Cancer incidence and mortality in Western Australia, 2008

A report of the Western Australian Cancer Registry

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Contents

List of tables

List of figures

Summary

The Western Australian Cancer Registry has provided population-based cancer data since 1982 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. This report deals primarily with cancer incidence and cancer-related mortality in Western Australian residents, who comprise approximately 10% of the Australian population. All statistics are based on the ICDO-3 coding system.

There were 10408 new cases of cancer recorded in Western Australians in 2008, 5997 (58%) occurring in males and 4411 in females. Age-standardised incidence rates were 372 per 100,000 males, and 263 per 100,000 females, both higher than in 2007. The estimated lifetime risk of cancer to age 75 years was 1 in 3 for males, and 1 in 4 for females.

The most common cancers in males in 2008 were prostate and colorectal cancers, melanoma and lung cancer, with the proportions of colorectal and prostate cancers increasing slightly, lung decreasing, and lymphoma increasing considerably. Breast cancer predominated among females, followed by colorectal cancer, melanoma and lung cancer, as in each of the last 4 years. While a decreased rate of breast cancer in females was noted between 2006 and 2007, the rate in 2008 exceeds that of 2006.

Among Western Australian residents, there were 3655 deaths due to cancer in 2008, 2082 in males and 1573 in females. All-cancers mortality rates for 2008 were 117 deaths per 100,000 males and 77 per 100,000 females, decreased since 2006 and 2007. 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.

There were 58 children under the age of 15 years diagnosed with cancer in 2008 (ASR 15 per 100,000 in males and 12 in females), as well as a small number with other cancer-like conditions. There were 10 fewer cases than in 2007, but cancer at this age is a rare disease and annual variation in numbers and types is considerable.

Melanoma of the skin was - as in most years since 1982 - the most common cancer in males in the 15-39 years age range, however in 2008, melanoma was less common than breast cancer in females in the same age group. In persons over the age of 40 years, prostate and breast cancers, melanoma, colorectal and lung cancers, remain the most common incident cancers.

Based on 2008 data, one in 7 men would be expected to have a diagnosis of prostate cancer before the age of 75, and one in 11 women could be expected to develop breast cancer. One in 103 men could be expected to die from prostate cancer before age 75, and one in 68 women to die from breast cancer. However, as in 2006 and 2007, lung cancer was the most common cause of cancer-related death for both males and females.

It was previously noted that the Registry's 2007 incidence statistics may have been affected by Registry projects and workload. Normal follow-up procedures are now in place and proposed changes to notification legislation may further improve results, however the lack of hospital reporting of non-pathologically diagnosed cancer cases remains an issue of concern.

The AIHW's cancer incidence projections produced using WACR data for the purpose of a Commonwealth report to support the planning of radiotherapy services, were presented in the Registry's 2007 report. This year we present further local projections showing time trend assessment, and age-standardized rates for the most common cancers, using more recent data.

This report contains updated cancer incidence analysis by Statistical Local Area (SLA) based on the years 2004 to 2008, and presents "all-cancers" data in this document and individual cancer type data on the Registry's Website at http://www.health.wa.gov.au/wacr/home/. This significantly updates the Registry's 2004 response to concerns about supposed environmental risks and suspected elevated cancer risks in small areas when Registry *Cancer in Western Australia, 1998-2002: incidence and mortality by Statistical Local Area (SLA)* was published.

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.

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 relies on 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

1 Overview and Methods

1.1 This Report

Overview

This is the latest in this Registry's series of annual all-cancers incidence and mortality reports, and comprises a summary of Registry activities and topical issues, and details of cancer incidence and mortality for 2008. Sections concerning coding and other Registry practices and statistical methods include relevant material for recent years.

The Western Australian Cancer Registry (WACR) is a population-based cancer registry that was established in 1981, and operates within the Department of Health (Western Australia). Records are primarily based on notification of cancers from pathologists, haematologists and radiation oncologists, and cancer information from death records. The Registry works to collect and disseminate reliable population-based cancer data to assist in the planning of services and in the prevention and treatment of cancer. The Registry now operates a new database which incorporates information which was once held on a separate WA Mesothelioma Register. The Registry uses information from the Department's inpatient hospitalization statistical database and from the WA Electoral Roll to assist in maintaining the completeness and accuracy of the cancer database.

The WACR acts with the delegated authority of the Executive Director of Public Health with respect to the Health (Notification of Cancer) Regulations 1981. Last amended in 1996, these require the notification of *in situ* neoplasms and all non-melanoma skin cancers other than basal cell and squamous cell carcinomas, and all other invasive malignancies and benign CNS tumours (see Appendix 2E). Further changes are currently being sought in order to maintain the relevance of the Registry's data collection.

1.2 General structure; how to find information

The major statistical sections are based on cancers diagnosed, and deaths due to cancer, in 2008. Data for the more common cancers are presented under headings based on incidence, mortality and age, while data for selected geographic areas are presented in Appendices 3D and 3E. Detailed data for all cancers for 2008 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 . Readers seeking detailed information for particular cancers not shown in tables, should contact the Registry 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

1.3 Interpretation of changes and differences

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 underlying population sizes and their age structures. Caution is required in assessing changes on the basis of single rate comparisons.

The Cancer Registry database is dynamic, and data are 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. Ongoing reconciliation processes result in some Western Australian cases being 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, often sheds new light on a person's cancer history.

As a guide, while total cancers for 2007 were quoted at 9572 in our previous report,[1] the total currently recorded for 2007 is 9745, an increase of almost 2%. Mortality data are much more stable; 2007 cancer mortality was reported at 3697 deaths, now thought to be 3699. Benefits of more timely analysis and reporting must be weighed against the apparent stability of the 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 indigenous data from the Epidemiology Branch.

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** is used instead of ASR, as standardisation has considered only some age groups, for both cases and population.

The **World Standard Population 1960**[2] 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)[3] 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 Lifetime 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.

Lifetime 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 lifetime **risks** may not be in proportion to one another because of differences in the age structures of populations.

2. Cancer in Western Australia, 2008

2.1 All cancers

2.1.1 Incidence

In 2008, there were 10408 new diagnoses of cancer in Western Australia, an apparent increase of almost 7% over the 2007 total of 9745 cases. There were 5997 cancers diagnosed in males (58%) and 4411 (42%) in females. Corresponding age-standardised incidence rates were 372 per 100,000 (males) and 263 per 100,000 (females).

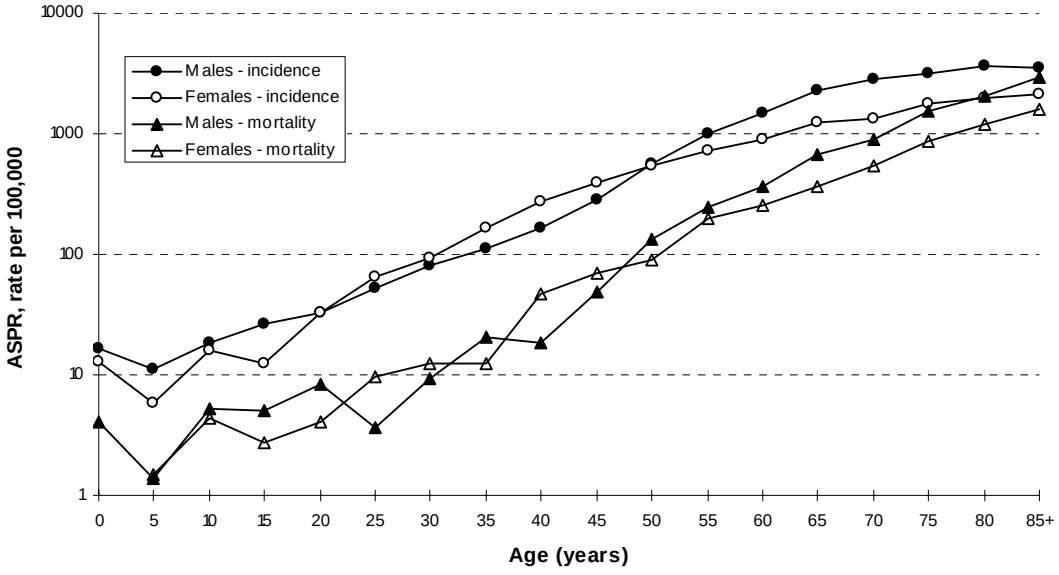
It was previously noted[1] that 2007 data may have been more incomplete than in some recent years, so comparisons with 2006 data are appropriate: the 2008 all-cancers ASR for males was higher than in 2006 (362) but the ASR in females remains lower than in 2006 (270); neither of these differences was statistically significant.

The estimated lifetime 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 years - was 44.6% for males and 29.2% for females.

Most of the excess cancer risk in females between ages 25 and 50 was due to ovarian and breast cancers, while prostate cancer and lung cancer were responsible for the high male/female rate ratio (approximately 2) at ages over 65 years (Figure 1).

The proportion of all cancers with a microscopic diagnosis was high (95% in males and 93% in females, stable over the last 5 years). Among the most common types, primary liver and pancreatic cancers were the most often diagnosed by non-histological methods in both males and females (39% to 52%). Cancers of unknown primary site were also commonly diagnosed by non-microscopic methods.

Figure 1. Age-specific all-cancers incidence and mortality rates, Western Australia, 2008.



Additional sources of incidence data

In any year, the WA cancer statistics include a number of cases which were initially "hospital data only" (HMDS-only) records and were confirmed as true cancer cases following attempts to obtain more information. The 2008 data reported here include few of such cases due to competing priorities during 2009. While devoting more resources to such follow-up is problematic, liaison with laboratories and hospital-based cancer registries to improve completeness of reporting, continues.

2.1.2 Mortality

Among Western Australian residents in 2008, there were 2082 deaths due to cancer in males and 1573 in females (Table 1). Mortality ASRs were 117 deaths per 100,000 males (lower than in 2007 [122]) and 77.4 per 100,000 females (also lower than in 2007 [84.4]). The estimated lifetime risk of death due to cancer before age 75 years was 1 in 9 for males and 1 in 13 for females. These rates and risks are statistically similar to those for 2007.

These statistics include 47 deaths due to non-melanocytic skin cancers, decreased since 2007. Of the cancers concerned, 39 (83%) were of the types (squamous and basal cell carcinomas) that are not included in "cancer" incidence statistics. The annual number of non-melanoma skin-cancer related deaths has increased significantly since 2001, outstripping the increase in melanoma-related deaths (and a preliminary count for 2009 already exceeds this figure). Deaths recorded as being due to cancers of unknown primary site have decreased over the same period.

In 2008, there were 18 cancer-related deaths in persons not normally resident in Western Australia (12 Australian, 6 from overseas); these are not included in the population-based mortality statistics in this report.

Other 2008 deaths recorded by the Cancer Registry included:

- Deaths due to benign tumours - 6 (5 of which were meningiomas or other CNS tumours)
- Deaths due to "uncertain malignant potential" lymphohaematopoietic neoplasms - 3
- Deaths due to "uncertain malignant potential" non-lymphohaematopoietic neoplasms - 6
- Deaths due to non-tumour-related causes among persons with a Registry tumour record - 958 males, 702 females (both similar to 2007).
- Deaths of unresolved cause among persons with a tumour record - 29 (16 males, 13 females).

Before the age of 75 years, a total of 13366 person-years of life were lost due to cancer among males and 10987 in females, both decreased since 2007. These are consistent with national figures for 2006 (138693 in males, 119848 in females). These measures of premature death are higher than those for cardiovascular diseases, by a factor of 1.5 in males and 3.3 in females (based on the 2006 Australian data as shown at http://www.aihw.gov.au/mortality/data/grim_books_national.cfm).

There was no significant change in the age-pattern of cancer mortality in 2008. Cancer death rates generally increased for both males and females from age 20 (Figure 1), with low case numbers at earlier ages. All-cancers death rates among males were consistently higher than in females at ages greater than 50 years.

2.1.3 Mortality to incidence ratios

Except in situations where incidence and/or mortality are changing rapidly, or notification of cancer is incomplete, the ratio of mortality to incidence for a cancer gives a crude indication of its impact. The 2008 mortality/incidence (M/I) rate ratio for prostate cancer was 0.10 and the ratio for breast cancer in females was 0.16 (reduced from 0.2 in 2007). Lung cancer continues to have a far greater impact, with 2008 M/I ratios of 0.81 in males and 0.69 in females. All-cancers mortality/incidence ratios for 2008 were similar for males and females (0.32 and 0.29). All these M/I ratios have been relatively stable over recent years.

2.2 Common cancers

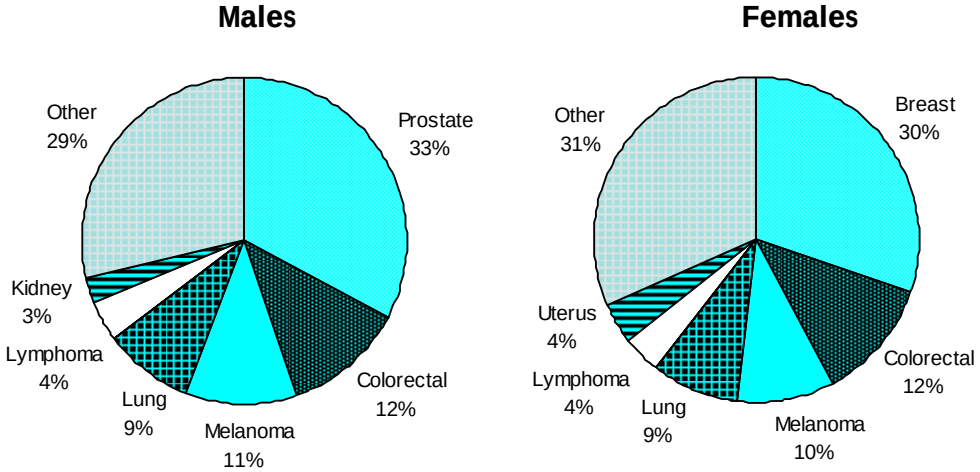
2.2.1 Incidence

In females, breast cancer was the most common incident cancer (1337 cases, 30% of all cancers in females; ASR 86 per 100,000). This was followed by colorectal cancer (526 cases, 12%), melanoma of the skin (423 cases, 10%) and lung cancer (382 cases, 9%). There were an additional 229 newly-diagnosed cases of *in situ* breast carcinoma reported (18 lobular, otherwise mainly ductal), fewer than the all-time peak count of 265 cases in 2005,[4] but similar to 2007 data.

