men were almost double those in women. However, this is no longer the case, with the latest estimates indicating that 27.3% of men and 22.7% of women aged over 18 years currently smoke (AIHW 1995). Organs associated with the respiratory system are the ones most affected by cigarette smoke, probably as a result of the known carcinogens in cigarette smoke such as polycyclic aromatic hydrocarbons (Table 2). Epidemiological evidence indicates that other cancers, including cancer of the upper digestive tract, bladder, renal pelvis (kidneys) and pancreas are also associated with cigarette smoking.

Cigarette smoking is estimated to have directly caused 10,148 new cases of cancer (52.9 new cases per 100,000) and 6,986 deaths (36.2 per 100,000) in 1996. Between 1990 and 1996, the male incidence rate for smoking-related cancers fell by an average of 1.2% per year, while the rate for females rose by 0.6% per year, both probably a reflection of the changing lung (Figure 14) and oesophagus cancer incidence rates. Over the same period, mortality rates fell by 1.2% per annum for males and rose by 0.8% per annum for females. These trends in incidence and mortality rates for smoking-related cancers are depicted in Figure 14.

To illustrate the improvement in the male mortality rate for smoking-related cancers, if the 1986 age-specific rates were applied to the 1996 male population there would be an additional 798 male deaths due to smoking in 1996. In contrast, the female mortality rate for smoking-related cancers is increasing. There would be 192 fewer female deaths in 1996 if the 1986 rates were applied to the 1996 female population.

Cancer rates in the States and Territories 1992–1996

Cancer incidence and mortality are reported here for the combined period 1992–1996 for all States and Territories.

Cancer incidence varies between States and Territories. Queensland reported the highest incidence rate for all cancers (excluding non-melanocytic skin cancers) among males (540.5 per 100,000), while the Northern Territory reported the lowest with 423.7 cases per 100,000. For females, Queensland reported the highest rate (362.3 per 100,000) and the Australian Capital Territory reported the lowest (316.8 per 100,000) (Figure 7, Table 6).

The order of States and Territories with the highest and lowest cancer incidence rate for males changes after exclusion of non-melanocytic skin cancer and melanoma. Tasmania reported the highest incidence rate for all cancers (excluding non-melanocytic skin cancers and melanoma) among males (499.7 per 100,000), while the Northern Territory reported the lowest with 390.9 cases per 100,000. The remaining States and Territories reported the following rates for males: Queensland 477.4 per 100,000, Western Australia 461.2 per 100,000, South Australia 460.3 per 100,000, Victoria 454.0 per 100,000, New South Wales 450.8 per 100,000 and the Australian Capital Territory 442.9 per 100,000. For females, Queensland reported the highest rate (316.7 per 100,000) and the Australian Capital Territory reported the lowest (288.4 per 100,000). The remaining States and Territories reported the following rates for females: Tasmania 312.1 per 100,000, Victoria 309,3 per 100,000, the Northern Territory 301.4 per 100,000, South Australia 301.4 per 100,000, Western Australia 299.1 per 100,000 and New South Wales 297.5 per 100,000.

The cancer mortality rates reported for males across the States and Territories range from 226.7 per 100,000 in New South Wales to 253.1 per 100,000 in the Australian Capital

Territory and 254.1 per 100,000 in the Northern Territory (Table 6). For females, the mortality rates vary from 132.5 per 100,000 in Queensland to 178.5 per 100,000 in the Northern Territory.

There is more variation among the States and Territories when selected cancer sites are examined. The cancer with the greatest variation between States and Territories is melanoma. Melanoma incidence rates are highest in Queensland and lowest in the Northern Territory for both males and females (Figure 7, Table 11). The incidence rate in Queensland has been consistently high since the early 1980s. The variation between the States and Territories mortality rates is smaller than the variation in incidence rates (Table 11).

Lung cancer incidence rates are highest in the Northern Territory (for males 85.5 cases per 100,000, for females 41.8 per 100,000) (Table 10). The lowest lung cancer incidence rates are reported for males in the Australian Capital Territory (46.4 per 100,000) and for females in South Australia (21.0 per 100,000).

State and Territory variations in smoking-related cancers generally reflect those observed for lung cancer (Table 25). The Northern Territory reported the highest incidence rates for males and females (109.8 per 100,000 and 42.1 per 100,000 respectively). The Australian Capital Territory reported the lowest smoking-related cancer incidence rates for males (69.5 per 100,000) and South Australia had the lowest rate for females (22.4 per 100,000). Death rates from smoking-related cancers were highest in the Northern Territory for both males and females.

These patterns of incidence probably reflect smoking behaviour approximately 10–20 years ago, due to the time lag between exposure to carcinogens in the tobacco smoke and the diagnosis of cancer. Differentials in smoking rates between the States and Territories reported in the 1995 National Health Survey (ABS 1997a) are likely to affect smoking-related cancer incidence rates in the future. Tasmania (57.3%) reported the highest proportion of current and ex-smokers followed by the Northern Territory with 56.0%. The lowest smoking and ex-smoking rates were found in New South Wales at 49.2%. In the other States and the Australian Capital Territory the proportions of smokers and ex-smokers ranged from 50–53%.

Western Australia reported the highest incidence rates for breast cancer in females (98.2 per 100,000), while the Northern Territory reported the lowest incidence rate (65.2 per 100,000) (Table 12). Tasmania, Western Australia and the Australian Capital Territory reported high rates of prostate cancer (156.7 per 100,000, 150.5 per 100,000 and 149.0 per 100,000 respectively) while significantly lower rates were reported in the Northern Territory (74.7 per 100,000) (Table 16), a rate influenced by the low Indigenous population incidence rates (d'Espaignet et al. 1996). These interstate variations in prostate cancer incidence might also be explained by differences in the time and rate of uptake of prostate specific antigen (PSA) testing in the States and Territories (Smith et al. 1998; Threlfall et al. 1998).

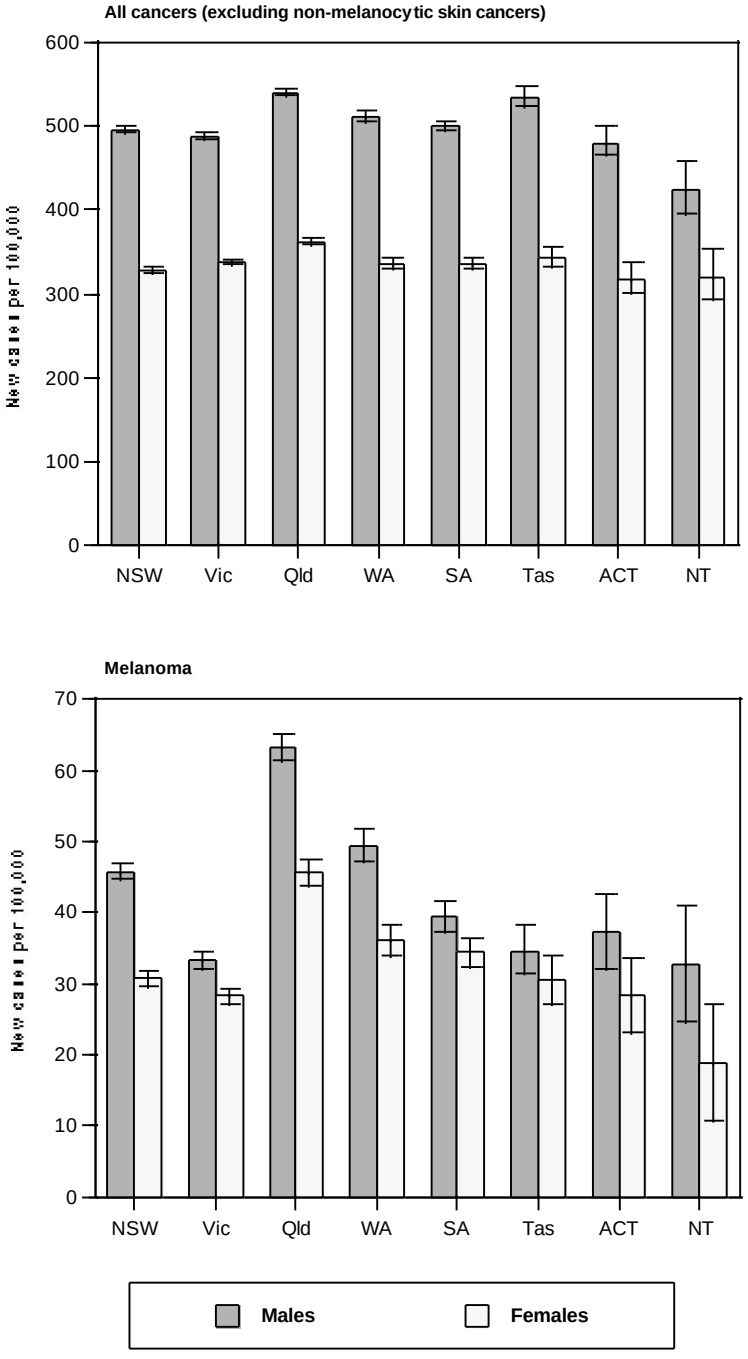
There were differences in cervical cancer incidence between the States and Territories. This probably reflects in part the relative impact of the screening programs in each jurisdiction. Most of the large States show consistent rates of approximately 11 new cases per 100,000, however South Australia shows a substantially lower rate of 7.8 and the Australian Capital Territory 9.0 per 100,000. The Northern Territory, while having relatively small numbers of new cases has a very high incidence rate of 21.8 per 100,000. A major contributor to this incidence rate is the high rate of cervical cancer amongst the Indigenous population, which d'Espaignet et al. (1996) indicated was up to three times the non-Indigenous population rate. This situation is also reflected in a high mortality rate (13.3 deaths per 100,000) and mortality incidence ratio (0.6) compared with a national average of 0.3. This high ratio is an indicator of late stage detection of these cancers.

While 1996 incidence data are the latest national data, some States and Territories have released data for 1997—Tasmania and the Northern Territory—and data for 1998—Western Australia and South Australia. These four jurisdictions account for approximately 19% of new cancer cases. A combination of the 1997 and 1998 incidence rates for these jurisdictions compared with their 1996 combined rates for the most common cancers, show some changes which may be early indicators for the larger states of New South Wales, Victoria and Queensland. The male incidence rate for all cancers continued to decline, driven mainly by the prostate rate, but colorectal cancer, lung cancer and melanoma also registered declining rates. The female trend is less clear with only breast cancer showing a consistent increase in rates. The decline in male melanoma incidence rates is at odds with the current national increase in melanoma, although this may be explained by the increases in the national rate being driven predominantly by Queensland, which is excluded from this comparison. Most other cancers showed some minor fluctuations but were within expectations.

Differences in State and Territory cancer incidence rates may be explained by variations in underlying cancer risk, the availability and utilisation of diagnostic procedures, reporting and coding inconsistencies, and normal incidence rate fluctuations. A case in point is bladder cancer (Table 18), where State and Territory comparisons vary by as much as 100%. This is largely due to differences in local coding practices, particularly in regard to the inclusion or exclusion of tumours of uncertain behaviour. The AACR plans to address this issue in the near future by standardising coding practices.

Care should be taken when interpreting incidence rates, especially for less common cancers and for States and Territories with small populations. To reduce the problems of statistical variation due to a small number of cases, the numbers and rates presented for the States and Territories in Tables 6 to 25 in this publication are annual averages of the 5-year period 1992–1996. For annual sex- and cancer-specific data, or data cross-classified by other variables (e.g. age, geographic area), the State and Territory cancer registries should be contacted directly (see pages 74 and 75 for contact details).

All cancers and melanoma incidence rates by sex and by State and Territory



Source: Cancer in Australia 1996, AIHW & AACR 1999.

Figure 7: Age-standardised incidence rates (95% confidence intervals) for all cancers (excluding non-melanocytic skin cancers) and for melanoma by State and Territory, 1992–1996

International comparisons

Cancer incidence and mortality patterns vary internationally. This variation may be the result of variations in risk factor exposure (e.g. smoking, diet, UV radiation), in genetic susceptibility, in detection and treatment of cancer or in the level of cancer registration.

Australia is one of the few countries in which cancer registration occurs on a national basis. Many countries either have State/Province, regional or hospital based cancer registries to record cancer incidence, although most countries have national mortality collections. Data have been presented in Figures 8–11 for a selection of common cancers—lung, colorectal, stomach, prostate, bladder, breast and cervix—and for a selection of countries who have similar economic development to that of Australia. In order to gain some data consistency between these countries internationally standardised data sources have been used, however they are not as up to date as the latest Australian data. The 1988–1992 international incidence data is sourced from the publication *Cancer Incidence in Five Continents VII* (IARC 1997) and the 1992 mortality data is sourced from the World Health Organization publication *World Health Statistics 1995* (WHO 1996) and *World Health Statistics* 1996 (WHO 1998). Figures 8–11 present Australian incidence and mortality rates for both 1992 and 1996 to show a direct comparison between rates at a similar time and for the latest available data.

Australia's incidence rate for the aggregation of all cancers in both males and females is similar to that of a number of countries (e.g. Canada, United States) however is slightly higher than that for countries such as England & Wales and Japan. The spread of international cancer incidence rates for the countries selected is nearly twofold, but when other countries are considered (not reported here) the spread is up to fourfold.

Differences between countries are more noticeable when individual cancer sites are examined. Incidence and mortality rates for melanoma in Australia are at very high levels matched only by New Zealand, although consistent incidence and mortality data for this cancer are not available from all countries and a graph is not presented here. However a comparison between Australia and England & Wales shows a tenfold difference in incidence, but it is known that this ranges up to 150-fold compared with other countries. The international spread of mortality rates is more narrow as melanoma has a relatively high survival rate.

In comparing Australia's incidence and mortality rates for other cancers with those of the selected group of countries it was found that:

- Australian males have relatively low rates of lung cancer incidence and mortality, however Australian females show a slightly higher ranking compared with other developed countries;
- Colorectal incidence and mortality rates for both males and females are ranked amongst the countries with the highest rates;
- Australian males and females have low rates of stomach cancer;
- Prostate cancer incidence rates are similar to those of the United States and Canada but at a level significantly higher than the European countries in the group. Mortality rates are similar across the group;
- Breast and cervical cancer incidence and mortality rates are similar to those of other countries; and
- Bladder cancer has a wide international distribution, some of which is due to variations in diagnosis and coding issues, and some may be related to real variation. The patterns

shown in Figure 10 indicate a very high rate in Italy and the United States, but a moderate level in Australia.

The 1992 and 1996 incidence and mortality rates in the Figures 8–11 indicate that Australia's incidence and mortality rates in many instances have not shifted significantly in the intervening period. An assessment of Australia's 1996 incidence and mortality rates with 1996 rates for other specific countries where available (not shown here) indicate that the general patterns indicated above remain in place.

Cancer in New Zealand

A first for the *Cancer in Australia* series of reports is a special feature on one of the Australasian Association of Cancer Registries members, New Zealand. One of Australia's closest neighbours, New Zealand, shares a similar heritage to Australia and a similar level of economic development. The New Zealand population at 3.6 million is slightly larger than that of Queensland (3.2 million) and slightly smaller than that of Victoria (4.5 million). New Zealand serves as a good comparison for Australia in cancer patterns, as the two countries share similar patterns of cancer risk factors, e.g. diet, smoking patterns and UV exposure and also shares some similarities in their cancer control programs, e.g. cervical and breast cancer screening. Both countries have a sizeable indigenous population which exhibit lower life expectancies relative to the rest of the population. New Zealand Maoris comprise approximately 14.5% of total population and Australia's Aboriginals and Torres Strait Islanders comprise approximately 2%.

The New Zealand Health Information Service has supplied 1995 incidence and 1996 mortality data (Table 3) which enables a direct comparison of recent rates for cancers between Australia and New Zealand. These rates have been standardised to the World Standard Population. Tables 3, 4 and 5 have been used for purposes of comparing the two countries'cancer patterns.

New Zealand has approximately 16,000 new cancers diagnosed each year and 7,500 deaths occur as a result of cancer. The most frequently occurring cancers in Australia and New Zealand are very similar with prostate, colorectal and lung cancers in males and breast, colorectal and melanoma in females being the dominant cancers. The other common cancers are ranked similarly between the two countries, although the policy for reporting a combination of all leukaemias (New Zealand) and unknown primary (Australia) in the dominant cancers makes for some minor variations in the rankings (Table 1 and 3).

In comparing the age-standardised incidence rates for all cancers (excluding non-melanocytic skin cancer) it is apparent that there is some variation at this aggregate level. New Zealand males (377.0 new cases per 100,000) and females (295.0) have rates approximately 10% higher than that of Australian males and females. Mortality rates in males also show approximately the same variation. In females however, mortality rates in New Zealand (125.0 deaths per 100,000) are nearly 30% higher than those of Australian females (96.8). This difference in female mortality rates appears to be spread across a range of cancers, some of which are described below.

Breast cancer incidence rates are similar in both Australian (78.4 new cases per 100,000) and New Zealand females (80.8). However there is a substantial difference in mortality rates (New Zealand 25.5, Australia 19.0 deaths per 100,000). The breast screening program in Australia has been operating since approximately 1990 and may have had some impact on mortality rates. The New Zealand breast screening program only commenced in 1999 and benefits from this program may not be seen for some time.

A comparison of prostate cancer incidence in males, shows that New Zealand (103.2 new cases per 100,000) and Australia (96.7) have similar rates for 1995, however due to the rapidly changing use of PSA testing, Australia's rate in 1996 has fallen to 79.1.

There are some differences in the patterns of colorectal cancer between the two countries. Males in New Zealand (53.2 new cases per 100,000) show a slight elevation above their Australian counterparts (49.5), however there is a more substantial difference between the females (New Zealand 43.9 and Australia 33.0). These differences between the countries are carried over to the mortality from colorectal cancer.

Both Australians and New Zealanders are known for their outdoor lifestyle, which places both populations at risk of melanoma and non-melanocytic skin cancers from the increased UV radiation exposure. This is reflected in high incidence rates of melanoma in both countries on an international basis. Of note in assessing the melanoma incidence rates, is the relatively small difference between males and females in New Zealand, a sex ratio of 1.05, compared with a ratio of 1.4 for Australia. Australia had approximately the same sex ratio as New Zealand in the early 1980s, however there has since been a significant divergence in rates.

Lung cancer incidence in New Zealand and Australian males is similar (42 new cases per 100,000), however the incidence and mortality rates in New Zealand females are approximately 25% higher than in Australian females.

There appears to be substantial differences in the reported cancer incidence and mortality rates between New Zealand and Australia for some of the most common cancers. These differences would suggest some differences in the impact of particular risk factors, and in relation to mortality, a difference in the stage at detection and treatment. Investigation of these differences will be pursued further in later reports in this series.

Table 3: Most frequently occurring cancers in New Zealand [(a)] [(b)]

	New cases 1995				Deaths 1996			
Cancer site	Number	% of all new cancer cases	ASR (W)	Lifetime risk[(c)]	Number	% of all cancer deaths	ASR (W)	PYLL[(c)]
Males								
Prostate	2,481	29.1	103.2	1 in 8	502	13.0	18.4	1,258
Colorectal	1,202	14.1	53.2	1 in 16	587	15.2	25.0	4,473
Lung	967	11.3	42.2	1 in 19	904	23.3	38.0	6,290
Melanoma	879	10.3	41.1	1 in 22	107	2.8	4.7	1,403
Bladder	366	4.3	15.8	1 in 53	111	2.9	4.3	433
NHL	276	3.2	12.9	1 in 69	145	3.7	6.2	1,453
Leukaemia	253	3.0	12.2	1 in 89	141	3.6	6.2	2,143
Stomach	232	2.7	10.0	1 in 87	176	4.5	7.4	1,613
Kidney	185	2.2	8.6	1 in 98	89	2.3	3.8	753
Oesophagus	143	1.7	6.3	1 in 123	124	3.2	5.2	790
Females								
Breast	1,865	25.3	80.8	1 in 12	681	19.0	25.5	8,240
Colorectal	1,201	16.4	43.9	1 in 20	546	15.2	18.2	3,640
Melanoma	880	12.0	39.1	1 in 25	87	2.4	3.3	1,173
Lung	535	7.3	20.7	1 in 37	502	14.0	18.2	3,613
Ovary	291	4.0	12.4	1 in 75	179	5.0	6.9	1,855
Cervix	232	3.2	10.6	1 in 94	82	2.3	3.4	1,508
NHL	231	3.2	9.6	1 in 92	141	3.9	4.9	1,260
Uterus	224	3.1	9.6	1 in 82	58	1.6	1.9	445
Leukaemia	177	2.4	7.1	1 in 151	114	3.2	4.1	1,523
Pancreas	160	2.2	5.3	1 in 158	167	4.7	5.4	890
Persons								
Prostate	2,481	15.6	46.3	1 in 17	502	6.7	7.4	1,258
Colorectal	2,403	15.1	48.2	1 in 18	1,133	15.2	21.2	8,113
Breast	1,865	11.8	41.4	1 in 23	681	9.1	13.5	8,240
Melanoma	1,759	11.1	39.7	1 in 24	194	2.6	3.9	2,575
Lung	1,502	9.5	30.5	1 in 25	1,406	18.8	27.0	9,903
NHL	507	3.2	11.1	1 in 79	286	3.8	5.5	2,713
Bladder	506	3.2	7.2	1 in 110	186	2.5	1.9	433
Leukaemia	430	2.7	9.5	1 in 113	255	3.4	5.0	3,665
Stomach	367	2.3	4.6	1 in 181	297	4.0	3.3	1,613
Kidney	306	1.9	4.4	1 in 201	149	2.0	1.7	753

(a) Rates are expressed per 100,000 population and age-standardised to the Australian 1991 Population ASR (A) and to the World Standard Population ASR (W).

