



Government of **Western Australia**  
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# Cancer incidence and mortality in Western Australia, 2014

A report of the Western Australian Cancer Registry

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Data Integrity Directorate, Purchasing and System Performance Division  
Department of Health  
Perth, Western Australia

December 2015

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[www.health.wa.gov.au/wacr/home](http://www.health.wa.gov.au/wacr/home)

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# Summary - Cancer incidence and mortality in Western Australia, 2014

Since 1982, the Western Australian Cancer Registry has provided population-based cancer data for use in the planning of health care services and the support of cancer-related research, at local, national and international levels. Most of this report is concerned with invasive tumours, or “cancers”, using standardised reporting practices as used in other cancer registries in Australia and overseas. The main statistics presented are cancer incidence and cancer-related mortality counts and age-standardised rates in Western Australian residents, who comprise approximately 10% of the Australian population.

## CANCER INCIDENCE

There were 12364 new cases of cancer recorded in Western Australians in 2014, 6816 (55%) occurring in males and 5548 in females. Age-standardised incidence rates were 349 per 100,000 males, and 279 per 100,000 females. The incidence rate for males was only marginally decreased, but for the third consecutive year, while the rate in females was significantly higher than the rate published for 2013. The estimated risk of having a cancer diagnosis by the age of 75 years was 1 in 3 for males, and 1 in 4 for females.

The most common cancers in males in 2014 were prostate cancer, colorectal cancer, melanoma and lung cancer, while breast cancer predominated among females, followed by colorectal cancer, melanoma and lung cancer. Colorectal cancer was the most common type affecting both males and females. This set of most common cancers has been fairly constant in recent years.

Based on 2014 data, one in 8 men would be expected to have a diagnosis of prostate cancer before the age of 75, and one in 10 women would be expected to develop breast cancer. Colorectal cancer is expected to affect one in 24 men and one in 29 women by age 75 based on current data.

Trend analysis for the most common cancer types over the last 10 years has shown significantly decreasing incidence of colorectal cancer in males and in females, prostate cancer in males, and lung cancer in males, while breast cancer incidence in females has been increasing. Overall cancer incidence has been decreasing significantly in males but remained relatively unchanged in females.

## CANCER MORTALITY

Among Western Australian residents, there were 4011 deaths due to cancer in 2014, 2244 in males and 1767 in females. All-cancers mortality rates for 2014 were 102 deaths per 100,000 males and 73 per 100,000 females, both lower than but statistically similar to rates in 2013. As usual in recent years, the most common causes of cancer-related death in males were lung, colorectal and prostate cancers, while lung, breast and colorectal cancers were the most common in females. Pancreatic cancer was the fourth most common cause of cancer-related death in males and in females.

As in recent years, lung cancer was the most common cause of cancer-related death for both males and females, killing one in 40 males and one in 58 females before age 75. Based on 2014 data, one in 153 men could be expected to die from prostate cancer, and one in 85 women to die from breast cancer, before age 75.

## CANCER IN CHILDREN

There were 76 children under the age of 15 years diagnosed with cancer in 2014 (Age-adjusted rates 17 per 100,000 in males and 15 in females), and these numbers and rates were essentially similar to those in the past two years.

## OTHER AGE GROUPS

Melanoma of the skin was the second most common incident cancer in both males and females in the 15-39 years age range, but did not rank among the most common causes of death. Testicular cancer likewise was common in males in this age group (21% of new cancers) but had a low mortality rate. In persons over the age of 40 years, prostate and breast cancers, melanoma, colorectal and lung cancers, remain the most common incident cancers, with lung cancer being the most common cause of cancer-related death.

## Acknowledgments

This report is based on data recorded and maintained by the staff of the Western Australian Cancer Registry, whose dedication and attention to detail are much appreciated. In particular the contribution of medical coding adviser Dr Judy Thompson, now retired after over 20 years of service, will be sadly missed.

We also wish to acknowledge the invaluable contribution of the Western Australian pathologists, haematologists and radiation oncologists who supply the vast majority of the Registry's primary notifications, and the health professionals and organisations who supply additional information in response to our enquiries.

The cooperation of other Australian Cancer Registries regarding procedures, coding, duplication and demarcation issues, and of staff of the Australian Cancer Database at AIHW, Canberra, is acknowledged as playing a vital part in ensuring data quality and comparability.

The Registry staff are grateful to have access to a variety of supporting services in order to produce reports on cancer; these include population figures and projections, mapping, hospitalisation data, legal advice, computing services and general support and encouragement. The assistance of the Epidemiology branch in particular, has been significant.



# 1 Overview and Methods

## 1.1 This Report

### Overview

This is the latest in the Registry's series of annual reports, and is devoted largely to Western Australian cancer incidence and mortality for 2014. In the interest of timeliness, regular sections may contain less commentary and interpretation than in some past reports, so that the report is generated less than a year after the close of the year to which most of the content relates. In order to achieve this it has been necessary to use estimated population data for the calculation of incidence and mortality rates.

The Western Australian Cancer Registry (WACR) is a population-based cancer registry established in 1981, operating within the Department of Health (Western Australia). The main information sources are reports from pathologists, haematologists and radiation oncologists, supplemented by death registrations, hospital statistical discharge (HMDS) records, as well as information from hospital files and clinical information systems, and responses to enquiries directed to treating medical practitioners.

The WACR is managed within the Data Integrity Branch of the Purchasing and System Performance Division of the Department of Health (Western Australia). A summary of the legislative basis of the Registry can be found in Appendix 1.

## 1.2 General structure; how to find information

The major sections are based on cancers diagnosed, and deaths due to cancer, in 2014.

- Data for most common cancers are presented under headings based on incidence, mortality and age,
- Detailed data for all cancers for 2014 are found in the tables of Appendices 3A and 3B. The layout of those tables follows the coding system summarised in material available at [www.health.wa.gov.au/wacr/home](http://www.health.wa.gov.au/wacr/home).
- Data for selected geographic areas are presented in Appendices 3D and 3E.

Readers seeking detailed information for particular cancers not shown in tables, should contact WACR for further information.

Information from this report, and other WACR information, is available at - [http://www.health.wa.gov.au/wacr/statistics/stats\\_full.cfm](http://www.health.wa.gov.au/wacr/statistics/stats_full.cfm)

## 1.3 Interpretation

Western Australia is particularly polarised into metropolitan and rural areas, with huge differences in population density and there are likely to be some statistical biases due to the difficulties of transport and the location of services within the State. Throughout this report, readers should be aware that assessing the relevance of changes in cancer incidence and mortality is complex and depends on the size of underlying populations and their age structures. Caution is required in assessing changes on the basis of single rate comparisons.

The Cancer Registry database is continually updated in the light of the most recent available information. Accordingly, numbers in this report for earlier years may vary slightly from those in previous publications, as some Western Australian cases are eventually found to have been diagnosed elsewhere, or in earlier years, and case-counts necessarily rise and fall

as new information arrives. Mortality information, in particular, sheds new light on a person's cancer history and often leads to the initiation of new enquiries.

As a guide, while total cancers for 2013 were quoted at 11743 in our previous report,<sup>1</sup> the total currently recorded for 2013 is 11966, an increase of about 1.9%. Mortality data are generally more stable, increased by only 0.1% in the same time. The benefits of more timely incidence reporting must be weighed against the progressive change in revised data as time passes.

## 1.4 Statistical methods

Statistics from the Registry commonly fall into one of two major groups: **incidence** is reported for all malignancies except primary squamous cell and basal cell skin cancers (SCC and BCC), and **mortality** for all malignancies and certain other tumours or tumour-like conditions. The usual statistics calculated for both types of report are briefly discussed below; formulae and relevant details are in Appendix 2B.

**Rates** are calculated separately for males and females, expressed as events (diagnoses or deaths) per 100,000 person-years:

**Age-specific rates (ASPR)** are based on five-year age groups and are calculated by dividing the numbers of cases by the population of the same sex and age group. Whole-population data come from the ABS and regional data from the Epidemiology Branch, Department of Health (WA).

**Age-standardised rates (ASR in Tables)** are calculated by the direct method, as a summation of weighted age-specific rates. Tables show the 95% confidence interval (C.I.) for ASRs. When a subset of age groups (e.g. 15-39 years) is considered, the term **age-adjusted rate (AAR)** is used instead of ASR.

The **World Standard Population 1960**<sup>2</sup> remains in routine use for ASR calculation, as in most cancer registries worldwide. However in some tables a second ASR and 95% C.I. are shown, using the Australian (2001)<sup>3</sup> population standard, labelled "ASR2". These ASRs are usually quite different, and comparisons need to take note of which "standard" is being used.

**Cumulative Incidence and Cumulative Risk** are closely related. **Cumulative incidence** is an estimate of the proportion of persons, up to a specific age, who have been affected by a particular condition at some time. In Registry reports, this is expressed as a percentage.

**Cumulative risk (LR)** estimates the probability of having cancer (incidence) or dying of it (mortality), up to a specific age. This is derived from the relevant cumulative incidence figures, and calculated for ages 0 to 74 years (see **Appendix 2B** for formulae).

In this report, LR is expressed as a "1 in *n*" chance of diagnosis or death. As indicated in relevant tables, a "-" is used to indicate a lack of data (no cases), and a "\*" to indicate no data for cases under 75 years of age, or a "risk" smaller than 1 in 10,000.

**Person years of life lost (PYLL)** is an estimate of the number of years of life lost due to specific causes, calculated to age 75 years; an index of premature death (see Appendix 2B).

**Rates and risks:** It should be noted that incidence and mortality rates and cumulative risks may not be in proportion to one another because of differences in the age structures of populations.

**Small numbers:** Some small-number case counts, associated percentages and rates in this report have been altered using "<5", "NR" (for "not released"), rounding (signified by "\*"), or have been otherwise disguised to minimize risks to privacy.

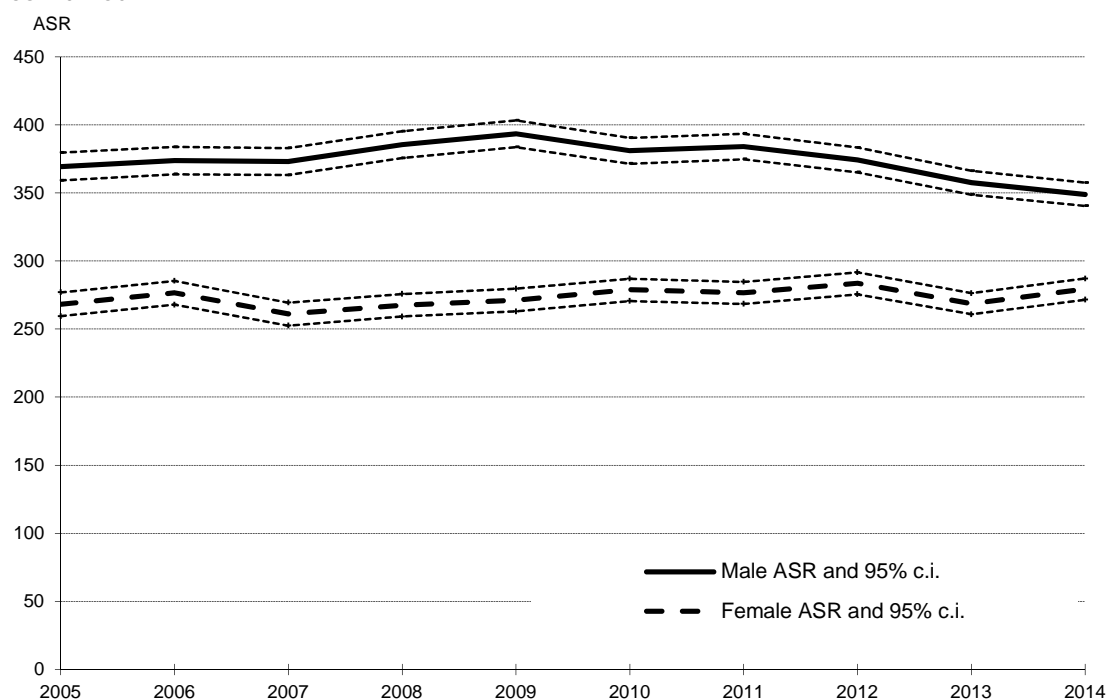
## 2. Cancer in Western Australia, 2014

### 2.1 All cancers

#### 2.1.1 Incidence

In 2014, there were 12364 new diagnoses of cancer in Western Australia, an increase of 5% compared with the number reported a year ago for 2013. There were 6816 cancers diagnosed in males (ASR 348.9 per 100,000) and 5548 in females (ASR 279.3) (Table 1). Cancers in males accounted for 55% of all cases. These incidence rates indicated a marginal reduction in males, for the third year in a row, but a statistically-significant increase in females compared with the rates previously published for 2013 (Figure 1).

Figure 1. Cancer incidence by diagnosis year, Western Australia, 2005-2014: all cancers combined.



(ASR - age-standardised rate per 100,000, Segi 1960 population standard)

The estimated cumulative risk of cancer to age 75 years was 1 in 3 for males and 1 in 4 for females; the cumulative incidence of cancer (the proportion of persons in whom cancer had been diagnosed by age 75) was 41% for males and 32% for females. These measures have remained essentially unchanged in recent years.

Cancer is generally more common in females than in males between ages 30 and 55 (mainly ovarian and breast cancers), but prostate cancer and lung cancer account for much of the male predominance in older ages (Figure 2).

*The differences in cancer incidence rates across the age range can be seen for individual cancers and all cancers combined, in Appendix 3A.*

## 2.1.2 Mortality

Among Western Australian residents in 2014 there were 4011 deaths due to cancer (2244 in males, 1767 in females) (Table 1). Mortality ASRs were 101.7 deaths per 100,000 males and 72.7 per 100,000 in females, both decreased since 2013 but not significantly so. The estimated cumulative risk of death due to cancer before age 75 years was 1 in 10 for males and 1 in 13 for females (unchanged in recent years). Brain cancers in females, and mesothelioma in males, were less prominent in the rankings of causes of cancer-related death than in 2013.

Cancer death rates generally increased for both males and females from age 20. All-cancers death rates among males were consistently higher than in females at ages greater than 55 years.

The most common non-melanoma skin cancers consistently cause a substantial number of deaths in Western Australians. The cancer mortality statistics include 82 deaths due to non-melanoma skin cancers, 67% of them in males. Of these, 63 (77%) were due to squamous or basal cell carcinomas, types not included in "cancer" incidence statistics.

Other deaths that are not included in these mortality statistics were -

- 22 neoplasm-related deaths in persons not normally resident in Western Australia

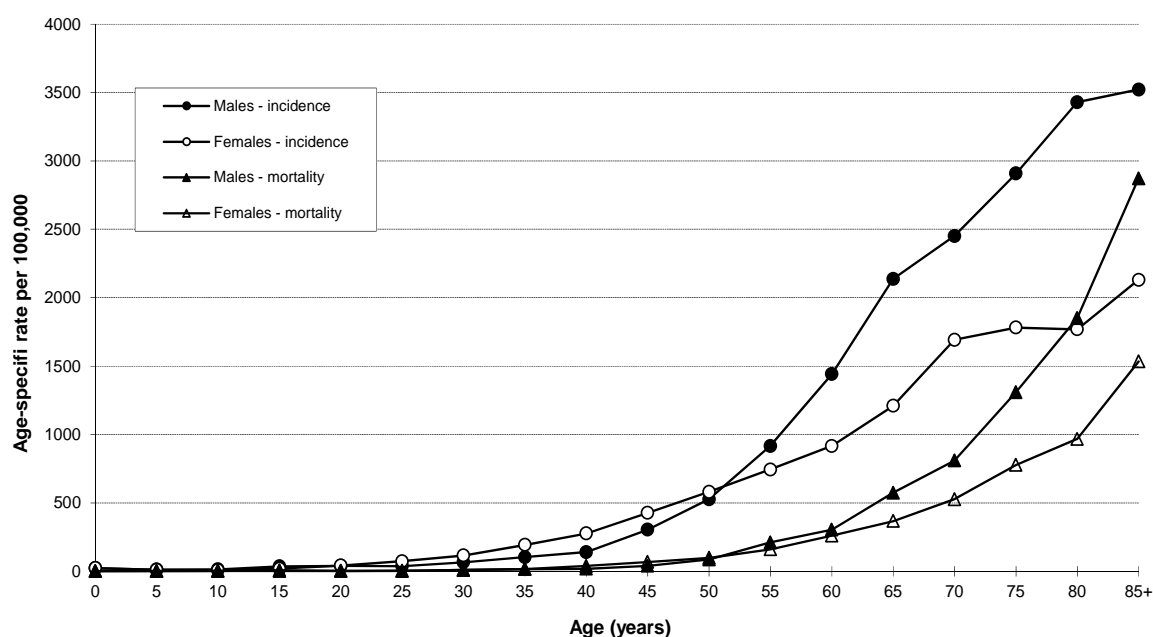
- 13 deaths due to benign tumours, all but 3 of them Central Nervous System (CNS) tumours

- 12 deaths due to "uncertain malignant potential" non-lymphohaematopoietic neoplasms

- 2262 deaths due to **non-tumour-related** causes among persons with a Registry tumour record (1254 males, 1008 females)

- 82 deaths of unresolved cause among persons with a tumour record (pending outcome of coronial investigations).

Figure 2. Age-specific incidence and mortality rates for all cancers combined, Western Australia, 2014.

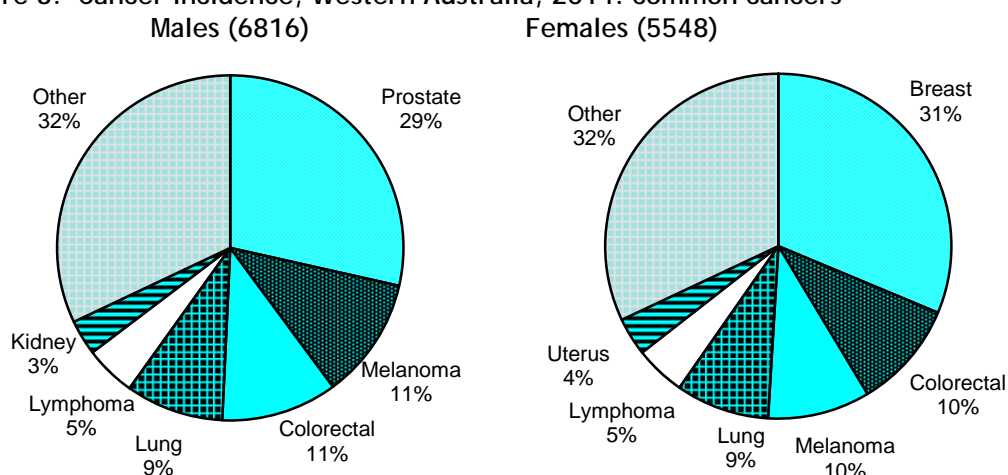


## 2.2 Common cancers - Incidence and Mortality

The most common incident cancer types in males and females are shown in summary form in Figure 3, with the detailed statistics in Table 1. Prostate cancer incidence showed a small decrease in 2014, the third annual decline since 2011. The current incidence of 99 cases per 100,000 was at a level not seen since before 2004. Colorectal cancer once more became more common than melanoma in males, but the pattern of most-common cancers in females was stable.

*For further breakdown by age group, and including the less common cancer types, see Appendix 3A; for incidence statistics from different Regions within WA see Appendix 3D.*

Figure 3. Cancer incidence, Western Australia, 2014: common cancers



The cancers most commonly causing death are shown in summary form in Figure 4, with the detailed statistics in Table 1. There have been only minor differences in the relative impact of these most common types in recent years, and no change since 2012. Lung cancer now appears firmly established as a more frequent cause of mortality in women than breast cancer, and continues to be the most common cause of cancer-related death in males.

*For further breakdown by age group, and including the less common cancer types, see Appendix 3B; for mortality statistics from different Regions within WA see Appendix 3E.*

Figure 4. Cancer mortality, Western Australia, 2014: common cancers

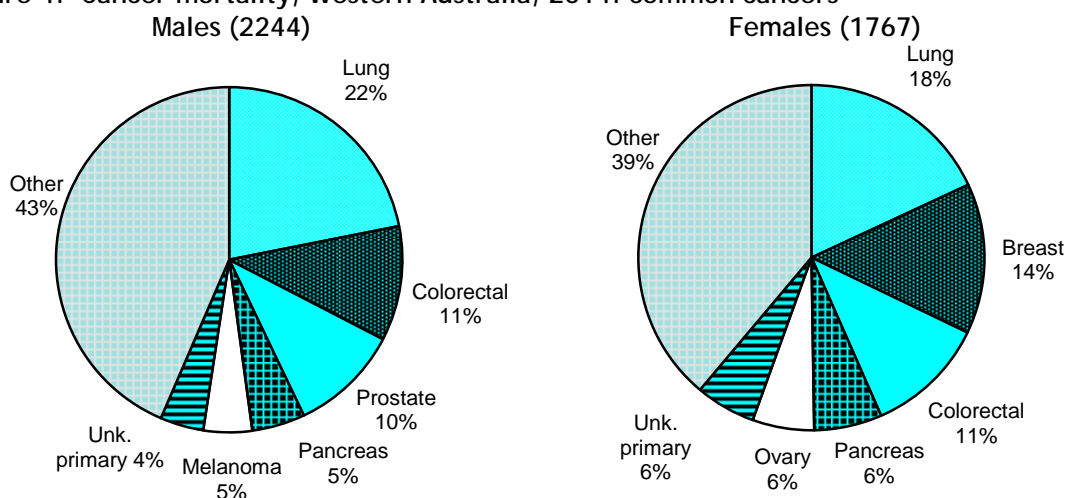


Table 1. Cancer incidence and mortality, Western Australia 2014: leading types by sex

Incidence						Mortality																	
Males					Females					Males					Females								
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Prostate	1945	28.5	99.4	94.9-103.9	8	Breast	1737	31.3	92.6	88.1-97.1	10	Lung	491	21.9	22.5	20.4-24.5	40	Lung	319	18.1	13.9	12.3-15.6	58
Melanoma (skin)	774	11.4	40.2	37.3-43.1	23	Colorectal	560	10.1	25.0	22.7-27.2	39	Colorectal	241	10.7	10.9	9.5-12.3	89	Breast	249	14.1	11.2	9.7-12.7	85
Colorectal	739	10.8	36.9	34.1-39.6	24	Colon	403	7.3	17.5	15.7-19.4	54	Colon	156	7.0	6.8	5.7-7.9	170	Colorectal	199	11.3	7.5	6.3-8.6	139
Colon	472	6.9	23.1	20.9-25.2	38	Rectum	152	2.7	7.2	6.0-8.4	143	Rectum	85	3.8	4.1	3.2-5.1	184	Colon	146	8.3	5.4	4.5-6.4	198
Rectum	265	3.9	13.7	12.0-15.3	61	Melanoma (skin)	530	9.6	28.1	25.6-30.7	33	Pancreas	111	4.9	5.0	4.0-6.0	176	Rectum	53	3.0	2.1	1.4-2.7	469
Lung	623	9.1	29.5	27.1-31.9	30	Lung	484	8.7	22.1	20.0-24.2	36	Melanoma (skin)	102	4.5	4.6	3.7-5.6	220	Pancreas	112	6.3	4.2	3.4-5.1	222
Lymphoma	325	4.8	17.9	15.9-20.0	51	Lymphoma	263	4.7	13.1	11.4-14.8	69	Unknown primary	91	4.1	3.9	3.1-4.7	290	Ovary	102	5.8	4.4	3.4-5.3	208
Lymphoma NOS	6	0.1	0.3	0.0-0.5	3216	Lymphoma NOS	8	0.1	0.4	0.0-0.7	5022	Liver	87	3.9	4.4	3.4-5.3	190	Unknown primary	99	5.6	3.3	2.6-4.1	340
Hodgkin lymphoma	28	0.4	2.1	1.3-2.8	623	Hodgkin lymphoma	26	0.5	1.8	1.1-2.5	619	Brain	84	3.7	4.3	3.4-5.3	200	Liver	63	3.6	2.6	1.9-3.4	442
NHL	291	4.3	15.6	13.8-17.5	56	NHL	229	4.1	10.9	9.4-12.4	78	Lymphoma	84	3.7	3.9	3.0-4.7	244	Leukaemia NOS	<5	NR	NR	NR	*
Kidney	225	3.3	12.6	10.9-14.3	70	Uterus	198	3.6	10.1	8.7-11.6	78	Lymphoma NOS	<5	NR	NR	NR	*	Lymphoid leukaemia	19	1.1	0.7	0.3-1.1	2510
Bladder & urinary tract	209	3.1	9.2	7.9-10.5	106	Thyroid gland	195	3.5	11.9	10.2-13.7	81	Hodgkin lymphoma	75	3.3	3.5	2.7-4.3	268	Myeloid leukaemia	41	2.3	1.8	1.2-2.4	552
Leukaemia	177	2.6	10.0	8.4-11.7	101	Ovary	142	2.6	7.0	5.8-8.3	116	NHL	75	3.3	3.5	2.7-4.3	268	Leukaemia, other	0				-
Leukaemia NOS	<5	NR	NR	NR	*	Pancreas	138	2.5	5.8	4.7-6.8	151	Bladder & urinary tract	83	3.7	3.3	2.6-4.1	343	Lymphoma	60	3.4	2.4	1.7-3.0	407
Lymphoid leukaemia	109	1.6	6.4	5.0-7.7	156	Leukaemia	129	2.3	7.2	5.8-8.6	152	Mesothelioma	76	3.4	3.3	2.5-4.0	299	Lymphoma NOS	<5	NR	NR	NR	*
Myeloid leukaemia	67	1.0	3.6	2.7-4.6	287	Leukaemia NOS	<5	NR	NR	NR	*	Stomach	71	3.2	3.2	2.5-4.0	309	Hodgkin lymphoma	<5	NR	NR	NR	8130
Leukaemia, other	<5	NR	NR	NR	*	Lymphoid leukaemia	67	1.2	4.0	2.9-5.1	273	Oesophagus	69	3.1	3.4	2.6-4.2	243	NHL	75	3.3	3.5	2.7-4.3	268
Pancreas	149	2.2	7.2	6.0-8.3	110	Myeloid leukaemia	60	1.1	3.2	2.3-4.1	339	Leukaemia	59	2.6	2.7	2.0-3.5	390	Bladder & urinary tract	83	3.7	3.3	2.6-4.1	343
Stomach	128	1.9	6.1	5.0-7.2	151	Leukaemia, other	<5	NR	NR	NR	*	Leukaemia NOS	<5	NR	NR	NR	*	Mesothelioma	76	3.4	3.3	2.5-4.0	299
Unknown primary	125	1.8	5.5	4.5-6.5	180	Kidney	123	2.2	6.5	5.3-7.7	131	Lymphoid leukaemia	26	1.2	1.3	0.8-1.8	810	Stomach	71	3.2	3.2	2.5-4.0	309
Lip, gum & mouth	122	1.8	6.4	5.3-7.6	139	Cervix	113	2.0	7.1	5.7-8.4	156	Myeloid leukaemia	31	1.4	1.4	0.9-1.9	786	Oesophagus	69	3.1	3.4	2.6-4.2	243
Myeloma	122	1.8	5.9	4.8-6.9	166	Unknown primary	110	2.0	3.9	3.1-4.7	291	Leukaemia, other	<5	NR	NR	NR	*	Leukaemia	59	2.6	2.7	2.0-3.5	390
Brain	112	1.6	6.6	5.4-7.9	148	Bladder & urinary tract	80	1.4	3.2	2.4-3.9	260	Skin (NM SC exc. SCC/BCC)	55	2.5	2.3	1.7-2.9	480	Lymphoma NOS	<5	NR	NR	NR	*
Liver	107	1.6	5.5	4.5-6.6	156	Brain	75	1.4	4.3	3.2-5.4	220	Myeloma	50	2.2	2.1	1.5-2.7	565	Hodgkin lymphoma	<5	NR	NR	NR	8130
Oesophagus	86	1.3	4.2	3.3-5.1	191	Stomach	69	1.2	2.8	2.1-3.5	355	Kidney	43	1.9	2.3	1.6-3.1	388	NHL	75	3.3	3.5	2.7-4.3	268
Mesothelioma	83	1.2	3.7	2.9-4.6	212	Lip, gum & mouth	68	1.2	3.0	2.3-3.8	297	Myelo dysplastic diseases	41	1.8	1.5	1.0-2.0	1687	Bladder & urinary tract	83	3.7	3.3	2.6-4.1	343
Testis	83	1.2	5.7	4.4-6.9	224	Myeloma	63	1.1	2.9	2.1-3.7	295	Gallbladder / bile ducts	32	1.4	1.5	1.0-2.0	583	Mesothelioma	76	3.4	3.3	2.5-4.0	299
Thyroid gland	83	1.2	5.1	3.9-6.2	197	Gallbladder / bile ducts	46	0.8	2.0	1.4-2.6	471	Pharynx	30	1.3	1.5	0.9-2.1	537	Stomach	71	3.2	3.2	2.5-4.0	309
Pharynx	80	1.2	4.2	3.3-5.2	171	Skin (NM SC exc. SCC/BCC)	44	0.8	1.9	1.2-2.5	630	Larynx	15	0.7	0.7	0.3-1.0	1171	Oesophagus	69	3.1	3.4	2.6-4.2	243
Skin (NM SC exc. SCC/BCC)	80	1.2	3.9	3.0-4.8	218	Liver	43	0.8	2.0	1.4-2.7	428	All cancer deaths	2244	100.0	101.7	97.4-106	10	Cervix	24	1.4	1.3	0.7-1.8	659
All cancers	6816	100.0	348.9	340.4-357.4	3	All cancer deaths	5548	100.0	279.3	271.5-287.1	4												

## 2.3 Cancer in different age groups

### 2.3.1 Cancer in children

**Incidence:** In children under the age of 15 years, there were 76 cases of cancer diagnosed in 2014, 41 males (the same as in 2013) and 35 females (increased by one). The most common types were leukaemias (27 cases), brain tumours (12) and kidney cancers (7). All-cancers age-adjusted incidence rates were 16.7 per 100,000 in males and 15 per 100,000 in females.

*Numbers and rates by age group are in Appendix 3A and Appendix 3B. An International Classification of Childhood Cancer (Version 3) table based on major diagnostic groups is found in Appendix 3C. That classification includes a further 11 "uncertain malignant potential" and benign brain tumours not included in the statistics above.*

### 2.3.2 Cancer in the 15-39 years age range

In the 15 to 39 years age range, there were 675 cancer diagnoses in 2014, 10% more than reported for 2013. There were 64 cancer-related deaths in this age group in 2014, similar to the numbers for 2012 and 2013. The most common types are shown in summary form in Figures 5 and 6, with the detailed statistics in Table 2 and 3.

Figure 5. Cancer incidence, Western Australia, 2014: common cancers in the 15 to 39 years age group

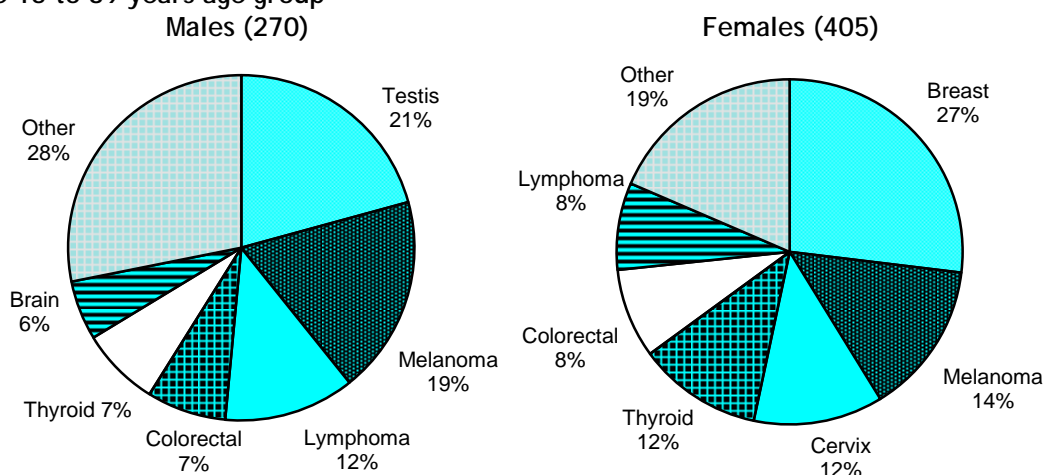
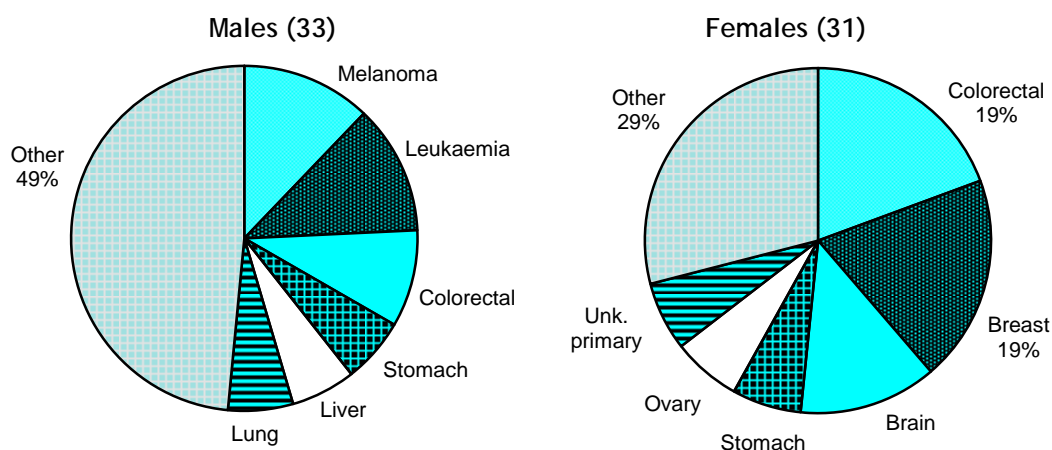


Figure 6. Cancer mortality, Western Australia, 2014: common cancers in the 15 to 39 years age group



### 2.3.3 Cancer in the 40-64 years age range

There were 4783 new cancer cases in the age range 40 to 64 years, prostate and breast being most common, with an overall risk of cancer occurring in this age range of 1 in 7 for both males and females. Age-adjusted rates were marginally lower in males and higher in females, than in 2013. There were 959 cancer-related deaths in this age range, with mortality rates marginally reduced since 2013 in both males and females.