While incidence of breast cancer has appeared to be slightly decreasing in the last ten years (Table 9) , large changes in the last 2 years make incidence difficult to predict. The female breast cancer incidence ASR peaked in 2001-2002 then fell by a small amount each year from 2002, from 87.2 successively to 85.0, 83.1 and 82.2 for 2005, rose again to 85.5 in 2006, was lower in 2007, but is now again almost as high as in 2001 and 2002 (see Table 9). Recent changes may be partially due to completeness issues mentioned earlier in this report, however breast cancer rates do vary with time and screening activity.

The most common cancers in males were prostate cancer (1963 cases; 33%), colorectal cancer (723 cases, 12%) and melanoma (659 cases, 11%) (Table 1; Figure 2). The increased number of prostate cancer cases is part of a significant upward trend at a current average of over 5% per year (see Chapter 3.4 for more details and projections). For all the major cancers affecting both males and females, males had a higher incidence than females. There were 1159 *in situ* melanomas reported, 61% of them in males.

Figure 2. Cancer incidence, Western Australia, 2008: common cancers



Lung cancer remained common in males (542 cases, 9%) and in females (382 cases, 9%). Lymphomas, collectively the next most common cancer in both sexes, accounted for 4% of cancers in both males and females, increased in prominence. Cancers of unknown primary site (140 males, 117 females), were less common than previously. While invasive bladder

and other urinary cancers are quite common in both males (156 cases, 3%) and females (79 cases, 2%), there was an even greater number of additional *in situ* urinary system carcinomas, 302 cases, 78% of them in men. Likewise, invasive cervical cancer remains relatively uncommon in women (98 cases, 2%) however there were 1371 *in situ* cervical carcinomas reported in 2008.

Other common specific cancer types diagnosed included:

Leukaemias - 131 cases in men (ASR 8.9), 98 in women (ASR 6.6)
Kidney - 156 cases in men (ASR 9.9), 76 in women (ASR 4.3)
Pancreas - 106 cases in men (ASR 6.0), 110 in women (ASR 5.5)
Stomach - 126 cases in men (ASR 7.0), 60 in women (ASR 3.1)

Other common cancer types in women were cancers of the uterus (167 cases, ASR 10.1), ovary (110 cases, ASR 6.7), thyroid (139 cases, ASR 10.4) and cervix (98 cases, ASR 6.9).

2.2.2 Mortality

The commonest causes of cancer-related death in males were lung cancer (22%), colorectal cancer (12%) and prostate cancer (12%) (Table 1; Figure 3). Lung (18%), breast (15%) and colorectal cancer deaths (12%) were most common in females.

In 2000, lung cancer first outranked breast cancer as a cause of death among women, however this appeared unusual at that time. While early detection may contribute to decreasing mortality from breast cancer, lung cancer is a significant cause of death in Western Australian women, being the most common cause of cancer death in women in each year since 2004 with over 30 more lung cancer deaths than breast cancer deaths in each year. This pattern appears to reflect improved breast cancer mortality, rather than any dramatic change in female lung cancer rates, which are continuing to increase (see Chapter 3.4).

Other major causes of cancer-related mortality included tumours of unknown primary site and pancreas in both sexes, melanoma, stomach and oesophageal cancers in males; and ovarian cancer and lymphomas in females. These rankings are similar to the usual results from recent years. Brain tumours caused fewer deaths than in 2007, particularly among females (44 in 2008, 63 in 2007).

Figure 3. Cancer mortality, Western Australia, 2008: common cancers

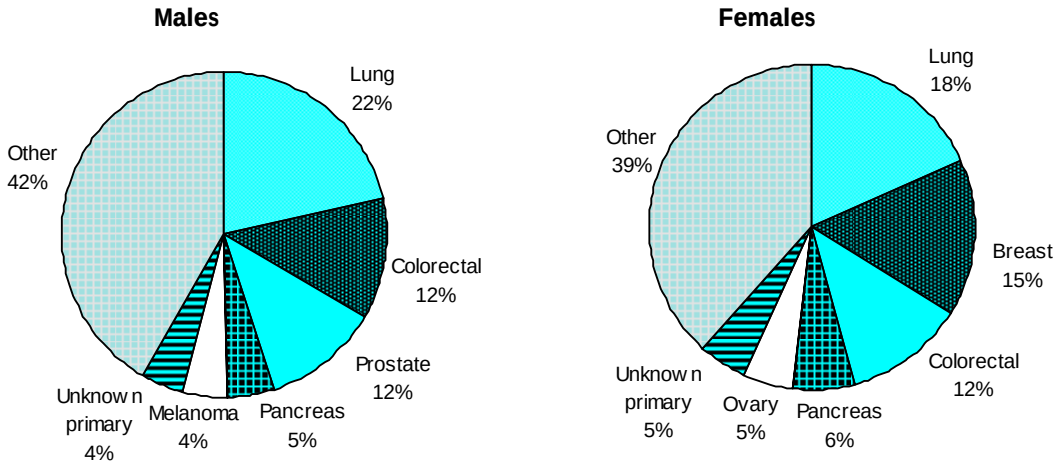


Table 1. Cancer incidence and mortality, Western Australia, 2008: leading types in males and females

Incidence

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**1963**	32.7	**121.3**	116-127	7
Colorectal	**723**	12.1	**44.0**	40.7-47.3	19
Colon	**449**	7.5	**26.8**	24.2-29.4	32
Rectum	**271**	4.5	**17.1**	15.0-19.1	44
Melanoma (skin)	**659**	11.0	**41.8**	38.5-45.1	22
Lung	**542**	9.0	**31.6**	28.9-34.4	27
Lymphoma	**239**	4.0	**16.6**	14.4-18.8	52
Lymphoma NOS	**6**	0.1	**0.5**	0.1-0.9	2629
Hodgkin lymphoma	**28**	0.5	**2.2**	1.4-3.1	483
NHL	**205**	3.4	**13.9**	11.9-15.8	59
Kidney	**156**	2.6	**9.9**	8.3-11.5	86
Bladder & urinary tract	**156**	2.6	**8.7**	7.3-10.1	107
Unknown primary	**140**	2.3	**7.8**	6.5-9.2	136
Leukaemia	**131**	2.2	**8.9**	7.3-10.6	119
Leukaemia NOS	**3**	0.1	**0.1**	0 - 0.3	*
Lymphoid leukaemia	**68**	1.1	**4.7**	3.5-5.9	212
Myeloid leukaemia	**60**	1.0	**4.1**	3.0-5.1	272
Leukaemia, other	**0**				
Stomach	**126**	2.1	**7.0**	5.7-8.2	145
Lip, gum & mouth	**106**	1.8	**6.9**	5.6-8.2	130
Oesophagus	**106**	1.8	**6.0**	4.8-7.1	153
Pancreas	**106**	1.8	**6.0**	4.8-7.1	151
Mesothelioma	**88**	1.5	**5.2**	4.1-6.3	163
Testis	**76**	1.3	**6.4**	4.9-7.9	202
Brain	**69**	1.2	**4.8**	3.6-6.0	166
Pharynx	**67**	1.1	**4.2**	3.2-5.3	185
Liver	**65**	1.1	**4.1**	3.1-5.1	202
Myeloma	**62**	1.0	**3.7**	2.8-4.7	273
Skin (NMSC exc. SCC/BCC)	**53**	0.9	**3.2**	2.3-4.1	281
Larynx	**48**	0.8	**3.0**	2.1-3.9	227
All cancers	**5997**	100.0	**372.1**	362-382	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**1337**	30.3	**86.1**	81.4-90.9	11
Colorectal	**526**	11.9	**27.6**	25.0-30.1	33
Colon	**367**	8.3	**19.0**	16.9-21.1	47
Rectum	**155**	3.5	**8.3**	6.9-9.7	111
Melanoma (skin)	**423**	9.6	**26.7**	24.0-29.4	35
Lung	**382**	8.7	**20.4**	18.2-22.6	42
Lymphoma	**176**	4.0	**10.5**	8.8-12.2	90
Lymphoma NOS	**1**	0.0	**0.1**	0 - 0.2	6337
Hodgkin lymphoma	**23**	0.5	**1.8**	1.0-2.5	677
NHL	**152**	3.4	**8.7**	7.2-10.2	105
Uterus	**167**	3.8	**10.1**	8.5-11.8	80
Thyroid gland	**139**	3.2	**10.4**	8.6-12.1	104
Unknown primary	**117**	2.7	**5.3**	4.3-6.4	192
Pancreas	**110**	2.5	**5.5**	4.4-6.7	165
Ovary	**110**	2.5	**6.7**	5.4-8.0	120
Cervix	**98**	2.2	**6.9**	5.5-8.3	148
Leukaemia	**98**	2.2	**6.6**	5.1-8.0	150
Leukaemia NOS	**3**	0.1	**0.1**	0 - 0.2	*
Lymphoid leukaemia	**43**	1.0	**2.9**	1.9-3.9	341
Myeloid leukaemia	**52**	1.2	**3.6**	2.5-4.6	274
Leukaemia, other	**0**				
Bladder & urinary tract	**79**	1.8	**3.4**	2.6-4.3	274
Kidney	**76**	1.7	**4.3**	3.3-5.4	209
Brain	**65**	1.5	**4.0**	3.0-5.1	212
Myeloma	**61**	1.4	**3.4**	2.5-4.3	221
Stomach	**60**	1.4	**3.1**	2.3-4.0	336
Lip, gum & mouth	**48**	1.1	**2.7**	1.9-3.5	362
Gallbladder / bile ducts	**39**	0.9	**1.7**	1.1-2.3	650
Liver	**29**	0.7	**1.7**	1.1-2.4	409
Skin (NMSC exc. SCC/BCC)	**27**	0.6	**1.2**	0.7-1.8	927
All cancers	**4411**	100.0	**262.7**	254-271	4

Mortality

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**447**	21.5	**25.7**	23.3-28.2	34
Colorectal	**245**	11.8	**13.7**	11.9-15.5	70
Colon	**154**	7.4	**8.4**	7.0-9.8	120
Rectum	**91**	4.4	**5.3**	4.2-6.4	165
Prostate	**244**	11.7	**12.2**	10.6-13.7	103
Pancreas	**100**	4.8	**5.7**	4.5-6.8	176
Melanoma (skin)	**93**	4.5	**5.4**	4.3-6.6	165
Unknown primary	**83**	4.0	**4.7**	3.6-5.7	215
Stomach	**81**	3.9	**4.4**	3.4-5.4	216
Oesophagus	**78**	3.7	**4.4**	3.4-5.4	219
Lymphoma	**77**	3.7	**4.5**	3.5-5.6	208
Lymphoma NOS	**5**	0.2	**0.3**	0.0-0.6	7966
Hodgkin lymphoma	**2**	0.1	**0.2**	0 - 0.4	*
NHL	**70**	3.4	**4.1**	3.1-5.0	216
Mesothelioma	**72**	3.5	**4.2**	3.2-5.2	187
Brain	**66**	3.2	**4.2**	3.2-5.3	206
Leukaemia	**61**	2.9	**3.7**	2.7-4.6	303
Leukaemia NOS	**3**	0.1	**0.1**	0 - 0.3	*
Lymphoid leukaemia	**27**	1.3	**1.6**	0.9-2.2	622
Myeloid leukaemia	**31**	1.5	**2.0**	1.2-2.7	615
Leukaemia, other	**0**				-
Bladder & urinary tract	**57**	2.7	**2.9**	2.1-3.7	392
Liver	**51**	2.4	**2.9**	2.1-3.7	335
Myeloma	**46**	2.2	**2.5**	1.7-3.2	407
Kidney	**40**	1.9	**2.2**	1.5-2.9	470
Myelodysplastic diseases	**36**	1.7	**1.7**	1.1-2.3	1455
Skin (NMSC inc. SCC/BCC)	**35**	1.7	**1.9**	1.2-2.5	618
Gallbladder / bile ducts	**29**	1.4	**1.6**	1.0-2.2	704
Lip, gum & mouth	**19**	0.9	**1.2**	0.7-1.8	615
Pharynx	**19**	0.9	**1.1**	0.6-1.7	718
All cancer deaths	**2082**	100.0	**117.4**	112-123	9

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**290**	18.4	**14.1**	12.3-15.8	64
Breast	**243**	15.4	**13.8**	12.0-15.7	68
Colorectal	**187**	11.9	**8.9**	7.5-10.3	100
Colon	**134**	8.5	**6.5**	5.3-7.7	133
Rectum	**53**	3.4	**2.3**	1.6-3.0	401
Pancreas	**95**	6.0	**4.5**	3.5-5.5	219
Ovary	**79**	5.0	**4.0**	3.0-4.9	234
Unknown primary	**76**	4.8	**2.9**	2.2-3.7	416
Lymphoma	**54**	3.4	**2.4**	1.7-3.1	427
Lymphoma NOS	**1**	0.1	**0.1**	0 - 0.2	6337
Hodgkin lymphoma	**4**	0.3	**0.2**	0 - 0.5	3683
NHL	**49**	3.1	**2.1**	1.5-2.8	523
Leukaemia	**48**	3.1	**2.4**	1.6-3.2	494
Leukaemia NOS	**4**	0.3	**0.1**	0 - 0.3	*
Lymphoid leukaemia	**14**	0.9	**0.5**	0.2-0.8	1928
Myeloid leukaemia	**30**	1.9	**1.8**	1.0-2.5	699
Leukaemia, other	**0**				-
Brain	**44**	2.8	**2.4**	1.6-3.2	466
Myeloma	**40**	2.5	**2.0**	1.3-2.6	422
Stomach	**36**	2.3	**1.9**	1.3-2.6	535
Gallbladder / bile ducts	**35**	2.2	**1.5**	1.0-2.1	693
Bladder & urinary tract	**34**	2.2	**1.4**	0.9-2.0	801
Uterus	**31**	2.0	**1.4**	0.8-1.9	874
Melanoma (skin)	**30**	1.9	**1.4**	0.8-2.0	903
Liver	**27**	1.7	**1.4**	0.8-1.9	615
Oesophagus	**25**	1.6	**1.0**	0.6-1.5	911
Myelodysplastic diseases	**24**	1.5	**1.0**	0.5-1.4	1073
Mesothelioma	**23**	1.5	**1.1**	0.6-1.7	689
Kidney	**22**	1.4	**1.1**	0.6-1.6	802
Skin (NMSC inc. SCC/BCC)	**12**	0.8	**0.4**	0.2-0.7	2439
All cancer deaths	**1573**	100.0	**77.4**	73.2-81.6	13

(NHL - Non-Hodgkin lymphoma; Refer to Statistical Methods, Section 1.4, for other terms & abbreviations used)

2.3 Cancer in different age groups

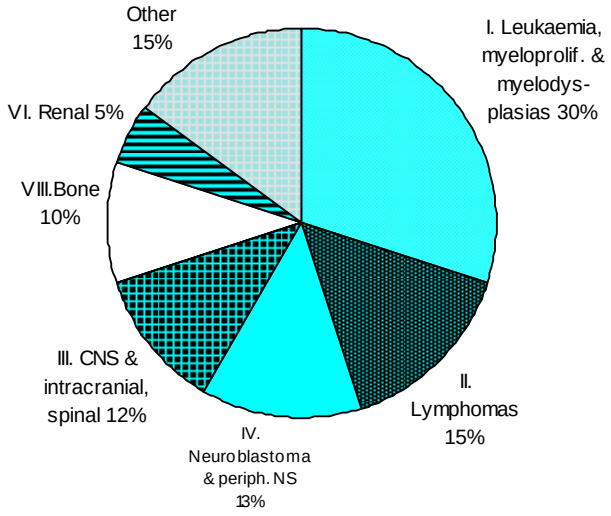
2.3.1 Cancer in children

Incidence: In children under the age of 15 years, there were 58 cases of cancer diagnosed in 2008, 34 males and 24 females (**Appendix 3A**). The corresponding ASRs were 15.3 per 100,000 males, and 11.5 per 100,000 females. The risk of a child developing cancer before the age of 15 years was 1 in 435 for boys and 1 in 579 for girls. These rates and risks were lower than in 2007 but annual variation is considerable, and they were statistically similar to those seen in 2003.

