

2 Cancer in Australia

General

Excluding skin cancers other than melanoma, there were 85,231 new cancer cases and 35,466 deaths due to cancer in Australia in 2000. Even allowing for the fact that a person may have more than one cancer, at the incidence rates prevailing in 2000, it would be expected that 1 in 3 men and 1 in 4 women will be diagnosed with a malignant cancer in the first 75 years of life. Further, an estimated 253,085 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 30% of male deaths and 25% of female deaths.

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.

Skin cancers other than melanoma

Incidence data for cancers of the skin, apart from melanoma, are not collected on a routine basis by cancer registries, as these common cancers are not legally notifiable and therefore not routinely reported. Estimates of the frequency of treated skin cancers, basal cell carcinoma and squamous cell carcinoma, are derived from data that have been collected in national household surveys in 1985, 1990, 1995 and 2002 (NCCI 2003).

Preliminary data from the 2002 survey indicates that approximately 256,000 people were diagnosed with basal cell carcinoma and 118,000 with squamous cell carcinoma in Australia during 2002, a total of 374,000 people affected. Males accounted for 56% of basal cell carcinoma and 61% of squamous cell carcinoma. Persons aged 40 years and over accounted for 96% of basal cell carcinoma and almost 100% of squamous cell carcinoma, with persons aged 70 years and over accounting for 37% of basal cell carcinoma and 45% of squamous cell carcinoma.

For details of the age-specific incidence rates for the 2002 survey, please see the forthcoming survey report (NCCI 2003). Age-standardised incidence estimates in the survey report are not directly comparable to incidence rates for other cancers published elsewhere in this report as they are standardised to an older World Standard Population.

The age-standardised incidence estimates, recalculated using the new World Standard Population were, for basal cell carcinoma 1,150 per 100,000 population in males and 820 per 100,000 in females and for squamous cell carcinoma 560 per 100,000 in males and 320 per 100,000 in females. These incidence rates are considerably higher than the equivalent age-standardised rates for the next most common male cancer, prostate (85.0 per 100,000) and the next most common female cancer, breast (91.7 per 100,000).

Despite the high incidence rate of skin cancers other than melanoma, mortality rates are relatively low at 1.9 per 100,000 population for males and 0.6 per 100,000 for females, compared with the high mortality rates of male lung cancer at 36.8 per 100,000 population, male colorectal cancer (20.8 per 100,000), prostate cancer (20.4 per 100,000) and female breast cancer (18.1 per 100,000) (2000 data standardised to the new World Standard Population).

Skin cancers other than melanoma are excluded from further incidence and mortality comparisons in this publication. Trends in hospital treatment for skin cancers other than melanoma are included in the section on trends in cancer-related hospital separations in Chapter 5.

Most common cancers

Persons

- Among all persons, the combination of cancers of the colon and rectum (12,405 new cases), often referred to as bowel or colorectal cancer, is the most common registrable cancer in 2000 (Table 1). Colorectal cancer, breast cancer (11,400), prostate cancer (10,512), melanoma (8,531) and lung cancer (8,060) together account for 60% of all registrable cancers in 2000.

Males

- In males, the most common registrable cancers after prostate cancer are colorectal cancer (6,863 new cases diagnosed in 2000), lung cancer (5,278) and melanoma (4,770) (Table 1, Figure 2). These four cancers account for 60% of all registrable cancers in males.

Females

- In females, breast cancer (11,314) is the most common registrable cancer, followed by colorectal cancer (5,542), melanoma (3,761) and lung cancer (2,782), which in total account for 60% of all registrable cancers in females.

Cancers causing death

- The cancers most commonly causing death are lung (4,594), prostate (2,665) and colorectal (2,569) in males, and breast (2,521), lung (2,317) and colorectal (2,149) in females (Table 1).

