

Cancer in Australia 1995

**Incidence and mortality data for 1995
and selected data for 1996**

The Australian Institute of Health and Welfare is an independent health and welfare statistics and information agency in the Commonwealth Health and Aged Care portfolio. The Institute's mission is to inform community discussion and decision making through national leadership in the development and provision of authoritative and timely information on the health and welfare of Australians.

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

The purposes of the AACR are:

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

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

CANCER SERIES

Number 10

Cancer in Australia 1995

**Incidence and mortality data for 1995
and selected data for 1996**

December 1998

Australian Institute of Health and Welfare
Australasian Association of Cancer Registries

Canberra

AIHW Cat. No. CAN 5

© Commonwealth of Australia 1998

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without prior written permission from AusInfo. Requests and enquiries concerning reproduction and rights should be address to the Manager, Legislative Services, AusInfo, GPO Box 1920, Canberra ACT 2601.

This is the tenth publication of the Australian Institute of Health and Welfare's Cancer Series. A complete list of the Institute's publications is available from the Publications Unit, Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601, or via the Institute's web site at <http://www.aihw.gov.au>.

ISSN 1307-3307
ISBN 0 642 24792 7

Suggested citation

Australian Institute of Health and Welfare (AIHW) and Australasian Association of Cancer Registries (AACR) 1998. Cancer in Australia 1995: Incidence and mortality data for 1995 and selected data for 1996. AIHW cat. No. CAN 5. Canberra: Australian Institute of Health and Welfare (Cancer Series No. 10).

Australian Institute of Health and Welfare

Board Chair
Professor Janice Reid

Director
Dr Richard Madden

Any enquiries about or comments on this publication should be directed to:

Ms Anne-Marie Waters
Australian Institute of Health and Welfare
GPO Box 570
Canberra ACT 2601

Phone: (02) 6244 1127

Published by Australian Institute of Health and Welfare

Printed by Pirie Printers

Preface

The Australian Institute of Health and Welfare (AIHW) and the Australasian Association of Cancer Registries are pleased to present *Cancer in Australia 1995*, an important publication arising from the National Cancer Statistics Clearing House (NCSCCH). 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, at three years after the close of the reference year. This is a major achievement of the cancer registries and the Institute in improving national reporting timeliness. We acknowledge the efforts of all the cancer registries in compiling and providing timely data to the NCSCCH 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 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.

Richard Madden
Director
Australian Institute of Health and Welfare

Professor Bruce Armstrong
Chair
Australasian Association of Cancer Registries

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.

Australian Institute of Health and Welfare

Dr Paul Jelfs
Mr Robert van der Hoek
Ms Anne-Marie Waters
Ms Kathy Southgate
Ms Amanda Nobbs

New South Wales

Professor Bruce Armstrong
Mrs Marylon Coates
Mrs Noreen Panos
Mrs Maria Arcorace

Victoria

Dr Graham Giles
Ms Kathryn Whitfield
Ms Vicky Thursfield
Ms Sue Douglas

Queensland

Dr Ian Ring
Mrs Judy Symmons
Ms Sue Cornes

Western Australia

Dr Tim Threlfall
Dr Judy Thompson

South Australia

Assoc. Professor David Roder
Ms Lesley Milliken

Tasmania

Professor Terence Dwyer
Mrs Dace Shugg

Australian Capital Territory

Dr Bruce Shadbolt

Northern Territory

Dr John Condon
Ms Karen Dempsey
Ms Maxene Woods

Contents

Preface	v
Contributors	vii
1 Introduction	1
What is cancer?.....	1
Cancer surveillance in Australia	2
The National Cancer Statistics Clearing House	2
Structure of this report.....	3
2 Cancer in Australia.....	5
General.....	5
Most common cancers.....	5
Age and sex differences	10
Alcohol- and smoking-related cancers	15
Cancer rates in the States and Territories 1991-1995.....	16
3 National trends in cancer incidence and mortality.....	20
4 Incidence and mortality tables.....	30
Guide to interpreting incidence and mortality tables.....	30
Summary tables 1995	33
Tables for selected cancers 1995.....	37
Appendixes.....	59
Appendix A: International Classification of Diseases – Ninth Revision – cancer site – codes and combinations.....	61
Appendix B: Methods.....	62
Appendix C: Population data.....	67
Appendix D: Cancer registration in Australia.....	68
Appendix E: Cancer Registries contact list	69
Glossary.....	70
References.....	72
Related publications.....	73

List of tables

Table 1:	Most frequently occurring cancers in Australia, 1995.....	7
Table 2:	Cancer site and per cent of cancers attributable to alcohol and smoking.....	15
Table 3:	Incidence summary table, 1995.....	35
Table 4:	Mortality summary table, 1995.....	36
Table 5:	All cancers (except non-melanocytic skin cancers) (ICD 140-172, 174-208).....	39
Table 6:	Cancer of the stomach (ICD 151).....	40
Table 7:	Cancer of the colon and rectum (ICD 153-154).....	41
Table 8:	Cancer of the pancreas (ICD 157).....	42
Table 9:	Cancer of the trachea, bronchus and lung (ICD 162).....	43
Table 10:	Cancer of the skin—melanoma (ICD 172).....	44
Table 11:	Cancer of the breast (ICD 174-175).....	45
Table 12:	Cancer of the cervix (ICD 180).....	46
Table 13:	Cancer of the uterus (ICD 179 + 182).....	47
Table 14:	Cancer of the ovary and other uterine adnexae (ICD 183).....	48
Table 15:	Cancer of the prostate (ICD 185).....	49
Table 16:	Cancer of the testis (ICD 186).....	50
Table 17:	Cancer of the bladder (ICD 188).....	51
Table 18:	Cancer of the kidney and other and unspecified urinary organs (ICD 189).....	52
Table 19:	Cancer of the brain (ICD 191).....	53
Table 20:	Cancers of unknown primary site (ICD 195-199).....	54
Table 21:	Non-Hodgkin's lymphoma (ICD 200 + 202).....	55
Table 22:	Leukaemias (ICD 204-208).....	56
Table 23:	Alcohol-related cancers.....	57
Table 24:	Smoking-related cancers.....	58

List of figures

Figure 1:	Most frequently occurring cancers, Australia, 1995.....	8
Figure 2:	Most frequently occurring cancers by age group, ranked by number of new cases (persons), Australia, 1995	9
Figure 3:	Age-specific incidence and mortality rates for melanoma and cancers of the lung, prostate and testis in males, Australia, 1995.....	11
Figure 4:	Age-specific incidence and mortality rates for melanoma and cancers of the lung, breast and cervix in females, Australia, 1995	12
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, 1995.....	13
Figure 6:	Age-specific incidence and mortality rates for colorectal cancer, cancers of the bladder and stomach, and non-Hodgkin’s lymphoma in females, Australia, 1995.....	14
Figure 7:	Age-standardised incidence rates for all cancers (excluding non-melanocytic skin cancers) and for melanoma by State and Territory, 1991–1995.....	19
Figure 8:	Trends in age-standardised incidence and mortality rates for all cancers (excluding non-melanocytic skin cancers), Australia, 1983–1996.....	20
Figure 9:	Trends in age-standardised incidence and mortality rates for cancers of the prostate and breast, and colorectal cancer, Australia, 1983–1996.....	24
Figure 10:	Trends in age-standardised incidence and mortality rates for cancer of the lung, smoking-related cancers and melanoma, Australia, 1983–1996.....	25
Figure 11:	Trends in age-standardised incidence and mortality rates for non-Hodgkin’s lymphoma, and cancers of the bladder and stomach, Australia, 1983–1996.....	26
Figure 12:	Trends in age-standardised incidence and mortality rates for leukaemias and cancers of the brain and pancreas, Australia, 1983–1996.....	27
Figure 13:	Trends in age-standardised incidence and mortality rates for cancers of the cervix, uterus and ovary, Australia, 1983–1996	28
Figure 14:	Trends in age-standardised incidence and mortality rates for cancers of the kidney and testis and cancers of unknown primary site, Australia, 1983–1996.....	29

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 (NCSCCH) 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 NCSCCH. This provides a facility for compiling data produced by individual State and Territory registries on a continuing basis.

The aim of the NCSCCH 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 NCSCCH 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 NCSCCH by the State and Territory cancer registries enable record linkage to be performed and the analysis of cancer by site and behaviour.

The NCSCCH produces reports of national incidence and mortality data. Periodically, analyses of cancer histology, differentials in cancer rates by country of birth, geographical variation and trends over time are undertaken on an accumulation of data which permits examination of the data in greater depth. In the future it is anticipated that survival estimates at a national level will be presented in this publication. So far, such estimates have been presented in a separate publication for cancer of the breast (AIHW et al. 1998).

The NCSCCH 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
Attention: Ms Anne-Marie Waters
GPO Box 570
Canberra ACT 2601
Phone (02) 6244 1000.

Structure of this report

This report is divided into four major components:

- an introduction and overview of cancer in Australia in 1995;
- summary tables for all cancer sites for 1995;
- a series of data tables for the most common cancer sites, and some less common but topical cancer sites, for 1995;
- 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 (1983–1995) and mortality (1983–1996).

Summary tables of incidence and mortality for 1995 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 1995 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 NCSCCH 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 1995; 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 will be available on the Institute's Internet web site at the following address:

<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 which are less life-threatening than most other 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 78,205 new cancer cases and 33,498 deaths due to cancer in Australia in 1995. At the incidence rates prevailing in 1995, 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, over 261,900 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 29% of male deaths and 25% of female deaths.

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). Non-melanocytic skin cancer has a relatively low mortality rate at 1.9 per 100,000 compared with the high mortality rates of male lung cancer at 56.0 per 100,000, female breast cancer (25.6) and prostate cancer (33.1). 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

Prostate cancer is the most common registrable cancer with 11,994 new cases registered in 1995 (Table 1). Among all persons, the combination of cancers of the colon and rectum (10,615 new cases), often referred to as bowel or colorectal cancer, is the next most common registrable cancer. Prostate and colorectal cancers are followed by breast (10,008) and lung (7,445) cancers, and melanoma (7,404). Together these five cancers account for 61% of all registrable cancers in 1995.

In males, the most common registrable cancers after prostate cancer are colorectal cancer (5,789 new cases diagnosed in 1995), lung cancer (5,134) and melanoma (4,087) (Table 1, Figure 1). These four cancers account for 62% of all registrable cancers in males.

In females, breast cancer (9,951) is the most common registrable cancer, followed by colorectal cancer (4,826), melanoma (3,317) and lung cancer (2,311) which in total account for 59% of all cancers in females.

The most common cancers causing death are lung (4,697), prostate (2,564) and colorectal (2,418) cancers in males, and breast (2,634), colorectal (2,090) and lung (1,998) 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 (45,755 in 1995), followed by colorectal cancer (30,513) and breast cancer (29,590). Cancer of the brain and nervous system is responsible for the fourth highest number of person-years of life lost (15,578). This contrasts with its ranking as the thirteenth most common cancer (1,275 new cases diagnosed in 1995). Further, the ratio of person-years of life lost to new cases for cancer of the brain and nervous system (12.2) is much higher than that for lung cancer (6.1), colorectal cancer (2.9) or breast cancer (3.0). 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 46% of all cancers in this age group. In those aged 15–44, melanoma and breast cancer are the most common cancers, while breast, colorectal, 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 (22 deaths) and myeloid leukemia (16 deaths) in the 0–14 age group and cancer of the brain (125) in the 15–44 age group. In the age group 45–64, cancers of unknown primary site (457 deaths) and cancer of the brain (353 deaths) are responsible for a substantial number of deaths. Cancers of unknown primary site (1,699 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 and pancreas have MIRs of more than 0.9 while cancers of the oesophagus and lung, and myeloid leukemia, have ratios of between 0.8 and 0.9. MIRs for some other important cancers are 0.42 (colorectal), 0.35 (cervix), 0.78 (brain), 0.21 (prostate) and 0.26 (female breast cancer). Melanoma is one of the few common cancers with a consistently low MIR of approximately 0.13.

Table 1: Most frequently occurring cancers in Australia, 1995^{1,2}

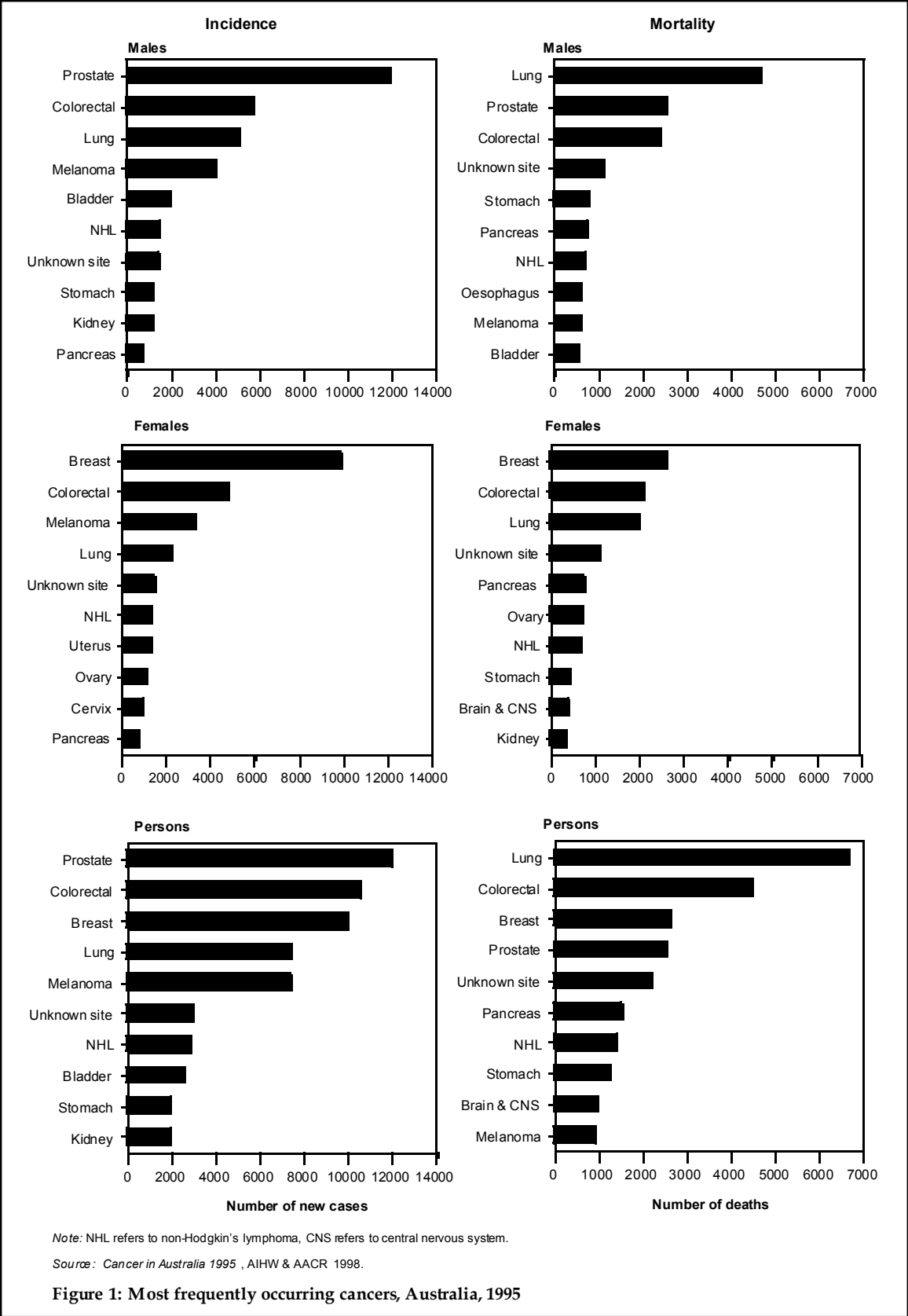
Cancer site	New cases				Deaths			
	Number	% of all new cancer cases	AS Rate	Lifetime risk ³	Number	% of all cancer deaths	AS Rate	PYLL ³
Males								
Prostate	11,994	27.6	144.0	1 in 9	2,564	13.6	33.1	6,660
Colorectal	5,789	13.3	68.1	1 in 18	2,418	12.8	29.1	17,570
Lung	5,134	11.8	60.6	1 in 19	4,697	24.9	56.0	31,648
Melanoma	4,087	9.4	46.4	1 in 26	601	3.2	7.1	7,568
Bladder	1,976	4.6	23.7	1 in 54	580	3.1	7.4	2,028
Non-Hodgkin's lymphoma	1,536	3.5	17.6	1 in 68	730	3.9	8.6	8,498
Unknown primary	1,468	3.4	17.7	1 in 76	1,132	6.0	13.7	7,545
Stomach	1,268	2.9	15.1	1 in 86	818	4.3	10.0	5,378
Kidney	1,181	2.7	13.7	1 in 84	463	2.5	5.5	3,738
Pancreas	780	1.8	9.3	1 in 137	776	4.1	9.3	5,928
Females								
Breast	9,951	28.6	101.1	1 in 11	2,634	18.0	25.6	29,378
Colorectal	4,826	13.9	46.1	1 in 26	2,090	14.3	19.3	12,943
Melanoma	3,317	9.5	34.4	1 in 36	334	2.3	3.3	4,750
Lung	2,311	6.6	22.7	1 in 48	1,998	13.7	19.3	14,108
Unknown primary	1,511	4.3	14.1	1 in 95	1,084	7.4	9.8	5,928
Non-Hodgkin's lymphoma	1,372	3.9	13.4	1 in 89	700	4.8	6.6	5,318
Uterus	1,356	3.9	13.6	1 in 76	290	2.0	2.7	1,638
Ovary	1,153	3.3	11.6	1 in 99	724	5.0	7.0	6,638
Cervix	947	2.7	9.9	1 in 122	334	2.3	3.3	4,698
Pancreas	789	2.3	7.2	1 in 192	757	5.2	6.9	3,793
Persons								
Prostate	11,994	15.3	63.9	1 in 17	2,564	7.7	13.2	6,660
Colorectal	10,615	13.6	56.1	1 in 21	4,508	13.5	23.6	30,513
Breast	10,008	12.8	52.8	1 in 22	2,657	7.9	13.9	29,590
Lung	7,445	9.5	39.5	1 in 27	6,695	20.0	35.4	45,755
Melanoma	7,404	9.5	39.7	1 in 30	935	2.8	5.0	12,318
Unknown primary	2,979	3.8	15.6	1 in 85	2,216	6.6	11.6	13,473
Non-Hodgkin's lymphoma	2,908	3.7	15.4	1 in 77	1,430	4.3	7.5	13,815
Bladder	2,622	3.4	13.8	1 in 87	815	2.4	4.2	2,788
Stomach	1,947	2.5	10.2	1 in 123	1,276	3.8	6.7	7,920
Kidney	1,926	2.5	10.2	1 in 109	816	2.4	4.3	5,650

Notes

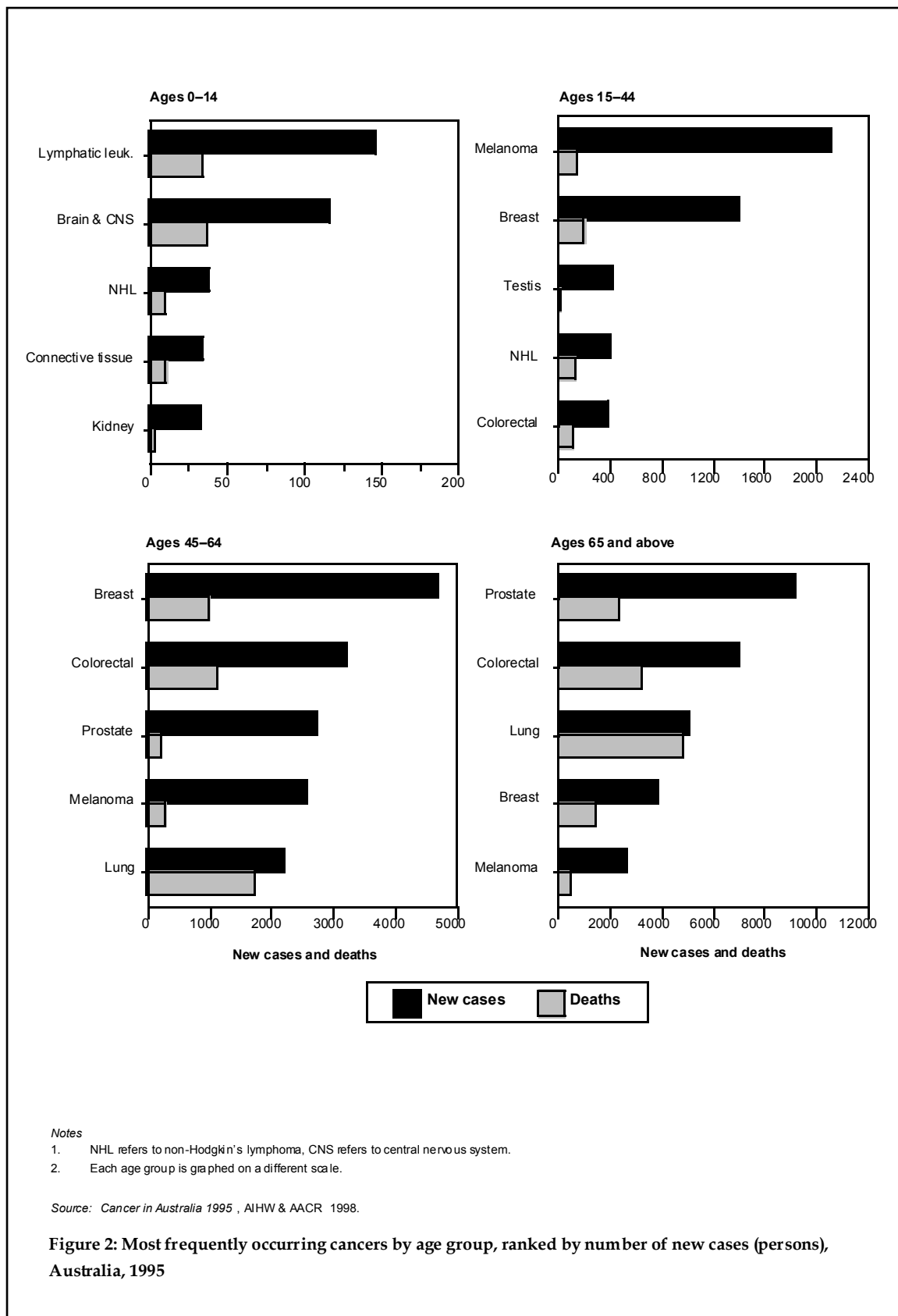
1. Rates are expressed per 100,000 population and age-standardised to the Australian 1991 Population (AS Rate).
2. Non-melanocytic skin cancer, known to be the most common cancer type, is excluded from this list as it is not a registrable cancer.
3. These measures are calculated for ages 0–74 years; PYLL refers to person-years of life lost. Methods for the calculation of these measures are presented in Appendix B.