The estimated 0-14 years population in Western Australia in 2008 was 427853 (220758 males and 207095 females).

Diagnoses are routinely coded and reported using ICD-O 3rd edition,[5] but are also tabulated using the WHO-sponsored International Classification of Childhood Cancer (Version 3), into 12 major diagnostic groups based primarily on tumour morphology; these are shown in **Appendix 3C**. **Please note** that this classification includes additional tumours not included under the usual definition of "cancers" (1 male, 1 female), a total of 60 cases. The most common tumours diagnosed in children in 2008 are shown in Figure 4.

Figure 4. Tumours in children under 15 years of age, Western Australia, 2008: most common types (ICCC Version 3 - 60 cases).

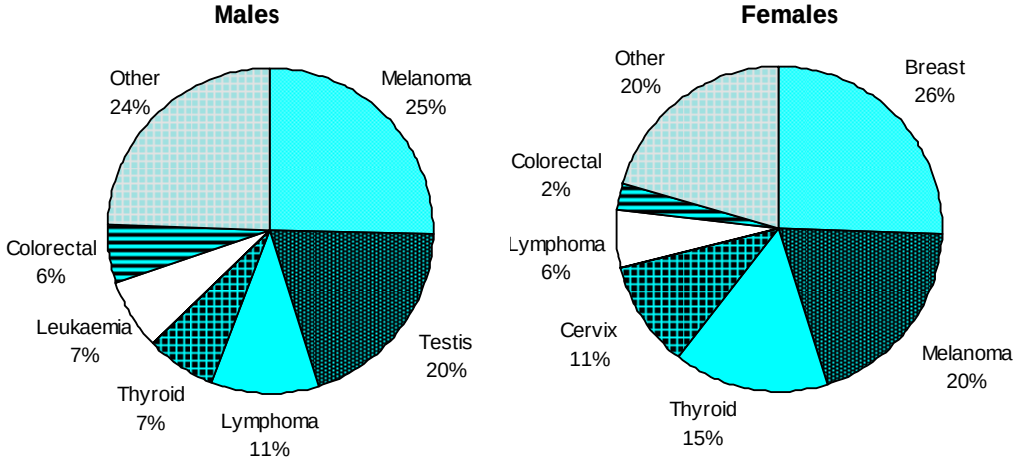


Mortality: There were 12 cancer-related deaths (8 males, 4 females) in children in 2008. Age-adjusted death rates were 3.6 per 100,000 in males and 1.7 per 100,000 in females. The estimated risk of death due to cancer before the age of 15 was 1 in 1860 for males (higher than in 2007), and 1 in 3475 for females (lower).

2.3.2 Cancer in the 15-39 years age range

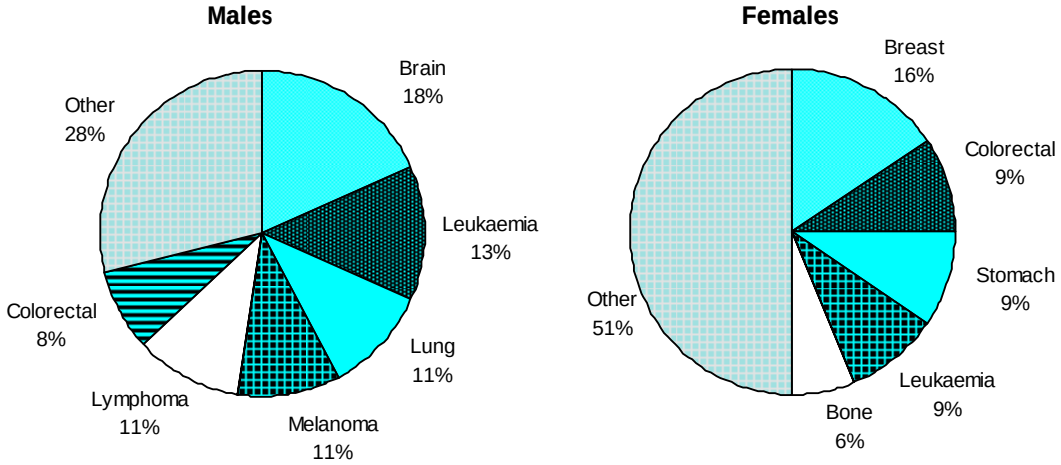
Incidence: In the 15 to 39 years age range, there were 528 cancer diagnoses in 2008 (245 males, ASR 56, 283 females, ASR 66) (Table 2); reduced from 550 cases in 2007. Melanoma was most common in males (62 cases, ASR 14) but breast cancers predominated in females 72 cases, ASR 15). Second-ranked cancers were testicular cancer in males (49 cases, 20% of all cancers) and melanoma in females (56 cases, 20% of all cancers) (Figure 5). Thyroid and cervical cancers were the next most common in females, with lymphomas and thyroid cancers following next in males.

Figure 5. Cancer incidence, Western Australia, 2008: common cancers in the 15 to 39 years age group



Mortality: Among persons aged 15 to 39 years, there were 69 cancer-related deaths in 2008, 38 in males and 31 in females (Table 3). No single cancer dominated mortality as much as for incidence in either sex (Figure 6). As cancer-related death in this age group is relatively uncommon, the 'rankings' of causes remain variable from year to year.

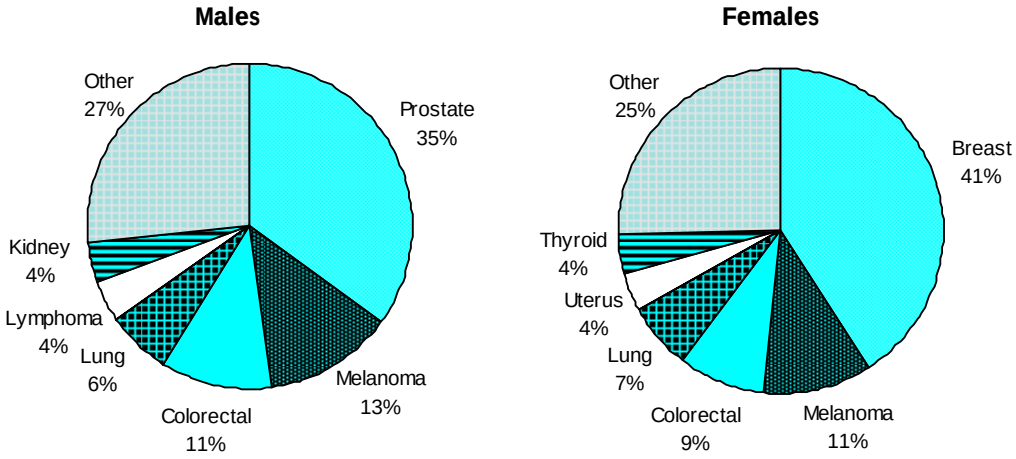
Figure 6. Cancer mortality, Western Australia, 2008: common cancers in the 15 to 39 years age group



2.3.3 Cancer in the 40-64 years age range

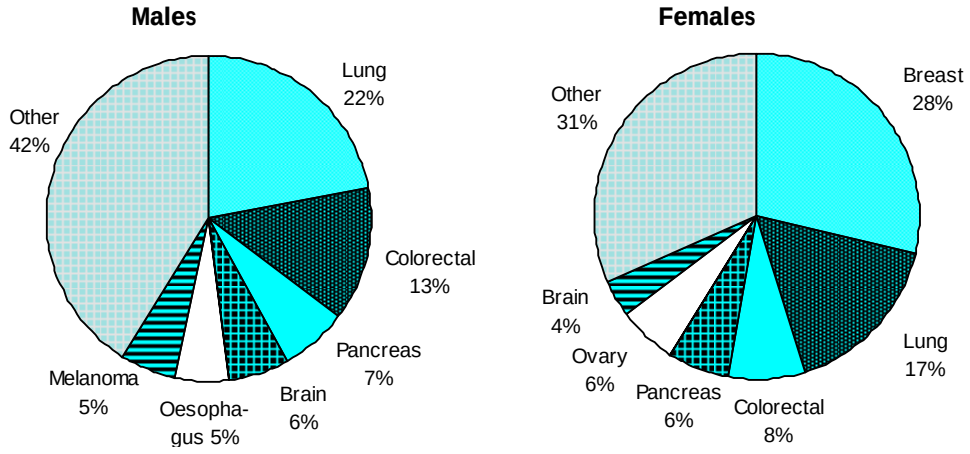
Incidence: In the age range 40 to 64 years, prostate cancer was the most common incident cancer type, continuing a significant rise in recent years. There were 791 cases reported, 35% of cancers in males in this age range. In women, breast cancer was increased by a similar amount and was again the most common cancer in this age group (765 cases, 41%)(Table 2; Figure 7). The overall risk of cancer occurring in this age range was 1 in 6 for males and 1 in 8 for females. More cancers occurred in males than in females, with prostate cancer, melanoma and colorectal cancer most common. In females, melanoma and colorectal cancer ranked highest after breast cancer.

Figure 7. Cancer incidence, Western Australia, 2008: common cancers in the 40 to 64 years age group



Mortality: In 2008, in the age range 40 to 64 years, lung cancer was, as in recent years, the most common cause of cancer-related death in males (114 deaths, age-adjusted rate of 31 per 100,000 males) (Table 3; Figure 8). Other leading causes of death in males were colorectal cancer (69 deaths), pancreatic cancer (34) and brain malignancies (31). Major causes of cancer-related death among females were breast cancer (121 deaths), lung cancer (70 deaths) and colorectal cancer (32 deaths).

Figure 8. Cancer mortality, Western Australia, 2008: common cancers in the 40 to 64 years age group

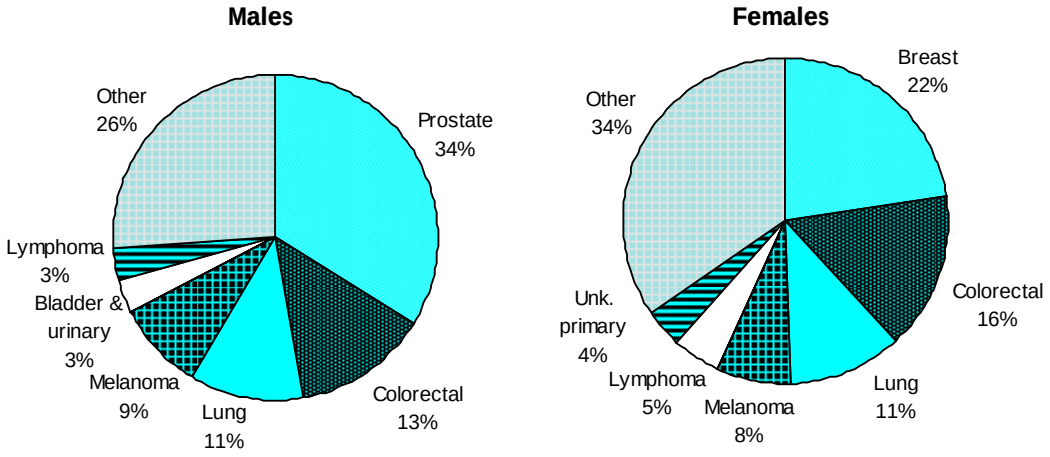


2.3.4 Cancer in persons aged 65 and over

Incidence: Over the age of 65 years, prostate cancer (1171 cases) outnumbered any other specific cancer type in either sex (Table 2; Figure 9) and accounted for 34% of diagnoses in males. Rates continue to rise in recent years, after major changes and unstable rates in the 1990s. Among females, breast cancer predominated (500 cases, 22%).

Other common cancer types in this age range were colorectal cancer (13% in males, 16% in females) and lung cancer (11%, 11%) (relatively stable over recent years). Melanoma of the skin was the fourth most common cancer type in males and in females (9%, 8%).

Figure 9. Cancer incidence, Western Australia, 2008: common cancers in the 65 years & over age group



Mortality: Over the age of 65 years, lung cancer was, as in recent years, the most common cause of cancer-related death, causing 329 deaths among males, at an age-adjusted rate 254 per 100,000 (reduced since 2007). Among females, it was responsible for 220 deaths at 131 per 100,000, 20% of all cancer deaths, a very slightly reduced rate. Colorectal cancer ranked third in males (173 deaths, 11%) and second in females (152 deaths, 14%). Deaths due to prostate cancer ranked second in males (225 deaths, 15%). Breast cancer was the third most common cause of cancer-related death in females (117 deaths, 10%), with a death rate (ASR 69 per 100,000) lower than in 2007. Pancreatic cancer and cancers of unknown primary site were also a major cause of death in this age range.