PYLL—person-years of life lost

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 that occur earlier in life. Lung cancer is responsible for the highest number of person-years of life lost before 75 years of age (43,545 in 2000), followed by colorectal cancer (30,225) and breast cancer (28,545) (Table 1). Cancer of the brain and nervous system is responsible for the fourth highest number of person-years of life lost (17,235). This contrasts with its ranking as the thirteenth most common cancer (1,415 new cases diagnosed in 2000). 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 (5.4), breast (2.5) or colorectal cancer (2.4). This is a direct result of the relatively large number of younger people dying from cancer of the brain and nervous system.

The most common cancers by age

The most common cancers vary depending on age (Figure 3). In people aged less than 15 years, the most common cancers diagnosed are lymphoid leukaemia and cancers of the brain and central nervous system. These two cancer sites account for 51.3% of all cancers in this age group. In those aged 15–44 years, melanoma and breast cancer are the most common cancers, while breast, colorectal, melanoma, prostate and lung cancers are predominant in people aged over 45 years.

The ranking of the most frequently occurring cancers by age group (Figure 3) 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 that have a substantial number of deaths in each age group that are not presented in Figure 2 are cancer of the adrenal gland (10 deaths) in the 0–14 years age group and cancer of the brain and nervous system (133) and cancer of the lung (93) in the 15–44 year age group. In the age group 45–64 years, cancers of unknown primary site (451 deaths), cancer of the brain and nervous system (402), pancreatic cancer (365), and non-Hodgkin's lymphoma (353) are responsible for a substantial number of deaths. Cancers of unknown primary site (1,919 deaths), cancer of the pancreas (1,353) and non-Hodgkin's lymphoma (1,154) are also significant causes of death in the 65 years and over age group.

Onset of cancer

In 2000 the average age of first diagnosis of a malignant cancer for males was 66 years and the median age was 69 years. The average age of first diagnosis for females was 64 years and the median age was 65 years. For the overall population, the average age of first diagnosis was 65 years and the median age was 67 years.

The population in the age groups from 50–59 years and above is increasing rapidly as the generation born during the baby boom (1946 to 1961) reaches these ages. This is leading to an increase in new cases of cancer much greater than overall population growth, despite a small decline in age-standardised incidence in recent years.

Table 1: Most frequently occurring cancers Australia 2000(a), (b)