Source: *Cancer in Australia 1995*, AIHW & AACR 1998.

Most frequently occurring cancers



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 1995*, AIHW & AACR 1998.

Figure 2: Most frequently occurring cancers by age group, ranked by number of new cases (persons), Australia, 1995

Age and sex differences

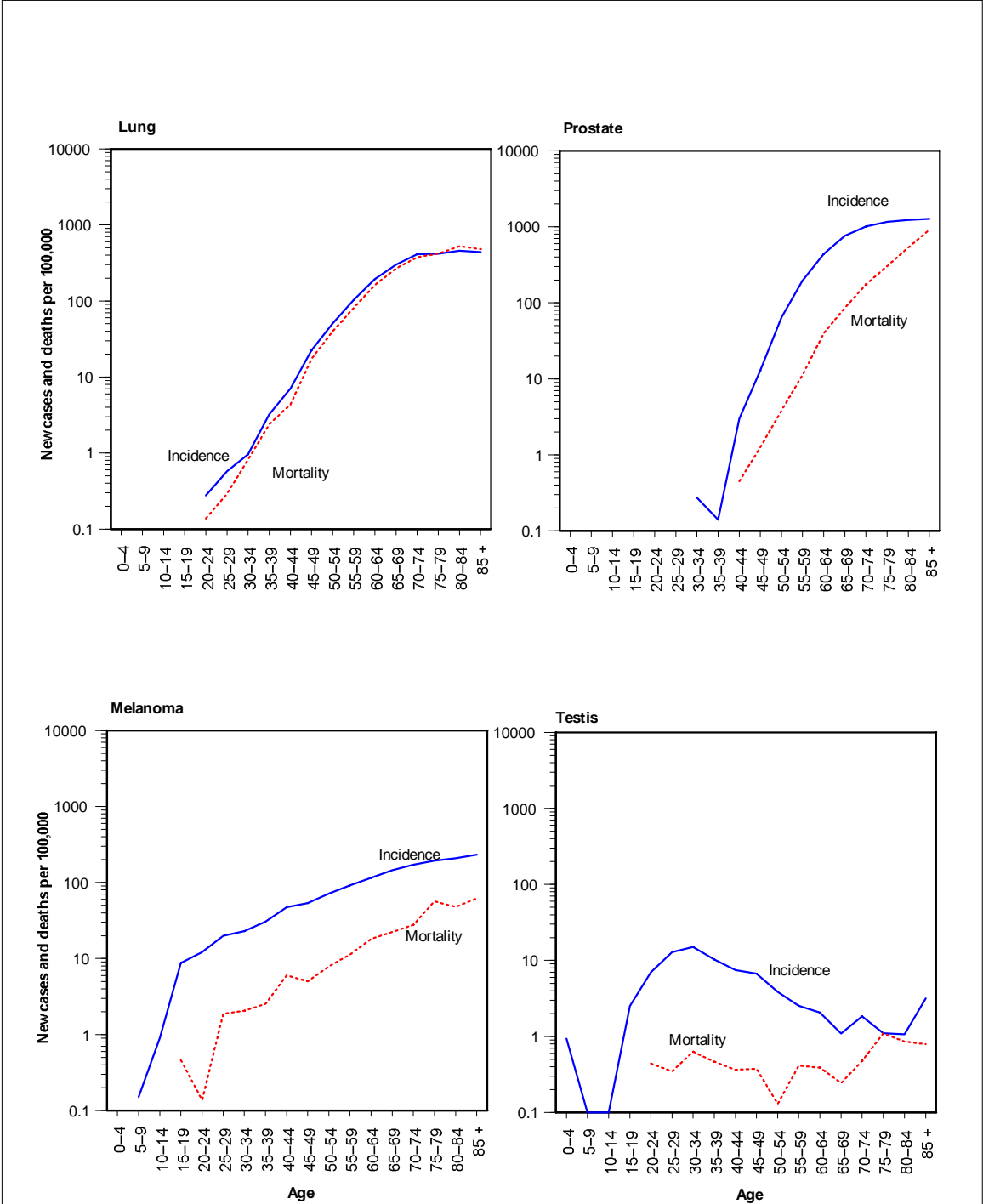
Cancer occurs more commonly in males than females. The age-standardised incidence rate in 1995 for all cancers (excluding non-melanocytic skin cancers) was 510.4 new cases per 100,000 for males and 345.7 per 100,000 for females, resulting in an age-adjusted sex ratio of 1.5 male cases to every female cancer case. Males have a higher incidence rate for every cancer site, except for cancers of the breast, thyroid and peritoneum.

The risk of cancer increases with age. The age-standardised incidence rate in 1995 for all cancers (excluding non-melanocytic skin cancers) was 14.8 per 100,000 for people aged less than 15 years; 93.6 per 100,000 for 15–44 year olds; 679.5 per 100,000 for 45–64 year olds; and 2092.0 per 100,000 for people aged 65 years and over.

Of people diagnosed with cancer, 0.7% of all cancers (excluding non-melanocytic skin cancers) occur in those aged less than 15 years, 10.1% in the 15–44 age group, 31.2% in the 45–64 age group, and 57.9% in those aged 65 and over. While the pattern of deaths across age groups is similar to that of incidence, a larger proportion (70.9%) 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 levelling off in the oldest age groups for males or falling slightly in the oldest age groups for females. 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 (ie cancer of the cervix) or even decline with age (incidence of cancer of the testis).

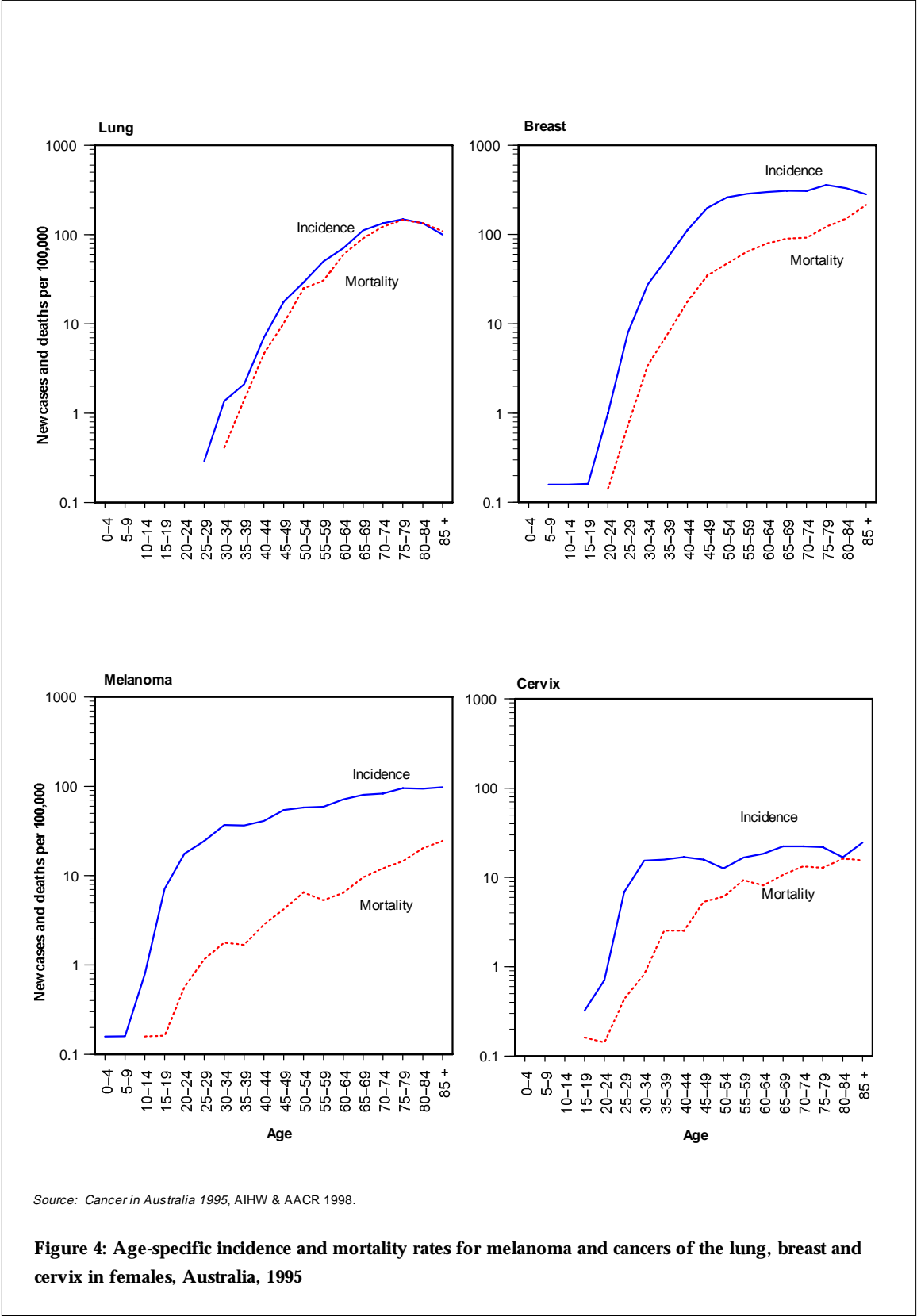
Age-specific incidence and mortality rates—males



Note: Data for cancer of the testis have been averaged over 1991–1995 to provide more stable estimates.
Source: *Cancer in Australia 1995*, AIHW & AACR 1998.

Figure 3: Age-specific incidence and mortality rates for melanoma and cancers of the lung, prostate and testis in males, Australia, 1995

Age-specific incidence and mortality rates—females



Age-specific incidence and mortality rates—males

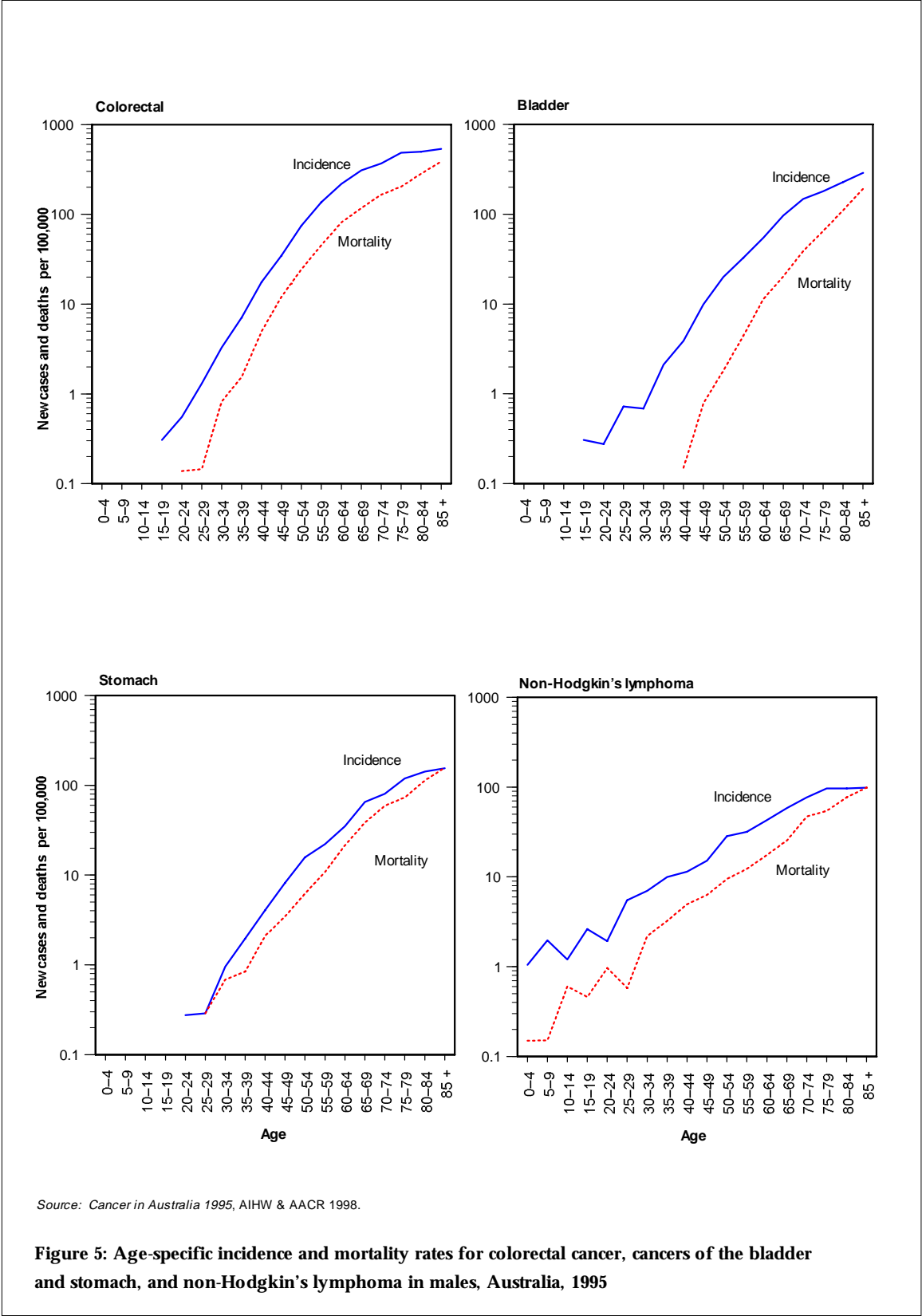


Figure 5: Age-specific incidence and mortality rates for colorectal cancer, cancers of the bladder and stomach, and non-Hodgkin's lymphoma in males, Australia, 1995

Age-specific incidence and mortality rates—females

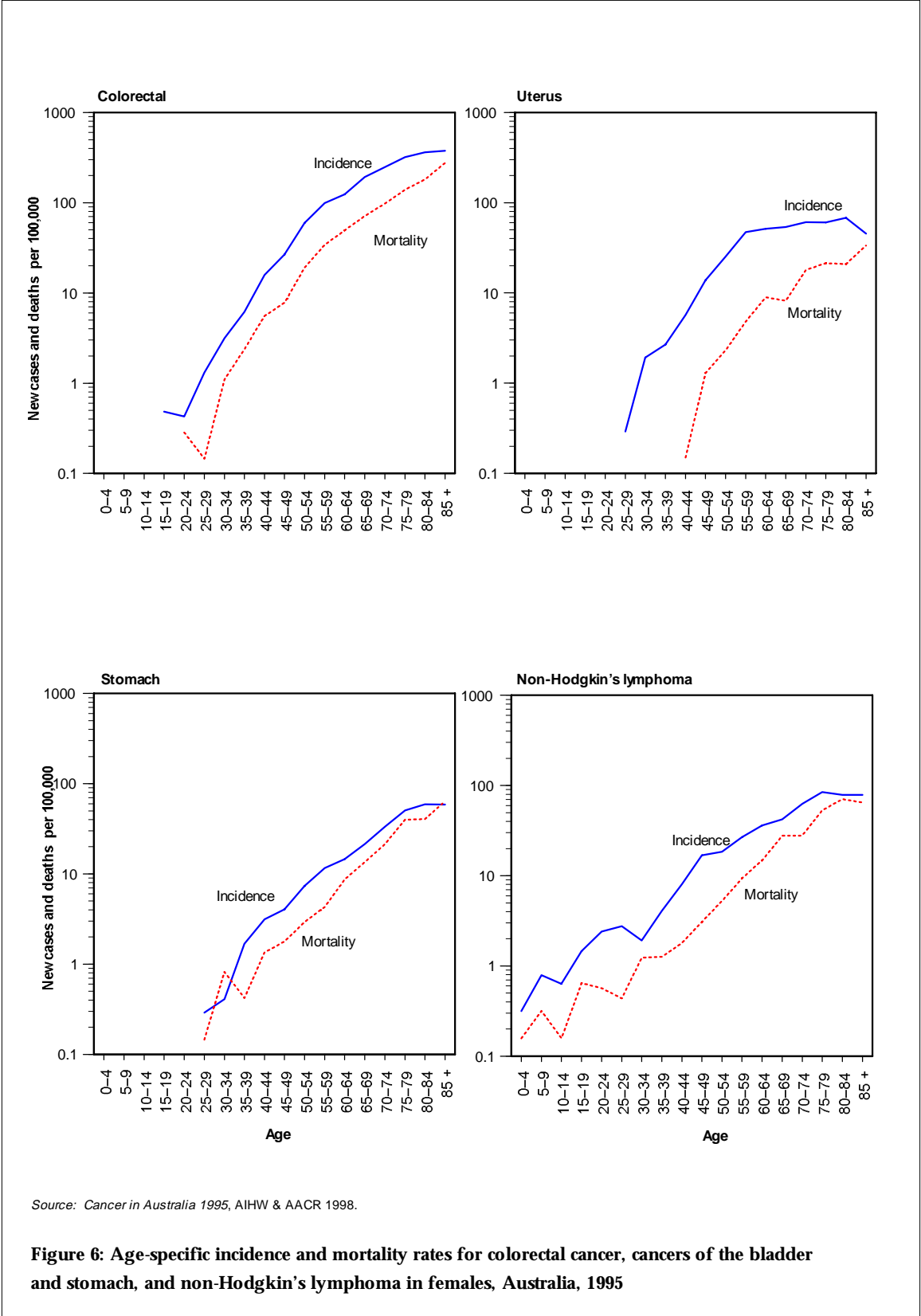


Figure 6: Age-specific incidence and mortality rates for colorectal cancer, cancers of the bladder and stomach, and non-Hodgkin's lymphoma in females, Australia, 1995

Alcohol- and smoking-related cancers

Alcohol and smoking are risk factors for some cancers. In 1995, alcohol-related cancers accounted for 0.9% of all new cancers, while smoking-related cancers accounted for 12.8%. Smoking-related cancers also accounted for a large proportion of deaths from cancer in 1995 (20.7% of all cancer deaths). These data and those in Tables 23–24 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 1995. 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 672 new cases of cancer were directly attributable to hazardous and harmful alcohol consumption in 1995 at a rate of 3.6 per 100,000, as were 304 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 231 for males and 1 in 291 for females. Between 1989 and 1995, the incidence rate for alcohol-related cancers in males fell by an average of 0.8% per annum, while the rate in females increased by 3.4% per annum.

Smoking-related cancers account for 17.3% of all new cases of cancer in males and 7.1% 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 9,993 new cases of cancer (53.2 new cases per 100,000) and 6,921 deaths (36.7 per 100,000) in 1995. Between 1989 and 1995, the male incidence rate for smoking-related cancers fell by an average of 0.9% per year, while the rate for females rose by 1.3% per year, both probably a reflection of the changing lung (Figure 10) and oesophagus cancer incidence rates. Over the same period, mortality rates fell by 2.1% per annum for males and rose by 0.5% per annum for females. These trends in incidence and mortality rates for smoking-related cancers are depicted in Figure 10.

To illustrate the improvement in the male mortality rate for smoking-related cancers, if the 1985 age-specific rates were applied to the 1995 male population there would be an additional 953 male deaths due to smoking in 1995. In contrast, the female mortality rate for smoking-related cancers is increasing. There would be 535 fewer female deaths in 1995 if the 1985 rates were applied to the 1995 female population.

Cancer rates in the States and Territories 1991–1995

Cancer incidence and mortality are reported here for the combined period 1991–1995 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 (530.6 per 100,000), while the Northern Territory reported the lowest with 430.1 cases per 100,000. For females, Queensland reported the highest rate (356.9 per 100,000) and the Australian Capital Territory reported the lowest (311.5 per 100,000) (Figure 7, Table 5).

The cancer mortality rates reported for males across the States and Territories ranged from 225.5 per 100,000 in Western Australia to 253.7 per 100,000 in the Australian Capital Territory and 257.5 per 100,000 in the Northern Territory (Table 5). For females, the mortality rates varied from a low of 132.3 per 100,000 in Queensland to a high of 176.0 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 10). The incidence rate in Queensland has been consistently high since the early 1980s. Despite the large differences in melanoma incidence, there is relatively little variation in mortality rates between States and Territories (Table 10).

Lung cancer incidence rates are highest in the Northern Territory (for males 88.2 cases per 100,000, for females 45.8 per 100,000) (Table 9). The lowest lung cancer incidence rates are reported for males in the Australian Capital Territory (48.9 per 100,000) and for females in South Australia (21.0 per 100,000).

Western Australia reported the highest incidence rates for breast cancer in females (96.1 per 100,000), while the Northern Territory reported the lowest incidence rate (68.9 per 100,000) (Table 11). Tasmania and Western Australia reported high rates of prostate cancer (147.9 per 100,000 and 144.7 per 100,000 respectively) while significantly lower rates were reported in the Northern Territory (73.7 per 100,000) (Table 15), 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).

Cervical cancer incidence exhibits some differences between the States and Territories. This probably reflects in part the impact of the screening programs in each jurisdiction. Most of the large States show consistent rates of approximately 11–12 new cases per 100,000, however South Australia shows a substantially lower rate of 8.8 and the Australian Capital Territory 10.5 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 (14.0 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.

State and Territory variations in smoking-related cancers generally reflect those observed for lung cancer (Table 24). The Northern Territory reported the highest incidence rates for males and females (116.2 per 100,000 and 43.7 per 100,000 respectively). The Australian Capital Territory reported the lowest smoking-related cancer incidence rates for both males (72.6 per 100,000) and females (22.1 per 100,000). Death rates from smoking-related cancers were highest in the Northern Territory for both males and females.