Figure 10. Cancer mortality, Western Australia, 2008: common cancers in the 65 years & over age group

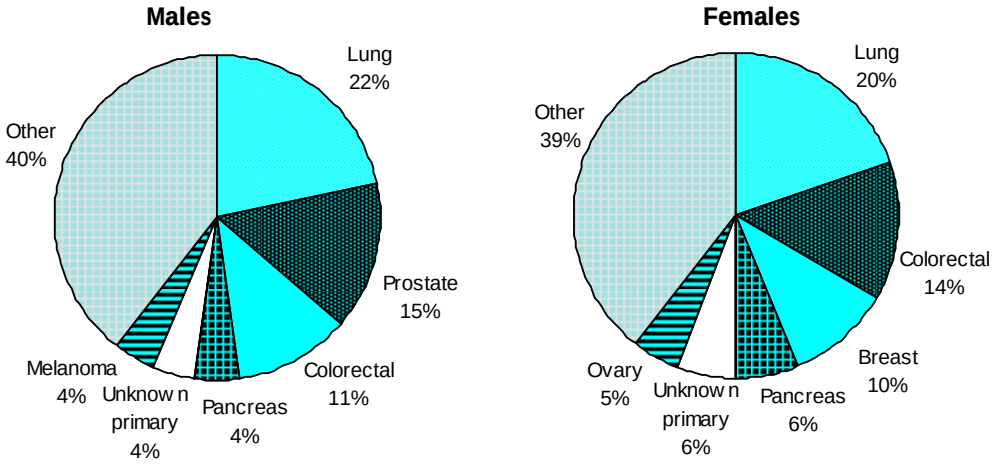


Table 2. Cancer incidence, Western Australia, 2008: leading types by sex and age group (ASR: age-adjusted rate)

15 to 39 years

Males	Cases	%	ASR	95%c.i.	Risk
Melanoma (skin)	**62**	25.3	**13.5**	10.1-16.8	260
Testis	**49**	20.0	**11.7**	8.4-15.1	328
Lymphoma	**26**	10.6	**6.6**	4.0-9.1	621
Lymphoma NOS	**2**	0.8	**0.6**	0 - 1.4	7946
Hodgkin lymphoma	**11**	4.5	**2.9**	1.2-4.7	1479
NHL	**13**	5.3	**3.1**	1.4-4.8	1236
Thyroid gland	**17**	6.9	**3.9**	2.0-5.8	954
Leukaemia	**17**	6.9	**4.2**	2.2-6.2	959
Leukaemia NOS	**0**				
Lymphoid leukaemia	**9**	3.7	**2.2**	0.7-3.7	1804
Myeloid leukaemia	**8**	3.3	**2.0**	0.6-3.3	2045
Leukaemia, other	**0**				
Colorectal	**14**	5.7	**3.1**	1.5-4.8	1166
Colon	**9**	3.7	**2.1**	0.7-3.4	1813
Rectum	**5**	2.0	**1.1**	0.1-2.0	3266
Lip, gum & mouth	**13**	5.3	**2.7**	1.2-4.2	1240
Brain	**12**	4.9	**2.6**	1.1-4.0	1354
All cancers	**245**	100.0	**56.0**	48.9-63.1	66

Females	Cases	%	ASR	95%c.i.	Risk
Breast	**72**	25.4	**15.2**	11.7-18.7	218
Melanoma (skin)	**56**	19.8	**12.9**	9.5-16.4	275
Thyroid gland	**43**	15.2	**10.7**	7.4-13.9	353
Cervix	**30**	10.6	**6.9**	4.4-9.4	506
Lymphoma	**17**	6.0	**4.6**	2.4-6.9	893
Lymphoma NOS	**0**				
Hodgkin lymphoma	**10**	3.5	**2.8**	1.1-4.5	1512
NHL	**7**	2.5	**1.9**	0.5-3.2	2178
Colorectal	**7**	2.5	**1.6**	0.4-2.8	2247
Colon	**6**	2.1	**1.4**	0.3-2.5	2609
Rectum	**1**	0.4	**0.2**	0 - 0.6	*
Lung	**7**	2.5	**1.7**	0.4-3.0	2204
Leukaemia	**7**	2.5	**1.9**	0.5-3.3	2169
Leukaemia NOS	**0**				
Lymphoid leukaemia	**0**				
Myeloid leukaemia	**7**	2.5	**1.9**	0.5-3.3	2169
Leukaemia, other	**0**				
All cancers	**283**	100.0	**65.9**	58.1-73.7	55

40 to 64 years

Males	Cases	%	ASR	95%c.i.	Risk
Prostate	**791**	35.0	**213.0**	198-228	16
Melanoma (skin)	**293**	12.9	**80.0**	70.8-89.2	47
Colorectal	**246**	10.9	**66.6**	58.3-74.9	53
Colon	**141**	6.2	**38.3**	32.0-44.7	91
Rectum	**103**	4.6	**27.7**	22.3-33.1	129
Lung	**145**	6.4	**39.3**	32.9-45.7	89
Lymphoma	**99**	4.4	**27.2**	21.8-32.5	134
Lymphoma NOS	**2**	0.1	**0.6**	0 - 1.4	7681
Hodgkin lymphoma	**10**	0.4	**2.9**	1.1-4.6	1444
NHL	**87**	3.8	**23.7**	18.7-28.7	151
Kidney	**86**	3.8	**23.2**	18.3-28.2	157
Lip, gum & mouth	**55**	2.4	**15.3**	11.2-19.3	251
Leukaemia	**44**	1.9	**12.0**	8.4-15.5	306
Leukaemia NOS	**1**	0.0	**0.3**	0 - 0.8	*
Lymphoid leukaemia	**21**	0.9	**5.6**	3.2-8.1	639
Myeloid leukaemia	**22**	1.0	**6.1**	3.5-8.6	610
Leukaemia, other	**0**				
All cancers	**2263**	100.0	**614.3**	589-640	6

Females	Cases	%	ASR	95%c.i.	Risk
Breast	**765**	41.0	**217.0**	202-232	18
Melanoma (skin)	**198**	10.6	**55.6**	47.8-63.4	68
Colorectal	**164**	8.8	**46.3**	39.2-53.4	79
Colon	**102**	5.5	**28.7**	23.1-34.3	127
Rectum	**60**	3.2	**17.0**	12.7-21.4	212
Lung	**122**	6.5	**34.0**	28.0-40.1	101
Uterus	**76**	4.1	**21.4**	16.6-26.3	168
Thyroid gland	**73**	3.9	**20.6**	15.9-25.4	195
Lymphoma	**55**	2.9	**15.8**	11.6-20.0	246
Lymphoma NOS	**0**				
Hodgkin lymphoma	**7**	0.4	**2.0**	0.5-3.5	1996
NHL	**48**	2.6	**13.8**	9.9-17.7	281
Ovary	**47**	2.5	**13.1**	9.4-16.9	265
Cervix	**46**	2.5	**13.3**	9.4-17.1	299
Leukaemia	**34**	1.8	**9.4**	6.2-12.6	394
Leukaemia NOS	**1**	0.1	**0.2**	0 - 0.7	*
Lymphoid leukaemia	**15**	0.8	**4.2**	2.0-6.3	911
All cancers	**1868**	100.0	**527.5**	504-551	8

65 years and over

Males	Cases	%	ASR	95%c.i.	Risk
Prostate	**1171**	33.9	**971.1**	914-1028	11
Colorectal	**463**	13.4	**374.8**	339-410	29
Colon	**299**	8.7	**235.0**	207-263	49
Rectum	**163**	4.7	**139.2**	117-161	68
Lung	**390**	11.3	**303.9**	273-335	38
Melanoma (skin)	**304**	8.8	**240.2**	212-268	48
Bladder & urinary tract	**118**	3.4	**87.0**	70.6-103	154
Lymphoma	**107**	3.1	**90.9**	73.2-109	101
Lymphoma NOS	**2**	0.1	**1.7**	0 - 4.1	8044
Hodgkin lymphoma	**7**	0.2	**6.3**	1.5-11.1	1421
NHL	**98**	2.8	**82.9**	66.0-99.8	110
Unknown primary	**100**	2.9	**71.8**	57.1-86.5	228
Stomach	**87**	2.5	**61.1**	47.7-74.6	252
Pancreas	**74**	2.1	**54.5**	41.5-67.4	245
Oesophagus	**70**	2.0	**51.0**	38.5-63.5	255
Kidney	**65**	1.9	**50.3**	37.5-63.0	200
Mesothelioma	**62**	1.8	**48.4**	35.8-61.0	247
All cancers	**3455**	100.0	**2758.3**	2664-2853	4

Females	Cases	%	ASR	95%c.i.	Risk
Breast	**500**	22.4	**375.0**	340-410	27
Colorectal	**354**	15.8	**217.8**	193-243	58
Colon	**258**	11.5	**159.2**	138-181	77
Rectum	**94**	4.2	**56.9**	44.1-69.8	234
Lung	**253**	11.3	**161.4**	140-183	75
Melanoma (skin)	**169**	7.6	**114.7**	95.7-134	95
Lymphoma	**102**	4.6	**65.7**	51.7-79.6	170
Lymphoma NOS	**1**	0.0	**0.9**	0 - 2.7	6337
Hodgkin lymphoma	**6**	0.3	**3.2**	0.3-6.0	3169
NHL	**95**	4.2	**61.6**	48.0-75.1	185
Unknown primary	**88**	3.9	**46.2**	35.4-57.0	331
Uterus	**86**	3.8	**62.4**	48.2-76.5	160
Pancreas	**77**	3.4	**46.1**	34.8-57.5	291
Bladder & urinary tract	**69**	3.1	**39.4**	29.0-49.8	353
Ovary	**57**	2.5	**40.6**	29.2-51.9	239
Leukaemia	**49**	2.2	**33.1**	22.9-43.3	324
Leukaemia NOS	**2**	0.1	**0.7**	0 - 1.7	*
All cancers	**2236**	100.0	**1470.4**	1404-1537	8

Table 3. Cancer mortality, Western Australia, 2008: leading types by sex and age group (ASR: age-adjusted rate)

15 to 39 years

Males

	Deaths	%	ASR	95%c.i.	Risk
Brain	**7**	18.4	**1.6**	0.4-2.8	2340
Leukaemia	**5**	13.2	**1.2**	0.1-2.3	3228
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**2**	5.3	**0.5**	0 - 1.1	7908
Myeloid leukaemia	**3**	7.9	**0.8**	0 - 1.6	5453
Leukaemia, other	**0**				-
Lung	**4**	10.5	**0.8**	0.0-1.6	4101
Melanoma (skin)	**4**	10.5	**0.8**	0.0-1.6	3995
Lymphoma	**4**	10.5	**1.0**	0 - 2.0	4072
Lymphoma NOS	**1**	2.6	**0.3**	0 - 0.9	*
Hodgkin lymphoma	**1**	2.6	**0.3**	0 - 0.9	*
NHL	**2**	5.3	**0.4**	0 - 0.9	8428
Colorectal	**3**	7.9	**0.7**	0 - 1.4	5524
Colon	**2**	5.3	**0.4**	0 - 0.9	8428
Rectum	**1**	2.6	**0.3**	0 - 0.8	*
Stomach	**2**	5.3	**0.4**	0 - 0.9	8428
Bone	**2**	5.3	**0.5**	0 - 1.3	7733
All cancer deaths	**38**	100.0	**8.6**	5.9-11.4	429

Females

	Deaths	%	ASR	95%c.i.	Risk
Breast	**5**	16.1	**1.1**	0.1-2.1	3107
Colorectal	**3**	9.7	**0.7**	0 - 1.5	5273
Colon	**3**	9.7	**0.7**	0 - 1.5	5273
Rectum	**0**				-
Stomach	**3**	9.7	**0.7**	0 - 1.6	4884
Leukaemia	**3**	9.7	**0.9**	0 - 2.0	4912
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**0**				-
Myeloid leukaemia	**3**	9.7	**0.9**	0 - 2.0	4912
Leukaemia, other	**0**				-
Bone	**2**	6.5	**0.5**	0 - 1.2	7825
Tongue	**1**	3.2	**0.2**	0 - 0.6	*
Liver	**1**	3.2	**0.2**	0 - 0.6	*
Pancreas	**1**	3.2	**0.2**	0 - 0.7	*
Melanoma (skin)	**1**	3.2	**0.2**	0 - 0.7	*
Nervous system, periph.	**1**	3.2	**0.3**	0 - 0.9	*
Connective/ soft tissues	**1**	3.2	**0.3**	0 - 1.0	*
All cancer deaths	**31**	100.0	**7.6**	4.9-10.3	490

40 to 64 years

Males

	Deaths	%	ASR	95%c.i.	Risk
Lung	**114**	22.1	**30.7**	25.1-36.4	111
Colorectal	**69**	13.3	**18.2**	13.9-22.5	185
Colon	**43**	8.3	**11.3**	7.9-14.7	299
Rectum	**26**	5.0	**6.9**	4.2-9.5	484
Pancreas	**34**	6.6	**9.3**	6.2-12.4	365
Brain	**31**	6.0	**8.2**	5.3-11.1	439
Oesophagus	**28**	5.4	**7.7**	4.8-10.6	472
Melanoma (skin)	**28**	5.4	**7.7**	4.8-10.5	465
Stomach	**21**	4.1	**5.6**	3.2-8.0	600
Liver	**20**	3.9	**5.2**	2.9-7.5	687
Prostate	**19**	3.7	**5.2**	2.8-7.5	646
Unknown primary	**18**	3.5	**4.8**	2.6-7.1	714
Leukaemia	**18**	3.5	**4.9**	2.6-7.1	729
Leukaemia NOS	**1**	0.2	**0.3**	0 - 0.8	*
Lymphoid leukaemia	**5**	1.0	**1.3**	0.2-2.4	2613
Myeloid leukaemia	**12**	2.3	**3.3**	1.4-5.2	1085
Leukaemia, other	**0**				-
All cancer deaths	**517**	100.0	**139.5**	127-152	25