The most common types are shown in summary form in Figures 7 and 8, with the detailed statistics in Table 2 and 3.

Figure 7. Cancer incidence, Western Australia, 2014: common cancers in the 40 to 64 years age group

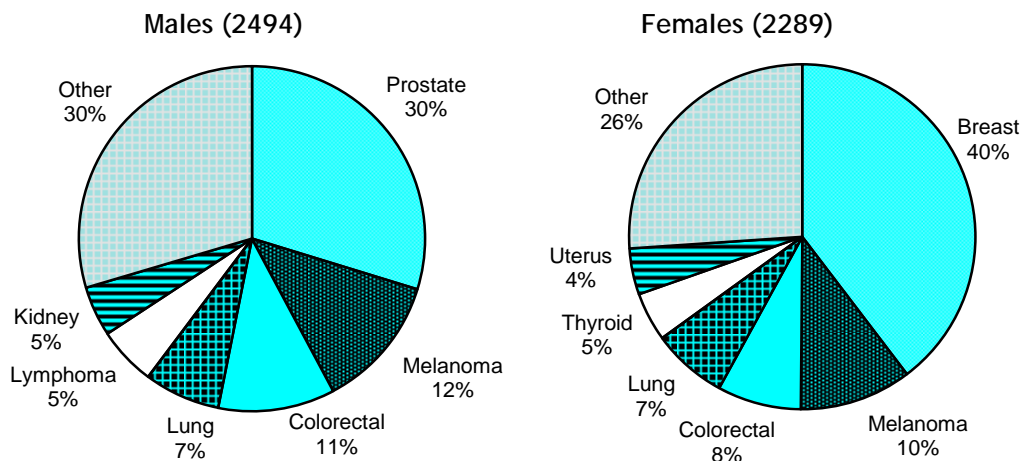
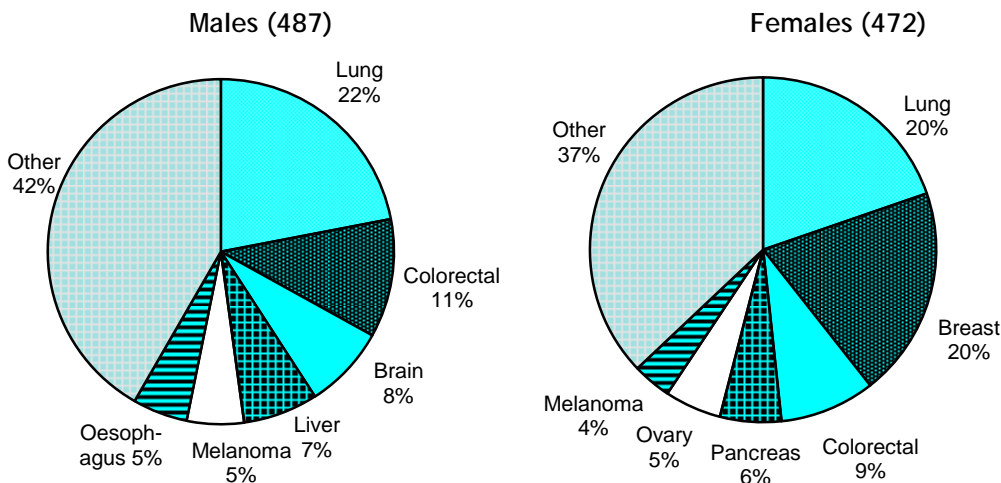


Figure 8. Cancer mortality, Western Australia, 2014: common cancers in the 40 to 64 years age group





### 2.3.4 Cancer in persons aged 65 and over

There were 6830 new cancer diagnoses in persons over the age of 65 years in 2014. In this age range, prostate cancer (1202 cases) outnumbered any other specific cancer type in either sex (Table 2) and accounted for 30% of diagnoses in males. Overall incidence rates in this age group were statistically similar to rates for 2013 for males and for females. Among females, breast cancer predominated (720 cases, 25.5%) and the age-adjusted incidence rate of 427.8 per 100, 000 was significantly higher than that reported for 2013.

There were 2978 cancer-related deaths in this age range in 2014, with rates similar to those in 2012. In persons over the age of 65 years, lung cancer was the most common cause of cancer-related death, causing 608 deaths, or one in five males and females.

The most common types are shown in summary form in Figures 9 and 10, with the detailed statistics in Table 2 and 3.

Figure 9. Cancer incidence, Western Australia, 2014: common cancers in the 65 years & over age group

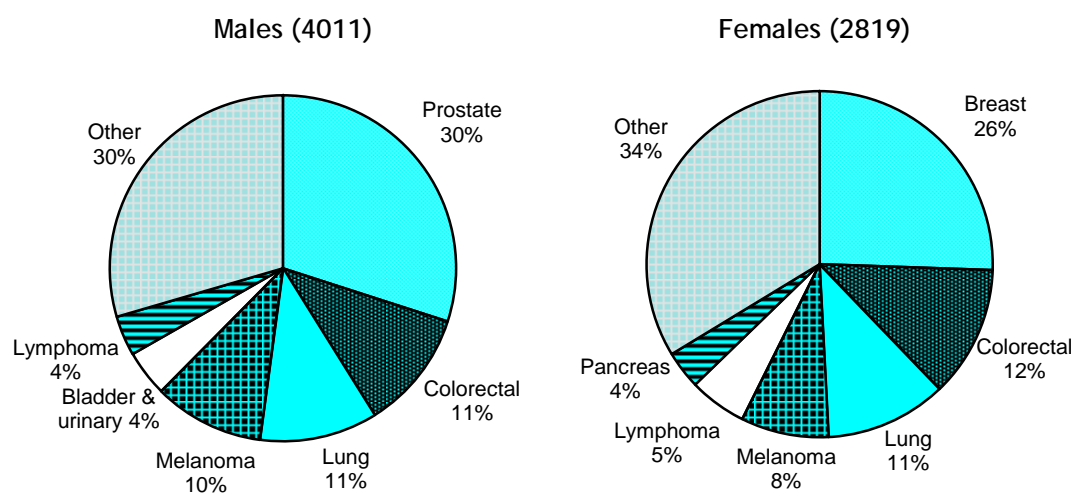


Figure 10. Cancer mortality, Western Australia, 2014: common cancers in the 65 years & over age group

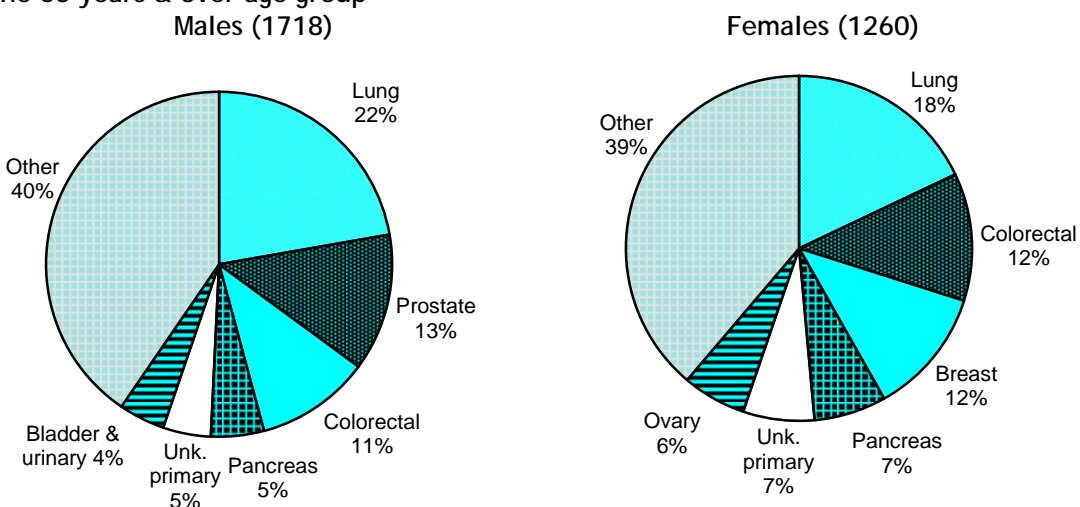


Table 2. Cancer incidence, Western Australia, 2014: leading types by sex and age group (ASR: age-adjusted rate)

15 to 39 years

Males						Females					
	Cases	%	ASR	95%ci.	Risk		Cases	%	ASR	95%ci.	Risk
Testis	56	20.7	10.8	7.9-13.7	348	Breast	109	26.9	20.4	16.5-24.2	166
Melanoma (skin)	50	18.5	9.1	6.6-11.7	384	Melanoma (skin)	58	14.3	11.4	8.4-14.3	316
Lymphoma	33	12.2	7.1	4.6-9.6	580	Cervix	49	12.1	9.4	6.8-12.0	387
Hodgkin lymphoma	15	5.6	3.3	1.6-5.1	1271	Thyroid gland	47	11.6	9.5	6.8-12.3	387
NHL	18	6.7	3.8	2.0-5.5	1067	Colorectal	34	8.4	6.9	4.5-9.3	543
Colorectal	20	7.4	3.8	2.1-5.4	952	Colon	20	4.9	4.3	2.4-6.2	916
Colon	15*	6.3	3.2	1.7-4.8	1125	Rectum	14	3.5	2.6	1.2-4.0	1331
Rectum	<5	NR	NR	NR	6177	Lymphoma	33	8.1	6.8	4.5-9.2	549
Thyroid gland	20	7.4	3.9	2.2-5.7	946	Lymphoma NOS	<5	NR	NR	NR	*
Brain	15	5.6	2.8	1.4-4.2	1392	Hodgkin lymphoma	15*	3.7	3.3	1.6-4.9	1216
Leukaemia	10	3.7	2.2	0.8-3.5	1794	NHL	17	4.2	3.3	1.7-4.8	1068
Lymphoid leukaemia	5	1.9	1.1	0.1-2.0	3551	Leukaemia	9	2.2	2.0	0.7-3.4	1996
Myeloid leukaemia	5	1.9	1.1	0.1-2.1	3625	Lymphoid leukaemia	<5	NR	NR	0 - 12	8558
						Myeloid leukaemia	5*	NR	NR	0.4-2.7	2603
All cancers	270	100.0	52.5	46.1-58.9	72	All cancers	405	100.0	79.7	71.9-87.6	46

40 to 64 years

Males						Females					
	Cases	%	ASR	95%ci.	Risk		Cases	%	ASR	95%ci.	Risk
Prostate	742	29.8	173.8	161.3-186.3	20	Breast	908	39.7	220.5	206.1-234.9	18
Melanoma (skin)	311	12.5	74.5	66.2-82.8	50	Melanoma (skin)	240	10.5	58.9	51.4-66.4	67
Colorectal	272	10.9	64.5	56.8-72.2	55	Colorectal	179	7.8	42.5	36.3-48.8	85
Colon	148	5.9	35.1	29.4-40.7	100	Colon	112	4.9	26.5	21.6-31.5	135
Rectum	123	4.9	29.2	24.0-34.4	123	Rectum	65	2.8	15.5	11.7-19.3	238
Lung	177	7.1	41.3	35.2-47.4	83	Lung	161	7.0	37.5	31.7-43.3	93
Lymphoma	137	5.5	32.2	26.8-37.7	113	Thyroid gland	105	4.6	25.3	20.4-30.1	155
Hodgkin lymphoma	9	0.4	2.3	0.8-3.8	1868	Uterus	99	4.3	23.0	18.5-27.6	152
NHL	128	5.1	30.0	24.8-35.2	120	Lymphoma	78	3.4	18.7	14.5-22.9	196
Kidney	117	4.7	28.3	23.1-33.4	133	Lymphoma NOS	<5	NR	NR	NR	7427
Lip, gum & mouth	68	2.7	16.2	12.4-20.1	229	Hodgkin lymphoma	5*	NR	NR	NR	2235
Liver	54	2.2	12.5	9.1-15.8	277	NHL	69	3.0	16.5	12.6-20.4	221
Leukaemia	52	2.1	12.1	8.8-15.4	292	Ovary	54	2.4	13.1	9.6-16.6	285
						Kidney	54	2.4	13.2	9.6-16.7	289
						Cervix	46	2.0	11.5	8.1-14.8	359
						Leukaemia	42	1.8	10.2	7.1-13.3	369
All cancers	2494	100.0	589.3	566.2-612.4	7	All cancers	2289	100.0	550.8	528.2-573.4	7

65 years and over

Males						Females					
	Cases	%	ASR	95%ci.	Risk		Cases	%	ASR	95%ci.	Risk
Prostate	1202	30.0	798.4	752.5-844.3	13	Breast	720	25.5	427.8	394.9-460.7	22
Colorectal	447	11.1	276.4	250.0-302.7	42	Colorectal	346	12.3	166.6	147.5-185.6	81
Colon	307	7.7	187.5	165.9-209.0	65	Colon	270	9.6	131.0	114.0-147.9	98
Rectum	139	3.5	88.1	73.1-103.1	123	Rectum	73	2.6	33.7	25.3-42.1	485
Lung	442	11.0	269.7	243.9-295.5	47	Lung	320	11.4	177.4	156.6-198.1	59
Melanoma (skin)	413	10.3	260.2	234.5-285.9	45	Melanoma (skin)	231	8.2	129.4	111.6-147.3	80
Bladder & urinary tract	173	4.3	100.0	84.7-115.4	144	Lymphoma	152	5.4	83.9	69.6-98.2	130
Lymphoma	150	3.7	95.3	79.6-110.9	112	Lymphoma NOS	5*	NR	NR	NR	*
Lymphoma NOS	5*	NR	NR	NR	3216	Hodgkin lymphoma	<5	NR	NR	NR	2889
Hodgkin lymphoma	<5	NR	NR	NR	4531	NHL	143	5.1	79.9	65.9-93.9	136
NHL	141	3.5	89.7	74.5-104.8	119	Pancreas	100	3.5	49.8	39.2-60.4	246
Pancreas	104	2.6	64.9	52.1-77.8	162	Uterus	94	3.3	57.5	45.2-69.7	168
Unknown primary	100	2.5	58.0	46.3-69.7	255	Unknown primary	85	3.0	34.1	26.1-42.1	543
Leukaemia	100	2.5	61.2	48.8-73.5	199	Ovary	81	2.9	46.8	36.0-57.6	208
						Bladder & urinary tract	68	2.4	34.8	25.8-43.8	327
						Leukaemia	66	2.3	33.4	24.7-42.1	376
All cancers	4011	100.0	2527.8	2448.5-2607.7	5	All cancers	2819	100.0	1534.8	1474.5-1595.1	7

Table 3. Cancer mortality, Western Australia, 2014: leading types by sex and age group (ASR: age-adjusted rate)

15 to 39 years

Males						Females					
	Deaths	%	ASR	95%c.i.	Risk		Deaths	%	ASR	95%c.i.	Risk
Melanoma (skin)	<5	NR	NR	NR	4575	Colorectal	6	19.4	1.2	0.2-2.1	3085
Leukaemia	<5	NR	NR	NR	4563	Colon	<5	NR	NR	NR	6048
Leukaemia NOS	0				-	Rectum	<5	NR	NR	NR	6294
Lymphoid leukaemia	<5	NR	NR	NR	5945	Breast	6	19.4	1.1	0.2-1.9	2998
Myeloid leukaemia	<5	NR	NR	NR	*	Brain	<5	NR	NR	NR	4440
Leukaemia, other	0				-	Stomach	<5	NR	NR	NR	8499
Colorectal	<5	NR	NR	NR	7144	Ovary	<5	NR	NR	NR	8499
Colon	<5	NR	NR	NR	*	Unknown primary	<5	NR	NR	NR	8992
Rectum	<5	NR	NR	NR	*	Leukaemia	<5	NR	NR	NR	8558
Stomach	<5	NR	NR	NR	9507	Tongue	<5	NR	NR	NR	*
Liver	<5	NR	NR	NR	9507	Oesophagus	<5	NR	NR	NR	*
Lung	<5	NR	NR	NR	*	Melanoma (skin)	<5	NR	NR	NR	*
Brain	<5	NR	NR	NR	8817	Connective/ soft tissues	<5	NR	NR	NR	*
Unknown primary	<5	NR	NR	NR	9174						
Lymphoma	<5	NR	NR	NR	*						
<b>All cancer deaths</b>	<b>33</b>	<b>100.0</b>	<b>6.5</b>	<b>4.2-8.8</b>	<b>565</b>	<b>All cancer deaths</b>	<b>31</b>	<b>100.0</b>	<b>6.1</b>	<b>3.9-8.3</b>	<b>583</b>

40 to 64 years

Males						Females					
	Deaths	%	ASR	95%c.i.	Risk		Deaths	%	ASR	95%c.i.	Risk
Lung	107	22.0	24.9	20.1-29.6	139	Lung	93	19.7	21.8	17.3-26.2	160
Colorectal	54	11.1	12.7	9.3-16.2	267	Breast	93	19.7	22.4	17.8-26.9	167
Colon	31	6.4	7.3	4.7-9.9	472	Colorectal	42	8.9	10.0	7.0-13.1	357
Rectum	23	4.7	5.5	3.2-7.7	612	Colon	30	6.4	7.2	4.6-9.8	503
Brain	38	7.8	8.8	6.0-11.5	401	Rectum	12	2.5	2.8	1.2-4.4	1234
Liver	34	7.0	7.9	5.2-10.5	421	Pancreas	27	5.7	6.2	3.8-8.5	530
Melanoma (skin)	26	5.3	6.0	3.7-8.3	561	Ovary	25	5.3	6.1	3.7-8.5	612
Oesophagus	25	5.1	6.0	3.6-8.3	591	Melanoma (skin)	17	3.6	4.2	2.2-6.2	901
Pancreas	25	5.1	5.8	3.5-8.1	602	Liver	16	3.4	4.0	2.0-6.0	998
Kidney	21	4.3	5.0	2.8-7.1	692	Brain	16	3.4	3.8	1.9-5.6	955
Stomach	17	3.5	4.0	2.1-5.8	867	Leukaemia	15	3.2	3.6	1.8-5.5	1018
Pharynx	15	3.1	3.5	1.7-5.2	971	Cervix	13	2.8	3.2	1.4-4.9	1238
Mesothelioma	15	3.1	3.5	1.7-5.3	980	Unknown primary	13	2.8	3.0	1.4-4.7	1160
Lymphoma	15	3.1	3.5	1.8-5.3	1002						
<b>All cancer deaths</b>	<b>487</b>	<b>100.0</b>	<b>113.9</b>	<b>104-124</b>	<b>31</b>	<b>All cancer deaths</b>	<b>472</b>	<b>100.0</b>	<b>112.6</b>	<b>102-123</b>	<b>32</b>

65 years and over

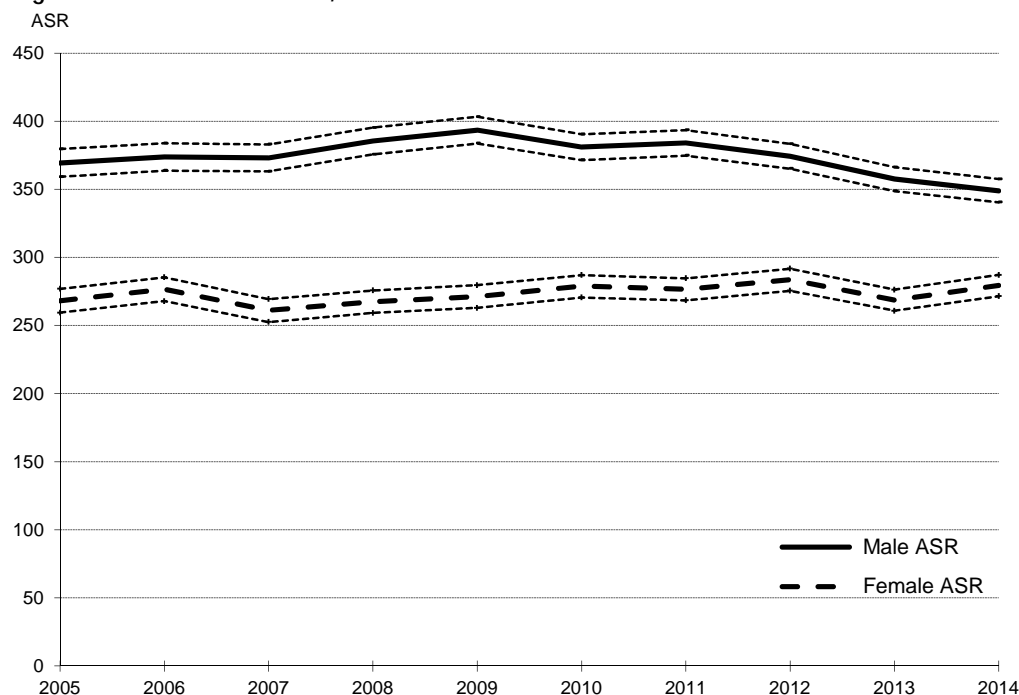
Males						Females					
	Deaths	%	ASR	95%c.i.	Risk		Deaths	%	ASR	95%c.i.	Risk
Lung	382	22.2	230.6	207-254	56	Lung	226	17.9	121.4	104-138	91
Prostate	221	12.9	119.6	103-136	172	Colorectal	151	12.0	65.1	53.7-76.5	246
Colorectal	184	10.7	107.8	91.7-124	135	Colon	113	9.0	48.8	38.9-58.7	345
Colon	123	7.2	68.8	56.3-81.3	272	Rectum	38	3.0	16.3	10.6-22.0	858
Rectum	61	3.6	39.0	29.0-49.0	267	Breast	150	11.9	74.0	61.1-86.9	181
Pancreas	85	4.9	49.9	39.0-60.9	252	Pancreas	85	6.7	38.3	29.4-47.2	381
Unknown primary	77	4.5	43.3	33.3-53.2	391	Unknown primary	84	6.7	35.0	26.8-43.2	508
Bladder & urinary tract	74	4.3	40.7	31.2-50.3	428	Ovary	75	6.0	38.5	29.2-47.9	327
Melanoma (skin)	72	4.2	41.1	31.3-50.8	391	Lymphoma	46	3.7	21.5	14.7-28.2	638
Lymphoma	67	3.9	40.6	30.6-50.6	332	Lymphoma NOS	<5	NR	NR	NR	*
Lymphoma NOS	<5	NR	NR	NR	*	Hodgkin lymphoma	<5	NR	NR	NR	*
Hodgkin lymphoma	<5	NR	NR	NR	4531	NHL	44	3.5	20.9	14.1-27.6	638
NHL	59	3.4	35.6	26.3-45.0	370	Leukaemia	44	3.5	18.3	12.4-24.2	963
Mesothelioma	61	3.6	34.3	25.4-43.2	430	Leukaemia NOS	<5	NR	NR	NR	*
Stomach	52	3.0	30.3	21.8-38.7	504	Lymphoid leukaemia	15	1.2	5.5	2.5-8.4	7860
Liver	51	3.0	32.5	23.4-41.6	359	Myeloid leukaemia	27	2.1	12.3	7.2-17.4	1098
Skin (NMSC inc. SCC/BCC)	49	2.9	27.4	19.6-35.3	601	Leukaemia, other	<5	NR	NR	NR	*
<b>All cancer deaths</b>	<b>1718</b>	<b>100.0</b>	<b>1001.6</b>	<b>953-1050</b>	<b>15</b>	<b>All cancer deaths</b>	<b>1260</b>	<b>100.0</b>	<b>597.5</b>	<b>562-633</b>	<b>23</b>

## 2.4 Recent trends in incidence for common cancers

### 2.4.1 Use and methods

This section of this report presents historical incidence rate data for the most common cancer types, in graphical form with summary of statistical trend analysis. While these cannot reliably predict future trends, the graphical indication of the “confidence interval” surrounding each rate may give a useful guide to changes in the near future. Formal projections of future cancer rates are not being presented in this report due to limitations on available population data.

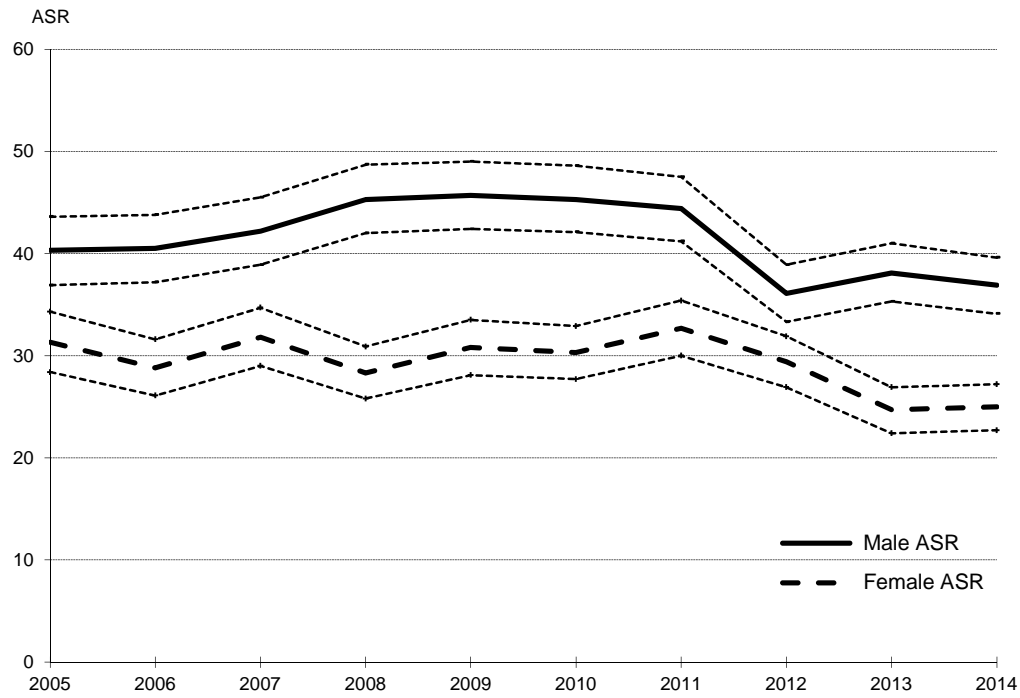
Fig. 11A Incidence trends, 2005-2014: All cancers combined



Trend: males - statistically-significant decrease of 0.74% annually.

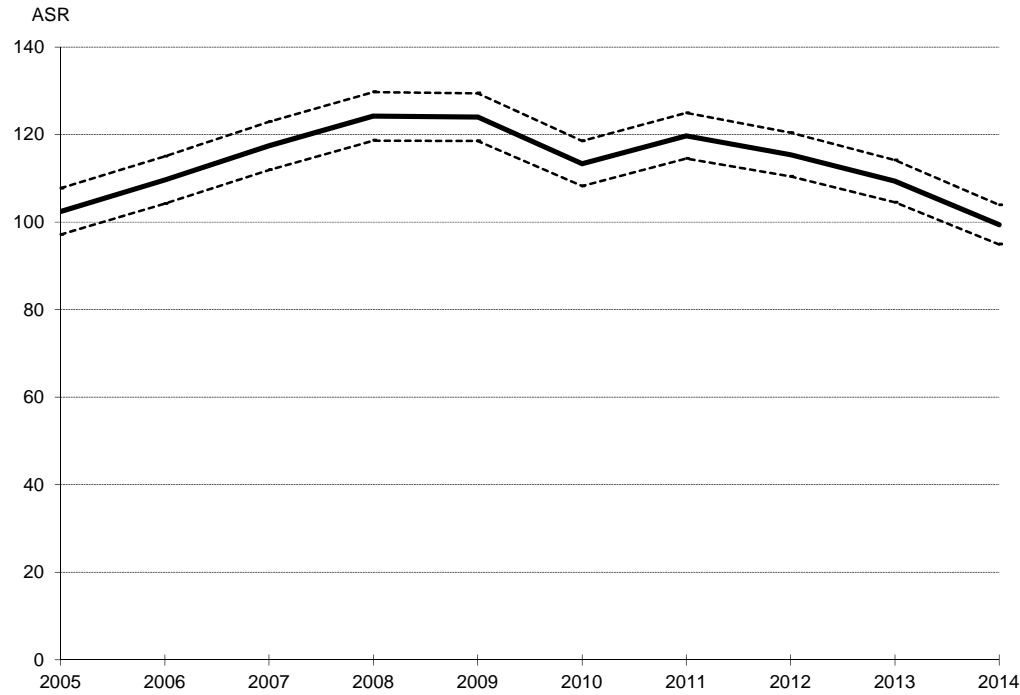
Trend: females - non-significant increase of 0.28% annually.

Fig. 11B Incidence trends, 2005-2014: Colorectal cancer



Trend: males - statistically-significant decrease of 1.39% annually.  
 Trend: females - statistically-significant decrease of 1.86% annually.

Fig. 11C Incidence trends, 2005-2014: Prostate cancer



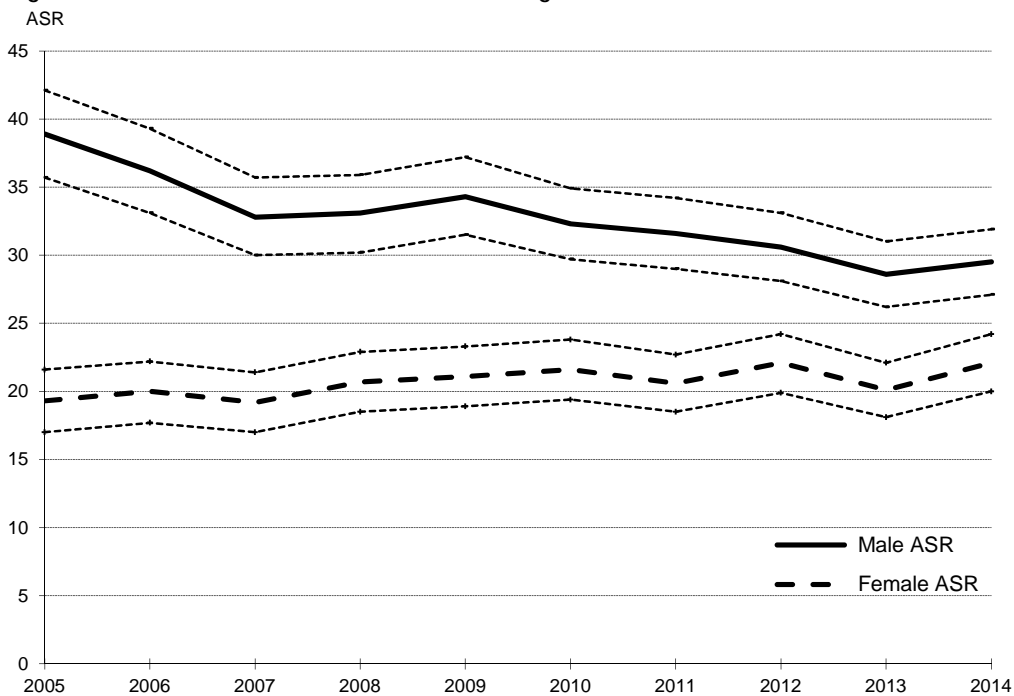
Trend: males - statistically-significant decrease of 0.91% annually.

Fig. 11D Incidence trends, 2005-2014: Breast cancer in females



Trend: females - statistically-significant increase of 1.43% annually.