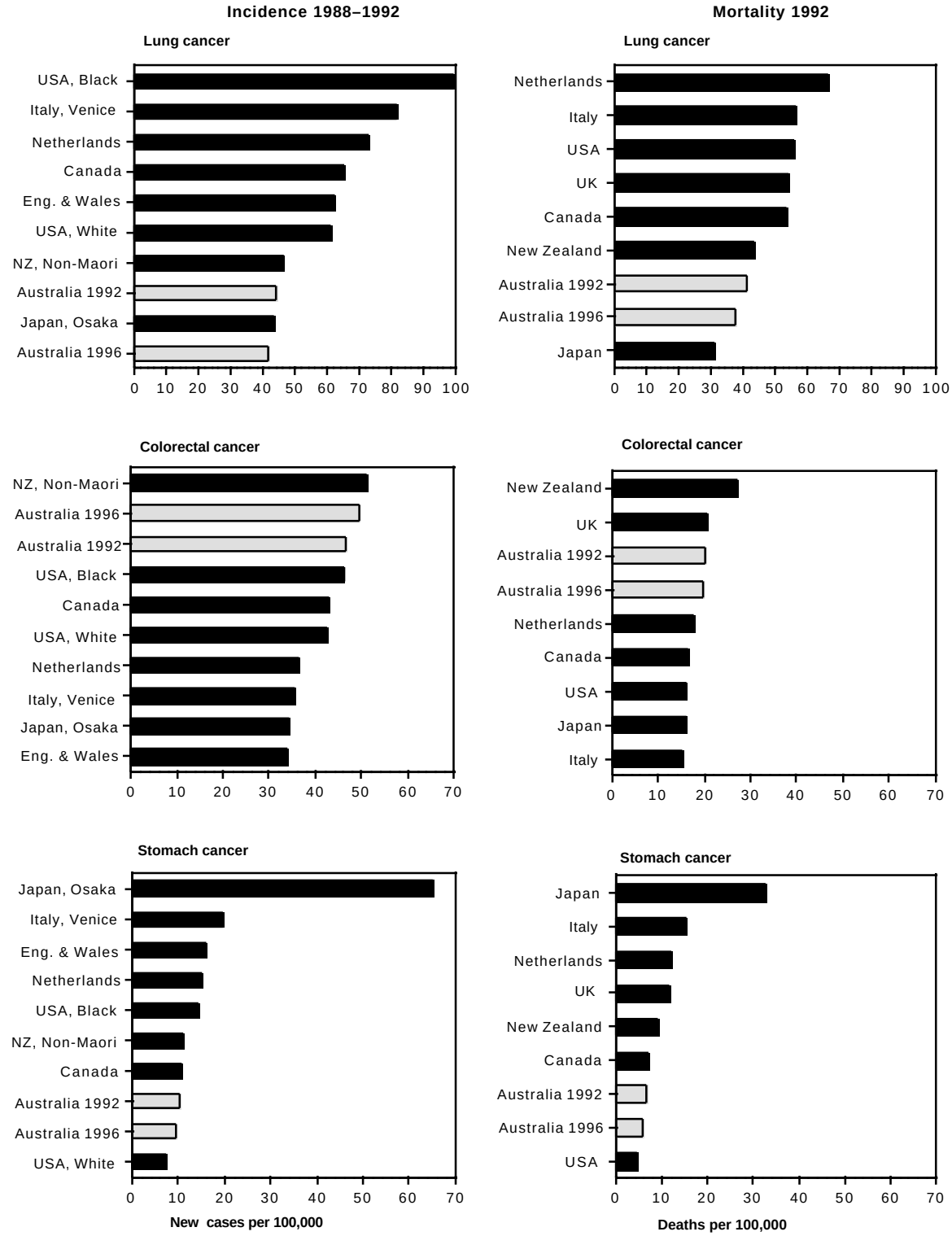
(b) Non-melanocytic skin cancer, known to be the most common cancer type, is excluded from this list, as it is not a registrable cancer.

(c) These measures are calculated for ages 0–74 years; PYLL refers to person-years of life lost. Methods for the calculation of these measures are presented in Appendix B.

Note: NHL refers to non-Hodgkin's lymphoma.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

International comparison of lung, colorectal and stomach cancer for males

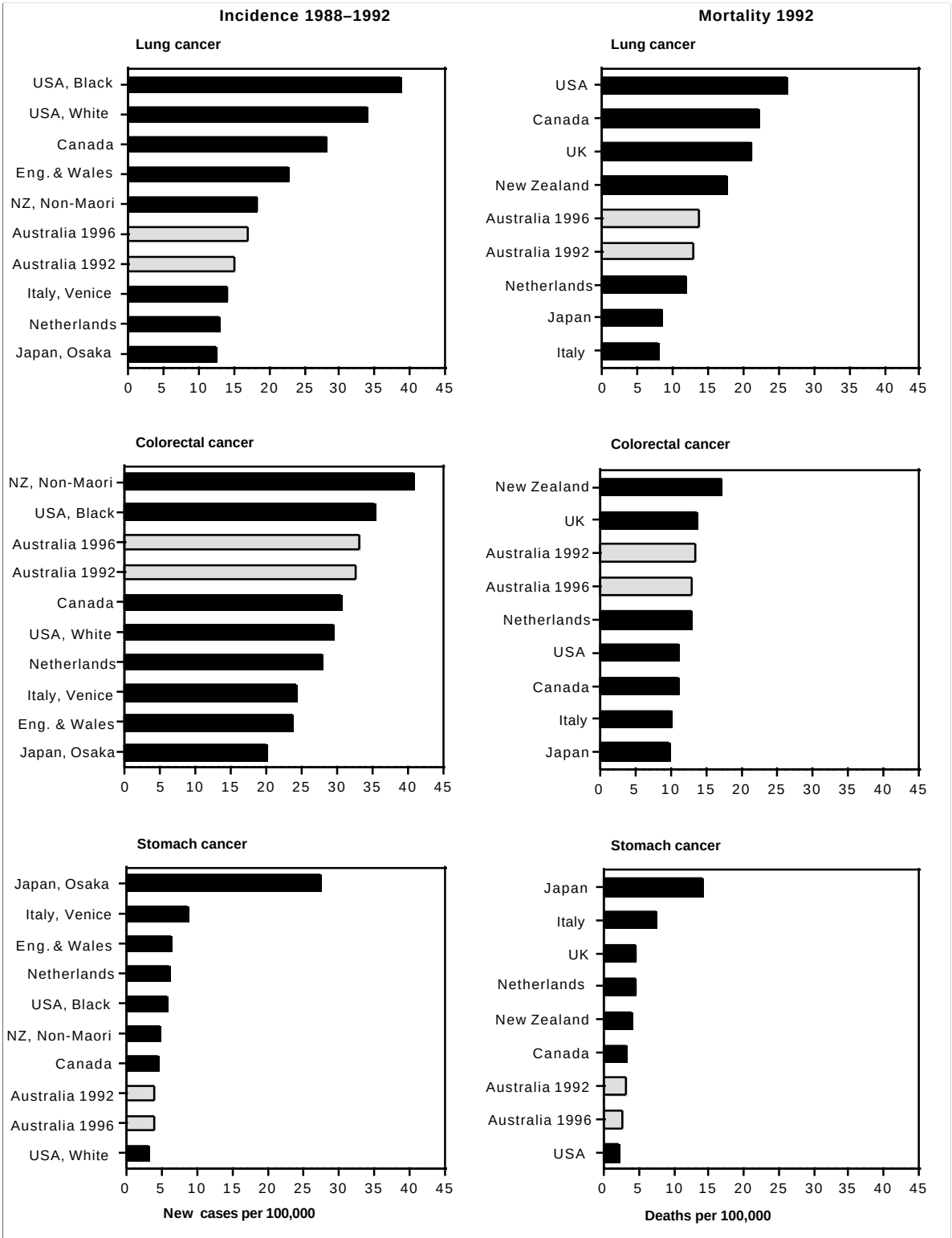


Note: Rates are age-standardised to the World Standard Population.

Source: Cancer in Australia 1996, AIHW & AACR 1999, *Cancer Incidence in Five Continents VII* (IARC 1997), *World Health Statistics* (WHO 1996 & 1998).

Figure 8: International comparison of age-standardised incidence and mortality rates for lung, stomach and colorectal cancer for males, Australia 1992 and 1996, and other selected countries, 1988–1992

International comparison of lung, stomach and colorectal cancer for females

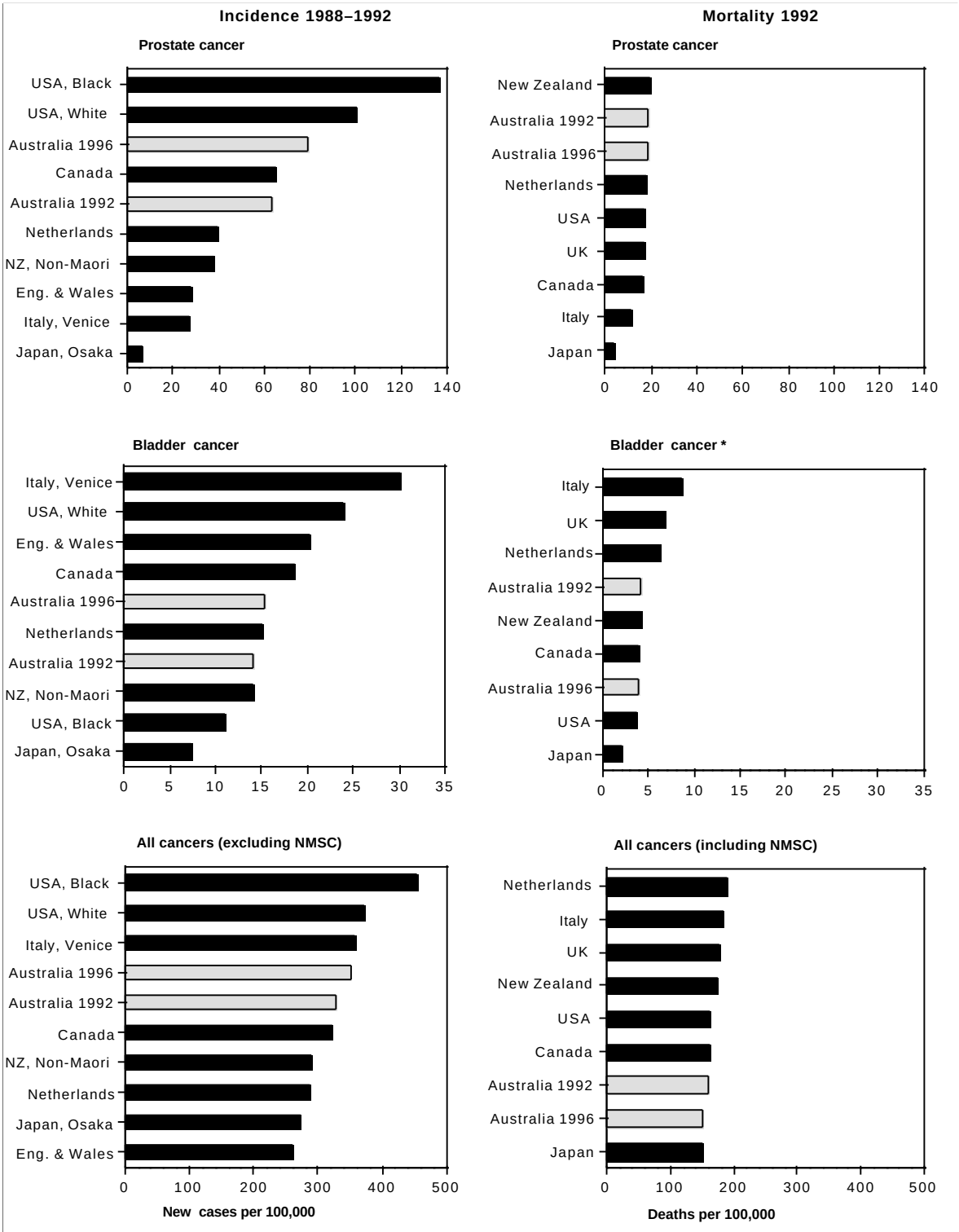


Note: Rates are age-standardised to the World Standard Population.

Source: Cancer in Australia 1996, AIHW & AACR 1999, *Cancer Incidence in Five Continents VII* (IARC 1997), *World Health Statistics* (WHO 1996 & 1998).

Figure 9: International comparison of age-standardised incidence and mortality rates for lung, stomach and colorectal cancer for females, Australia 1992 and 1996, and other selected countries, 1988–1992

International comparison of prostate, bladder and all cancers for males



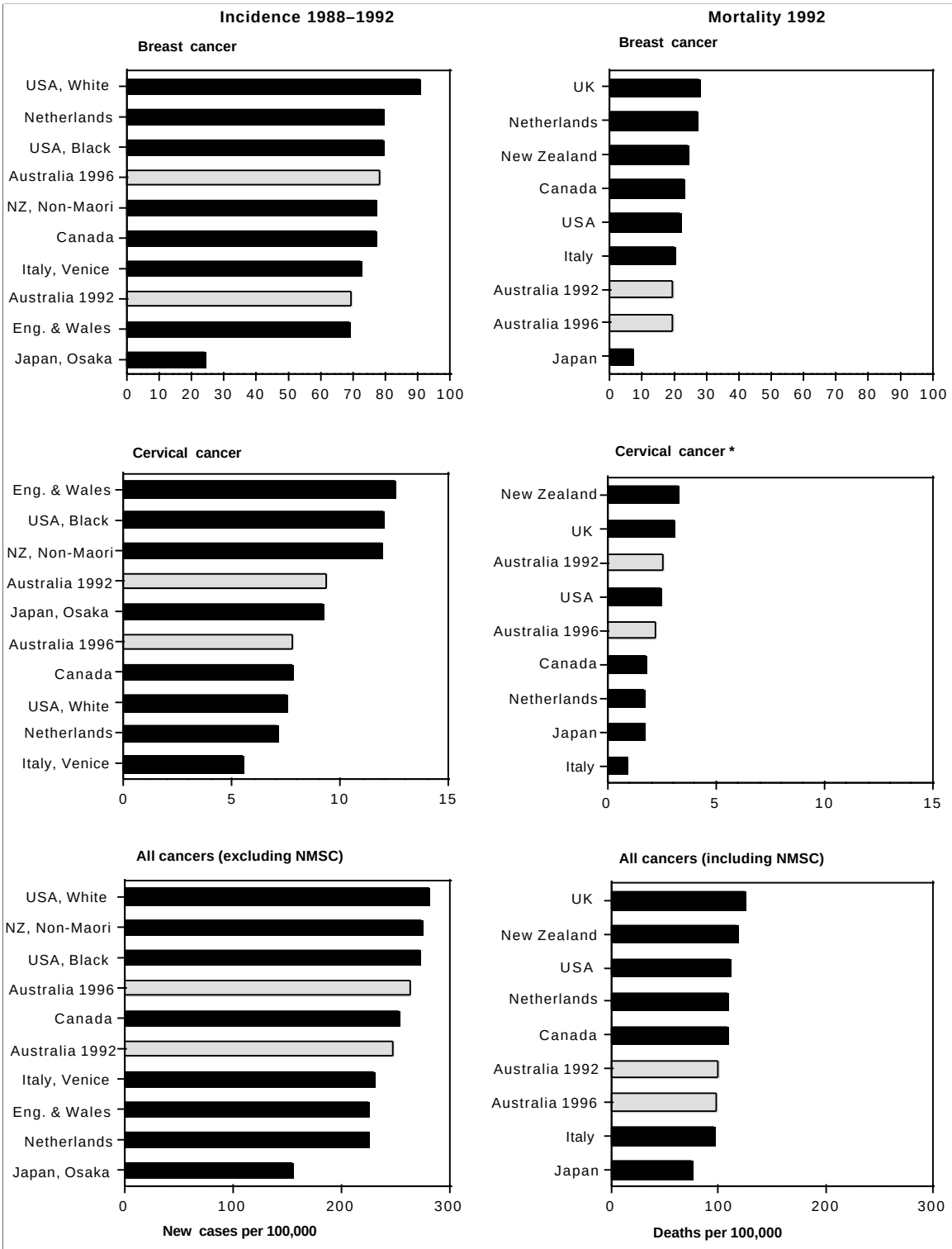
* International data varies between 1993 and 1995.

Note: Rates are age-standardised to the World Standard Population.

Source: Cancer in Australia 1996, AIHW & AACR 1999, *Cancer Incidence in Five Continents VII* (IARC 1997), *World Health Statistics* (WHO 1996 & 1998).

Figure 10: International comparison of age-standardised incidence and mortality rates for prostate, bladder and all cancers for males, Australia 1992 and 1996, and other selected countries, 1988–1992

International comparison of breast, cervix and all cancers for females



* International data varies between 1993 and 1995.

Note: Rates are age-standardised to the World Standard Population.

Source: Cancer in Australia 1996, AIHW & AACR 1999, *Cancer Incidence in Five Continents VII* (IARC 1997), *World Health Statistics* (WHO 1996 & 1998).

Figure 11: International comparison of age-standardised incidence and mortality rates for breast, cervix and all cancers for females, Australia 1992 and 1996, and other selected countries, 1988–1992

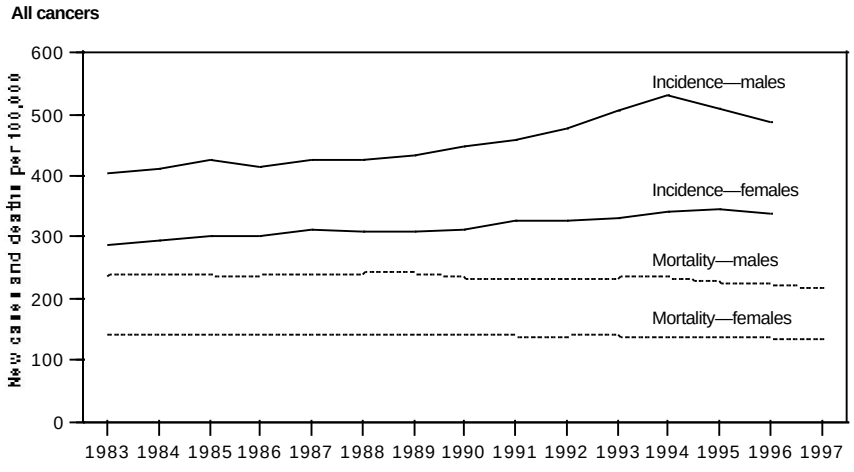
3 National trends in cancer incidence and mortality

Trends

National cancer incidence and mortality rates for the most common cancer sites are presented in Figures 12–18. Incidence data are presented for the period 1983–1996 while mortality data are presented for the period 1983–1997.

The trends in incidence and mortality rates vary with cancer site. Some rates have shown an increase since 1983 while others have remained relatively stable or decreased. In assessing these trends it is important to recognise that small changes in the trend in the most common cancers (e.g. breast, prostate) can mean a substantial shift in the numbers of new cases or deaths, whereas the same shift in less common cancers can have a relatively small impact. For example a 1% increase in the breast cancer incidence rate results in an increase of approximately 100 new cases whereas the same percentage increase in cervical cancer incidence would only result in approximately 9 new cases.

Between 1990 and 1996, age-standardised incidence rates for all cancers combined (excluding non-melanocytic skin cancers) rose for both males and females by an average of 2.1% and 1.4% per year respectively but death rates declined slightly, an average of 0.4% per year for both males and females (Figure 12). A significant proportion of the rises in incidence rates can be attributed to the recent upturn in prostate and breast cancer incidence.



Source: Cancer in Australia 1996, AIHW & AACR 1999.

Figure 12: Trends in age-standardised incidence and mortality rates for all cancers (excluding non-melanocytic skin cancers), Australia, 1983–1997

Prostate cancer incidence rates were relatively stable up until 1989 but between 1990 and 1994 there was a dramatic rise in the number of new cases of prostate cancer registered

(Figure 13). This upward trend has been attributed to increased detection of the disease through increased investigations, particularly the introduction of prostate-specific antigen (PSA) testing (introduced around 1990). However, from 1994 to 1996 the age-standardised prostate cancer incidence rate fell by 26% and those States and Territories with data available for 1997 and 1998 indicate that the incidence rate will continue to fall. PSA tests are specifically designed to identify cancers before the onset of clinical symptoms. Many of these prevalent cancers may not show any symptoms, and therefore would not be detected except for PSA testing. Much of the rise in the incidence rate of prostate cancer can be attributed to detection of these prevalent cancers. The recent decline in the incidence rate indicates a return towards the underlying rate, removing the effect of these previously undetected cases. The incidence rate is also declining as the number of PSA tests conducted falls, reducing the number of prevalent cases detected (Smith et al. 1998; Threlfall et al. 1998). The death rate from prostate cancer, which is significantly lower than the incidence rate, has remained relatively stable since 1983.

Among females, breast cancer is the most frequently diagnosed cancer and it is the most common cause of cancer-related death. The incidence of breast cancer in females rose from 83.2 cases per 100,000 in 1990 to a peak of 101.1 cases per 100,000 in 1995. The breast cancer incidence rate increased on average 3.0% per annum between 1990 and 1997 (Figure 13). National breast cancer incidence data are available for 1997 because of the fast track monitoring of this cancer by the State and Territory cancer registries. The increase in incidence in the early 1990s was largely in women aged 50–69. The breast cancer mortality rates were stable from 1983 to 1994 but have declined slightly since then.

For colorectal cancer, there were marginal increases in incidence among both males and females between 1990 and 1996, an annual average increase of 1.0% and 0.2% respectively (Figure 13). In comparison, mortality rates have fallen slightly since 1990.

Between 1990 and 1996, the incidence and mortality of lung cancer among males fell by an average of 2.0% per year (Figure 14). These declining rates are attributed to decreased tobacco smoking among men. In contrast, lung cancer incidence among females increased at an average rate of 1.6% per annum between 1990 and 1996. However, the increase in lung cancer incidence is predominantly in women aged 65 years and over, while rates in younger women have generally remained stable or fallen. The death rate from lung cancer among females increased on average by 1.7% per annum between 1990 and 1996.

The incidence rate for melanoma among males increased sharply between 1983 and 1988, some of this increase due to improved registration of this cancer. Between 1988 and 1991, the rate remained stable then increased steadily until 1994 and increased sharply again in 1995 and 1996 (Figure 14). The pattern for women was similar although not quite as pronounced. The largest proportional increase for both males and females was in the 60+ age group whereas younger adults aged (25–39) had very slight increases. Mortality rates for melanoma have changed very little since 1983.