Females

	Deaths	%	ASR	95%c.i.	Risk
Breast	**121**	28.7	**34.2**	28.1-40.3	113
Lung	**70**	16.6	**19.6**	15.0-24.3	172
Colorectal	**32**	7.6	**9.0**	5.9-12.1	389
Colon	**24**	5.7	**6.8**	4.0-9.5	526
Rectum	**8**	1.9	**2.2**	0.7-3.8	1495
Pancreas	**26**	6.2	**7.0**	4.3-9.8	473
Ovary	**24**	5.7	**6.7**	4.0-9.3	534
Brain	**15**	3.6	**4.3**	2.1-6.5	822
Stomach	**13**	3.1	**3.7**	1.7-5.7	1065
Leukaemia	**12**	2.8	**3.2**	1.4-5.0	1051
Leukaemia NOS	**1**	0.2	**0.2**	0 - 0.7	*
Lymphoid leukaemia	**1**	0.2	**0.2**	0 - 0.7	*
Myeloid leukaemia	**10**	2.4	**2.7**	1.0-4.4	1253
Leukaemia, other	**0**				-
Melanoma (skin)	**10**	2.4	**2.9**	1.1-4.7	1323
Unknown primary	**10**	2.4	**2.9**	1.1-4.6	1312
Myeloma	**10**	2.4	**3.0**	1.1-4.8	1123
All cancer deaths	**422**	100.0	**118.5**	107-130	31

65 years and over

Males

	Deaths	%	ASR	95%c.i.	Risk
Lung	**329**	21.7	**253.9**	225-282	49
Prostate	**225**	14.8	**155.1**	134-176	123
Colorectal	**173**	11.4	**127.1**	107-147	113
Colon	**109**	7.2	**77.9**	62.6-93.2	203
Rectum	**64**	4.2	**49.2**	36.7-61.7	255
Pancreas	**66**	4.3	**47.9**	35.8-59.9	341
Unknown primary	**64**	4.2	**47.3**	35.3-59.4	314
Melanoma (skin)	**61**	4.0	**46.1**	34.1-58.2	272
Mesothelioma	**59**	3.9	**47.3**	34.8-59.9	233
Stomach	**58**	3.8	**41.1**	30.1-52.0	351
Lymphoma	**55**	3.6	**40.5**	29.3-51.8	310
Lymphoma NOS	**3**	0.2	**1.7**	0 - 3.6	*
Hodgkin lymphoma	**1**	0.1	**0.6**	0 - 1.8	*
NHL	**51**	3.4	**38.2**	27.2-49.2	310
Bladder & urinary tract	**53**	3.5	**37.3**	26.8-47.7	448
Oesophagus	**49**	3.2	**34.6**	24.5-44.7	417
Leukaemia	**36**	2.4	**25.1**	16.6-33.7	672
All cancer deaths	**1519**	100.0	**1117.2**	1059-1175	13

Females

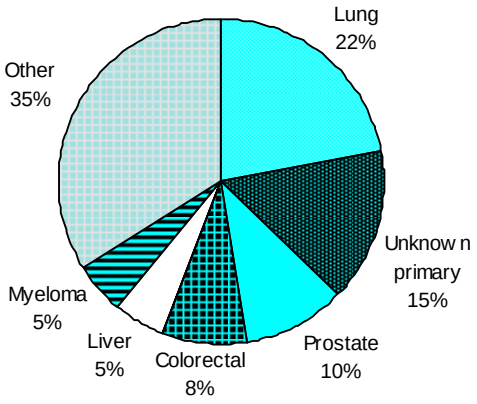
	Deaths	%	ASR	95%c.i.	Risk
Lung	**220**	19.7	**130.8**	112-150	101
Colorectal	**152**	13.6	**90.7**	74.6-107	138
Colon	**107**	9.6	**65.2**	51.5-78.9	185
Rectum	**45**	4.0	**25.5**	17.1-33.8	547
Breast	**117**	10.5	**69.1**	55.2-82.9	177
Pancreas	**68**	6.1	**38.2**	28.1-48.2	418
Unknown primary	**65**	5.8	**30.7**	22.4-39.1	634
Ovary	**54**	4.8	**31.2**	22.0-40.4	429
Lymphoma	**45**	4.0	**25.3**	17.1-33.5	587
Lymphoma NOS	**1**	0.1	**0.9**	0 - 2.7	6337
Hodgkin lymphoma	**2**	0.2	**1.4**	0 - 3.6	7928
NHL	**42**	3.8	**23.0**	15.3-30.7	705
Leukaemia	**31**	2.8	**14.3**	8.7-19.9	1378
Leukaemia NOS	**3**	0.3	**1.0**	0 - 2.2	*
Lymphoid leukaemia	**13**	1.2	**6.4**	2.4-10.3	2264
Myeloid leukaemia	**15**	1.3	**6.9**	3.0-10.8	3522
Leukaemia, other	**0**				-
All cancer deaths	**1116**	100.0	**635.1**	594-676	22

3. Cancer in Western Australia: special topics

3.1 Death Certificate Only cancers

"Death certificate only" (DCO) cancer records are those based solely on a death certificate (or electronic mortality record). Having a low proportion of DCO cases is widely regarded as an important index of data quality in a Cancer Registry. In Western Australia, there were 59 DCO cancers recorded for 2008, representing only 0.57% of all cancers (low, but increased from 0.36% in 2007) (Figure 11).

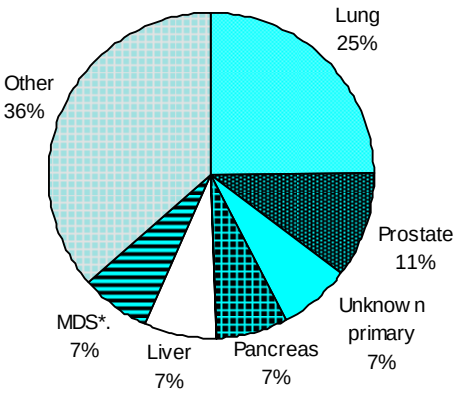
Figure 11. Death Certificate Only (DCO) cancers, 2008: common types (59 cases)



The Registry continues to use death data and computerised hospital discharge data ("Hospital Morbidity Data System") to reduce letter-based enquiries and casenote review, if the data are consistent. There were 113 such "DC and HMDS" cases recorded for 2008, reduced from over 300 in 2007, with the date of diagnosis being taken from the hospital discharge date. Most common types were lung and prostate cancers of unknown primary site (Figure 12).

As the discharge data lack a true diagnosis date, address at diagnosis and basis of diagnosis, these data are treated as being less reliable than those sourced from clinical notes and pathology reports. However, the process appears cost-effective in improving timeliness.

Figure 12. "DC & HMDS" cancers, 2008: common types (113 cases)



* MDS - Myelodysplastic syndrome.

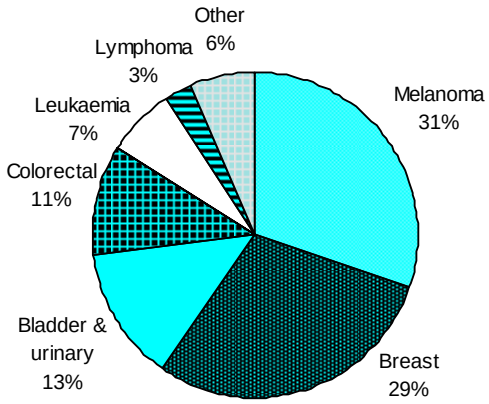
3.2 "Non-counted" cancers

International standards for the reporting of cancer incidence dictate that new tumours should not be "counted" or reported in such statistics, if they represent a type that has previously been diagnosed in the same person. The effect is to reduce the numbers of cases that would otherwise be reported. The "type" of cancer depends on a combination of its anatomical site and/or cell type and follows a set of rules incorporated into the Registry's statistical reporting system; the source reference is available at the Internet URL http://www.iacr.com.fr/MPrules_july2004.pdf . As examples, a lung squamous cell carcinoma and a lung adenocarcinoma would both be counted; of two breast ductal carcinomas, only the first would be reported; but one would only count non-Hodgkin lymphoma once in a person irrespective of location in the body.

What follows in practice is that the Registry reports incidence using these standard rules, but can supply data including all known separate tumour occurrences, as an estimate of disease burden and workforce requirement, rather than disease risk.

The cancers that most commonly occur more than once in a person are the skin cancers, breast cancer, urinary transitional cell carcinomas, and those occurring in colorectal polyps; the most common types are shown in Figure 13. The impact on incidence statistics if these were counted, would be an increase of approximately 5%.

Figure 13. "Non-counted" cancers, 2008: common types (485 cases)



Projections of cancer incidence elsewhere in this report (see Chapter 3.4), are based on the standard rules for incidence reporting, and suggest that in the year 2013 we might expect 7330 new "first" cancer cases in males and 5205 in females. Projections recently supplied for the purpose of estimating radiotherapy needs, based on the same data extract but using the **total** cancers data, suggest that this will amount to 7647 new tumours in males and 5509 in females.

3.3 Hospital-data-only (HMDS-only) tumour records

Using a hospital discharge date as a proxy for a diagnosis date is unsatisfactory, as there are many reasons why it may be wrong. A certain degree of unreliability of inpatient statistical coding for cancers, noted previously in this registry's data quality investigations,[1] indicates that "hospital-data-only" cancer records - especially if not confirmed by a death record - should be investigated wherever possible.

An investigation in 2006, in which 754 "HMDS-only" records with a hospital discharge date in 2005 were investigated, saw 706 letters written about 480 cases, and access to hospital inpatient files requested from Perth (Public) Teaching Hospitals for a further 274 cases. The results, published in the Registry's report Cancer incidence and mortality in Western Australia, 2005[4] confirmed that such data cannot safely be included in statistics, nor relied upon for approaching people to participate in research projects, without verification.

It was noted then that activities that may reduce the apparent loss of data if such work cannot be done in the future, include:

- Targeting laboratories with a perceived notification deficit in some areas - in progress.
- Working to establish information flows for "flow cytometry" results - in progress.
- Enhancing ICD10-AM cancer hospital data "edit" rules in conjunction with other Dept of Health staff, to improve internal consistency of data - ongoing.
- Seeking changes to existing hospital Patient Administration Systems – now in progress.
- Ensuring coding is done only when results are complete and available in patient files.

The situation remains a concern for 2008 data, for which the number of un-notifed lymphohaematopoietic malignancies in particular remains at high levels (Table 4) and the specificity of some of these diagnoses indicate that the results of haematological tests in particular are being poorly reported. It is to be hoped that changes to the Regulations (still in progress) and the introduction of a new cancer reporting module in a new Patient Administration System in public hospitals, will lead to improvement.

Table 4. Hospital-data-only (HMDS-only) tumour records, 2008

"Cancers"

Neoplasm type	Cases	% of total
Myelodysplastic syndrome	90	10.0
Other lymphohaematopoietic	86	9.5
Lymphomas	71	7.9
Prostate	65	7.2
Colorectal	65	7.2
Melanoma	53	5.9
Breast	51	5.7
Bladder/ other urinary	51	5.7
Leukaemia	45	5.0
NMSC**	43	4.8
Lung	41	4.5
Other	241	26.7
Total	902	(100)

Other notifiable neoplasms

Neoplasm type	Cases	% of total
Benign CNS tumours	103	35.3
Other, in situ	42	14.4
Cervix, in situ	41	14.0
Uncertain behaviour CNS	24	8.2
Melanoma, in situ	24	8.2
NMSC, in situ **	20	6.8
Colorectal, in situ	20	6.8
Breast, in situ	16	5.5
Urinary, in situ	2	0.7
Total	292	(100)

**NMSC excludes BCC and SCC

3.4 Time trends and incidence projections for common cancers

3.4.1 Use and methods

Projections of cancer case numbers and rates may be somewhat unreliable, as discussed in previous reports. However, these are often requested for health service planning reasons, and are presented here as the best available basis for prediction of future need for medical services. These do not take into account unknown changes in risk factors or diagnostic practices, can be adversely affected by past events, and should be used with some caution. Reliance on any mathematical procedure (in isolation from knowledge of changes in medical practice and risk factors) is risky. In earlier work, it was noted that cancer projections for males might still be affected by the large changes in prostate cancer incidence in the early 1990s; however the projections presented here are based only on data since 1999.

Using an exponentially-weighted moving average method as described in *Cancer incidence and mortality in Western Australia 2002*,[6] updated projections for "All cancers" and selected cancer types have been revised and are presented here in Tables 5 - 9. Population projections used, courtesy of the Epidemiology branch, Population Health Division, Dept of Health (WA), are based on modified Australian Bureau of Statistics Series data.

3.4.2 Trends and projections - incidence

While the incidence of all cancers combined tends to increase with time, differences are observed between trends for individual cancer types subject to particular influences. In particular, decreasing lung cancer incidence in males is commonly thought to be associated with a reduction in smoking prevalence, and increased prostate cancer incidence in the 1990s was thought to be associated with increased PSA testing.[7]

Longer-term projections are inherently less-reliable than shorter-term ones, and the comments here are confined to the 2013 projections; projections to 2018 are shown in the tables as this is technically easy to do, but these must be regarded as less reliable.

All cancers: Based on data for the last 10 years, incidence in males is increasing significantly by 0.55% per year with annual new cases expected to reach 7330 by 2013, with the incidence rate (ASR) rising from 372 to 376 per 100,000 per year (Table 5). In females there has been a non-significant decrease of 0.13% per year, and projection suggests little change in the incidence ASR.