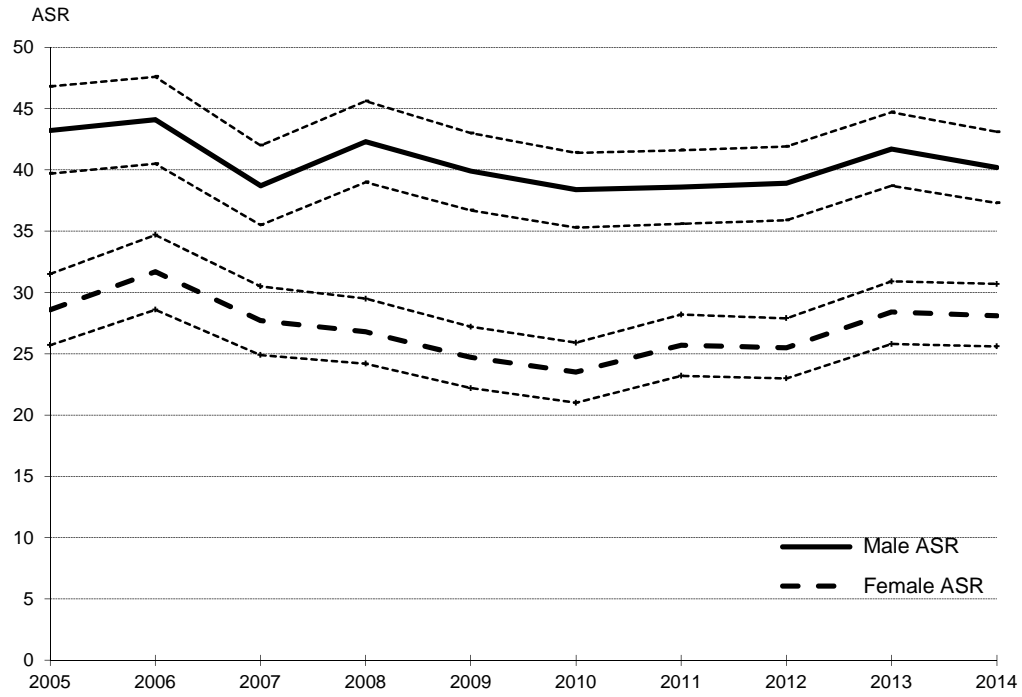
Fig. 11E Incidence trends, 2005-2014: Lung cancer



Trend: males - statistically-significant decrease of 2.77% annually.

Trend: females - non-significant increase of 0.83% annually.

Fig. 11F Incidence trends, 2005-2014: Melanoma



Trend: males - non-significant decrease of 0.34% annually.

Trend: females - non-significant decrease of 0.38% annually.

### 3. Cancer in Western Australia: Data and technical issues

#### 3.1 Basis of diagnosis

Cancers may be diagnosed by a variety of methods, and many methods may be used in the same case. Cancer registries generally record a “best basis of diagnosis” as a guide to the specificity and reliability of the information. Generally “microscopic” methods (histology, cytology, haematology) are regarded as most reliable as compared with clinical findings or imaging. Diagnoses based only on a death certificate (“DCO”) are not generally well-regarded (see below). In order to improve our knowledge of true diagnosis dates and methods used, the Registry also uses hospital discharge data (“Hospital Morbidity Data System” or “HMDS”) to reduce letter-based enquiries and case note review, if data are consistent. Most recently, on-line access to a public-sector clinical information system has reduced the number of letters and file requests substantially.

Table 4, restricted to invasive malignancies or “cancers”, show that over 90% of cases were based on a specific pathology test performed on a specimen of blood or other tissue. Historically, the common cancers least likely to be based on microscopic examination were primary liver cancers, pancreatic cancer and cancers of unknown primary site.

Table 4. Tumour records in Western Australia, 2014: Diagnosis methods

<b>Basis of diagnosis</b>	Cases	%	<b>Basis of diagnosis</b>	Cases	%
Microscopic NOS	10	0.1	Surgery	3	0.0
Histology	11307	86.4	Necropsy	6	0.0
Cytology	761	5.8	DCO	67	0.5
Haematology	285	2.2	DC & HMDS	32	0.2
Imaging	454	3.5	Unknown	65	0.5
Clinical	68	0.5			
Biochemical/Immunologic test	30	0.2	All "microscopic" bases	12363	94.5
			Total	13088	(100)

(DC & HMDS - Death certificate and consistent HMDS data only.)

(Includes some cancers not counted in incidence figures e.g. second cancers of similar type, in the same person.)

#### 3.2 Death Certificate and Hospital Morbidity Data System cases

“Death certificate only” (DCO) cancer records are those based solely on a death notification’s cause of death text. In Western Australia, there were 64 DCO cancers recorded for 2014 (0.5% of all cases) and 31 “DC and HMDS” cases recorded for 2013, with a combined total comprising 0.75% of all reported incident cancers. This is higher than the 0.4% reported for 2013 data, due to limitation of resources and adoption of new work practices that restrict the number of follow-up attempts being made on individual tumour records of these types in the last 6 months. The combined total of these two types of records remains an indication of good quality in the Registry’s data collection by international standards when the North American “gold standard” for DCO cases is 3% or less.<sup>4</sup>

The most common cancer types among the DCO cases were cancers of unknown primary site (17%), lung and prostate cancers (both 16%), colorectal cancer 11% and pancreatic cancer (9%). Among the “DC and HMDS” cases, lung cancer comprised almost 50% of the total.



## 4. References

- 1 Threlfall TJ, Thompson JR (2015). *Cancer incidence and mortality in Western Australia, 2013*. Department of Health, Western Australia, Perth. Statistical series number 101.
- 2 Segi M (1960) *Cancer mortality for selected sites in 24 countries (1950-1957)*. Sendai, Japan, Tohoku University Press.
- 3 Population by age and sex. 2001 Census Edition - Final. Australian Bureau of Statistics, Canberra, cat. 3201.0
- 4 Nishri D. The Ontario Cancer Registry and its Data Quality. Cancer Care Ontario, referenced at URL - <http://www.apheo.ca/resources/indicators/OCR%20%20its%20data%20quality%20Nishri%20Feb2011.pdf>

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**Note:** Appendix 3A now contains an incidence data summary for the most common cancers on page A3-10.



# Appendix 1. About The Western Australian Cancer Registry

## Appendix 1A. Overview and technical issues

### History and role

The Western Australian Cancer Registry is a population-based cancer registry established in 1981 by Regulations requiring the reporting of cancer diagnoses by pathologists, haematologists and radiation oncologists. The Registry was established in recognition of the potential importance of reliable population-based cancer data in the planning of services and in the prevention and treatment of cancer.

Surveillance of cancer extends beyond State and national boundaries and this Registry cooperates with other State registries and the Australian Institute of Health and Welfare (AIHW) which collates State information and manages the Australian Cancer Database in Canberra. Data are also provided to the International Agency for Research on Cancer in Lyon, France, for inclusion in Australian statistics published locally and world-wide.

The Registry is a member of the Australasian Association of Cancer Registries (AACR) which includes all Territory and State cancer registries, and a voting member of the International Association of Cancer Registries (IACR). The AACR meets regularly to discuss matters such as common coding systems, comparability of data between areas in Australia and involvement in Australia-wide cancer research projects.

### Registry scope

The Western Australian Cancer Registry reports on cancers and other neoplasms diagnosed in persons while resident in Western Australia, and incorporates material, once in a separate register, concerning asbestos exposure and other history for all cases of mesothelioma. In practice, the Registry records available information about Western Australians with cancers diagnosed elsewhere, as this is often vital to the interpretation of new reports or mortality information.

As in other Australian cancer registries, information concerning tumours diagnosed in Western Australia in persons ordinarily resident elsewhere in Australia, is sent to the relevant State or Territory cancer registry, and is not included in Western Australian incidence statistics.

Cancer deaths in current or former Western Australian residents are recorded when possible, regardless of place of death or address at diagnosis, to facilitate survival analysis. However, in routine tables of mortality, geographic location is based on place of residence at time of death rather than on the place of death. Accordingly, the Registry's mortality statistics routinely include deaths in Western Australia, of persons resident in Western Australia at the time. In contrast to incidence, mortality reports include deaths due to all non-melanoma skin cancers including basal cell and squamous cell carcinomas (BCC and SCC).

### Legislative basis

The Registry acted with the delegated authority of the Executive Director of Public Health with respect to the Health (Notification of Cancer) Regulations 1981, until June 2011 when the new HEALTH (WESTERN AUSTRALIAN CANCER REGISTER) REGULATIONS 2011 took effect.

The Regulations require the notification of *in situ* neoplasms and all non-melanoma skin cancers other than primary BCC and SCC, as well as all invasive malignancies and a variety of other neoplasms. The Regulations and a summary of changes can be seen at -

<http://www.health.wa.gov.au/wacr/home/regulations.cfm>

## Sources of data

Most notifications are received from pathology laboratories, which supply pathology reports on paper or computer data files. The electronic notification system relies on the tumour codes or "notify Registry" flags generated by pathologists to select the reports to be sent to the Registry, and it is believed that this has enhanced the completeness of reporting from the larger hospital laboratories. Radiation oncologists also notify the Registry of patients treated for cancer.

In-house linkage routines are used to link pathology and mortality data files to the Registry to permit creation of new records, or the updating of date, place and cause of death information. Additional cancer registrations are obtained from the remaining (unmatched) mortality records after electronically scanning the written cause of death and other fields on a data file. Data are now obtained from the WA Registrar-General's Office via the Data Linkage Branch of the Population Health Division. Where a death notification includes information about a tumour previously unknown to the Registry, records are created and efforts are then made to obtain independent verification of tumour details. Those for which no supporting information can be obtained after research are treated in subsequent reports as "death certificate only" (DCO) tumours.

Additional information, including country of birth and Aboriginality or indigenous status, can often be obtained from extracts of the W.A. Hospital Morbidity Data System (HMDS) files, or via on-line access to clinical information systems.

## Data handling and maintenance

Since 2008 Registry staff have converted all paper records into image files that are stored within the database; the process for historical information is now completed. This permits non-Registry users with appropriate permissions and computer access, to find information without making enquiries of other staff, and frees Registry staff from the task of locating paper records for coding or review.

New registrations and updates are made on the custom-designed database, which also manages and stores the case lists and correspondence associated with the "further enquiry" process. In general, cancer cases are recorded with one demographic record for each person with a separate, linked record for each tumour, each of which may have from one to many associated "notifications". Incomplete records, or those found to be inaccurate in the light of new information, are progressively updated, and the data continually enhanced until the time of any final update (such as when adding mortality information). Registry records that are duplicates of existing cases are now handled by cross-referencing to the "valid" case, rather than deletion, minimising the repetition of "detective" work if more information comes to hand later.

Statistics are produced from database extracts using the Registry's own incidence and mortality rates calculation system and a variety of other statistical and graphics software packages. Software for routine statistical reports is constantly being developed and upgraded to reflect changes in coding systems, geographical area boundaries and the types of information requests received. The vast majority of tables in this report are created directly from this in-house software.

Where resources permit, customised tabulations using similar area and age group subdivisions are available to anyone who makes a request.

## Coding practices

### General

The coding of tumour data is based on the International Classification of Diseases for Oncology (ICD-O) which originated as an extension of Chapter II (Neoplasms) of the Ninth Revision of the International Classification of Diseases (ICD-9); which was superseded by ICD-10.

ICD-O permits separate coding of topography ("site"), cell type ("morphology") and behaviour, and thus allows a more comprehensive characterisation of some tumours than the single-code ICD-9 and ICD-10 classification system. Topography and morphology codes in this report are from ICD-O third edition (2000) (ICD-O-3),<sup>a</sup> following the successful conversion of software, and translation of historical data in 2003 and in 2015.

In general, for incidence reporting, leukaemias, lymphomas and other lymphohaematopoietic malignancies are grouped on the basis of morphology codes, as for cutaneous melanoma, Kaposi sarcoma and mesothelioma, while others are tabulated on the basis of topography, or location. This Registry uses behaviour code "6" to indicate tumours of unknown primary site.

For the sake of consistency in reporting of incidence and mortality data, causes of death are coded to morphology (lymphohaematopoietic malignancies, Kaposi sarcoma and mesothelioma) and topography (others). Melanoma deaths are coded to the ICD-10 code, C43x, to distinguish them from deaths due to non-melanoma skin cancers (C44n). In accordance with IACR guidelines adopted by AACR, deaths due to melanomas of unknown primary site are treated as primary skin melanoma for tabulation purposes.

Diagnoses in non-Western Australian residents are excluded from incidence reporting routines but are recorded for reference. A system of "aliasing" duplicate or otherwise invalid records allows ongoing reconciliation of old and current data, necessary for follow-up studies.

Cancer Registry mortality reporting has been based on death certificate coding performed within the Registry since 1990. Reconciliation with coding by the Australian Bureau of Statistics was once a useful monthly process but ABS has refused to support this since 2005. This exchange was extremely helpful, as annual ABS-coded mortality files are normally not released until well into the year following death, which is, in some cases, a delay of almost 2 years.

### Multiple tumours

Two or more discrete tumours of different (3-character) sites in any individual are counted separately for the purposes of incidence statistics. However, in accordance with international practice, similar tumours arising in sites coded with the same first three characters are counted as one.

This, in effect, means that a person who has two similar tumours diagnosed, even many years apart, is reported only once in incidence statistics. This applies even when tumours arise in paired organs, e.g. lung or breast and are regarded as truly separate, unless the tumour types are different enough to permit both to be counted. Groups of types considered to be different, for the purposes of allowing the counting of more than one tumour of the same "site", are based on an ICD-O-3-based table as promulgated by the International Association of Cancer Registries (refer to [http://www.iacr.com.fr/MPrules\\_july2004.pdf](http://www.iacr.com.fr/MPrules_july2004.pdf)). Using these rules, for example, a squamous cell carcinoma of the lung and an adenocarcinoma of the lung arising at any time will both be counted in incidence statistics. Lymphohaematopoietic malignancies are treated differently, being tabulated by morphology, and their discovery in a

<sup>a</sup> World Health Organization (2000) *ICD-O: International classification of diseases for oncology* (Third Edition). WHO, Geneva.

particular site does not preclude the counting of different types of neoplasms in the same site. The urinary tract is treated as a special case of an "extended site", whereby multiple transitional cell carcinomas of sites C65x to C68x, *including* bladder (C67x), are counted only once in a person.

While these practices govern the reporting of cancers for incidence statistics in accordance with international practice, it is an inescapable conclusion that multiple tumours have separate effects on health, and the best illustration of this is in relation to survival. Cases occur in which a person has a breast carcinoma, and is treated and considered cured, only to die from a second primary breast carcinoma arising many years later. Measuring survival time from the first tumour diagnosis (the "incident" tumour) and ignoring the presence of the second, can lead to a simplistic analysis which falsely overestimates survival times. To allow better analysis, the Registry continues to record all tumours separately, so that statistics counting tumours, rather than cases, can be provided if required.

This Report uses the "multiple-primary" rules based on the ICD-O-3 classification and tumour groupings will differ slightly from those used in some previous publications (see Appendix 2E).

### **"Death certificate only" cancers**

"Death certificate only" (DCO) cancers are those for which no information other than a death certificate is available. From mortality data, records of previously unknown tumours are created on the Cancer Registry, and efforts are made to obtain independent verification of details. Those for which no supporting information can be obtained after research are treated in subsequent reports as DCO tumours. Up to 60 tumours are followed up in this way each month, and supporting information is eventually obtained for the vast majority. Very few tumour records remain in this category. Tumours of unknown primary site have been consistently more common among DCO cases than among cancers in general.

To achieve such a low proportion of DCO cases, reporting of statistics must be delayed until most follow-up is complete. Rapid access to death notifications assists the Registry to commence enquiries while information is still accessible. Due to workload issues, DCO cases are now being treated as "resolved" if a compatible coded hospital discharge record is found, and a special Basis of Diagnosis code of "D" is used.

### **Lymphomas**

ICD-O codes are used for coding lymphomas, however several "in-house" morphology codes are used when the best ICD-O code is too general; these are shown in the footnote to the table in Appendix 2E(b). These codes are converted, when contributing data to others, to the relevant less-specific ICD-O code.

### **Basis of diagnosis**

Most notifications result from diagnoses made on the basis of tissue examination (histology, cytology, haematology), and these are regarded as the most reliable. Their percentage of the total cases is shown in the "TD%" column of some tables in this report.

### **Additional data for specific tumour types**

A number of additional data items are collected for some tumours. For primary invasive breast cancer, the Registry records, for example, maximum tumour diameter, number of axillary lymph nodes biopsied and the number affected by cancer, whether a tumour is multi-centric, and whether there is associated ductal carcinoma in situ (DCIS) outside the margins of the invasive tumour. For primary skin melanoma, the thickness of the tumour and Clark

level are recorded (Breslow 1970<sup>a</sup>; Clark *et al* 1975<sup>b</sup>) and used in many of this Registry's reports.

## Quality assurance

Data quality is assessed in various ways, both continuous and occasional. On a continuous basis, all coding on pathology reports, and the details entered on the database, are checked by a second member of the Registry staff, and queries are referred to a Registry medical officer. In addition, the Registry database system incorporates various "unusual case" warnings, based on dates, sex, and age. A case-flagging system, based on site and morphology code combinations and the rules encapsulated in a modified version of IARC's "Check" routine, warns of unusual code combinations. A verification code is assigned to records which do not fit the "rules" but which are believed to be correctly coded.

Available external indicators of Registry completeness are all potentially biased in favour of cancers which are more often serious, causing hospitalisation or death. Reports from radiation oncologists supplement the receipt of reports based on previous pathology specimens, and support the recording of those cancers which were not diagnosed histologically. The Hospital Morbidity Data System, which records details of all hospitalisations in Western Australia, is another potential source of information regarding Registry completeness.

If trends in incidence, mortality and migration are constant, then the ratio of the number of new cancer diagnoses registered to the number of cancer deaths (mortality to incidence ratio) serves as a crude indicator of completeness.

## Uses of Cancer Registry data

Non-identifying data are available for release to interested parties, subject to time constraints, as data files or as finished tables and figures. Only data which do not identify any patient, care provider or institution can be treated in this manner. Release of named information is strictly controlled (see "Confidentiality guidelines") and data can only be released to persons other than the original providers (or other clinicians involved in ongoing care of the individual) with personal consent, or a formal approval from the Department of Health (WA)'s Human Research Ethics Committee (HREC).

Data are used in a wide variety of research projects, including the recruitment of subjects for descriptive and case-control studies. Specific requests have included data on incidence in specific areas, cancer deaths by location and institution type, melanoma levels and depths, mesothelioma deaths and occupation, teenage cancers, myeloma survival and ocular melanoma. Registry data have been used in a number of studies of cancer incidence, and in a number of national projects, most notably those commissioned by the National Breast Cancer Centre (now part of Cancer Australia).

In addition to technical and statistical enquiries, the Registry receives general and personal enquiries regarding cancer services and medical problems; these are referred when appropriate to other agencies and treating physicians.

The Registry provides support for four hospital-based cancer registries (HBCRs). In the hospital setting, with clinical and pathological staging and treatment data, the availability of mortality data facilitates the assessment of outcomes using survival analysis.

<sup>a</sup> Breslow A (1970) Thickness, cross-sectional area and depth of invasion in the prognosis of cutaneous melanoma. *Ann Surg* 172, 902-908

<sup>b</sup> Clark WH *et al* (1975) The developmental biology of primary cutaneous malignant melanoma. *Seminars in Oncology* 2, 83.

## Appendix 1B. Current issues

### Registry staffing and workload

The resources now available to service the needs of a population of 2.6 million include -

Principal Medical Officer/Manager	1.0 fte
Data Quality Coordinator	1.0 fte
Data Quality Officers	2.5 fte
Mesothelioma research officer	0.25 fte
Analyst/programmer	1.0 fte

A 0.2 FTE medical coding adviser position was abolished in mid 2015 on the retirement of Dr Thompson and this load is now added to the Principal Medical Officer/Manager's duties. Additional resources used include financial/ Human Resources services and Epidemiology Branch support for some statistical processes. However all reports such as this are produced primarily within the Registry itself.

Workload is not adequately represented by reported "cancer" totals alone. In 2014, there were 12364 invasive cancer cases as mentioned earlier in this report. However, in the same year there were 44707 "notifications" handled (pathology reports, letters, case notes and other records) (up from 43742 in 2012), 21868 tumour records created (up from 20728 in 2013), and many thousands of other tumour records were edited one or more times in some way by staff or via systematic re-coding processes.

Increases in these workload indices exceed population growth rates, and underscore the need to properly resource disease registries and ensure a continued capacity to deal with the demands of health service planners, researchers, students and the public.

### Assessment of current notification system and Regulations

Until 2011, Western Australia was the only Australian State with no legal requirement for the direct notification of cancer diagnoses by hospitals; there is consequently some incompleteness in WA statistics for some cancer types. As a result of two successful "Graduate Officer" placement requests made under a new Department of Health program in 2004, a review and update of a previous assessment of the opportunities for more complete notification based on hospital data for non-pathologically diagnosed cancers, was completed and is summarised in *Cancer incidence and mortality in Western Australia, 2005*.<sup>a</sup>

These findings were published in support of a process of seeking changes to the Health (Notification of Cancer) Regulations 1981 so as to require hospital notification, among other things. Current data systems cannot be used satisfactorily for this purpose as there are 3 key data items - basis of diagnosis, date of diagnosis and place of residence at diagnosis - that are not included. The Registry has participated in consultations concerning a replacement of the (public) hospital Patient Administration System (PAS), and a cancer notification module from the currently-favoured replacement system has been demonstrated. New Regulations are now in place, but effective changes in some aspects of notification must await changes in hospital information systems.

<sup>a</sup>Threlfall TJ, Thompson JR (2007). Cancer incidence and mortality in Western Australia, 2005. Department of Health, Western Australia, Perth. Statistical Series Number 81.



## Appendix 2. Technical and miscellaneous information

### Appendix 2A. Glossary

#### General

AAR	Age-adjusted rate - rate resulting from age-standardisation using only a subset of the entire age range for cases and population, e.g. 0 - 15 years.
ABS	Australian Bureau of Statistics
ASR	Age-standardised rate per 100,000 persons ("World standard" population) (Segi 1960) <sup>a</sup>
ASPR	Age-specific rate per 100,000 persons in a specified age range
BCC	Basal cell carcinoma
CNS	Central Nervous System (meninges, brain, spinal cord, cranial nerves and pituitary gland)
DCO	Death certificate only
d/o	disorder
ICD-O	International Classification of Diseases for Oncology
LHN	Lymphohaematopoietic neoplasms (mainly lymphomas, leukaemias and myeloma)
LR	Lifetime (cumulative) risk (to a particular age, usually 75 years)
NMSC	Non-melanoma skin cancer
NOS	Not otherwise specified
PYLL	Person-years of life lost (before a particular age, usually 75 years)
SCC	Squamous cell carcinoma
SD	Standard deviation
U/S	Unspecified

#### Additional terms used in headings or cells of incidence and mortality tables:

95%c.i.	Statistical 95% confidence interval
Crude	Crude rate per 100,000 persons
Cum inc	Cumulative incidence (%) (before a particular age, usually 75 years)
Risk	Lifetime risk (usually to age 75; 1 in $n$ ). In some tables, "-" indicates no data, "*" indicates a risk of less than 1 in 1,000.
TD%	Percentage of diagnoses made on basis of tissue examination (histology, haematology or cytology).
<5	Case count between 1 and 4 inclusive
NR	Not Reported - an ASPR or a percentage based on a cell "<5"; or a case count suppressed so as to prevent calculation.

<sup>a</sup> Segi M (1960) *Cancer mortality for selected sites in 24 countries (1950-1957)*. Sendai, Japan, Tohoku University Press.

## Appendix 2B. Statistical methods and formulae

### Age groups

The basis for most statistics is a summation of cases by five-year age groups. Age groups are expressed in whole years, i.e. "10-14" means 10.0 to 14.99... years.

### Rates

Rates in this report are calculated separately for males and females and are expressed as cases per 100,000 person-years. (If one year's data are being analysed, this is equivalent to  $n$  cases per 100,000 population for that year.)

**Age-specific rates** are based on five-year age intervals and are calculated by dividing the numbers of cases by the population of the same sex and age group, over the relevant period.

**Crude rates** are calculated simply as the total cases divided by the total population over a wide age range; they are not suitable as a basis for comparison of rates in different areas if the age-structures of the populations differ.

**Age-standardised rates** (ASR in Tables) are calculated by the direct method<sup>a</sup> and represent a summation of weighted age-specific rates (weighting being determined by the relative proportion of the population in each age group compared with the proportion in the World Standard Population<sup>b</sup>). Weightings by other population standards can be used if requested.

The **standard deviation**, or Estimated Standard Error (ESE) is used as a measure of variability for rates in tables; an approximate 95% confidence interval for a rate is (rate  $\pm$  1.96 ESE).

#### *Formulae:*

$$\text{ASR} = 10^5 \times \sum_i r_i \times w_i; \quad \text{ESE} = 10^5 / W \times [ \sum_i \{ r_i \times (1 - r_i) \times w_i^2 / n_i \} ]^{1/2},$$

where  $w_i$  is the World Standard Population<sup>b</sup> for the  $i$ th age group,  $W = \sum_i w_i$  and  $\sum_i$  denotes summation over all (relevant) age groups.

**Subsets of the full age range:** where a subset of age groups is considered, the term **age-adjusted rate** is used instead of ASR, to indicate that standardisation has taken only the age groups of interest into account for both cases and population.

**Comparison of rates between different areas** may be done using indirect standardisation. In this process, for example, the State population and age-specific rates are used to calculate an expected number of cases in different areas, based on their populations; the observed and expected numbers are compared using the Standardised Incidence (or Mortality) Ratio and a 95% confidence interval.

<sup>a</sup> Rothman KJ (1986) *Modern epidemiology*. Little, Brown & Company, Boston.

<sup>b</sup> Segi M (1960) *Cancer mortality for selected sites in 24 countries (1950-1957)*. Sendai, Japan, Tohoku University Press.

## Cumulative Incidence and Cumulative Risk

The cumulative incidence of a condition (at a given age) is a measure of the proportion of all persons who have, by that age, been affected by the condition; the Registry calculates this for cancer incidence, and death due to cancer. Cumulative rates are calculated by summing the age-specific rates for specified five year age groups, and are expressed as percentages unless otherwise noted.

In general, a risk is derived from the cumulative rate and is interpreted as a "1 in  $n$ " chance of developing the disease, whereas cumulative rates are commonly presented as percentages affected. In Registry reports, risk is usually presented as cumulative risk derived from the cumulative risk for age groups 0-4 to 70-74. However, in tables restricted to age subgroups, risk is derived from the cumulative rate calculated for the age groups listed - e.g. 15-39 years, 40-64 years and 65 years and older.

The method for risk calculations assumes that the risks at the time of estimation remain the same throughout life, and does not account for the effects of death from other causes or interventions which may reduce the chances of a cancer diagnosis.

### Formulae:

The formulae for *CI* and *risk* are:

$$CI = \sum_i r_i \times 5 ; \quad Risk = 1 / (1 - e^{-CI}) .$$

## Person years of life lost

Person-years of life lost (PYLL) is an estimate of the number of years of life lost due to specific causes of death, and is calculated up to age 75 years, as an index of premature death. The calculations rely on the use of all-causes mortality data for the whole of Western Australia using the methods of Hakulinen and Teppo as presented in Holman *et al.*<sup>a</sup>

In this report the PYLL is calculated for age 0 to 74 years as a measure of premature death.

### Formulae:

For each cause of death, the PYLL lost for the  $i$ th five-year age group is given by:

$$S_i = 5 \times \{ \sum_{j=0, \dots, i-1} \{ d_j \times p_j^{1/2} \times P_{j+1, i} \times [ a_i \times (1 - p_i) + p_i ] + d_i \times (1 - a_i) \times (1 + p_i^{1/2}) / 2 \} \}$$

where  $a_i$  is the proportion of the  $i$ th five-year interval that a person dying during that interval lives, on average. The values used are 0.09, 0.46, 0.54, 0.57, 0.49, 0.50, 0.52, 0.54, 0.54, 0.54, 0.53, 0.52, 0.52, 0.52, 0.51, 0.51, 0.48, 0.45 for age groups 0-4, 5-9, ... ,85+,  $d_i$  is the number of deaths from the cause of death of interest in the  $i$ th age group,  $p_i$  is the probability of surviving the  $i$ th age interval after eliminating the cause of death of interest, and

$$P_{j+1, i} = \prod_{k=j+1, \dots, i-1} p_k \quad \text{for } j+1 < i, \quad \text{or } 1 \quad \text{for } j+1 = i .$$

The quantity  $p_i$  is calculated as -

$$p_i = \{ (1 - 5 \times a_i \times r_i) / (1 + 5 \times (1 - a_i) \times r_i) \}^{(D_i - d_i) / D_i}$$

where  $r_i$  is the death rate and  $D_i$  is the total number of deaths for the  $i$ th age group.

<sup>a</sup> Holman CDJ, Hatton WM, Armstrong BK, English DR (1987) *Cancer mortality trends in Australia, volume II, 1910 - 1984*. Health Department of Western Australia, Perth, Occasional Paper number 18.

## Appendix 2C. Populations and geographic areas

### Populations used for calculation of 2014 rates

Age	Males	(%)	Females	(%)	Total	(%)
0- 4	88181	6.8	83978	6.6	172159	6.7
5- 9	83897	6.4	80760	6.3	164657	6.4
10-14	78001	6.0	76080	6.0	154081	6.0
15-19	82603	6.3	77551	6.1	160154	6.2
20-24	98094	7.5	92144	7.2	190238	7.4
25-29	116204	8.9	104876	8.2	221080	8.6
30-34	103129	7.9	95448	7.5	198577	7.7
35-39	88166	6.8	84980	6.7	173146	6.7
40-44	98334	7.5	94298	7.4	192632	7.5
45-49	86816	6.7	84296	6.6	171112	6.6
50-54	85435	6.6	85016	6.7	170451	6.6
55-59	75392	5.8	76027	6.0	151419	5.9
60-64	65975	5.1	66368	5.2	132343	5.1
65-69	55413	4.3	54487	4.3	109900	4.3
70-74	38316	2.9	39297	3.1	77613	3.0
75-79	26341	2.0	29980	2.4	56321	2.2
80-84	17992	1.4	23469	1.8	41461	1.6
85 +	14341	1.1	25626	2.0	39967	1.6
<b>TOTAL</b>	<b>1302626</b>	<b>(100)</b>	<b>1274681</b>	<b>(100)</b>	<b>2577307</b>	<b>(100)</b>

(Data from Australian Bureau of Statistics via Epidemiology Branch, Dept of Health (WA), as collated by Resourcing & Performance Division, DoHWA.)

The Department of Health's area of responsibility is administered through two Area Health Services (AHS) (metropolitan) and the WA Country Health Service (WACHS), comprising seven Regions. Health Districts (HD) each lie entirely within an Area Health Service (AHS) or Health Region (HR). Arrangements vary, however data and population files are synchronised to ensure accurate calculation of incidence and mortality rates in this report.