Cancer site	New cases					Deaths				
	Number	% of all new cancer cases	ASR (A)	ASR (W)	Lifetime risk ^(c)	Number	% of all cancer deaths	ASR (A)	ASR (W)	PYLL ^(c)
Males										
Prostate	10,512	22.9	124.9	85.0	1 in 11	2,665	13.3	35.9	20.4	5,783
Colorectal	6,863	14.9	80.2	56.3	1 in 17	2,569	12.8	31.0	20.8	18,135
Lung	5,278	11.5	62.1	42.7	1 in 22	4,594	22.9	54.8	36.8	28,078
Melanoma	4,770	10.4	53.7	41.4	1 in 25	617	3.1	7.3	5.1	6,150
Bladder	2,139	4.7	26.1	17.1	1 in 61	570	2.8	7.6	4.4	1,735
NHL	1,864	4.1	21.5	15.9	1 in 66	857	4.3	10.4	7.0	7,138
Unknown site	1,607	3.5	19.5	13.0	1 in 83	1,202	6.0	15.1	9.5	6,708
Kidney	1,470	3.2	16.8	12.4	1 in 76	500	2.5	6.0	4.1	4,083
Stomach	1,267	2.8	15.1	10.3	1 in 99	763	3.8	9.3	6.1	5,040
Pancreas	912	2.0	10.9	7.4	1 in 136	872	4.4	10.4	7.1	6,283
<i>All cancers</i>	<i>45,935</i>	<i>100.0</i>	<i>535.7</i>	<i>382.6</i>	<i>1 in 3</i>	<i>20,038</i>	<i>100.0</i>	<i>245.0</i>	<i>161.2</i>	<i>136,660</i>
Females										
Breast	11,314	28.8	115.3	91.7	1 in 11	2,521	16.3	24.7	18.1	28,305
Colorectal	5,542	14.1	53.8	38.0	1 in 26	2,149	13.9	20.2	13.4	12,090
Melanoma	3,761	9.6	38.0	31.2	1 in 35	354	2.3	3.5	2.6	4,403
Lung	2,782	7.1	27.4	19.7	1 in 45	2,317	15.0	22.5	15.8	15,468
NHL	1,593	4.1	15.6	11.5	1 in 88	734	4.8	7.0	4.7	4,598
Uterus	1,564	4.0	15.8	12.1	1 in 75	261	1.7	2.5	1.7	1,458
Unknown site	1,558	4.0	14.6	9.6	1 in 116	1,217	7.9	11.2	7.1	5,803
Ovary	1,201	3.1	12.0	9.2	1 in 108	780	5.1	7.6	5.4	6,485
Kidney	935	2.4	9.2	6.8	1 in 143	334	2.2	3.2	2.1	1,803
Pancreas	896	2.3	8.4	5.5	1 in 195	876	5.7	8.2	5.3	3,720
<i>All cancers</i>	<i>39,296</i>	<i>100.0</i>	<i>390.4</i>	<i>297.4</i>	<i>1 in 4</i>	<i>15,428</i>	<i>100.0</i>	<i>147.5</i>	<i>101.6</i>	<i>116,425</i>
Persons										
Colorectal	12,405	14.6	65.7	46.5	1 in 21	4,718	13.3	25.1	16.8	30,225
Breast	11,400	13.4	60.3	47.3	1 in 21	2,542	7.2	13.5	9.7	28,545
Prostate	10,512	12.3	55.7	39.0	1 in 23	2,665	7.5	14.2	8.4	5,783
Melanoma	8,531	10.0	45.0	35.9	1 in 29	971	2.7	5.1	3.7	10,553
Lung	8,060	9.5	42.7	30.1	1 in 30	6,911	19.5	36.6	25.2	43,545
NHL	3,457	4.1	18.3	13.6	1 in 76	1,591	4.5	8.5	5.7	11,735
Unknown site	3,165	3.7	16.8	11.2	1 in 97	2,419	6.8	12.9	8.2	12,510
Bladder	2,886	3.4	15.3	10.3	1 in 96	819	2.3	4.4	2.6	2,303
Kidney	2,405	2.8	12.7	9.4	1 in 100	834	2.4	4.4	3.0	5,885
Stomach	1,980	2.3	10.5	7.3	1 in 139	1,189	3.4	6.3	4.2	7,518
<i>All cancers</i>	<i>85,231</i>	<i>100.0</i>	<i>450.9</i>	<i>333.7</i>	<i>1 in 3</i>	<i>35,466</i>	<i>100.0</i>	<i>188.3</i>	<i>127.4</i>	<i>253,085</i>

(a) Rates are expressed per 100,000 population and age standardised to the Australian 2001 Standard Population (ASR (A)) and to the World Standard Population (ASR (W)). The rates age standardised to the two populations (World and Australia 2001) differ due to the age distributions of these populations. For example, the world population gives more weight to younger age groups where there are fewer cancers, and consequently the rate is lower compared with the Australian 2001 population. A greater weight is given to the older age groups in the Australian 2001 population where there are more cancers, and consequently these rates tend to be higher.