Table 5. Cancer incidence, Western Australia, 1999-2008, trends and projections to 2018: all cancers

	MALES				FEMALES			
Year	**Cases**	95% c.i.	**ASR**	95% c.i.	**Cases**	95% c.i.	**ASR**	95% c.i.
1999	**4237**		**355.2**	344-366	**3426**		**264.8**	255-274
2000	**4233**		**344.1**	334-355	**3455**		**261.9**	253-271
2001	**4330**		**339.9**	329-350	**3663**		**264.5**	255-274
2002	**4857**		**368.7**	358-379	**3921**		**278.5**	269-288
2003	**4947**		**363.9**	353-374	**3952**		**273.1**	264-282
2004	**5273**		**375.7**	365-386	**4110**		**278.3**	269-287
2005	**5299**		**364.5**	354-375	**4058**		**265.6**	257-274
2006	**5544**		**366.6**	357-377	**4304**		**272.7**	264-281
2007	**5661**		**363.5**	354-373	**4084**		**253.6**	245-262
2008	**5997**		**372.1**	362-382	**4411**		**262.7**	255-271
2009	**6240**	6095-6385	**366.0**	357-375	**4648**	4571-4726	**266.2**	258-274
2010	**6492**	6341-6643	**368.3**	359-378	**4781**	4701-4860	**265.8**	258-274
2011	**6758**	6600-6915	**370.7**	362-380	**4917**	4836-4998	**265.4**	258-273
2012	**7044**	6879-7209	**373.2**	364-382	**5061**	4978-5144	**265.0**	257-273
2013	**7330**	7158-7501	**375.6**	367-385	**5205**	5121-5289	**264.6**	257-272
2018	**8851**	8649-9052	**388.1**	380-397	**5981**	5887-6076	**262.9**	256-270

Trend: significant (P = .0027) 0.55% per year. Trend: not significant (P = .534) -0.13% per year.

Colorectal cancer: Based on data for the last 10 years, incidence in males is decreasing significantly by 1.77% per year. Due to population growth alone, annual new cases might be expected to reach 795 by 2013, despite the incidence rate (ASR) falling from 44 to 40 per 100,000 per year (Table 6). In females the ASR has decreased less markedly, and the projected case number for 2013 is disproportionately higher than in 2008, than for males.

Table 6. Cancer incidence, Western Australia, 1999-2008, trends and projections to 2018: colorectal cancer

	MALES				FEMALES			
Year	**Cases**	95% c.i.	**ASR**	95% c.i.	**Cases**	95% c.i.	**ASR**	95% c.i.
1999	**525**		**43.7**	40-48	**430**		**29.8**	27-33
2000	**638**		**51.5**	47-56	**443**		**30.2**	27-33
2001	**620**		**47.6**	44-51	**494**		**31.1**	28-34
2002	**573**		**42.0**	39-46	**457**		**28.3**	26-31
2003	**626**		**45.1**	42-49	**477**		**29.1**	26-32
2004	**620**		**42.9**	39-46	**482**		**29.6**	27-33
2005	**584**		**39.5**	36-43	**516**		**30.1**	27-33
2006	**601**		**39.6**	36-43	**491**		**27.7**	25-30
2007	**661**		**40.9**	38-44	**537**		**30.5**	28-33
2008	**723**		**44.0**	41-47	**526**		**27.6**	25-30
2009	**740**	695-786	**42.3**	39-46	**570**	546-593	**28.9**	26-32
2010	**754**	707-800	**41.7**	39-45	**583**	559-608	**28.7**	26-31
2011	**767**	718-816	**41.0**	38-44	**597**	572-622	**28.6**	26-31
2012	**782**	731-833	**40.4**	38-43	**613**	587-639	**28.4**	26-31
2013	**795**	742-849	**39.7**	37-43	**628**	601-654	**28.3**	26-31
2018	**849**	783-915	**36.6**	34-39	**709**	677-741	**27.6**	25-30

Trend: significant (P = .0002) -1.77% per year. Trend: not significant (P = .102) -0.81% per year.

Melanoma: Incidence in males is decreasing significantly by 1.36% per year but annual case numbers should increase to 760 by 2013, despite the incidence rate (ASR) falling from 42 to 41 per 100,000 per year (Table 7). In females there has been a non-significant decrease of similar size, with cases increasing to 493 per year but no change in incidence rate expected by 2013.

Table 7. Cancer incidence, Western Australia, 1999-2008, trends and projections to 2018: melanoma

	MALES				FEMALES			
Year	**Cases**	95% c.i.	**ASR**	95% c.i.	**Cases**	95% c.i.	**ASR**	95% c.i.
1999	**552**		**47.8**	44-52	**395**		**33.8**	30-37
2000	**529**		**44.5**	41-48	**373**		**30.9**	28-34
2001	**510**		**41.4**	38-45	**394**		**31.0**	28-34
2002	**640**		**50.7**	47-55	**444**		**34.4**	31-38
2003	**672**		**50.9**	47-55	**415**		**31.4**	28-35
2004	**581**		**42.7**	39-46	**413**		**30.2**	27-33
2005	**596**		**42.9**	39-47	**404**		**28.4**	26-31
2006	**637**		**44.1**	41-48	**454**		**31.4**	28-34
2007	**572**		**38.5**	35-42	**396**		**26.8**	24-30
2008	**659**		**41.8**	39-45	**423**		**26.7**	24-29
2009	**695**	659-731	**42.9**	40-46	**463**	438-488	**29.0**	26-32
2010	**709**	672-747	**42.3**	39-46	**469**	444-495	**28.4**	26-31
2011	**726**	687-765	**41.9**	39-45	**477**	451-503	**27.8**	25-30
2012	**743**	703-784	**41.4**	38-45	**485**	458-511	**27.3**	25-30
2013	**760**	719-802	**40.9**	38-44	**493**	466-520	**26.8**	24-29
2018	**853**	803-902	**38.9**	36-42	**546**	517-576	**24.8**	23-27

Trend: significant (P = .0028) -1.36% per year. Trend: not significant (P = .068) -1.55% per year.

Lung cancer: Based on data for the last 10 years, incidence in males is decreasing significantly by 2.43% per year, however annual new cases is expected to reach 671 by 2013 (Table 8). However, there is no evidence of improvement in females, the ASR increasing at an average of 1.17% per year with cases expected to reach 452 per year by 2013. These data are consistent with changes in smoking prevalence

Table 8. Cancer incidence, Western Australia, 1999-2008, trends and projections to 2018: lung cancer

	MALES				FEMALES			
Year	**Cases**	95% c.i.	**ASR**	95% c.i.	**Cases**	95% c.i.	**ASR**	95% c.i.
1999	**510**		**40.9**	37-45	**260**		**18.3**	16-21
2000	**497**		**39.9**	36-44	**265**		**18.6**	16-21
2001	**504**		**38.1**	35-42	**260**		**17.5**	15-20
2002	**540**		**39.7**	36-43	**306**		**19.7**	17-22
2003	**518**		**35.5**	32-39	**319**		**19.8**	18-22
2004	**534**		**35.0**	32-38	**326**		**20.3**	18-23
2005	**606**		**38.7**	36-42	**321**		**19.1**	17-21
2006	**569**		**35.9**	33-39	**342**		**19.4**	17-22
2007	**534**		**32.2**	29-35	**339**		**18.5**	16-21
2008	**542**		**31.6**	29-34	**382**		**20.4**	18-23
2009	**633**	616-650	**34.7**	32-37	**377**	356-398	**19.4**	17-21
2010	**642**	624-660	**33.8**	31-37	**394**	372-416	**19.5**	18-22
2011	**651**	633-670	**33.0**	30-36	**412**	390-435	**19.7**	18-22
2012	**662**	642-682	**32.2**	30-35	**432**	409-455	**19.9**	18-22
2013	**671**	650-693	**31.4**	29-34	**452**	428-476	**20.1**	18-22
2018	**716**	691-740	**27.5**	25-30	**569**	542-597	**21.1**	19-23

Trend: significant (P < .0001) -2.43% per year. Trend: not significant (P = .059) 1.17% per year.

Prostate cancer: Prostate cancer incidence doubled in 2 years in the early 1990s, then halved again in 2 years, and has since been on a less extreme but consistent increasing trend. Based on data for the last 10 years, incidence in males is increasing significantly by 5.57% per year, with annual new cases expected to reach 2524 by 2013 (Table 9). The incidence ASR is expected to increase only from 121 to 128 per 100,000 per year but case numbers are also increased by the increasing size and longevity of the population.

Breast cancer in females: Based on data for the last 10 years, breast cancer incidence in females is decreasing slightly by 0.56% per year, though this is not statistically significant. The incidence ASR is expected to fall from 86 to 81 per 100,000 per year by 2013, though annual case numbers can be expected to rise to 1468 in the same time (Table 9).

Table 9. Cancer incidence, Western Australia, 1999-2008, trends and projections to 2018: prostate cancer (males), breast cancer (females)

	Prostate cancer (males)				Breast cancer (females)			
Year	**Cases**	95% c.i.	**ASR**	95% c.i.	**Cases**	95% c.i.	**ASR**	95% c.i.
1999	**942**		**78.2**	73-83	**1024**		**85.4**	80-91
2000	**830**		**66.0**	61-71	**1028**		**82.9**	78-88
2001	**965**		**75.4**	71-80	**1108**		**87.1**	82-92
2002	**1253**		**95.4**	90-101	**1147**		**87.2**	82-92
2003	**1271**		**92.9**	88-98	**1141**		**85.0**	80-90
2004	**1520**		**108.6**	103-114	**1154**		**83.1**	78-88
2005	**1493**		**101.8**	97-107	**1167**		**82.2**	77-87
2006	**1649**		**108.3**	103-114	**1249**		**85.5**	81-90
2007	**1807**		**115.5**	110-121	**1123**		**74.0**	70-79
2008	**1963**		**121.3**	116-127	**1337**		**86.1**	81-91
2009	**1847**	1662-2031	**107.1**	102-112	**1344**	1293-1395	**82.8**	78-87
2010	**2001**	1809-2192	**112.3**	107-117	**1374**	1322-1426	**82.3**	78-87
2011	**2165**	1966-2364	**117.6**	113-123	**1404**	1350-1459	**81.9**	78-86
2012	**2342**	2136-2548	**122.9**	118-128	**1438**	1381-1494	**81.7**	77-86
2013	**2524**	2311-2737	**128.2**	123-133	**1468**	1409-1527	**81.3**	77-86
2018	**3551**	3302-3801	**155.2**	150-160	**1623**	1554-1691	**79.3**	75-83

Trend: significant (P < .0001) 5.57% per year. Trend: not significant (P = .675) -0.56% per year.

3.5 Cancer incidence in different areas: WA Health Regions and Statistical Local Areas (SLAs)

3.5.1 Background

This Registry's 2004 report *Cancer in Western Australia, 1998-2002: incidence and mortality by Statistical Local Area (SLA)*[9] was written in response to concerns about supposed environmental risks and suspected elevated cancer risks in small areas. Such issues remain common, and this section of this report describes an updated set of statistics which examine cancer incidence rates in WA Health Regions and SLAs. One of the most important findings has been that with a few exceptions, the most common cancers are very evenly distributed across the State; and that for the less common cancer types it is rare for observed differences in rates to reach a high level of statistical significance due largely to WA's generally sparse rural population.

The Registry's earlier report[9] set out many of the limitations to the conclusions that can be drawn from statistics, and the various issues that must be considered when comparing disease rates in different areas. The Registry is sometimes asked to produce cancer incidence data for small areas based on locality name or postcode. Such data have not always been provided, as it is not considered reasonable to publish information that may be unreliable, misleading or subject to misinterpretation if later presented in isolation.

Geo-coding, or the assignment of events to a geographic area, can be done at various levels. State cancer data are routinely reported at the level of Health Region, but the Registry also produces data at Health District area level, previously based on postcode, but now on Statistical Local Area (SLA). Production of data at SLA level usually relies upon mapping an exact address. In most of the State, SLA boundaries are the same as those of Local Government Areas , or LGAs.

3.5.2 Localization of disease risks

Types of statistics

Interpretation of small-area statistics must always be done with caution. Risks for cancer may be sustained in one area but people may move to another area, after a diagnosis, for family reasons, or to access services related to hospitalization or support in older age. Alternatively, they may have moved for various reasons, before disease became apparent.

Thus neither hospitalization data nor mortality data mapping necessarily represent the true "location" of any increased risk of disease. Mortality data are crucial in the planning of health services, and are considered in this report. However, even more so than mortality, hospitalization data are affected by the services already available, and are not presented as an independent issue in this report.

Among these types of statistics - incidence, mortality and hospitalization - only cancer incidence data may be directly related to disease risks. However, there are important limitations to the interpretation of such data, and these are presented in the summary which follows.

The mainstay of the area-based comparisons used here, is the **Standardised Incidence Rate Ratio (SIRR)**, which is the ratio of incidence in one area compared to that in a reference area, usually the whole State. An SIRR of 1 indicates that rates are the same.

Other risk factors

Factors other than location itself are known to be important: while lung cancer incidence, for example, is commonly higher in areas of low average socioeconomic status, the large mid-1990s increase in the apparent incidence of prostate cancer in Western Australia occurred primarily in males in areas of higher average socioeconomic status.[1] Other issues such as previous residential and occupational histories, genetic predisposition, and lifestyle factors such as tobacco, alcohol and diet, may be more important disease risk factors than the location where one lives when a disease is diagnosed.

Incidence data are less likely to suffer the biases inherent in the use of mortality and hospitalization data, but interpretation remains problematic. One of the greatest limitations is the variable and usually unknown time delay between "causes" of cancer and its onset or detection, and the duration for which a "cause" has to be present. The time delay between cause and cancer is often referred to as "lag time" or "lead time" and may be as long as 40 or 50 years in the case of mesothelioma.

In communities which are common destinations amongst persons of retirement age, there are other issues that might affect reported cancer incidence, independent of the fact that incidence rates, or ASRs, are adjusted for age. These may include the availability of free time to seek medical advice about existing symptoms, the chance of a coincidental finding of cancer when seeking attention for other health complaints, and the concentration of screening programmes in areas of high population density for the sake of efficiency.

Data limitations

Ideally, a study of disease by area would be based on complete and accurate information, however many population-based registries must accept substantial variation in the quality of data supplied. With the use of up-to-date directories and maps, many exact street-based addresses can be plotted accurately on an electronic grid, and assigned to a locality name, Local Government Area, Health District or any chosen boundary-set.

However, postal addresses are used primarily to ensure the delivery of mail, and not to facilitate epidemiological analysis. These include address-types such as PO Boxes, Roadside Mail stops (RMB or RSM), and institutions such as retirement complexes that may be so large as to overlap some boundaries. In these cases, the true geographic location of an individual's usual place of residence may not be able to be determined, and results in the assigning of a locality code that is divorced from the real location of a home.