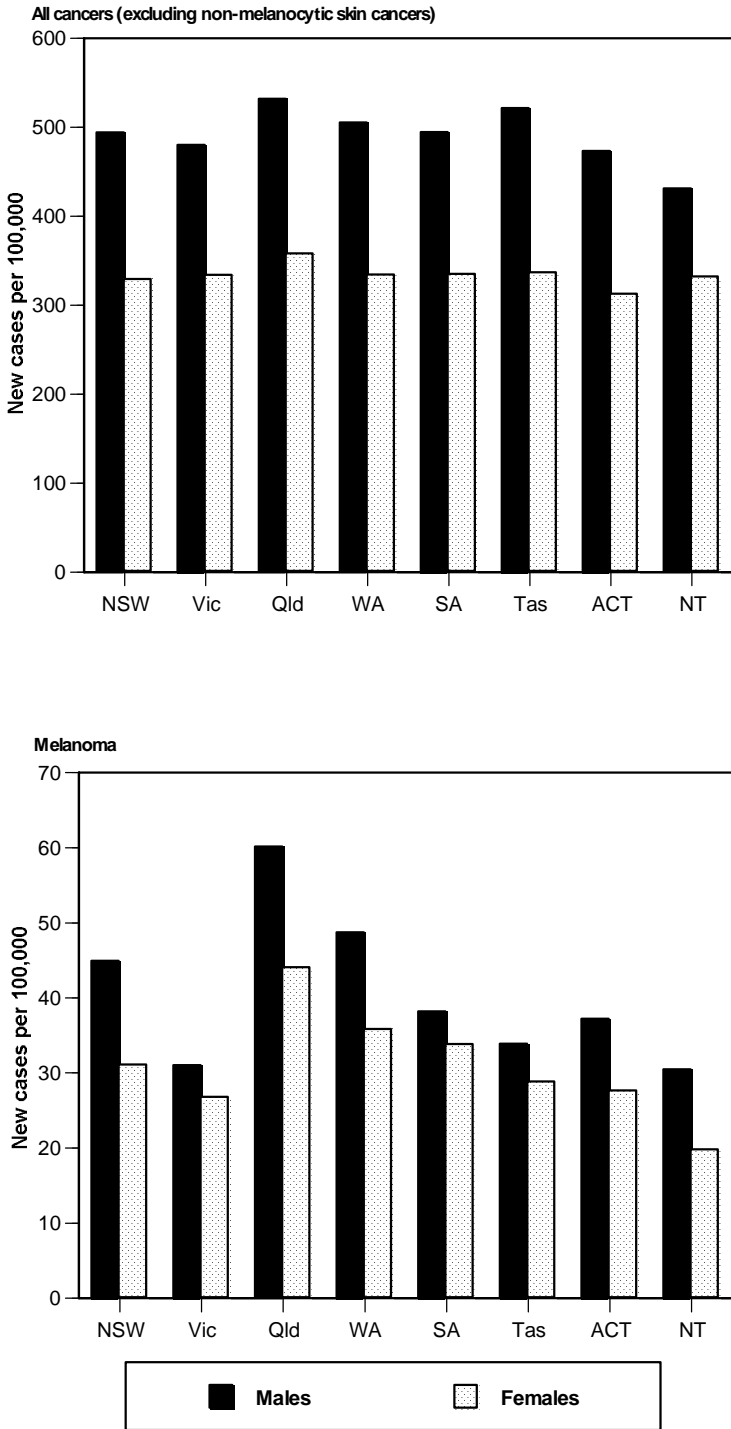
These patterns of incidence probably reflect smoking behaviour approximately 10–20 years ago, due to the time lag between exposure to carcinogens in the tobacco smoke and the diagnosis of cancer. Differentials in smoking rates between the States and Territories reported in the 1995 National Health Survey (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%.

While 1995 incidence data are the latest national data, some States and Territories have released data for 1996 – Western Australia, South Australia, Tasmania and the Northern Territory. These four jurisdictions account for approximately 21% of new cancer cases. A combination of the 1996 incidence rates for these jurisdictions compared with their 1995 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 most substantial changes were identified in the male colorectal cancer incidence rates (an increase), a continued decline in the prostate and cervical cancer rates and a small increase in male lung cancer rates. There was also a decline in both male and female melanoma incidence rates, which 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 17), 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 5 to 24 in this publication are annual averages of the 5-year period 1991-1995. 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 page 69 for contact details).

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



Source: Cancer in Australia 1995, AIHW & AACR 1998.

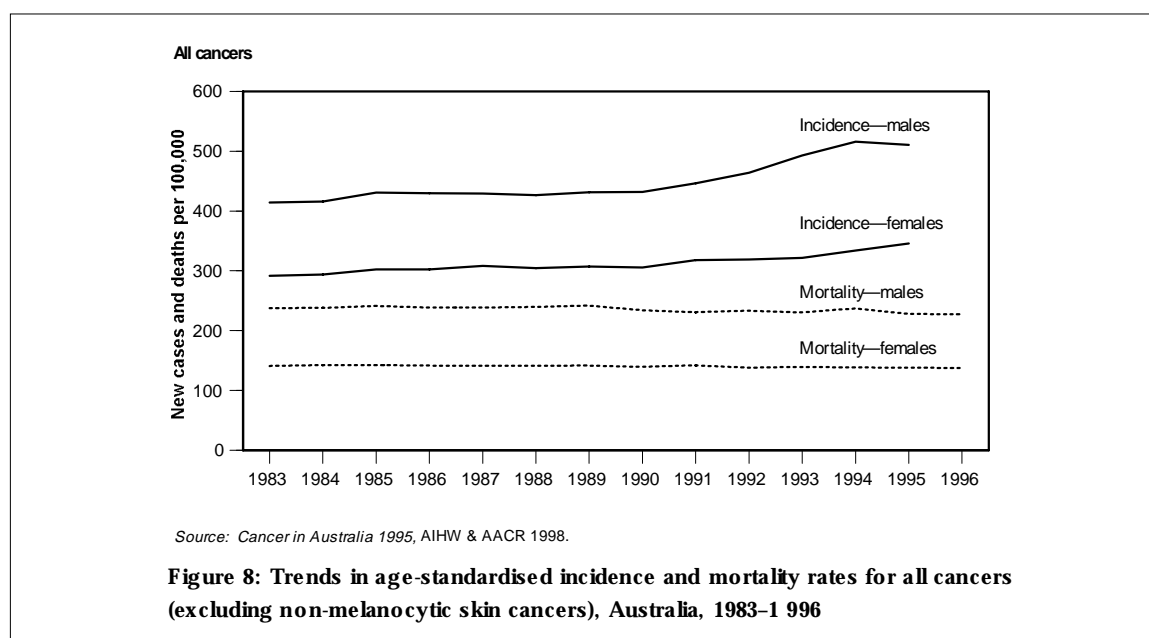
Figure 7: Age-standardised incidence rates for all cancers (excluding non-melanocytic skin cancers) and for melanoma by State and Territory 1991-1995

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 8–14. Incidence data are presented for the period 1983–1995 while mortality data are presented for the period 1983–1996.

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 one per cent 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 1983 and 1995, age-standardised incidence rates for all cancers combined (excluding non-melanocytic skin cancers) rose for both males and females by an average of 1.8% and 1.4% per year respectively but death rates remained relatively stable (Figure 8). A significant proportion of the rises in incidence rates can be attributed to the recent upturn in prostate and breast cancer incidence.



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 9).

(Figure 9). This upward trend has been attributed to increased detection of the disease through increased investigations, particularly the introduction of prostate-specific antigen (PSA) testing. However, from 1994 to 1995 the age-standardised prostate cancer incidence rate fell by 9% and those States and Territories with data available for 1996 indicate an even greater fall will occur between 1995 and 1996. 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 71 cases per 100,000 in 1983 to a peak of 101.1 cases per 100,000 in 1995, an average annual rise of 3.0% (Figure 9). The breast cancer incidence rate in 1996 (94.9 per 100,000, 9,556 new cases), however, was 6% lower than in 1995. National breast cancer incidence data are available for 1996 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 due to the 50–69 year olds whereas the decrease in 1996 was driven by the 50–69 and 70+ age groups. The breast cancer mortality rates were stable from 1983 to 1994 but declined slightly in 1995 and 1996.

For colorectal cancer, there were marginal increases in incidence among both males and females between 1983 and 1995 (Figure 9). Trends since the early 1990s show a slightly greater increase in the male rate. In comparison, mortality rates have fallen slightly since 1983.

Between 1983 and 1995, the incidence of lung cancer among males fell by an average of 1.9% per year (Figure 10). Mortality from lung cancer in males also fell at a similar rate and, as expected, incidence and mortality rates parallel each other closely. These declining rates are attributed to decreased tobacco smoking among men. In contrast, lung cancer incidence among females increased at an average rate of 2.4% per annum to 1995. 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 is also increasing.

The incidence rate for melanoma among males increased sharply between 1983 and 1988, levelled until 1991, increased steadily until 1994 and increased sharply again in 1995 (Figure 10). 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 25–39 year olds had the smallest proportional increase. The high increases between 1983 and 1988 may have been partly due to improved notification and detection. Mortality rates for melanoma have changed very little since 1983.

The incidence of non-Hodgkin's lymphoma increased by an average of 2.4% per year in both males and females from 1983 to 1995 (Figure 11). 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. Although the overall increase was the same for males and females, the pattern was different. The male rate levelled after the peak in 1992 whereas the female rate rose by an average of 6.6% per year between 1993 and 1995. 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 but has since fallen rapidly.

The incidence of bladder cancer for both males and females declined from 1983 to 1991, at an average annual rate of 3.7% and 3.2% respectively, and both have increased steadily since then, at an average rate of 5.0% and 4.6% per annum (Figure 11). It is likely that part of the 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 slowed for males between 1990 and 1995 while for females there was a small increase between 1993 and 1995 (Figure 11). Mortality rates decreased substantially for both sexes over the whole 1983 to 1996 period.

The incidence rate for leukaemias in females increased slightly between 1983 and 1995 (Figure 12). At the same time the mortality rate decreased marginally. There were fluctuations in the incidence and mortality rates in males but the overall trend was fairly stable.

Trends in brain cancer between 1983 and 1995 show only a minor increase in incidence in males while the incidence rate for females has remained steady since 1989. Between 1992 and 1996, the mortality rate in males rose slightly. In contrast, the mortality rate in females has fallen since 1992 (Figure 12).

Between 1983 and 1995, the male incidence and mortality rates for cancer of the pancreas fell by an average of 0.6% and 0.9% per annum respectively. 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 0.7% per year (Figure 12).

The age-standardised incidence rate for cervical cancer declined by an average of 2.7% per annum between 1983 and 1995 (Figure 13). The rate of decline increased marginally in the late 1980s; however, between 1993 and 1994 a sharp rise in incidence occurred followed by a sharp fall in 1995. Mortality rates have fallen by an average of 2.6% per year since 1983. 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 2.6% per annum since then. Mortality rates remained relatively stable between 1983 and 1996 (Figure 13).

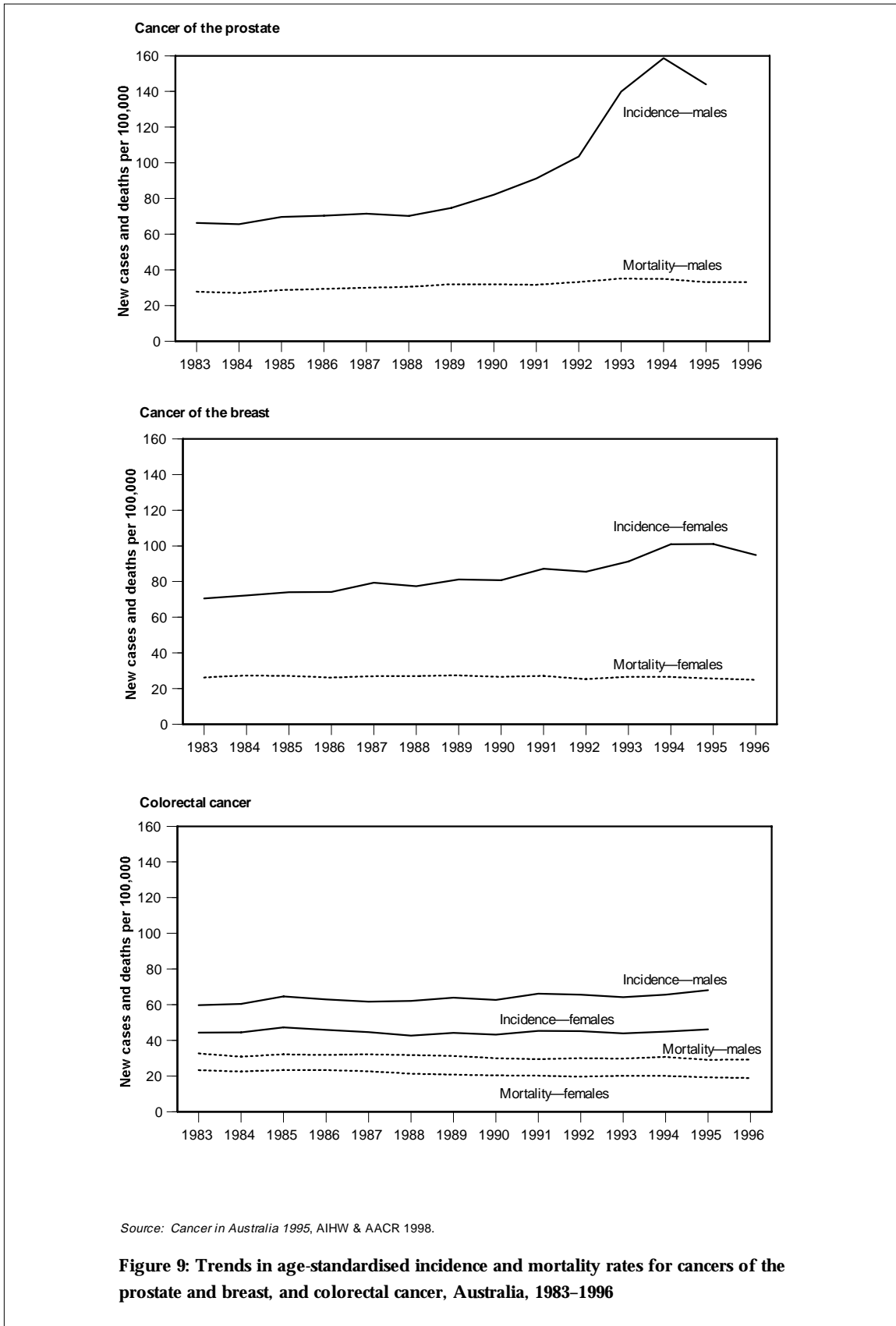
Incidence and mortality rates for cancer of the ovary have changed little since 1983 but both rates increased markedly in 1995 and 1996 (Figure 13).

Between 1983 and 1995, incidence rates for cancer of the kidney rose annually by an average of 2.1% for males and 2.2% for females; however, the rise between 1994 and 1995 was significantly larger than the average rise over the whole period – 12% for males and 9% for females (Figure 14). Mortality rates for cancer of the kidney have changed very little in both males and females since 1983.

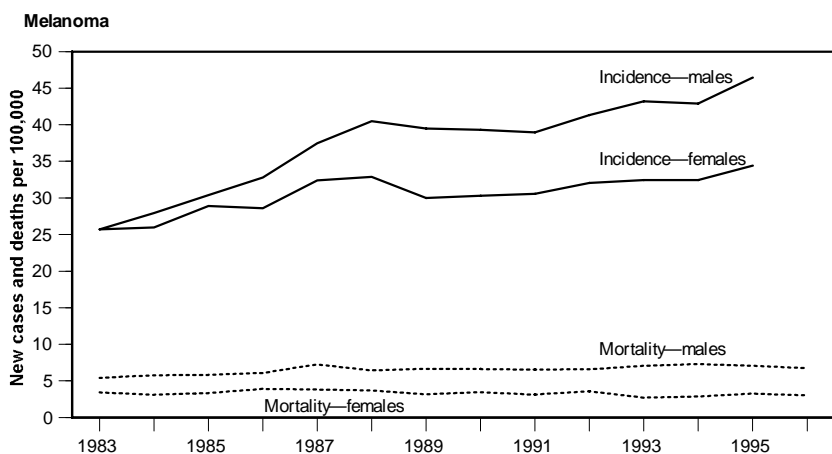
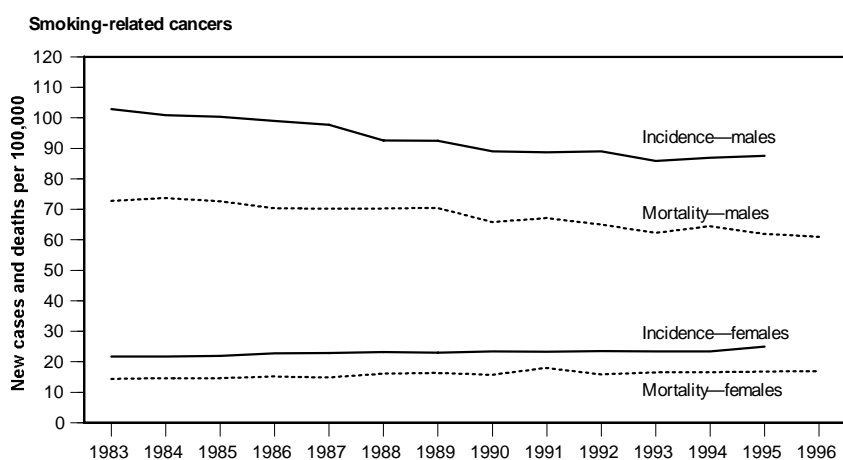
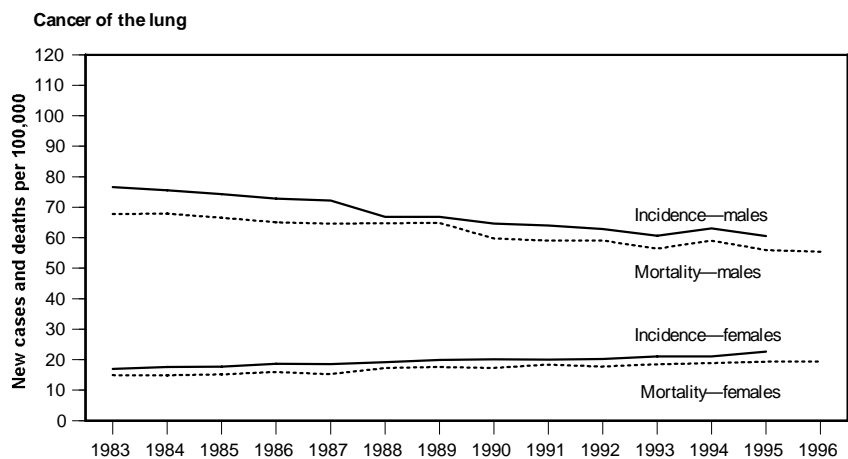
The incidence of testicular cancer has increased steadily by an average of 3.6% per annum since 1987 (Figure 14). However, this increase was not uniform across all age groups, with the proportional change in under-35 year olds much larger than in the older age groups. Despite the increase in the incidence 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 6% of deaths it is important to know the current trends. Mortality rates remained fairly steady from 1983 to 1996. Between 1983 and 1991 there was little variation in incidence for both sexes; however, since 1991, the rate in males has shown a small decline. The rate in females fell between 1991 and 1994 but increased again in 1995 (Figure 14).

Cancers of the prostate and breast, and colorectal cancer



Cancer of the lung, melanoma and smoking-related cancers

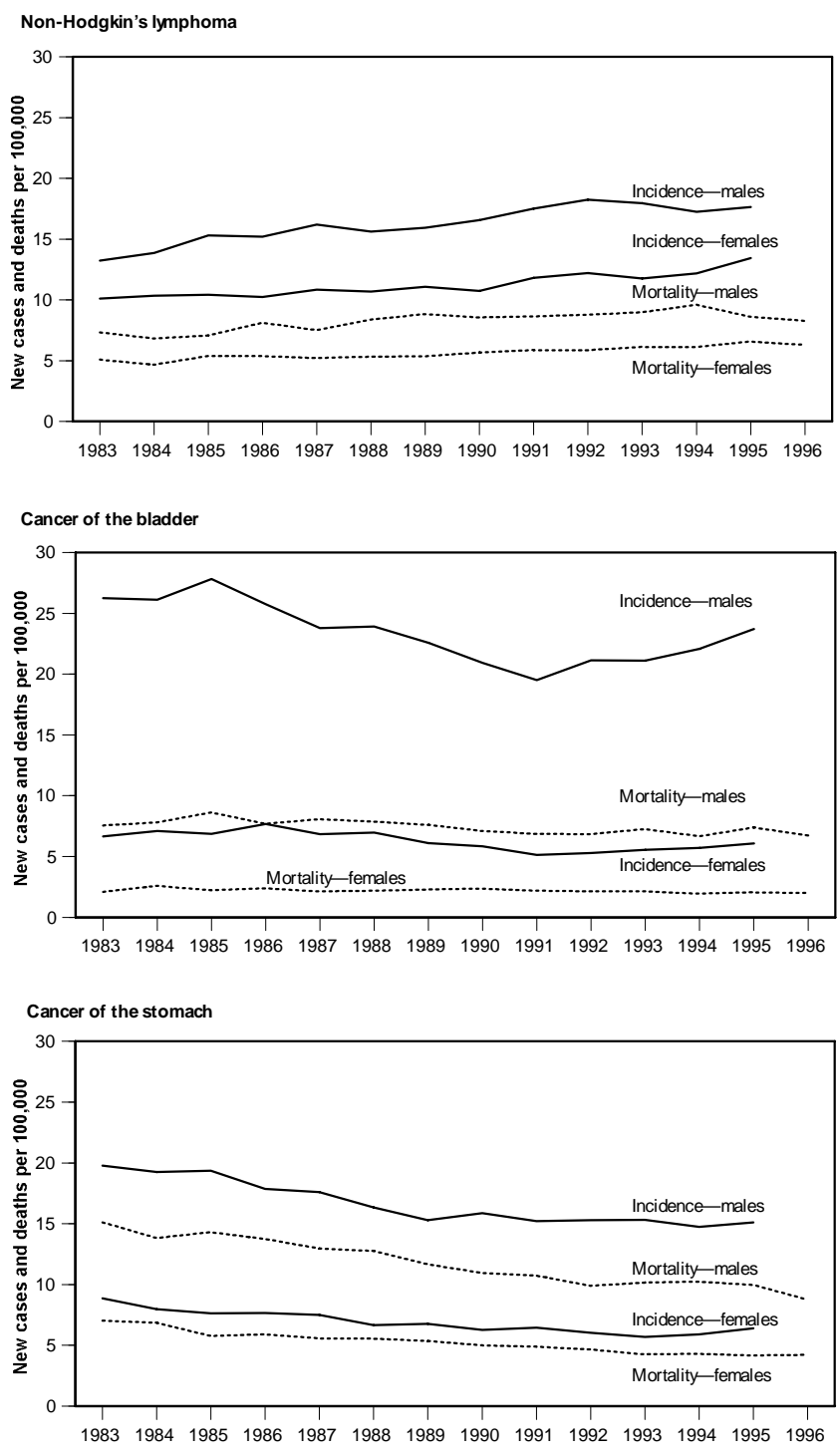


Note: Melanoma is graphed on a different scale to cancer of the lung and smoking-related cancers.