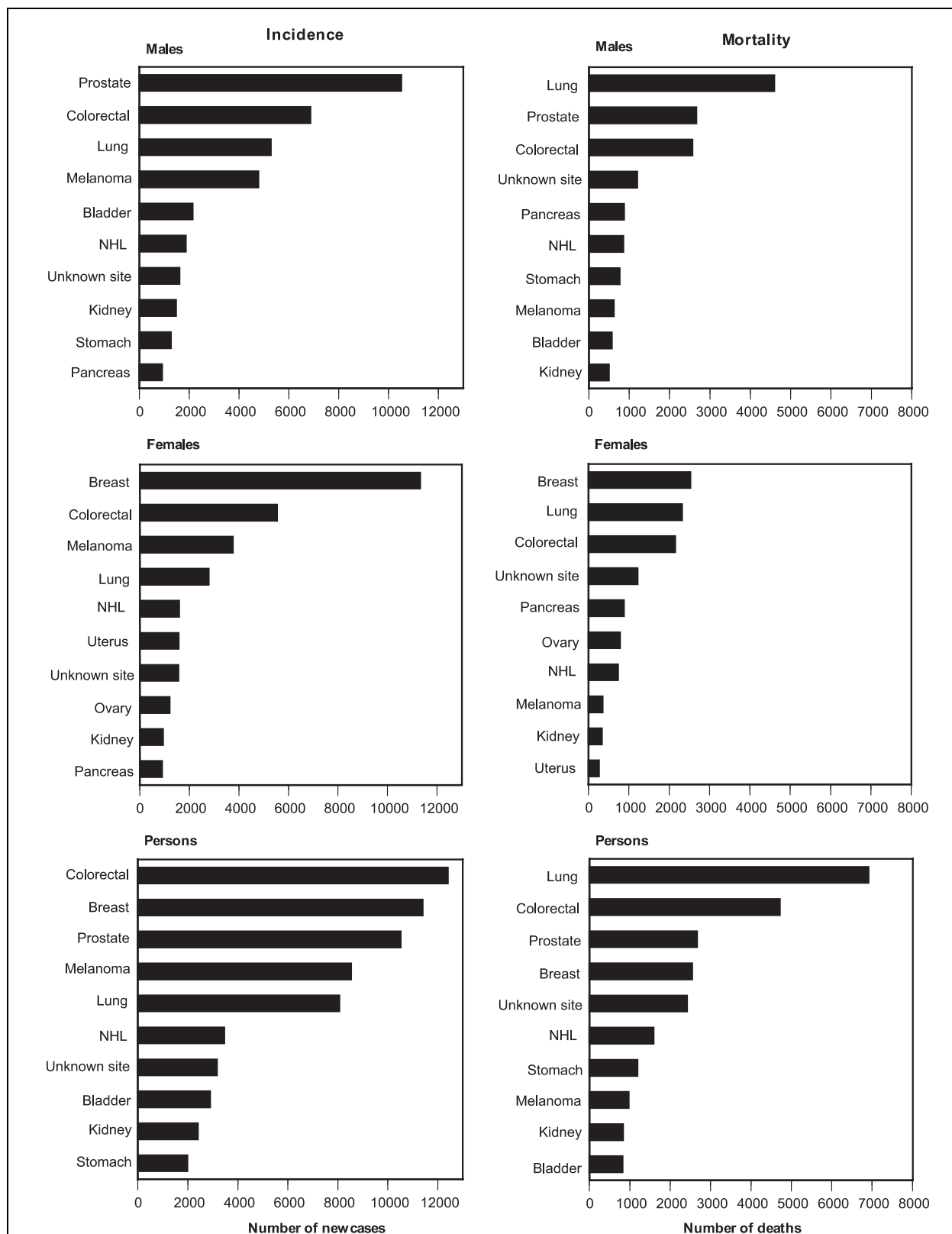
(b) Skin cancer other than melanoma, known to be the most common cancer type, is excluded from this list as it is not a registrable cancer.

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

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

Source: *Cancer in Australia 2000*, AIHW & AACR, 2003.