In this context - comparing rates in different areas - a major concern is that is that un-mappable addresses cannot be assumed to be evenly distributed, as people in rural areas appear more likely to use a PO Box, RMB or a farm name as part of an address. For example, the proportion of Cancer Registry locality data that was based on postcode alone was only 1.5% for residents of the SLA of Nedlands, but was 24% for Hall's Creek SLA residents and 28% for Waroona SLA residents.

Statistical limitations

Whenever a large number of related statistical tests are done, with any given "confidence interval", it can be expected that some may yield a "significant" result due to chance alone (up to 5 in 100, if using a 0.05 significance level). This may not be due to a health problem but rather can be the outcome of the statistical processing and chance itself. There is a risk that recipients of such data will concentrate on the unusual results and ignore the vast majority that indicate no significant difference, or even a reduction in risk.

This has previously occurred for the areas south of Perth, for which standardized incidence rate ratios based on 1996-2000 data were calculated for 57 cancer types, for males and females, for 8 areas, a total of over 900 comparisons. Among these, there were approximately 3% of results that appeared "significant", and of these, the majority showed a deficit of cases when compared to the State as a whole. Selective reporting of such information, supplied by the Registry on request, can seriously mislead the public.

In addition, even "statistically significant" results must be interpreted with caution or disregarded if based on unrealistically small numbers of "events".

Overview

The data presented here are robust and the most recent available, and should support other work on the relevant issues. However, the preceding points suggest that the data in this report should be read critically and with due regard to the numbers of cases involved, and the reader should consider that the best possible analysis would ideally take into account far more than residence, age and sex, and include other factors related to history, occupation and lifestyle. Such information is not practicable to obtain on a population-wide basis.

3.5.2 This report

Location of results

The Methods and findings presented here are brief summaries; the previous report[9] can be found at the URL
http://www.health.wa.gov.au/docreg/Reports/Diseases/Cancer/WACR_Statistical_local_area_1998-2002.pdf
and the bulk of the updated statistical tables are available on the Website in the form of an auto-filtering Excel file SLAI0408.xls from which users can select the cancers and/or areas of greatest interest.

The tables referred to in this report use the same methods as in previous reports, with updated cancer incidence and population data, for the period 2004-2008.

Conventions regarding commonly-used words

"Similar" means statistically similar, referring to a difference (e.g. an SRR) that has a 95% confidence interval that includes 1.

"Significant" means statistically significant, referring to a difference or a ratio (e.g. an SRR) that has a 95% confidence interval that does NOT include 1.

"Expected" means the case numbers or rates that would have been expected in a given area, on the basis of how the area's population compares to the whole State population (numbers of each sex and 5-year age group), if age-and-sex-specific risks were similar over the whole

State. It does NOT imply any aspect of "prediction" or forecasting of future events based on past data.

"Average" is used on occasion to refer to the State-based predicted/expected incidence or death rates based on 1998-2002 data for all SLAs combined.

Area names and maps
On the following pages there is a list of all the SLA names for which data were examined, which are those used for the 2006 Australian census reporting; and a set of outline maps showing the area boundaries.

3.5.3 Summary of results

Overview
Cancer incidence appears reasonably consistent across Western Australia; the vast majority of the almost 6000 comparisons between incidence rates in different areas and the State rates, showed no significant departure from expectations (over 94% in males, and 97% in females).

All-cancers
There were a number of areas for which the average incidence of all cancers combined appeared higher that the State average. In males, rates appeared higher than expected in the Gnowangerup Shire with 26 cases over 5 years, SIRR 1.68 but the confidence interval was wide at 1.1 – 2.4 and this is not felt to be cause for specific concern. All-cancers rates also appeared higher than average in the Cities of Wanneroo North-East (SIRR 1.16) and Mandurah (SIRR 1.08, but of marginal significance).

Among females, higher than average results were noted for Geraldton, and for Kwinana and Mandurah in the South Metropolitan area and although these results are based on higher numbers, the results were only marginally significant.

Individual cancer types
There were some areas in which particular cancer types appeared more or less common then in the State as a whole, many being based on very low observed or expected numbers of cases. In males, these included tongue, pharyngeal and unknown primary site cancers in the Kimberley, lung and pharyngeal cancers in the Midwest, oral cancers in the Wheatbelt, melanoma in the South West, and prostate cancer in both the Metropolitan Area Health Services. In females, these included unknown primary site cancers in the Kimberley, pharyngeal cancers in the Midwest, oral and laryngeal cancers in the Wheatbelt, gallbladder and biliary cancers in the South West, and a small range of lymphohaematopoietic malignancies (mainly myelodysplasias) in the South Metropolitan AHS.

Table 10. List of Statistical Local Area names and codes used in this report

SLA name	ABS code	SLA name	ABS code	SLA name	ABS code
Albany (C) - Central	50081	Fremantle (C) - Remainder	53432	Northam (S)	56720
Albany (C) Bal	50084	Geraldton (C)	53500	Northam (T)	56650
Armadale (C)	50210	Gingin (S)	53570	Northampton (S)	56790
Ashburton (S)	50250	Gnowangerup (S)	53640	Nungarin (S)	56860
Augusta-Margaret River (S)	50280	Goomalling (S)	53710	Peppermint Grove (S)	56930
Bassendean (T)	50350	Gosnells (C)	53780	Perenjori (S)	57000
Bayswater (C)	50420	Greenough (S) - Pt A	53851	Perth (C) - Inner	57081
Belmont (C)	50490	Greenough (S) - Pt B	53854	Perth (C) - Remainder	57082
Beverley (S)	50560	Halls Creek (S)	53920	Pingelly (S)	57140
Boddington (S)	50630	Harvey (S) - Pt A	53991	Plantagenet (S)	57210
Boyup Brook (S)	50770	Harvey (S) - Pt B	53994	Port Hedland (T)	57280
Bridgetown-Greenbushes (S)	50840	Irwin (S)	54060	Quairading (S)	57350
Brookton (S)	50910	Jerramungup (S)	54130	Ravensthorpe (S)	57420
Broome (S)	50980	Joondalup (C) - North	54171	Rockingham (C)	57490
Broomehill (S)	51050	Joondalup (C) - South	54174	Roebourne (S)	57560
Bruce Rock (S)	51120	Kalamunda (S)	54200	Sandstone (S)	57630
Bunbury (C)	51190	Kalgoorlie/Boulder (C) - Pt A	54281	Serpentine-Jarrahdale (S)	57700
Busselton (S)	51260	Kalgoorlie/Boulder (C) - Pt B	54284	Shark Bay (S)	57770
Cambridge (T)	51310	Katanning (S)	54340	South Perth (C)	57840
Canning (C)	51330	Kellerberrin (S)	54410	Stirling (C) - Central	57914
Capel (S) - Pt A	51401	Kent (S)	54480	Stirling (C) - Coastal	57915
Capel (S) - Pt B	51404	Kojonup (S)	54550	Stirling (C) - South-Eastern	57916
Carnamah (S)	51470	Kondinin (S)	54620	Subiaco (C)	57980
Carnarvon (S)	51540	Koorda (S)	54690	Swan (C)	58050
Chapman Valley (S)	51610	Kulin (S)	54760	Tambellup (S)	58120
Chittering (S)	51680	Kwinana (T)	54830	Tammin (S)	58190
Claremont (T)	51750	Lake Grace (S)	54900	Three Springs (S)	58260
Cockburn (C)	51820	Laverton (S)	54970	Toodyay (S)	58330
Collie (S)	51890	Leonora (S)	55040	Trayning (S)	58400
Coolgardie (S)	51960	Mandurah (C)	55110	Upper Gascoyne (S)	58470
Coorow (S)	52030	Manjimup (S)	55180	Victoria Park (T)	58510
Corrigin (S)	52100	Meekatharra (S)	55250	Victoria Plains (S)	58540
Cottesloe (T)	52170	Melville (C)	55320	Vincent (T)	58570
Cranbrook (S)	52240	Menzies (S)	55390	Wagin (S)	58610
Cuballing (S)	52310	Merredin (S)	55460	Wandering (S)	58680
Cue (S)	52380	Mingenew (S)	55530	Wanneroo (C) - North-East	58761
Cunderdin (S)	52450	Moora (S)	55600	Wanneroo (C) - North-West	58764
Dalwallinu (S)	52520	Morawa (S)	55670	Wanneroo (C) - South	58767
Dandaragan (S)	52590	Mosman Park (T)	55740	Waroona (S)	58820
Dardanup (S) - Pt A	52661	Mount Magnet (S)	55810	West Arthur (S)	58890
Dardanup (S) - Pt B	52664	Mount Marshall (S)	55880	Westonia (S)	59030
Denmark (S)	52730	Mukinbudin (S)	55950	Wickepin (S)	59100
Derby-West Kimberley (S)	52800	Mullewa (S)	56020	Williams (S)	59170
Donnybrook-Balingup (S)	52870	Mundaring (S)	56090	Wiluna (S)	59250
Dowerin (S)	52940	Murchison (S)	56160	Wongan-Ballidu (S)	59310
Dumbleyung (S)	53010	Murray (S)	56230	Woodanilling (S)	59380
Dundas (S)	53080	Nannup (S)	56300	Wyalkatchem (S)	59450
East Fremantle (T)	53150	Narembeen (S)	56370	Wyndham-East Kimberley (S)	59520
East Pilbara (S)	53220	Narrogin (S)	56510	Yalgoo (S)	59590
Esperance (S)	53290	Narrogin (T)	56440	Yilgarn (S)	59660
Exmouth (S)	53360	Nedlands (C)	56580	York (S)	59730
Fremantle (C) - Inner	53431	Ngaanyatjarraku (S)	56620		

Figure 14. Western Australian SLA Boundaries – Map 1

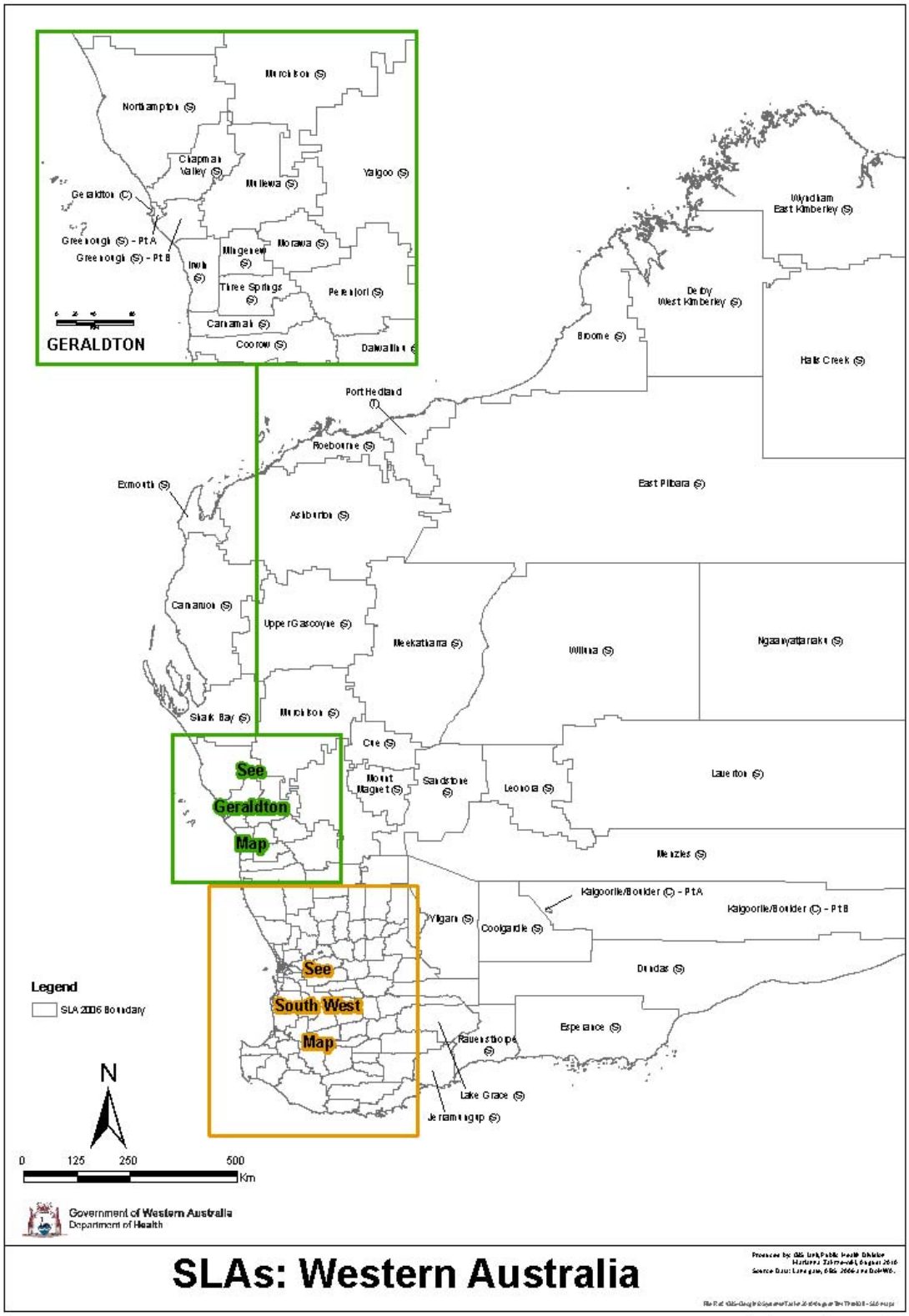


Figure 15. Western Australian SLA Boundaries – Map 2 (South West)