The incidence of non-Hodgkin's lymphoma increased by an average of 2.7% per year in females and 0.7% in males between 1990 and 1996 (Figure 15. Some of this rise in incidence may be linked to an increased number of cases of non-Hodgkin's lymphoma among people with HIV. A similar trend has been observed for Kaposi's sarcoma in HIV-affected people. The mortality rate in females with non-Hodgkin's lymphoma has risen steadily since 1983, while in males the mortality rate increased between 1990 and 1994, fell rapidly in 1995 and 1996, but returned to the 1994 level by 1997.

The incidence of bladder cancer for both males and females has generally declined between 1983 and 1996, although some annual fluctuation has been observed (Figure 15). It is likely that part of an increase in male incidence since 1991 is a result of the increased use of

screening for prostate cancer leading to a diagnosis of bladder cancer as part of the diagnostic work-up. Despite these changes in the incidence of bladder cancer, mortality rates for both males and females remained relatively stable throughout the period.

Stomach cancer incidence fell by an average of 4.2% and 4.4% per year for males and females respectively over the period 1983–1989. This decline has continued for males between 1990 and 1996 but at a much reduced rates while the female rate has remained fairly steady (Figure 15). Mortality rates decreased substantially for both sexes over the 1983–1997 period.

The incidence rate for leukaemias in males and females increased slightly between 1983 and 1996 although there were quite large annual fluctuations (Figure 16). At the same time the mortality rates for males and females decreased marginally.

Trends in brain cancer between 1983 and 1996 show only a minor increase in incidence and mortality in males while the incidence and mortality rates for females have remained steady (Figure 16).

Between 1990 and 1996, the male incidence and mortality rates for cancer of the pancreas fell by an average of 0.7%. In contrast, over the same period, the female incidence rate increased by an average of 0.5% per year and the female mortality rate increased by an average of 0.3% per year (Figure 16).

The age-standardised incidence rate for cervical cancer declined by an average of 4.1% per annum between 1990 and 1996 (Figure 17). This decline was achieved despite a sharp rise in new cases between 1993 and 1994. Mortality rates have fallen by an average of 3.3% per year since 1990. Some of the decline in mortality from cancer of the cervix can be attributed to the population-based cervical cancer screening program.

The incidence rates for cancer of the uterus remained fairly constant between 1983 and 1990 but have increased by 1.5% per annum since then. The 1995 and 1996 incidence rates, however, show a downward trend. Mortality rates remained relatively stable between 1983 and 1997 (Figure 17).

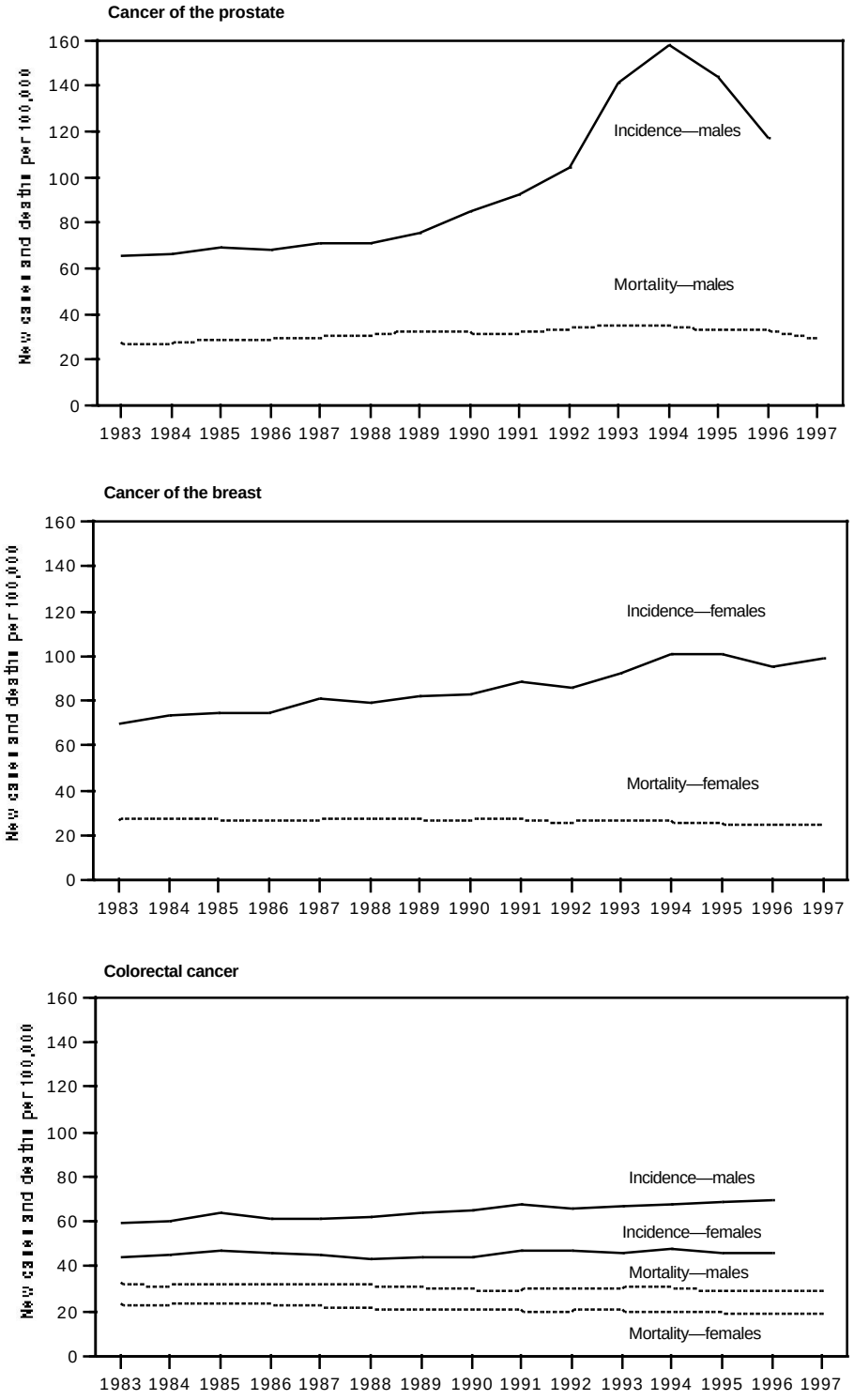
The incidence and mortality rates for cancer of the ovary have changed little since 1983 (Figure 17).

Between 1990 and 1996, incidence rates for cancer of the kidney rose annually by an average of 1.6% for males and 0.6% for females (Figure 18). Mortality rates for cancer of the kidney declined marginally in both males and females since 1990.

The incidence of testicular cancer has increased steadily by an average of 3.4% per annum since 1990 (Figure 18). However, this increase was not uniform across all age groups, with the proportional change in under-40 year olds much larger than in the older age groups. Despite the increase in the incidence rate, the mortality rate for cancer of the testis remains low.

'Cancers of unknown primary site' is a category that captures cancer diagnoses which cannot be attributed to a particular body site. While some of these cancers have common features, at least in terms of aetiology, behaviour and outcome, others are a mixed collection. This makes it difficult to interpret with certainty the patterns of these cancers, particularly for mortality where often little histological evidence is available to identify a cancer site, and therefore an accumulation of cancers occurs in this category. However, given that this cancer group represents approximately 4% of new cases and 7% of deaths it is important to know the current trends. Mortality rates remained fairly steady from 1983 to 1997. Between 1983 and 1990 there was little variation in incidence for both sexes; however, since 1990, the rate in males has shown an average annual decline of 1.9% but increased in 1996. The average annual rate for females fell slightly between 1990 and 1996 (Figure 18).

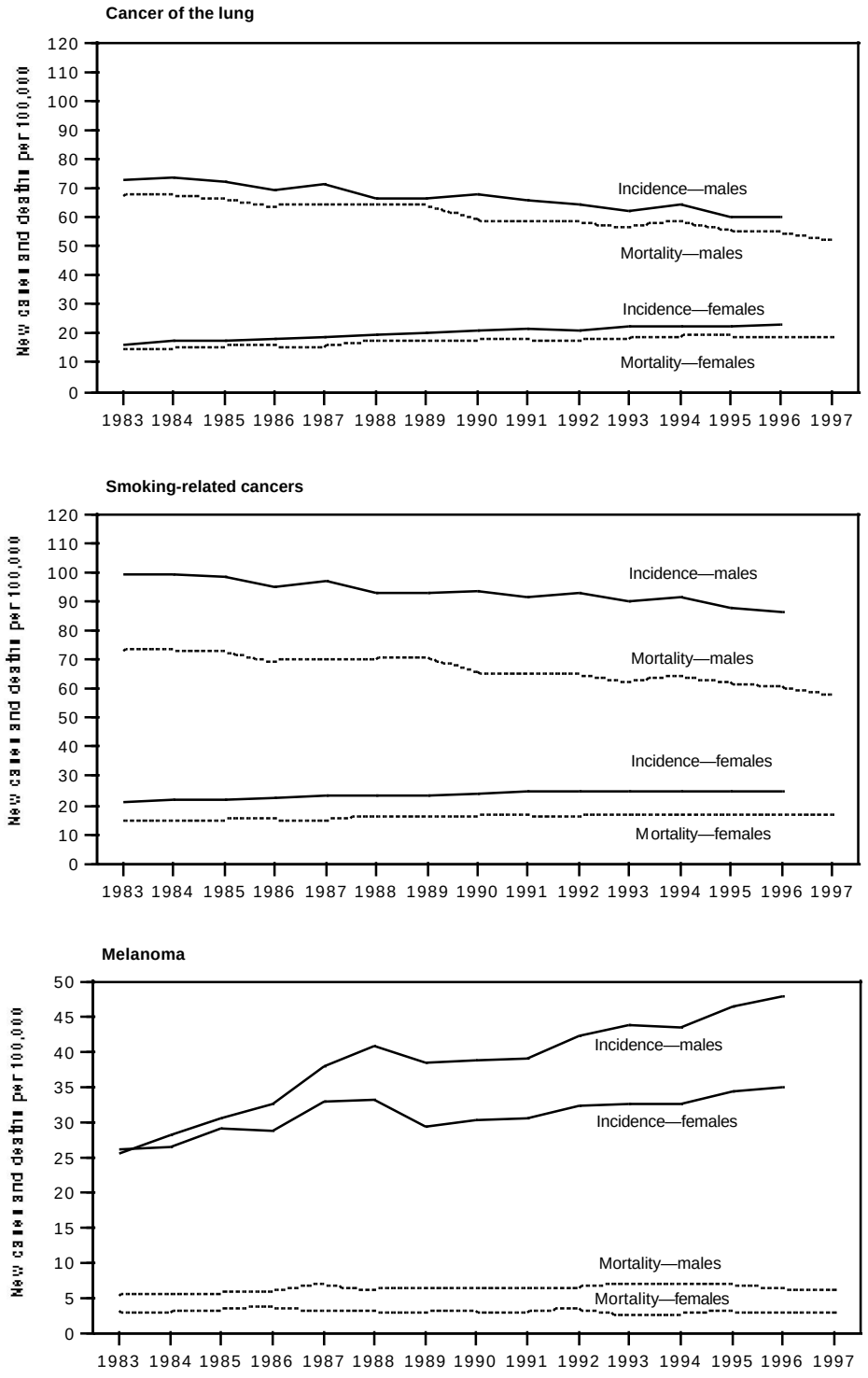
Cancers of the prostate and breast, and colorectal cancer



Source: Cancer in Australia 1996, AIHW & AACR 1999.

Figure 13: Trends in age-standardised incidence and mortality rates for cancers of the prostate and breast, and colorectal cancer, Australia, 1983–1997

Cancer of the lung, melanoma and smoking-related cancers

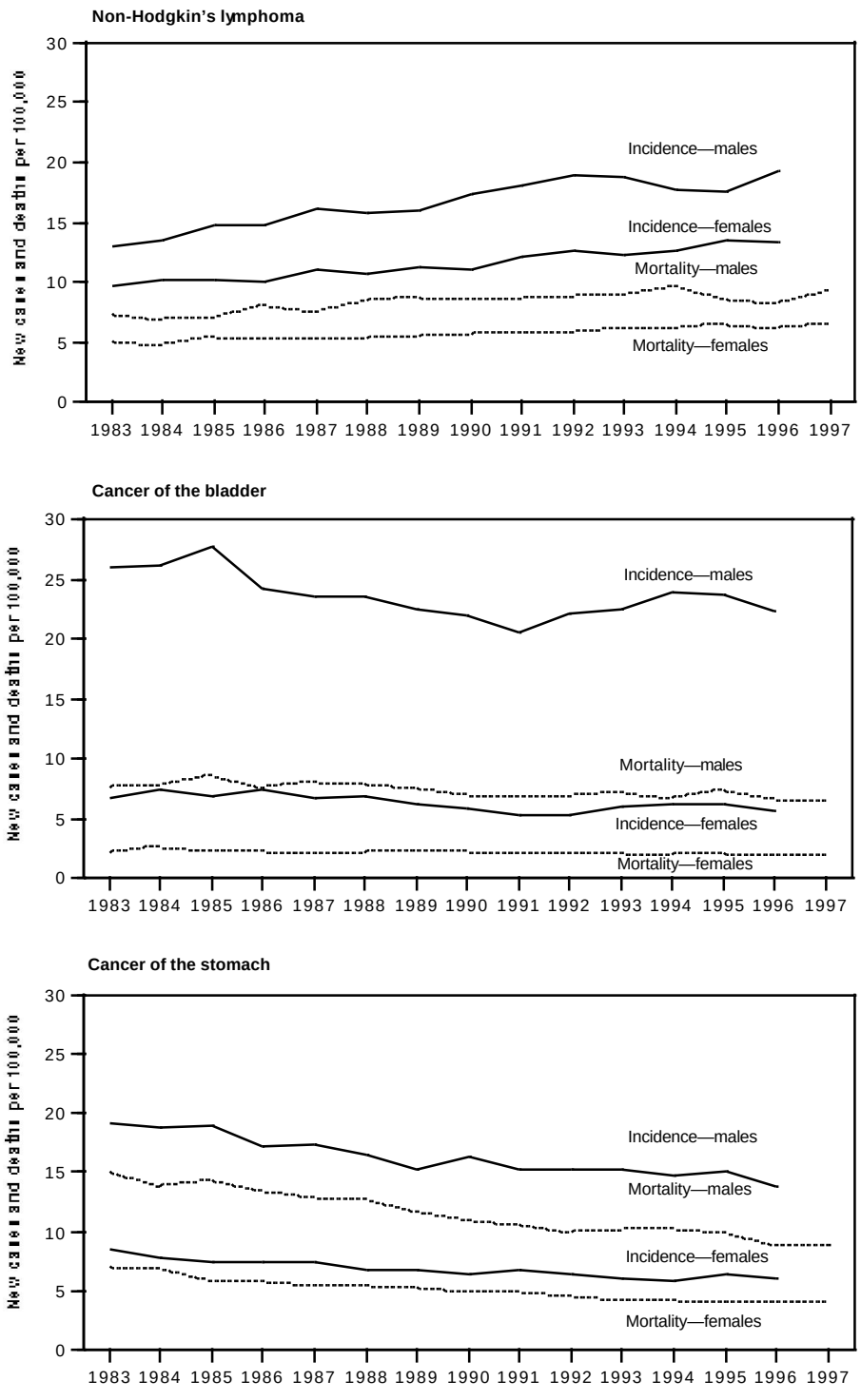


Note: Melanoma is graphed on a different scale to cancer of the lung and smoking-related cancers.

Source: *Cancer in Australia 1996*, AIHW & AACR 1999.

Figure 14: Trends in age-standardised incidence and mortality rates for cancer of the lung, smoking-related cancers and melanoma, Australia, 1983–1997

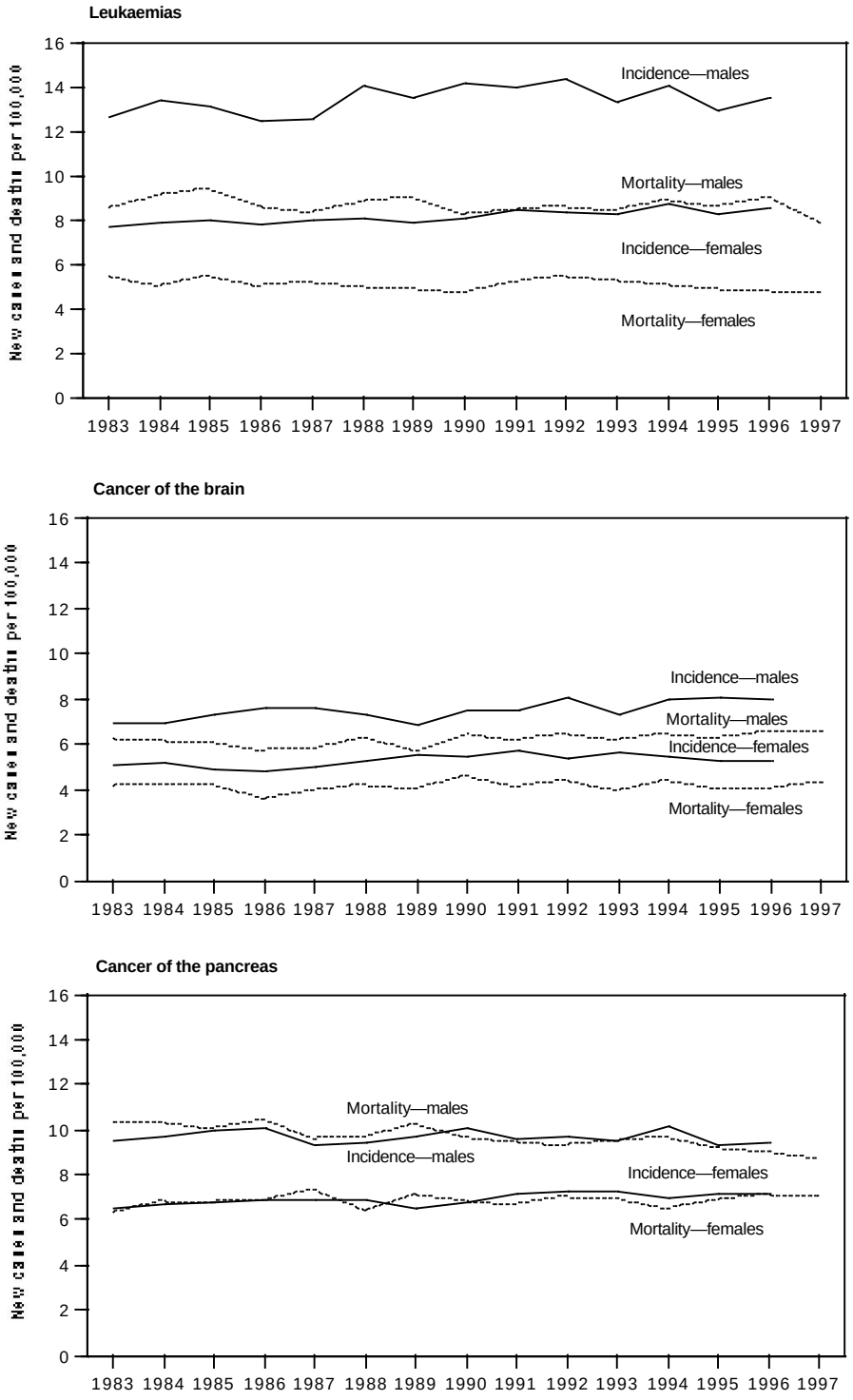
Non-Hodgkin's lymphoma, cancers of the bladder and stomach



Source: Cancer in Australia 1996, AIHW & AACR 1999.

Figure 15: Trends in age-standardised incidence and mortality rates for non-Hodgkin's lymphoma, and cancers of the bladder and stomach, Australia, 1983–1997

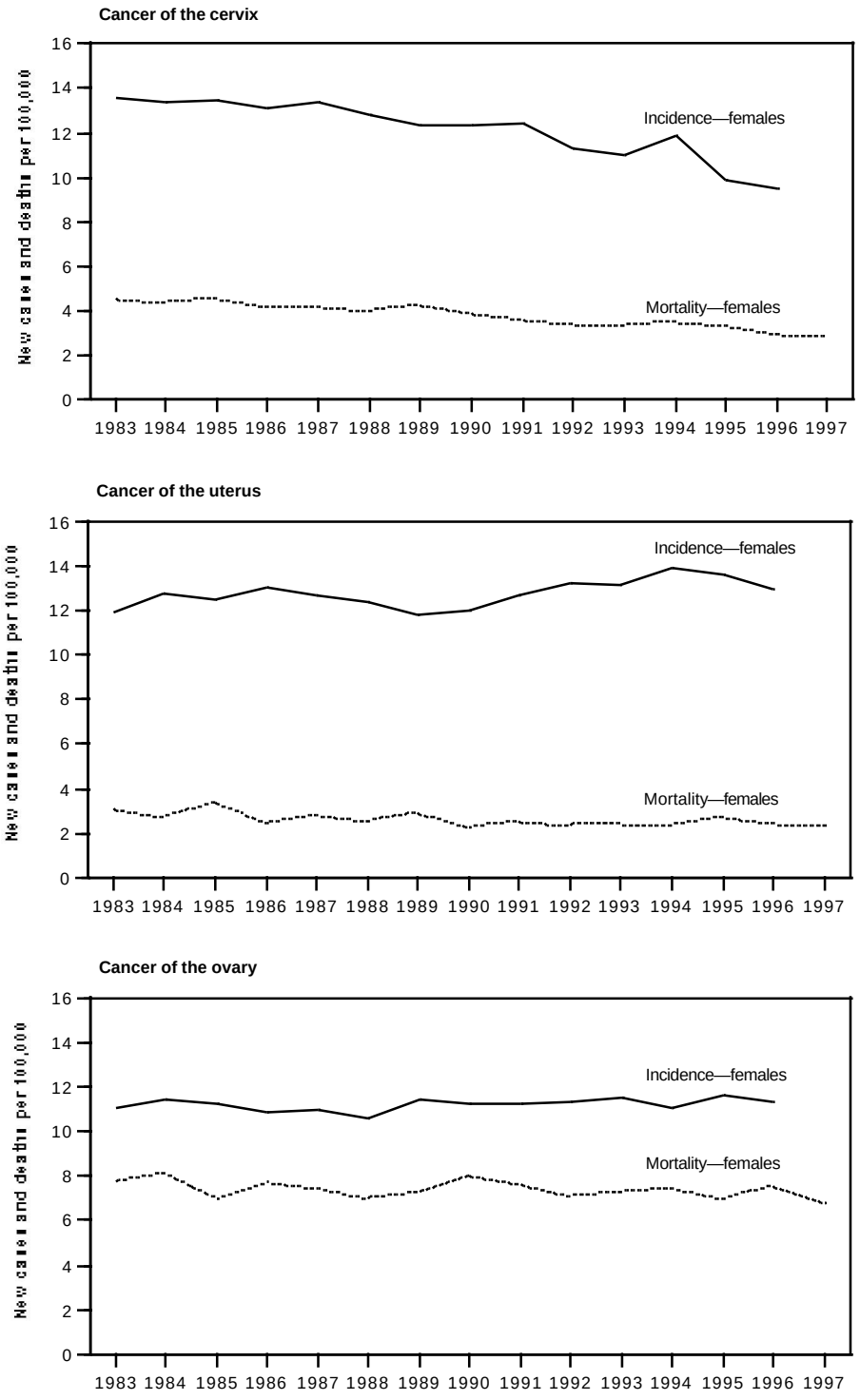
Leukaemias and cancers of the brain and pancreas



Source: Cancer in Australia 1996, AIHW & AACR 1999.