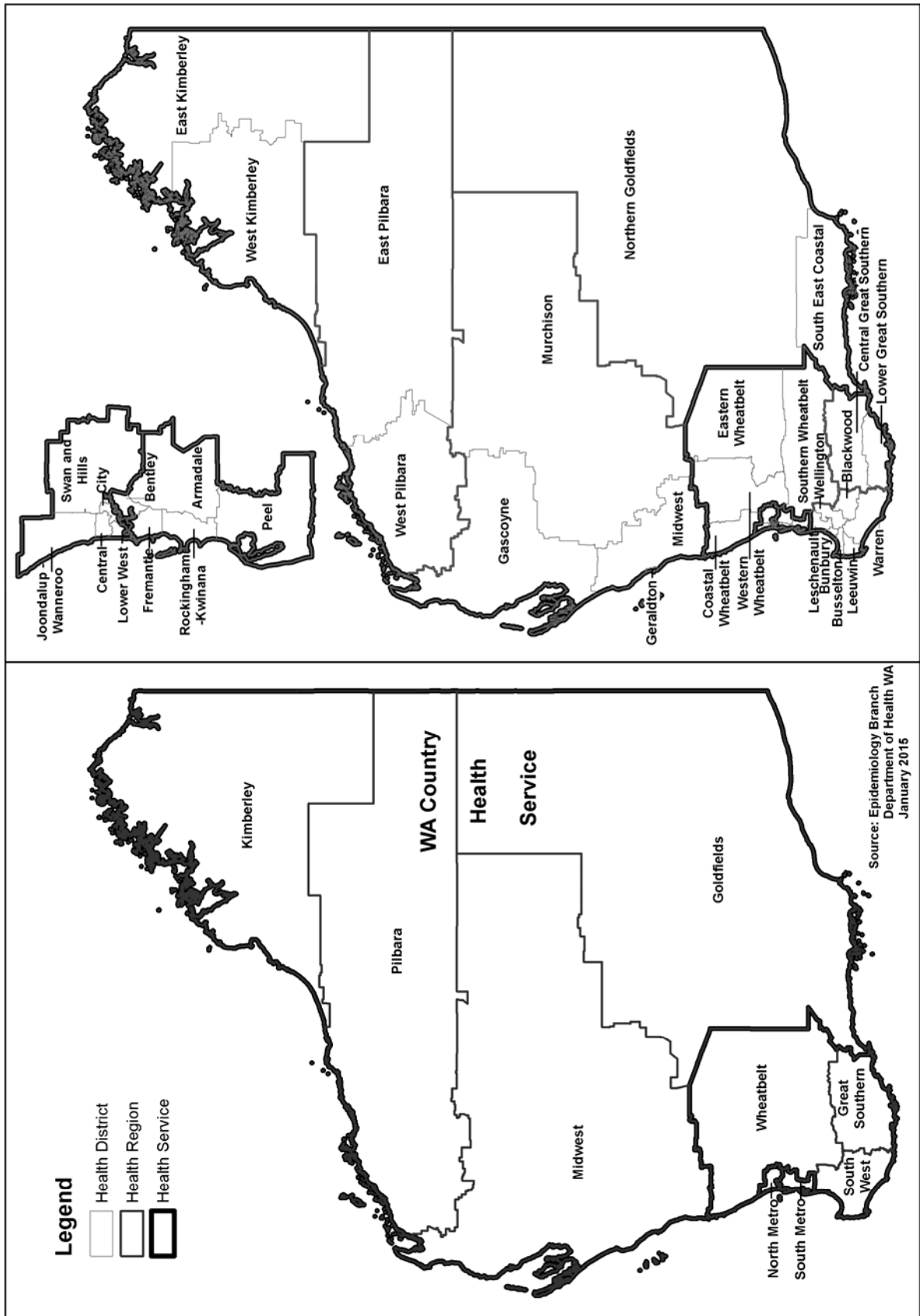
The table and maps below should assist comparison of boundaries and area names with those used previously. The most recent changes include revision of North Metro AHS to include 5 Health Districts rather than 8; and boundaries are now based on the new ABS SA2 unit of area rather than on SLAs (Statistical Local Areas).

### Health District composition of Area Health Services and Regions as used for this Report

<b>CHS Kimberley HR</b>	<b>CHS Goldfields HR</b>	<b>North Metro AHS</b>
East Kimberley HD	Northern Goldfields HD	NMAHS Central HD
West Kimberley HD	South East Coastal HD	NMAHS Lower West HD
<b>CHS Pilbara HR</b>	<b>CHS Great Southern HR</b>	NMAHS Swan and Hills HD
East Pilbara HD	Central Great Southern HD	NMAHS Joondalup - Wanneroo HD
West Pilbara HD	Lower Great Southern HD	NMAHS City HD
<b>CHS Midwest HR</b>	<b>CHS South West HR</b>	<b>South Metro AHS</b>
Gascoyne HD	Blackwood HD	SMAHS Armadale HD
Geraldton HD	Bunbury HD	SMAHS Bentley HD
Midwest HD	Busselton HD	SMAHS Fremantle HD
Murchison HD	Leeuwin HD	SMAHS Peel HD
<b>CHS Wheatbelt HR</b>	Leschenault HD	SMAHS Rockingham-Kwinana HD
Coastal Wheatbelt HD	Warren HD	
Eastern Wheatbelt HD	Wellington HD	
Southern Wheatbelt HD		
Western Wheatbelt HD		

\* CHS - Country Health Service; AHS - Area Health Service

WA Area Health Service, Region and Health District boundaries



## Appendix 2D. Access to Registry information

Release of data may occur at a number of levels:

Summarised statistical information containing no means of identifying any individual patient, doctor, laboratory or hospital will be available for the purposes of general information and education.

More detailed statistical information, which may include "unit record" data files for analysis, but containing no means of identifying any individual patient, doctor, laboratory or hospital, may be released by the Principal Medical Officer.

Identified information will normally be made available to relevant Australian State or Territory Cancer Registries and to the Australian Institute of Health and Welfare, for the purposes of improving data quality and consistency. Data are released to the AIHW subject to a provision that any use of such identified data for other purposes is to be referred to this Registry for approval.

Special information pertaining to identified patients of a particular hospital or doctor may be released by the Principal Medical Officer to the Medical Superintendent of the hospital, or to the doctor, in response to a written request; such requests may be referred to the Department of Health (Western Australia)'s HREC if there is concern regarding the identification of individual service providers.

Applications for further information required for specific areas of research will be referred to the HREC which, subject to formal application, may approve the release of identified information to researchers.

The objectives and functions of the HREC include the following key points -

Objectives -

- Promote the ethical use of health information.
- Promote ethical standards of human research.
- Protect the welfare, rights and dignity of individuals.
- Facilitate ethical research through efficient and effective review processes.

Functions -

- To provide independent, competent and timely ethical review of projects involving the use and disclosure of personal health information and other research projects with respect to their ethical acceptability.
- To review projects involving personal health information and other research projects in accordance with the National Statement on Ethical Conduct in Human Research (National Statement) and the DOH Practice Code for the Use of Personal Health Information.
- To review projects requiring the use and disclosure of personal health information without consent.

The Committee's details and relevant documentation may be found at <http://www.health.wa.gov.au/healthdata/HREC/index.cfm>.

## Appendix 2E. Cancer codes

### (a) ICD-O Site codes

Codes(1)	Site/Topography	Codes	Site/Topography
C00 - C06	Lip, gum & mouth (excludes C01-C02)	C49	Connective, subcutaneous & other soft tissues
C01 - C02	Tongue	C50	Breast
C07	Parotid gland	C51	Vulva
C08	Salivary glands	C52	Vagina
C09 - C14	Pharynx (excludes C11)	C53	Cervix uteri
C11	Nasopharynx	C54	Corpus uteri (Uterus)
C15	Oesophagus	C55	Uterus, NOS (rarely used)
C16	Stomach	C56	Ovary
C17	Small intestine	C57	Uterine adnexa & other fem. genital
C18	Colon	C58	Placenta
C19 - C20	Rectosigmoid junction & rectum	C60	Penis
C21	Anus	C61	Prostate gland
C22	Liver & intrahepatic bile ducts	C62	Testis
C23 - C24	Gallbladder & bile ducts	C63	Male genital, other
C25	Pancreas	C64	Kidney (excludes renal pelvis C65)
C30 - C31	Nasal cavity & sinuses, middle & inner ear	C65 - C68	Bladder & urinary tract
C32	Larynx	C69	Eye & lacrimal gland
C33 - C34	Lung, bronchus & trachea	C70	Meninges (cerebral & spinal)
C37	Thymus	C71	Brain
C38	Pleura, heart & mediastinum	C72	Spinal cord & cranial nerves
C40 - C41	Bones, joints & articular cartilages	C73	Thyroid gland
C44	Skin	C74	Adrenal gland
C47	Nervous system, peripheral & autonomic	C75	Endocrine glands, other
C48	Retroperitoneum and peritoneum	C80	Unknown primary site

Notes: (1) Only 1st 3 characters shown. Groupings based on IARC rules governing the reporting of incident cancers for ICDO-3. Using these same rules, non-lymphohaematopoietic neoplasms of primary sites reported as C26 (Intestinal tract NOS), C39 (respiratory tract ill-defined / NOS), C42 (haematopoietic system), C76 (large body regions NOS) and C77 (lymph nodes) are tabulated as cancers of unknown primary site.

### (b) Morphology code groups for lymphohaematopoietic malignancies

Tabulation schemes for lymphohaematopoietic neoplasms (LHNs) in older WACR reports were based to varying degrees on well-accepted classification schemes such as the REAL and the Working Formulation, ICD9 and ICD10. Increasingly, classification of such tumours used by pathologists and clinicians has changed, and older headings and names such as "lymphosarcoma" have become somewhat irrelevant to modern medical practice.

The tabulation groupings used in this report are based on those used in the most recent update from WHO of the ICD-O-3 classification. In the current report, group headings still retain terms such as lymphoma and leukaemia, for the sake of familiarity. While these remain in the WHO scheme for individual conditions, group headings have in many cases been replaced by less-specific terms such as "B-Cell neoplasms" and "T-cell neoplasms".

Since 2003, some conditions previously not regarded as malignant (e.g. polycythaemia vera and myelodysplastic diseases) have been included as "cancers", and this was extended in the latest WHO update implemented during 2015 so that the only LHNs now NOT regarded as malignant "cancers are - Monoclonal gammopathy, Angiocentric immunoproliferative lesion, Angioimmunoblastic lymphadenopathy, T-gamma lymphoproliferative disease, Immunoglobulin deposition disease, Mast cell disease (non-systemic /uncertain potential), and Lymphoproliferative disease, NOS.

## Revised multi-level tabulation scheme for reporting of malignant lymphohaematopoietic neoplasms (WACR 2003, updated 2015)

Malignant lymphohaematopoietic neoplasms ("Cancers")		WACR code	ICD-O-3 M codes
1	All lymphomas	Y**	
1a	Lymphomas, NOS/unclassifiable	YUC	9590
1b	Hodgkin lymphoma	YHO	9650-9655, 9659, 9661-9667
1c	All NHL	YN*	
1c1	NHL, mature B Cell	YNB	9597, 9670-9671, 9673, 9675, 9678, 9679-9680, 9684, 9687-9691, 9695, 9698-9699, 9712, 9735, 9737-9738
1c2	NHL, mature T / N-K cell	YNT	9700-9702, 9705, 9708-9709, 9714, 9716-9719, 9724-9726
1c3	NHL, precursor cell lymphoblastic	YNP	9727-9729
1c4	NHL, other / unclassifiable	YNO	9591, 9596
2	Myeloma/Plasma Cell tumours	P*	9731-9734
3	All leukaemias	L**	
3a	Leukaemias, NOS/unclassifiable	LUC	9800-9801, 9805
3b	Leukaemias, lymphoid, all	LL*	
3b1	Leukaemias, lymphoid, acute	LLA	9835-9837
3b2	Leukaemias, lymphoid, chronic	LLC	9823
3b3	Leukaemias, lymphoid, other/NOS	LLO	9811-9818, 9820, 9826-9827, 9831-9834, 9940
3c	Leukaemias, myeloid, all	LM*	
3c1	Leukaemias, myeloid, acute	LMA	9840, 9861, 9865-9867, 9869-9874, 9891, 9895-9898, 9910-9911, 9920, 9930-9931
3c2	Leukaemias, myeloid, chronic	LMC	9863, 9875-9876
3c3	Leukaemias, myeloid, other & NOS	LMO	9860, 9945-9946
3d	Other leukaemias	LOT	9806-9809, 9948
4	Other lymphohaematopoietic malignancies		
4a	Myelodysplastic diseases, all	HM*	
4a1	Refractory anaemias/cytopaenias	HMR	9980, 9982-9985, 9991-9992
4a2	Myelodysplastic syndromes	HMS	9986-9987, 9989
4b	Chronic myeloproliferative diseases, all	HC*	
4b1	Chronic MPD, NOS	HCX	9960, 9975
4b2	Polycyth. rubra vera	HCP	9950
4b3	Myelofibrosis/sclerosis	HCS	9961
4b4	Other chronic MPDs	HCO	9962-9964
4c	Other immunoproliferative malignancies	HI*	
4c1	Mast cell malignancies	HIM	9741-9742
4c2	Malig. histiocytic/dendritic cell neo.	HIH	9750-9751, 9755-9758
4c3	Other & U/S immunoproliferative neo.	HIJ	9759-9762, 9764, 9965-9967, 9971



## Appendix 2F. WACR publications since 1997

*Note: It is strongly recommended that retrospective studies utilise time-series that have been produced using updated versions of historical data, available from the Registry; and that figures from old reports not be used for such purposes. However, various topics of interest may be found in previous publications listed here.*

Threlfall TJ (1997) *Cancer incidence and mortality projections for Western Australia, 1996-2001*. Health Department of Western Australia, Perth, Statistical Series number 50.

Threlfall TJ, Thompson JR (1997) *Cancer incidence and mortality in Western Australia, 1995*. Health Department of Western Australia, Perth, Statistical Series number 51.

Threlfall TJ, Thompson JR (1998) *Cancer incidence and mortality in Western Australia, 1996*. Health Department of Western Australia, Perth, Statistical Series number 55.

Threlfall TJ, Thompson JR (1999) *Cancer incidence and mortality in Western Australia, 1997*. Health Department of Western Australia, Perth, Statistical Series number 57.

Threlfall TJ, Brameld K (2000) *Cancer survival in Western Australian residents, 1982-1997*. Health Department of Western Australia, Perth, Statistical Series number 60.

Threlfall TJ, Thompson JR (2000) *Cancer incidence and mortality in Western Australia, 1998*. Health Department of Western Australia, Perth, Statistical Series number 61.

Threlfall TJ, Thompson JR (2002) *Cancer incidence and mortality in Western Australia, 1999 and 2000*. Health Department of Western Australia, Perth, Statistical Series number 65.

Threlfall TJ, Thompson JR (2003) *Cancer incidence and mortality in Western Australia, 2001*. Health Department of Western Australia, Perth, Statistical Series number 68.

Threlfall TJ, Thompson JR (2004) *Cancer incidence and mortality in Western Australia, 2002*. Department of Health, Western Australia, Perth. Statistical series number 71.

Threlfall TJ, Thompson JR, Olsen N (2005). *Cancer in Western Australia: Incidence and mortality 2003 and Mesothelioma 1960-2003*. Department of Health, Western Australia, Perth. Statistical series number 74.

Threlfall TJ, Thompson JR (2006). *Cancer incidence and mortality in Western Australia, 2004*. Department of Health, Western Australia, Perth. Statistical series number 76.

Threlfall TJ, Thompson JR (2007). *Cancer incidence and mortality in Western Australia, 2005*. Department of Health, Western Australia, Perth. Statistical Series Number 81.

Threlfall TJ, Thompson JR (2007). *Cancer incidence and mortality in Western Australia, 2006*. Department of Health, Western Australia, Perth. Statistical Series Number 82.

Threlfall TJ, Thompson JR (2009). *Cancer incidence and mortality in Western Australia, 2007*. Department of Health, Western Australia, Perth. Statistical series number 86.

Threlfall TJ, Thompson JR (2010). *Cancer incidence and mortality in Western Australia, 2008*. Department of Health, Western Australia, Perth. Statistical series number 87.

Threlfall TJ, Thompson JR (2011). *Cancer incidence and mortality in Western Australia, 2009*. Department of Health, Western Australia, Perth. Statistical series number 91.

Threlfall TJ, Thompson JR (2012). *Cancer incidence and mortality in Western Australia, 2010*. Department of Health, Western Australia, Perth. Statistical series number 94.

Threlfall TJ, Thompson JR (2013). *Cancer incidence and mortality in Western Australia, 2011*. Department of Health, Western Australia, Perth. Statistical series number 97.

Threlfall TJ, Thompson JR (2014). *Cancer incidence and mortality in Western Australia, 2012*. Department of Health, Western Australia, Perth. Statistical series number 99.

Threlfall TJ, Thompson JR (2015). *Cancer incidence and mortality in Western Australia, 2016*. Department of Health, Western Australia, Perth. Statistical series number 101.

## Appendix 2G. Guide to tables in Appendix 3

**Note:** The order of cancer types in the tables in Appendix 2E is the basis for the wide-format incidence and mortality tables in Appendix 3.

### Terms and formatting

Terms used in table headings are explained under "Statistical methods" (Section 1.4) and abbreviations repeated in Appendix 2A.

Age groups are expressed in whole years, i.e. "10-14" means 10.0 to 14.99... years.

For most cancers in the wide-format tables which follow, there are 2 rows for each sex. The upper one contains total cases, ASR, 95% confidence interval, risk and other summary statistics.

Under the headings for individual age groups, the upper rows also contain counts (cases or deaths) in whole numbers.

The numbers (1 decimal place) shown in the lower rows for each sex are age-specific rates per 100,000 for the relevant age group.

The larger, wide-format tables e.g. Appendices 3A, B and C, contain some sections which are summaries of others within the tables (e.g. "All Lymphomas"), hence the summation of case numbers or rates over all rows of the tables will not match the totals at the end of each table, which were calculated separately.

### Order of cancer types within tables

In general, tables follow the order of cancer types as listed in **Appendix 2E**, with site-specific cancers listed first, then lymphohaematopoietic malignancies - lymphomas, myeloma, mast cell tumours, miscellaneous immunoproliferative tumours, then leukaemias - followed by the Unknown Primary Site and Total Cancers groups.

**Note:** The **mortality** appendix table includes deaths due to **all** non-melanoma skin cancers (NMSC), some of which are **not** listed in the Incidence tables. Some NMSC, such as Merkel cell or sweat gland carcinomas, are included in incidence statistics in this report, but these do **NOT** include basal cell carcinoma or squamous cell carcinoma (ICD-O-3 morphology codes 8050 - 8110).

### - Notes -

**Appendix 3A** now contains an incidence data summary for the most common cancer types on page A3-10.

In **Appendix 3B**, the "Total deaths due to cancer" appears on page A3-19. The "Total deaths (cancer and non-cancer) of Cancer Registry cases" on page A3-20 includes non-cancer and all other deaths in persons with a valid WA tumour record.

As noted in the body of the report, some numbers in the following tables have been altered using "<5", "NR" (for "not released"), rounding (see "\*\*"), or have been otherwise disguised to minimize risks to privacy.

### Appendix 3A. Cancer incidence, Western Australia, 2014

(age-based case counts and aspr/100,000, and total-population ASR, by sex)

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+ u/k	Total	ASR	95% c.i.	TD%	CumInc	Risk	ASR2	
Lip, gum & mouth (C000-C069) (not C01 C02)																										
M							<5	<5	7	10	16	16	19	14	11	10	14	<5	<b>122</b>	<b>6.4</b>	5.3-7.6	100.0	0.7	139	9.5 (7.8-11.2)	
							NR	NR	7.1	11.5	18.7	21.2	28.8	25.3	28.7	38.0	77.8	NR								
F						<5	<5		<5	<5	9	6	8	5	8	<5	10	11	<b>68</b>	<b>3.0</b>	2.3-3.8	100.0	0.3	297	4.8 (3.7-6.0)	
						NR	NR		NR	NR	10.6	7.9	12.1	9.2	20.4	NR	42.6	42.9								
Tongue (C010-C029)																										
M							<5	<5	<5	5	<5	11	6	8	5	6	<5	<5	<b>55</b>	<b>2.9</b>	2.1-3.7	100.0	0.3	300	4.3 (3.1-5.4)	
							NR	NR	NR	5.8	NR	14.6	9.1	14.4	13.0	22.8	NR	NR								
F						<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5	<b>27</b>	<b>1.4</b>	0.9-2.0	100.0	0.2	648	2.0 (1.2-2.8)	
						NR	NR	NR	NR	NR	5.9	NR	NR	NR	NR	NR	NR	NR								
Parotid gland (C070-C079)																										
M									<5		<5			<5				<5	<b>8</b>	<b>0.4</b>	0.1-0.7	88.0	0.0	2063	0.6 (0.2-1.0)	
									NR		NR			NR				NR								
F					<5		<5		<5		<5		<5	<5		<5		<5	<b>11</b>	<b>0.6</b>	0.2-1.0	100.0	0.1	1952	0.8 (0.3-1.3)	
					NR		NR		NR		NR		NR	NR		NR		NR								
Major salivary glands (not parotid) (C080-C089)																										
M						<5		<5			<5								<b>&lt;5</b>	<b>0.2</b>	0 - 0.4	100.0	0.0	6562	0.2 (0 - 0.5)	
						NR		NR			NR															
F												<5	<5	<5					<b>&lt;5</b>	<b>0.2</b>	0 - 0.4	100.0	0.0	4295	0.2 (0 - 0.4)	
												NR	NR	NR												
Pharynx (C090-C149) (not C11)																										
M							<5	<5	7	15	15	14	14	5	<5	<5			<b>80</b>	<b>4.2</b>	3.3-5.2	93.0	0.6	171	6.0 (4.7-7.4)	
							NR	NR	8.2	19.9	22.7	25.3	36.5	19.0	NR	NR										
F							<5		<5	<5	<5	<5	<5	<5	<5	<5			<b>16</b>	<b>0.9</b>	0.4-1.3	94.0	0.1	917	1.2 (0.6-1.7)	
							NR		NR	NR	NR	NR	NR	NR	NR	NR										
Nasopharynx (C110-C119)																										
M					<5	<5		<5	<5		<5		<5						<b>8</b>	<b>0.5</b>	0.2-0.9	100.0	0.1	1882	0.6 (0.2-1.0)	
					NR	NR		NR	NR		NR		NR													
F															<5				<b>&lt;5</b>	<b>0.0</b>	0 - 0.1	100.0	0.0	*	0.1 (0 - 0.3)	
															NR											
Oesophagus (C150-C159)																										
M							<5	<5	<5	10	10	15	15	12	9	6			<b>86</b>	<b>4.2</b>	3.3-5.1	95.0	0.5	191	6.9 (5.4-8.4)	
							NR	NR	NR	13.3	15.2	27.1	39.1	45.6	50.0	41.8										
F							<5	<5	<5	<5	<5	6	<5	<5	<5	13			<b>42</b>	<b>1.7</b>	1.1-2.2	93.0	0.2	540	2.8 (2.0-3.7)	
							NR	NR	NR	NR	NR	11.0	NR	NR	NR	50.7										
Stomach (C160-C169)																										
M				<5	<5	<5	<5	<5	<5	10	12	13	11	22	23	12	17		<b>128</b>	<b>6.1</b>	5.0-7.2	96.0	0.7	151	10.7 (8.9-12.6)	
				NR	NR	NR	NR	NR	NR	11.7	15.9	19.7	19.9	57.4	87.3	66.7	118.5									
F					<5	<5	<5	<5	<5	<5	<5	6	5	9	10	11	15		<b>69</b>	<b>2.8</b>	2.1-3.5	94.0	0.3	355	5.0 (3.8-6.2)	
					NR	NR	NR	NR	NR	NR	NR	NR	9.0	9.2	22.9	33.4	46.9	58.5								
Small intestine (C170-C179)																										
M							<5	<5	<5	<5		<5	8	6	5	<5	<5		<b>29</b>	<b>1.5</b>	0.9-2.0	97.0	0.2	514	2.3 (1.5-3.2)	
							NR	NR	NR	NR		NR	14.4	15.7	19.0	NR	NR									
F							<5	<5	<5	<5	<5	<5	<5	<5		<5	<5		<b>18</b>	<b>0.8</b>	0.4-1.2	94.0	0.1	1124	1.3 (0.7-1.9)	
							NR	NR	NR	NR	NR	NR	NR	NR		NR	NR									



### Appendix 3A. Cancer incidence, Western Australia, 2014

(age-based case counts and aspr/100,000, and total-population ASR, by sex)

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+ u/k	Total	ASR	95% c.i.	TD%	CumInc	Risk	ASR2	
Lung, bronchus & trachea (C330-C349)																										
M						<5		<5	6	12	23	60	76	113	88	102	78	61	<b>623</b>	<b>29.5</b>	27.1-31.9	87.0	3.4	30	50.8 (46.8-54.9)	
						NR		NR	6.1	13.8	26.9	79.6	115.2	203.9	229.7	387.2	433.5	425.4								
F	<5								<5	<5	13	30	56	59	78	78	62	53	49	<b>484</b>	<b>22.1</b>	20.0-24.2	87.0	2.8	36	35.1 (31.9-38.2)
	NR								NR	NR	15.4	35.3	73.7	88.9	143.2	198.5	206.8	225.8	191.2							
Thymus (C370-C379)																										
M														<5			<5		<b>&lt;5</b>	<b>0.1</b>	0 - 0.3	100.0	0.0	5542	0.2 (0 - 0.5)	
														NR			NR									
F																			<b>0</b>							
Pleura, heart & mediastinum (C380-C389)																										
M			<5			<5		<5				<5	<5	<5				<5	<b>5*</b>	<b>0.5</b>	0.1-0.8	100.0	0.0	2525	0.5 (0.1-0.9)	
			NR			NR		NR				NR	NR	NR				NR								
F	<5														<5				<b>&lt;5</b>	<b>0.2</b>	0 - 0.5	100.0	0.0	5355	0.2 (0 - 0.4)	
	NR														NR											
Bones, joints & articular cartilages (C400-C419)																										
M	<5		<5	<5		<5	<5	<5				<5		<5	<5		<5		<b>16</b>	<b>1.2</b>	0.6-1.8	94.0	0.1	1170	1.3 (0.7-2.0)	
	NR		NR	NR		NR	NR	NR				NR		NR	NR		NR									
F	<5			<5									<5		<5				<b>&lt;5</b>	<b>0.4</b>	0 - 0.8	100.0	0.0	3062	0.3 (0.0-0.6)	
	NR			NR									NR		NR											
Skin (melanoma only) (C440-C449; M-8720 - 8790)																										
M				<5	8	<5	18	20	26	47	73	65	100	134	80	83	58	58	<b>774</b>	<b>40.2</b>	37.3-43.1	99.0	4.5	23	61.1 (56.7-65.5)	
				NR	8.2	NR	17.5	22.7	26.4	54.1	85.4	86.2	151.6	241.8	208.8	315.1	322.4	404.4								
F	<5			<5	5*	12	13	26	38	52	54	46	50	61	55	44	28	43	<b>530</b>	<b>28.1</b>	25.6-30.7	100.0	3.1	33	39.6 (36.2-43.0)	
	NR			NR	6.5	11.4	13.6	30.6	40.3	61.7	63.5	60.5	75.3	112.0	140.0	146.8	119.3	167.8								
Skin (not melanoma/SCC/BCC) (C440-C449)																										
M						<5	<5	<5	<5	8	5	8	8	16	11	6	11		<b>80</b>	<b>3.9</b>	3.0-4.8	80.0	0.5	218	6.7 (5.2-8.1)	
						NR	NR	NR	NR	9.4	6.6	12.1	14.4	41.8	41.8	33.3	76.7									
F			<5	<5	<5		<5	<5		<5	5	<5	<5	<5	<5	10	8		<b>44</b>	<b>1.9</b>	1.2-2.5	89.0	0.2	630	3.2 (2.2-4.1)	
			NR	NR	NR		NR	NR		NR	6.6	NR	NR	NR	NR	42.6	31.2									
Mesothelioma (M905; ICD10 C45)																										
M							<5	<5	<5	<5	6	11	21	6	18	12			<b>83</b>	<b>3.7</b>	2.9-4.6	95.0	0.5	212	7.0 (5.5-8.5)	
							NR	NR	NR	NR	9.1	19.9	54.8	22.8	100.0	83.7										
F									<5	<5	<5	<5	<5	<5	<5	<5	5		<b>18</b>	<b>0.7</b>	0.3-1.0	100.0	0.1	1300	1.2 (0.6-1.8)	
									NR	NR	NR	NR	NR	NR	NR	NR	19.5									
Kaposi sarcoma (M914; ICD10 C46)																										
M											<5		<5		<5				<b>&lt;5</b>	<b>0.1</b>	0 - 0.3	100.0	0.0	6388	0.2 (0 - 0.5)	
											NR		NR		NR											
F															<5				<b>&lt;5</b>	<b>0.1</b>	0 - 0.2	100.0	0.0	5182	0.2 (0 - 0.4)	
											NR				NR											
Nervous system, peripheral/autonomic (C470-C479)																										
M								<5											<b>&lt;5</b>	<b>0.1</b>	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.2)	
								NR																		
F																			<b>0</b>							

**Appendix 3A. Cancer incidence, Western Australia, 2014***(age-based case counts and aspr/100,000, and total-population ASR, by sex)*

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85 + u/k	Total	ASR	95% c.i.	TD%	CumInc	Risk	ASR2	
<b>Retroperitoneum and peritoneum (C480-C489)</b>																										
M						<5 NR		<5 NR		<5 NR			<5 NR					<5 NR	<b>7</b>	<b>0.4</b>	0.1-0.7	86.0	0.0	2600	0.5 (0.1-0.9)	
F												<5 NR	<5 NR	<5 NR	<5 NR			<5 NR	<b>6</b>	<b>0.3</b>	0.0-0.5	100.0	0.0	2853	0.4 (0.1-0.8)	
<b>Connective, subcutaneous &amp; other soft tissues (C490-C499)</b>																										
M		<5 NR		<5 NR	<5 NR		<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	5 6.6	<5 NR	7 12.6	5 13.0	6 22.8	5 27.8	<5 NR	<b>51</b>	<b>2.8</b>	2.0-3.6	98.0	0.3	364	4.1 (3.0-5.3)	
F				<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR		<5 NR	<5 NR	<5 NR	<5 NR	<b>24</b>	<b>1.4</b>	0.8-2.0	100.0	0.1	784	1.8 (1.0-2.5)	
<b>Breast (C500-C509)</b>																										
M													<5 NR	6 10.8	<5 NR	<5 NR		<5 NR	<b>14</b>	<b>0.7</b>	0.3-1.1	100.0	0.1	1113	1.1 (0.5-1.6)	
F				<5 NR	10* 13.3	33 34.6	61 71.8	115 122.0	173 205.2	199 234.1	206 271.0	215 324.0	197 361.6	220 559.8	133 443.6	84 357.9	86 335.6		<b>1737</b>	<b>92.6</b>	88.1-97.1	99.0	11.0	10	130.0 (124-136)	
<b>Vulva (C510-C519)</b>																										
F								<5 NR	<5 NR		<5 NR	<5 NR	<5 NR	<5 NR	5 12.7	<5 NR	<5 NR	5 19.5	<b>29</b>	<b>1.3</b>	0.8-1.8	100.0	0.2	636	2.1 (1.3-2.9)	
<b>Vagina (C520-C529)</b>																										
F								<5 NR	<5 NR		<5 NR	<5 NR		<5 NR				<5 NR	<b>7</b>	<b>0.3</b>	0.1-0.6	100.0	0.0	2627	0.5 (0.1-0.9)	
<b>Cervix uteri (C530-C539)</b>																										
F				<5 NR	15 14.3	17 17.8	13 15.3	17 18.0	9 10.7	5 5.9	7 9.2	8 12.1	6 11.0	<5 NR	<5 NR	<5 NR	<5 NR		<b>113</b>	<b>7.1</b>	5.7-8.4	99.0	0.6	156	8.6 (7.0-10.2)	
<b>Corpus uteri (C540-C549)</b>																										
F				<5 NR	<5 NR	<5 NR	5 5.3	5 5.9	22 25.9	32 42.1	35 52.7	36 66.1	21 53.4	17 56.7	8 34.1	12 46.8			<b>198</b>	<b>10.1</b>	8.7-11.6	99.0	1.3	78	14.2 (12.2-16.2)	
<b>Uterus, nos (C550-C559)</b>																										
F																			<b>0</b>							
<b>Ovary (C560-C569)</b>																										
F				<5 NR	<5 NR	<5 NR	6 6.4	9 10.7	10 11.8	12 15.8	17 25.6	22 40.4	22 56.0	15 50.0	8 34.1	14 54.6			<b>142</b>	<b>7.0</b>	5.8-8.3	94.0	0.9	116	10.4 (8.7-12.1)	
<b>Uterine adnexa &amp; oth. fem gen. (C570-C579)</b>																										
F											<5 NR	8 14.7	<5 NR	<5 NR	<5 NR				<b>14</b>	<b>0.7</b>	0.3-1.0	100.0	0.1	1079	1.0 (0.5-1.5)	
<b>Placenta (C580-C589)</b>																										
F					<5 NR														<b>&lt;5</b>	<b>0.1</b>	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.2)	
<b>Penis (C600-C609)</b>																										
M								<5 NR	<5 NR	<5 NR	<5 NR	<5 NR					<5 NR	<5 NR	<b>12</b>	<b>0.7</b>	0.3-1.0	100.0	0.1	1673	0.9 (0.4-1.5)	
<b>Prostate gland (C610-C619)</b>																										
M					<5 NR	10* 10.2	40 46.1	113 132.3	218 289.2	361 547.2	450 812.1	324 845.6	206 782.1	134 744.8	88 613.6				<b>1945</b>	<b>99.4</b>	94.9-103.9	98.0	13.4	8	149.5 (143-156)	
<b>Testis (C620-C629)</b>																										
M		<5 NR	<5 NR	10 10.2	11 9.5	13 12.6	18 20.4	11 11.2	<5 NR	5 5.9	<5 NR	<5 NR	<5 NR						<b>83</b>	<b>5.7</b>	4.4-6.9	100.0	0.4	224	6.3 (4.9-7.6)	

### Appendix 3A. Cancer incidence, Western Australia, 2014

(age-based case counts and aspr/100,000, and total-population ASR, by sex)