Source: *Cancer in Australia 1995*, AIHW & AACR 1998.

Figure 10: Trends in age-standardised incidence and mortality rates for cancer of the lung, smoking-related cancers and melanoma, Australia, 1983–1996

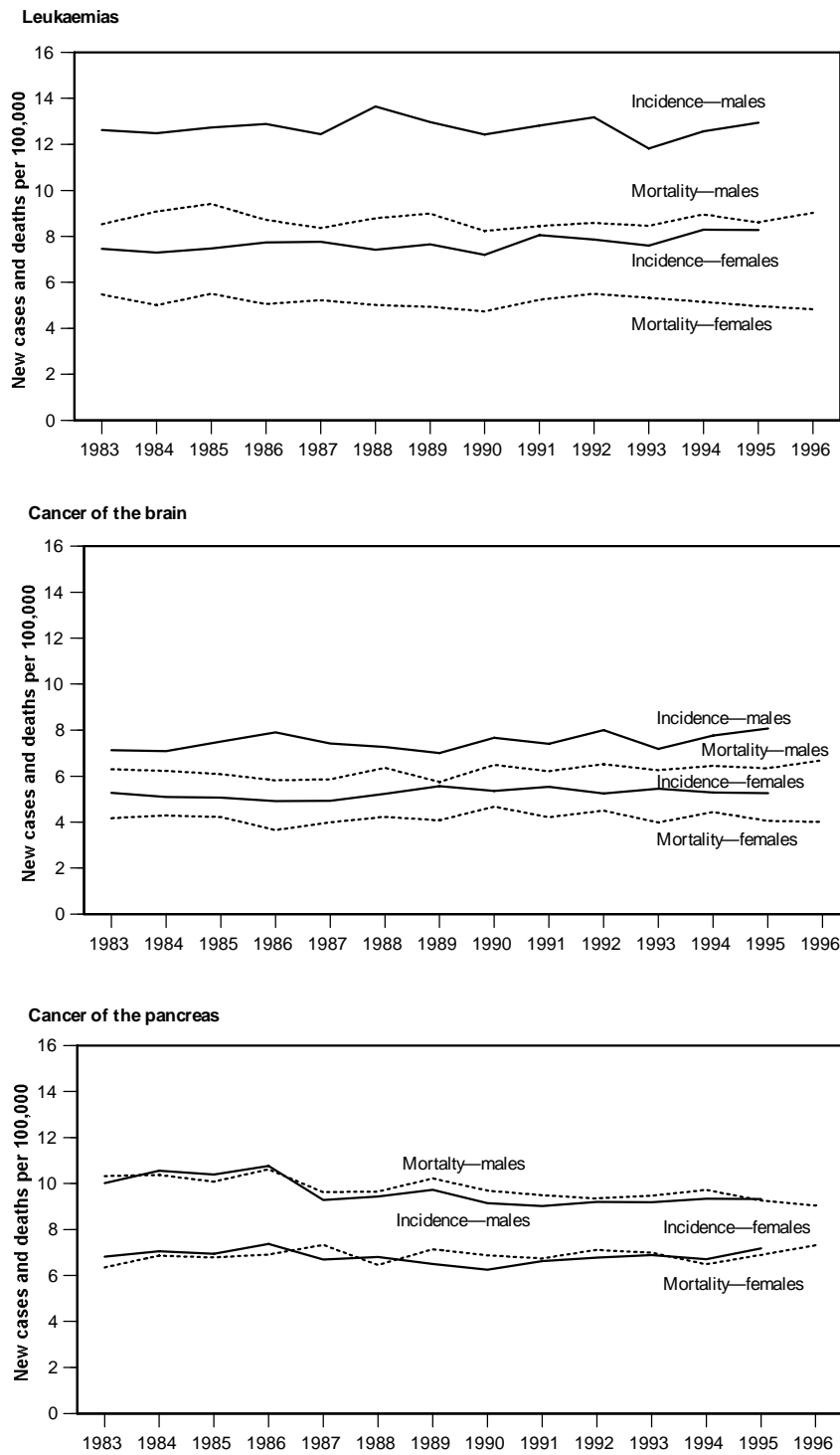
Non-Hodgkin's lymphoma, cancers of the bladder and stomach



Source: *Cancer in Australia 1995*, AIHW & AACR 1998.

Figure 11: Trends in age-standardised incidence and mortality rates for non-Hodgkin's lymphoma, and cancers of the bladder and stomach, Australia, 1983–1996

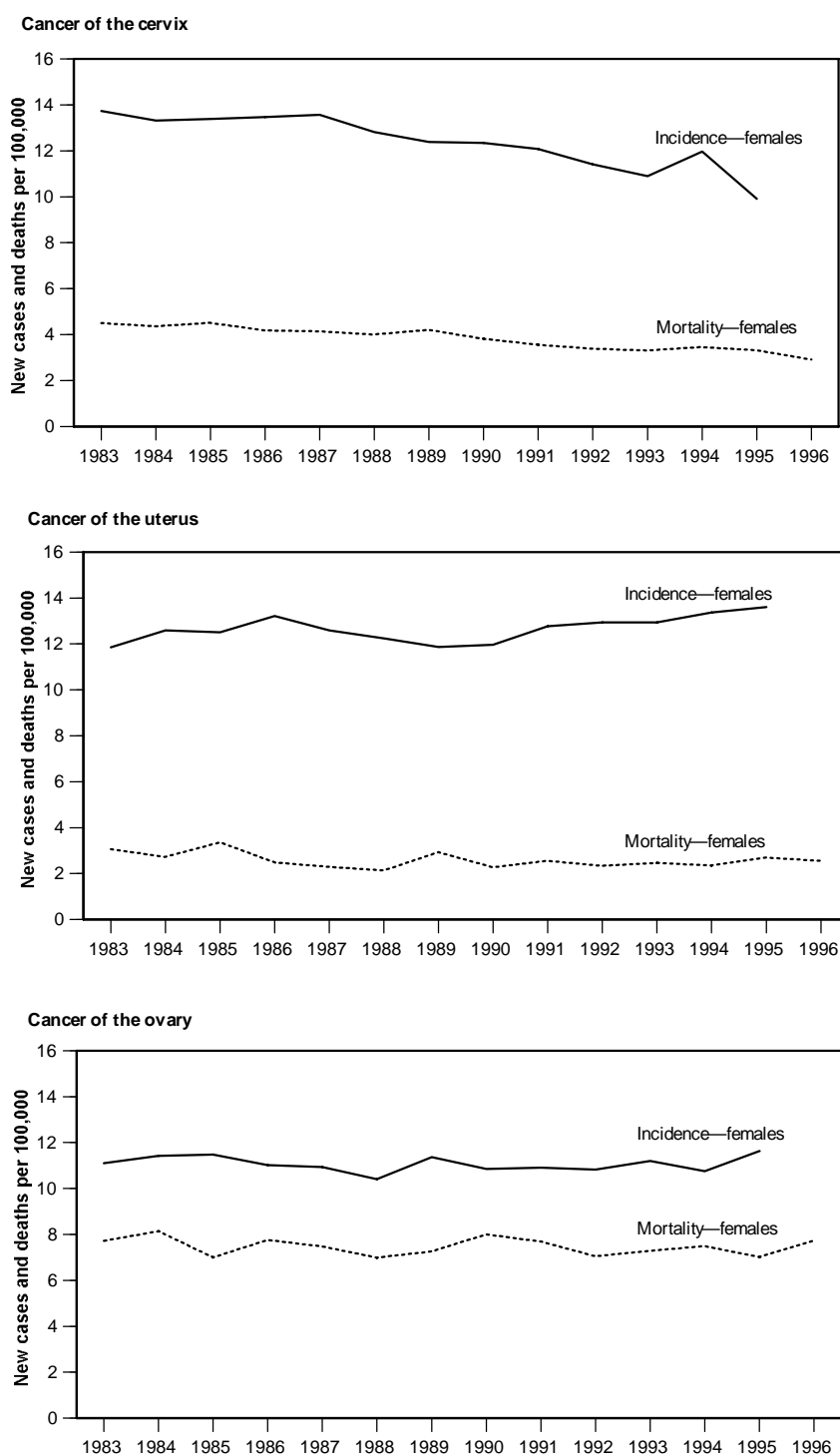
Leukaemias and cancers of the brain and pancreas



Source: *Cancer in Australia 1995*, AIHW & AACR 1998.

Figure 12: Trends in age-standardised incidence and mortality rates for leukaemias and cancers of the brain and pancreas, Australia, 1983–1996

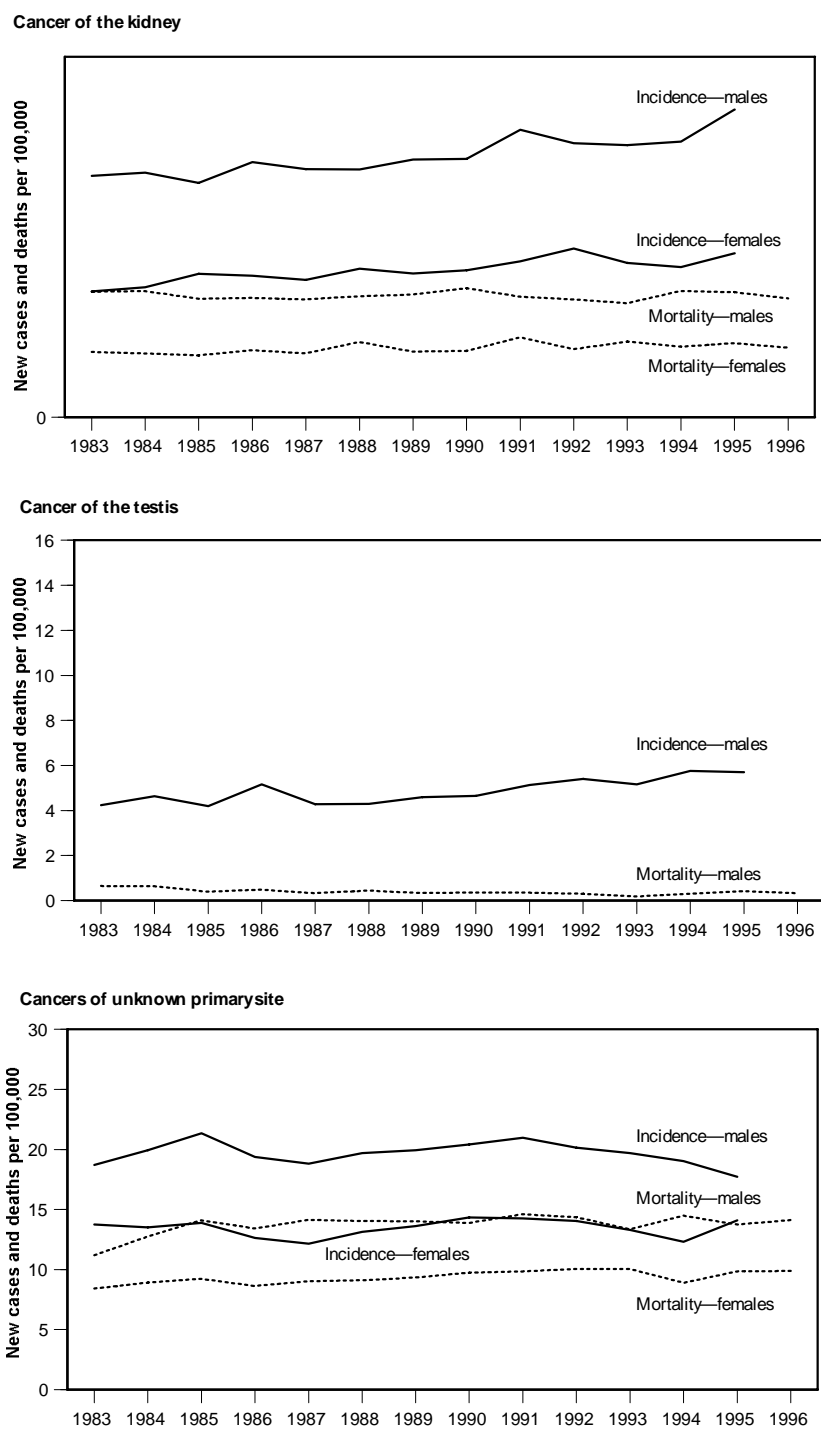
Cancers of the cervix, uterus and ovary



Source: *Cancer in Australia 1995*, AIHW & AACR 1998.

Figure 13: Trends in age-standardised incidence and mortality rates for cancers of the cervix, uterus and ovary, Australia, 1983–1996

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 1995, AIHW & AACR 1998.

Figure 14: Trends in age-standardised incidence and mortality rates for cancers of the kidney and testis, and cancers of unknown primary site, Australia, 1983–1996

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

- 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 age group 0-74.
- The confidence intervals used for crude and age-standardised rates are at the 95% level.
- The 'all cancers' 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 annual 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 1995 for all States and Territories, and to 1996 for some States and the Northern Territory. Cancer mortality data are available to 1996 for all States and Territories.

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 1991–1995. 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. If single-year data are required for individual States and Territories then their annual reports may be consulted or direct requests can be made to the 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 October 1998. 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 1995

Table 3: Incidence summary table, 1995

Australia 1995		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)	43,383	510.4	365.5	43.5	1.5	34,822	345.7	268.4	29.9
140	Lip	748	8.6	6.5	0.7	3.5	257	2.4	1.8	0.2
141	Tongue	282	3.1	2.6	0.3	2.6	121	1.2	0.9	0.1
142	Salivary gland	113	1.4	0.9	0.1	1.9	75	0.7	0.6	0.1
143	Gum	25	0.3	0.2	0.0	1.2	24	0.2	0.2	0.0
144	Floor of mouth	112	1.3	1.0	0.1	2.2	56	0.6	0.4	0.1
145	Other mouth	121	1.4	1.1	0.1	1.2	111	1.1	0.9	0.1
146	Oropharynx	167	1.9	1.5	0.2	3.1	60	0.6	0.5	0.1
147	Nasopharynx	87	0.9	0.8	0.1	2.6	35	0.4	0.3	0.0
148	Hypopharynx	178	2.0	1.6	0.2	7.8	25	0.3	0.2	0.0
149	Other lip, oral cavity and pharynx	52	0.6	0.5	0.1	4.6	13	0.1	0.1	0.0
141-149	Head and neck	1,137	12.8	10.3	1.3	2.5	520	5.2	4.1	0.5
150	Oesophagus	594	7.0	5.0	0.6	2.1	361	3.3	2.3	0.3
151	Stomach	1,268	15.1	10.3	1.2	2.4	679	6.4	4.4	0.5
152	Small intestine	101	1.2	0.9	0.1	1.4	83	0.8	0.6	0.1
153	Colon	3,475	41.2	28.8	3.4	1.3	3,310	31.4	22.0	2.6
154	Rectum	2,314	26.9	19.7	2.4	1.8	1,516	14.7	10.8	1.3
153-154	Colorectal	5,789	68.1	48.5	5.9	1.5	4,826	46.1	32.8	3.9
155	Liver	359	4.2	3.1	0.4	3.1	133	1.3	1.0	0.1
156	Gallbladder	274	3.2	2.2	0.3	1.0	335	3.1	2.1	0.2
157	Pancreas	780	9.3	6.3	0.7	1.3	789	7.2	4.7	0.5
158	Peritoneum	43	0.5	0.4	0.0	0.6	76	0.8	0.6	0.1
159	Other digestive organs	29	0.4	0.2	0.0	1.2	35	0.3	0.2	0.0
160	Nasal cavity	71	0.8	0.6	0.1	2.0	43	0.4	0.3	0.0
161	Larynx	521	5.9	4.5	0.6	8.2	73	0.7	0.6	0.1
162	Lung	5,134	60.6	42.5	5.5	2.7	2,311	22.7	16.7	2.1
163	Pleura	323	3.8	2.6	0.3	7.3	52	0.5	0.4	0.0
164	Other respiratory organs	45	0.5	0.4	0.0	1.7	29	0.3	0.3	0.0
170	Bone	100	1.1	1.1	0.1	1.3	83	0.9	0.8	0.1
171	Connective tissue	352	4.0	3.2	0.3	1.8	219	2.2	1.9	0.2
172	Skin—melanoma	4,087	46.4	36.5	4.0	1.4	3,317	34.4	28.4	2.9
173	Skin—non-melanocytic (NMSC)*									
174-175	Breast	57	0.7	0.5	0.1	<0.01	9,951	101.1	82.9	9.3
180	Cervix						947	9.9	8.1	0.8
181	Placenta						4	0.0	0.1	0.0
179+182	Uterus						1,356	13.6	10.7	1.3
183	Ovary						1,153	11.6	9.2	1.0
184	Other female genital organs						262	2.5	1.8	0.2
#	Gynaecological						3,718	37.6	29.7	3.3
185	Prostate	11,994	144.0	96.7	12.4					
186	Testis	513	5.7	5.0	0.4					
187	Penis & other male genital organs	72	0.8	0.6	0.1					
188	Bladder	1,976	23.7	15.9	1.9	3.9	646	6.1	4.2	0.5
189	Kidney	1,181	13.7	10.2	1.2	1.9	745	7.3	5.4	0.7
190	Eye	110	1.3	1.0	0.1	1.6	80	0.8	0.7	0.1
191	Brain	714	8.1	6.8	0.7	1.5	506	5.3	4.6	0.4
192	Other nervous system	31	0.3	0.3	0.0	1.4	24	0.3	0.2	0.0
193	Thyroid	204	2.3	1.9	0.2	0.4	604	6.5	5.6	0.5
194	Other endocrine	40	0.4	0.5	0.0	1.2	35	0.4	0.3	0.0
195-199	Unknown primary site	1,468	17.7	11.9	1.3	1.3	1,511	14.1	9.7	1.1
200+202	Non-Hodgkin's lymphoma	1,536	17.6	13.5	1.5	1.3	1,372	13.4	10.2	1.1
201	Hodgkin's disease	184	2.1	1.9	0.2	1.3	145	1.6	1.5	0.1
200-202	Lymphoma	1,720	19.7	15.4	1.6	1.3	1,517	15.1	11.6	1.2
203	Multiple myeloma	452	5.4	3.7	0.4	1.4	410	3.9	2.7	0.3
204	Lymphatic leukaemia	481	5.7	4.8	0.4	1.6	360	3.6	3.2	0.3
205	Myeloid leukaemia	539	6.4	4.6	0.5	1.6	424	4.1	3.1	0.3
206	Monocytic leukaemia	10	0.1	0.1	0.0	1.5	8	0.1	0.1	0.0
207-208	Other and unspecified leukaemia	66	0.8	0.5	0.0	1.5	58	0.5	0.4	0.0
204-208	Leukaemia	1,096	12.9	10.0	1.0	1.6	850	8.3	6.7	0.6
#	Alcohol-related	352	3.9	3.3	0.4	1.2	319	3.3	2.8	0.3
#	Smoking-related	7,504	87.6	63.5	8.0	3.5	2,490	24.9	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 1995*. AIHW & AACR 1998.