Figure 16: Trends in age-standardised incidence and mortality rates for leukaemias and cancers of the brain and pancreas, Australia, 1983–1997

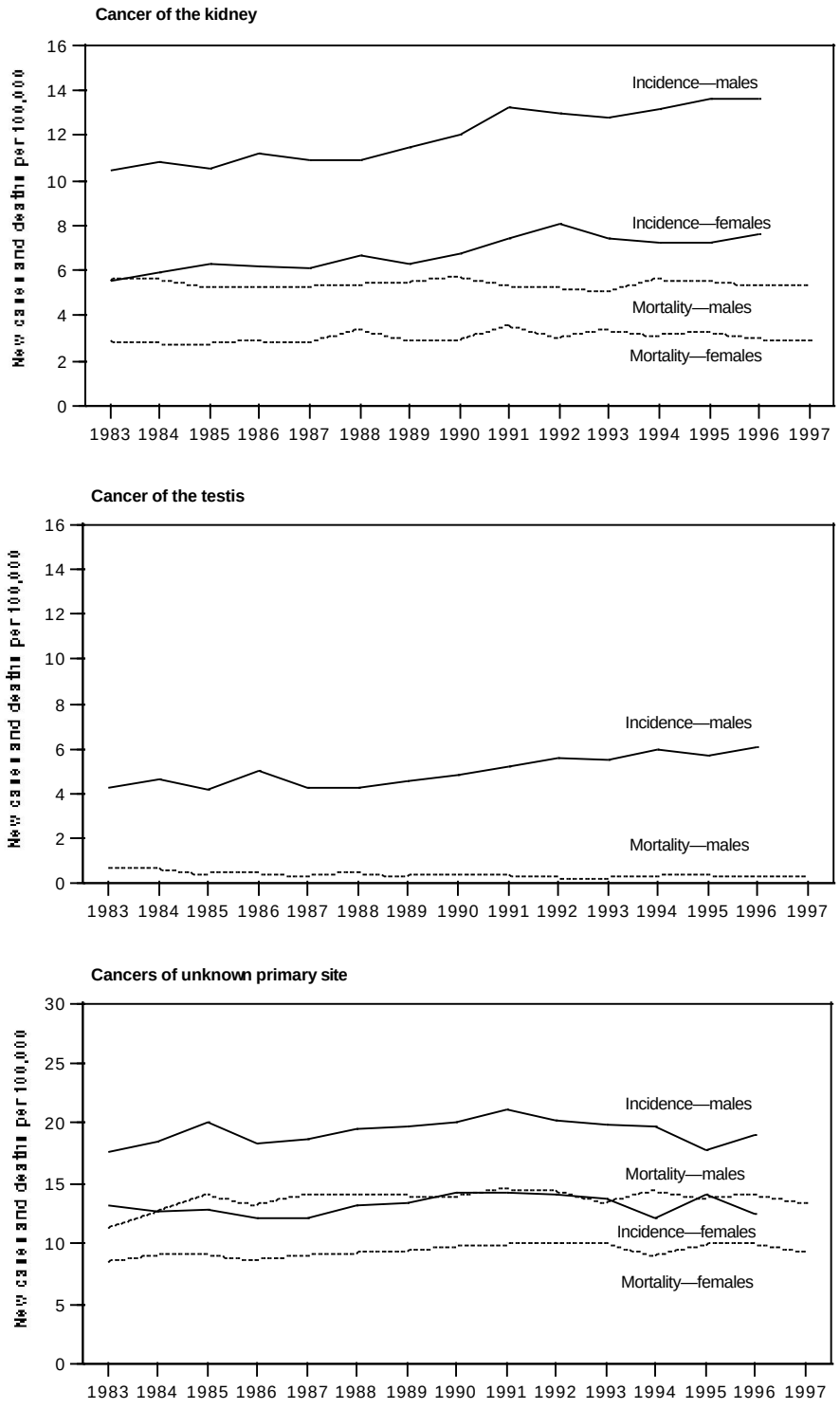
Cancers of the cervix, uterus and ovary



Source: Cancer in Australia 1996, AIHW & AACR 1999.

Figure 17: Trends in age-standardised incidence and mortality rates for cancers of the cervix, uterus and ovary, Australia, 1983–1997

Cancers of the kidney and testis, and cancers of unknown primary site



Note: Cancers of unknown primary site is graphed on a different scale to cancers of the kidney and testis.

Source: *Cancer in Australia 1996*, AIHW & AACR 1999.

Figure 18: Trends in age-standardised incidence and mortality rates for cancers of the kidney and testis, and cancers of unknown primary site, Australia, 1983–1997

4 Incidence and mortality tables

Guide to interpreting incidence and mortality tables

This section provides information to assist in the interpretation of the tables in this report. More detailed information on methods is given in Appendix B.

Table features

- Tables are ordered according to the International Classification of Diseases
- All rates are presented per 100,000 population.
- Age-standardised rates are calculated by the 'direct method'. Age-standardised rates for Australia use both the total 1991 Australian population and the World Standard Population as the standard populations. Age-standardised rates for the States and Territories use only the total 1991 Australian population as the standard population. **Therefore, particular care should be taken not to compare these State and Territory rates with previous Cancer Series publications—*Cancer in Australia 1989–1990 (with Projections to 1995)*, *Cancer in Australia 1986–1988* or *Cancer in Australia 1983–1985*— where age-standardisation used the World Standard Population.**
- The person-years of life lost (PYLL) and lifetime risk estimates are for the age group 0-74.
- The confidence intervals used for crude and age-standardised rates are at the 95% level.
- The 'all cancers' incidence and mortality estimates exclude non-melanocytic skin cancers.
- In this publication the term 'cancer site' is used to represent cancers located in specific organs or tissues as well as systemic cancers such as leukaemia and lymphoma.
- In this publication the term 'melanoma' refers to melanoma of the skin only. Melanomas generally occur on the skin, but may also occur on the eye and mucous membranes (such as the vagina and nasal cavities).

Comparison of rates

Care should be exercised when interpreting a comparison between incidence or mortality rates: for example, when comparing different cancers or when comparing the same cancer in different years. The confidence intervals indicate the likely range of fluctuation of each rate. Some fluctuations may be within expectations, while others may indicate a change in the patterns of cancer incidence or mortality. Where small annual numbers of cancer cases or deaths are presented in a table, a direct comparison may produce a false perception of dramatic changes over time and, in these instances, averages over a period of time should be used. In general, cancer incidence and mortality rates change relatively slowly over time, although from year to year there may be marked fluctuations due to significant changes in

diagnostic procedures or changes over the longer term may reflect changing exposures to risk factors.

Combining rates

- Age-specific rates may be summed over cancer sites for a particular age and sex.
- Age-specific rates may not be summed across different ages or sexes, but should be recalculated from the raw data. However, if populations are similar, the crude rates for a 10-year age group will be approximated by the average of the two 5-year age-specific rates. For comparison within broader age groups, summary rates should be age-standardised.

State and Territory data

Cancer incidence data are available to 1996 for all States and Territories, to 1997 for Tasmania and the Northern Territory and to 1998 for South Australia and Western Australia. Breast cancer incidence data and cancer mortality data are available nationally to 1997.

The Australian data are presented as annual numbers and rates, while the data for each State and Territory are presented as average annual rates and numbers of cases and deaths based on the 5-year average 1992–1996. By presenting the data in this manner, natural statistical variation due to small numbers of cases or deaths within each State and Territory and cancer site are averaged across the period and provide a more stable and representative rate of incidence or mortality. Nonetheless, care should be taken in the interpretation of these rates, especially for less common cancers or for States and Territories with small populations.

All numbers of cases or deaths in the State and Territory tables are rounded to the nearest integer. Occasionally the number of cases or deaths will be zero but a small corresponding rate will appear. This indicates that there were, on average, fewer than 0.5 cases or deaths per year over the 5-year period and, although the rounding process has made the entry zero, a rate can still be presented at one decimal point.

The data in this report will not correspond exactly to data published by the individual State and Territory cancer registries due to the 5-year annual averaging, the use of different standard populations for age-standardisation and the continual updating of data sets by the cancer registries.

In this report, State and Territory incidence and mortality rates have been directly age-standardised to the total estimated resident population of Australia at 30 June 1991. Care should be taken not to compare these State and Territory age-standardised rates with previous Cancer Series publications—*Cancer in Australia 1989–1990 (with Projections to 1995), Cancer in Australia 1986–1988* or *Cancer in Australia 1983–1985*—where age-standardisation was done using the World Standard Population. However, the NCSCH is able to provide State and Territory rates that have been age-standardised to the World Standard Population on request or the registries can be contacted directly.

Cancer incidence estimates provided in this publication were made at September 1999. These estimates may be updated at any time as case details are added, modified or deleted in the national database. These modifications may occur several years after the initial diagnosis as additional case details are received by the State and Territory cancer registries from data suppliers and then passed to the NCSCH. This may have the impact of making incidence estimates for the same year incompatible between publications, but for the most part these changes are trivial.

Summary tables
1996

Table 4: Incidence summary table, 1996

Australia 1996		Males					Females			
ICD-9	Cancer site	Number	AS Rate (Aust 1991)	AS Rate (World)	Cum. rate per cent	Sex ratio M:F	Number	AS Rate (Aust 1991)	AS Rate (World)	Cum. rate per cent
140–208	All cancers (excluding NMSC)	42,733	489.1	351.6	41.5	1.4	34,933	338.8	263.5	29.4
140	Lip	826	9.2	7.1	0.8	3.1	317	3.0	2.2	0.2
141	Tongue	263	2.9	2.3	0.3	2.1	140	1.4	1.0	0.1
142	Salivary gland	123	1.4	1.0	0.1	2.1	68	0.7	0.5	0.1
143	Gum	42	0.5	0.3	0.0	2.1	25	0.2	0.2	0.0
144	Floor of mouth	111	1.2	1.0	0.1	2.6	50	0.5	0.3	0.0
145	Other mouth	125	1.4	1.1	0.1	1.7	83	0.8	0.6	0.1
146	Oropharynx	148	1.6	1.3	0.2	3.1	51	0.5	0.4	0.0
147	Nasopharynx	71	0.8	0.7	0.1	2.0	39	0.4	0.3	0.0
148	Hypopharynx	166	1.8	1.5	0.2	7.3	24	0.3	0.2	0.0
149	Other lip, oral cavity and pharynx	50	0.6	0.4	0.1	5.8	10	0.1	0.1	0.0
141–149	Head and neck	1,099	12.2	9.7	1.2	2.5	490	4.8	3.7	0.4
150	Oesophagus	623	7.2	5.0	0.6	2.3	353	3.2	2.1	0.2
151	Stomach	1,190	13.8	9.3	1.1	2.3	667	6.0	4.1	0.5
152	Small intestine	100	1.1	0.8	0.1	1.2	93	0.9	0.7	0.1
153	Colon	3,657	41.9	29.6	3.6	1.3	3,394	31.5	22.3	2.7
154	Rectum	2,410	27.3	19.9	2.5	1.9	1,537	14.6	10.7	1.2
153–154	Colorectal	6,067	69.2	49.5	6.1	1.5	4,931	46.0	33.0	3.9
155	Liver	401	4.5	3.3	0.4	3.5	137	1.3	1.0	0.1
156	Gallbladder	262	3.0	2.0	0.2	0.9	355	3.2	2.2	0.3
157	Pancreas	821	9.4	6.4	0.8	1.3	801	7.2	4.6	0.5
158	Peritoneum	50	0.6	0.5	0.1	0.7	80	0.8	0.6	0.1
159	Other digestive organs	41	0.5	0.3	0.0	1.2	52	0.4	0.3	0.0
160	Nasal cavity	82	0.9	0.7	0.1	2.6	39	0.4	0.3	0.0
161	Larynx	505	5.6	4.3	0.6	10.0	58	0.6	0.5	0.1
162	Lung	5,228	60.1	41.9	5.4	2.6	2,393	23.0	16.9	2.1
163	Pleura	351	4.0	2.9	0.4	8.4	52	0.5	0.3	0.0
164	Other respiratory organs	34	0.4	0.3	0.0	1.3	28	0.3	0.3	0.0
170	Bone	97	1.1	1.0	0.1	1.2	86	0.9	0.8	0.1
171	Connective tissue	367	4.2	3.3	0.3	1.7	246	2.5	2.1	0.2
172	Skin—melanoma	4,313	48.0	37.3	4.0	1.4	3,448	35.0	29.0	3.0
173	Skin—non-melanocytic (NMSC)*									
174–175	Breast	85	1.0	0.7	0.1	<0.01	9,621	95.5	78.4	8.9
180	Cervix						923	9.4	7.8	0.8
181	Placenta						6	0.1	0.1	0.0
179+182	Uterus						1,316	12.9	10.2	1.2
183	Ovary						1,166	11.4	9.0	1.0
184	Other female genital organs						272	2.5	1.8	0.2
#	Gynaecological						3,677	36.2	28.8	3.2
185	Prostate	10,055	117.4	79.1	10.0					
186	Testis	550	6.0	5.4	0.4					
187	Penis & other male genital organs	80	0.9	0.7	0.1					
188	Bladder	1,921	22.4	15.3	1.8	3.9	623	5.7	3.9	0.5
189	Kidney	1,209	13.7	10.2	1.2	1.8	791	7.6	5.7	0.7
190	Eye	145	1.6	1.3	0.1	1.8	88	0.9	0.7	0.1
191	Brain	716	8.0	6.7	0.7	1.5	519	5.3	4.7	0.5
192	Other nervous system	28	0.3	0.3	0.0	0.8	37	0.4	0.3	0.0
193	Thyroid	244	2.7	2.2	0.2	0.4	653	6.9	5.9	0.6
194	Other endocrine	38	0.4	0.5	0.0	1.2	33	0.4	0.4	0.0
195–199	Unknown primary site	1,625	19.0	12.7	1.4	1.5	1,406	12.5	8.5	0.9
200+202	Non-Hodgkin's lymphoma	1,718	19.4	14.6	1.6	1.5	1,387	13.3	10.1	1.2
201	Hodgkin's disease	220	2.4	2.2	0.2	1.4	163	1.8	1.6	0.1
200–202	Lymphoma	1,938	21.8	16.8	1.8	1.4	1,550	15.1	11.8	1.3
203	Multiple myeloma	464	5.3	3.7	0.4	1.4	413	3.8	2.7	0.3
204	Lymphatic leukaemia	521	6.0	5.0	0.5	1.6	375	3.7	3.3	0.3
205	Myeloid leukaemia	578	6.6	4.7	0.5	1.5	450	4.3	3.3	0.3
206	Monocytic leukaemia	13	0.2	0.1	0.0	2.2	8	0.1	0.0	0.0
207–208	Other and unspecified leukaemia	66	0.8	0.5	0.1	1.5	57	0.5	0.4	0.0
204–208	Leukaemia	1,178	13.5	10.4	1.0	1.6	890	8.5	7.0	0.6
#	Alcohol-related	350	3.8	3.2	0.4	1.2	306	3.1	2.6	0.3
#	Smoking-related	7,600	86.5	62.7	7.8	3.5	2,548	25.0	19.0	2.4

Note: Rates are expressed per 100,000 population and age-standardised (AS Rate) to both the Australian 1991 Population Standard and the World Standard Population.

* Non-melanocytic skin cancer incidence data is not routinely collected by State and Territory cancer registries.

See Appendix A for ICD-9 codes.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 5: Mortality summary table, 1996

Australia 1996		Males					Females			
ICD-9	Cancer site	Number	AS Rate (Aust 1991)	AS Rate (World)	PYLL (<75 yrs)	Sex ratio M:F	Number	AS Rate (Aust 1991)	AS Rate (World)	PYLL (<75 yrs)
140–208	All cancers (excluding NMSC)	19,196	225.5	149.7	140,070	1.6	14,893	136.9	96.8	121,228
140	Lip	5	0.1	0.0	63	2.5	3	0.0	0.0	18
141	Tongue	134	1.5	1.2	1,630	2.7	59	0.5	0.4	455
142	Salivary gland	57	0.7	0.4	358	3.6	21	0.2	0.1	118
143	Gum	6	0.1	0.1	70	1.1	7	0.1	0.0	23
144	Floor of mouth	34	0.4	0.3	410	2.5	16	0.2	0.1	138
145	Other mouth	35	0.4	0.3	283	2.0	23	0.2	0.1	105
146	Oropharynx	95	1.1	0.8	883	3.8	30	0.3	0.2	273
147	Nasopharynx	60	0.7	0.5	928	2.5	27	0.3	0.2	383
148	Hypopharynx	56	0.6	0.5	503	12.8	16	0.2	0.1	123
149	Other lip, oral cavity and pharynx	28	0.3	0.3	350	7.2	5	0.0	0.0	13
141–149	Head and neck	505	5.7	4.3	5,413	3.0	204	1.9	1.3	1,628
150	Oesophagus	604	7.1	4.8	4,233	2.5	324	2.9	1.8	1,403
151	Stomach	752	8.8	5.8	5,373	2.1	473	4.2	2.8	2,725
152	Small intestine	38	0.4	0.3	353	1.4	32	0.3	0.2	378
153	Colon	1,847	21.5	14.6	13,153	1.4	1,701	15.2	10.4	10,545
154	Rectum	627	7.3	5.0	4,635	1.9	431	3.8	2.6	2,570
153–154	Colorectal	2,474	28.8	19.7	17,788	1.5	2,132	19.0	12.9	13,115
155	Liver	398	4.6	3.2	3,475	2.7	181	1.7	1.2	1,313
156	Gallbladder	108	1.3	0.8	673	0.7	215	1.9	1.3	1,208
157	Pancreas	778	9.1	5.9	5,050	1.3	822	7.2	4.5	3,413
158	Peritoneum	30	0.3	0.3	363	1.0	37	0.3	0.2	258
159	Other digestive organs	149	1.7	1.2	1,073	1.7	120	1.0	0.6	500
160	Nasal cavity	34	0.4	0.3	340	3.2	13	0.1	0.1	213
161	Larynx	219	2.5	1.8	1,735	9.4	30	0.3	0.2	138
162	Lung	4,743	55.0	37.2	31,038	2.9	2,021	19.1	13.7	14,983
163	Pleura	200	2.3	1.6	1,498	8.0	30	0.3	0.2	323
164	Other respiratory organs	21	0.2	0.2	308	1.4	18	0.2	0.1	290
170	Bone	52	0.6	0.5	1,290	1.4	45	0.4	0.4	848
171	Connective tissue	94	1.1	0.8	1,348	1.3	88	0.8	0.6	1,235
172	Skin—melanoma	580	6.7	4.7	6,955	2.2	323	3.0	2.2	3,820
173	Skin—non-melanocytic (NMSC)	244	3.0	1.8	1,075	3.2	115	0.9	0.6	405
174–175	Breast	21	0.2	0.2	188	<0.01	2,619	24.9	19.1	30,955
180	Cervix						301	2.9	2.2	4,253
181	Placenta						0	0.0	0.0	0
179+182	Uterus						273	2.5	1.7	1,468
183	Ovary						797	7.6	5.5	7,290
184	Other female genital organs						73	0.6	0.4	275
#	Gynaecological						1,444	13.6	9.8	13,285
185	Prostate	2,644	33.0	18.5	6,228					
186	Testis	30	0.3	0.3	1,003					
187	Penis & other male genital organs	15	0.2	0.1	190					
188	Bladder	543	6.6	3.9	2,108	3.4	235	2.0	1.2	638
189	Kidney	460	5.4	3.7	3,583	1.8	333	3.0	2.0	2,205
190	Eye	14	0.2	0.1	215	1.5	13	0.1	0.1	45
191	Brain	594	6.6	5.2	9,943	1.6	408	4.1	3.4	6,898
192	Other nervous system	15	0.2	0.1	275	1.9	9	0.1	0.1	145
193	Thyroid	29	0.3	0.2	258	0.9	43	0.4	0.2	258
194	Other endocrine	25	0.3	0.3	1,168	1.4	19	0.2	0.2	500
195–199	Unknown primary site	1,189	14.1	9.2	7,663	1.4	1,142	10.0	6.5	6,015
200+202	Non-Hodgkin's lymphoma	707	8.2	5.6	6,750	1.3	681	6.2	4.3	5,135
201	Hodgkin's disease	39	0.4	0.4	830	1.4	33	0.3	0.2	360
200–202	Lymphoma	746	8.6	5.9	7,580	1.3	714	6.5	4.5	5,495
203	Multiple myeloma	323	3.8	2.5	2,215	1.5	270	2.5	1.7	1,588
204	Lymphatic leukaemia	262	3.1	2.2	3,913	2.3	150	1.3	1.0	2,028
205	Myeloid leukaemia	468	5.5	3.7	5,070	1.7	358	3.3	2.2	3,108
206	Monocytic leukaemia	9	0.1	0.0	5	2.6	5	0.0	0.0	33
207–208	Other and unspecified leukaemia	25	0.3	0.2	108	1.7	20	0.2	0.1	233
204–208	Leukaemia	764	9.0	6.1	9,095	1.9	533	4.8	3.4	5,400
#	Alcohol-related	206	2.3	1.8	2,444	2.3	100	1.0	0.8	1,223
#	Smoking-related	5,241	60.7	41.6	37,002	3.6	1,745	16.8	12.3	14,604

Note: Rates are expressed per 100,000 population and age-standardised (AS Rate) to both the Australian 1991 Population Standard and the World Standard Population.