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+ u/k	Total	ASR	95% c.i.	TD%	CumInc	Risk	ASR2	
<b>Other male genital (C630-C639)</b>																										
M								<5 NR							<5 NR				<5	<b>0.1</b>	0 - 0.3	100.0	0.0	5342	0.2 (0 - 0.4)	
<b>Kidney (C640-C649)</b>																										
M	<5 NR	<5 NR				<5 NR	<5 NR	5 5.7	13 13.2	26 29.9	14 16.4	30 39.8	34 51.5	31 55.9	25 65.2	13 49.4	13 72.3	12 83.7		<b>225</b>	<b>12.6</b>	10.9-14.3	94.0	1.4	70	17.3 (15.1-19.6)
F	<5 NR				<5 NR	<5 NR	<5 NR	6 6.4	12 14.2	9 10.6	13 17.1	14 21.1	15 27.5	19 48.3	14 46.7	9 38.3	5 19.5		<b>123</b>	<b>6.5</b>	5.3-7.7	93.0	0.8	131	9.3 (7.6-10.9)	
<b>Bladder &amp; urinary tract (C650-C689)</b>																										
M									<5 NR	7 8.2	5 6.6	20 30.3	31 55.9	32 83.5	35 132.9	41 227.9	34 237.1		<b>209</b>	<b>9.2</b>	7.9-10.5	97.0	0.9	106	17.9 (15.4-20.3)	
F								<5 NR	<5 NR	<5 NR		5 7.5	14 25.7	14 35.6	11 36.7	12 51.1	17 66.3		<b>80</b>	<b>3.2</b>	2.4-3.9	95.0	0.4	260	5.7 (4.4-7.0)	
<b>Eye &amp; lacrimal gland (C690-C699)</b>																										
M	<5 NR					<5 NR		<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR		<5 NR		<b>15</b>	<b>1.0</b>	0.4-1.5	80.0	0.1	1178	1.2 (0.6-1.8)	
F	<5 NR						<5 NR		<5 NR	<5 NR	<5 NR	<5 NR	5 12.7	<5 NR	<5 NR		<5 NR		<b>16</b>	<b>1.0</b>	0.4-1.5	75.0	0.1	818	1.2 (0.6-1.8)	
<b>Meninges (cerebral &amp; spinal) (C700-C709)</b>																										
M												<5 NR		<5 NR					<5	<b>0.1</b>	0 - 0.3	100.0	0.0	6388	0.1 (0 - 0.3)	
F												<5 NR							<5	<b>0.1</b>	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.2)	
<b>Brain (C710-C719)</b>																										
M	<5 NR	<5 NR	<5 NR		<5 NR	7 6.0	<5 NR	<5 NR	<5 NR	9 10.4	9 10.5	8 10.6	19 28.8	16 28.9	8 20.9	10 38.0	<5 NR	5 34.9		<b>112</b>	<b>6.6</b>	5.4-7.9	91.0	0.7	148	8.5 (6.9-10.2)
F	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR		<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	11 14.5	7 10.5	8 14.7	10 25.4	<5 NR	7 29.8	7 27.3		<b>75</b>	<b>4.3</b>	3.2-5.4	72.0	0.5	220	5.5 (4.3-6.8)
<b>Spinal cord &amp; cranial nerves (C720-C729)</b>																										
M									<5 NR		<5 NR								<5	<b>0.1</b>	0 - 0.3	50.0	0.0	8071	0.1 (0 - 0.4)	
F	<5 NR	<5 NR											<5 NR		<5 NR				<5	<b>0.4</b>	0 - 0.8	75.0	0.0	5082	0.3 (0.0-0.6)	
<b>Thyroid gland (C730-C739)</b>																										
M				<5 NR	<5 NR	<5 NR	6 5.8	7 7.9	9 9.2	10 11.5	12 14.0	9 11.9	9 13.6	<5 NR	5 13.0	<5 NR	<5 NR	<5 NR		<b>83</b>	<b>5.1</b>	3.9-6.2	100.0	0.5	197	6.4 (5.0-7.8)
F		<5 NR	<5 NR	<5 NR	9 9.8	8 7.6	9 9.4	19 22.4	18 19.1	13 15.4	38 44.7	21 27.6	15 22.6	14 25.7	15 38.2	5 16.7	<5 NR	<5 NR		<b>195</b>	<b>11.9</b>	10.2-13.7	99.0	1.2	81	15.0 (12.8-17.1)
<b>Adrenal gland (C740-C749)</b>																										
M	<5 NR																		<5	<b>0.1</b>	0 - 0.4	100.0	0.0	*	0.1 (0 - 0.2)	
F	<5 NR											<5 NR							<5	<b>0.5</b>	0 - 1.0	100.0	0.0	4092	0.3 (0.0-0.6)	
<b>Endocrine glands (not adrenal) (C750-C759)</b>																										
M				<5 NR					<5 NR		<5 NR								<5 NR	<b>0.3</b>	0 - 0.5	50.0	0.0	5422	0.3 (0.0-0.7)	
F																				<b>0</b>						

**Appendix 3A. Cancer incidence, Western Australia, 2014***(age-based case counts and aspr/100,000, and total-population ASR, by sex)*

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85 + u/k	Total	ASR	95% c.i.	TD%	CumInc	Risk	ASR2	
<b>LYMPHOMAS</b>																										
Lymphoma, NOS / unclassifiable																										
M														<5 NR	<5 NR		<5 NR	<5 NR		<b>6</b>	<b>0.3</b>	0.0-0.5	67.0	0.0	3216	0.5 (0.1-0.9)
F				<5 NR						<5 NR			<5 NR				<5 NR	<5 NR		<b>8</b>	<b>0.4</b>	0.0-0.7	38.0	0.0	5022	0.6 (0.2-1.0)
Hodgkin lymphoma																										
M			<5 NR	5	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR		<5 NR	<5 NR	<5 NR		<5 NR			<b>28</b>	<b>2.1</b>	1.3-2.8	100.0	0.2	623	2.1 (1.3-2.9)
F			<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR		<5 NR	<5 NR	<5 NR	<5 NR			<5 NR		<b>26</b>	<b>1.8</b>	1.1-2.5	100.0	0.2	619	2.0 (1.2-2.8)
All NHL																										
M		<5 NR	<5 NR	<5 NR	5	<5 NR	<5 NR	<5 NR	12	8	30	37	41	36	40	30	17	18		<b>291</b>	<b>15.6</b>	13.8-17.5	99.0	1.8	56	22.9 (20.2-25.6)
F				<5 NR	<5 NR	5	8	7	10	10	20	22	40	29	31	23	20			<b>229</b>	<b>10.9</b>	9.4-12.4	100.0	1.3	78	16.9 (14.7-19.1)
NHL, mature B cell																										
M		<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	8	6	25	26	34	23	23	21	12	9			<b>199</b>	<b>10.7</b>	9.2-12.3	99.0	1.2	82	15.5 (13.3-17.7)
F				<5 NR	<5 NR	<5 NR	6	8	<5 NR	16	16	31	17	20	19	13				<b>158</b>	<b>7.4</b>	6.2-8.7	99.0	0.9	115	11.5 (9.7-13.3)
NHL, mature T/NK cell																										
M		<5 NR		<5 NR	<5 NR		<5 NR	<5 NR	<5 NR	5	<5 NR	<5 NR	<5 NR	7	<5 NR	<5 NR	<5 NR			<b>33</b>	<b>1.8</b>	1.2-2.5	100.0	0.2	445	2.6 (1.7-3.5)
F				<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR				<b>22</b>	<b>1.3</b>	0.7-1.8	100.0	0.1	695	1.7 (1.0-2.4)
NHL, precursor cell lymphoblastic																										
M		<5 NR		<5 NR			<5 NR													<b>&lt;5</b>	<b>0.2</b>	0 - 0.5	100.0	0.0	6331	0.2 (0 - 0.5)
F																				<b>0</b>						
NHL, other/unclassifiable																										
M			<5 NR	<5 NR		<5 NR		<5 NR	<5 NR	<5 NR	6	5	9	10	5	<5 NR	8			<b>56</b>	<b>2.8</b>	2.1-3.6	96.0	0.3	296	4.5 (3.3-5.7)
F				<5 NR		<5 NR		<5 NR	5	<5 NR	<5 NR	6	9	9	<5 NR	6				<b>49</b>	<b>2.2</b>	1.6-2.9	100.0	0.3	377	3.7 (2.6-4.7)
Lymphomas (all)																										
M		<5 NR	<5 NR	8	7	7	5	6	15	11	31	37	43	39	42	30	19	20		<b>325</b>	<b>17.9</b>	15.9-20.0	98.0	2.0	51	25.5 (22.7-28.3)
F				<5 NR	5	6	7	12	9	12	10	22	25	41	31	31	27	22		<b>263</b>	<b>13.1</b>	11.4-14.8	98.0	1.5	69	19.4 (17.1-21.8)
<b>MYELOMA</b>																										
Myeloma/plasma cell tumours																										
M							<5 NR		<5 NR	6	8	15	17	15	11	17	15	15		<b>122</b>	<b>5.9</b>	4.8-6.9	98.0	0.6	166	9.9 (8.1-11.7)
F							<5 NR	<5 NR	<5 NR	<5 NR	6	7	9	8	8	9	5			<b>63</b>	<b>2.9</b>	2.1-3.7	98.0	0.3	295	4.6 (3.5-5.8)



### Appendix 3A. Cancer incidence, Western Australia, 2014

(age-based case counts and aspr/100,000, and total-population ASR, by sex)

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85 + u/k	Total	ASR	95% c.i.	TD%	CumInc	Risk	ASR2	
<b>LEUKAEMIAS</b>																										
Leukaemias, NOS/unclassifiable																										
M																			<5 NR	<5	0.0	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.3)
F																			<5 NR	<5	0.0	0 - 0.1	100.0	0.0	*	0.1 (0 - 0.3)
Leukaemias, lymphoid, all																										
M	8 9.1	<5 NR	<5 NR	<5 NR	<5 NR			<5 NR	<5 NR	<5 NR	<5 NR	8 10.6	12 18.2	14 25.3	18 47.0	14 53.1	12 66.7	7 48.8		109	6.4	5.0-7.7	100.0	0.6	156	8.9 (7.2-10.6)
F	5 6.0	<5 NR	<5 NR	<5 NR			<5 NR	<5 NR	<5 NR	<5 NR	5 6.6	6 9.0	6 11.0	9 22.9	10 33.4	<5 NR	7 27.3		67	4.0	2.9-5.1	100.0	0.4	273	5.1 (3.8-6.3)	
Leukaemias, lymphoid, acute																										
M	8 9.1	<5 NR	<5 NR	<5 NR	<5 NR					<5 NR	<5 NR	<5 NR			<5 NR	<5 NR			19	2.0	1.1-3.0	100.0	0.1	823	1.5 (0.8-2.1)	
F	5 6.0	<5 NR	<5 NR	<5 NR			<5 NR			<5 NR	<5 NR							<5 NR	16	1.7	0.8-2.6	100.0	0.1	1085	1.3 (0.6-1.9)	
Leukaemias, lymphoid, chronic																										
M									<5 NR	<5 NR	<5 NR	6 8.0	12 18.2	13 23.5	14 36.5	12 45.6	12 66.7	6 41.8		80	3.8	2.9-4.7	100.0	0.5	218	6.5 (5.1-8.0)
F									<5 NR	<5 NR	<5 NR	<5 NR	5 7.5	<5 NR	9 22.9	9 30.0	<5 NR	5 19.5		45	2.0	1.4-2.6	100.0	0.2	412	3.4 (2.4-4.4)
Leukaemias, lymphoid, other/NOS																										
M									<5 NR	<5 NR		<5 NR			<5 NR	<5 NR		<5 NR	10	0.5	0.2-0.8	100.0	0.1	1623	0.9 (0.3-1.4)	
F											<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR		<5 NR	6	0.3	0.0-0.5	100.0	0.0	3148	0.4 (0.1-0.8)	
Leukaemias, myeloid, all																										
M	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR			<5 NR	<5 NR		9 10.5	9 11.9	5 7.6	10 18.0	<5 NR	9 34.2	5 27.8	6 41.8		67	3.6	2.7-4.6	100.0	0.3	287	5.4 (4.1-6.7)
F			<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	6 7.1	7 8.2	<5 NR	6 9.0	5 9.2	<5 NR	7 23.3	6 25.6	6 23.4		60	3.2	2.3-4.1	98.0	0.3	339	4.5 (3.3-5.6)	
Leukaemias, myeloid, acute																										
M	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR			<5 NR	<5 NR		6 7.0	7 9.3	<5 NR	8 14.4	<5 NR	7 26.6	<5 NR	5 34.9		49	2.7	1.9-3.5	100.0	0.3	392	3.9 (2.8-5.1)
F			<5 NR	<5 NR	<5 NR			<5 NR	<5 NR	5 5.9	6 7.1	<5 NR	<5 NR	<5 NR	<5 NR	5 16.7	<5 NR	<5 NR		42	2.2	1.5-3.0	98.0	0.2	457	3.2 (2.2-4.1)
Leukaemias, myeloid, chronic																										
M					<5 NR			<5 NR	<5 NR		<5 NR	<5 NR	<5 NR	<5 NR		<5 NR	<5 NR	<5 NR		15	0.8	0.4-1.2	100.0	0.1	1252	1.2 (0.6-1.7)
F			<5 NR		<5 NR	<5 NR	<5 NR	<5 NR	<5 NR		<5 NR	<5 NR	<5 NR				<5 NR		10*	0.6	0.2-1.0	100.0	0.0	2144	0.7 (0.2-1.1)	
Leukaemias, myeloid, other/NOS																										
M															<5 NR	<5 NR	<5 NR		<5	0.1	0 - 0.3	100.0	0.0	7664	0.3 (0 - 0.6)	
F													<5 NR	<5 NR	<5 NR	<5 NR	<5 NR		9	0.3	0.1-0.5	100.0	0.0	3398	0.6 (0.2-1.1)	



### Appendix 3A. Cancer incidence, Western Australia, 2014

(age-based case counts and aspr/100,000, and total-population ASR, by sex)

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85 + u/k	Total	ASR	95% c.i.	TD%	CumInc	Risk	ASR2	
Chronic myeloproliferative d/o, all																										
M	<5				<5	<5		<5			<5	<5	<5	<5	<5	<5	<5	<5		26	1.4	0.8-1.9	85.0	0.1	786	2.1 (1.3-2.9)
	NR				NR	NR		NR			NR	NR	NR	NR	NR	NR	NR	NR								
F						<5					<5	<5	<5	<5	<5	<5	<5	<5		13	0.6	0.3-1.0	100.0	0.1	1348	0.9 (0.4-1.4)
						NR					NR	NR	NR	NR	NR	NR	NR	NR								
<b>OTHER CHRONIC IMMUNOPROLIFERATIVE DISEASES</b>																										
Mast cell tumours																										
M														<5		<5				<5	0.1	0 - 0.2	100.0	0.0	*	0.2 (0 - 0.4)
														NR		NR										
F						<5														<5	0.1	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.2)
						NR																				
Histiocytic/dendritic cell malignancies																										
M									<5											<5	0.1	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.2)
									NR																	
F		<5										<5								<5	0.2	0 - 0.4	100.0	0.0	7833	0.2 (0 - 0.4)
		NR										NR														
Other & U/S immunoproliferative neoplasms																										
M											<5			<5	<5	<5				6	0.3	0.1-0.6	100.0	0.0	2001	0.5 (0.1-0.9)
											NR			NR	NR	NR										
F																		<5		<5	0.0	0 - 0.1	100.0	0.0	*	0.1 (0 - 0.3)
																		NR								
Other chronic immunoproliferative d/o, all																										
M									<5		<5			<5	<5	<5				9	0.5	0.2-0.8	100.0	0.1	1560	0.7 (0.2-1.2)
									NR		NR			NR	NR	NR										
F		<5				<5					<5							<5		5	0.3	0 - 0.6	100.0	0.0	5703	0.3 (0.0-0.6)
		NR				NR					NR							NR								
Unknown primary site (C26, C39, C76, C80; Behaviour 6/9)																										
M								<5	<5	<5	10	8	19	17	19	21	24			125	5.5	4.5-6.5	70.0	0.6	180	10.6 (8.7-12.5)
								NR	NR	NR	13.3	12.1	34.3	44.4	72.1	116.7	167.4									
F							<5	<5	<5	8	6	6	9	8	10	11	47			110	3.9	3.1-4.7	54.0	0.3	291	7.3 (5.9-8.7)
							NR	NR	NR	9.4	7.9	9.0	16.5	20.4	33.4	46.9	183.4									
<b>All cancers</b>																										
M	20	10	11	29	38	44	68	91	138	264	450	691	951	1184	939	766	617	505		6816	348.9	340.4-357.4	95.0	41.2	3	539.9 (527-553)
	22.7	11.9	14.1	35.1	38.7	37.9	65.9	103.2	140.3	304.1	526.7	916.5	1441.5	2137	2451	2908	3429	3521								
F	19	9	7	15	39	77	110	164	261	360	494	566	608	659	665	534	415	546		5548	279.3	271.5-287.1	95.0	31.7	4	408.3 (398-419)
	22.6	11.1	9.2	19.3	42.3	73.4	115.2	193.0	276.8	427.1	581.1	744.5	916.1	1210	1692	1781	1768	2131								



### Appendix 3B. Cancer mortality, Western Australia, 2014

(age-based case counts and aspr/100,000, and total-population ASR, by sex)

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total	ASR	95% c.i.	PYLL	CumInc	Risk	ASR2	
<b>Lip, gum &amp; mouth (C000-C069) (not C01 C02)</b>																										
M									1	1	1		1	3	1		4	1	13	0.6	0.3-1.0	111.6	0.1	1553	1.1 (0.5-1.6)	
									1.0	1.2	1.2		1.5	5.4	2.6		22.2	7.0								
F												<5		<5			<5		<5	0.2	0 - 0.4	31.0	0.0	4012	0.3 (0.0-0.5)	
												NR		NR			NR									
<b>Tongue (C010-C029)</b>																										
M										<5		<5	<5	<5	<5		<5		8	0.4	0.1-0.7	72.1	0.1	1560	0.6 (0.2-1.0)	
										NR		NR	NR	NR	NR		NR									
F						<5				<5	<5	<5			<5	<5	<5	<5	10	0.5	0.2-0.8	136.3	0.1	1836	0.8 (0.3-1.2)	
						NR				NR	NR	NR			NR	NR	NR	NR								
<b>Parotid gland (C070-C079)</b>																										
M														<5					<5	0.1	0 - 0.2	7.0	0.0	*	0.1 (0 - 0.2)	
														NR												
F																			0						-	
<b>Major salivary glands (not parotid) (C080-C089)</b>																										
M																			0						-	
F																			0						-	
<b>Pharynx (C090-C149) (not C11)</b>																										
M											<5	<5	7	<5	5	<5	<5	<5	30	1.5	0.9-2.1	255.4	0.2	537	2.4 (1.5-3.2)	
											NR	NR	10.6	NR	13.0	NR	NR	NR								
F												<5		<5			<5	<5	8	0.3	0.1-0.6	38.2	0.0	2831	0.5 (0.2-0.9)	
												NR		NR			NR	NR								
<b>Nasopharynx (C110-C119)</b>																										
M										<5		<5					<5		<5	0.1	0 - 0.3	41.7	0.0	8071	0.2 (0 - 0.5)	
										NR		NR					NR									
F											<5								<5	0.1	0 - 0.2	21.4	0.0	*	0.1 (0 - 0.2)	
											NR															
<b>Oesophagus (C150-C159)</b>																										
M										5	<5	8	10	11	11	7	7	8	69	3.4	2.6-4.2	518.8	0.4	243	5.5 (4.2-6.9)	
										5.8	NR	10.6	15.2	19.9	28.7	26.6	38.9	55.8								
F										<5		<5	<5	<5	<5	<5	<5	10	26	0.9	0.5-1.3	138.6	0.1	1217	1.7 (1.1-2.4)	
										NR		NR	NR	NR	NR	NR	NR	39.0								
<b>Stomach (C160-C169)</b>																										
M										<5	<5	<5	6	7	9	9	15	10	71	3.2	2.5-4.0	435.7	0.3	309	6.0 (4.6-7.4)	
										NR	NR	NR	8.0	10.6	16.2	23.5	56.9	55.6								
F											<5	<5	<5	<5	<5	<5	9	7	33	1.2	0.8-1.7	183.8	0.1	910	2.4 (1.5-3.2)	
											NR	NR	NR	NR	NR	NR	38.3	27.3								
<b>Small intestine (C170-C179)</b>																										
M														<5	<5			<5	6	0.3	0.0-0.5	30.2	0.0	4136	0.5 (0.1-0.9)	
														NR	NR			NR								
F											<5			<5	<5		<5	<5	13	0.5	0.2-0.8	50.1	0.1	1398	0.9 (0.4-1.4)	
											NR			NR	NR		NR	NR								

**Appendix 3B. Cancer mortality, Western Australia, 2014***(age-based case counts and aspr/100,000, and total-population ASR, by sex)*

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total	ASR	95% c.i.	PYLL	CumInc	Risk	ASR2	
<b>Colorectal cancer (C18-C20, C218)</b>																										
M						<5 NR	<5 NR		<5 NR	5 5.8	<5 NR	16 21.2	28 42.4	39 70.4	30 78.3	38 144.3	37 205.6	40 278.9	<b>241</b>	<b>10.9</b>	9.5-12.3	1298.6	1.1	89	20.1 (17.5-22.7)	
F						<5 NR	<5 NR	<5 NR	<5 NR	7 8.3	<5 NR	14 18.4	15 22.6	18 33.0	19 48.3	23 76.7	32 136.4	59 230.2	<b>199</b>	<b>7.5</b>	6.3-8.6	1169.3	0.7	139	13.7 (11.8-15.7)	
<b>Colon (C180-C189)</b>																										
M						<5 NR	<5 NR		<5 NR	<5 NR	11 14.6	13 19.7	22 39.7	13 33.9	29 110.1	30 166.7	29 202.2		<b>156</b>	<b>6.8</b>	5.7-7.9	764.7	0.6	170	13.3 (11.2-15.5)	
F						<5 NR		<5 NR	<5 NR	6 7.1	<5 NR	10 13.2	10 15.1	15 27.5	12 30.5	19 63.4	23 98.0	44 171.7	<b>146</b>	<b>5.4</b>	4.5-6.4	802.5	0.5	198	10.1 (8.4-11.7)	
<b>Rectosigmoid junction &amp; rectum (C190-C209)</b>																										
M							<5 NR	<5 NR	<5 NR	<5 NR	5 6.6	15* 22.7	17 30.7	17 44.4	9 34.2	7 38.9	11 76.7		<b>85</b>	<b>4.1</b>	3.2-5.1	531.9	0.5	184	6.8 (5.3-8.2)	
F						<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	5 7.5	<5 NR	<5 NR	7 17.8	<5 NR	9 38.3	15 58.5	<b>53</b>	<b>2.1</b>	1.4-2.7	365.9	0.2	469	3.7 (2.7-4.7)	
<b>Anus (C210-C219)</b>																										
M											<5 NR	<5 NR		<5 NR	<5 NR				<b>6</b>	<b>0.3</b>	0.1-0.6	39.6	0.1	1902	0.5 (0.1-0.9)	
F											<5 NR			<5 NR		<5 NR			<b>&lt;5</b>	<b>0.2</b>	0 - 0.4	45.2	0.0	4084	0.3 (0.0-0.6)	
<b>Liver &amp; intrahepatic bile ducts (C220-C229)</b>																										
M							<5 NR	<5 NR		<5 NR	<5 NR	12 15.9	17 25.8	15 27.1	11 28.7	12 45.6	<5 NR	10 69.7	<b>87</b>	<b>4.4</b>	3.4-5.3	707.8	0.5	190	6.8 (5.4-8.3)	
F								<5 NR	5 5.9	<5 NR	<5 NR	<5 NR	<5 NR	5 9.2	<5 NR	5 16.7	5 21.3	6 23.4	<b>39</b>	<b>1.8</b>	1.2-2.4	383.5	0.2	583	2.8 (1.9-3.7)	
<b>Gallbladder &amp; bile ducts (C230-C249)</b>																										
M							<5 NR			<5 NR	<5 NR	6 9.1	<5 NR	5 13.0	<5 NR	<5 NR	7 48.8		<b>32</b>	<b>1.5</b>	1.0-2.0	197.9	0.2	583	2.6 (1.7-3.5)	
F								<5 NR		<5 NR	<5 NR	<5 NR	<5 NR	6 15.3	7 23.3	7 29.8	<5 NR		<b>32</b>	<b>1.2</b>	0.8-1.7	114.6	0.1	720	2.4 (1.5-3.2)	
<b>Pancreas (C250-C259)</b>																										
M							<5 NR	<5 NR	<5 NR	5 5.9	9 11.9	8 12.1	18 32.5	18 47.0	14 53.1	24 133.4	11 76.7		<b>111</b>	<b>5.0</b>	4.0-6.0	634.0	0.6	176	9.3 (7.5-11.0)	
F										<5 NR	10 13.2	14 21.1	12 22.0	12 30.5	14 46.7	14 59.7	33 128.8		<b>112</b>	<b>4.2</b>	3.4-5.1	513.3	0.5	222	7.6 (6.2-9.0)	
<b>Nasal cavity/sinuses, middle &amp; inner ear (C300-C319)</b>																										
M											<5 NR			<5 NR			<5 NR		<b>5</b>	<b>0.2</b>	0.0-0.4	25.6	0.0	3130	0.4 (0.1-0.8)	
F								<5 NR						<5 NR			<5 NR		<b>&lt;5</b>	<b>0.1</b>	0 - 0.3	38.1	0.0	6907	0.2 (0 - 0.4)	
<b>Larynx (C320-C329)</b>																										
M											<5 NR	<5 NR	5 9.0	<5 NR	<5 NR	<5 NR			<b>15</b>	<b>0.7</b>	0.3-1.0	67.6	0.1	1171	1.2 (0.6-1.8)	
F								<5 NR							<5 NR		<5 NR		<b>&lt;5</b>	<b>0.1</b>	0 - 0.3	31.0	0.0	*	0.3 (0.0-0.6)	

### Appendix 3B. Cancer mortality, Western Australia, 2014

(age-based case counts and aspr/100,000, and total-population ASR, by sex)

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total	ASR	95% c.i.	PYLL	CumInc	Risk	ASR2	
Lung, bronchus & trachea (C330-C349)																										
M							<5		<5	9	15	42	38	88	76	85	64	69	<b>491</b>	<b>22.5</b>	20.4-24.5	2649.9	2.5	40	41.0 (37.3-44.6)	
							NR		NR	10.4	17.6	55.7	57.6	158.8	198.4	322.7	355.7	481.1								
F									<5	7	18	28	38	51	50	47	32	46	<b>319</b>	<b>13.9</b>	12.3-15.6	2045.6	1.7	58	22.9 (20.4-25.5)	
									NR	8.3	21.2	36.8	57.3	93.6	127.2	156.8	136.4	179.5								
Thymus (C370-C379)																										
M														<5					<b>&lt;5</b>	<b>0.1</b>	0 - 0.3	14.0	0.0	5542	0.1 (0 - 0.3)	
														NR												
F												<5							<b>&lt;5</b>	<b>0.1</b>	0 - 0.2	16.7	0.0	*	0.1 (0 - 0.2)	
												NR														
Pleura, heart & mediastinum (C380-C389)																										
M								<5				<5		<5				<5	<b>6</b>	<b>0.3</b>	0.0-0.5	58.2	0.0	4690	0.5 (0.1-0.9)	
								NR				NR		NR				NR								
F														<5					<b>&lt;5</b>	<b>0.1</b>	0 - 0.2	7.2	0.0	*	0.1 (0 - 0.2)	
														NR												
Bones, joints & articular cartilages (C400-C419)																										
M			<5	<5								<5		<5	<5				<b>5*</b>	<b>NR</b>	0.0-0.7	139.1	0.0	2430	0.4 (0.0-0.7)	
			NR	NR								NR		NR	NR											
F																		<5	<b>&lt;5</b>	<b>0.0</b>	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.2)	
																		NR								
Skin (melanoma only) (C430-C439)																										
M							<5	<5	<5		5	8	12	11	12	16	15	18	<b>102</b>	<b>4.6</b>	3.7-5.6	654.7	0.5	220	8.6 (6.9-10.3)	
							NR	NR	NR		5.9	10.6	18.2	19.9	31.3	60.7	83.4	125.5								
F								<5	<5	<5	<5	<5	6	6	5	<5	6	12	<b>51</b>	<b>2.2</b>	1.5-2.9	422.0	0.2	425	3.6 (2.6-4.6)	
								NR	NR	NR	NR	NR	9.0	11.0	12.7	NR	25.6	46.8								
Skin (non-melanoma; includes SCC-BCC) (C440-C449)																										
M								<5	<5			<5	<5	10	6	8	21		<b>55</b>	<b>2.3</b>	1.7-2.9	144.7	0.2	480	4.9 (3.6-6.2)	
								NR	NR			NR	NR	26.1	22.8	44.5	146.4									
F												<5	<5		<5	5	20*		<b>27</b>	<b>0.6</b>	0.4-0.9	19.1	0.0	5985	1.6 (1.0-2.2)	
												NR	NR		NR	21.3	74.1									
Mesothelioma (M905; ICD10 C45)																										
M								<5	<5	<5	<5	7	7	13	15	19	7		<b>76</b>	<b>3.3</b>	2.5-4.0	323.8	0.3	299	6.6 (5.1-8.1)	
								NR	NR	NR	NR	10.6	12.6	33.9	56.9	105.6	48.8									
F								<5	<5	<5		<5	<5	<5		5	<5		<b>16</b>	<b>0.7</b>	0.3-1.0	135.8	0.1	1376	1.1 (0.6-1.7)	
								NR	NR	NR		NR	NR	NR		21.3	NR									
Kaposi sarcoma (M914; ICD10 C46)																										
M																			<b>0</b>					-		
F																			<b>0</b>					-		
Nervous system, peripheral/autonomic (C470-C479)																										
M																			<b>0</b>					-		
F																			<b>0</b>					-		

**Appendix 3B. Cancer mortality, Western Australia, 2014***(age-based case counts and aspr/100,000, and total-population ASR, by sex)*

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total	ASR	95% c.i.	PYLL	CumInc	Risk	ASR2	
<b>Retroperitoneum and peritoneum (C480-C489)</b>																										
M								<5 NR						<5 NR				<5 NR	<5	<b>0.2</b>	0 - 0.3	42.0	0.0	6806	0.2 (0 - 0.5)	
F													<5 NR				<5 NR		<5	<b>0.1</b>	0 - 0.2	11.9	0.0	*	0.1 (0 - 0.3)	
<b>Connective, subcutaneous &amp; other soft tissues (C490-C499)</b>																										
M			<5 NR	<5 NR						<5 NR	<5 NR				<5 NR	<5 NR	<5 NR	<5 NR	<b>9</b>	<b>0.5</b>	0.1-0.9	162.3	0.0	2694	0.8 (0.3-1.3)	
F							<5 NR	<5 NR					<5 NR	<5 NR	<5 NR				<b>8</b>	<b>0.5</b>	0.1-0.8	124.3	0.1	1558	0.6 (0.2-1.0)	
<b>Breast (C500-C509)</b>																										
M										<5 NR	<5 NR					<5 NR			<5	<b>0.2</b>	0 - 0.4	41.7	0.0	8071	0.4 (0.0-0.7)	
F							<5 NR	<5 NR	13 13.8	12 14.2	20 23.5	21 27.6	27 40.7	34 62.4	19 48.3	29 96.7	25 106.5	43 167.8	<b>249</b>	<b>11.2</b>	9.7-12.7	2343.8	1.2	85	17.8 (15.5-20.0)	
<b>Vulva (C510-C519)</b>																										
F													<5 NR			<5 NR		<5 NR	<b>6</b>	<b>0.2</b>	0.0-0.3	11.9	0.0	*	0.4 (0.1-0.7)	
<b>Vagina (C520-C529)</b>																										
F								<5 NR			<5 NR	<5 NR				<5 NR		<5 NR	<b>6</b>	<b>0.3</b>	0.0-0.5	59.6	0.0	5152	0.4 (0.1-0.8)	
<b>Cervix uteri (C530-C539)</b>																										
F							<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<b>24</b>	<b>1.3</b>	0.7-1.8	348.2	0.2	659	1.8 (1.1-2.5)	
<b>Corpus uteri (C540-C549)</b>																										
F			<5 NR							<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	5 16.7	<5 NR	<5 NR	<b>25</b>	<b>1.2</b>	0.7-1.7	217.8	0.1	808	1.8 (1.1-2.5)	
<b>Uterus, nos (C550-C559)</b>																										
F																			<b>0</b>					-		
<b>Ovary (C560-C569)</b>																										
F							<5 NR	<5 NR	5 5.9	<5 NR	6 7.9	8 12.1	14 25.7	14 35.6	20 66.7	11 46.9	16 62.4		<b>102</b>	<b>4.4</b>	3.4-5.3	680.2	0.5	208	7.5 (6.0-9.0)	
<b>Uterine adnexa &amp; oth. fem gen. (C570-C579)</b>																										
F										<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR			<b>7</b>	<b>0.3</b>	0.1-0.5	42.9	0.0	2832	0.5 (0.1-0.9)	
<b>Placenta (C580-C589)</b>																										
F																			<b>0</b>					-		
<b>Penis (C600-C609)</b>																										
M													<5 NR					<5 NR	<5	<b>0.1</b>	0 - 0.2	11.6	0.0	*	0.2 (0 - 0.4)	
<b>Prostate gland (C610-C619)</b>																										
M											<5 NR	8 12.1	14 25.3	35 91.3	36 136.7	45 250.1	91 634.5		<b>231</b>	<b>9.0</b>	7.8-10.2	307.5	0.7	153	21.1 (18.4-23.9)	
<b>Testis (C620-C629)</b>																										
M								<5 NR											<5	<b>0.1</b>	0 - 0.2	30.2	0.0	*	0.1 (0 - 0.2)	