Table 4: Mortality summary table, 1995

Australia 1995		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)	18,885	228.2	152.5	143,408	1.7	14,613	138.1	97.8	118,508
140	Lip	10	0.1	0.1	133	15.4	1	0.0	0.0	0
141	Tongue	124	1.4	1.1	1,378	3.2	47	0.4	0.3	375
142	Salivary gland	37	0.5	0.3	285	1.8	27	0.3	0.2	218
143	Gum	9	0.1	0.1	28	3.9	3	0.0	0.0	20
144	Floor of mouth	39	0.4	0.3	440	2.2	21	0.2	0.1	150
145	Other mouth	37	0.4	0.3	455	2.4	20	0.2	0.1	70
146	Oropharynx	83	1.0	0.7	743	3.3	30	0.3	0.2	243
147	Nasopharynx	41	0.5	0.4	508	2.5	18	0.2	0.2	323
148	Hypopharynx	59	0.7	0.5	530	12.8	13	0.1	0.1	90
149	Other lip, oral cavity and pharynx	20	0.2	0.2	215	5.3	4	0.0	0.0	40
141-149	Head and neck	449	5.2	3.9	4,580	3.0	183	1.7	1.3	1,528
150	Oesophagus	615	7.3	5.0	4,955	2.7	295	2.7	1.7	1,208
151	Stomach	818	10.0	6.5	5,378	2.4	458	4.2	2.7	2,543
152	Small intestine	45	0.5	0.3	340	1.6	34	0.3	0.2	228
153	Colon	1,729	20.8	14.0	12,463	1.4	1,636	15.1	10.2	10,090
154	Rectum	689	8.3	5.7	5,108	2.0	454	4.2	2.9	2,853
153-154	Colorectal	2,418	29.1	19.7	17,570	1.5	2,090	19.3	13.1	12,943
155	Liver	387	4.6	3.3	3,530	2.5	192	1.8	1.3	1,658
156	Gallbladder	132	1.6	1.0	860	0.8	205	1.9	1.2	1,043
157	Pancreas	776	9.3	6.3	5,928	1.3	757	6.9	4.5	3,793
158	Peritoneum	22	0.3	0.2	185	0.7	40	0.4	0.3	360
159	Other digestive organs	118	1.5	0.9	708	1.9	84	0.7	0.5	370
160	Nasal cavity	28	0.3	0.3	285	3.8	9	0.1	0.1	83
161	Larynx	203	2.4	1.7	1,665	10.9	23	0.2	0.2	185
162	Lung	4,697	56.0	38.0	31,648	2.9	1,998	19.3	13.7	14,108
163	Pleura	180	2.1	1.5	1,415	8.9	25	0.2	0.2	150
164	Other respiratory organs	15	0.2	0.1	425	1.1	16	0.2	0.1	158
170	Bone	42	0.5	0.4	1,033	1.3	39	0.4	0.3	775
171	Connective tissue	109	1.3	1.0	2,163	1.5	87	0.9	0.6	1,163
172	Skin—melanoma	601	7.1	5.1	7,568	2.2	334	3.3	2.5	4,750
173	Skin—non-melanocytic (NMSC)	254	3.1	2.0	1,878	3.3	113	1.0	0.6	303
174-175	Breast	23	0.3	0.2	213	<0.01	2,634	25.6	19.6	29,378
180	Cervix						334	3.3	2.6	4,698
181	Placenta						0	0.0	0.0	0
179+182	Uterus						290	2.7	1.9	1,638
183	Ovary						724	7.0	5.2	6,638
184	Other female genital organs						77	0.7	0.4	318
#	Gynaecological						1,425	13.7	10.1	13,290
185	Prostate	2,564	33.1	18.7	6,660					
186	Testis	38	0.4	0.4	1,263					
187	Penis & other male genital organs	11	0.1	0.1	55					
188	Bladder	580	7.4	4.3	2,028	3.6	235	2.1	1.3	760
189	Kidney	463	5.5	3.8	3,738	1.7	353	3.3	2.2	1,913
190	Eye	18	0.2	0.1	203	2.5	9	0.1	0.1	90
191	Brain	556	6.3	5.0	9,243	1.6	399	4.1	3.3	6,065
192	Other nervous system	9	0.1	0.1	170	0.8	14	0.1	0.1	100
193	Thyroid	22	0.3	0.2	190	0.7	41	0.4	0.3	210
194	Other endocrine	30	0.3	0.4	1,215	1.1	28	0.3	0.3	1,025
195-199	Unknown primary site	1,132	13.7	9.1	7,545	1.4	1,084	9.8	6.5	5,928
200+202	Non-Hodgkin's lymphoma	730	8.6	6.0	8,498	1.3	700	6.6	4.5	5,318
201	Hodgkin's disease	25	0.3	0.2	543	0.9	31	0.3	0.2	558
200-202	Lymphoma	755	8.9	6.3	9,040	1.3	731	6.9	4.7	5,875
203	Multiple myeloma	304	3.7	2.4	1,768	1.6	251	2.3	1.5	1,285
204	Lymphatic leukaemia	219	2.6	2.0	4,148	1.7	166	1.5	1.1	1,860
205	Myeloid leukaemia	462	5.6	3.8	5,185	1.8	339	3.2	2.2	3,400
206	Monocytic leukaemia	8	0.1	0.1	158	1.4	8	0.1	0.0	68
207-208	Other and unspecified leukaemia	26	0.3	0.2	225	1.4	26	0.2	0.2	223
204-208	Leukaemia	715	8.6	6.1	9,715	1.7	539	5.0	3.5	5,550
#	Alcohol-related	205	2.3	1.9	2,491	2.3	100	1.0	0.8	1,222
#	Smoking-related	5,209	61.9	42.6	37,733	3.7	1,711	16.8	12.3	13,892

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 1995, AIHW & AACR 1998.

Tables for selected cancers 1995

- 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 www.aihw.gov.au or can be requested in hard copy from the Institute.

Table 5: All cancers (except non-melanocytic skin cancers) (ICD 140–172, 174–208)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0–4	156	23.4	118	18.6	274	21.1	35	5.2	25	4.0	60	4.6
5–9	94	14.2	61	9.7	155	12.0	34	5.1	21	3.3	55	4.3
10–14	82	12.3	64	10.1	146	11.3	23	3.5	14	2.2	37	2.9
15–19	186	28.6	149	24.1	335	26.4	33	5.1	21	3.4	54	4.3
20–24	276	38.1	286	40.6	562	39.3	52	7.2	28	4.0	80	5.6
25–29	432	62.5	446	64.9	878	63.7	54	7.8	53	7.7	107	7.8
30–34	572	78.3	895	122.4	1,467	100.4	121	16.6	117	16.0	238	16.3
35–39	727	102.3	1,163	163.3	1,890	132.8	148	20.8	181	25.4	329	23.1
40–44	1,035	155.5	1,738	260.3	2,773	208.0	294	44.2	350	52.4	644	48.3
45–49	1,588	250.0	2,643	428.7	4,231	338.0	522	82.2	579	93.9	1,101	88.0
50–54	2,395	482.6	2,842	597.1	5,237	538.7	817	164.6	792	166.4	1,609	165.5
55–59	3,479	855.4	3,038	768.1	6,517	812.4	1,216	299.0	943	238.4	2,159	269.1
60–64	5,121	1,448.6	3,313	928.6	8,434	1,187.4	1,956	553.3	1,306	366.0	3,262	459.2
65–69	7,528	2,245.9	4,122	1,163.8	11,650	1,689.9	2,993	892.9	1,862	525.7	4,855	704.3
70–74	7,823	2,897.1	4,442	1,375.4	12,265	2,068.3	3,513	1,301.0	2,215	685.8	5,728	965.9
75–79	5,821	3,434.1	3,941	1,688.5	9,762	2,422.9	2,878	1,697.9	2,165	927.6	5,043	1,251.7
80–84	3,803	3,706.4	3,107	1,801.9	6,910	2,512.4	2,416	2,354.6	1,973	1,144.2	4,389	1,595.8
85 and over	2,265	3,989.9	2,454	1,826.8	4,719	2,469.4	1,780	3,135.5	1,968	1,465.0	3,748	1,961.3
Total	43,383		34,822		78,205		18,885		14,613		33,498	

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

Crude rate	482.4	383.6	432.7	210.0	161.0	185.4
95% CI	477.8 – 486.9	379.6 – 387.6	429.7 – 435.8	207.0 – 213.0	158.4 – 163.6	183.4 – 187.3
AS Rate (Aust 1991)	510.4	345.7	415.1	228.2	138.1	175.7
95% CI	505.5 – 515.3	342.0 – 349.4	412.1 – 418.0	224.9 – 231.5	135.8 – 140.4	173.8 – 177.6
AS Rate (World)	365.5	268.4	310.2	152.5	97.8	121.4
95% CI	362.0 – 369.1	265.3 – 271.4	307.9 – 312.5	150.2 – 154.7	96.1 – 99.6	120.0 – 122.8
Lifetime risk (0–74)	1 in 3	1 in 4	1 in 3	1 in 6	1 in 10	1 in 8
PYLL (0–74)				143,408	118,508	261,915
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 1991–1995

	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	13,994	492.8	11,145	328.4	25,139	395.4	6,331	229.3	4,828	135.1	11,158	173.9
Vic	9,919	479.0	8,374	333.0	18,293	392.6	4,807	237.7	3,902	147.5	8,709	184.9
Qld	7,417	530.6	5,759	356.9	13,176	431.7	3,121	230.4	2,201	132.3	5,321	174.8
WA	3,531	504.3	2,796	333.0	6,327	404.9	1,525	225.5	1,191	139.6	2,717	175.8
SA	3,617	493.2	2,921	334.0	6,539	398.6	1,659	230.2	1,281	137.6	2,940	175.4
Tas	1,160	520.2	883	335.6	2,043	411.8	531	243.7	413	149.5	944	188.0
ACT	432	472.3	375	311.5	807	376.8	210	253.7	170	153.5	380	193.7
NT	171	430.1	139	331.0	310	380.6	84	257.5	55	176.0	140	217.7

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

Source: Cancer in Australia 1995, AIHW & AACR 1998.

Table 6: Cancer of the stomach (ICD 151)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
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	0	0.0	0	0.0	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	2	0.3	2	0.3	4	0.3	2	0.3	1	0.1	3	0.2
30-34	7	1.0	3	0.4	10	0.7	5	0.7	6	0.8	11	0.8
35-39	14	2.0	12	1.7	26	1.8	6	0.8	3	0.4	9	0.6
40-44	27	4.1	21	3.1	48	3.6	14	2.1	9	1.3	23	1.7
45-49	52	8.2	25	4.1	77	6.2	22	3.5	11	1.8	33	2.6
50-54	78	15.7	35	7.4	113	11.6	31	6.2	14	2.9	45	4.6
55-59	90	22.1	46	11.6	136	17.0	44	10.8	17	4.3	61	7.6
60-64	124	35.1	52	14.6	176	24.8	76	21.5	31	8.7	107	15.1
65-69	219	65.3	76	21.5	295	42.8	129	38.5	48	13.6	177	25.7
70-74	217	80.4	108	33.4	325	54.8	160	59.3	69	21.4	229	38.6
75-79	202	119.2	118	50.6	320	79.4	124	73.2	93	39.8	217	53.9
80-84	146	142.3	102	59.2	248	90.2	116	113.1	70	40.6	186	67.6
85 and over	88	155.0	79	58.8	167	87.4	89	156.8	86	64.0	175	91.6
Total	1,268		679		1,947		818		458		1,276	

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

Crude rate	14.1	7.5	10.8	9.1	5.0	7.1
95% CI	13.3 – 14.9	6.9 – 8.0	10.3 – 11.3	8.5 – 9.7	4.6 – 5.5	6.7 – 7.4
AS Rate (Aust 1991)	15.1	6.4	10.2	10.0	4.2	6.7
95% CI	14.3 – 16.0	5.9 – 6.9	9.8 – 10.7	9.3 – 10.6	3.8 – 4.6	6.3 – 7.0
AS Rate (World)	10.3	4.4	7.1	6.5	2.7	4.4
95% CI	9.7 – 10.9	4.0 – 4.8	6.7 – 7.4	6.0 – 6.9	2.4 – 3.0	4.1 – 4.6
Lifetime risk (0-74)	1 in 86	1 in 204	1 in 123	1 in 140	1 in 362	1 in 206
PYLL (0-74)				5,378	2,543	7,920
Per cent of all cancers	2.9	1.9	2.5	4.3	3.1	3.8

Average annual numbers and rates by State and Territory 1991-1995

	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	407	14.5	216	6.0	624	9.7	257	9.4	154	4.1	412	6.4
Vic	328	16.0	185	6.9	513	10.9	215	10.7	136	4.9	351	7.4
Qld	195	14.3	105	6.1	300	9.8	128	9.6	72	4.1	200	6.5
WA	115	16.8	56	6.5	171	11.1	78	11.5	40	4.6	118	7.7
SA	107	14.8	57	6.1	165	9.8	78	10.8	42	4.4	120	7.1
Tas	36	16.7	20	7.2	56	11.2	28	12.9	16	5.4	44	8.6
ACT	13	15.1	6	5.6	20	9.7	9	11.2	5	4.1	14	6.9
NT	4	8.6	2	5.3	5	6.9	2	3.1	2	6.7	4	4.9

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

Source: Cancer in Australia 1995, AIHW & AACR 1998.

Table 7: Cancer of the colon and rectum (ICD 153–154)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
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	3	0.5	5	0.4	0	0.0	0	0.0	0	0.0
20–24	4	0.6	3	0.4	7	0.5	1	0.1	2	0.3	3	0.2
25–29	9	1.3	9	1.3	18	1.3	1	0.1	1	0.1	2	0.1
30–34	24	3.3	23	3.1	47	3.2	6	0.8	8	1.1	14	1.0
35–39	50	7.0	44	6.2	94	6.6	11	1.5	17	2.4	28	2.0
40–44	117	17.6	106	15.9	223	16.7	33	5.0	37	5.5	70	5.3
45–49	220	34.6	164	26.6	384	30.7	77	12.1	48	7.8	125	10.0
50–54	370	74.6	284	59.7	654	67.3	121	24.4	91	19.1	212	21.8
55–59	555	136.5	392	99.1	947	118.0	185	45.5	135	34.1	320	39.9
60–64	772	218.4	440	123.3	1,212	170.6	287	81.2	176	49.3	463	65.2
65–69	1,031	307.6	680	192.0	1,711	248.2	393	117.2	252	71.1	645	93.6
70–74	995	368.5	800	247.7	1,795	302.7	447	165.5	316	97.8	763	128.7
75–79	824	486.1	745	319.2	1,569	389.4	345	203.5	325	139.2	670	166.3
80–84	513	500.0	626	363.0	1,139	414.1	291	283.6	312	180.9	603	219.2
85 and over	303	533.7	507	377.4	810	423.9	220	387.5	370	275.4	590	308.7
Total	5,789		4,826		10,615		2,418		2,090		4,508	

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

Crude rate	64.4	53.2	58.7	26.9	23.0	24.9
95% CI	62.7 – 66.0	51.7 – 54.7	57.6 – 59.9	25.8 – 28.0	22.0 – 24.0	24.2 – 25.7
AS Rate (Aust 1991)	68.1	46.1	56.1	29.1	19.3	23.6
95% CI	66.3 – 69.9	44.8 – 47.4	55.0 – 57.2	27.9 – 30.2	18.4 – 20.1	22.9 – 24.3
AS Rate (World)	48.5	32.8	40.1	19.7	13.1	16.1
95% CI	47.2 – 49.8	31.8 – 33.8	39.3 – 40.9	18.9 – 20.5	12.5 – 13.7	15.6 – 16.6
Lifetime risk (0–74)	1 in 18	1 in 26	1 in 21	1 in 45	1 in 70	1 in 55
PYLL (0–74)				17,570	12,943	30,513
Per cent of all cancers	13.3	13.9	13.6	12.8	14.3	13.5

Average annual numbers and rates by State and Territory 1991–1995

	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	1,906	66.8	1,572	44.4	3,479	54.4	797	28.8	672	18.3	1,468	22.8
Vic	1,411	68.0	1,277	48.8	2,687	57.4	650	32.1	604	22.1	1,254	26.5
Qld	959	68.5	809	49.3	1,767	58.1	393	28.8	318	18.9	711	23.4
WA	441	63.5	385	45.4	826	53.4	188	27.8	179	20.5	367	23.7
SA	489	66.3	437	47.3	927	55.7	214	29.6	185	19.3	399	23.7
Tas	153	67.5	135	49.5	288	57.8	74	33.6	63	22.6	138	27.5
ACT	62	66.6	49	45.2	112	55.4	30	34.3	26	23.7	55	28.4
NT	18	50.7	13	42.5	31	47.5	8	24.0	6	22.3	14	23.9

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

Source: *Cancer in Australia 1995*, AIHW & AACR 1998.

Table 8: Cancer of the pancreas (ICD 157)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
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	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20-24	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
25-29	1	0.1	2	0.3	3	0.2	0	0.0	2	0.3	2	0.1
30-34	4	0.5	2	0.3	6	0.4	0	0.0	2	0.3	2	0.1
35-39	4	0.6	6	0.8	10	0.7	1	0.1	7	1.0	8	0.6
40-44	15	2.3	10	1.5	25	1.9	19	2.9	7	1.0	26	2.0
45-49	24	3.8	14	2.3	38	3.0	26	4.1	17	2.8	43	3.4
50-54	44	8.9	27	5.7	71	7.3	44	8.9	25	5.3	69	7.1
55-59	61	15.0	30	7.6	91	11.3	61	15.0	20	5.1	81	10.1
60-64	88	24.9	57	16.0	145	20.4	91	25.7	57	16.0	148	20.8
65-69	118	35.2	93	26.3	211	30.6	138	41.2	98	27.7	236	34.2
70-74	148	54.8	141	43.7	289	48.7	131	48.5	118	36.5	249	42.0
75-79	119	70.2	129	55.3	248	61.6	107	63.1	138	59.1	245	60.8
80-84	97	94.5	149	86.4	246	89.4	104	101.4	132	76.6	236	85.8
85 and over	57	100.4	129	96.0	186	97.3	54	95.1	134	99.8	188	98.4
Total	780		789		1,569		776		757		1,533	

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

Crude rate	8.7	8.7	8.7	8.6	8.3	8.5
95% CI	8.1 - 9.3	8.1 - 9.3	8.3 - 9.1	8.0 - 9.2	7.7 - 8.9	8.1 - 8.9
AS Rate (Aust 1991)	9.3	7.2	8.2	9.3	6.9	8.0
95% CI	8.7 - 10.0	6.7 - 7.7	7.8 - 8.6	8.6 - 9.9	6.4 - 7.4	7.6 - 8.4
AS Rate (World)	6.3	4.7	5.5	6.3	4.5	5.4
95% CI	5.8 - 6.8	4.3 - 5.0	5.2 - 5.7	5.9 - 6.8	4.1 - 4.8	5.1 - 5.6
Lifetime risk (0-74)	1 in 137	1 in 192	1 in 161	1 in 137	1 in 209	1 in 166
PYLL (0-74)				5,928	3,793	9,720
Per cent of all cancers	1.8	2.3	2.0	4.1	5.2	4.6

Average annual numbers and rates by State and Territory 1991-1995

	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	272	9.7	282	7.8	554	8.6	263	9.5	272	7.4	536	8.3
Vic	191	9.3	185	6.7	375	7.9	195	9.6	187	6.8	382	8.1
Qld	133	9.7	115	6.8	248	8.2	129	9.4	106	6.3	235	7.7
WA	66	9.6	59	6.8	125	8.2	60	8.7	57	6.7	117	7.6
SA	73	10.0	73	7.4	146	8.6	68	9.3	65	6.5	132	7.8
Tas	23	10.5	17	6.1	41	8.1	22	9.9	15	5.4	37	7.3
ACT	8	10.0	6	5.7	15	7.5	11	13.0	7	6.3	17	9.2
NT	4	12.4	2	6.7	6	9.5	4	13.3	2	4.5	6	8.8

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

Source: Cancer in Australia 1995, AIHW & AACR 1998.

Table 9: Cancer of the trachea, bronchus and lung (ICD 162)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	2	0.3	1	0.2	3	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	1	0.2	0	0.0	1	0.1	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	2	0.3	0	0.0	2	0.1	1	0.1	0	0.0	1	0.1
25-29	4	0.6	2	0.3	6	0.4	2	0.3	0	0.0	2	0.1
30-34	7	1.0	10	1.4	17	1.2	6	0.8	3	0.4	9	0.6
35-39	23	3.2	15	2.1	38	2.7	17	2.4	10	1.4	27	1.9
40-44	47	7.1	47	7.0	94	7.1	29	4.4	31	4.6	60	4.5
45-49	143	22.5	109	17.7	252	20.1	110	17.3	63	10.2	173	13.8
50-54	251	50.6	139	29.2	390	40.1	198	39.9	119	25.0	317	32.6
55-59	419	103.0	199	50.3	618	77.0	329	80.9	121	30.6	450	56.1
60-64	689	194.9	251	70.4	940	132.3	574	162.4	213	59.7	787	110.8
65-69	1,009	301.0	394	111.2	1,403	203.5	895	267.0	322	90.9	1,217	176.5
70-74	1,108	410.3	432	133.8	1,540	259.7	1,016	376.3	397	122.9	1,413	238.3
75-79	708	417.7	347	148.7	1,055	261.8	709	418.3	341	146.1	1,050	260.6
80-84	471	459.0	230	133.4	701	254.9	539	525.3	232	134.5	771	280.3
85 and over	250	440.4	134	99.8	384	200.9	272	479.1	146	108.7	418	218.7
Total	5,134		2,311		7,445		4,697		1,998		6,695	

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

Crude rate	57.1	25.5	41.2	52.2	22.0	37.0
95% CI	55.5 – 58.6	24.4 – 26.5	40.3 – 42.1	50.7 – 53.7	21.0 – 23.0	36.2 – 37.9
AS Rate (Aust 1991)	60.6	22.7	39.5	56.0	19.3	35.4
95% CI	58.9 – 62.2	21.7 – 23.6	38.6 – 40.4	54.4 – 57.6	18.5 – 20.2	34.6 – 36.3
AS Rate (World)	42.5	16.7	28.5	38.0	13.7	24.7
95% CI	41.3 – 43.7	16.0 – 17.4	27.8 – 29.2	36.9 – 39.1	13.1 – 14.4	24.1 – 25.4
Lifetime risk (0-74)	1 in 19	1 in 48	1 in 27	1 in 22	1 in 58	1 in 32
PYLL (0-74)				31,648	14,108	45,755
Per cent of all cancers	11.8	6.6	9.5	24.9	13.7	20.0

Average annual numbers and rates by State and Territory 1991-1995

	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	1,793	62.8	752	21.7	2,545	39.8	1,634	58.0	643	18.3	2,277	35.5
Vic	1,308	62.9	567	22.3	1,875	40.2	1,205	58.6	515	19.9	1,720	36.8
Qld	931	66.6	348	21.7	1,278	42.2	787	57.0	270	16.7	1,057	35.0
WA	445	65.0	200	24.3	645	42.3	399	58.5	163	19.7	561	36.9
SA	470	63.3	190	21.0	660	39.6	420	57.0	157	17.1	577	34.5
Tas	150	66.5	63	23.8	213	42.7	128	57.4	55	20.8	183	36.6
ACT	41	48.9	23	21.6	64	33.4	42	48.1	20	18.2	61	31.5
NT	31	88.2	15	45.8	46	67.9	28	88.5	13	41.4	40	65.7

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

Source: Cancer in Australia 1995, AIHW & AACR 1998.