See Appendix A for ICD-9 codes.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Tables for selected cancers 1996

- Tables of new cases, deaths, incidence and mortality rates for Australia and the States and Territories for selected cancers.
- Tables for other cancer sites can be found on the Institute's Internet web site at <http://www.aihw.gov.au> or can be requested in hard copy from the Institute.

Table 6: All cancers (excluding non-melanocytic skin cancer) (ICD 140–172, 174–208)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	158	23.7	121	19.2	279	21.5	26	3.9	23	3.6	49	3.8
5–9	74	11.1	78	12.2	152	11.6	29	4.3	14	2.2	43	3.3
10–14	105	15.7	92	14.4	197	15.1	21	3.1	18	2.8	39	3.0
15–19	188	28.7	172	27.6	360	28.1	41	6.3	21	3.4	62	4.8
20–24	274	38.7	259	37.6	533	38.2	37	5.2	23	3.3	60	4.3
25–29	489	68.8	464	65.6	953	67.2	59	8.3	60	8.5	119	8.4
30–34	571	79.2	791	109.3	1,362	94.3	101	14.0	108	14.9	209	14.5
35–39	790	108.7	1,292	177.1	2,082	143.0	142	19.5	226	31.0	368	25.3
40–44	1,092	161.5	1,809	266.4	2,901	214.1	279	41.3	389	57.3	668	49.3
45–49	1,672	255.6	2,601	406.6	4,273	330.2	518	79.2	597	93.3	1,115	86.2
50–54	2,480	479.2	2,863	575.6	5,343	526.4	841	162.5	809	162.6	1,650	162.6
55–59	3,523	839.1	3,007	737.8	6,530	789.2	1,221	290.8	993	243.7	2,214	267.6
60–64	4,922	1,391.1	3,258	913.5	8,180	1,151.3	1,896	535.9	1,279	358.6	3,175	446.9
65–69	6,976	2,067.3	4,038	1,138.3	11,014	1,591.2	2,946	873.0	1,746	492.2	4,692	677.9
70–74	7,533	2,728.3	4,513	1,380.1	12,046	1,997.3	3,519	1,274.5	2,175	665.1	5,694	944.1
75–79	5,763	3,208.9	3,832	1,571.8	9,595	2,266.2	3,189	1,775.7	2,264	928.6	5,453	1,287.9
80–84	3,880	3,665.4	3,086	1,747.4	6,966	2,466.2	2,495	2,357.0	2,035	1,152.3	4,530	1,603.8
85 and over	2,243	3,719.7	2,657	1,876.4	4,900	2,427.0	1,836	3,044.7	2,113	1,492.3	3,949	1,955.9
Total	**42,733**		**34,933**		**77,666**		**19,196**		**14,893**		**34,089**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	469.2		379.6		424.2		210.8		161.8		186.2	
95% CI	464.7 – 473.6		375.6 – 383.6		421.2 – 427.1		207.8 – 213.7		159.2 – 164.4		184.2 – 188.1	
AS Rate (Aust 1991)	489.1		338.8		402.5		225.5		136.9		174.0	
95% CI	484.5 – 493.8		335.2 – 342.3		399.6 – 405.3		222.3 – 228.7		134.6 – 139.1		172.2 – 175.9	
AS Rate (World)	351.6		263.5		301.7		149.7		96.8		119.6	
95% CI	348.2 – 355.1		260.6 – 266.5		299.5 – 303.9		147.5 – 151.9		95.0 – 98.5		118.3 – 121.0	
Lifetime risk (0–74)	1 in 3		1 in 4		1 in 3		1 in 7		1 in 10		1 in 8	
PYLL (0–74)							140,070		121,228		261,298	
Per cent of all cancers	100.0		100.0		100.0		100.0		100.0		100.0	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	14,433	496.6	11,363	328.3	25,796	397.9	6,409	226.7	4,919	134.5	11,328	172.5
Vic	10,308	487.3	8,639	337.6	18,947	399.0	4,868	235.3	3,928	145.2	8,796	182.6
Qld	7,812	540.5	6,032	362.3	13,844	439.6	3,243	231.4	2,276	132.5	5,519	175.4
WA	3,708	510.8	2,881	335.2	6,589	410.5	1,589	227.9	1,224	139.5	2,813	176.8
SA	3,739	499.8	2,987	335.9	6,726	403.2	1,680	228.0	1,297	136.2	2,977	173.8
Tas	1,214	534.4	915	342.5	2,129	422.3	551	247.4	419	148.8	970	189.4
ACT	462	480.2	398	316.8	860	384.4	220	253.1	171	148.5	391	191.1
NT	179	423.7	145	320.3	323	372.7	90	254.1	58	178.5	148	217.6

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 7: Cancer of the stomach (ICD 151)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5–9	0	0.0	1	0.2	1	0.1	0	0.0	0	0.0	0	0.0
10–14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15–19	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20–24	1	0.1	0	0.0	1	0.1	1	0.1	1	0.1	2	0.1
25–29	3	0.4	2	0.3	5	0.4	3	0.4	0	0.0	3	0.2
30–34	4	0.6	2	0.3	6	0.4	3	0.4	2	0.3	5	0.3
35–39	13	1.8	9	1.2	22	1.5	4	0.6	2	0.3	6	0.4
40–44	23	3.4	15	2.2	38	2.8	16	2.4	7	1.0	23	1.7
45–49	39	6.0	29	4.5	68	5.3	34	5.2	13	2.0	47	3.6
50–54	51	9.9	32	6.4	83	8.2	29	5.6	20	4.0	49	4.8
55–59	83	19.8	30	7.4	113	13.7	47	11.2	29	7.1	76	9.2
60–64	142	40.1	52	14.6	194	27.3	69	19.5	34	9.5	103	14.5
65–69	202	59.9	78	22.0	280	40.5	100	29.6	47	13.2	147	21.2
70–74	220	79.7	116	35.5	336	55.7	143	51.8	77	23.5	220	36.5
75–79	190	105.8	92	37.7	282	66.6	133	74.1	70	28.7	203	47.9
80–84	155	146.4	100	56.6	255	90.3	104	98.2	73	41.3	177	62.7
85 and over	64	106.1	109	77.0	173	85.7	66	109.5	98	69.2	164	81.2
Total	**1,190**		**667**		**1,857**		**752**		**473**		**1,225**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	13.1		7.2		10.1		8.3		5.1		6.7	
95% CI	12.3 – 13.8		6.7 – 7.8		9.7 – 10.6		7.7 – 8.8		4.7 – 5.6		6.3 – 7.1	
AS Rate (Aust 1991)	13.8		6.0		9.5		8.8		4.2		6.2	
95% CI	13.0 – 14.6		5.6 – 6.5		9.1 – 10.0		8.2 – 9.4		3.8 – 4.6		5.9 – 6.5	
AS Rate (World)	9.3		4.1		6.6		5.8		2.8		4.1	
95% CI	8.8 – 9.9		3.8 – 4.5		6.2 – 6.9		5.3 – 6.2		2.5 – 3.1		3.9 – 4.4	
Lifetime risk (0–74)	1 in 91		1 in 212		1 in 129		1 in 158		1 in 327		1 in 216	
PYLL (0–74)							5,373		2,725		8,098	
Per cent of all cancers	2.8		1.9		2.4		3.9		3.2		3.6	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	412	14.3	212	5.7	624	9.5	256	9.1	145	3.8	401	6.1
Vic	325	15.5	179	6.6	504	10.5	214	10.4	135	4.8	349	7.2
Qld	201	14.2	112	6.3	313	10.0	128	9.3	71	3.9	199	6.3
WA	114	16.0	58	6.5	171	10.8	75	10.7	43	4.9	118	7.4
SA	109	14.6	60	6.3	169	9.9	77	10.4	48	5.0	125	7.2
Tas	36	16.0	19	6.7	55	10.7	26	11.9	16	5.3	42	8.2
ACT	13	14.7	6	5.5	20	9.4	10	11.8	4	3.3	14	6.7
NT	4	10.2	1	4.9	5	7.6	2	3.1	1	4.9	3	4.1

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 8: Cancer of the colon and rectum (ICD 153–154)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	0	0.0	1	0.2	1	0.1	0	0.0	0	0.0	0	0.0
5–9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10–14	0	0.0	1	0.2	1	0.1	0	0.0	0	0.0	0	0.0
15–19	0	0.0	4	0.6	4	0.3	0	0.0	0	0.0	0	0.0
20–24	2	0.3	7	1.0	9	0.6	1	0.1	1	0.1	2	0.1
25–29	10	1.4	10	1.4	20	1.4	4	0.6	5	0.7	9	0.6
30–34	31	4.3	28	3.9	59	4.1	5	0.7	10	1.4	15	1.0
35–39	58	8.0	50	6.9	108	7.4	13	1.8	12	1.6	25	1.7
40–44	122	18.0	98	14.4	220	16.2	29	4.3	30	4.4	59	4.4
45–49	231	35.3	186	29.1	417	32.2	62	9.5	63	9.8	125	9.7
50–54	384	74.2	286	57.5	670	66.0	122	23.6	95	19.1	217	21.4
55–59	644	153.4	408	100.1	1,052	127.1	198	47.2	137	33.6	335	40.5
60–64	771	217.9	474	132.9	1,245	175.2	288	81.4	174	48.8	462	65.0
65–69	992	294.0	657	185.2	1,649	238.2	425	125.9	231	65.1	656	94.8
70–74	1,141	413.2	817	249.8	1,958	324.6	480	173.8	320	97.9	800	132.6
75–79	810	451.0	743	304.8	1,553	366.8	345	192.1	311	127.6	656	154.9
80–84	557	526.2	601	340.3	1,158	410.0	291	274.9	336	190.3	627	222.0
85 and over	314	520.7	560	395.5	874	432.9	211	349.9	407	287.4	618	306.1
Total	**6,067**		**4,931**		**10,998**		**2,474**		**2,132**		**4,606**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	66.6		53.6		60.1		27.2		23.2		25.2	
95% CI	64.9 – 68.3		52.1 – 55.1		58.9 – 61.2		26.1 – 28.2		22.2 – 24.2		24.4 – 25.9	
AS Rate (Aust 1991)	69.2		46.0		56.6		28.8		19.0		23.4	
95% CI	67.5 – 71.0		44.7 – 47.3		55.5 – 57.7		27.7 – 30.0		18.2 – 19.8		22.8 – 24.1	
AS Rate (World)	49.5		33.0		40.7		19.7		12.9		16.0	
95% CI	48.2 – 50.7		32.0 – 34.0		39.9 – 41.5		18.9 – 20.5		12.3 – 13.5		15.6 – 16.5	
Lifetime risk (0–74)	1 in 17		1 in 26		1 in 21		1 in 43		1 in 71		1 in 54	
PYLL (0–74)							17,788		13,115		30,903	
Per cent of all cancers	14.2		14.1		14.2		12.9		14.3		13.5	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	1,941	66.5	1,601	44.3	3,542	54.2	805	28.4	687	18.3	1,492	22.7
Vic	1,458	68.8	1,273	47.6	2,730	57.1	661	31.8	606	21.6	1,267	26.2
Qld	1,010	69.7	852	50.3	1,861	59.3	401	28.5	329	18.8	730	23.2
WA	463	64.1	379	43.5	842	52.9	199	28.5	177	19.7	376	23.6
SA	504	67.0	455	48.2	959	56.5	220	29.6	183	18.6	403	23.4
Tas	156	67.8	142	50.9	297	58.6	78	34.3	69	23.8	146	28.6
ACT	64	65.9	51	44.3	116	54.5	33	36.5	25	22.0	58	28.5
NT	19	50.5	14	42.7	32	47.3	10	25.8	7	25.4	17	26.4

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 9: Cancer of the pancreas (ICD 157)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5–9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10–14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15–19	0	0.0	1	0.2	1	0.1	0	0.0	0	0.0	0	0.0
20–24	0	0.0	1	0.1	1	0.1	0	0.0	1	0.1	1	0.1
25–29	2	0.3	1	0.1	3	0.2	0	0.0	1	0.1	1	0.1
30–34	2	0.3	1	0.1	3	0.2	3	0.4	0	0.0	3	0.2
35–39	4	0.6	7	1.0	11	0.8	3	0.4	3	0.4	6	0.4
40–44	9	1.3	8	1.2	17	1.3	8	1.2	5	0.7	13	1.0
45–49	30	4.6	14	2.2	44	3.4	18	2.8	12	1.9	30	2.3
50–54	41	7.9	25	5.0	66	6.5	36	7.0	23	4.6	59	5.8
55–59	68	16.2	35	8.6	103	12.4	55	13.1	31	7.6	86	10.4
60–64	90	25.4	55	15.4	145	20.4	76	21.5	53	14.9	129	18.2
65–69	129	38.2	106	29.9	235	34.0	127	37.6	88	24.8	215	31.1
70–74	175	63.4	117	35.8	292	48.4	152	55.1	130	39.8	282	46.8
75–79	114	63.5	164	67.3	278	65.7	136	75.7	171	70.1	307	72.5
80–84	116	109.6	139	78.7	255	90.3	117	110.5	154	87.2	271	95.9
85 and over	41	68.0	127	89.7	168	83.2	47	77.9	150	105.9	197	97.6
Total	**821**		**801**		**1,622**		**778**		**822**		**1,600**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	9.0		8.7		8.9		8.5		8.9		8.7	
95% CI	8.4 – 9.6		8.1 – 9.3		8.4 – 9.3		7.9 – 9.1		8.3 – 9.5		8.3 – 9.2	
AS Rate (Aust 1991)	9.4		7.2		8.3		9.1		7.2		8.1	
95% CI	8.8 – 10.1		6.7 – 7.7		7.9 – 8.7		8.4 – 9.7		6.7 – 7.7		7.7 – 8.5	
AS Rate (World)	6.4		4.6		5.5		5.9		4.5		5.2	
95% CI	6.0 – 6.9		4.3 – 5.0		5.2 – 5.8		5.5 – 6.4		4.2 – 4.9		5.0 – 5.5	
Lifetime risk (0–74)	1 in 127		1 in 201		1 in 157		1 in 144		1 in 211		1 in 173	
PYLL (0–74)							5,050		3,413		8,463	
Per cent of all cancers	1.9		2.3		2.1		4.1		5.5		4.7	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	277	9.6	287	7.7	563	8.5	262	9.2	281	7.4	543	8.2
Vic	198	9.5	192	6.8	390	8.1	200	9.6	195	6.9	396	8.2
Qld	140	9.8	120	6.9	260	8.3	133	9.4	115	6.6	248	7.9
WA	69	9.7	61	6.9	130	8.2	64	9.0	58	6.5	121	7.7
SA	73	9.8	73	7.3	146	8.5	68	9.1	67	6.6	135	7.8
Tas	24	10.7	20	6.9	44	8.6	24	10.5	17	6.0	41	8.0
ACT	8	9.4	6	5.7	15	7.3	10	11.3	6	5.8	16	8.3
NT	4	11.0	2	5.6	6	8.5	4	10.1	2	4.8	6	7.7

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 10: Cancer of the trachea, bronchus and lung (ICD 162)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	0	0.0	2	0.3	2	0.2	0	0.0	0	0.0	0	0.0
5–9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10–14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15–19	0	0.0	1	0.2	1	0.1	0	0.0	0	0.0	0	0.0
20–24	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
25–29	3	0.4	1	0.1	4	0.3	0	0.0	0	0.0	0	0.0
30–34	3	0.4	7	1.0	10	0.7	2	0.3	5	0.7	7	0.5
35–39	16	2.2	22	3.0	38	2.6	9	1.2	12	1.6	21	1.4
40–44	45	6.7	50	7.4	95	7.0	30	4.4	26	3.8	56	4.1
45–49	136	20.8	100	15.6	236	18.2	97	14.8	68	10.6	165	12.8
50–54	276	53.3	156	31.4	432	42.6	229	44.2	127	25.5	356	35.1
55–59	419	99.8	209	51.3	628	75.9	324	77.2	160	39.3	484	58.5
60–64	676	191.1	262	73.5	938	132.0	559	158.0	217	60.8	776	109.2
65–69	1,013	300.2	395	111.3	1,408	203.4	890	263.7	315	88.8	1,205	174.1
70–74	1,103	399.5	438	133.9	1,541	255.5	995	360.4	349	106.7	1,344	222.8
75–79	816	454.4	355	145.6	1,171	276.6	811	451.6	342	140.3	1,153	272.3
80–84	490	462.9	258	146.1	748	264.8	527	497.9	234	132.5	761	269.4
85 and over	231	383.1	137	96.8	368	182.3	270	447.8	166	117.2	436	215.9
Total	**5,228**		**2,393**		**7,621**		**4,743**		**2,021**		**6,764**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	57.4		26.0		41.6		52.1		22.0		36.9	
95% CI	55.8 – 59.0		25.0 – 27.0		40.7 – 42.6		50.6 – 53.6		21.0 – 22.9		36.1 – 37.8	
AS Rate (Aust 1991)	60.1		23.0		39.6		55.0		19.1		35.0	
95% CI	58.4 – 61.7		22.1 – 23.9		38.7 – 40.5		53.5 – 56.6		18.3 – 20.0		34.1 – 35.8	
AS Rate (World)	41.9		16.9		28.4		37.2		13.7		24.4	
95% CI	40.7 – 43.1		16.2 – 17.7		27.8 – 29.1		36.1 – 38.3		13.1 – 14.4		23.8 – 25.0	
Lifetime risk (0–74)	1 in 19		1 in 47		1 in 28		1 in 22		1 in 60		1 in 33	
PYLL (0–74)							31,038		14,983		46,020	
Per cent of all cancers	12.2		6.9		9.8		24.7		13.6		19.8	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	1,782	61.2	783	22.1	2,565	39.3	1,619	56.1	665	18.5	2,284	34.9
Vic	1,315	62.0	595	22.9	1,909	40.2	1,214	57.8	526	19.9	1,740	36.5
Qld	952	66.0	362	21.9	1,314	42.2	827	58.0	285	17.1	1,112	35.7
WA	459	64.7	202	24.0	662	42.2	402	57.4	172	20.3	574	36.7
SA	467	61.8	192	21.0	659	38.9	416	55.3	158	16.8	574	33.6
Tas	156	68.2	63	23.6	220	43.4	138	60.7	54	20.1	192	37.9
ACT	42	46.4	26	22.9	67	33.0	42	46.4	20	18.1	62	30.7
NT	31	85.5	15	41.8	46	64.5	30	92.8	13	36.7	43	65.2

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 11: Cancer of the skin—melanoma (ICD 172)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	0	0.0	1	0.2	1	0.1	0	0.0	0	0.0	0	0.0
5–9	1	0.1	3	0.5	4	0.3	0	0.0	0	0.0	0	0.0
10–14	8	1.2	16	2.5	24	1.8	0	0.0	1	0.2	1	0.1
15–19	57	8.7	58	9.3	115	9.0	2	0.3	0	0.0	2	0.2
20–24	66	9.3	101	14.7	167	12.0	2	0.3	3	0.4	5	0.4
25–29	155	21.8	160	22.6	315	22.2	10	1.4	3	0.4	13	0.9
30–34	156	21.6	231	31.9	387	26.8	15	2.1	4	0.6	19	1.3
35–39	226	31.1	280	38.4	506	34.8	27	3.7	11	1.5	38	2.6
40–44	303	44.8	295	43.4	598	44.1	19	2.8	24	3.5	43	3.2
45–49	377	57.6	324	50.6	701	54.2	39	6.0	20	3.1	59	4.6
50–54	389	75.2	327	65.7	716	70.5	40	7.7	28	5.6	68	6.7
55–59	366	87.2	257	63.1	623	75.3	31	7.4	14	3.4	45	5.4
60–64	405	114.5	263	73.7	668	94.0	55	15.5	28	7.9	83	11.7
65–69	498	147.6	291	82.0	789	114.0	83	24.6	31	8.7	114	16.5
70–74	497	180.0	300	91.7	797	132.1	67	24.3	35	10.7	102	16.9
75–79	400	222.7	227	93.1	627	148.1	88	49.0	35	14.4	123	29.1
80–84	253	239.0	166	94.0	419	148.3	55	52.0	38	21.5	93	32.9
85 and over	156	258.7	148	104.5	304	150.6	47	77.9	48	33.9	95	47.1
Total	**4,313**		**3,448**		**7,761**		**580**		**323**		**903**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	47.4		37.5		42.4		6.4		3.5		4.9	
95% CI	45.9 – 48.8		36.2 – 38.7		41.4 – 43.3		5.8 – 6.9		3.1 – 3.9		4.6 – 5.3	
AS Rate (Aust 1991)	48.0		35.0		40.6		6.7		3.0		4.6	
95% CI	46.5 – 49.4		33.8 – 36.2		39.7 – 41.5		6.1 – 7.2		2.7 – 3.3		4.3 – 4.9	
AS Rate (World)	37.3		29.0		32.7		4.7		2.2		3.4	
95% CI	36.1 – 38.4		27.9 – 30.0		31.9 – 33.4		4.3 – 5.1		2.0 – 2.5		3.1 – 3.6	
Lifetime risk (0–74)	1 in 25		1 in 34		1 in 29		1 in 209		1 in 434		1 in 285	
PYLL (0–74)							6,955		3,820		10,775	
Per cent of all cancers	10.1		9.9		10.0		3.0		2.2		2.6	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	1,365	45.8	1,016	30.8	2,382	37.3	227	7.9	116	3.3	343	5.3
Vic	728	33.3	690	28.3	1,418	30.3	123	5.7	75	2.9	198	4.2
Qld	958	63.2	741	45.6	1,698	53.5	123	8.4	58	3.4	181	5.7
WA	391	49.5	309	36.1	701	42.1	50	6.9	29	3.3	79	4.9
SA	295	39.4	285	34.5	580	36.4	35	4.8	24	2.7	59	3.6
Tas	80	34.7	77	30.5	157	32.2	10	4.4	6	2.2	16	3.2
ACT	44	37.4	39	28.4	82	32.1	6	5.7	4	2.9	10	4.0
NT	20	32.8	14	18.9	34	26.0	4	8.9	0	1.2	4	5.3