### Appendix 3B. Cancer mortality, Western Australia, 2014

(age-based case counts and aspr/100,000, and total-population ASR, by sex)

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total	ASR	95% c.i.	PYLL	CumInc	Risk	ASR2												
Other male genital (C630-C639)																																					
M																			0																		
Kidney (C640-C649)																																					
M	<5							<5	<5	<5	6	10	7	<5	6	<5	<5		43	2.3	1.6-3.1	489.6	0.3	388	3.3 (2.3-4.3)												
F	NR							NR	<5	<5	<5	<5	<5	<5	<5	<5	<5	7	25	1.0	0.6-1.5	181.0	0.1	1106	1.7 (1.0-2.4)												
Bladder & urinary tract (C650-C689)																																					
M								<5	<5	5*	<5	10	11	14	22	17			83	3.3	2.6-4.1	256.5	0.3	343	7.3 (5.7-8.9)												
F								NR	<5	NR	5	<5	10*	7	7	10			41	1.5	1.0-2.0	112.3	0.2	556	3.0 (2.0-3.9)												
Eye & lacrimal gland (C690-C699)																																					
M											<5	NR							<5	0.1	0 - 0.2	11.6	0.0	*	0.1 (0 - 0.2)												
F											<5	NR	<5	NR					<5	0.2	0 - 0.4	26.2	0.0	3599	0.2 (0 - 0.5)												
Meninges (cerebral & spinal) (C700-C709)																																					
M											<5	NR							<5	0.1	0 - 0.3	18.6	0.0	5081	0.2 (0 - 0.4)												
F																	<5	NR	<5	0.0	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.2)												
Brain (C710-C719)																																					
M	<5							<5	<5	<5	9	14	11	13	9	11	6	<5	84	4.3	3.4-5.3	906.7	0.5	200	6.6 (5.2-8.0)												
F	NR							NR	NR	NR	10.5	18.6	16.7	23.5	23.5	41.8	33.3	NR	48	2.5	1.7-3.2	611.3	0.3	357	3.5 (2.5-4.5)												
Spinal cord & cranial nerves (C720-C729)																																					
M											<5	NR							<5	0.1	0 - 0.3	54.2	0.0	*	0.1 (0 - 0.2)												
F																<5	NR		<5	0.0	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.3)												
Thyroid gland (C730-C739)																																					
M											<5	<5				<5			<5	0.2	0.0-0.4	39.4	0.0	4590	0.3 (0 - 0.6)												
F											<5	<5				<5	<5	<5	8	0.3	0.1-0.5	26.2	0.0	3863	0.6 (0.2-1.0)												
Adrenal gland (C740-C749)																																					
M	<5	<5						<5											<5	0.3	0 - 0.7	158.9	0.0	5543	0.3 (0 - 0.6)												
F	NR	NR						NR											0						-												
Endocrine glands (not adrenal) (C750-C759)																																					
M								<5											<5	0.1	0 - 0.2	35.0	0.0	*	0.1 (0 - 0.3)												
F								NR											0						-												

**Appendix 3B. Cancer mortality, Western Australia, 2014***(age-based case counts and aspr/100,000, and total-population ASR, by sex)*

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total	ASR	95% c.i.	PYLL	CumInc	Risk	ASR2	
<b>LYMPHOMAS</b>																										
Lymphoma, NOS / unclassifiable																										
M											<5 NR			<5 NR				<5 NR	<5	0.2	0.0-0.3	7.0	0.0	*	0.4 (0.0-0.7)	
F																	<5 NR		<5	0.0	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.3)	
Hodgkin lymphoma																										
M											<5 NR			<5 NR	<5 NR	<5 NR			5	0.2	0.0-0.5	30.2	0.0	3582	0.4 (0.0-0.8)	
F						<5 NR							<5 NR						<5	0.1	0 - 0.3	57.8	0.0	8130	0.1 (0 - 0.3)	
All NHL																										
M					<5 NR	<5 NR			<5 NR	<5 NR	7 10.6	17 30.7	9 23.5	10 38.0	11 61.1	12 83.7			75	3.5	2.7-4.3	472.2	0.4	268	6.2 (4.7-7.6)	
F								<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	6 11.0	8 20.4	9 30.0	7 29.8	14 54.6		56	2.2	1.6-2.8	295.7	0.2	428	4.0 (2.9-5.1)	
NHL, mature B cell																										
M									<5 NR	<5 NR	6 9.1	10 18.0	<5 NR	7 26.6	9 50.0	9 62.8			49	2.2	1.5-2.8	255.9	0.2	490	4.1 (2.9-5.2)	
F								<5 NR	<5 NR	<5 NR	<5 NR	5 9.2	6 15.3	8 26.7	<5 NR	11 42.9		43	1.7	1.1-2.2	219.4	0.2	553	3.1 (2.1-4.0)		
NHL, mature T/NK cell																										
M					<5 NR				<5 NR		<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR			14	0.7	0.3-1.1	133.8	0.1	952	1.1 (0.5-1.7)	
F								<5 NR	<5 NR		<5 NR	<5 NR	<5 NR						6	0.3	0.1-0.5	50.1	0.0	2124	0.5 (0.1-0.8)	
NHL, precursor cell lymphoblastic																										
M						<5 NR													<5	0.1	0 - 0.2	44.8	0.0	*	0.1 (0 - 0.2)	
F									<5 NR										<5	0.1	0 - 0.2	26.2	0.0	*	0.1 (0 - 0.2)	
NHL, other/unclassifiable																										
M													<5 NR	<5 NR	<5 NR	<5 NR			11	0.5	0.2-0.8	37.4	0.1	1647	0.9 (0.4-1.5)	
F																	<5 NR	<5 NR	6	0.1	0.0-0.2	0.0	0.0	*	0.4 (0.1-0.7)	
Lymphomas (all)																										
M					<5 NR	<5 NR			<5 NR	<5 NR	7 10.6	19 34.3	10 26.1	14 53.1	11 61.1	13 90.6			84	3.9	3.0-4.7	509.5	0.4	244	7.0 (5.4-8.5)	
F						<5 NR		<5 NR	<5 NR	<5 NR	<5 NR	6 11.0	8 20.4	9 30.0	9 38.3	14 54.6			60	2.4	1.7-3.0	353.5	0.2	407	4.3 (3.2-5.4)	
<b>MYELOMA</b>																										
Myeloma/plasma cell tumours																										
M											<5 NR	<5 NR	<5 NR	<5 NR	7 18.3	8 30.4	9 50.0	14 97.6	50	2.1	1.5-2.7	188.3	0.2	565	4.4 (3.2-5.7)	
F							<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	10 25.4	8 26.7	8 34.1	5 19.5			44	1.8	1.2-2.4	236.3	0.2	450	3.3 (2.3-4.3)		

### Appendix 3B. Cancer mortality, Western Australia, 2014

(age-based case counts and aspr/100,000, and total-population ASR, by sex)

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total	ASR	95% c.i.	PYLL	CumInc	Risk	ASR2	
<b>LEUKAEMIAS</b>																										
Leukaemias, NOS/unclassifiable																										
M																		<5 NR	<5	0.0	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.3)	
F									<5 NR									<5 NR	<5	0.1	0 - 0.2	40.8	0.0	*	0.2 (0 - 0.4)	
Leukaemias, lymphoid, all																										
M				<5 NR	<5 NR			<5 NR			<5 NR	<5 NR		9 16.2	<5 NR	<5 NR	<5 NR	5 34.9	26	1.3	0.8-1.8	241.6	0.1	810	2.1 (1.3-2.9)	
F		<5 NR	<5 NR								<5 NR	<5 NR			<5 NR	<5 NR	<5 NR	8 31.2	19	0.7	0.3-1.1	146.9	0.0	2510	1.3 (0.7-1.9)	
Leukaemias, lymphoid, acute																										
M				<5 NR	<5 NR			<5 NR											<5	0.3	0 - 0.6	139.0	0.0	5945	0.2 (0 - 0.5)	
F		<5 NR	<5 NR								<5 NR					<5 NR			<5	0.3	0 - 0.7	132.6	0.0	5104	0.3 (0.0-0.7)	
Leukaemias, lymphoid, chronic																										
M											<5 NR	<5 NR		9 16.2	<5 NR	<5 NR	<5 NR	<5 NR	22	1.0	0.6-1.4	102.5	0.1	937	1.8 (1.0-2.5)	
F													<5 NR		<5 NR	<5 NR	<5 NR	8 31.2	15	0.4	0.2-0.6	14.3	0.0	4937	1.0 (0.5-1.5)	
Leukaemias, lymphoid, other/NOS																										
M																		<5 NR	<5	0.0	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.3)	
F																			0						-	
Leukaemias, myeloid, all																										
M					<5 NR					<5 NR	<5 NR	<5 NR		5 9.0	<5 NR	9 34.2	5 27.8	<5 NR	31	1.4	0.9-1.9	173.2	0.1	786	2.7 (1.7-3.7)	
F		<5 NR						<5 NR	<5 NR	<5 NR	<5 NR	<5 NR		<5 NR	5 12.7	<5 NR	8 34.1	7 27.3	41	1.8	1.2-2.4	359.1	0.2	552	3.0 (2.0-3.9)	
Leukaemias, myeloid, acute																										
M					<5 NR					<5 NR	<5 NR	<5 NR		<5 NR	<5 NR	8 30.4	<5 NR	<5 NR	26	1.2	0.7-1.7	163.8	0.1	951	2.3 (1.4-3.1)	
F		<5 NR						<5 NR	<5 NR	<5 NR	<5 NR	<5 NR		<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	31	1.5	0.9-2.1	349.5	0.2	627	2.3 (1.5-3.1)	
Leukaemias, myeloid, chronic																										
M															<5 NR				<5	0.1	0 - 0.2	2.4	0.0	7664	0.1 (0 - 0.3)	
F															<5 NR		<5 NR	<5 NR	<5	0.1	0 - 0.2	2.4	0.0	7860	0.2 (0 - 0.5)	
Leukaemias, myeloid, other/NOS																										
M														<5 NR		<5 NR	<5 NR		<5	0.1	0 - 0.3	7.0	0.0	*	0.4 (0.0-0.7)	
F														<5 NR		<5 NR	<5 NR	<5 NR	7	0.2	0.0-0.3	7.2	0.0	*	0.5 (0.1-0.8)	



### Appendix 3B. Cancer mortality, Western Australia, 2014

(age-based case counts and aspr/100,000, and total-population ASR, by sex)

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total	ASR	95% c.i.	PYLL	CumInc	Risk	ASR2	
Chronic myeloproliferative d/o, all																										
M											<5 NR				<5 NR	<5 NR	<5 NR	<5 NR	8	0.4	0.1-0.6	28.0	0.0	2223	0.7 (0.2-1.2)	
F										<5 NR			<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	14	0.5	0.2-0.8	54.8	0.0	2246	1.0 (0.5-1.5)	
<b>OTHER CHRONIC IMMUNOPROLIFERATIVE DISEASES</b>																										
Mast cell tumours																										
M														<5 NR		<5 NR			<5	0.1	0 - 0.2	7.0	0.0	*	0.2 (0 - 0.4)	
F																			0					-		
Histiocytic/dendritic cell malignancies																										
M																			0					-		
F																			0					-		
Other & U/S immunoproliferative neoplasms																										
M																		<5 NR	<5	0.1	0 - 0.2	0.0	0.0	*	0.2 (0 - 0.5)	
F																			0					-		
Other chronic immunoproliferative d/o, all																										
M														<5 NR		<5 NR		<5 NR	<5	0.2	0.0-0.3	7.0	0.0	*	0.4 (0.0-0.7)	
F																			0					-		
Unknown primary site (C80 or Behaviour 6/9)																										
M		<5 NR					<5 NR		<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	11 19.9	12 31.3	12 45.6	16 88.9	26 181.3	91	3.9	3.1-4.7	418.2	0.3	290	7.9 (6.3-9.6)	
F							<5 NR	<5 NR	<5 NR		<5 NR	<5 NR	5 7.5	9 16.5	9 22.9	14 46.7	8 34.1	44 171.7	99	3.3	2.6-4.1	389.3	0.3	340	6.6 (5.3-7.9)	
<b>Total deaths due to cancer</b>																										
M	<5 NR	<5 NR	<5 NR	5 6.1	<5 NR	<5 NR	9 8.7	14 15.9	18 18.3	35 40.3	74 86.6	159 210.9	201 305	318 574	310 809	345 1310	333 1851	412 2873	2244	101.7	97.4-106	12933.3	10.4	10	189.6 (182-197)	
F	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	5 4.8	9 9.4	14 16.5	37 39.2	57 67.6	83 97.6	122 160.5	173 260.7	200 367	207 527	233 777	227 967	393 1534	1767	72.7	69.0-76.4	12211.1	7.8	13	125.0 (119-131)	

**Appendix 3B. Cancer mortality, Western Australia, 2014***(age-based case counts and aspr/100,000, and total-population ASR, by sex)*

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total	ASR	95% c.i.	PYLL	CumInc	Risk	ASR2	
<b>Other non-"cancer" mortality data, 2014</b>																										
Deaths due to benign tumours in CR cases																										
M										<5 NR						<5 NR			<5	0.1	0 - 0.3	26	0.0	*	0.2 (0 - 0.4)	
F									<5 NR		<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	11	0.5	0.2-0.8	91	0.0	2053	0.8 (0.3-1.3)	
Deaths due to lymphohaematopoietic tumours of uncertain malignant potential																										
M														<5 NR					<5	0.1	0 - 0.2	7	0.0	*	0.1 (0 - 0.2)	
F																			0					-		
Deaths due to non-lymphohaematopoietic tumours of uncertain/unspecified nature																										
M														<5 NR		<5 NR		<5 NR	6	0.3	0.0-0.5	44	0.0	4324	0.5 (0.1-0.9)	
F		<5 NR											<5 NR		<5 NR		<5 NR	<5 NR	5*	NR	0.0-0.7	111	0.0	3150	0.4 (0.1-0.8)	
Non-cancer deaths in CR cases																										
M				<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	6 6.9	9 10.5	22 29.2	37 56.1	69 124.5	105 274.0	160 607.4	257 1428.4	580 4044.3		1254	47.6	44.9-50.3	2194	2.6	40	114.9 (109-121)	
F		<5 NR	<5 NR	5 5.2	6 7.1	<5 NR	8 9.5	7 8.2	18 23.7	16 24.1	28 51.4	57 145.0	102 340.2	156 664.7	599 2337.5				1008	26.9	25.1-28.8	1868	1.4	72	63.8 (59.8-67.8)	
Deaths of undetermined cause in CR cases																										
M			<5 NR	<5 NR	<5 NR	<5 NR	<5 NR		<5 NR	5 7.6		<5 NR	<5 NR	<5 NR	12 66.7	11 76.7		47	2.1	1.5-2.7	406	0.2	619	3.9 (2.8-5.1)		
F			<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	5 21.3	11 42.9		35	1.3	0.8-1.8	260	0.1	813	2.5 (1.6-3.3)		
All deaths (Cancer and non-cancer) of Cancer Registry cases																										
M	<5 NR	<5 NR	<5 NR	5 6.1	<5 NR	<5 NR	10 9.7	16 18.1	23 23.4	42 48.4	83 97.1	182 241.4	238 360.7	390 703.8	415 1083.1	508 1928.6	592 3290.4	998 6959.1	3515	150.0	145-155	15363	13.0	8	306.0 (296-316)	
F	<5 NR	<5 NR	<5 NR	<5 NR	<5 NR	7 6.7	14 14.7	21 24.7	40 42.4	65 77.1	92 108.2	140 184.1	192 289.3	229 420.3	267 679.4	338 1127.4	386 1644.7	999 3898.4	2800	100.7	96.6-105	14389	9.3	11	190.5 (183-198)	

### Appendix 3C. Childhood cancer, Western Australia, 2014 (WHO International Classification, version 3)

	Males								Females								All							
	Age Group				Total	ASR	95%c.i.	TD%	Age Group				Total	ASR	95%c.i.	TD%	Age Group				Total	ASR	95%c.i.	TD%
	0	1-4	5-9	10-14					0	1-4	5-9	10-14					0	1-4	5-9	10-14				
<b>I. LEUKAEMIAS, MYELOPROLIFERATIVE AND MYELODYSPLASTIC DISEASES</b>																								
All	10	<5	<5		17	7.1	3.7-10.5	100	5	<5	<5		12	5.1	2.2-7.9	100	15	6	8		29	6.1	3.9-8.3	100
	14.4	NR	NR						7.5	NR	NR						11.0	3.6	5.2					
Lymphoid leukaemia	8	<5	<5		12	5.1	2.2-7.9	100	5	<5	<5		10	4.3	1.6-7.0	100	13	5	<5		22	4.7	2.7-6.7	100
	11.5	NR	NR						7.5	NR	NR						9.6	NR	NR					
Acute myeloid leukaemia	<5	<5	<5	<5	NR	0.0-3.1	100			<5	<5	NR	0 - 1.1	100			<5	<5	<5		5	1.0	0.1-1.9	100
	1.4	NR	NR								1.3						NR	NR	NR					
Chronic MPDs	<5			<5	NR	0 - 1.3	100		<5	<5	NR	0 - 1.1	100				<5	<5	<5		<5	NR	0 - 1.0	100
	NR								NR	NR							NR	NR	NR					
MDS & other MPDs					0																0			
Unspecified/other leukaemia					0																0			
<b>II. LYMPHOMAS</b>																								
All		<5	<5		5	1.9	0.2-3.5	100	<5	<5	NR	0 - 1.2	100				<5	<5			6	1.2	0.2-2.1	100
		NR	NR						NR								NR	NR						
Hodgkin lymphoma			<5	<5	NR	0 - 1.1	100											<5	<5		<5	NR	0 - 0.6	100
			NR	NR														NR	NR					
Non-Hodgkin lymphoma exc Burkitt	<5	<5	<5	<5	NR	0 - 1.8	100										<5	<5	<5		NR	0 - 0.9	100	
	NR	NR	NR														NR	NR						
Burkitt lymphoma	<5	<5	<5	<5	NR	0 - 1.8	100										<5	<5	<5		NR	0 - 0.9	100	
	NR	NR	NR														NR	NR						
Misc. lymphoreticular neoplasms					0				<5	<5	NR	0 - 1.2	100				<5				<5	NR	0 - 0.6	100
									NR								NR							
Unspecified lymphoma					0																0			
<b>III. CNS AND INTRACRANIAL/SPINAL</b>																								
All	<5	<5		6	13	5.1	2.3-7.9	92	<5	<5	6	<5	11	4.4	1.8-7.1	91	<5	<5	10	9	24	4.8	2.9-6.7	92
	NR	NR	7.7					NR	NR	7.4	NR					NR	NR	6.1	5.8					
Ependymoma/choroid plexus	<5		<5	<5	NR	0 - 2.7	100						0				<5	<5		<5	NR	0 - 1.4	100	
	NR		NR	NR													NR	NR						
Astrocytoma	<5	<5	<5		6	2.3	0.5-4.2	100	<5	<5	<5	<5	NR	0.0-3.3	100		<5	<5	5		10	2.0	0.8-3.2	100
	NR	NR	NR						NR	NR	NR						NR	NR	3.2					
Embryonal tumours	<5			<5	NR	0 - 1.8	100	<5	<5		<5	NR	0 - 2.6	100	<5		<5				5	1.0	0.1-1.9	100
	NR							NR	NR						NR		NR							
Other gliomas			<5	<5	NR	0 - 1.1	0		<5	<5	<5	NR	0 - 2.5	67		<5	<5		<5	1.9	<5	NR	0.0-1.5	50
			NR	NR					NR	2.6							NR							
Other intracranial/spinal	<5			<5	NR	0 - 1.1	100		<5		<5	NR	0 - 1.2	100		<5					<5	NR	0 - 0.9	100
	NR								NR								NR							
Unspecified					0																0			

### Appendix 3C. Childhood cancer, Western Australia, 2014 (WHO International Classification, version 3)

	Males				Females				All				Total	ASR	95%c.i.	TD%							
	Age Group				Age Group				Age Group														
	0	1-4	5-9	10-14	Total	ASR	95%c.i.	TD%	0	1-4	5-9	10-14	Total	ASR	95%c.i.	TD%							
<b>IV. NEUROBLASTOMA &amp; PERIPHERAL NERVOUS SYSTEM TUMOURS</b>																							
All	<5 NR				<5	NR	0 - 1.3	100	<5 NR	<5 NR			<5	NR	0.0-3.6	100	<5 NR	<5 NR	5	1.1	0.1-2.1	100	
Neuroblastoma/ganglioneurobl.	<5 NR				<5	NR	0 - 1.3	100	<5 NR	<5 NR			<5	NR	0.0-3.6	100	<5 NR	<5 NR	5	1.1	0.1-2.1	100	
Other					0								0						0				
<b>V. RETINOBLASTOMA</b>																							
All	<5 NR				<5	NR	0 - 2.0	0	<5 NR				<5	NR	0 - 1.3	0	<5 NR		<5	NR	0 - 1.4	0	
<b>VI. RENAL TUMOURS</b>																							
All	<5 NR	<5 NR			5*	2.2	0.3-4.1	100	<5 NR	<5 NR			<5	NR	0 - 2.2	100	<5 NR	5* 3.7	<5 NR	7	1.5	0.4-2.7	100
Nephroblastoma/oth non-epithel.	<5 NR	<5 NR			5*	2.2	0.3-4.1	100	<5 NR	<5 NR			<5	NR	0 - 2.2	100	<5 NR	5* 3.7	<5 NR	7	1.5	0.4-2.7	100
Renal carcinoma					0								0						0				
Unspecified					0								0						0				
<b>VII. HEPATIC TUMOURS</b>																							
All					0								0						0				
Hepatoblastoma					0								0						0				
Hepatic carcinoma					0								0						0				
Unspecified					0								0						0				
<b>VIII. BONE</b>																							
All	<5 NR	<5 NR	<5		<5	NR	0 - 2.0	100	<5 5.7				<5	NR	0 - 1.3	100	<5 NR	<5 NR	<5 NR	<5	NR	0 - 1.3	100
Osteosarcoma					0								0						0				
Chondrosarcoma					0								0						0				
Ewing & related sarcoma	<5 NR	<5 NR	<5		<5	NR	0 - 2.0	100	<5 NR				<5	NR	0 - 1.3	100	<5 NR	<5 NR	<5 NR	<5	NR	0 - 1.3	100
Other specified					0								0						0				
Unspecified					0								0						0				



### Appendix 3C. Childhood cancer, Western Australia, 2014 (WHO International Classification, version 3)

	Males								Females								All								
	Age Group				Total	ASR	95%c.i.	TD%	Age Group				Total	ASR	95%c.i.	TD%	Age Group				Total	ASR	95%c.i.	TD%	
	0	1-4	5-9	10-14					0	1-4	5-9	10-14					0	1-4	5-9	10-14					
<b>IX. SOFT TISSUE SARCOMA</b>																									
All	<5	<5			<5	NR	0 - 2.0	100					0					<5	<5			<5	NR	0 - 1.0	100
	NR	NR																NR	NR			NR	NR		
Rhabdomyosarcoma	<5				<5	NR	0 - 1.3	100					0					<5				<5	NR	0 - 0.7	100
	NR																	NR				NR			
Fibrosarcoma/Neurofibrosarc.					0								0									0			
Kaposi sarcoma					0								0									0			
Other specified			<5		<5	NR	0 - 1.1	100					0						<5			<5	NR	0 - 0.6	100
			NR																NR			NR			
Unspecified					0								0									0			
<b>X. GONADAL AND GERM CELL</b>																									
All			<5		<5	NR	0 - 1.8	100	<5				<5	NR	0 - 1.4	100	<5	<5			<5	NR	0 - 1.3	100	
			NR						NR				NR				NR	NR			NR				
Intracranial/spinal					0								0									0			
Other/unspecified non-gonadal			<5		<5	NR	0 - 1.1	100	<5				<5	NR	0 - 1.4	100	<5	<5			<5	NR	0 - 1.0	100	
			NR						NR				NR				NR	NR			NR				
Gonadal germ cell			<5		<5	NR	0 - 1.1	100					0						<5			<5	NR	0 - 0.6	100
			NR																NR			NR			
Gonadal carcinoma					0								0									0			
Other and unspecified					0								0									0			
<b>XI. OTHER EPITHELIAL / MELANOMA</b>																									
All					0				<5	<5	<5	<5	NR	0.0-3.4	100	<5	<5	<5			<5	NR	0.0-1.7	100	
									NR	NR	NR					NR	NR	NR			NR				
Adrenocortical carcinoma					0								0									0			
Thyroid carcinoma			<5						<5	<5	<5	NR	0 - 1.9	100			<5	<5			<5	NR	0 - 0.9	100	
			NR						NR	NR							NR	NR			NR				
Nasopharyngeal carcinoma					0								0									0			
Malignant melanoma					0				<5				<5	NR	0 - 1.4	100	<5				<5	NR	0 - 0.7	100	
									NR								NR				NR				
Skin carcinomas					0								0									0			
Other/unspecified carcinoma					0				<5				<5	NR	0 - 1.4	100	<5				<5	NR	0 - 0.7	100	
									NR								NR				NR				

**Appendix 3C. Childhood cancer, Western Australia, 2014 (WHO International Classification, version 3)**

	Males				Total	ASR	95%c.i.	TD%	Females				Total	ASR	95%c.i.	TD%	All				Total	ASR	95%c.i.	TD%	
	Age Group								Age Group								Age Group								
	0	1-4	5-9	10-14					0	1-4	5-9	10-14					0	1-4	5-9	10-14					
<b>XII. OTHER</b>																									
All					<b>0</b>				<5				<b>NR</b>			0 - 1.4	100	<5			<b>NR</b>			0 - 0.7	100
Other specified malignancy					<b>0</b>				<5				<b>NR</b>			0 - 1.4	100	<5			<b>NR</b>			0 - 0.7	100
Other unspecified malignancy					<b>0</b>				NR	NR								NR							
<b>Total</b>	<5	20	10*	16	<b>49</b>	<b>19.9</b>	14.3-25.5	94	6	13	10*	8	<b>38</b>	<b>16.1</b>	11.0-21.3	95	8	33	22	24	<b>87</b>	<b>18.1</b>	14.3-21.9	94	
	NR	28.7	13.1	20.5					33.9	19.6	13.6	10.5					22.1	24.3	13.4	15.6					

## Appendix 3D. Cancer incidence, Western Australia, 2014: Leading types by sex and geographic area

### CHS Kimberley Region

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Prostate	12	19.7	52.2	22.5-81.9	17	Breast	14	25.5	64.2	29.5-98.9	19
Lung	11	18.0	65.6	25.1-106.1	11	Melanoma (skin)	7	12.7	34.1	7.9-60.3	25
Melanoma (skin)	5	8.2	20.2	1.7-38.7	37	Colorectal	5	9.1	25.9	0.9-51.0	24
Testis	5	8.2	18.3	2.0-34.7	61	Cervix	<5	NR	NR	0.3-27.2	83
Colorectal	<5	NR	NR	0 - 37.1	39	Uterus	<5	NR	NR	0.1-49.9	28
Lip, gum & mouth	<5	NR	NR	0 - 28.8	61	Bladder & urinary tract	<5	NR	NR	0 - 57.3	17
Stomach	<5	NR	NR	0 - 38.8	42	Lip, gum & mouth	<5	NR	NR	0 - 25.9	92
Liver	<5	NR	NR	0 - 25.7	80	Liver	<5	NR	NR	0 - 21.7	121
Pancreas	<5	NR	NR	0 - 33.5	36	Gallbladder / bile ducts	<5	NR	NR	0 - 24.1	232
Leukaemia	<5	NR	NR	0 - 34.4	129	Parotid gland	<5	NR	NR	0 - 14.5	246
Oesophagus	<5	NR	NR	0 - 18.2	128	Pharynx	<5	NR	NR	0 - 10.2	232
						Stomach	<5	NR	NR	0 - 10.2	232
						Small intestine	<5	NR	NR	0 - 29.3	41
						Anus	<5	NR	NR	0 - 12.5	238
						Larynx	<5	NR	NR	0 - 12.5	238
All cancers	61	100.0	289.6	214.0-365.3	3	All cancers	55	100.0	285.8	205.9-365.7	3

### CHS Pilbara Region

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Prostate	20	26.0	49.0	25.8-72.1	16	Breast	12	28.6	56.5	14.9-98.1	11
Melanoma (skin)	9	11.7	17.8	5.5-30.0	50	Lung	5	11.9	45.3	2.7-87.8	18
Colorectal	8	10.4	31.2	5.1-57.2	35	Cervix	<5	NR	NR	0 - 14.6	176
Lung	7	9.1	43.8	0 - 88.4	48	Lymphoma	<5	NR	NR	0 - 31.9	65
Kidney	<5	NR	NR	0 - 16.9	99	NHL	<5	NR	NR	0 - 31.9	65
Testis	<5	NR	NR	0 - 7.5	340	Colorectal	<5	NR	NR	0 - 39.3	49
Bladder & urinary tract	<5	NR	NR	0 - 36.9	31	Pharynx	<5	NR	NR	0 - 38.4	565
Brain	<5	NR	NR	0 - 31.3	39	Melanoma (skin)	<5	NR	NR	0 - 17.5	148
Thyroid gland	<5	NR	NR	0 - 7.9	301	Connective/ soft tissues	<5	NR	NR	0 - 34.1	693
Pancreas	<5	NR	NR	0 - 29.8	40	Thyroid gland	<5	NR	NR	0 - 13.5	192
Skin (NMSC exc. SCC/BCC)	<5	NR	NR	0 - 16.6	106	Leukaemia	<5	NR	NR	0 - 10.1	283
Connective/ soft tissues	<5	NR	NR	0 - 7.0	302						
Leukaemia	<5	NR	NR	0 - 10.3	189						
All cancers	77	100.0	243.4	168.5-318.4	4	All cancers	42	100.0	211.7	133.2-290.2	5

### CHS Midwest Region

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Prostate	63	27.8	100.3	75.1-125.6	8	Breast	49	30.6	91.7	64.7-118.7	11
Colorectal	27	11.9	45.9	28.3-63.6	17	Melanoma (skin)	19	11.9	39.8	21.3-58.2	20
Colon	16	7.0	26.4	13.2-39.6	28	Lung	16	10.0	29.8	14.9-44.7	25
Rectum	10	4.4	17.5	6.5-28.5	43	Colorectal	14	8.8	22.3	9.8-34.8	38
Lung	25	11.0	37.5	22.5-52.6	22	Colon	14	8.8	22.3	9.8-34.8	38
Melanoma (skin)	22	9.7	38.1	21.9-54.3	20	Rectum	0				
Pharynx	9	4.0	15.3	5.3-25.3	37	Lip, gum & mouth	7	4.4	14.9	3.8-25.9	63
Lymphoma	9	4.0	16.1	5.5-26.8	51	Unknown primary	7	4.4	12.6	2.9-22.3	56
NHL	9	4.0	16.1	5.5-26.8	51	Lymphoma	7	4.4	12.2	2.6-21.8	100
Kidney	8	3.5	16.6	3.4-29.8	47	NHL	7	4.4	12.2	2.6-21.8	100
Lip, gum & mouth	7	3.1	13.6	3.5-23.8	61	Thyroid gland	6	3.8	12.7	2.5-23.0	67
Oesophagus	6	2.6	7.9	1.4-14.3	166	Ovary	5	3.1	11.7	1.1-22.4	82
Pancreas	6	2.6	8.8	1.6-16.0	71	Anus	<5	NR	NR	0 - 10.5	205
Leukaemia	5	2.2	10.6	0 - 21.9	194	Pancreas	<5	NR	NR	0 - 8.8	381
						Kidney	<5	NR	NR	0 - 9.4	444
All cancers	227	100.0	380.0	329.0-431.1	3	All cancers	160	100.0	297.5	249.4-345.7	4