Table 10: Cancer of the skin—melanoma (ICD 172)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0–4	0	0.0	1	0.2	1	0.1	0	0.0	0	0.0	0	0.0
5–9	1	0.2	1	0.2	2	0.2	0	0.0	0	0.0	0	0.0
10–14	6	0.9	5	0.8	11	0.8	0	0.0	1	0.2	1	0.1
15–19	57	8.8	44	7.1	101	8.0	3	0.5	1	0.2	4	0.3
20–24	88	12.1	124	17.6	212	14.8	1	0.1	4	0.6	5	0.3
25–29	138	20.0	168	24.4	306	22.2	13	1.9	8	1.2	21	1.5
30–34	167	22.9	270	36.9	437	29.9	15	2.1	13	1.8	28	1.9
35–39	218	30.7	260	36.5	478	33.6	18	2.5	12	1.7	30	2.1
40–44	314	47.2	274	41.0	588	44.1	40	6.0	19	2.8	59	4.4
45–49	340	53.5	335	54.3	675	53.9	32	5.0	26	4.2	58	4.6
50–54	354	71.3	277	58.2	631	64.9	39	7.9	31	6.5	70	7.2
55–59	374	92.0	234	59.2	608	75.8	46	11.3	21	5.3	67	8.4
60–64	407	115.1	255	71.5	662	93.2	64	18.1	23	6.4	87	12.2
65–69	487	145.3	284	80.2	771	111.8	75	22.4	34	9.6	109	15.8
70–74	462	171.1	268	83.0	730	123.1	75	27.8	39	12.1	114	19.2
75–79	328	193.5	222	95.1	550	136.5	96	56.6	34	14.6	130	32.3
80–84	214	208.6	163	94.5	377	137.1	49	47.8	35	20.3	84	30.5
85 and over	132	232.5	132	98.3	264	138.1	35	61.7	33	24.6	68	35.6
Total	4,087		3,317		7,404		601		334		935	

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

Crude rate	45.4	36.5	41.0	6.7	3.7	5.2
95% CI	44.1 – 46.8	35.3 – 37.8	40.0 – 41.9	6.1 – 7.2	3.3 – 4.1	4.8 – 5.5
AS Rate (Aust 1991)	46.4	34.4	39.7	7.1	3.3	5.0
95% CI	45.0 – 47.9	33.2 – 35.6	38.8 – 40.6	6.5 – 7.7	2.9 – 3.6	4.6 – 5.3
AS Rate (World)	36.5	28.4	32.0	5.1	2.5	3.7
95% CI	35.3 – 37.6	27.3 – 29.4	31.3 – 32.8	4.6 – 5.5	2.2 – 2.8	3.4 – 3.9
Lifetime risk (0–74)	1 in 26	1 in 36	1 in 30	1 in 190	1 in 381	1 in 256
PYLL (0–74)				7,568	4,750	12,318
Per cent of all cancers	9.4	9.5	9.5	3.2	2.3	2.8

Average annual numbers and rates by State and Territory 1991–1995

	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	1,312	44.8	1,003	31.0	2,315	37.0	226	8.0	112	3.2	337	5.3
Vic	664	30.9	641	26.7	1,305	28.4	118	5.6	76	3.0	194	4.2
Qld	883	60.0	693	43.9	1,577	51.2	121	8.6	55	3.3	176	5.7
WA	373	48.6	299	35.7	672	41.4	47	6.5	27	3.2	74	4.7
SA	280	38.1	276	33.7	556	35.4	33	4.6	24	2.7	57	3.5
Tas	77	33.8	72	28.7	149	30.8	10	4.5	7	2.6	17	3.5
ACT	42	37.1	37	27.5	79	31.6	7	7.1	4	3.1	11	4.9
NT	18	30.3	13	19.7	31	25.1	4	9.4	1	1.6	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 1995*, AIHW & AACR 1998.

Table 11: Cancer of the breast (ICD 174–175)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
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	1	0.2	1	0.1	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	7	1.0	7	0.5	0	0.0	1	0.1	1	0.1
25–29	0	0.0	55	8.0	55	4.0	0	0.0	5	0.7	5	0.4
30–34	1	0.1	202	27.6	203	13.9	0	0.0	25	3.4	25	1.7
35–39	0	0.0	392	55.0	392	27.5	1	0.1	55	7.7	56	3.9
40–44	5	0.8	750	112.3	755	56.6	1	0.2	119	17.8	120	9.0
45–49	3	0.5	1,221	198.0	1,224	97.8	0	0.0	214	34.7	214	17.1
50–54	5	1.0	1,238	260.1	1,243	127.8	1	0.2	226	47.5	227	23.3
55–59	9	2.2	1,135	287.0	1,144	142.6	3	0.7	254	64.2	257	32.0
60–64	4	1.1	1,067	299.1	1,071	150.8	3	0.8	283	79.3	286	40.3
65–69	8	2.4	1,097	309.7	1,105	160.3	3	0.9	320	90.3	323	46.9
70–74	8	3.0	991	306.8	999	168.5	3	1.1	297	92.0	300	50.6
75–79	6	3.5	842	360.8	848	210.5	6	3.5	286	122.5	292	72.5
80–84	6	5.8	571	331.1	577	209.8	1	1.0	261	151.4	262	95.3
85 and over	2	3.5	380	282.9	382	199.9	1	1.8	288	214.4	289	151.2
Total	57		9,951		10,008		23		2,634		2,657	

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

Crude rate	0.6	109.6	55.4	0.3	29.0	14.7
95% CI	0.5 – 0.8	107.5 – 111.8	54.3 – 56.5	0.2 – 0.4	27.9 – 30.1	14.1 – 15.3
AS Rate (Aust 1991)	0.7	101.1	52.8	0.3	25.6	13.9
95% CI	0.5 – 0.8	99.1 – 103.1	51.8 – 53.9	0.2 – 0.4	24.6 – 26.6	13.4 – 14.5
AS Rate (World)	0.5	82.9	42.6	0.2	19.6	10.4
95% CI	0.4 – 0.6	81.2 – 84.6	41.7 – 43.5	0.1 – 0.3	18.8 – 20.4	10.0 – 10.8
Lifetime risk (0–74)	1 in 1,809	1 in 11	1 in 22	1 in 4,897	1 in 46	1 in 89
PYLL (0–74)				213	29,378	29,590
Per cent of all cancers	0.1	28.6	12.8	0.1	18.0	7.9

Average annual numbers and rates by State and Territory 1991–1995

	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	23	0.8	3,095	93.9	3,118	49.3	6	0.2	876	25.4	882	13.8
Vic	16	0.8	2,285	93.7	2,301	49.6	6	0.3	726	28.5	732	15.6
Qld	9	0.7	1,488	93.1	1,498	48.4	3	0.2	406	24.8	408	13.3
WA	5	0.7	801	96.1	806	50.1	1	0.2	218	25.6	219	13.8
SA	6	0.8	795	94.5	800	49.9	2	0.3	237	26.6	239	14.5
Tas	2	0.7	236	92.3	238	48.4	0	0.2	66	24.5	67	13.3
ACT	1	0.6	118	92.9	119	49.0	0	0.1	36	31.9	37	17.5
NT	0	0.0	35	68.9	35	31.8	0	0.0	8	18.8	8	8.6

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

Source: Cancer in Australia 1995, AIHW & AACR 1998.

Table 12: Cancer of the cervix (ICD 180)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
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			2	0.3					1	0.2		
20-24			5	0.7					1	0.1		
25-29			47	6.8					3	0.4		
30-34			113	15.5					6	0.8		
35-39			113	15.9					18	2.5		
40-44			113	16.9					17	2.5		
45-49			98	15.9					33	5.4		
50-54			60	12.6					29	6.1		
55-59			66	16.7					37	9.4		
60-64			66	18.5					29	8.1		
65-69			79	22.3					38	10.7		
70-74			72	22.3					43	13.3		
75-79			51	21.9					30	12.9		
80-84			29	16.8					28	16.2		
85 and over			33	24.6					21	15.6		
Total				947						334		

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

Crude rate		10.4		3.7
95% CI		9.8 – 11.1		3.3 – 4.1
AS Rate (Aust 1991)		9.9		3.3
95% CI		9.3 – 10.5		3.0 – 3.7
AS Rate (World)		8.1		2.6
95% CI		7.5 – 8.6		2.3 – 2.9
Lifetime risk (0-74)		1 in 122		1 in 336
PYLL (0-74)				4,698
Per cent of all cancers		2.7		2.3

Average annual numbers and rates by State and Territory 1991-1995

	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			359	11.3					117	3.5		
Vic			261	11.0					80	3.2		
Qld			194	12.3					55	3.4		
WA			99	11.8					33	3.9		
SA			70	8.8					22	2.5		
Tas			29	11.7					13	5.0		
ACT			14	10.5					4	3.2		
NT			12	21.8					6	14.0		

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

Source: Cancer in Australia 1995, AIHW & AACR 1998.

Table 13: Cancer of the uterus (ICD 179+182)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
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			2	0.3					0	0.0		
30-34			14	1.9					1	0.1		
35-39			19	2.7					0	0.0		
40-44			38	5.7					1	0.1		
45-49			85	13.8					8	1.3		
50-54			120	25.2					11	2.3		
55-59			187	47.3					19	4.8		
60-64			183	51.3					32	9.0		
65-69			191	53.9					29	8.2		
70-74			197	61.0					58	18.0		
75-79			141	60.4					50	21.4		
80-84			117	67.9					36	20.9		
85 and over			61	45.4					45	33.5		
Total			1,356						290			

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

Crude rate	14.9	3.2
95% CI	14.1 – 15.7	2.8 – 3.6
AS Rate (Aust 1991)	13.6	2.7
95% CI	12.9 – 14.3	2.4 – 3.0
AS Rate (World)	10.7	1.9
95% CI	10.1 – 11.3	1.6 – 2.1
Lifetime risk (0-74)	1 in 76	1 in 457
PYLL (0-74)		1,638
Per cent of all cancers	3.9	2.0

Average annual numbers and rates by State and Territory 1991-1995

	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			415	12.3					82	2.2		
Vic			366	14.8					78	2.9		
Qld			220	13.7					41	2.4		
WA			94	11.6					20	2.4		
SA			128	14.7					23	2.3		
Tas			32	12.1					7	2.6		
ACT			11	10.0					2	2.3		
NT			5	12.4					1	5.2		

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

Source: Cancer in Australia 1995, AIHW & AACR 1998.

Table 14: Cancer of the ovary and other uterine adnexae (ICD 183)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4			1	0.2					0	0.0		
5-9			0	0.0					0	0.0		
10-14			4	0.6					0	0.0		
15-19			8	1.3					0	0.0		
20-24			23	3.3					2	0.3		
25-29			13	1.9					1	0.1		
30-34			26	3.6					2	0.3		
35-39			42	5.9					9	1.3		
40-44			58	8.7					26	3.9		
45-49			95	15.4					38	6.2		
50-54			120	25.2					51	10.7		
55-59			112	28.3					65	16.4		
60-64			104	29.1					63	17.7		
65-69			142	40.1					108	30.5		
70-74			129	39.9					116	35.9		
75-79			140	60.0					100	42.8		
80-84			90	52.2					82	47.6		
85 and over			46	34.2					61	45.4		
Total			1,153						724			

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

Crude rate		12.7		8.0
95% CI		12.0 - 13.4		7.4 - 8.6
AS Rate (Aust 1991)		11.6		7.0
95% CI		10.9 - 12.3		6.5 - 7.5
AS Rate (World)		9.2		5.2
95% CI		8.6 - 9.8		4.8 - 5.6
Lifetime risk (0-74)		1 in 99		1 in 163
PYLL (0-74)				6,638
Per cent of all cancers		3.3		5.0

Average annual numbers and rates by State and Territory 1991-1995

	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			353	10.6					239	6.9		
Vic			300	12.2					206	8.1		
Qld			202	12.6					108	6.7		
WA			88	10.6					62	7.5		
SA			92	10.7					69	7.7		
Tas			31	11.9					23	8.5		
ACT			14	11.3					8	7.1		
NT			4	9.4					1	3.0		

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

Source: Cancer in Australia 1995, AIHW & AACR 1998.

Table 15: Cancer of the prostate (ICD 185)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	0	0.0					0	0.0				
5-9	1	0.2					0	0.0				
10-14	0	0.0					0	0.0				
15-19	0	0.0					0	0.0				
20-24	0	0.0					0	0.0				
25-29	0	0.0					0	0.0				
30-34	2	0.3					0	0.0				
35-39	1	0.1					0	0.0				
40-44	20	3.0					3	0.5				
45-49	82	12.9					8	1.3				
50-54	318	64.1					19	3.8				
55-59	793	195.0					46	11.3				
60-64	1,555	439.9					141	39.9				
65-69	2,555	762.3					289	86.2				
70-74	2,722	1,008.0					472	174.8				
75-79	1,964	1,158.7					515	303.8				
80-84	1,261	1,229.0					549	535.1				
85 and over	720	1,268.3					522	919.5				
Total	11,994						2,564					

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

Crude rate	133.4	28.5
95% CI	131.0 – 135.7	27.4 – 29.6
AS Rate (Aust 1991)	144.0	33.1
95% CI	141.3 – 146.6	31.8 – 34.4
AS Rate (World)	96.7	18.7
95% CI	94.9 – 98.5	18.0 – 19.5
Lifetime risk (0-74)	1 in 9	1 in 63
PYLL (0-74)		6,660
Per cent of all cancers	27.6	13.6

Average annual numbers and rates by State and Territory 1991-1995

	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	3,600	130.2					824	32.3				
Vic	2,374	118.2					641	34.2				
Qld	1,657	124.5					430	34.6				
WA	962	144.7					196	31.7				
SA	996	137.3					238	34.8				
Tas	323	147.9					76	37.5				
ACT	111	140.9					27	41.8				
NT	18	73.7					5	30.2				

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

Source: Cancer in Australia 1995, AIHW & AACR 1998.

Table 16: Cancer of the testis (ICD 186)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	9	1.3					0	0.0				
5-9	0	0.0					0	0.0				
10-14	1	0.2					0	0.0				
15-19	16	2.5					0	0.0				
20-24	62	8.6					6	0.8				
25-29	88	12.7					4	0.6				
30-34	124	17.0					7	1.0				
35-39	79	11.1					6	0.8				
40-44	45	6.8					2	0.3				
45-49	36	5.7					2	0.3				
50-54	24	4.8					3	0.6				
55-59	8	2.0					0	0.0				
60-64	7	2.0					2	0.6				
65-69	3	0.9					2	0.6				
70-74	6	2.2					3	1.1				
75-79	3	1.8					0	0.0				
80-84	0	0.0					1	1.0				
85 and over	2	3.5					0	0.0				
Total	513						38					

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

Crude rate	5.7	0.4
95% CI	5.2 – 6.2	0.3 – 0.6
AS Rate (Aust 1991)	5.7	0.4
95% CI	5.2 – 6.2	0.3 – 0.6
AS Rate (World)	5.0	0.4
95% CI	4.6 – 5.5	0.2 – 0.5
Lifetime risk (0-74)	1 in 258	1 in 2,985
PYLL (0-74)		1,263
Per cent of all cancers	1.2	0.2

Average annual numbers and rates by State and Territory 1991-1995

	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	170	5.7					9	0.3				
Vic	128	5.8					9	0.4				
Qld	88	5.7					4	0.2				
WA	42	5.0					2	0.2				
SA	40	5.6					3	0.4				
Tas	15	6.4					0	0.1				
ACT	7	4.7					0	0.0				
NT	4	4.0					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 1995*, AIHW & AACR 1998.

Table 17: Cancer of the bladder (ICD 188)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
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	1	0.2	0	0.0	1	0.1
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	1	0.2	3	0.2	0	0.0	0	0.0	0	0.0
20-24	2	0.3	1	0.1	3	0.2	0	0.0	1	0.1	1	0.1
25-29	5	0.7	0	0.0	5	0.4	0	0.0	0	0.0	0	0.0
30-34	5	0.7	2	0.3	7	0.5	0	0.0	0	0.0	0	0.0
35-39	15	2.1	8	1.1	23	1.6	0	0.0	0	0.0	0	0.0
40-44	26	3.9	14	2.1	40	3.0	1	0.2	1	0.1	2	0.2
45-49	63	9.9	11	1.8	74	5.9	5	0.8	1	0.2	6	0.5
50-54	99	19.9	26	5.5	125	12.9	9	1.8	3	0.6	12	1.2
55-59	133	32.7	33	8.3	166	20.7	18	4.4	7	1.8	25	3.1
60-64	194	54.9	61	17.1	255	35.9	40	11.3	14	3.9	54	7.6
65-69	325	97.0	104	29.4	429	62.2	68	20.3	23	6.5	91	13.2
70-74	402	148.9	116	35.9	518	87.4	105	38.9	44	13.6	149	25.1
75-79	306	180.5	86	36.8	392	97.3	110	64.9	35	15.0	145	36.0
80-84	235	229.0	91	52.8	326	118.5	114	111.1	54	31.3	168	61.1
85 and over	164	288.9	91	67.7	255	133.4	109	192.0	52	38.7	161	84.2
Total	1,976		646		2,622		580		235		815	

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

Crude rate	22.0	7.1	14.5	6.4	2.6	4.5
95% CI	21.0 – 22.9	6.6 – 7.7	14.0 – 15.1	5.9 – 7.0	2.3 – 2.9	4.2 – 4.8
AS Rate (Aust 1991)	23.7	6.1	13.8	7.4	2.1	4.2
95% CI	22.6 – 24.8	5.6 – 6.6	13.2 – 14.3	6.8 – 8.0	1.8 – 2.3	3.9 – 4.5
AS Rate (World)	15.9	4.2	9.5	4.3	1.3	2.5
95% CI	15.2 – 16.6	3.9 – 4.6	9.1 – 9.9	4.0 – 4.7	1.1 – 1.4	2.3 – 2.7
Lifetime risk (0-74)	1 in 54	1 in 197	1 in 87	1 in 258	1 in 744	1 in 392
PYLL (0-74)				2,028	760	2,788
Per cent of all cancers	4.6	1.9	3.4	3.1	1.6	2.4

Average annual numbers and rates by State and Territory 1991-1995

	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	502	18.1	169	4.7	671	10.4	181	7.0	77	2.0	258	4.0
Vic	596	29.3	195	7.3	791	16.8	137	7.1	61	2.1	197	4.1
Qld	387	28.3	130	7.9	517	17.0	86	6.8	42	2.4	128	4.2
WA	97	14.7	28	3.2	125	8.1	42	6.6	14	1.6	56	3.6
SA	122	17.0	41	4.2	163	9.7	50	7.2	24	2.4	74	4.3
Tas	63	28.3	19	6.9	82	16.4	15	7.3	6	1.9	21	4.2
ACT	12	15.6	4	4.3	17	9.0	8	9.6	3	2.9	11	5.8
NT	6	16.3	2	5.2	7	10.9	2	7.3	1	4.0	3	5.6

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

Source: Cancer in Australia 1995, AIHW & AACR 1998.

Table 18: Cancer of the kidney and other and unspecified urinary organs (ICD 189)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	15	2.2	9	1.4	24	1.8	1	0.1	1	0.2	2	0.2
5-9	4	0.6	4	0.6	8	0.6	1	0.2	0	0.0	1	0.1
10-14	1	0.2	0	0.0	1	0.1	0	0.0	1	0.2	1	0.1
15-19	2	0.3	0	0.0	2	0.2	0	0.0	0	0.0	0	0.0
20-24	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
25-29	0	0.0	5	0.7	5	0.4	1	0.1	1	0.1	2	0.1
30-34	5	0.7	6	0.8	11	0.8	3	0.4	1	0.1	4	0.3
35-39	18	2.5	15	2.1	33	2.3	3	0.4	2	0.3	5	0.4
40-44	34	5.1	20	3.0	54	4.1	9	1.4	3	0.4	12	0.9
45-49	75	11.8	33	5.4	108	8.6	17	2.7	7	1.1	24	1.9
50-54	102	20.6	49	10.3	151	15.5	21	4.2	9	1.9	30	3.1
55-59	112	27.5	53	13.4	165	20.6	42	10.3	14	3.5	56	7.0
60-64	146	41.3	61	17.1	207	29.1	43	12.2	21	5.9	64	9.0
65-69	196	58.5	120	33.9	316	45.8	81	24.2	58	16.4	139	20.2
70-74	184	68.1	137	42.4	321	54.1	79	29.3	71	22.0	150	25.3
75-79	149	87.9	99	42.4	248	61.6	70	41.3	60	25.7	130	32.3
80-84	93	90.6	82	47.6	175	63.6	52	50.7	64	37.1	116	42.2
85 and over	45	79.3	52	38.7	97	50.8	40	70.5	40	29.8	80	41.9
Total	1,181		745		1,926		463		353		816	

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

Crude rate	13.1	8.2	10.7	5.1	3.9	4.5
95% CI	12.4 - 13.9	7.6 - 8.8	10.2 - 11.1	4.7 - 5.6	3.5 - 4.3	4.2 - 4.8
AS Rate (Aust 1991)	13.7	7.3	10.2	5.5	3.3	4.3
95% CI	12.9 - 14.5	6.7 - 7.8	9.7 - 10.7	5.0 - 6.1	2.9 - 3.6	4.0 - 4.6
AS Rate (World)	10.2	5.4	7.7	3.8	2.2	2.9
95% CI	9.6 - 10.8	5.0 - 5.9	7.3 - 8.1	3.4 - 4.1	1.9 - 2.4	2.7 - 3.1
Lifetime risk (0-74)	1 in 84	1 in 153	1 in 109	1 in 235	1 in 384	1 in 293
PYLL (0-74)				3,738	1,913	5,650
Per cent of all cancers	2.7	2.1	2.5	2.5	2.4	2.4

Average annual numbers and rates by State and Territory 1991-1995

	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	402	13.9	285	8.3	687	10.8	146	5.2	126	3.5	272	4.2
Vic	261	12.3	172	6.8	433	9.3	121	5.8	82	3.1	203	4.3
Qld	206	14.4	139	8.6	345	11.3	77	5.6	58	3.5	135	4.4
WA	79	10.8	49	5.8	128	8.2	26	3.9	24	2.9	51	3.3
SA	94	12.6	62	7.1	156	9.5	40	5.5	28	3.0	68	4.1
Tas	32	14.2	15	5.5	46	9.3	14	6.3	9	3.1	23	4.5
ACT	12	13.3	5	5.1	17	8.7	5	5.4	5	4.4	9	4.9
NT	4	11.7	2	6.4	6	9.2	1	2.8	1	4.2	2	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 1995, AIHW & AACR 1998.