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 12: Cancer of the breast (ICD 174–175)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5–9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10–14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15–19	0	0.0	1	0.2	1	0.1	0	0.0	0	0.0	0	0.0
20–24	0	0.0	6	0.9	6	0.4	0	0.0	0	0.0	0	0.0
25–29	0	0.0	44	6.2	44	3.1	0	0.0	9	1.3	9	0.6
30–34	0	0.0	197	27.2	197	13.6	0	0.0	30	4.1	30	2.1
35–39	0	0.0	424	58.1	424	29.1	0	0.0	91	12.5	91	6.3
40–44	1	0.1	758	111.6	759	56.0	1	0.1	146	21.5	147	10.8
45–49	6	0.9	1,191	186.2	1,197	92.5	1	0.2	192	30.0	193	14.9
50–54	7	1.4	1,166	234.4	1,173	115.6	2	0.4	238	47.8	240	23.6
55–59	8	1.9	1,112	272.9	1,120	135.4	2	0.5	242	59.4	244	29.5
60–64	11	3.1	1,011	283.5	1,022	143.8	1	0.3	261	73.2	262	36.9
65–69	13	3.9	1,055	297.4	1,068	154.3	4	1.2	295	83.2	299	43.2
70–74	13	4.7	983	300.6	996	165.1	2	0.7	300	91.7	302	50.1
75–79	13	7.2	732	300.2	745	176.0	4	2.2	280	114.8	284	67.1
80–84	8	7.6	540	305.8	548	194.0	1	0.9	257	145.5	258	91.3
85 and over	5	8.3	401	283.2	406	201.1	3	5.0	278	196.3	281	139.2
Total	**85**		**9,621**		**9,706**		**21**		**2,619**		**2,640**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	0.9		104.5		53.0		0.2		28.5		14.4	
95% CI	0.7 – 1.1		102.5 – 106.6		52.0 – 54.1		0.1 – 0.3		27.4 – 29.5		13.9 – 15.0	
AS Rate (Aust 1991)	1.0		95.5		50.0		0.2		24.9		13.5	
95% CI	0.8 – 1.2		93.6 – 97.4		49.0 – 51.0		0.1 – 0.4		24.0 – 25.9		13.0 – 14.0	
AS Rate (World)	0.7		78.4		40.4		0.2		19.1		10.1	
95% CI	0.5 – 0.8		76.8 – 80.1		39.6 – 41.2		0.1 – 0.2		18.3 – 19.9		9.7 – 10.5	
Lifetime risk (0–74)	1 in 1,251		1 in 12		1 in 23		1 in 5,960		1 in 48		1 in 92	
PYLL (0–74)							188		30,955		31,143	
Per cent of all cancers	0.2		27.5		12.5		0.1		17.6		7.7	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	24	0.8	3,171	94.4	3,195	49.6	6	0.2	877	24.9	883	13.5
Vic	16	0.8	2,396	96.6	2,412	51.0	6	0.3	722	27.8	727	15.2
Qld	10	0.7	1,545	93.5	1,555	48.5	4	0.3	416	24.6	420	13.2
WA	6	0.8	840	98.2	846	51.0	1	0.2	223	25.6	225	13.7
SA	7	0.9	823	96.3	829	50.9	2	0.2	244	26.7	245	14.6
Tas	2	0.8	244	93.8	245	49.2	0	0.2	67	24.2	67	13.2
ACT	1	0.5	126	95.2	127	50.2	0	0.1	36	30.1	36	16.5
NT	0	0.2	37	65.2	37	29.9	0	0.0	8	18.2	8	8.5

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.
Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 13: Cancer of the cervix (ICD 180)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4			0	0.0					0	0.0		
5–9			0	0.0					0	0.0		
10–14			0	0.0					0	0.0		
15–19			1	0.2					0	0.0		
20–24			14	2.0					0	0.0		
25–29			43	6.1					2	0.3		
30–34			70	9.7					12	1.7		
35–39			137	18.8					22	3.0		
40–44			118	17.4					21	3.1		
45–49			102	15.9					32	5.0		
50–54			78	15.7					13	2.6		
55–59			62	15.2					21	5.2		
60–64			63	17.7					23	6.4		
65–69			64	18.0					28	7.9		
70–74			57	17.4					41	12.5		
75–79			48	19.7					41	16.8		
80–84			41	23.2					23	13.0		
85 and over			25	17.7					22	15.5		
Total			**923**						**301**			

Rates per 100,000 with 95 per cent confidence intervals (95% CI)

Crude rate	10.0	3.3
95% CI	9.4 – 10.7	2.9 – 3.6
AS Rate (Aust 1991)	9.4	2.9
95% CI	8.8 – 10.1	2.6 – 3.2
AS Rate (World)	7.8	2.2
95% CI	7.2 – 8.3	1.9 – 2.4
Lifetime risk (0–74)	1 in 130	1 in 420
PYLL (0–74)		4,253
Per cent of all cancers	2.6	2.0

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW			351	10.8					117	3.4		
Vic			252	10.5					76	3.0		
Qld			194	12.0					55	3.3		
WA			95	11.1					32	3.6		
SA			63	7.8					21	2.3		
Tas			29	11.5					13	4.8		
ACT			13	9.0					4	3.2		
NT			13	21.8					5	13.3		

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.
Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 14: Cancer of the uterus (ICD 179+182)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4			0	0.0					0	0.0		
5–9			0	0.0					0	0.0		
10–14			0	0.0					0	0.0		
15–19			0	0.0					0	0.0		
20–24			1	0.1					0	0.0		
25–29			3	0.4					0	0.0		
30–34			13	1.8					0	0.0		
35–39			23	3.2					1	0.1		
40–44			44	6.5					6	0.9		
45–49			84	13.1					4	0.6		
50–54			129	25.9					8	1.6		
55–59			186	45.6					12	2.9		
60–64			171	47.9					27	7.6		
65–69			160	45.1					36	10.1		
70–74			177	54.1					51	15.6		
75–79			162	66.4					37	15.2		
80–84			92	52.1					52	29.4		
85 and over			71	50.1					39	27.5		
Total			**1,316**						**273**			

Rates per 100,000 with 95 per cent confidence intervals (95% CI)

Crude rate	14.3	3.0
95% CI	13.5 – 15.1	2.6 – 3.3
AS Rate (Aust 1991)	12.9	2.5
95% CI	12.2 – 13.6	2.2 – 2.8
AS Rate (World)	10.2	1.7
95% CI	9.6 – 10.8	1.4 – 1.9
Lifetime risk (0–74)	1 in 83	1 in 507
PYLL (0–74)		1,468
Per cent of all cancers	3.8	1.8

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW			421	12.3					84	2.3		
Vic			375	14.9					77	2.8		
Qld			230	14.0					43	2.5		
WA			98	11.8					21	2.4		
SA			130	14.6					23	2.3		
Tas			32	12.4					7	2.6		
ACT			14	11.8					3	2.7		
NT			5	12.7					2	8.1		

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 15: Cancer of the ovary and other uterine adnexae (ICD 183)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4			0	0.0					0	0.0		
5–9			1	0.2					0	0.0		
10–14			4	0.6					1	0.2		
15–19			8	1.3					3	0.5		
20–24			8	1.2					0	0.0		
25–29			29	4.1					2	0.3		
30–34			18	2.5					7	1.0		
35–39			33	4.5					13	1.8		
40–44			52	7.7					25	3.7		
45–49			96	15.0					26	4.1		
50–54			117	23.5					65	13.1		
55–59			112	27.5					62	15.2		
60–64			122	34.2					82	23.0		
65–69			118	33.3					102	28.8		
70–74			159	48.6					124	37.9		
75–79			123	50.5					135	55.4		
80–84			92	52.1					83	47.0		
85 and over			74	52.3					67	47.3		
Total			**1,166**						**797**			

Rates per 100,000 with 95 per cent confidence intervals (95% CI)

Crude rate	12.7	8.7
95% CI	11.9 – 13.4	8.1 – 9.3
AS Rate (Aust 1991)	11.4	7.6
95% CI	10.7 – 12.0	7.0 – 8.1
AS Rate (World)	9.0	5.5
95% CI	8.5 – 9.6	5.1 – 6.0
Lifetime risk (0–74)	1 in 98	1 in 155
PYLL (0–74)		7,290
Per cent of all cancers	3.3	5.4

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW			356	10.4					242	6.8		
Vic			323	12.9					209	8.0		
Qld			201	12.2					114	6.8		
WA			92	10.8					65	7.6		
SA			89	10.2					69	7.6		
Tas			32	12.1					23	8.4		
ACT			14	10.9					8	7.4		
NT			4	8.9					2	3.1		

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.
Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 16: Cancer of the prostate (ICD 185)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	0	0.0					0	0.0				
5–9	0	0.0					0	0.0				
10–14	0	0.0					0	0.0				
15–19	1	0.2					0	0.0				
20–24	0	0.0					0	0.0				
25–29	1	0.1					0	0.0				
30–34	0	0.0					0	0.0				
35–39	1	0.1					0	0.0				
40–44	14	2.1					1	0.1				
45–49	85	13.0					9	1.4				
50–54	313	60.5					17	3.3				
55–59	740	176.2					54	12.9				
60–64	1,249	353.0					115	32.5				
65–69	2,040	604.5					272	80.6				
70–74	2,208	799.7					457	165.5				
75–79	1,650	918.7					582	324.1				
80–84	1,091	1,030.7					564	532.8				
85 and over	662	1,097.8					573	950.2				
Total	**10,055**						**2,644**					
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	110.4						29.0					
95% CI	108.2 – 112.6						27.9 – 30.1					
AS Rate (Aust 1991)	117.4						33.0					
95% CI	115.1 – 119.7						31.7 – 34.2					
AS Rate (World)	79.1						18.5					
95% CI	77.5 – 80.7						17.7 – 19.2					
Lifetime risk (0–74)	1 in 10						1 in 68					
PYLL (0–74)							6,228					
Per cent of all cancers	23.5						13.8					

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	3,854	135.2					852	32.4				
Vic	2,564	124.0					663	34.3				
Qld	1,753	127.0					453	34.9				
WA	1,046	150.5					211	32.9				
SA	1,064	142.8					242	34.4				
Tas	350	156.7					82	39.3				
ACT	127	149.0					29	41.2				
NT	21	74.7					6	26.9				

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 17: Cancer of the testis (ICD 186)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	6	0.9					0	0.0				
5–9	2	0.3					0	0.0				
10–14	2	0.3					0	0.0				
15–19	23	3.5					2	0.3				
20–24	65	9.2					1	0.1				
25–29	94	13.2					4	0.6				
30–34	107	14.8					8	1.1				
35–39	90	12.4					3	0.4				
40–44	60	8.9					1	0.1				
45–49	43	6.6					4	0.6				
50–54	26	5.0					1	0.2				
55–59	8	1.9					0	0.0				
60–64	10	2.8					1	0.3				
65–69	5	1.5					2	0.6				
70–74	3	1.1					0	0.0				
75–79	2	1.1					2	1.1				
80–84	1	0.9					0	0.0				
85 and over	3	5.0					1	1.7				
Total	**550**						**30**					

Rates per 100,000 with 95 per cent confidence intervals (95% CI)

Crude rate	6.0						0.3					
95% CI	5.5 – 6.5						0.2 – 0.4					
AS Rate (Aust 1991)	6.0						0.3					
95% CI	5.5 – 6.6						0.2 – 0.5					
AS Rate (World)	5.4						0.3					
95% CI	4.9 – 5.8						0.2 – 0.4					
Lifetime risk (0–74)	1 in 243						1 in 4,588					
PYLL (0–74)							1,003					
Per cent of all cancers	1.3						0.2					

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	173	5.7					9	0.3				
Vic	130	5.8					8	0.4				
Qld	95	6.0					5	0.3				
WA	48	5.5					2	0.2				
SA	43	6.0					3	0.4				
Tas	14	5.9					0	0.1				
ACT	9	5.6					0	0.1				
NT	5	4.5					0	0.2				

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 18: Cancer of the bladder (ICD 188)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5–9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10–14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15–19	2	0.3	0	0.0	2	0.2	0	0.0	0	0.0	0	0.0
20–24	2	0.3	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0
25–29	9	1.3	1	0.1	10	0.7	0	0.0	0	0.0	0	0.0
30–34	7	1.0	9	1.2	16	1.1	3	0.4	1	0.1	4	0.3
35–39	11	1.5	6	0.8	17	1.2	2	0.3	0	0.0	2	0.1
40–44	21	3.1	9	1.3	30	2.2	0	0.0	1	0.1	1	0.1
45–49	56	8.6	14	2.2	70	5.4	5	0.8	1	0.2	6	0.5
50–54	103	19.9	15	3.0	118	11.6	14	2.7	7	1.4	21	2.1
55–59	130	31.0	31	7.6	161	19.5	18	4.3	3	0.7	21	2.5
60–64	234	66.1	51	14.3	285	40.1	35	9.9	8	2.2	43	6.1
65–69	312	92.5	94	26.5	406	58.7	62	18.4	18	5.1	80	11.6
70–74	365	132.2	122	37.3	487	80.7	94	34.0	36	11.0	130	21.6
75–79	314	174.8	104	42.7	418	98.7	119	66.3	56	23.0	175	41.3
80–84	203	191.8	79	44.7	282	99.8	94	88.8	39	22.1	133	47.1
85 and over	152	252.1	88	62.1	240	118.9	97	160.9	65	45.9	162	80.2
Total	**1,921**		**623**		**2,544**		**543**		**235**		**778**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	21.1		6.8		13.9		6.0		2.6		4.2	
95% CI	20.1 – 22.0		6.2 – 7.3		13.4 – 14.4		5.5 – 6.5		2.2 – 2.9		4.0 – 4.5	
AS Rate (Aust 1991)	22.4		5.7		13.1		6.6		2.0		3.9	
95% CI	21.4 – 23.4		5.3 – 6.2		12.6 – 13.6		6.1 – 7.2		1.7 – 2.2		3.6 – 4.2	
AS Rate (World)	15.3		3.9		9.1		3.9		1.2		2.3	
95% CI	14.6 – 16.0		3.5 – 4.2		8.7 – 9.5		3.6 – 4.3		1.0 – 1.3		2.2 – 2.5	
Lifetime risk (0–74)	1 in 56		1 in 212		1 in 91		1 in 283		1 in 957		1 in 448	
PYLL (0–74)							2,108		638		2,745	
Per cent of all cancers	4.5		1.8		3.3		2.8		1.6		2.3	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	519	18.3	173	4.6	692	10.5	189	7.0	81	2.0	270	4.0
Vic	628	30.0	204	7.5	832	17.3	135	6.8	58	1.9	193	3.9
Qld	410	28.9	140	8.2	550	17.6	91	6.9	41	2.3	132	4.2
WA	103	15.1	28	3.2	131	8.4	41	6.4	16	1.7	57	3.6
SA	124	17.0	40	4.0	165	9.5	52	7.4	23	2.2	75	4.2
Tas	64	28.5	19	6.7	84	16.3	16	7.3	6	2.0	22	4.1
ACT	15	17.6	4	3.7	19	9.6	8	10.2	2	2.3	10	5.5
NT	4	11.5	2	4.6	6	8.1	1	5.6	1	3.8	2	4.5

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 19: Cancer of the kidney and other and unspecified urinary organs (ICD 189)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	14	2.1	8	1.3	22	1.7	1	0.2	1	0.2	2	0.2
5–9	3	0.4	8	1.3	11	0.8	2	0.3	0	0.0	2	0.2
10–14	1	0.1	0	0.0	1	0.1	0	0.0	1	0.2	1	0.1
15–19	2	0.3	2	0.3	4	0.3	0	0.0	1	0.2	1	0.1
20–24	0	0.0	2	0.3	2	0.1	0	0.0	0	0.0	0	0.0
25–29	6	0.8	0	0.0	6	0.4	0	0.0	1	0.1	1	0.1
30–34	12	1.7	6	0.8	18	1.2	0	0.0	0	0.0	0	0.0
35–39	27	3.7	21	2.9	48	3.3	1	0.1	3	0.4	4	0.3
40–44	52	7.7	31	4.6	83	6.1	10	1.5	7	1.0	17	1.3
45–49	59	9.0	33	5.2	92	7.1	17	2.6	8	1.3	25	1.9
50–54	95	18.4	64	12.9	159	15.7	21	4.1	13	2.6	34	3.3
55–59	123	29.3	55	13.5	178	21.5	43	10.2	22	5.4	65	7.9
60–64	144	40.7	73	20.5	217	30.5	41	11.6	22	6.2	63	8.9
65–69	204	60.5	101	28.5	305	44.1	83	24.6	44	12.4	127	18.3
70–74	180	65.2	134	41.0	314	52.1	74	26.8	49	15.0	123	20.4
75–79	153	85.2	120	49.2	273	64.5	84	46.8	57	23.4	141	33.3
80–84	83	78.4	74	41.9	157	55.6	40	37.8	63	35.7	103	36.5
85 and over	51	84.6	59	41.7	110	54.5	43	71.3	41	29.0	84	41.6
Total	**1,209**		**791**		**2,000**		**460**		**333**		**793**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	13.3		8.6		10.9		5.1		3.6		4.3	
95% CI	12.5 – 14.0		8.0 – 9.2		10.4 – 11.4		4.6 – 5.5		3.2 – 4.0		4.0 – 4.6	
AS Rate (Aust 1991)	13.7		7.6		10.4		5.4		3.0		4.1	
95% CI	12.9 – 14.4		7.0 – 8.1		9.9 – 10.8		4.9 – 5.9		2.7 – 3.4		3.8 – 4.3	
AS Rate (World)	10.2		5.7		7.9		3.7		2.0		2.8	
95% CI	9.6 – 10.8		5.3 – 6.2		7.5 – 8.2		3.3 – 4.0		1.8 – 2.3		2.6 – 3.0	
Lifetime risk (0–74)	1 in 84		1 in 151		1 in 109		1 in 245		1 in 446		1 in 319	
PYLL (0–74)							3,583		2,205		5,788	
Per cent of all cancers	2.8		2.3		2.6		2.4		2.2		2.3	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	411	13.9	290	8.2	701	10.8	149	5.2	123	3.3	272	4.1
Vic	262	12.1	173	6.7	434	9.2	118	5.6	84	3.1	201	4.2
Qld	222	15.0	145	8.7	367	11.6	84	5.9	59	3.4	144	4.6
WA	77	10.3	54	6.2	131	8.2	29	4.1	24	2.8	53	3.4
SA	102	13.5	64	7.1	166	10.0	42	5.6	26	2.7	67	4.0
Tas	33	14.3	16	5.8	48	9.6	13	6.0	9	3.0	22	4.3
ACT	11	11.9	6	5.5	18	8.4	5	5.9	5	4.5	10	5.2
NT	5	10.1	2	6.0	6	8.3	0	0.8	1	4.0	1	2.6

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 20: Cancer of the brain (ICD 191)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	26	3.9	18	2.9	44	3.4	8	1.2	9	1.4	17	1.3
5–9	10	1.5	20	3.1	30	2.3	3	0.4	5	0.8	8	0.6
10–14	22	3.3	18	2.8	40	3.1	4	0.6	5	0.8	9	0.7
15–19	15	2.3	10	1.6	25	2.0	6	0.9	8	1.3	14	1.1
20–24	19	2.7	16	2.3	35	2.5	4	0.6	3	0.4	7	0.5
25–29	33	4.6	18	2.5	51	3.6	15	2.1	10	1.4	25	1.8
30–34	29	4.0	15	2.1	44	3.0	20	2.8	8	1.1	28	1.9
35–39	28	3.9	21	2.9	49	3.4	22	3.0	7	1.0	29	2.0
40–44	32	4.7	35	5.2	67	4.9	37	5.5	20	2.9	57	4.2
45–49	58	8.9	39	6.1	97	7.5	40	6.1	26	4.1	66	5.1
50–54	52	10.0	19	3.8	71	7.0	51	9.9	34	6.8	85	8.4
55–59	48	11.4	39	9.6	87	10.5	50	11.9	44	10.8	94	11.4
60–64	69	19.5	46	12.9	115	16.2	72	20.3	39	10.9	111	15.6
65–69	84	24.9	61	17.2	145	20.9	71	21.0	53	14.9	124	17.9
70–74	73	26.4	54	16.5	127	21.1	84	30.4	46	14.1	130	21.6
75–79	54	30.1	42	17.2	96	22.7	51	28.4	44	18.0	95	22.4
80–84	44	41.6	28	15.9	72	25.5	39	36.8	25	14.2	64	22.7
85 and over	20	33.2	20	14.1	40	19.8	17	28.2	22	15.5	39	19.3
Total	**716**		**519**		**1,235**		**594**		**408**		**1,002**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	7.9		5.6		6.7		6.5		4.4		5.5	
95% CI	7.3 – 8.4		5.2 – 6.1		6.4 – 7.1		6.0 – 7.0		4.0 – 4.9		5.1 – 5.8	
AS Rate (Aust 1991)	8.0		5.3		6.5		6.6		4.1		5.3	
95% CI	7.4 – 8.6		4.9 – 5.8		6.2 – 6.9		6.1 – 7.2		3.7 – 4.5		4.9 – 5.6	
AS Rate (World)	6.7		4.7		5.6		5.2		3.4		4.3	
95% CI	6.2 – 7.2		4.2 – 5.1		5.3 – 6.0		4.8 – 5.6		3.0 – 3.8		4.0 – 4.5	
Lifetime risk (0–74)	1 in 152		1 in 219		1 in 180		1 in 172		1 in 275		1 in 213	
PYLL (0–74)							9,943		6,898		16,840	
Per cent of all cancers	1.7		1.5		1.6		3.1		2.7		2.9	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	234	7.8	172	5.2	407	6.4	189	6.3	134	3.9	323	5.0
Vic	177	8.1	136	5.5	312	6.7	146	6.7	110	4.4	256	5.4
Qld	121	7.9	87	5.4	208	6.6	94	6.2	72	4.4	166	5.3
WA	59	7.5	44	5.2	103	6.3	52	6.6	35	4.1	86	5.3
SA	61	8.2	49	6.1	110	7.0	50	6.6	37	4.4	87	5.4
Tas	20	8.6	16	6.3	36	7.4	16	6.9	13	5.0	29	5.9
ACT	10	8.1	6	4.0	16	5.8	8	7.1	5	3.8	13	5.3
NT	4	5.7	2	3.5	6	4.6	2	4.1	2	3.4	4	3.7