## Appendix 3D. Cancer incidence, Western Australia, 2014: Leading types by sex and geographic area

### CHS Wheatbelt Region

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Prostate	82	26.5	90.1	70.2-110.1	9	Breast	57	26.1	87.2	63.4-111.0	10
Colorectal	45	14.5	50.6	35.1-66.0	19	Lung	31	14.2	42.2	26.7-57.7	17
Colon	30	9.7	32.4	20.4-44.5	32	Melanoma (skin)	30	13.8	50.4	30.0-70.8	20
Rectum	15	4.8	18.1	8.4-27.8	44	Colorectal	23	10.6	37.2	18.6-55.7	30
Melanoma (skin)	29	9.4	39.6	24.4-54.8	22	Colon	16	7.3	26.9	10.3-43.5	42
Lung	27	8.7	29.6	18.1-41.2	32	Rectum	7	3.2	10.3	2.0-18.5	107
Lymphoma	15	4.8	22.7	10.4-35.0	36	Uterus	11	5.0	14.6	5.8-23.4	45
Lymphoma NOS	0*	NR	NR			Lymphoma	7	3.2	7.8	1.4-14.1	140
Hodgkin lymphoma	<5	NR	NR	0 - 14.8	173	NHL	7	3.2	7.8	1.4-14.1	140
NHL	12	3.9	15.8	6.3-25.2	45	Pancreas	6	2.8	5.0	0.7-9.4	188
Bladder & urinary tract	14	4.5	14.3	6.6-22.0	79	Ovary	6	2.8	9.0	0.2-17.8	105
Kidney	11	3.5	11.9	4.7-19.0	61	Leukaemia	6	2.8	13.2	0.5-25.9	92
Pancreas	9	2.9	10.2	3.5-16.9	70	Lymphoid leukaemia	<5	NR	NR	0 - 16.4	127
Lip, gum & mouth	8	2.6	10.0	3.0-17.0	83	Myeloid leukaemia	<5	NR	NR	0 - 14.8	336
Brain	7	2.3	10.2	2.3-18.2	69						
Unknown primary	7	2.3	6.9	1.7-12.0	90						
Stomach	6	1.9	5.8	1.0-10.6	648						
<b>All cancers</b>	<b>310</b>	<b>100.0</b>	<b>364.5</b>	<b>321.9-407.0</b>	<b>3</b>	<b>All cancers</b>	<b>218</b>	<b>100.0</b>	<b>326.8</b>	<b>278.1-375.4</b>	<b>3</b>

### CHS Goldfields Region

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Prostate	45	31.5	116.0	82.0-150.1	6	Breast	33	37.1	89.6	58.5-120.8	9
Colorectal	18	12.6	44.6	23.8-65.4	26	Colorectal	10	11.2	26.1	9.3-42.8	28
Colon	9	6.3	22.2	7.5-36.9	62	Colon	10*	9.0	21.5	6.1-36.9	35
Rectum	9	6.3	22.4	7.7-37.1	44	Rectum	<5	NR	NR	0 - 11.1	135
Lung	16	11.2	40.5	20.5-60.5	24	Melanoma (skin)	6	6.7	17.3	3.4-31.2	35
Melanoma (skin)	11	7.7	28.2	11.4-45.0	36	Lung	5	5.6	13.4	1.6-25.1	56
Bladder & urinary tract	6	4.2	13.9	2.7-25.1	80	Uterus	<5	NR	NR	0.1-22.0	95
Lymphoma	6	4.2	15.6	3.0-28.2	71	Lymphoma	<5	NR	NR	0 - 21.0	89
NHL	6	4.2	15.6	3.0-28.2	71	NHL	<5	NR	NR	0 - 21.0	89
Liver	<5	NR	NR	0.1-19.9	98	Leukaemia	<5	NR	NR	0 - 16.6	175
Kidney	<5	NR	NR	0.2-21.0	56	Lymphoid leukaemia	<5	NR	NR	0 - 9.9	398
Myeloma	<5	NR	NR	0.1-17.8	102	Myeloid leukaemia	<5	NR	NR	0 - 10.1	310
Pancreas	<5	NR	NR	0 - 15.2	84	Gallbladder / bile ducts	<5	NR	NR	0 - 16.0	175
Unknown primary	<5	NR	NR	0 - 15.8	135						
Tongue	<5	NR	NR	0 - 9.9	374						
<b>All cancers</b>	<b>143</b>	<b>100.0</b>	<b>365.8</b>	<b>305.4-426.2</b>	<b>3</b>	<b>All cancers</b>	<b>89</b>	<b>100.0</b>	<b>232.8</b>	<b>183.4-282.2</b>	<b>4</b>

### CHS Great Southern Region

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Prostate	70	33.0	114.8	86.9-142.6	7	Breast	61	35.3	113.6	82.7-144.5	8
Lung	21	9.9	34.4	19.2-49.6	22	Colorectal	32	18.5	45.9	26.7-65.1	22
Colorectal	20	9.4	33.6	18.1-49.0	23	Colon	23	13.3	34.6	17.3-51.9	29
Colon	12	5.7	19.9	7.8-31.9	41	Rectum	9	5.2	11.4	3.0-19.7	101
Rectum	7	3.3	12.0	3.0-20.9	58	Melanoma (skin)	19	11.0	40.7	20.7-60.6	26
Melanoma (skin)	19	9.0	36.9	19.6-54.3	23	Lung	9	5.2	14.8	4.4-25.2	63
Lymphoma	16	7.5	34.0	15.2-52.9	30	Lymphoma	7	4.0	12.8	2.9-22.6	63
Lymphoma NOS	0					Lymphoma NOS	0				
Hodgkin lymphoma	<5	NR	NR	0 - 25.6	94	Hodgkin lymphoma	<5	NR	NR	0 - 8.5	419
NHL	10*	5.7	21.4	7.7-35.1	44	NHL	5*	3.5	9.9	1.8-18.0	74
Bladder & urinary tract	10	4.7	14.1	4.7-23.5	71	Ovary	6	3.5	11.1	2.0-20.2	78
Kidney	9	4.2	18.1	5.8-30.4	46	Leukaemia	6	3.5	12.8	1.7-23.8	76
Leukaemia	6	2.8	18.9	0.1-37.7	100	Lymphoid leukaemia	<5	NR	NR	0 - 14.5	209
Lymphoid leukaemia	<5	NR	NR	0 - 31.3	189	Myeloid leukaemia	<5	NR	NR	0 - 13.8	118
Myeloid leukaemia	<5	NR	NR	0 - 11.7	210	Kidney	5	2.9	7.7	0.7-14.6	117
<b>All cancers</b>	<b>212</b>	<b>100.0</b>	<b>374.8</b>	<b>319.8-429.8</b>	<b>3</b>	<b>All cancers</b>	<b>173</b>	<b>100.0</b>	<b>314.0</b>	<b>261.8-366.1</b>	<b>4</b>

## Appendix 3D. Cancer incidence, Western Australia, 2014: Leading types by sex and geographic area

### CHS South West Region

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Prostate	163	30.8	108.6	91.7-125.6	7	Breast	127	31.2	91.1	74.6-107.5	10
Melanoma (skin)	85	16.1	58.0	45.2-70.8	16	Melanoma (skin)	47	11.5	34.4	23.8-45.0	26
Colorectal	52	9.8	32.3	23.2-41.4	25	Colorectal	40	9.8	25.4	16.8-33.9	43
Colon	30	5.7	17.2	10.8-23.6	50	Colon	30	7.4	18.5	11.2-25.7	61
Rectum	22	4.2	15.1	8.6-21.6	48	Rectum	9	2.2	6.6	2.1-11.1	140
Lung	40	7.6	25.3	17.3-33.3	35	Lung	34	8.4	20.1	12.9-27.2	41
Lymphoma	23	4.3	17.8	10.0-25.6	43	Lymphoma	26	6.4	18.6	10.9-26.3	44
Lymphoma NOS	<5	NR	NR	0 - 1.1	*	Lymphoma NOS	<5	NR	NR	0 - 2.3	1029
Hodgkin lymphoma	0*	NR	NR	0 - 1.1		Hodgkin lymphoma	<5	NR	NR	0 - 3.2	513
NHL	22	4.2	17.4	9.6-25.2	43	NHL	23	5.7	16.5	9.1-23.8	51
Kidney	17	3.2	11.4	5.8-17.1	71	Thyroid gland	16	3.9	15.3	7.3-23.4	70
Lip, gum & mouth	11	2.1	7.2	2.8-11.7	119	Lip, gum & mouth	13	3.2	7.1	2.9-11.4	127
Oesophagus	11	2.1	7.3	2.9-11.6	97	Uterus	13	3.2	7.7	3.3-12.1	126
Stomach	11	2.1	7.5	2.9-12.2	121	Ovary	13	3.2	7.7	3.4-11.9	72
Skin (NMSC exc. SCC/BCC)	11	2.1	7.0	2.7-11.3	167	Pancreas	10	2.5	5.0	1.7-8.4	161
Brain	10	1.9	9.2	3.0-15.3	161	Unknown primary	8	2.0	4.7	1.2-8.3	199
Unknown primary	10	1.9	6.1	2.2-10.1	132	Stomach	7	1.7	2.6	0.6-4.7	636
Myeloma	10	1.9	6.1	2.1-10.1	278	Bladder & urinary tract	6	1.5	2.7	0.4-5.1	371
Pancreas	9	1.7	5.9	2.0-9.8	114	Brain	6	1.5	4.5	0.7-8.3	214
Leukaemia	9	1.7	6.8	1.9-11.6	136	Myeloma	6	1.5	3.7	0.6-6.7	249
Leukaemia NOS	<5	NR	NR	0 - 4.7		Cervix	5	1.2	4.0	0.4-7.6	189
Lymphoid leukaemia	5	0.9	4.5	0.2-8.7	184	Oesophagus	<5	NR	NR	0 - 1.8	*
Myeloid leukaemia	<5	NR	NR	0 - 4.7	524	Gallbladder / bile ducts	<5	NR	NR	0 - 4.4	507
Mesothelioma	7	1.3	4.6	1.0-8.2	186	Connective/ soft tissues	<5	NR	NR	0 - 5.1	305
Bladder & urinary tract	7	1.3	4.0	0.9-7.1	284	Kidney	<5	NR	NR	0 - 4.6	494
Liver	<5	NR	NR	0.0-5.3	277	Larynx	<5	NR	NR	0 - 3.1	417
Gallbladder / bile ducts	<5	NR	NR	0.0-4.9	224	Skin (NMSC exc. SCC/BCC)	<5	NR	NR	0 - 2.4	1210
Connective/ soft tissues	<5	NR	NR	0 - 4.1	466	Vulva	<5	NR	NR	0 - 3.7	431
Thyroid gland	<5	NR	NR	0.0-6.5	241						
<b>All cancers</b>	<b>529</b>	<b>100.0</b>	<b>356.8</b>	<b>325.4-388.2</b>	<b>3</b>	<b>All cancers</b>	<b>407</b>	<b>100.0</b>	<b>274.4</b>	<b>245.9-303.0</b>	<b>4</b>

### WA Country - all

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Prostate	455	29.2	101.6	92.2-111.1	8	Breast	353	30.9	89.3	79.7-98.9	10
Melanoma (skin)	180	11.5	41.1	35.0-47.1	21	Melanoma (skin)	130	11.4	34.0	27.9-40.1	26
Colorectal	174	11.2	37.6	31.9-43.3	22	Colorectal	126	11.0	28.7	23.3-34.1	34
Colon	103	6.6	21.7	17.4-26.0	41	Colon	97	8.5	22.2	17.4-27.0	44
Rectum	69	4.4	15.4	11.7-19.1	50	Rectum	28	2.4	6.4	3.9-8.9	158
Lung	147	9.4	31.3	26.1-36.4	27	Lung	100	8.7	23.5	18.7-28.2	33
Lymphoma	71	4.6	17.5	13.3-21.8	48	Lymphoma	55	4.8	13.5	9.7-17.2	66
Lymphoma NOS	<5	NR	NR	0 - 0.4	*	Lymphoma NOS	<5	NR	NR	0 - 0.9	2777
Hodgkin lymphoma	10*	0.5	2.5	0.7-4.3	488	Hodgkin lymphoma	<5	NR	NR	0 - 1.7	1017
NHL	62	4.0	14.9	11.1-18.8	53	NHL	51	4.5	12.4	8.8-16.0	72
Kidney	54	3.5	12.4	9.0-15.8	62	Uterus	39	3.4	9.5	6.5-12.6	83
Bladder & urinary tract	43	2.8	8.6	6.0-11.2	116	Thyroid gland	33	2.9	10.3	6.7-14.0	98
Pancreas	36	2.3	8.0	5.4-10.7	86	Ovary	30	2.6	7.4	4.7-10.2	97
Lip, gum & mouth	33	2.1	7.4	4.8-10.0	115	Lip, gum & mouth	26	2.3	6.2	3.7-8.6	155
Leukaemia	31	2.0	8.4	5.0-11.8	147	Pancreas	23	2.0	4.4	2.5-6.3	199
Leukaemia NOS	<5	NR	NR	0 - 0.5	*	Unknown primary	23	2.0	4.9	2.8-7.0	181
Lymphoid leukaemia	17	1.1	5.6	2.6-8.6	209	Leukaemia	22	1.9	6.2	3.4-9.0	196
Myeloid leukaemia	13	0.8	2.6	1.2-4.0	489	Lymphoid leukaemia	11	1.0	2.9	1.1-4.8	410
Leukaemia, other	0					Myeloid leukaemia	11	1.0	3.3	1.1-5.4	375
Stomach	30	1.9	6.2	3.9-8.4	186	Cervix	19	1.7	5.8	3.1-8.5	182
Myeloma	28	1.8	5.8	3.6-8.0	188	Kidney	18	1.6	4.3	2.2-6.3	229
Brain	27	1.7	7.0	4.3-9.8	136	Bladder & urinary tract	18	1.6	3.6	1.8-5.4	199
Oesophagus	26	1.7	5.6	3.4-7.8	140	Brain	15	1.3	4.3	2.0-6.6	208
Unknown primary	24	1.5	5.0	3.0-7.0	154	Stomach	14	1.2	2.7	1.2-4.3	479
Skin (NMSC exc. SCC/BCC)	23	1.5	5.2	3.0-7.4	175	Gallbladder / bile ducts	14	1.2	3.0	1.3-4.6	299
Liver	22	1.4	5.4	3.1-7.7	155	Myeloma	12	1.0	2.5	1.0-3.9	371
Pharynx	18	1.2	4.1	2.2-6.0	165	Liver	10	0.9	2.5	0.9-4.1	323
Mesothelioma	18	1.2	3.6	1.9-5.3	257	Oesophagus	8	0.7	1.3	0.3-2.3	764
Testis	16	1.0	4.5	2.2-6.7	249						
Thyroid gland	13	0.8	3.3	1.5-5.1	273						
<b>All cancers</b>	<b>1559</b>	<b>100.0</b>	<b>351.2</b>	<b>333.4-369.0</b>	<b>3</b>	<b>All cancers</b>	<b>1144</b>	<b>100.0</b>	<b>281.4</b>	<b>264.3-298.4</b>	<b>4</b>

## Appendix 3D. Cancer incidence, Western Australia, 2014: Leading types by sex and geographic area

### North Metro AHS

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Prostate	743	27.7	94.2	87.3-101.1	9	Breast	716	31.6	93.6	86.6-100.7	9
Melanoma (skin)	312	11.6	40.6	36.0-45.2	22	Colorectal	209	9.2	22.2	18.9-25.5	43
Colorectal	289	10.8	36.5	32.2-40.8	24	Colon	152	6.7	16.1	13.3-18.8	58
Colon	195	7.3	24.5	20.9-28.0	35	Rectum	54	2.4	5.8	4.1-7.4	183
Rectum	94	3.5	12.0	9.5-14.5	77	Lung	201	8.9	21.5	18.3-24.7	40
Lung	227	8.5	26.7	23.1-30.2	36	Melanoma (skin)	198	8.7	24.8	21.2-28.5	37
Lymphoma	130	4.8	17.5	14.3-20.6	52	Lymphoma	112	4.9	13.0	10.4-15.6	70
Lymphoma NOS	<5	NR	NR	0 - 0.8	1801	Lymphoma NOS	<5	NR	NR	0 - 0.7	7149
Hodgkin lymphoma	10*	NR	NR	0.4-2.3	814	Hodgkin lymphoma	12	0.5	2.1	0.9-3.2	502
NHL	118	4.4	15.7	12.8-18.7	58	NHL	96	4.2	10.6	8.4-12.9	82
Kidney	83	3.1	11.5	8.9-14.0	78	Thyroid gland	97	4.3	14.2	11.3-17.1	67
Leukaemia	82	3.1	11.3	8.6-14.0	84	Uterus	84	3.7	10.4	8.1-12.7	81
Lymphoid leukaemia	52	1.9	7.1	5.0-9.3	132	Leukaemia	62	2.7	8.8	6.2-11.3	142
Myeloid leukaemia	30	1.1	4.2	2.6-5.8	227	Leukaemia NOS	<5	NR	NR	0 - 0.2	*
Bladder & urinary tract	76	2.8	7.9	6.1-9.8	142	Lymphoid leukaemia	33	1.5	5.3	3.2-7.5	238
Pancreas	60	2.2	7.0	5.2-8.8	130	Myeloid leukaemia	27	1.2	3.4	2.0-4.7	352
Myeloma	59	2.2	7.1	5.2-9.0	134	Leukaemia, other	<5	NR	NR	0 - 0.2	*
Stomach	49	1.8	6.0	4.3-7.7	140	Ovary	55	2.4	6.6	4.8-8.4	134
Unknown primary	48	1.8	5.1	3.6-6.6	215	Pancreas	54	2.4	5.8	4.1-7.4	168
Brain	41	1.5	6.2	4.2-8.1	154	Kidney	51	2.2	7.0	5.0-9.0	118
Thyroid gland	40	1.5	5.9	4.0-7.8	178	Unknown primary	48	2.1	3.6	2.4-4.8	392
Lip, gum & mouth	38	1.4	5.3	3.6-7.0	170	Cervix	42	1.9	6.2	4.3-8.1	185
Mesothelioma	38	1.4	4.3	2.9-5.8	176	Brain	35	1.5	4.5	2.8-6.1	206
Pharynx	37	1.4	5.0	3.4-6.6	144	Bladder & urinary tract	30	1.3	2.8	1.7-3.9	377
Testis	37	1.4	6.4	4.3-8.6	215	Stomach	29	1.3	3.2	1.9-4.4	306
Liver	36	1.3	4.5	3.0-6.0	183	Skin (NMSC exc. SCC/BCC)	22	1.0	2.5	1.3-3.6	461
Oesophagus	32	1.2	3.8	2.5-5.2	213	Myeloma	21	0.9	2.1	1.2-3.1	424
Skin (NMSC exc. SCC/BCC)	32	1.2	3.9	2.5-5.3	183	Oesophagus	19	0.8	1.8	0.9-2.6	630
						Lip, gum & mouth	17	0.7	1.6	0.8-2.5	490
						Liver	16	0.7	1.7	0.8-2.6	522
All cancers	2682	100.0	341.9	328.6-355.2	3	All cancers	2269	100.0	275.1	263.1-287.1	4

### South Metro AHS

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Prostate	747	29.0	104.0	96.4-111.6	8	Breast	668	31.3	93.3	85.9-100.7	10
Melanoma (skin)	282	11.0	39.0	34.3-43.7	24	Colorectal	225	10.5	26.0	22.3-29.7	37
Colorectal	276	10.7	36.9	32.4-41.5	24	Colon	154	7.2	16.6	13.7-19.5	56
Colon	174	6.8	22.5	19.0-26.0	40	Rectum	70	3.3	9.2	6.9-11.5	110
Rectum	102	4.0	14.5	11.6-17.3	56	Melanoma (skin)	202	9.5	28.6	24.4-32.7	33
Lung	249	9.7	31.2	27.2-35.2	27	Lung	183	8.6	21.9	18.6-25.3	35
Lymphoma	124	4.8	18.7	15.2-22.1	51	Lymphoma	96	4.5	12.8	10.1-15.6	70
Lymphoma NOS	<5	NR	NR	0 - 0.6	4167	Lymphoma NOS	<5	NR	NR	0 - 1.0	5937
Hodgkin lymphoma	10*	0.4	2.5	1.0-4.0	581	Hodgkin lymphoma	10*	0.5	2.0	0.8-3.3	664
NHL	111	4.3	16.0	12.9-19.1	56	NHL	82	3.8	10.4	8.0-12.8	79
Bladder & urinary tract	90	3.5	10.8	8.5-13.1	81	Uterus	75	3.5	10.2	7.8-12.6	73
Kidney	88	3.4	13.9	10.8-16.9	69	Thyroid gland	65	3.0	10.4	7.8-12.9	94
Leukaemia	64	2.5	9.7	7.1-12.3	106	Pancreas	61	2.9	6.5	4.7-8.3	122
Lymphoid leukaemia	40	1.6	6.0	3.9-8.0	164	Ovary	57	2.7	7.3	5.3-9.4	110
Myeloid leukaemia	24	0.9	3.7	2.1-5.3	296	Kidney	54	2.5	7.2	5.1-9.3	118
Pancreas	53	2.1	6.7	4.9-8.6	110	Cervix	52	2.4	8.8	6.4-11.2	124
Unknown primary	53	2.1	6.2	4.4-7.9	167	Leukaemia	45	2.1	6.1	4.1-8.2	142
Lip, gum & mouth	51	2.0	7.0	5.0-9.0	130	Lymphoid leukaemia	23	1.1	3.1	1.7-4.6	264
Stomach	49	1.9	6.3	4.5-8.2	145	Myeloid leukaemia	22	1.0	3.0	1.6-4.4	307
Liver	49	1.9	6.9	4.9-8.8	131	Unknown primary	39	1.8	3.5	2.3-4.8	311
Brain	44	1.7	6.9	4.7-9.1	150	Bladder & urinary tract	32	1.5	3.4	2.1-4.7	224
Myeloma	35	1.4	4.5	2.9-6.0	207	Myeloma	30	1.4	4.0	2.5-5.5	204
Testis	30	1.2	5.4	3.5-7.4	227	Stomach	26	1.2	2.4	1.4-3.4	373
Thyroid gland	30	1.2	5.2	3.3-7.0	187	Lip, gum & mouth	25	1.2	2.9	1.7-4.1	324
Oesophagus	28	1.1	3.7	2.3-5.1	222	Brain	25	1.2	4.0	2.2-5.8	247
Mesothelioma	27	1.0	3.2	1.9-4.4	240	Gallbladder / bile ducts	19	0.9	2.1	1.0-3.1	555
Pharynx	25	1.0	3.5	2.1-4.9	220	Liver	17	0.8	2.2	1.1-3.3	419
Skin (NMSC exc. SCC/BCC)	25	1.0	3.1	1.8-4.4	342	Oesophagus	15	0.7	1.8	0.9-2.8	410
All cancers	2575	100.0	354.9	340.8-369.1	3	All cancers	2135	100.0	282.8	270.0-295.6	4

## Appendix 3D. Cancer incidence, Western Australia, 2014: Leading types by sex and geographic area

### WA Metro - all

#### Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	1490	28.3	98.9	93.8-104.0	8
Melanoma (skin)	594	11.3	39.9	36.6-43.2	23
Colorectal	565	10.7	36.7	33.6-39.8	24
Colon	369	7.0	23.5	21.0-26.0	37
Rectum	196	3.7	13.2	11.3-15.1	66
Lung	476	9.1	28.9	26.2-31.5	31
Lymphoma	254	4.8	18.0	15.7-20.4	52
Lymphoma NOS	5	0.1	0.3	0.0-0.6	2487
Hodgkin lymphoma	20	0.4	1.9	1.0-2.8	684
NHL	229	4.4	15.8	13.7-18.0	57
Kidney	171	3.3	12.6	10.7-14.6	73
Bladder & urinary tract	166	3.2	9.3	7.8-10.8	104
Leukaemia	146	2.8	10.5	8.7-12.4	93
Lymphoid leukaemia	92	1.8	6.6	5.1-8.0	145
Myeloid leukaemia	54	1.0	4.0	2.8-5.1	257
Pancreas	113	2.1	6.9	5.6-8.2	119
Unknown primary	101	1.9	5.6	4.5-6.7	189
Stomach	98	1.9	6.2	4.9-7.4	142
Myeloma	94	1.8	5.9	4.6-7.1	161
Lip, gum & mouth	89	1.7	6.1	4.8-7.4	148
Liver	85	1.6	5.6	4.4-6.8	155
Brain	85	1.6	6.5	5.1-8.0	151
Thyroid gland	70	1.3	5.6	4.2-6.9	182
Testis	67	1.3	6.0	4.5-7.4	220
Mesothelioma	65	1.2	3.8	2.8-4.7	202
Pharynx	62	1.2	4.3	3.2-5.4	173
Oesophagus	60	1.1	3.8	2.8-4.7	217
Skin (NMSC exc. SCC/BCC)	57	1.1	3.5	2.6-4.5	237
<b>All cancers</b>	<b>5257</b>	<b>100.0</b>	<b>348.2</b>	<b>338.5-357.9</b>	<b>3</b>

#### Females

	Cases	%	ASR	95%c.i.	Risk
Breast	1384	31.4	93.5	88.4-98.6	9
Colorectal	434	9.9	24.0	21.6-26.5	40
Colon	306	6.9	16.4	14.3-18.4	57
Rectum	124	2.8	7.4	6.0-8.8	139
Melanoma (skin)	400	9.1	26.6	23.8-29.3	35
Lung	384	8.7	21.7	19.4-24.0	37
Lymphoma	208	4.7	12.9	11.0-14.8	70
Lymphoma NOS	7	0.2	0.4	0.0-0.7	6464
Hodgkin lymphoma	23	0.5	2.0	1.2-2.9	570
NHL	178	4.0	10.5	8.9-12.2	80
Thyroid gland	162	3.7	12.4	10.4-14.3	78
Uterus	159	3.6	10.3	8.6-12.0	77
Pancreas	115	2.6	6.2	4.9-7.4	142
Ovary	112	2.5	7.0	5.6-8.3	121
Leukaemia	107	2.4	7.5	5.9-9.1	142
Leukaemia NOS	<5	NR	NR	0 - 0.1	*
Lymphoid leukaemia	56	1.3	4.3	2.9-5.6	250
Myeloid leukaemia	49	1.1	3.2	2.2-4.2	328
Leukaemia, other	<5	NR	NR	0 - 0.1	*
Kidney	105	2.4	7.1	5.6-8.5	117
Cervix	94	2.1	7.4	5.9-8.9	150
Unknown primary	87	2.0	3.6	2.7-4.4	348
Bladder & urinary tract	62	1.4	3.1	2.2-3.9	283
Brain	60	1.4	4.2	3.0-5.4	224
Stomach	55	1.2	2.8	2.0-3.6	333
Myeloma	51	1.2	3.0	2.1-3.9	281
Lip, gum & mouth	42	1.0	2.2	1.5-3.0	394
Skin (NMSC exc. SCC/BCC)	36	0.8	2.0	1.2-2.7	557
Oesophagus	34	0.8	1.8	1.1-2.5	500
Liver	33	0.7	1.9	1.2-2.6	468
<b>All cancers</b>	<b>4404</b>	<b>100.0</b>	<b>278.7</b>	<b>270.0-287.5</b>	<b>4</b>

### All Western Australia

#### Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	1945	28.5	99.4	94.9-103.9	8
Melanoma (skin)	774	11.4	40.2	37.3-43.1	23
Colorectal	739	10.8	36.9	34.1-39.6	24
Colon	472	6.9	23.1	20.9-25.2	38
Rectum	265	3.9	13.7	12.0-15.3	61
Lung	623	9.1	29.5	27.1-31.9	30
Lymphoma	325	4.8	17.9	15.9-20.0	51
Lymphoma NOS	6	0.1	0.3	0.0-0.5	3216
Hodgkin lymphoma	28	0.4	2.1	1.3-2.8	623
NHL	291	4.3	15.6	13.8-17.5	56
Kidney	225	3.3	12.6	10.9-14.3	70
Bladder & urinary tract	209	3.1	9.2	7.9-10.5	106
Leukaemia	177	2.6	10.0	8.4-11.7	101
Leukaemia NOS	<5	NR	NR	0 - 0.1	*
Lymphoid leukaemia	109	1.6	6.4	5.0-7.7	156
Myeloid leukaemia	67	1.0	3.6	2.7-4.6	287
Leukaemia, other	<5	NR	NR	0 - 0.1	*
Pancreas	149	2.2	7.2	6.0-8.3	110
Stomach	128	1.9	6.1	5.0-7.2	151
Unknown primary	125	1.8	5.5	4.5-6.5	180
Lip, gum & mouth	122	1.8	6.4	5.3-7.6	139
Myeloma	122	1.8	5.9	4.8-6.9	166
Brain	112	1.6	6.6	5.4-7.9	148
Liver	107	1.6	5.5	4.5-6.6	156
Oesophagus	86	1.3	4.2	3.3-5.1	191
Mesothelioma	83	1.2	3.7	2.9-4.6	212
Testis	83	1.2	5.7	4.4-6.9	224
Thyroid gland	83	1.2	5.1	3.9-6.2	197
Pharynx	80	1.2	4.2	3.3-5.2	171
Skin (NMSC exc. SCC/BCC)	80	1.2	3.9	3.0-4.8	218
<b>All cancers</b>	<b>6816</b>	<b>100.0</b>	<b>348.9</b>	<b>340.4-357.4</b>	<b>3</b>

#### Females

	Cases	%	ASR	95%c.i.	Risk
Breast	1737	31.3	92.6	88.1-97.1	10
Colorectal	560	10.1	25.0	22.7-27.2	39
Colon	403	7.3	17.5	15.7-19.4	54
Rectum	152	2.7	7.2	6.0-8.4	143
Melanoma (skin)	530	9.6	28.1	25.6-30.7	33
Lung	484	8.7	22.1	20.0-24.2	36
Lymphoma	263	4.7	13.1	11.4-14.8	69
Lymphoma NOS	8	0.1	0.4	0.0-0.7	5022
Hodgkin lymphoma	26	0.5	1.8	1.1-2.5	619
NHL	229	4.1	10.9	9.4-12.4	78
Uterus	198	3.6	10.1	8.7-11.6	78
Thyroid gland	195	3.5	11.9	10.2-13.7	81
Ovary	142	2.6	7.0	5.8-8.3	116
Pancreas	138	2.5	5.8	4.7-6.8	151
Leukaemia	129	2.3	7.2	5.8-8.6	152
Leukaemia NOS	<5	NR	NR	0 - 0.1	*
Lymphoid leukaemia	67	1.2	4.0	2.9-5.1	273
Myeloid leukaemia	60	1.1	3.2	2.3-4.1	339
Leukaemia, other	<5	NR	NR	0 - 0.1	*
Kidney	123	2.2	6.5	5.3-7.7	131
Cervix	113	2.0	7.1	5.7-8.4	156
Unknown primary	110	2.0	3.9	3.1-4.7	291
Bladder & urinary tract	80	1.4	3.2	2.4-3.9	260
Brain	75	1.4	4.3	3.2-5.4	220
Stomach	69	1.2	2.8	2.1-3.5	355
Lip, gum & mouth	68	1.2	3.0	2.3-3.8	297
Myeloma	63	1.1	2.9	2.1-3.7	295
Gallbladder / bile ducts	46	0.8	2.0	1.4-2.6	471
Skin (NMSC exc. SCC/BCC)	44	0.8	1.9	1.2-2.5	630
Liver	43	0.8	2.0	1.4-2.7	428
<b>All cancers</b>	<b>5548</b>	<b>100.0</b>	<b>279.3</b>	<b>271.5-287.1</b>	<b>4</b>

## Appendix 3E. Cancer mortality, Western Australia, 2014: Leading types by sex and geographic area

### CHS Kimberley Region

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Lung	8	36.4	34.8	10.2-59.4	25	Lung	<5	NR	NR	0 - 44.3	32
Pharynx	<5	NR	NR	0 - 30.0	54	Oesophagus	<5	NR	NR	0 - 20.2	232
Pancreas	<5	NR	NR	0 - 37.4	31	Liver	<5	NR	NR	0 - 21.7	121
Liver	<5	NR	NR	0 - 22.2	86	Breast	<5	NR	NR	0 - 34.9	36
Colorectal	<5	NR	NR	0 - 13.8	172	Bladder & urinary tract	<5	NR	NR	0 - 40.3	31
Oesophagus	<5	NR	NR	0 - 21.3	56	Pharynx	<5	NR	NR	0 - 20.3	117
Stomach	<5	NR	NR	0 - 13.8	172	Stomach	<5	NR	NR	0 - 10.2	232
Melanoma (skin)	<5	NR	NR	0 - 16.4	109	Small intestine	<5	NR	NR	0 - 29.3	41
Bladder & urinary tract	<5	NR	NR	0 - 10.4	228	Connective/ soft tissues	<5	NR	NR	0 - 20.6	87
Meninges	<5	NR	NR	0 - 10.4	228	Unknown primary	<5	NR	NR	0 - 20.6	87
All cancer deaths	22	100.0	104.6	60.0-149	7	All cancer deaths	16	100.0	103.2	50.3-156	7