Table 19: Cancer of the brain (ICD 191)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	24	3.6	23	3.6	47	3.6	5	0.7	5	0.8	10	0.8
5-9	17	2.6	18	2.9	35	2.7	9	1.4	5	0.8	14	1.1
10-14	19	2.9	6	0.9	25	1.9	6	0.9	5	0.8	11	0.8
15-19	10	1.5	17	2.7	27	2.1	3	0.5	4	0.6	7	0.6
20-24	23	3.2	12	1.7	35	2.4	9	1.2	5	0.7	14	1.0
25-29	24	3.5	16	2.3	40	2.9	5	0.7	7	1.0	12	0.9
30-34	26	3.6	19	2.6	45	3.1	16	2.2	7	1.0	23	1.6
35-39	28	3.9	13	1.8	41	2.9	17	2.4	7	1.0	24	1.7
40-44	42	6.3	20	3.0	62	4.7	31	4.7	14	2.1	45	3.4
45-49	50	7.9	25	4.1	75	6.0	38	6.0	26	4.2	64	5.1
50-54	61	12.3	40	8.4	101	10.4	46	9.3	29	6.1	75	7.7
55-59	58	14.3	41	10.4	99	12.3	59	14.5	38	9.6	97	12.1
60-64	66	18.7	46	12.9	112	15.8	68	19.2	49	13.7	117	16.5
65-69	79	23.6	60	16.9	139	20.2	75	22.4	60	16.9	135	19.6
70-74	79	29.3	50	15.5	129	21.8	66	24.4	47	14.6	113	19.1
75-79	60	35.4	50	21.4	110	27.3	59	34.8	43	18.4	102	25.3
80-84	36	35.1	26	15.1	62	22.5	31	30.2	22	12.8	53	19.3
85 and over	12	21.1	24	17.9	36	18.8	13	22.9	26	19.4	39	20.4
Total	714		506		1,220		556		399		955	

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

Crude rate	7.9	5.6	6.8	6.2	4.4	5.3
95% CI	7.4 – 8.5	5.1 – 6.1	6.4 – 7.1	5.7 – 6.7	4.0 – 4.8	4.9 – 5.6
AS Rate (Aust 1991)	8.1	5.3	6.6	6.3	4.1	5.1
95% CI	7.5 – 8.7	4.8 – 5.7	6.2 – 7.0	5.8 – 6.9	3.7 – 4.5	4.8 – 5.4
AS Rate (World)	6.8	4.6	5.7	5.0	3.3	4.1
95% CI	6.3 – 7.3	4.2 – 5.1	5.3 – 6.0	4.6 – 5.4	3.0 – 3.7	3.9 – 4.4
Lifetime risk (0-74)	1 in 147	1 in 223	1 in 178	1 in 182	1 in 271	1 in 218
PYLL (0-74)				9,243	6,065	15,308
Per cent of all cancers	1.6	1.5	1.6	2.9	2.7	2.9

Average annual numbers and rates by State and Territory 1991-1995

	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	225	7.6	174	5.3	399	6.4	182	6.2	136	4.1	318	5.1
Vic	178	8.2	134	5.6	311	6.8	145	6.8	106	4.3	251	5.4
Qld	114	7.6	86	5.5	200	6.5	91	6.1	69	4.4	160	5.2
WA	59	7.6	43	5.2	102	6.3	49	6.4	33	3.9	81	5.1
SA	60	8.0	50	6.2	110	7.1	48	6.4	38	4.4	86	5.4
Tas	17	7.6	17	6.6	34	7.0	14	6.2	13	5.1	27	5.6
ACT	9	7.8	6	4.0	15	5.8	7	7.1	6	5.1	14	6.0
NT	4	5.8	2	4.3	6	5.0	2	3.9	1	2.1	3	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 1995, AIHW & AACR 1998.

Table 20: Cancers of unknown primary site (ICD 195–199)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0–4	1	0.1	2	0.3	3	0.2	0	0.0	0	0.0	0	0.0
5–9	1	0.2	0	0.0	1	0.1	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	1	0.2	1	0.1	0	0.0	0	0.0	0	0.0
20–24	2	0.3	0	0.0	2	0.1	3	0.4	0	0.0	3	0.2
25–29	6	0.9	8	1.2	14	1.0	0	0.0	3	0.4	3	0.2
30–34	10	1.4	14	1.9	24	1.6	7	1.0	4	0.5	11	0.8
35–39	19	2.7	22	3.1	41	2.9	6	0.8	11	1.5	17	1.2
40–44	19	2.9	24	3.6	43	3.2	11	1.7	15	2.2	26	2.0
45–49	46	7.2	47	7.6	93	7.4	31	4.9	20	3.2	51	4.1
50–54	63	12.7	60	12.6	123	12.7	43	8.7	36	7.6	79	8.1
55–59	104	25.6	101	25.5	205	25.6	65	16.0	50	12.6	115	14.3
60–64	161	45.5	127	35.6	288	40.5	125	35.4	87	24.4	212	29.8
65–69	261	77.9	178	50.3	439	63.7	199	59.4	128	36.1	327	47.4
70–74	235	87.0	227	70.3	462	77.9	198	73.3	173	53.6	371	62.6
75–79	235	138.6	248	106.3	483	119.9	198	116.8	158	67.7	356	88.4
80–84	169	164.7	218	126.4	387	140.7	140	136.4	185	107.3	325	118.2
85 and over	136	239.6	233	173.5	369	193.1	106	186.7	214	159.3	320	167.5
Total	1,468		1,511		2,979		1,132		1,084		2,216	

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

Crude rate	16.3	16.6	16.5	12.6	11.9	12.3
95% CI	15.5 – 17.2	15.8 – 17.5	15.9 – 17.1	11.9 – 13.3	11.2 – 12.7	11.8 – 12.8
AS Rate (Aust 1991)	17.7	14.1	15.6	13.7	9.8	11.6
95% CI	16.8 – 18.7	13.4 – 14.8	15.1 – 16.2	12.9 – 14.6	9.2 – 10.4	11.1 – 12.1
AS Rate (World)	11.9	9.7	10.7	9.1	6.5	7.7
95% CI	11.3 – 12.6	9.1 – 10.2	10.3 – 11.1	8.5 – 9.6	6.1 – 6.9	7.3 – 8.0
Lifetime risk (0–74)	1 in 76	1 in 95	1 in 85	1 in 100	1 in 141	1 in 118
PYLL (0–74)				7,545	5,928	13,473
Per cent of all cancers	3.4	4.3	3.8	6.0	7.4	6.6

Average annual numbers and rates by State and Territory 1991–1995

	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	563	20.4	507	13.9	1,070	16.7	404	14.7	375	10.1	779	12.1
Vic	378	18.6	362	13.4	740	15.7	269	13.4	252	9.1	520	11.0
Qld	280	20.4	224	13.3	504	16.5	185	13.7	158	9.3	343	11.3
WA	149	21.8	130	14.9	280	18.0	93	13.8	85	9.6	178	11.5
SA	117	16.0	120	12.4	237	14.1	101	14.0	102	10.4	203	12.0
Tas	50	23.2	41	14.4	92	18.2	37	17.1	33	11.4	70	13.9
ACT	14	16.0	12	10.8	25	13.2	10	12.8	9	8.1	19	10.1
NT	11	30.3	9	23.1	20	26.9	6	17.9	4	15.4	10	16.7

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

Source: Cancer in Australia 1995, AIHW & AACR 1998.

Table 21: Non-Hodgkin's lymphoma (ICD 200+202)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	7	1.0	2	0.3	9	0.7	1	0.1	1	0.2	2	0.2
5-9	13	2.0	5	0.8	18	1.4	1	0.2	2	0.3	3	0.2
10-14	8	1.2	4	0.6	12	0.9	4	0.6	1	0.2	5	0.4
15-19	17	2.6	9	1.5	26	2.0	3	0.5	4	0.6	7	0.6
20-24	14	1.9	17	2.4	31	2.2	7	1.0	4	0.6	11	0.8
25-29	38	5.5	19	2.8	57	4.1	4	0.6	3	0.4	7	0.5
30-34	51	7.0	14	1.9	65	4.4	16	2.2	9	1.2	25	1.7
35-39	71	10.0	29	4.1	100	7.0	23	3.2	9	1.3	32	2.2
40-44	76	11.4	54	8.1	130	9.8	33	5.0	12	1.8	45	3.4
45-49	96	15.1	104	16.9	200	16.0	40	6.3	19	3.1	59	4.7
50-54	141	28.4	88	18.5	229	23.6	47	9.5	25	5.3	72	7.4
55-59	129	31.7	106	26.8	235	29.3	50	12.3	37	9.4	87	10.8
60-64	152	43.0	129	36.2	281	39.6	62	17.5	53	14.9	115	16.2
65-69	196	58.5	150	42.4	346	50.2	85	25.4	98	27.7	183	26.5
70-74	208	77.0	202	62.5	410	69.1	127	47.0	90	27.9	217	36.6
75-79	164	96.8	198	84.8	362	89.8	92	54.3	124	53.1	216	53.6
80-84	99	96.5	136	78.9	235	85.4	79	77.0	122	70.8	201	73.1
85 and over	56	98.6	106	78.9	162	84.8	56	98.6	87	64.8	143	74.8
Total	1,536		1,372		2,908		730		700		1,430	

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

Crude rate	17.1	15.1	16.1	8.1	7.7	7.9
95% CI	16.2 – 17.9	14.3 – 15.9	15.5 – 16.7	7.5 – 8.7	7.1 – 8.3	7.5 – 8.3
AS Rate (Aust 1991)	17.6	13.4	15.4	8.6	6.6	7.5
95% CI	16.7 – 18.5	12.7 – 14.2	14.9 – 16.0	8.0 – 9.2	6.1 – 7.1	7.1 – 7.9
AS Rate (World)	13.5	10.2	11.8	6.0	4.5	5.2
95% CI	12.8 – 14.2	9.6 – 10.8	11.3 – 12.3	5.6 – 6.5	4.1 – 4.8	4.9 – 5.5
Lifetime risk (0-74)	1 in 68	1 in 89	1 in 77	1 in 153	1 in 212	1 in 179
PYLL (0-74)				8,498	5,318	13,815
Per cent of all cancers	3.5	3.9	3.7	3.9	4.8	4.3

Average annual numbers and rates by State and Territory 1991-1995

	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	542	18.7	436	12.7	978	15.5	259	9.3	221	6.1	480	7.5
Vic	404	19.0	328	13.0	732	15.8	201	9.7	174	6.5	375	8.0
Qld	259	18.1	201	12.3	460	15.0	111	8.0	88	5.3	199	6.5
WA	117	16.2	101	12.0	218	13.9	54	7.9	51	6.0	105	6.8
SA	125	17.0	113	12.8	238	14.7	59	8.2	62	6.6	122	7.3
Tas	39	17.3	32	12.4	72	14.6	19	8.8	17	6.4	36	7.3
ACT	20	18.5	18	15.1	37	16.7	11	13.2	9	8.2	20	10.3
NT	6	10.6	4	9.8	10	10.4	1	3.5	1	4.6	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 1995, AIHW & AACR 1998.

Table 22: Leukaemias (ICD 204–208)

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0–4	53	7.9	45	7.1	98	7.5	12	1.8	7	1.1	19	1.5
5–9	34	5.1	20	3.2	54	4.2	14	2.1	9	1.4	23	1.8
10–14	13	2.0	14	2.2	27	2.1	8	1.2	3	0.5	11	0.8
15–19	25	3.8	13	2.1	38	3.0	18	2.8	7	1.1	25	2.0
20–24	16	2.2	12	1.7	28	2.0	13	1.8	5	0.7	18	1.3
25–29	20	2.9	10	1.5	30	2.2	9	1.3	5	0.7	14	1.0
30–34	25	3.4	20	2.7	45	3.1	18	2.5	14	1.9	32	2.2
35–39	28	3.9	15	2.1	43	3.0	14	2.0	6	0.8	20	1.4
40–44	30	4.5	21	3.1	51	3.8	12	1.8	14	2.1	26	2.0
45–49	40	6.3	33	5.4	73	5.8	20	3.1	17	2.8	37	3.0
50–54	57	11.5	38	8.0	95	9.8	34	6.9	15	3.2	49	5.0
55–59	58	14.3	52	13.1	110	13.7	40	9.8	17	4.3	57	7.1
60–64	78	22.1	66	18.5	144	20.3	55	15.6	37	10.4	92	13.0
65–69	133	39.7	74	20.9	207	30.0	76	22.7	42	11.9	118	17.1
70–74	173	64.1	112	34.7	285	48.1	121	44.8	76	23.5	197	33.2
75–79	144	85.0	105	45.0	249	61.8	95	56.0	73	31.3	168	41.7
80–84	95	92.6	96	55.7	191	69.4	82	79.9	85	49.3	167	60.7
85 and over	74	130.4	104	77.4	178	93.1	74	130.4	107	79.7	181	94.7
Total	1,096		850		1,946		715		539		1,254	

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

Crude rate	12.2	9.4	10.8	8.0	5.9	6.9
95% CI	11.5 – 12.9	8.7 – 10.0	10.3 – 11.2	7.4 – 8.5	5.4 – 6.4	6.6 – 7.3
AS Rate (Aust 1991)	12.9	8.3	10.3	8.6	5.0	6.6
95% CI	12.2 – 13.7	7.7 – 8.8	9.9 – 10.8	8.0 – 9.2	4.5 – 5.4	6.2 – 6.9
AS Rate (World)	10.0	6.7	8.2	6.1	3.5	4.7
95% CI	9.3 – 10.6	6.2 – 7.2	7.8 – 8.6	5.7 – 6.6	3.2 – 3.9	4.4 – 5.0
Lifetime risk (0–74)	1 in 104	1 in 159	1 in 127	1 in 167	1 in 302	1 in 217
PYLL (0–74)				9,715	5,550	15,265
Per cent of all cancers	2.5	2.4	2.5	3.8	3.7	3.7

Average annual numbers and rates by State and Territory 1991–1995

	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	376	13.3	282	8.1	658	10.4	229	8.4	182	5.1	411	6.4
Vic	269	13.1	204	7.9	473	10.2	174	8.6	144	5.4	318	6.8
Qld	213	15.1	155	9.4	368	12.0	127	9.4	93	5.5	220	7.2
WA	85	11.9	64	7.5	149	9.4	56	8.2	47	5.4	103	6.6
SA	122	16.8	89	10.2	211	13.0	68	9.6	45	5.0	113	6.9
Tas	27	12.1	25	9.2	52	10.4	11	5.2	16	5.6	27	5.4
ACT	14	14.3	10	8.4	24	11.1	10	11.1	6	5.5	16	7.9
NT	4	5.1	3	6.3	7	5.8	2	3.9	1	5.2	4	4.7

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

Source: *Cancer in Australia 1995*, AIHW & AACR 1998.

Table 23: Alcohol-related cancers
Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
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	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20-24	1	0.1	1	0.1	2	0.1	0	0.0	0	0.0	0	0.0
25-29	1	0.1	2	0.3	3	0.2	0	0.0	1	0.1	1	0.1
30-34	2	0.3	5	0.6	7	0.5	1	0.1	1	0.1	1	0.1
35-39	4	0.5	9	1.3	13	0.9	2	0.3	2	0.2	4	0.3
40-44	12	1.8	24	3.6	36	2.7	5	0.8	4	0.7	10	0.7
45-49	23	3.6	41	6.6	64	5.1	11	1.7	7	1.2	18	1.4
50-54	48	9.7	44	9.2	92	9.5	25	5.0	10	2.2	35	3.6
55-59	57	14.0	40	10.1	97	12.1	25	6.3	11	2.7	36	4.5
60-64	69	19.6	41	11.4	110	15.5	37	10.5	13	3.7	50	7.1
65-69	63	18.9	44	12.4	107	15.6	45	13.5	16	4.6	62	9.0
70-74	49	18.1	42	13.1	91	15.4	33	12.4	18	5.6	51	8.7
75-79	16	9.3	12	5.1	28	6.9	12	7.2	6	2.5	18	4.5
80-84	4	4.2	8	4.7	12	4.5	4	3.9	5	2.9	9	3.3
85 and over	3	4.8	6	4.5	9	4.6	3	5.7	6	4.2	9	4.7
Total	352		319		672		205		100		304	

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

Crude rate	3.9	3.5	3.7	2.3	1.1	1.7
95% CI	3.5 - 4.3	3.1 - 3.9	3.4 - 4.0	2.0 - 2.6	0.9 - 1.3	1.5 - 1.9
AS Rate (Aust 1991)	3.9	3.3	3.6	2.3	1.0	1.6
95% CI	3.5 - 4.3	2.9 - 3.7	3.3 - 3.9	2.0 - 2.6	0.8 - 1.2	1.4 - 1.8
AS Rate (World)	3.3	2.8	3.0	1.9	0.8	1.3
95% CI	2.9 - 3.6	2.5 - 3.1	2.8 - 3.3	1.6 - 2.1	0.6 - 1.0	1.2 - 1.5
Lifetime risk (0-74)	1 in 231	1 in 291	1 in 258	1 in 396	1 in 952	1 in 566
PYLL (0-74)				2,491	1,222	3,713
Per cent of all cancers	0.8	0.9	0.9	1.1	0.7	0.9

Average annual numbers and rates by State and Territory 1991-1995

	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	122	4.0	99	3.1	222	3.5	69	2.3	33	1.0	102	1.6
Vic	88	4.0	74	3.1	162	3.5	56	2.5	27	1.1	83	1.8
Qld	71	4.7	49	3.1	120	3.9	36	2.4	15	1.0	51	1.7
WA	30	3.9	25	3.1	55	3.5	18	2.3	8	1.0	26	1.7
SA	25	3.2	24	3.0	49	3.1	14	1.8	8	1.0	22	1.4
Tas	9	3.8	8	3.1	17	3.5	6	2.5	3	1.0	9	1.8
ACT	4	3.4	4	3.1	8	3.2	2	2.3	1	1.2	4	1.7
NT	5	8.8	1	3.1	6	6.2	2	5.2	1	1.4	3	3.5

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 1995*, AIHW & AACR 1998.

Table 24: Smoking-related cancers

Australia 1995

Age group	Incidence						Mortality					
	Males		Females		Persons		Males		Females		Persons	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
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	8	1.2	2	0.4	10	0.8	0	0.0	1	0.1	1	0.1
20-24	25	3.4	6	0.9	31	2.2	3	0.4	1	0.1	4	0.3
25-29	49	7.1	19	2.7	68	4.9	4	0.6	3	0.4	7	0.5
30-34	77	10.6	48	6.6	125	8.6	10	1.4	6	0.8	17	1.1
35-39	92	13.0	57	8.1	150	10.5	27	3.8	16	2.2	43	3.0
40-44	143	21.5	85	12.7	228	17.1	46	6.9	32	4.8	78	5.8
45-49	299	47.0	162	26.3	461	36.8	137	21.5	64	10.4	201	16.1
50-54	468	94.3	165	34.6	633	65.1	250	50.4	114	24.0	365	37.5
55-59	699	171.8	209	52.8	908	113.1	393	96.6	118	29.8	510	63.6
60-64	984	278.2	276	77.4	1,260	177.4	636	179.8	194	54.3	829	116.7
65-69	1,386	413.5	412	116.3	1,798	260.8	1,004	299.6	282	79.6	1,286	186.6
70-74	1,443	534.4	447	138.3	1,890	318.7	1,076	398.6	350	108.3	1,426	240.5
75-79	910	536.8	326	139.5	1,236	306.7	741	437.1	284	121.8	1,025	254.5
80-84	588	572.9	163	94.7	751	273.1	562	547.7	143	83.1	705	256.4
85 and over	333	586.7	113	84.0	446	233.3	320	563.6	105	77.8	425	222.1
Total	7,504		2,490		9,993		5,209		1,711		6,921	

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

Crude rate	83.4	27.4	55.3	57.9	18.9	38.3
95% CI	81.5 – 85.3	26.3 – 28.5	54.2 – 56.4	56.3 – 59.5	18.0 – 19.7	37.4 – 39.2
AS Rate (Aust 1991)	87.6	24.9	53.2	61.9	16.8	36.7
95% CI	85.6 – 89.6	23.9 – 25.9	52.2 – 54.3	60.2 – 63.6	16.0 – 17.6	35.8 – 37.5
AS Rate (World)	63.5	19.0	39.7	42.6	12.3	26.1
95% CI	62.0 – 64.9	18.2 – 19.8	38.9 – 40.5	41.4 – 43.7	11.7 – 12.9	25.4 – 26.7
Lifetime risk (0-74)	1 in 13	1 in 42	1 in 20	1 in 19	1 in 64	1 in 30
PYLL (0-74)				37,733	13,892	51,625
Per cent of all cancers	17.3	7.1	12.8	27.6	11.7	20.7

Average annual numbers and rates by State and Territory 1991-1995

	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	2,505	87.0	827	24.4	3,332	52.4	1,791	63.4	566	16.3	2,357	36.8
Vic	1,901	90.7	613	24.5	2,514	54.1	1,341	65.0	445	17.5	1,786	38.3
Qld	1,415	99.9	413	26.0	1,828	60.2	875	63.2	246	15.3	1,121	37.0
WA	619	88.0	208	25.4	827	53.7	436	63.5	142	17.3	577	37.8
SA	654	88.0	199	22.5	852	51.8	455	61.8	136	15.0	590	35.4
Tas	220	96.9	68	26.2	288	58.1	144	64.8	50	18.9	194	38.9
ACT	66	72.6	24	22.1	91	44.3	50	57.9	18	16.1	67	34.3
NT	47	116.2	17	43.7	63	81.8	32	95.2	12	34.7	44	65.8

Notes

- AS Rates use Australian 1991 Population Standard unless World Standard Population indicated. All rates expressed per 100,000.
- 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 1995*, AIHW & AACR 1998.