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 21: Cancers of unknown primary site (ICD 195–199)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	2	0.3	0	0.0	2	0.2	0	0.0	1	0.2	1	0.1
5–9	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
10–14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15–19	0	0.0	2	0.3	2	0.2	0	0.0	0	0.0	0	0.0
20–24	2	0.3	1	0.1	3	0.2	1	0.1	0	0.0	1	0.1
25–29	8	1.1	4	0.6	12	0.8	4	0.6	2	0.3	6	0.4
30–34	8	1.1	10	1.4	18	1.2	3	0.4	5	0.7	8	0.6
35–39	18	2.5	16	2.2	34	2.3	8	1.1	15	2.1	23	1.6
40–44	31	4.6	35	5.2	66	4.9	14	2.1	12	1.8	26	1.9
45–49	46	7.0	43	6.7	89	6.9	27	4.1	27	4.2	54	4.2
50–54	78	15.1	43	8.6	121	11.9	51	9.9	28	5.6	79	7.8
55–59	111	26.4	80	19.6	191	23.1	77	18.3	53	13.0	130	15.7
60–64	182	51.4	103	28.9	285	40.1	125	35.3	89	25.0	214	30.1
65–69	236	69.9	157	44.3	393	56.8	162	48.0	113	31.9	275	39.7
70–74	276	100.0	217	66.4	493	81.7	209	75.7	169	51.7	378	62.7
75–79	277	154.2	190	77.9	467	110.3	201	111.9	169	69.3	370	87.4
80–84	211	199.3	211	119.5	422	149.4	173	163.4	199	112.7	372	131.7
85 and over	138	228.9	294	207.6	432	214.0	134	222.2	260	183.6	394	195.1
Total	**1,625**		**1,406**		**3,031**		**1,189**		**1,142**		**2,331**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	17.8		15.3		16.6		13.1		12.4		12.7	
95% CI	17.0 – 18.7		14.5 – 16.1		16.0 – 17.1		12.3 – 13.8		11.7 – 13.1		12.2 – 13.2	
AS Rate (Aust 1991)	19.0		12.5		15.4		14.1		10.0		11.8	
95% CI	18.1 – 20.0		11.8 – 13.2		14.9 – 16.0		13.3 – 14.9		9.4 – 10.6		11.3 – 12.2	
AS Rate (World)	12.7		8.5		10.4		9.2		6.5		7.7	
95% CI	12.1 – 13.4		8.0 – 8.9		10.0 – 10.8		8.6 – 9.7		6.1 – 7.0		7.4 – 8.1	
Lifetime risk (0–74)	1 in 72		1 in 109		1 in 87		1 in 103		1 in 147		1 in 122	
PYLL (0–74)							7,663		6,015		13,678	
Per cent of all cancers	3.8		4.0		3.9		6.2		7.7		6.8	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	554	19.6	500	13.3	1,054	16.0	407	14.5	380	10.0	788	11.9
Vic	371	17.9	350	12.6	722	14.9	266	13.0	263	9.2	529	10.9
Qld	295	20.8	236	13.6	531	16.9	193	13.7	164	9.3	357	11.3
WA	150	21.3	130	14.4	280	17.6	95	13.7	87	9.6	182	11.4
SA	122	16.4	127	12.8	249	14.4	108	14.6	108	10.7	215	12.4
Tas	49	22.1	43	14.6	92	17.8	35	15.9	33	11.3	69	13.2
ACT	14	16.2	14	12.0	28	14.0	12	15.4	11	9.5	23	11.8
NT	12	30.7	9	23.4	21	27.3	8	20.4	5	16.6	13	18.7

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 22: Non-Hodgkin's lymphoma (ICD 200+202)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	10	1.5	5	0.8	15	1.2	1	0.2	0	0.0	1	0.1
5–9	10	1.5	2	0.3	12	0.9	2	0.3	0	0.0	2	0.2
10–14	11	1.6	5	0.8	16	1.2	2	0.3	0	0.0	2	0.2
15–19	14	2.1	7	1.1	21	1.6	2	0.3	1	0.2	3	0.2
20–24	22	3.1	11	1.6	33	2.4	4	0.6	4	0.6	8	0.6
25–29	33	4.6	17	2.4	50	3.5	1	0.1	4	0.6	5	0.4
30–34	59	8.2	13	1.8	72	5.0	9	1.2	5	0.7	14	1.0
35–39	67	9.2	40	5.5	107	7.3	18	2.5	5	0.7	23	1.6
40–44	87	12.9	52	7.7	139	10.3	17	2.5	13	1.9	30	2.2
45–49	105	16.0	97	15.2	202	15.6	34	5.2	39	6.1	73	5.6
50–54	137	26.5	104	20.9	241	23.7	40	7.7	25	5.0	65	6.4
55–59	148	35.2	103	25.3	251	30.3	47	11.2	40	9.8	87	10.5
60–64	174	49.2	124	34.8	298	41.9	67	18.9	53	14.9	120	16.9
65–69	211	62.5	172	48.5	383	55.3	85	25.2	77	21.7	162	23.4
70–74	233	84.4	228	69.7	461	76.4	121	43.8	112	34.2	233	38.6
75–79	185	103.0	160	65.6	345	81.5	106	59.0	113	46.3	219	51.7
80–84	133	125.6	166	94.0	299	105.9	92	86.9	106	60.0	198	70.1
85 and over	79	131.0	81	57.2	160	79.2	59	97.8	84	59.3	143	70.8
Total	**1,718**		**1,387**		**3,105**		**707**		**681**		**1,388**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	18.9		15.1		17.0		7.8		7.4		7.6	
95% CI	18.0 – 19.8		14.3 – 15.9		16.4 – 17.6		7.2 – 8.3		6.8 – 8.0		7.2 – 8.0	
AS Rate (Aust 1991)	19.4		13.3		16.1		8.2		6.2		7.1	
95% CI	18.4 – 20.3		12.6 – 14.0		15.5 – 16.6		7.6 – 8.8		5.8 – 6.7		6.7 – 7.4	
AS Rate (World)	14.6		10.1		12.3		5.6		4.3		4.9	
95% CI	13.9 – 15.4		9.6 – 10.7		11.8 – 12.7		5.2 – 6.0		3.9 – 4.7		4.6 – 5.1	
Lifetime risk (0–74)	1 in 63		1 in 85		1 in 73		1 in 167		1 in 208		1 in 186	
PYLL (0–74)							6,750		5,135		11,885	
Per cent of all cancers	4.0		4.0		4.0		3.7		4.6		4.1	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	568	19.2	453	12.9	1,021	15.8	257	9.0	230	6.2	487	7.4
Vic	419	19.3	346	13.4	765	16.2	203	9.6	181	6.6	384	8.0
Qld	267	18.0	213	12.7	480	15.2	116	8.1	94	5.4	210	6.6
WA	121	16.1	102	11.8	223	13.8	56	7.9	54	6.1	110	6.9
SA	135	18.0	116	13.0	251	15.2	62	8.4	60	6.2	122	7.2
Tas	38	16.5	33	12.3	71	14.2	19	8.4	17	6.0	36	7.0
ACT	22	20.5	18	14.8	40	17.2	12	12.9	9	8.3	21	10.3
NT	7	10.7	4	9.5	11	10.4	1	3.2	1	3.8	2	3.6

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 23: Leukaemias (ICD 204–208)

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	53	8.0	47	7.4	100	7.7	6	0.9	8	1.3	14	1.1
5–9	33	4.9	31	4.9	64	4.9	14	2.1	6	0.9	20	1.5
10–14	17	2.5	20	3.1	37	2.8	10	1.5	9	1.4	19	1.5
15–19	21	3.2	16	2.6	37	2.9	12	1.8	3	0.5	15	1.2
20–24	18	2.5	16	2.3	34	2.4	11	1.6	3	0.4	14	1.0
25–29	23	3.2	14	2.0	37	2.6	9	1.3	9	1.3	18	1.3
30–34	23	3.2	25	3.5	48	3.3	15	2.1	11	1.5	26	1.8
35–39	39	5.4	17	2.3	56	3.8	12	1.7	7	1.0	19	1.3
40–44	35	5.2	34	5.0	69	5.1	25	3.7	14	2.1	39	2.9
45–49	46	7.0	20	3.1	66	5.1	23	3.5	10	1.6	33	2.6
50–54	55	10.6	46	9.2	101	10.0	29	5.6	16	3.2	45	4.4
55–59	75	17.9	33	8.1	108	13.1	35	8.3	21	5.2	56	6.8
60–64	89	25.2	64	17.9	153	21.5	46	13.0	33	9.3	79	11.1
65–69	134	39.7	75	21.1	209	30.2	95	28.2	40	11.3	135	19.5
70–74	171	61.9	106	32.4	277	45.9	124	44.9	78	23.9	202	33.5
75–79	167	93.0	112	45.9	279	65.9	115	64.0	84	34.5	199	47.0
80–84	109	103.0	109	61.7	218	77.2	110	103.9	86	48.7	196	69.4
85 and over	70	116.1	105	74.2	175	86.7	73	121.1	95	67.1	168	83.2
Total	**1,178**		**890**		**2,068**		**764**		**533**		**1,297**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	12.9		9.7		11.3		8.4		5.8		7.1	
95% CI	12.2 – 13.7		9.0 – 10.3		10.8 – 11.8		7.8 – 9.0		5.3 – 6.3		6.7 – 7.5	
AS Rate (Aust 1991)	13.5		8.5		10.8		9.0		4.8		6.6	
95% CI	12.7 – 14.3		8.0 – 9.1		10.3 – 11.2		8.3 – 9.6		4.4 – 5.2		6.3 – 7.0	
AS Rate (World)	10.4		7.0		8.6		6.1		3.4		4.6	
95% CI	9.8 – 11.0		6.5 – 7.5		8.2 – 9.0		5.7 – 6.6		3.1 – 3.7		4.4 – 4.9	
Lifetime risk (0–74)	1 in 100		1 in 160		1 in 124		1 in 167		1 in 310		1 in 219	
PYLL (0–74)							9,095		5,400		14,495	
Per cent of all cancers	2.8		2.5		2.7		4.0		3.6		3.8	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	383	13.3	293	8.3	676	10.5	237	8.4	185	5.0	422	6.5
Vic	271	12.9	202	7.6	473	10.0	183	8.8	141	5.1	324	6.7
Qld	236	16.2	176	10.3	412	13.0	130	9.3	95	5.4	225	7.1
WA	87	11.8	69	8.0	156	9.6	58	8.1	45	5.1	102	6.4
SA	122	16.5	88	9.9	210	12.7	72	10.0	48	5.1	120	7.1
Tas	27	12.0	24	8.7	51	10.1	11	5.1	16	5.6	27	5.3
ACT	14	13.4	10	8.4	25	10.8	11	11.4	7	5.9	18	8.4
NT	3	4.6	3	8.3	6	6.5	2	4.4	2	6.7	4	5.7

Note: AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 24: Alcohol-related cancers

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5–9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10–14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15–19	0	0.1	0	0.1	1	0.1	0	0.0	0	0.0	0	0.0
20–24	1	0.1	0	0.1	1	0.1	0	0.0	0	0.0	0	0.0
25–29	3	0.4	2	0.3	5	0.3	0	0.0	0	0.1	1	0.0
30–34	2	0.3	4	0.6	7	0.5	1	0.2	1	0.1	2	0.1
35–39	6	0.8	9	1.3	15	1.1	1	0.1	2	0.3	3	0.2
40–44	14	2.1	24	3.5	38	2.8	7	1.1	5	0.8	13	0.9
45–49	24	3.7	41	6.5	66	5.1	11	1.7	8	1.2	19	1.4
50–54	43	8.2	40	7.9	82	8.1	20	3.8	9	1.9	29	2.9
55–59	48	11.5	38	9.4	87	10.5	25	6.0	10	2.5	35	4.3
60–64	66	18.7	38	10.5	104	14.6	40	11.4	12	3.3	52	7.4
65–69	71	21.2	44	12.3	115	16.6	44	13.0	17	4.9	61	8.8
70–74	48	17.4	41	12.4	88	14.7	35	12.7	18	5.5	53	8.8
75–79	15	8.4	11	4.5	26	6.1	14	7.7	7	2.8	21	4.9
80–84	5	5.0	8	4.5	13	4.7	4	4.2	5	3.0	10	3.5
85 and over	3	4.6	7	4.7	9	4.6	3	5.1	5	3.8	8	4.2
Total	**350**		**306**		**657**		**206**		**100**		**307**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	3.8		3.3		3.6		2.3		1.1		1.7	
95% CI	3.4 – 4.2		3.0 – 3.7		3.3 – 3.9		2.0 – 2.6		0.9 – 1.3		1.5 – 1.9	
AS Rate (Aust 1991)	3.8		3.1		3.4		2.3		1.0		1.6	
95% CI	3.4 – 4.2		2.8 – 3.5		3.2 – 3.7		2.0 – 2.6		0.8 – 1.2		1.4 – 1.8	
AS Rate (World)	3.2		2.6		2.9		1.8		0.8		1.3	
95% CI	2.9 – 3.5		2.3 – 2.9		2.7 – 3.1		1.6 – 2.1		0.6 – 1.0		1.2 – 1.5	
Lifetime risk (0–74)	1 in 237		1 in 309		1 in 270		1 in 401		1 in 976		1 in 574	
PYLL (0–74)							2,444		1,223		3,667	
Per cent of all cancers	0.8		0.9		0.8		1.1		0.7		0.9	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	124	4.0	101	3.1	225	3.5	71	2.3	34	1.0	105	1.6
Vic	89	4.0	77	3.2	166	3.5	54	2.5	27	1.1	81	1.7
Qld	72	4.6	51	3.1	122	3.9	37	2.4	16	1.0	53	1.7
WA	31	3.9	27	3.2	57	3.5	18	2.3	8	1.0	26	1.7
SA	25	3.2	25	3.0	50	3.1	14	1.8	8	1.0	22	1.4
Tas	9	3.9	8	3.2	17	3.5	6	2.4	3	1.0	8	1.7
ACT	4	3.2	4	3.1	8	3.1	2	2.2	1	1.2	4	1.6
NT	4	8.2	2	2.9	6	5.8	2	4.6	0	1.3	3	3.1

Notes

1. AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.
2. Cancers attributable to alcohol are oropharynx, oesophagus, liver, larynx and female breast cancer.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Table 25: Smoking-related cancers

Australia 1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Age group												
0–4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5–9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10–14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15–19	9	1.4	4	0.6	13	1.0	0	0.1	0	0.0	1	0.0
20–24	30	4.3	5	0.7	35	2.5	0	0.1	0	0.1	1	0.1
25–29	60	8.4	18	2.5	78	5.5	3	0.4	1	0.2	4	0.3
30–34	72	10.0	34	4.7	106	7.3	9	1.2	8	1.1	16	1.1
35–39	107	14.7	75	10.2	181	12.5	15	2.0	17	2.3	31	2.2
40–44	153	22.6	89	13.2	242	17.9	49	7.2	32	4.7	81	6.0
45–49	290	44.3	153	23.9	443	34.2	131	20.1	75	11.7	206	16.0
50–54	487	94.2	181	36.3	668	65.8	267	51.5	115	23.1	382	37.6
55–59	674	160.5	213	52.2	887	107.2	389	92.8	146	35.9	536	64.8
60–64	995	281.3	277	77.6	1,272	179.0	635	179.5	190	53.3	825	116.1
65–69	1,402	415.3	413	116.5	1,815	262.2	976	289.3	283	79.7	1,259	181.9
70–74	1,409	510.2	450	137.7	1,859	308.2	1,056	382.3	314	96.1	1,370	227.1
75–79	991	551.7	347	142.2	1,337	315.9	851	473.6	299	122.6	1,149	271.5
80–84	609	575.4	175	99.3	784	277.7	550	519.9	147	83.1	697	246.8
85 and over	313	519.7	115	81.5	429	212.4	310	514.3	117	82.4	427	211.4
Total	**7,600**		**2,548**		**10,148**		**5,241**		**1,745**		**6,986**	
Rates per 100,000 with 95 per cent confidence intervals (95% CI)												
Crude rate	83.4		27.7		55.4		57.5		19.0		38.2	
95% CI	81.6 – 85.3		26.6 – 28.8		54.3 – 56.5		56.0 – 59.1		18.1 – 19.8		37.3 – 39.0	
AS Rate (Aust 1991)	86.5		25.0		52.9		60.7		16.8		36.2	
95% CI	84.6 – 88.5		24.0 – 26.0		51.9 – 54.0		59.0 – 62.3		16.0 – 17.6		35.3 – 37.0	
AS Rate (World)	62.7		19.0		39.4		41.6		12.3		25.7	
95% CI	61.2 – 64.1		18.2 – 19.8		38.6 – 40.2		40.4 – 42.7		11.7 – 12.9		25.0 – 26.3	
Lifetime risk (0–74)	1 in 13		1 in 43		1 in 20		1 in 20		1 in 65		1 in 31	
PYLL (0–74)							37,002		14,604		51,606	
Per cent of all cancers	17.8		7.3		13.1		27.3		11.7		20.5	

Average annual numbers and rates by State and Territory 1992–1996

	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate	Number	AS Rate
NSW	2,510	85.4	842	24.3	3,352	51.7	1,786	61.8	583	16.5	2,369	36.3
Vic	1,925	90.0	635	24.9	2,559	54.1	1,343	63.8	449	17.2	1,792	37.6
Qld	1,464	100.2	431	26.4	1,895	60.6	916	64.1	255	15.5	1,172	37.6
WA	635	87.2	213	25.4	847	53.5	441	62.6	148	17.6	589	37.6
SA	653	86.4	199	22.4	852	51.0	452	60.2	136	14.7	587	34.6
Tas	228	99.1	70	26.4	298	59.2	153	67.3	49	18.1	201	39.7
ACT	67	69.5	27	23.1	93	43.5	51	56.4	18	15.6	69	33.4
NT	46	109.8	17	42.1	63	77.7	33	94.7	12	32.1	45	64.1

Notes

1. AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.
2. Cancers attributable to smoking are oropharynx, oesophagus, stomach, anus, pancreas, larynx, lung, uterus, cervix, vulva, penis, bladder, renal parenchyma and renal pelvis.

Source: Cancer in Australia 1996, AIHW & AACR 1999.

Appendixes

Appendix A: International Classification of Diseases—Ninth Revision—cancer site—codes and combinations

Buccal cavity	
Lip	140
Tongue	141
Salivary glands	142
Gum	143
Floor of mouth	144
Other and unspecified parts of mouth	145
Pharynx	
Oropharynx	146
Nasopharynx	147
Hypopharynx	148
Other sites within the lip, oral cavity and pharynx	149
Head and neck	141–149
Digestive organs and peritoneum	
Oesophagus	150
Stomach	151
Small intestine	152
Colon	153
Rectum	154
Colorectal	153–154
Liver and intrahepatic bile ducts	155
Gallbladder and extrahepatic bile ducts	156
Pancreas	157
Retroperitoneum and peritoneum	158
Unspecified digestive organs	159
Respiratory system	
Nasal cavities, middle ear and accessory sinuses	160
Larynx	161
Trachea, bronchus and lung	162
Pleura	163
Respiratory systems, ill-defined and other intrathoracic organs	164–165
Bone, connective tissue, skin and breast	
Bone and articular cartilage	170
Connective and other soft tissue	171
Melanoma	172
Non-melanocytic skin cancer (NMSC)	173
Breast	174–175
Genitourinary organs	
Cervix	180
Placenta	181
Corpus uteri	179+182
Ovary and other uterine adnexae	183
Other and unspecified female genital organs	184
Prostate	185
Testis	186
Penis and other male genital organs	187
Bladder	188
Kidney, ureter and urethra	189
Gynaecological cancers	179–180, 182–184
Other and unspecified organs	
Eye	190
Brain	191
Other and unspecified parts of the nervous system (NS)	192
Thyroid gland	193
Other endocrine glands	194
Unknown primary site	195–199
Lymphatic and haematopoietic tissue	
Non-Hodgkin's lymphomas (NHL)	200+202
Lymphosarcoma and reticulosarcoma	200
Hodgkin's disease	201
Other neoplasms of lymphoid and histiocytic tissue	202
Lymphomas	200–202
Multiple myeloma and immunoproliferative neoplasms	203
Lymphatic leukaemia	204
Acute lymphatic leukaemia	204.0
Chronic lymphatic leukaemia	204.1
Myeloid leukaemia	205
Acute myeloid leukaemia	205.0
Chronic myeloid leukaemia	205.1
Monocytic leukaemia	206
Other and unspecified leukaemias	207–208
Leukaemias	204–208
Smoking-related cancers (Aetiological fractions are applied to the following codes)	140, 141, 143–151, 154.3–154.4, 157, 161, 162, 180, 179+182, 184.4, 186, 188, 189.0, 189.1
Alcohol-related cancers (Aetiological fractions are applied to the following codes)	141, 143–146, 148–149, 150, 155, 161, 174

Note: Abbreviated versions of these names may be used in this report.