### CHS Pilbara Region

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Lung	9	42.9	45.7	1.4-90.0	48	Lung	<5	NR	NR	0 - 43.6	28
Tongue	<5	NR	NR	0 - 35.3	32	Colorectal	<5	NR	NR	0 - 24.4	98
Oesophagus	<5	NR	NR	0 - 10.4	213	Pharynx	<5	NR	NR	0 - 24.4	98
Prostate	<5	NR	NR	0 - 45.1	22	Mesothelioma	<5	NR	NR	0 - 11.3	314
Colorectal	<5	NR	NR	0 - 30.7	*	Unknown primary	<5	NR	NR	0 - 24.4	98
Pharynx	<5	NR	NR	0 - 14.5	123						
Liver	<5	NR	NR	0 - 4.7	764						
Larynx	<5	NR	NR	0 - 4.5	525						
Mesothelioma	<5	NR	NR	0 - 4.5	525						
Brain	<5	NR	NR	0 - 4.2	709						
All cancer deaths	21	100.0	104.7	44.4-165	9	All cancer deaths	6	100.0	45.1	5.5-84.7	15

### CHS Midwest Region

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Lung	20	26.7	30.1	16.6-43.6	26	Lung	13	20.6	24.5	10.9-38.1	26
Colorectal	9	12.0	17.1	5.4-28.8	60	Breast	13	20.6	25.1	11.0-39.3	39
Colon	5*	6.7	9.4	0.6-18.1	112	Colorectal	11	17.5	15.7	5.8-25.5	80
Rectum	<5	NR	NR	0 - 15.5	129	Colon	10*	14.3	12.7	3.9-21.4	101
Pancreas	7	9.3	11.6	2.7-20.5	73	Rectum	<5	NR	NR	0 - 7.5	381
Prostate	5	6.7	6.5	0.7-12.3	128	Unknown primary	6	9.5	10.6	1.7-19.6	67
Bladder & urinary tract	<5	NR	NR	0 - 10.7	169	Pancreas	<5	NR	NR	0 - 8.8	381
Oesophagus	<5	NR	NR	0 - 12.8	144	Oesophagus	<5	NR	NR	0 - 7.5	381
Melanoma (skin)	<5	NR	NR	0 - 10.5	250	Melanoma (skin)	<5	NR	NR	0 - 9.0	455
Unknown primary	<5	NR	NR	0 - 7.1	*	Cervix	<5	NR	NR	0 - 9.0	455
Lymphoma	<5	NR	NR	0 - 8.1	498	Bladder & urinary tract	<5	NR	NR	0 - 8.2	381
Leukaemia	<5	NR	NR	0 - 9.3	328						
All cancer deaths	75	100.0	116.2	89.0-143	8	All cancer deaths	63	100.0	107.1	79.3-135	9



## Appendix 3E. Cancer mortality, Western Australia, 2014: Leading types by sex and geographic area

### CHS Wheatbelt Region

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Lung	24	22.2	24.9	14.7-35.2	35	Lung	22	33.8	27.3	15.2-39.3	28
Prostate	17	15.7	14.5	7.5-21.4	600	Colorectal	11	16.9	9.4	3.5-15.3	125
Unknown primary	7	6.5	7.3	1.8-12.9	125	Colon	8	12.3	5.8	1.6-9.9	327
Colorectal	6	5.6	6.6	1.3-11.9	119	Rectum	<5	NR	NR	0 - 7.8	203
Colon	<5	NR	NR	0.0-9.0	178	Pancreas	8	12.3	9.1	2.5-15.8	96
Rectum	<5	NR	NR	0 - 4.9	358	Lymphoma	<5	NR	NR	0 - 5.7	441
Pancreas	6	5.6	7.0	1.4-12.6	96	Breast	<5	NR	NR	0 - 9.3	260
Leukaemia	6	5.6	5.3	1.0-9.6	501	Cervix	<5	NR	NR	0 - 8.8	199
Leukaemia NOS	<5	NR	NR	0 - 1.9	*	Uterus	<5	NR	NR	0 - 4.5	327
Lymphoid leukaemia	<5	NR	NR	0 - 5.4	*	Ovary	<5	NR	NR	0 - 2.9	*
Myeloid leukaemia	<5	NR	NR	0 - 5.1	501	Brain	<5	NR	NR	0 - 6.4	206
Leukaemia, other	0				-	Leukaemia	<5	NR	NR	0 - 3.6	*
Kidney	5	4.6	6.1	0.7-11.6	151						
Bladder & urinary tract	5	4.6	4.1	0.5-7.7	*						
All cancer deaths	108	100.0	109.7	88.3-131	10	All cancer deaths	65	100.0	73.1	53.9-92.3	13

### CHS Goldfields Region

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Lung	13	32.5	34.9	15.8-54.0	24	Pancreas	<5	NR	NR	0 - 18.4	228
Colorectal	<5	NR	NR	0 - 16.5	76	Lung	<5	NR	NR	0 - 16.7	145
Liver	<5	NR	NR	0 - 17.0	123	Brain	<5	NR	NR	0 - 18.4	88
Prostate	<5	NR	NR	0 - 18.3	140	Colorectal	<5	NR	NR	0 - 15.1	149
Lymphoma	<5	NR	NR	0 - 19.9	295	Breast	<5	NR	NR	0 - 10.1	310
Oesophagus	<5	NR	NR	0 - 12.5	140	Bladder & urinary tract	<5	NR	NR	0 - 9.9	398
Pancreas	<5	NR	NR	0 - 10.1	211	Unknown primary	<5	NR	NR	0 - 11.2	135
Larynx	<5	NR	NR	0 - 11.7	140	Leukaemia	<5	NR	NR	0 - 10.1	310
Melanoma (skin)	<5	NR	NR	0 - 10.4	*						
All cancer deaths	40	100.0	106.0	73.0-139	10	All cancer deaths	28	100.0	67.2	41.1-93.3	16

### CHS Great Southern Region

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Lung	17	23.3	26.5	13.4-39.7	28	Lung	10	19.6	16.4	5.5-27.3	44
Prostate	8	11.0	10.7	3.0-18.3	107	Breast	9	17.6	15.2	4.9-25.6	54
Colorectal	7	9.6	8.9	2.0-15.7	156	Colorectal	6	11.8	6.2	0.7-11.7	169
Colon	6	8.2	7.8	1.3-14.4	156	Colon	<5	NR	NR	0 - 8.8	169
Rectum	<5	NR	NR	0 - 3.2	*	Rectum	<5	NR	NR	0 - 4.9	*
Bladder & urinary tract	6	8.2	7.7	1.3-14.1	95	Unknown primary	5	9.8	4.3	0.4-8.1	*
Lymphoma	5	6.8	5.7	0.5-10.9	343	Gallbladder / bile ducts	<5	NR	NR	0 - 8.8	186
Lymphoma NOS	0				-	Pancreas	<5	NR	NR	0 - 8.7	166
Hodgkin lymphoma	0				-	Uterus	<5	NR	NR	0 - 7.1	424
NHL	5	6.8	5.7	0.5-10.9	343	Ovary	<5	NR	NR	0 - 7.1	424
Pancreas	<5	NR	NR	0 - 11.3	172	Female genital, other	<5	NR	NR	0 - 6.2	331
Brain	<5	NR	NR	0 - 10.2	384	Brain	<5	NR	NR	0 - 19.0	139
Mesothelioma	<5	NR	NR	0 - 9.2	384	Myeloma	<5	NR	NR	0 - 6.8	140
Myeloma	<5	NR	NR	0 - 8.4	410						
All cancer deaths	73	100.0	106.1	80.4-132	10	All cancer deaths	51	100.0	78.3	53.8-103	11

## Appendix 3E. Cancer mortality, Western Australia, 2014: Leading types by sex and geographic area

### CHS South West Region

#### Males

	Cases	%	ASR	95%c.i.	Risk
Lung	29	16.4	18.1	11.4-24.8	48
Prostate	23	13.0	11.3	6.6-16.0	180
Colorectal	14	7.9	7.8	3.6-12.0	175
Colon	9	5.1	4.3	1.5-7.2	588
Rectum	5	2.8	3.5	0.4-6.6	248
Mesothelioma	10	5.6	6.3	2.3-10.3	138
Brain	10	5.6	6.6	2.5-10.8	137
Myeloma	9	5.1	5.9	1.9-9.9	158
Melanoma (skin)	8	4.5	5.5	1.6-9.3	159
Liver	7	4.0	4.2	1.0-7.3	156
Skin (NMSC inc. SCC/BCC)	7	4.0	3.8	0.9-6.7	395
Lymphoma	7	4.0	4.9	0.7-9.1	311
Lymphoma NOS	<5	NR	NR	0 - 1.5	*
Hodgkin lymphoma	<5	NR	NR	0 - 1.5	*
NHL	5*	NR	3.9	0 - 7.9	311
Pancreas	6	3.4	3.2	0.5-5.9	319
Oesophagus	5	2.8	3.3	0.4-6.2	217
Stomach	5	2.8	3.5	0.2-6.8	329
Gallbladder / bile ducts	5	2.8	3.0	0.3-5.6	275
Leukaemia	5	2.8	3.0	0.3-5.7	395
Kidney	<5	NR	3.9	0 - 8.4	376
Myelodysplastic diseases	<5	NR	1.8	0.0-3.6	*
Tongue	<5	NR	2.4	0 - 5.2	293
Bladder & urinary tract	<5	NR	1.4	0 - 3.0	931

#### Females

	Cases	%	ASR	95%c.i.	Risk
Lung	25	18.9	16.1	9.6-22.5	41
Breast	24	18.2	15.1	8.6-21.5	62
Colorectal	18	13.6	8.5	4.3-12.8	89
Colon	12	9.1	5.0	1.9-8.0	197
Rectum	6	4.5	3.6	0.6-6.5	161
Pancreas	10	7.6	4.2	1.3-7.0	273
Ovary	8	6.1	3.6	0.7-6.5	550
Unknown primary	7	5.3	3.3	0.7-5.9	360
Stomach	<5	NR	NR	0 - 2.9	*
Melanoma (skin)	<5	NR	NR	0 - 4.7	635
Oesophagus	<5	NR	NR	0 - 1.8	*
Brain	<5	NR	NR	0 - 4.2	625
Leukaemia	<5	NR	NR	0 - 2.6	636
Myelodysplastic diseases	<5	NR	NR	0 - 4.4	297
Liver	<5	NR	NR	0 - 3.8	565
Vulva	<5	NR	NR	0 - 1.3	*
Uterus	<5	NR	NR	0 - 1.3	*
Kidney	<5	NR	NR	0 - 3.6	1178
Thyroid gland	<5	NR	NR	0 - 3.0	1029
Lymphoma	<5	NR	NR	0 - 1.3	*

All cancer deaths

177 100.0 108.0 91.3-125 10

All cancer deaths

132 100.0 70.8 57.7-83.9 13

### WA Country - all

#### Males

	Cases	%	ASR	95%c.i.	Risk
Lung	120	23.3	25.4	20.8-30.0	33
Prostate	58	11.2	10.7	7.9-13.5	154
Colorectal	41	7.9	8.7	6.0-11.4	125
Colon	26	5.0	5.2	3.2-7.3	253
Rectum	15	2.9	3.4	1.7-5.2	248
Pancreas	28	5.4	6.1	3.8-8.3	131
Brain	22	4.3	4.5	2.6-6.4	202
Melanoma (skin)	20	3.9	4.1	2.3-5.9	242
Lymphoma	20	3.9	4.0	2.2-5.9	412
Lymphoma NOS	<5	NR	NR	0 - 0.5	*
Hodgkin lymphoma	<5	NR	NR	0 - 0.5	*
NHL	20*	3.5	3.7	1.9-5.4	412
Liver	19	3.7	4.3	2.4-6.3	162
Bladder & urinary tract	19	3.7	3.5	1.9-5.1	325
Oesophagus	18	3.5	4.1	2.2-6.0	197
Mesothelioma	16	3.1	3.3	1.7-5.0	293
Myeloma	16	3.1	3.2	1.6-4.9	346
Leukaemia	15	2.9	2.9	1.4-4.5	540
Leukaemia NOS	<5	NR	NR	0 - 0.4	*
Lymphoid leukaemia	7	1.4	1.3	0.3-2.2	1698
Myeloid leukaemia	7	1.4	1.5	0.4-2.7	791
Leukaemia, other	0*	NR	NR	-	-
Unknown primary	14	2.7	2.8	1.3-4.3	378
Skin (NMSC inc. SCC/BCC)	13	2.5	2.7	1.2-4.1	344
Stomach	11	2.1	2.4	0.9-3.8	527
Myelodysplastic diseases	11	2.1	2.1	0.8-3.3	770
Gallbladder / bile ducts	9	1.7	1.8	0.6-2.9	663
Kidney	9	1.7	2.4	0.7-4.2	488
Pharynx	7	1.4	1.5	0.4-2.7	544
Tongue	6	1.2	1.3	0.2-2.4	482

#### Females

	Cases	%	ASR	95%c.i.	Risk
Lung	78	21.6	18.5	14.3-22.7	37
Breast	52	14.4	12.4	8.9-15.9	74
Colorectal	49	13.6	9.1	6.4-11.8	106
Colon	35	9.7	6.2	4.0-8.4	175
Rectum	14	3.9	2.9	1.3-4.4	271
Pancreas	27	7.5	5.1	3.0-7.1	202
Unknown primary	23	6.4	4.4	2.5-6.3	231
Ovary	14	3.9	2.5	1.1-4.0	527
Brain	10	2.8	2.5	0.8-4.2	309
Bladder & urinary tract	8	2.2	1.7	0.5-3.0	456
Leukaemia	8	2.2	1.4	0.4-2.5	848
Leukaemia NOS	0				-
Lymphoid leukaemia	<5	NR	NR	0 - 1.2	1657
Myeloid leukaemia	<5	NR	NR	0 - 1.8	1736
Leukaemia, other	0				-
Oesophagus	7	1.9	1.1	0.2-2.0	1529
Liver	7	1.9	1.9	0.5-3.4	377
Melanoma (skin)	7	1.9	1.4	0.3-2.5	1209
Uterus	7	1.9	1.3	0.3-2.3	795
Myelodysplastic diseases	7	1.9	1.3	0.3-2.3	795
Stomach	6	1.7	0.9	0.2-1.7	3400
Lymphoma	6	1.7	0.8	0.1-1.5	2282
Lymphoma NOS	0				-
Hodgkin lymphoma	0				-
NHL	6	1.7	0.8	0.1-1.5	2282
Myeloma	6	1.7	1.1	0.2-1.9	829
Mesothelioma	5	1.4	1.3	0.1-2.5	668
Cervix	5	1.4	1.3	0.1-2.6	705
Gallbladder / bile ducts	<5	NR	NR	0 - 1.7	749
Kidney	<5	NR	NR	0 - 2.1	1068

All cancer deaths

516 100.0 106.7 97.4-116 10

All cancer deaths

361 100.0 76.4 68.1-84.8 12

## Appendix 3E. Cancer mortality, Western Australia, 2014: Leading types by sex and geographic area

### North Metro AHS

#### Males

	Cases	%	ASR	95%c.i.	Risk
Lung	182	20.6	20.5	17.5-23.6	46
Colorectal	95	10.8	10.8	8.5-13.0	87
Colon	63	7.1	7.0	5.2-8.7	157
Rectum	32	3.6	3.8	2.5-5.2	192
Prostate	91	10.3	9.0	7.1-10.9	126
Pancreas	47	5.3	5.1	3.6-6.7	189
Melanoma (skin)	46	5.2	5.2	3.6-6.7	182
Unknown primary	40	4.5	4.2	2.8-5.5	262
Bladder & urinary tract	39	4.4	3.8	2.6-5.1	369
Liver	35	4.0	4.5	3.0-6.0	177
Mesothelioma	33	3.7	3.5	2.3-4.7	306
Brain	33	3.7	4.4	2.9-5.9	186
Lymphoma	29	3.3	3.4	2.2-4.7	239
Lymphoma NOS	<5	NR	NR	0 - 0.3	*
Hodgkin lymphoma	<5	NR	NR	0 - 0.8	1801
NHL	25	2.8	3.0	1.8-4.2	275
Stomach	25	2.8	3.0	1.8-4.2	253
Oesophagus	24	2.7	2.9	1.7-4.0	297
Leukaemia	24	2.7	3.0	1.7-4.3	326
Leukaemia NOS	0*	NR	NR	-	-
Lymphoid leukaemia	11	1.2	1.6	0.6-2.6	645
Myeloid leukaemia	12	1.4	1.3	0.5-2.0	727
Leukaemia, other	<5	NR	NR	0 - 0.4	6837
Myeloma	22	2.5	2.2	1.3-3.2	539
Skin (NMSC inc. SCC/BCC)	18	2.0	1.8	1.0-2.7	551
Myelodysplastic diseases	16	1.8	1.4	0.7-2.1	4364
Gallbladder / bile ducts	12	1.4	1.4	0.6-2.2	848
Kidney	12	1.4	1.5	0.6-2.4	637
Lip, gum & mouth	8	0.9	0.8	0.2-1.4	1690
Pharynx	8	0.9	0.9	0.3-1.6	865
All cancer deaths	882	100.0	99.3	92.5-106	10

#### Females

	Cases	%	ASR	95%c.i.	Risk
Lung	119	17.1	11.9	9.6-14.2	70
Breast	99	14.3	10.5	8.2-12.7	97
Colorectal	71	10.2	6.7	5.0-8.4	161
Colon	54	7.8	5.0	3.5-6.5	230
Rectum	17	2.4	1.7	0.8-2.6	535
Unknown primary	47	6.8	3.6	2.5-4.8	305
Pancreas	43	6.2	4.4	3.0-5.7	190
Ovary	38	5.5	3.9	2.6-5.2	247
Leukaemia	32	4.6	3.6	2.1-5.0	291
Leukaemia NOS	<5	NR	NR	0 - 0.2	*
Lymphoid leukaemia	6	0.9	0.6	0 - 1.2	6597
Myeloid leukaemia	24	3.5	2.9	1.6-4.2	304
Leukaemia, other	<5	NR	NR	-	-
Lymphoma	23	3.3	2.2	1.2-3.2	409
Lymphoma NOS	0			-	-
Hodgkin lymphoma	0			-	-
NHL	23	3.3	2.2	1.2-3.2	409
Brain	20	2.9	2.4	1.3-3.5	365
Liver	18	2.6	1.6	0.8-2.4	764
Melanoma (skin)	18	2.6	1.9	0.9-2.9	445
Myeloma	17	2.4	2.0	1.0-3.0	376
Stomach	16	2.3	1.6	0.7-2.4	611
Bladder & urinary tract	16	2.3	1.3	0.6-2.0	768
Myelodysplastic diseases	13	1.9	1.0	0.4-1.7	710
Oesophagus	11	1.6	0.9	0.3-1.4	2139
Gallbladder / bile ducts	10	1.4	1.0	0.3-1.6	1165
Skin (NMSC inc. SCC/BCC)	10	1.4	0.6	0.2-1.0	5470
Uterus	8	1.2	1.0	0.2-1.8	1262
Kidney	8	1.2	0.7	0.2-1.3	1161
Myeloprolif. d/o (chronic)	8	1.2	0.7	0.2-1.3	1481
All cancer deaths	694	100.0	68.8	63.2-74.4	14

### South Metro AHS

#### Males

	Cases	%	ASR	95%c.i.	Risk
Lung	189	22.3	22.5	19.2-25.8	41
Colorectal	105	12.4	12.5	10.0-14.9	77
Colon	67	7.9	7.5	5.6-9.4	153
Rectum	38	4.5	5.0	3.3-6.6	154
Prostate	82	9.7	8.1	6.3-9.9	195
Unknown primary	37	4.4	4.2	2.7-5.6	285
Pancreas	36	4.3	4.2	2.8-5.6	207
Melanoma (skin)	36	4.3	4.3	2.8-5.8	266
Stomach	35	4.1	4.0	2.6-5.4	301
Lymphoma	35	4.1	4.4	2.9-6.0	197
Lymphoma NOS	<5	NR	NR	0 - 0.6	4167
Hodgkin lymphoma	<5	NR	NR	0 - 0.5	6010
NHL	32	3.8	4.0	2.6-5.5	214
Liver	33	3.9	4.3	2.8-5.8	231
Brain	29	3.4	4.2	2.6-5.9	214
Oesophagus	27	3.2	3.5	2.2-4.9	232
Mesothelioma	27	3.2	3.0	1.8-4.1	302
Bladder & urinary tract	25	3.0	2.8	1.7-3.9	330
Skin (NMSC inc. SCC/BCC)	24	2.8	2.5	1.5-3.6	531
Kidney	22	2.6	3.2	1.8-4.6	251
Leukaemia	20	2.4	2.4	1.3-3.5	408
Leukaemia NOS	0			-	-
Lymphoid leukaemia	8	0.9	1.0	0.3-1.8	761
Myeloid leukaemia	12	1.4	1.4	0.5-2.2	878
Leukaemia, other	0			-	-
Pharynx	15	1.8	2.1	1.0-3.1	382
Myelodysplastic diseases	14	1.7	1.3	0.6-2.0	1804
Myeloma	12	1.4	1.2	0.5-1.9	1076
Gallbladder / bile ducts	11	1.3	1.5	0.6-2.5	420
Connective/ soft tissues	<5	NR	NR	0 - 1.4	1919
All cancer deaths	846	100.0	101.2	94.1-108	10

#### Females

	Cases	%	ASR	95%c.i.	Risk
Lung	122	17.1	13.6	11.0-16.1	66
Breast	98	13.8	11.1	8.8-13.5	81
Colorectal	79	11.1	7.5	5.6-9.4	144
Colon	57	8.0	5.5	3.9-7.2	184
Rectum	22	3.1	2.0	1.0-3.0	645
Ovary	50	7.0	5.9	4.1-7.7	138
Pancreas	42	5.9	3.7	2.4-4.9	287
Lymphoma	31	4.4	3.4	2.1-4.7	277
Lymphoma NOS	<5	NR	NR	0 - 0.2	*
Hodgkin lymphoma	<5	NR	NR	0 - 0.9	3079
NHL	27	3.8	2.9	1.7-4.1	304
Unknown primary	29	4.1	2.5	1.4-3.5	550
Melanoma (skin)	26	3.7	3.0	1.7-4.2	302
Leukaemia	23	3.2	2.2	1.1-3.4	627
Leukaemia NOS	<5	NR	NR	0 - 0.5	7263
Lymphoid leukaemia	9	1.3	1.0	0.2-1.8	1787
Myeloid leukaemia	13	1.8	1.1	0.4-1.8	1114
Leukaemia, other	<5	NR	NR	-	-
Myeloma	21	2.9	2.0	1.0-3.0	432
Gallbladder / bile ducts	18	2.5	1.7	0.8-2.5	507
Brain	18	2.5	2.5	1.1-3.8	378
Bladder & urinary tract	17	2.4	1.5	0.7-2.4	475
Skin (NMSC inc. SCC/BCC)	15	2.1	0.9	0.4-1.4	4134
Liver	14	2.0	1.9	0.8-2.9	606
Cervix	14	2.0	1.9	0.9-3.0	396
Kidney	13	1.8	1.3	0.5-2.1	1066
Stomach	11	1.5	1.0	0.3-1.6	1051
Uterus	10	1.4	1.4	0.5-2.2	585
Oesophagus	8	1.1	0.9	0.2-1.6	778
Myelodysplastic diseases	7	1.0	0.5	0.1-0.9	4134
All cancer deaths	712	100.0	75.0	68.8-81.1	13

## Appendix 3E. Cancer mortality, Western Australia, 2014: Leading types by sex and geographic area

### WA Metro - all

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Lung	371	21.5	21.5	19.2-23.8	43	Lung	241	17.1	12.7	11.0-14.4	68
Colorectal	200	11.6	11.6	9.9-13.3	82	Breast	197	14.0	10.8	9.2-12.5	88
Colon	130	7.5	7.2	5.9-8.5	155	Colorectal	150	10.7	7.1	5.8-8.4	152
Rectum	70	4.1	4.4	3.3-5.4	172	Colon	111	7.9	5.3	4.2-6.4	205
Prostate	173	10.0	8.6	7.2-9.9	152	Rectum	39	2.8	1.8	1.2-2.5	583
Pancreas	83	4.8	4.7	3.6-5.7	197	Ovary	88	6.3	4.9	3.8-5.9	179
Melanoma (skin)	82	4.7	4.8	3.7-5.8	215	Pancreas	85	6.0	4.0	3.1-5.0	227
Unknown primary	77	4.5	4.2	3.2-5.2	273	Unknown primary	76	5.4	3.1	2.3-3.9	389
Liver	68	3.9	4.4	3.3-5.4	200	Leukaemia	55	3.9	2.9	2.0-3.8	392
Bladder & urinary tract	64	3.7	3.3	2.5-4.2	348	Leukaemia NOS	<5	NR	NR	0 - 0.3	*
Lymphoma	64	3.7	3.9	2.9-4.9	217	Lymphoid leukaemia	15	1.1	0.8	0.3-1.3	2891
Lymphoma NOS	<5	0.2	0.2	0 - 0.3	8531	Myeloid leukaemia	37	2.6	2.0	1.3-2.8	466
Hodgkin lymphoma	<5	0.2	0.3	0.0-0.5	2757	Leukaemia, other	<5	NR	NR	0 - 0.3	*
NHL	57	3.3	3.5	2.5-4.4	242	Lymphoma	54	3.8	2.8	2.0-3.6	333
Brain	62	3.6	4.3	3.2-5.4	198	Lymphoma NOS	<5	NR	NR	0 - 0.1	*
Stomach	60	3.5	3.5	2.6-4.4	274	Hodgkin lymphoma	<5	NR	NR	0 - 0.4	6497
Mesothelioma	60	3.5	3.3	2.4-4.1	302	NHL	50	3.6	2.5	1.8-3.3	351
Oesophagus	51	3.0	3.2	2.3-4.1	262	Melanoma (skin)	44	3.1	2.4	1.6-3.2	363
Leukaemia	44	2.5	2.7	1.9-3.6	361	Brain	38	2.7	2.4	1.6-3.3	370
Leukaemia NOS	<5	NR	NR	0 - 0.2	-	Myeloma	38	2.7	2.0	1.3-2.7	401
Lymphoid leukaemia	19	1.1	1.3	0.7-1.9	699	Bladder & urinary tract	33	2.3	1.4	0.9-2.0	591
Myeloid leukaemia	24	1.4	1.3	0.8-1.9	793	Liver	32	2.3	1.7	1.1-2.4	684
Leukaemia, other	<5	NR	NR	0 - 0.2	*	Gallbladder / bile ducts	28	2.0	1.3	0.8-1.9	715
Skin (NMSC inc. SCC/BCC)	42	2.4	2.2	1.5-2.9	541	Stomach	27	1.9	1.3	0.7-1.8	764
Kidney	34	2.0	2.3	1.5-3.1	366	Skin (NMSC inc. SCC/BCC)	25	1.8	0.7	0.4-1.0	4729
Myeloma	34	2.0	1.7	1.1-2.4	706	Kidney	21	1.5	1.0	0.5-1.5	1118
Myelodysplastic diseases	30	1.7	1.4	0.9-1.9	2601	Myelodysplastic diseases	20	1.4	0.8	0.4-1.2	1183
Pharynx	23	1.3	1.5	0.9-2.1	539	Oesophagus	19	1.4	0.9	0.4-1.3	1158
Gallbladder / bile ducts	23	1.3	1.4	0.8-2.1	565	Cervix	19	1.4	1.3	0.7-1.8	646
Lip, gum & mouth	11	0.6	0.6	0.2-1.0	1513	Uterus	18	1.3	1.2	0.6-1.7	811
All cancer deaths	1728	100.0	100.2	95.3-105	10	All cancer deaths	1406	100.0	71.7	67.6-75.9	14

### All Western Australia

Males						Females					
	Cases	%	ASR	95%c.i.	Risk		Cases	%	ASR	95%c.i.	Risk
Lung	491	21.9	22.5	20.4-24.5	40	Lung	319	18.1	13.9	12.3-15.6	58
Colorectal	241	10.7	10.9	9.5-12.3	89	Breast	249	14.1	11.2	9.7-12.7	85
Colon	156	7.0	6.8	5.7-7.9	170	Colorectal	199	11.3	7.5	6.3-8.6	139
Rectum	85	3.8	4.1	3.2-5.1	184	Colon	146	8.3	5.4	4.5-6.4	198
Prostate	231	10.3	9.0	7.8-10.2	153	Rectum	53	3.0	2.1	1.4-2.7	469
Pancreas	111	4.9	5.0	4.0-6.0	176	Pancreas	112	6.3	4.2	3.4-5.1	222
Melanoma (skin)	102	4.5	4.6	3.7-5.6	220	Ovary	102	5.8	4.4	3.4-5.3	208
Unknown primary	91	4.1	3.9	3.1-4.7	290	Unknown primary	99	5.6	3.3	2.6-4.1	340
Liver	87	3.9	4.4	3.4-5.3	190	Leukaemia	63	3.6	2.6	1.9-3.4	442
Brain	84	3.7	4.3	3.4-5.3	200	Leukaemia NOS	<5	NR	NR	0 - 0.2	*
Lymphoma	84	3.7	3.9	3.0-4.7	244	Lymphoid leukaemia	19	1.1	0.7	0.3-1.1	2510
Lymphoma NOS	<5	NR	NR	0.0-0.3	*	Myeloid leukaemia	41	2.3	1.8	1.2-2.4	552
Hodgkin lymphoma	5*	NR	NR	0.0-0.5	3582	Leukaemia, other	0				-
NHL	75	3.3	3.5	2.7-4.3	268	Lymphoma	60	3.4	2.4	1.7-3.0	407
Bladder & urinary tract	83	3.7	3.3	2.6-4.1	343	Lymphoma NOS	<5	NR	NR	0 - 0.3	*
Mesothelioma	76	3.4	3.3	2.5-4.0	299	Hodgkin lymphoma	<5	NR	NR	0 - 0.3	8130
Stomach	71	3.2	3.2	2.5-4.0	309	NHL	56	3.2	2.2	1.6-2.8	428
Oesophagus	69	3.1	3.4	2.6-4.2	243	Melanoma (skin)	51	2.9	2.2	1.5-2.9	425
Leukaemia	59	2.6	2.7	2.0-3.5	390	Brain	48	2.7	2.5	1.7-3.2	357
Leukaemia NOS	<5	NR	NR	0 - 0.1	*	Myeloma	44	2.5	1.8	1.2-2.4	450
Lymphoid leukaemia	26	1.2	1.3	0.8-1.8	810	Bladder & urinary tract	41	2.3	1.5	1.0-2.0	556
Myeloid leukaemia	31	1.4	1.4	0.9-1.9	786	Liver	39	2.2	1.8	1.2-2.4	583
Leukaemia, other	<5	0.0	0.1	0 - 0.2	*	Stomach	33	1.9	1.2	0.8-1.7	910
Skin (NMSC inc. SCC/BCC)	55	2.5	2.3	1.7-2.9	480	Gallbladder / bile ducts	32	1.8	1.2	0.8-1.7	720
Myeloma	50	2.2	2.1	1.5-2.7	565	Skin (NMSC inc. SCC/BCC)	27	1.5	0.6	0.4-0.9	5985
Kidney	43	1.9	2.3	1.6-3.1	388	Myelodysplastic diseases	27	1.5	0.9	0.5-1.2	1070
Myelodysplastic diseases	41	1.8	1.5	1.0-2.0	1687	Oesophagus	26	1.5	0.9	0.5-1.3	1217
Gallbladder / bile ducts	32	1.4	1.5	1.0-2.0	583	Uterus	25	1.4	1.2	0.7-1.7	808
Pharynx	30	1.3	1.5	0.9-2.1	537	Kidney	25	1.4	1.0	0.6-1.5	1106
Larynx	15	0.7	0.7	0.3-1.0	1171	Cervix	24	1.4	1.3	0.7-1.8	659
All cancer deaths	2244	100.0	101.7	97.4-106	10	All cancer deaths	1767	100.0	72.7	69.0-76.4	13





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