Appendixes

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

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

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

Age group	No. of cases	1995 Aust. population*	Age-specific rate per 100,000	Australian 1991 Population Standard**	Expected number of cases
	column 1	column 2	column 3	column 4	column 5
0–4	2	666,703	0.3	1,271,703	3.8
5–9	0	662,592	0.0	1,272,208	0.0
10–14	1	664,089	0.2	1,241,619	1.9
15–19	0	650,877	0.0	1,364,074	0.0
20–24	2	725,107	0.3	1,396,764	3.9
25–29	4	691,428	0.6	1,399,663	8.1
30–34	7	730,523	1.0	1,425,735	13.7
35–39	23	710,843	3.2	1,328,387	43.0
40–44	47	665,597	7.1	1,294,271	91.4
45–49	143	635,263	22.5	1,029,145	231.7
50–54	251	496,254	50.6	846,934	428.4
55–59	419	406,724	103.0	725,950	747.9
60–64	689	353,505	194.9	736,868	1436.2
65–69	1,009	335,187	301.0	671,390	2021.1
70–74	1,108	270,031	410.3	510,755	2095.7
75–79	708	169,506	417.7	384,495	1606.0
80–84	471	102,606	459.0	229,828	1055.0
85+	250	56,769	440.4	154,247	679.3
Total	5,134	8,993,604	57.1	17,284,036	60.6

* 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 100,000 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.

$$\begin{aligned} \text{Crude incidence rate for lung cancer} &= \frac{\text{Column 1 total}}{\text{Column 2 total}} \times 100,000 \\ &= \frac{5,134}{8,993,604} \times 100,000 \\ &= 57.1 \text{ per } 100,000 \end{aligned}$$

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 100,000 population. This rate may be calculated for particular age and sex groupings, e.g.

$$\begin{aligned} \text{Age-specific lung cancer incidence rates in males aged 75-79} &= \frac{\text{Column 1 for this age}}{\text{Column 2 for this age}} \times 100,000 \\ &= \frac{708}{169,506} \times 100,000 \\ &= 417.7 \text{ per } 100,000 \end{aligned}$$

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.

$$\begin{aligned} \text{Cumulative rate} &= \frac{5 \times (\text{Sum of the age-specific rates}) \times 100}{100,000} \\ &= \frac{5 \times 1094.9 \times 100}{100,000} \\ &= 5.47\% \end{aligned}$$

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:

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

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:

$$n = \frac{1}{(1 - e^{-\text{rate} \times 100})}$$

For lung cancer in men, the cumulative rate was 5.47% (see previous page), therefore:

$$\begin{aligned}n &= \frac{1}{(1 - e^{-5.47/100})} \\ &= 18.79\end{aligned}$$

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 1994 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 of non-melanocytic skin cancers is not included in total new cancer cases, although it is included in the parallel mortality calculations.

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, average annual rates of change have been calculated using the geometric formula:

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

where P_n = later time period

P_o = earlier time period

N = number of years between the two time periods.

This geometric rate of change averages out variations in the actual annual changes that may have occurred between the two time periods.

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 estimated resident population 1995

Age	1995		
	Males	Females	Total
0-4	666,703	632,821	1,299,524
5-9	662,592	630,089	1,292,681
10-14	664,089	631,824	1,295,913
15-19	650,877	618,363	1,269,240
20-24	725,107	704,414	1,429,521
25-29	691,428	687,335	1,378,763
30-34	730,523	731,083	1,461,606
35-39	710,843	712,394	1,423,237
40-44	665,597	667,664	1,333,261
45-49	635,263	616,566	1,251,829
50-54	496,254	475,987	972,241
55-59	406,724	395,514	802,238
60-64	353,505	356,786	710,291
65-69	335,187	354,188	689,375
70-74	270,031	322,964	592,995
75-79	169,506	233,400	402,906
80-84	102,606	172,430	275,036
85+	56,769	134,332	191,101
Total	8,993,604	9,078,154	18,071,758

Source: Australian Bureau of Statistics (1997b).

Australian Standard Population* and World Standard Population**

Age	Australian Standard Population (1991)		World Standard Population	
		% 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 (1995)	6,126,981	4,517,387	3,265,109	1,733,787	1,469,429	473,673	304,805	177,552
Per cent of Australian population	33.9	25.0	18.1	9.6	8.1	2.6	1.7	1.0
Per cent of population older than age 65	12.5	12.3	11.1	10.3	13.8	12.6	7.1	3.0
No. new cancers (1995)	26,670	20,003	14,160	6,981	7,038	2,273	929	300
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 Control Information Centre

NSW Cancer Council
Locked Mail Bag No. 1
Kings Cross NSW 2011

Phone: 02 9334 1902
Fax: 02 9368 0843
Director: Professor Bruce Armstrong
Director's e-mail: brucea@nswcc.org.au
Operations coordinator: Ms Noreen Panos
E-mail: noreenp@nswcc.org.au
Biostatistician: Mrs Marylon Coates
Biostatistician's e-mail: marylonc@nswcc.org.au

Victorian Cancer Registry

Anti-Cancer Council of Victoria
1 Rathdowne Street
Carlton South VIC 3053

Phone: 03 9279 1160
Fax: 03 9279 1270
Director: Dr Graham Giles
Director's e-mail: ggg@accv.org.au
Registrar: Ms Kathryn Whitfield
Registrar's e-mail: kathryn@accv.org.au
Statistician: Ms Vicky Thursfield
Statistician's e-mail: vickyth@accv.org.au

Queensland Cancer Registry

Queensland Department of Health
GPO Box 48
BRISBANE QLD 4001

Phone: 07 3234 0921
Fax: 07 3221 0951
Director: Dr Ian Ring
Director's e-mail: ringi@health.qld.gov.au
Registrar: Mrs Judy Symmons
Registrar's e-mail: judith_symmons@health.qld.gov.au

Western Australian Cancer Registry

Health Department of WA
PO Box 8172
PERTH WA 6849

Phone: 08 9222 4022
Fax: 08 9222 4236
E-mail: wacanreg@health.wa.gov.au
Director & registrar: Dr Tim Threlfall
Director's e-mail: tim.threlfall@health.wa.gov.au

South Australian Cancer Registry

South Australian Health Commission
PO Box 6
RUNDLE MALL SA 5001

Phone: 08 8226 6372
Fax: 08 8226 6291
Director: Assoc. Prof. David Roder
Registrar: Ms Lesley Milliken
Registrar's e-mail: Lesley.Milliken@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
Director's e-mail: T.Dwyer@utas.edu.au
Registrar: Mrs Dace Shugg
Registrar's e-mail: dace.shugg@utas.edu.au

Northern Territory Cancer Registry

Epidemiology and Statistics Branch
Department of Health and Community
Services
PO Box 40596
CASUARINA NT 0811

Phone: 08 8999 2977
Fax: 08 8999 2618
Director: Dr John Condon
E-mail: john.condon@dwnhhse.health.nt.gov.au
Registrar: Ms Karen Dempsey
E-mail: karen.dempsey@dwnhhse.health.nt.gov.au

Australian Capital Territory Cancer Registry

ACT Health
Epidemiology and Population Health
GPO Box 825
CANBERRA ACT 2601

Phone: 02 6244 4289
Fax: 02 6282 1310
Director: Dr Bruce Shadbolt
E-mail: bruce_shadbolt@dpa.act.gov.au

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 304,805 (1995). 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 6,126,981 (1995).

NHL: Non-Hodgkin’s Lymphoma.

NMSC: Non-melanocytic skin cancers.

NT: Northern Territory – a Territory in the north of Australia with a population of 177,552 (1995) and Darwin as its capital city.

PYLL: person-years of life lost

Qld: Queensland – a State in the north-east of Australia with a population of 3,265,109 (1995) and Brisbane as its capital city.

SA: South Australia – a State in the southern part of Australia with a population of 1,469,429 (1995) 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 473,673 (1995) and Hobart as its capital city.

Vic: Victoria – a State in the south-east of Australia with a population of 4,517,387 (1995) and Melbourne as its capital city.

WA: Western Australia – the largest State in Australia, located in the west with a population of 1,733,787 (1995) and Perth as its capital city.

WHO: World Health Organization

References

- Australian Bureau of Statistics (ABS) 1993. Estimated resident population by sex and age, States and Territories of Australia, June 1987 to June 1992. Cat. no. 3201.0. Canberra: Australian Bureau of Statistics.
- Australian Bureau of Statistics (ABS) 1997a. National Health Survey, summary results, Australian States and Territories. Cat. no. 4368.0. Canberra: Australian Bureau of Statistics.
- Australian Bureau of Statistics (ABS) 1997b. Estimated resident population by sex and age, States and Territories of Australia, June 1992 to June 1997. Cat. no. 3201.0. Canberra: Australian Bureau of Statistics.
- Australian Institute of Health and Welfare (AIHW) 1995. Australian Health Indicators Bulletin. Canberra: Australian Institute of Health and Welfare no. 4 (June).
- Australian Institute of Health and Welfare (AIHW), Australasian Association of Cancer Registries (AACR) & NHMRC National Breast Cancer Centre (NBCC) 1998. Breast cancer survival in Australian women 1982–1994. Canberra: Australian Institute of Health and Welfare (Cancer Series No. 9).
- d’Espaignet ET, Measey ML, Condon JR, Jelfs P & Dempsey KE 1996. Cancer in the Northern Territory 1987–1993. Darwin: Territory Health Services.
- Doll R, Smith PG 1982. Comparison between cancer registries: age-standardised rates. In: Waterhouse J, Shanmugaratnum K, Muir C, eds. Cancer incidence in five continents. Volume IV, Scientific Publications no. 42. Lyon: International Agency for Research on Cancer, chapter 11.
- English DR, Holman CDJ, Milne E, Winter MG, Hulse GK, Codde JP et al. 1995. The quantification of drug caused morbidity and mortality in Australia 1995. Canberra: Commonwealth Department of Human Services and Health.
- Giles GG, Armstrong BK, Smith LN 1987. Cancer in Australia 1982. Canberra: Australasian Association of Cancer Registries and the Australian Institute of Health and Welfare.
- Holman CDJ, Hatton WM, Armstrong BK, English DR 1987. Cancer mortality trends in Australia volume II 1910–1984. Perth: Health Department of Western Australia.
- Jensen OM, Parkin DM, Machennan R, Muir C, eds 1991. Cancer registration: principles and methods. Lyon: International Agency for Research on Cancer.
- Staples M, Marks R & Giles G 1998. Trends in the incidence of non-melanocytic skin cancer (NMSC) treated in Australia 1985–1995: are primary prevention programs starting to have an effect? *Int J Cancer* 78:144–48.
- Smith DP, Armstrong BK & Saunders R 1998. Patterns of Prostate Specific Antigen (PSA) Testing in Australia in 1992 to 1996; an examination of Medicare data. Sydney: NSW Cancer Council.
- Threlfall TJ, English DR & Rouse IL 1998. Prostate cancer in Western Australia: trends in incidence and mortality from 1985 to 1996. *Med J Aust* 169:21–24.
- World Health Organization 1977. International Classification of Diseases. Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death. Ninth Revision conference 1975. Geneva: World Health Organization.

Related publications

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

New South Wales

Fritschi L, Coates M & McCredie M 1995. Incidence of cancer among New South Wales adolescents: which classification scheme describes adolescent cancers better? *Int J Cancer* 60:355–360.

Grulich A, McCredie M & Coates M 1995. Cancer incidence in Asian migrants to New South Wales, Australia. *Br J Cancer* 71:400–408.

McCredie M 1995. Is the marked increase in reported incidence of prostate cancer due to earlier detection? *Cancer Forum* 19:7–12.

Bell J, Coates M, Day P & Armstrong B 1996. Colorectal cancer in NSW in 1972 to 1993. Sydney: NSW Cancer Council.

Coates MS, McCredie M & Armstrong BK 1996. Cancer in New South Wales, incidence and mortality, 1993. Sydney: NSW Cancer Council.

Grulich AE, Wan X, Coates M, Day P & Kaldor J 1996. Validity of a non-personally identifying method of linking cancer and AIDS register data. *J Epidemiol Biostat* 1:207–212

Kricker A, Bell J, Coates M & Taylor R 1996. Cancer of the cervix in New South Wales in 1972–92. Sydney: NSW Cancer Council.

McCredie M, Coates M, Bilous M, Kricker A & Hoyer A 1996. Rising incidence of breast cancer in New South Wales, Australia: real increase or earlier detection? *J Epidemiol Biostat* 1:25–29.

McCredie M, Coates M, Churches T & Rogers J 1996. Rising incidence of prostate cancer in Australia – a result of ‘screening’? *J Epidemiol Biostat* 1:99–105.

McCredie MRE, Macfarlane GJ, Coates MS & Osborn RA 1996. Risk of second malignant neoplasms following female genital tract cancers in New South Wales (Australia), 1972–91. *Int J Gyn Cancer* 6:362–368.

McCredie M, Macfarlane G, Stewart JH & Coates M 1996. Second primary cancers following cancers of the kidney and prostate in New South Wales (Australia), 1972–91. *Cancer Causes Control* 7:337–344.

Smith D, Taylor R & Coates M 1996. Socio-economic differentials in cancer incidence and mortality in urban New South Wales, 1987–1991. *Aust NZ J Public Health* 20:129–137.

Taylor R, Bell J, Coates M, Churches T & Wain G 1996. Cervical cancer in NSW women: five-year survival 1972–1991. *Aust J Public Health* 20:413–420.

Bell J, McCredie M, Coates MS & Armstrong BK 1997. Trends in colorectal cancer incidence and mortality in New South Wales 1973–1992. *Med J Aust* 166:178–181.

Coates MS & Armstrong BK 1997. Cancer in New South Wales, incidence and mortality, 1994. Sydney: NSW Cancer Council.

- McCredie M, Macfarlane G, Bell J & Coates M 1997. Second primary cancers following cancers of the colon and rectum in New South Wales, Australia, 1972-1991. *Cancer Epidemiol Biomark & Prev* 6:155-160.
- Nguyen HL, Armstrong BK & Coates MS 1997. Cutaneous melanoma in NSW in 1983 to 1995. Sydney: NSW Cancer Council.
- Taylor R 1997. Breast cancer five-year survival, by New South Wales regions, 1980 to 1991. *Aust NZ J Pub Health* 21:206-210.
- Taylor R & Coates M 1997. Breast cancer five-year survival in NSW women 1972-1991. *Aust NZ J Pub Health* 21:199-205.
- Taylor R & McNeil D 1997. Projections of incidence of major cancers in NSW to 2001. Sydney: NSW Cancer Council.
- Coates MS & Armstrong BK 1998. Cancer in New South Wales. Incidence and mortality 1995. Sydney: NSW Cancer Council.
- Coates M, Smith D & Mon M 1998. Brain cancer in NSW. Incidence and mortality increasing over two decades. *Cancer Information Update No. 4*. Sydney: NSW Cancer Council, January, 1998.
- McCredie M 1998. Second primary cancers in NSW. *Cancer Information Update No. 4*. Sydney: NSW Cancer Council, January, 1998.
- Smith DP, Armstrong BK & Saunders R 1998. Patterns of Prostate Specific Antigen (PSA) Testing in Australia in 1992 to 1996; an examination of Medicare data. Sydney: NSW Cancer Council.
- Smith DP, Supramaniam R, Coates MS & Armstrong BK 1998. Prostate cancer in New South Wales in 1972 to 1994. Sydney: NSW Cancer Council.

Victoria

- Giles GG, Staples M, McCredie MRE, Coates M & Farrugia H 1995. Multiple primary melanomas: an analysis of cancer registry data from Victoria and New South Wales. *Melanoma Research* 5:433-438.
- Giles GG, Waters K, Thursfield V & Farrugia H 1995. Childhood cancer in Victoria, Australia, 1970-1989. *Int J Cancer* 63:794-797.
- Thursfield V, Giles GG & Staples M 1995. Skin cancer. *CANSTAT* 20.
- Venn A, Watson L, Lumley J, Giles G, King C & Healy D 1995. Incidence of breast and ovarian cancer after infertility and IVF. *Lancet* 346:995-1000.
- Giles GG 1996. Cancer in Australia: The experience of men. *Cancer Forum* 20:117-120.
- Giles GG, Armstrong BK, Burton RC, Staples MP & Thursfield V 1996. Has melanoma mortality in Australia stopped rising? *Br Med J* 312:1121-5.
- Giles GG & Thursfield V 1996. Trends in skin cancer in Australia. *Cancer Forum* 20:188-191.
- Giles GG & Thursfield V 1996. Cancer in adolescents and young adults. *CANSTAT* 23.
- Green A, McCredie M & Giles G 1996. Occurrence of melanomas on the upper and lower limbs in eastern Australia. *Melanoma Research* 6:387-394.
- McMichael A & Giles GG 1996. Have increases in ultraviolet solar exposure contributed to the rise in incidence of non-Hodgkin's lymphoma? *Br J Cancer* 73:945-950.

Mitchell H & Giles GG 1996. Cancer diagnosis after a report of negative cervical cytology. *Med J Aust* 164:270–273.

Thomas RJS, Lade S, Giles GG & Thursfield V 1996. The epidemiology of oesophageal carcinoma in Victoria with emphasis on incidence trends. *Anz J Surg* 66:271–275

Giles GG 1997. Cancer registration and cancer control in Australia. Proceedings of the International Symposium 'Cancer Epidemiology and Control in the Asia-Pacific Region', Kobe, Japan 1–3 December 1997.

Giles GG & Thursfield V 1997. Cancer in Victoria 1994. *CANSTAT* 25.

Giles GG & Thursfield V 1997. Trends in cancer mortality, Australia 1910–1994. *CANSTAT* 24.

Thompson SC, Lin A, Warren R, Giles GG & Crofts N (1997). Risk factors associated with hepatocellular carcinoma notified to the Anti-Cancer Council in Victoria 1991–92. *ANZ J Public Health*.

Staples M, Marks R & Giles G 1998. Trends in the incidence of non-melanocytic skin cancer (NMSC) treated in Australia 1985–1995: are primary prevention programs starting to have an effect?. *Int J Cancer* 78:144–48.

Kavanagh AM, Brown R, Fortune D, Mulvany N, Scurry J & Giles GG (in press). Misclassification of microinvasive cervical cancer and carcinoma-in-situ of the cervix. *International Journal of Gynecological Cancer*.

Queensland

Ring I 1993. The 1992 Elkington oration – inequalities in health, the challenge for the nineties. Brisbane: Queensland Health.

van Konkelenberg R & Ring I 1993. Guidelines for the development of health management information systems. Manila: World Health Organization, Regional Office for the Western Pacific.

Runciman C & Ring I 1994. The health of Indigenous people in Queensland, some background information. Brisbane: Queensland Health.

Ring I 1995. Aboriginal health – an open letter to the President of the Public Health Association. *Australian Journal of Public Health* 19(3):228–30.

Health Information Centre 1996. Health of Queenslanders, status report. Queensland Health.

Queensland Cancer Registry 1998. Cancer in Queensland. Incidence and mortality 1986–1995. Brisbane: Health Information Centre, Queensland Health.

Western Australia

Threlfall TJ, Whitfort MJ & Thompson JR 1996. Cancer incidence and mortality in Western Australia, 1992–1994. Statistical series number 45. Perth: Health Department of Western Australia.

Threlfall TJ 1997. Cancer incidence and mortality projections for Western Australia, 1996–2001. Statistical series number 50. Perth: Health Department of Western Australia.

Threlfall TJ & Thompson JR 1997. Cancer incidence and mortality in Western Australia, 1995. Statistical series number 51. Perth: Health Department of Western Australia.

Threlfall TJ, English DR & Rouse IL 1998. Prostate cancer in Western Australia: trends in incidence and mortality from 1985 to 1996. *Med J Aust* 169:21–24.

Threlfall TJ & Thompson J 1998. Cancer incidence and mortality in Western Australia, 1996. Statistical series number 55. Perth: Health Department of Western Australia.

South Australia

Bonet A, Roder D, McCaul K & Milliken L 1992. Epidemiology of cancer in South Australia. Incidence, mortality and survival 1977 to 1991. Incidence and mortality 1991. Analysed by type and geographical location. Fifteen years of data. Adelaide: Lutheran Publishing House.

South Australian Cancer Registry 1993. Epidemiology of cancer in South Australia. Incidence, mortality and survival 1977 to 1992. Incidence and mortality 1992. Analysed by type and geographical location. Sixteen years of data. Adelaide: Lutheran Publishing House.

South Australian Cancer Registry 1994. Epidemiology of cancer in South Australia. Incidence, mortality and survival 1977 to 1993. Incidence and mortality 1993. Analysed by type and geographical location. Seventeen years of data. Adelaide: Openbook Publishers.

South Australian Cancer Registry 1995. Epidemiology of cancer in South Australia. Incidence, mortality and survival 1977 to 1994. Incidence and mortality 1994. Analysed by type and geographical location. Eighteen years of data. Adelaide: Openbook Publishers.

South Australian Cancer Registry 1996. Epidemiology of cancer in South Australia. Incidence, mortality and survival 1977 to 1995. Incidence and mortality 1995. Analysed by type and geographical location. Nineteen years of data. Adelaide: Openbook Publishers.

South Australian Cancer Registry 1997. Epidemiology of cancer in South Australia. Incidence, mortality and survival 1977 to 1996. Incidence and mortality 1996. Analysed by type and geographical location. Twenty years of data. Adelaide: Openbook Publishers.

South Australian Cancer Registry 1998. Epidemiology of cancer in South Australia. Incidence, mortality and survival 1977 to 1997. Incidence and mortality 1997. Analysed by type and geographical location. Twenty-one years of data. Adelaide: Openbook Publishers.

Tasmania

Dwyer T, Blizzard L, Gies PH, Ashbolt R & Roy C 1995. Assessment of habitual sun exposure in adolescents via questionnaire – a comparison with objective measurement using polysulphone badges. *Melanoma Research* 6:1–9.

Blizzard L, Dwyer T & Ashbolt R 1997. Changes in self reported skin type associated with experience of sunburning in 14–15 year old children of northern European descent. *Melanoma Research* 7:339–346.

Shugg D, Dwyer T & Blizzard L (eds) 1997. Cancer incidence and mortality in Tasmania – 1994. Hobart: Menzies Centre for Population Health Research.

Shugg D, Dwyer T & Couper D (eds) 1998. Cancer in Tasmania incidence and mortality 1995. 2nd edition. Hobart: Menzies Centre for Population Health Research.

Australian Capital Territory

Fritschi L, Coates M 1994. Cancer in the Australian Capital Territory 1982-91. Canberra: ACT Department of Health.

Briscoe N 1996. Cancer in the Australian Capital Territory 1983-1992. Canberra: ACT Department of Health and Community Care.

Northern Territory

d'Espaignet ET, Measey ML, Condon JR, Jelfs P & Dempsey KE 1996. Cancer in the Northern Territory 1987-1993. Darwin: Territory Health Services.