Source: World Health Organization 1977.

Appendix B: Methods

This section describes the methods used to calculate the estimates presented in the tables in this report. The calculations in the example below are applicable to both incidence and mortality.

Example table

Trachea, bronchus and lung cancer incidence (ICD 162)—males

	No. of cases	1996 Aust. population*	Age-specific rate per 100,000	Australian 1991 Population Standard**	Expected number of cases
Age group	**column 1**	**column 2**	**column 3**	**column 4**	**column 5**
0–4	0	665,611	0.0	1,271,703	0.0
5–9	0	669,251	0.0	1,272,208	0.0
10–14	0	670,227	0.0	1,241,619	0.0
15–19	0	655,345	0.0	1,364,074	0.0
20–24	1	708,906	0.1	1,396,764	1.4
25–29	3	710,454	0.4	1,399,663	5.6
30–34	3	720,725	0.4	1,425,735	5.7
35–39	16	726,660	2.2	1,328,387	29.2
40–44	45	676,137	6.7	1,294,271	86.7
45–49	136	654,234	20.8	1,029,145	214.1
50–54	276	517,520	53.3	846,934	451.4
55–59	419	419,859	99.8	725,950	724.5
60–64	676	353,827	191.1	736,868	1408.2
65–69	1,013	337,445	300.2	671,390	2015.5
70–74	1,103	276,105	399.5	510,755	2040.5
75–79	816	179,593	454.4	384,495	1747.1
80–84	490	105,855	462.9	229,828	1063.9
85+	231	60,301	383.1	154,247	590.9
Total	**5,228**	**9,108,055**	**57.4**	**17,284,036**	**60.1**

* Australian Bureau of Statistics 1997b.

** Australian Bureau of Statistics 1993.

Crude rates—all age groups

A crude incidence rate is defined as the number of new cases of cancer divided by the population at risk in a specified time period. A crude mortality rate substitutes deaths for new cases in this calculation. Both are conventionally expressed as annual rates per l00,000 population and may be calculated for males, females or persons, or for subsets of the population (e.g. see age-specific rates). The total rate calculated in this way without adjustment for age or other factors is known as the 'crude rate'.

The crude rate is calculated by dividing the total number of cases across all age groups by the total population e.g.

$$\text{Crude incidence rate for lung cancer} = \frac{\text{Column 1 total}}{\text{Column 2 total}} \times 100{,}000$$

$$= \frac{5{,}228}{9{,}108{,}055} \times 100{,}000$$

$$= 57.4 \text{ per } 100{,}000$$

Age-specific rates

Age-specific rates are calculated by dividing the number of cases occurring in each specified age group by the corresponding population in the same age group expressed as a rate per l00,000 population. This rate may be calculated for particular age and sex groupings, e.g.

$$\text{Age-specific lung cancer incidence rates in males aged 75–79} = \frac{\text{Column 1 for this age}}{\text{Column 2 for this age}} \times 100{,}000$$

$$= \frac{816}{169{,}506} \times 100{,}000$$

$$= 454.4 \text{ per } 100{,}000$$

Age-standardised rates (AS Rate)

Rates are adjusted for age to facilitate comparisons between populations which have different age structures, e.g. between youthful and ageing communities. There are two different methods commonly used to adjust for age. In this publication we use direct standardisation in which age-specific rates are multiplied against a constant population (the Australian 1991 Population Standard or the World Standard Population). This effectively removes the influence of age structure on the summary rate which is described as the age-standardised rate. The method may be used for both incidence and mortality calculations. The method used for this calculation comprises three steps which can be followed by reference to the example table on the previous page.

Step 1 Calculate the age-specific rate (as shown above) for each age group (column 3).

Step 2 Calculate the expected number of cases in each 5-year age group by multiplying the age-specific rates (column 3) by the corresponding standard population (column 4) and dividing by 100,000, giving you the expected number of cases (column 5).

Step 3 Sum the expected number of cases in each age group to give the age-standardised rate (total column 5). If the standard population is not the World Standard Population then divide this sum by the total of the standard population and multiply by 100,000.

Confidence intervals (CI)

The age-standardised and crude incidence and mortality rates presented in the body of this report also show 95% confidence intervals. These confidence intervals indicate the variation that might be expected in such estimates purely by chance. The confidence intervals are calculated using the methods presented in Holman et al. (1987).

A relatively simple approximation of the confidence limits that readers might use when examining State and Territory age-standardised rates is as set out below.

$$\text{CI approximation} = \text{AS Rate} \pm 1.96 \times \frac{\text{AS Rate}}{\sqrt{\text{Number of cases}}}$$

Lifetime risk and cumulative rate

Lifetime risk is a measure which approximates the risk of contracting a particular cancer in a lifetime if the risks at the time of estimation remained throughout life. It is based on a mathematical relationship with the cumulative rate and is calculated in this publication for ages 0–74. Cumulative rate is a directly standardised rate calculated by summing age-specific rates from equal age groups, e.g. 5–9, 10–14 years. An example is provided below.

$$\text{Cumulative rate} = \frac{5 \times (\text{Sum of the age-specific rates}) \times 100}{100{,}000}$$

$$= \frac{5 \times 1074.5 \times 100}{100{,}000}$$

$$= 5.37\%$$

The factor of 5 is used to indicate the 5 years of life in each age group and the factor of 100 is used to present the result as a percentage. As age-specific rates are presented per 100,000 population (column 3), the result is divided by 100,000 to return the age-specific rates to a division of cases by population. Cumulative risk is related to cumulative rate by the expression:

$$\text{Cumulative risk} = \left(1 - e^{-rate/100}\right)$$

where rate is expressed as a percentage.

Lifetime risk is expressed as a '1 in n' proportion by taking the inverse of the above formula:

$$n = \frac{1}{\left(1 - e^{-rate/100}\right)}$$

For lung cancer in men, the cumulative rate was 5.37% (see previous page), therefore:

$$n = \frac{1}{\left(1 - e^{-5.37/100}\right)}$$

$$= 19.13$$

That is, for men, the lifetime risk (0–74 years) of developing lung cancer is 1 in 19, providing they remain at risk for the whole period and the 1996 age-specific rates apply throughout their lives. Note that no account has been taken of specific cancer risk factors, e.g. the risk for men who smoke would be higher than that for those who have never smoked.

Per cent of all cancers

The 'per cent of all cancers' measure is the proportion of all causes accounted for by a particular cancer. The measure may be computed for cancer incidence or mortality. Using an incidence example, the measure is calculated by taking the number of new cases of a particular cancer, e.g. lung cancer, and dividing that by the total number of all new cancer cases and multiplying by 100 to express it as a percentage. This is undertaken for each sex and for total persons. Note that for this publication the incidence and mortality of non-melanocytic skin cancers is not included in total new cancer cases.

Sex ratio

This measure indicates the relative incidence or mortality between the sexes. It can be calculated on the basis of observed numbers, crude rates, age-standardised rates or cumulative rates per cent. In this publication it is calculated using the age-standardised rates where the male rate is divided by the female rate for each cancer. Ratios greater than 1 indicate an excess in males while ratios less than 1 indicate an excess in females.

It is preferable to use either the age-standardised rates or the cumulative rate as these both adjust for age variations between male and female populations. In addition, the use of cumulative rate per cent discounts the occurrence of cancer in people aged over 75. This gives more emphasis, therefore, to early cancer diagnosis or death, and diminishes the impact of variable diagnostic investigation of the elderly.

Person-years of life lost

Person-years of life lost is a concept which attempts to measure the number of years of life lost per annum due to death as a result of a specific cause, e.g. lung cancer, given life expectancies at specific ages. Age groups 0–4 up to 70–74 were used for the calculations, as deaths before age 75 are regarded as premature for both men and women. The method used in this publication for the calculation of person-years of life lost is an aggregation of years between age at death and 75 for each person for each cancer, e.g. a person dying at age 50 contributes 25 years to the measure of person-years of life lost.

Average annual rates of change

To indicate the extent of change in age-standardised rates over time, a linear line of best fit is calculated for the time frame in question. Average annual rates of change are then calculated using the geometric formula:

$$\text{Average rate of change} = \left(\left(P_n / P_o \right)^{1/N} - 1 \right) \text{ x } 100$$

where P_n = rate at later year n

P_o = rate at earlier year o

N = $n - o$.

This process averages out variations in the actual annual changes that may have occurred between the two points in time.

Mortality to incidence ratio

The mortality to incidence ratio is calculated by dividing the number of deaths for a particular cancer by the number of new cases for that cancer in a specified time period. If registration is complete and the incidence of the cancer in question is not changing rapidly, the mortality to incidence ratio should reflect long-term survival.

Appendix C: Population data

Australian resident population 1996

	1996		
Age	**Males**	**Females**	**Total**
0–4	665,611	631,438	1297,049
5–9	669,251	636,798	1,306,049
10–14	670,227	637,990	1,308,217
15–19	655,345	623,774	1,279,119
20–24	708,906	687,960	1,396,866
25–29	710,454	707,561	1,418,015
30–34	720,725	723,796	1,444,521
35–39	726,660	729,327	1,455,987
40–44	676,137	678,946	1,355,083
45–49	654,234	639,704	1,293,938
50–54	517,520	497,412	1,014,932
55–59	419,859	407,540	827,399
60–64	353,827	356,656	710,483
65–69	337,445	354,740	692,185
70–74	276,105	327,017	603,122
75–79	179,593	243,799	423,392
80–84	105,855	176,603	282,458
85+	60,301	141,598	201,899
Total	**9,108,055**	**9,202,659**	**18,310,714**

Source: Australian Bureau of Statistics 1997b.

Australian Standard Population* and World Standard Population**

	Australian Standard Population (1991)		World Standard Population	
Age		**% of total**		**% of total**
0–4	1,271,703	7.4	12,000	12.0
5–9	1,272,208	7.4	10,000	10.0
10–14	1,241,619	7.2	9,000	9.0
15–19	1,364,074	7.9	9,000	9.0
20–24	1,396,764	8.1	8,000	8.0
25–29	1,399,663	8.1	8,000	8.0
30–34	1,425,735	8.2	6,000	6.0
35–39	1,328,387	7.7	6,000	6.0
40–44	1,294,271	7.5	6,000	6.0
45–49	1,029,145	6.0	6,000	6.0
50–54	846,934	4.9	5,000	5.0
55–59	725,950	4.2	4,000	4.0
60–64	736,868	4.3	4,000	4.0
65–69	671,390	3.9	3,000	3.0
70–74	510,755	3.0	2,000	2.0
75–79	384,495	2.2	1,000	1.0
80–84	229,828	1.3	500	0.5
85+	154,247	0.9	500	0.5
Total	**17,284,036**	**100.0**	**100,000**	**100.0**

* Australian Bureau of Statistics 1993.

** Doll & Smith 1982.

Appendix D: Cancer registration in Australia

The table below provides information about cancer registration in Australia. Each State and Territory operates its own registry. Generally, operational guidelines for each of the registries are similar and coincide with the objectives of the International Association of Cancer Registries. Although some registries operate under different coding systems for site, morphology and other variables, the bulk of information is directly comparable and has been reconciled for this publication. The reporting sources of the registries vary according to the local conditions and those bodies named in the legislation. Every attempt is made to report all cancer cases, although not every case will be identified. Cancer registries are dependent upon their reporting sources. Variation in reporting of cancers by age, sex, type, geographical location, country of birth or other variables does occur and may have effects on the final statistics. Occasionally, delays in reporting some case information may extend over several years but this has a minimal effect on the final reported data. In order to minimise the effects on the final reported registration, multiple reporting sources are used to compile case information where possible. Case information is exchanged between registries where there is cause for suspicion of duplicate registration. Further information regarding registry coding practices may be obtained by contacting the Registrar in each State or Territory.

States and Territories	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Total population (1996)	6,204,728	4,560,155	3,338,690	1,765,256	1,474,253	474,443	308,251	181,843
Per cent of Australian population	33.9	24.9	18.2	9.6	8.1	2.6	1.7	1.0
Per cent of population older than age 65	12.6	12.5	11.2	10.4	14.0	12.7	7.3	3.2
No. new cancers (1996)	26,135	19,800	14,631	6,699	6,892	2,200	978	363
First year of population registration	1972	1982	1982	1982	1977	1978	1972	1981
Year of legislation	1972	1982	1982	1981	1977	1992	1994	1991
Funding source	Pvte–Govt	Pvte–Govt	Govt	Govt	Govt	Pvte–Govt	Govt	Govt
ICD site coding	ICD-9	ICD-9	ICD-9	ICD-O-1	ICD-9	ICD-9	ICD-9	ICD-9
Morphology coding	SNOMED-II	ICD-O-2	ICD-O-2	ICD-O-2	SNOMED-II	ICD-O-2	SNOMED-II	SNOMED-II
Reporting sources								
Public hospitals	Yes	Yes	Yes	No*	Yes	Yes	Yes	Yes
Private hospitals	Yes	Yes	Yes	No*	Yes	Yes	Yes	No
Repatriation hospitals	Yes	Yes	Yes	No*	Yes	Yes	Yes	No
Pathology laboratories	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Radiotherapy units	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Nursing homes	Yes	No	Yes	No	No	No*	Yes	No
Registrar of Births, Deaths and Marriages	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Doctors	No*	No*	No*	No*	No*	No*	No*	No*

* Data are provided on special request only.

Appendix E: Cancer registries contact list

Cancer Research and Registers Division
NSW Cancer Council
Locked Mail Bag No. 1
KINGS CROSS NSW 2011

Phone: 02 9334 1902
Fax: 02 9368 0843
E-mail: ccr@nswcc.org.au
Home page: www.nswcc.org.au

Director: Professor Bruce Armstrong
E-mail: brucea@nswcc.org.au
Phone: 02 9334 1901

Registry Manager: Ms Elizabeth Tracey
E-mail: etracey@nswcc.org.au
Phone: 02 9334 1974

Victorian Cancer Registry
Anti-Cancer Council of Victoria
1 Rathdowne Street
CARLTON SOUTH VIC 3053

Phone: 03 9635 5000
Fax: 03 9635 5210
Home page: www.accv.org.au

Director: Professor Graham Giles
E-mail: ggg@accv.org.au
Phone: 03 9635 5154

Registrar: Ms Kathryn Whitfield
E-mail: kathryn@accv.org.au
Phone: 03 9635 5160

Statistician: Mrs Vicky Thursfield
E-mail: vickyt@accv.org.au
Phone: 03 9635 5162

Queensland Cancer Registry
Queensland Department of Health
GPO Box 48
BRISBANE QLD 4001

Phone: 07 3258 2331
Fax: 07 3258 2345

Director: Dr Ian Ring
E-mail: ian_ring@health.qld.gov.au
Phone: 07 3234 0921
Fax: 07 3234 1529

Registrar: Mrs Judy Symmons
E-mail: judith_symmons@health.qld.gov.au
Phone: 07 3258 2333
Fax: 07 3258 2345

Western Australian Cancer Registry
Health Information Centre, Health Department of Western Australia
PO Box 8172
Stirling St
PERTH WA 6849

Phone: 08 9222 4022/4249
Fax: 08 9222 4236
Home page: www.health.wa.gov.au
E-mail: wacanreg@health.wa.gov.au

Director & Registrar: Dr Tim Threlfall
E-mail: tim.threlfall@health.wa.gov.au

South Australian Cancer Registry
Epidemiology Branch, Public & Environmental Health Service, Dept of Human Services
PO Box 6
RUNDLE MALL SA 5000
Phone: 08 8226 6372
Fax: 08 8226 6291

Director: Associate Professor David Roder
Phone: 08 8226 6350
E-mail: David.Roder@dhs.sa.gov.au

Registrar: Ms Lesley Milliken
E-mail: Lesley.Milliken@dhs.sa.gov.au
Phone: 08 8226 6372

Medical Officer/Epidemiologist: Dr Wayne Clapton
Phone: 08 8226 6362
E-mail: Wayne.Clapton@dhs.sa.gov.au

Tasmanian Cancer Registry
Menzies Centre for Population Health Research
GPO Box 252-23
HOBART TAS 7001

Phone: 03 6226 7714
Fax: 03 6226 7704

Director: Professor Terry Dwyer
E-mail: T.Dwyer@utas.edu.au
Phone: 03 6226 7702

Registrar: Ms Rosie Ashbolt
E-mail: rosemary.ashbolt@utas.edu.au

Northern Territory Cancer Registry
Epidemiology & Statistics Branch Territory Health Services
PO Box 40596
CASUARINA NT 0811

Phone: 08 8999 2977
Fax: 08 8999 2618

Director & Registrar: Mr Edouard D'Espaignet
E-mail: edouard.despaignet@dwnhhse.health.nt.gov.au
Phone: 08 8999 2933
Fax: 08 8999 2700

Epidemiologist: Mr Michael Pearce
E-mail: michael.pearce@dwnhhse.health.nt.gov.au
Phone: 08 8999 2540

Australian Capital Territory Cancer Registry
Clinical Epidemiology & Health Outcomes Centre
Level 2, Building 6 The Canberra Hospital
PO Box 11
WODEN ACT 2606

Phone: 02 6244 4276
Fax: 02 6244 4138

Director: Dr Bruce Shadbolt
E-mail: bruce_shadbolt@dpa.act.gov.au
Phone: 02 6244 4288
Fax: 02 6244 4138

Registrar: Ms Barbara Stuart-Harris
E-mail: barbara_stuartharris@dpa.act.gov.au
Phone: 02 6244 4285

Glossary

AACR: Australasian Association of Cancer Registries

ABS: Australian Bureau of Statistics

ACT: Australian Capital Territory—a land-locked Territory of Australia situated within the State of New South Wales on the eastern seaboard with a population of 308,251 (1996). Its capital city is Canberra, which is also Australia's capital city.

AIHW: Australian Institute of Health and Welfare

AS Rate: age-standardised rate

Cancer (malignant neoplasm): a term used to describe one of several diseases which result when the process of cell division, by which tissues normally grow and renew themselves, becomes uncontrolled and leads to the development of malignant cells. These cancer cells multiply in an uncoordinated way, independently of normal growth control mechanisms, to form a tumour. This tumour may expand locally by invasion or systemically by metastasis via the lymphatic or vascular systems. If left untreated most malignant tumours will eventually result in death. (*See* What is cancer? page 1.)

Cancer death: a death for which the underlying cause is indicated as cancer. Persons with cancer who die of other causes are not counted in the death statistics in this publication.

CI: Confidence interval.

CNS: Central nervous system.

Epidemiology: the quantitative study of the distribution and determinants of health-related states and events in populations, and the application of this study to the control of health problems.

IACR: International Association of Cancer Registries

ICD-9: International Classification of Disease—a coding system used to identify the primary site of the malignancy. This classification is in its ninth revision.

Incidence: see **new cancer case**

MIR: Mortality to incidence ratio

Mortality: see **cancer death**

NCSCH: National Cancer Statistics Clearing House

New cancer case: a person who has a new cancer diagnosed for the first time. One person may have more than one cancer and therefore may be counted twice in incidence statistics if it is decided that the two cancers are not of the same origin. This decision is based on a series of principles set out in more detail in a publication by Jensen et al. (1991).

NSW: New South Wales—a State of Australia on the eastern seaboard which has the largest capital city in Australia, Sydney, and a population of 6,204,728 (1996).

NHL: Non-Hodgkin's lymphoma.

NMSC: Non-melanocytic skin cancers.

NT: Northern Territory—a Territory in the north of Australia with a population of 181,843 (1996) and Darwin as its capital city.

PSA: prostate-specific antigen

PYLL: person-years of life lost

Qld: Queensland—a State in the north-east of Australia with a population of 3,338,690 (1996) and Brisbane as its capital city.

SA: South Australia—a State in the southern part of Australia with a population of 1,474,253 (1996) and Adelaide as its capital city.

SNOMED: Systematised Nomenclature of Medicine

Tas: Tasmania—an island State in the south-east of Australia with a population of 474,443 (1996) and Hobart as its capital city.

Vic: Victoria—a State in the south-east of Australia with a population of 4,560,155 (1996) and Melbourne as its capital city.

WA: Western Australia—the largest State in Australia, located in the west with a population of 1,765,256 (1996) and Perth as its capital city.

WHO: World Health Organization

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World Health Organization 1996. World Health Statistics 1995. Geneva: World Health Organization.

World Health Organization 1998. World Health Statistics 1996. Geneva: World Health Organization.

Related publications

A list of related publications from State and Territory cancer registries follows.

New South Wales

Coates M & Armstrong B 1999. Cancer in New South Wales. Incidence and mortality 1996. Sydney: NSW Cancer Council, 1999.

Coates M, Kricker A & Armstrong B 1999. Breast cancer in New South Wales in 1997. Cancer Information Update No. 7. Sydney: NSW Cancer Council, February 1999.

Supramaniam R, Smith D, Coates M & Armstrong B 1999. Survival from cancer in New South Wales in 1980 to 1995. Sydney: NSW Cancer Council.

Lewis N, Nguyen H, Smith D, Coates M & Armstrong B 1999. Cancer maps for New South Wales: variation by Local Government Area 1991 to 1995. Sydney: NSW Cancer Council.

Farac K, Smith D, Sweeny A, Kricker A, Bilous M & Armstrong B 1999. Pathology of breast cancer in New South Wales women in 1995. Sydney: NSW Cancer Council.

Coates M 1999. Pancreatic cancer in New South Wales, 1972 to 1996. Melanoma rates still rising. Cervical cancer rates continue to fall. Cancer Information Update No. 8. Sydney: NSW Cancer Council, June 1999.

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