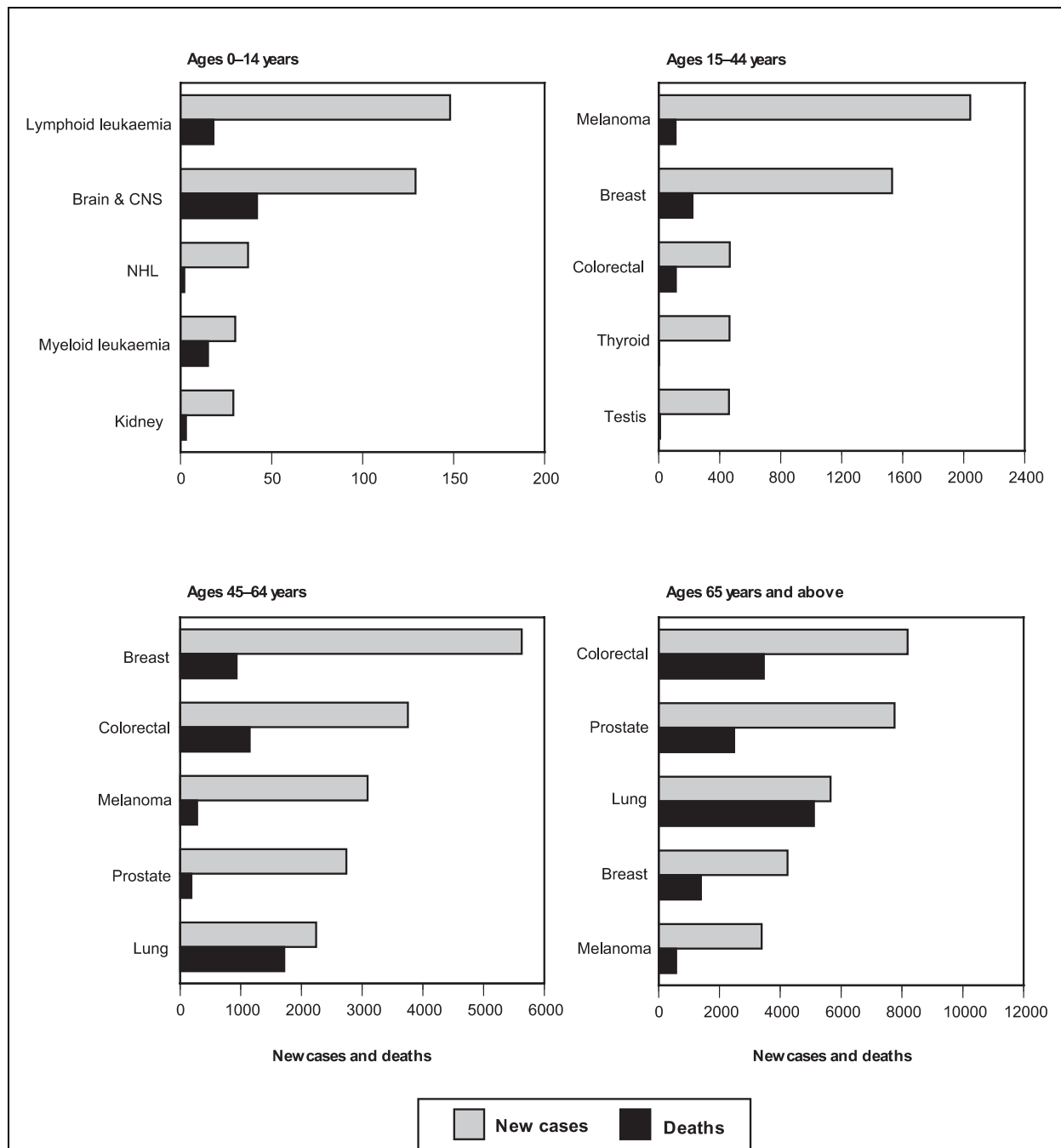
Most frequently occurring cancers



Source: Cancer in Australia 2000, AIHW & AACR, 2003.

Figure 2: Most frequently occurring cancers, Australia, 2000

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 2000*, AIHW & AACR, 2003.

Figure 3: Most frequently occurring cancers by age group, ranked by number of new cases (persons), Australia, 2000