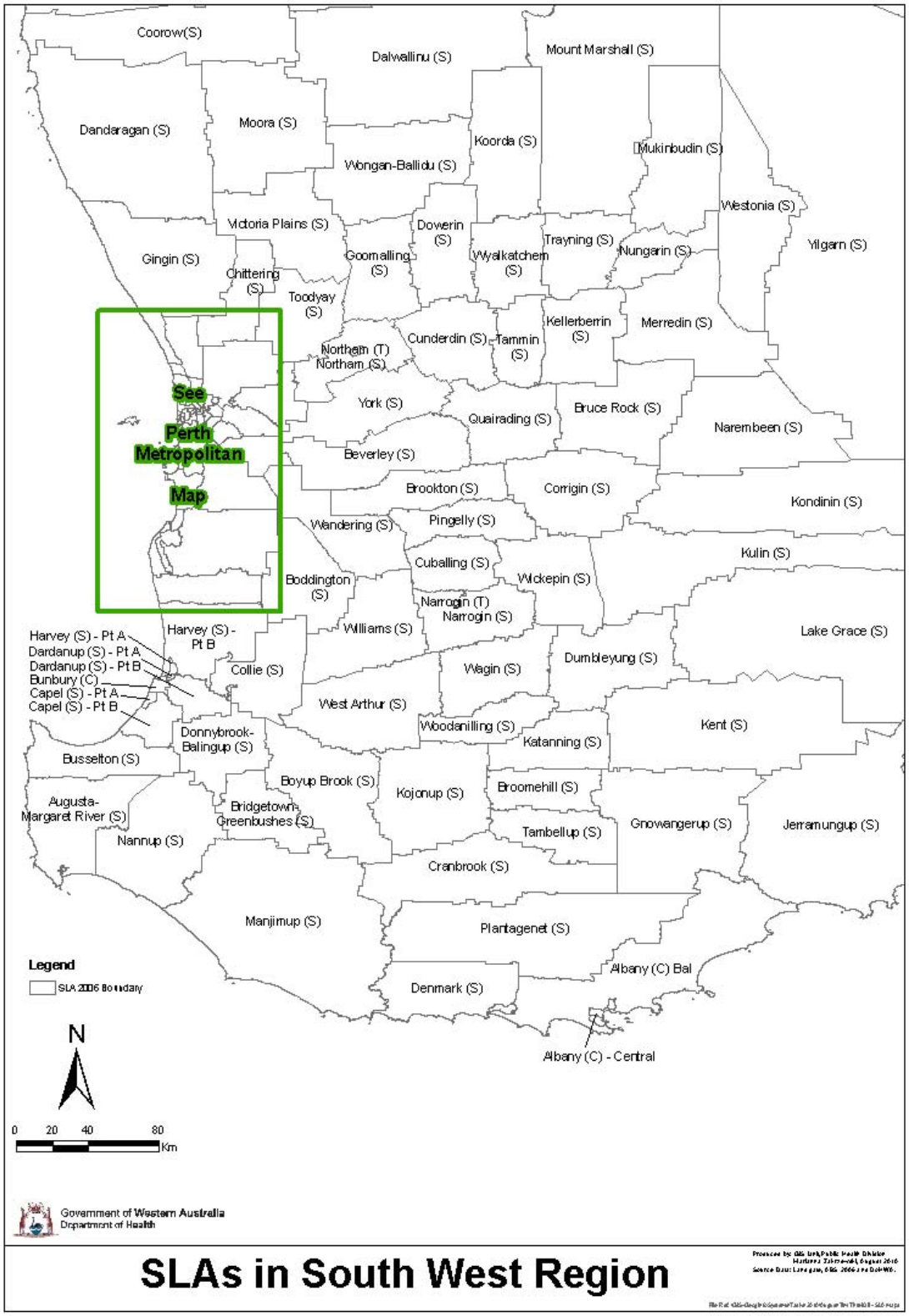


Figure 16. Western Australian SLA Boundaries – Map 3 (Perth Metropolitan)

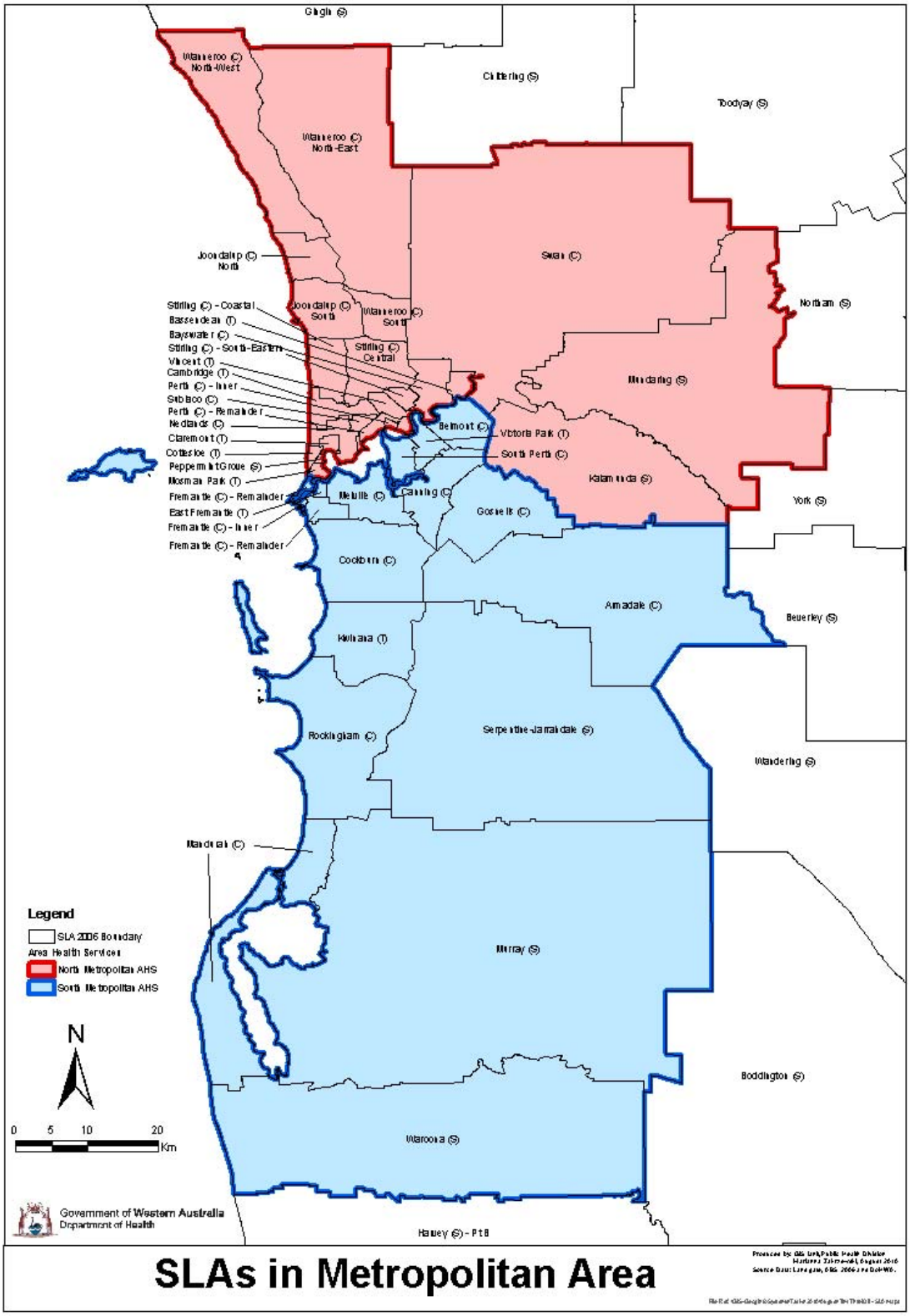


Table 11. Total cancer incidence by area, 2004-2008: all Regions and SLAs

Area	Males		95%		95%	Sig.	Females		95%		95%	Sig.
(Region / SLA)	Cases	ASR	c.i.	SIRR	c.i.	(2)	Cases	ASR	c.i.	SIRR	c.i.	(2)
Kimberley Region	268	338.6	(296.8-380.4)	**0.95**	(0.8-1.1)	-	183	278.1	(235.3-320.9)	**1.03**	(0.9-1.2)	-
Broome (S)	123	347.2	(282.9-411.5)	**0.97**	(0.8-1.2)	-	89	297.9	(230.0-365.8)	**1.11**	(0.9-1.4)	-
Derby-West Kimberley (S)	66	387.9	(293.0-482.9)	**1.05**	(0.8-1.3)	-	41	300.2	(204.1-396.4)	**1.04**	(0.7-1.4)	-
Halls Creek (S)	23	336	(192.4-479.7)	**0.9**	(0.5-1.3)	-	10	148.7	(53.7-243.7)	**0.52**	(0.2-0.9)	v
Wyndham-East Kimberley (S)	56	283	(206.6-359.4)	**0.83**	(0.6-1.1)	-	43	286.8	(192.6-381.0)	**1.1**	(0.8-1.5)	-
Pilbara Region	260	298.8	(255.7-341.9)	**0.81**	(0.7-0.9)	v	177	248.4	(203.6-293.1)	**0.9**	(0.8-1.1)	-
Ashburton (S)	47	373.5	(233.4-513.6)	**1.1**	(0.8-1.4)	-	23	220.1	(104.6-335.7)	**0.92**	(0.6-1.3)	-
East Pilbara (S)	29	323.5	(131.0-516.1)	**0.58**	(0.4-0.8)	v	23	207.7	(108.5-306.9)	**0.8**	(0.5-1.2)	-
Port Hedland (T)	83	268.1	(202.4-333.8)	**0.77**	(0.6-1.0)	v	63	278.2	(196.1-360.3)	**0.96**	(0.8-1.2)	-
Roebourne (S)	101	327.9	(250.3-405.5)	**0.85**	(0.7-1.0)	-	68	258.4	(179.5-337.4)	**0.88**	(0.7-1.1)	-
Midwest Region	865	361.8	(337.1-386.5)	**0.98**	(0.9-1.1)	-	581	277.6	(254.2-301.1)	**1.04**	(1.0-1.1)	-
Carnamah (S)	11	373.7	(146.3-601.2)	**1.06**	(0.5-1.8)	-	6	271.2	(52.7-489.8)	**0.93**	(0.3-1.8)	-
Carnarvon (S)	106	458.4	(368.9-547.9)	**1.18**	(1.0-1.4)	-	63	330	(247.2-412.8)	**1.28**	(1.0-1.7)	-
Chapman Valley (S)	4	90.8	(0.0-182.9)	**0.27**	(0.0-0.6)	v	4	157.4	(0.0-328.9)	**0.47**	(0.1-1.0)	-
Coorow (S)	20	308.5	(169.5-447.4)	**0.88**	(0.5-1.3)	-	10	225	(82.0-368.1)	**0.86**	(0.4-1.5)	-
Cue (S)	3	224	(0.0-482.2)	**0.64**	(0.1-1.5)	-						
Exmouth (S)	31	339.1	(217.7-460.5)	**0.93**	(0.6-1.3)	-	16	265.6	(115.9-415.4)	**0.9**	(0.5-1.4)	-
Geraldton (C)	327	409.9	(362.9-456.9)	**1.08**	(1.0-1.2)	-	273	338.8	(294.9-382.8)	**1.25**	(1.1-1.4)	^
Greenough (S) - Pt A	121	304.3	(248.8-359.8)	**0.83**	(0.7-1.0)	-	83	226.8	(176.5-277.1)	**0.83**	(0.7-1.0)	-
Greenough (S) - Pt B	13	225.5	(101.8-349.2)	**0.62**	(0.3-1.0)	-	5	188	(0.0-402.5)	**0.46**	(0.1-1.0)	v
Irwin (S)	67	422.3	(312.0-532.6)	**1.08**	(0.8-1.4)	-	32	259.7	(165.5-354.0)	**0.87**	(0.6-1.2)	-
Meekatharra (S)	11	304.6	(113.2-496.0)	**0.8**	(0.4-1.3)	-	11	363.1	(117.0-609.2)	**1.26**	(0.6-2.1)	-
Mingenew (S)	10	458.3	(166.0-750.5)	**1.23**	(0.5-2.1)	-	5	429.1	(43.3-814.9)	**1.36**	(0.3-2.8)	-*
Morawa (S)	10	240.6	(86.7-394.5)	**0.75**	(0.3-1.3)	-	10	359.3	(133.6-585.0)	**1.1**	(0.5-1.9)	-
Mount Magnet (S)	8	263.2	(79.4-446.9)	**0.84**	(0.3-1.5)	-	3	141.5	(0.0-301.9)	**0.63**	(0.1-1.5)	-
Mullewa (S)	16	552.3	(218.7-886.0)	**1.27**	(0.7-2.0)	-	8	379.4	(114.5-644.3)	**1.49**	(0.5-2.7)	-
Murchison (S)	0	-	-	**-**	-	.	0	-	-	**-**	-	.
Northampton (S)	63	362.6	(270.3-455.0)	**1.03**	(0.8-1.3)	-	32	232.6	(142.3-322.8)	**0.83**	(0.6-1.1)	-
Perenjori (S)	3	147.5	(0.0-315.1)	**0.42**	(0.0-1.0)	v	6	263.4	(48.2-478.6)	**1.25**	(0.3-2.4)	-
Sandstone (S)	2	352.7	(0.0-857.7)	**0.66**	(0.0-1.8)	-*	1	230.8	(0.0-683.1)	**0.83**	(0.0-3.1)	-*
Shark Bay (S)	20	376.5	(208.8-544.2)	**0.98**	(0.6-1.5)	-	4	94.3	(0.0-189.9)	**0.42**	(0.1-0.9)	v
Three Springs (S)	11	351	(138.2-563.8)	**1.05**	(0.5-1.8)	-	5	241.1	(0.0-492.1)	**0.82**	(0.2-1.7)	-
Upper Gascoyne (S)	2	189.5	(0.0-465.2)	**0.52**	(0.0-1.5)	-*	1	85.1	(0.0-251.9)	**0.43**	(0.0-1.6)	-*
Wiluna (S)	3	112	(0.0-247.5)	**0.22**	(0.0-0.5)	v	3	196	(0.0-422.0)	**0.95**	(0.1-2.2)	-*
Yalgoo (S)	3	255.8	(0.0-547.4)	**0.7**	(0.1-1.6)	-*						
Wheatbelt Region	1,190	367.2	(345.4-389.0)	**0.98**	(0.9-1.0)	-	774	260.8	(241.3-280.3)	**0.98**	(0.9-1.1)	-
Beverley (S)	36	352.9	(230.8-475.0)	**0.93**	(0.6-1.3)	-	15	171.1	(79.9-262.3)	**0.67**	(0.3-1.1)	-
Boddington (S)	23	387.4	(223.2-551.5)	**1.01**	(0.6-1.5)	-	8	177.9	(43.8-312.0)	**0.62**	(0.2-1.1)	-
Brookton (S)	13	251.3	(105.4-397.2)	**0.64**	(0.3-1.0)	-	14	315.3	(131.6-498.9)	**1.06**	(0.5-1.7)	-
Bruce Rock (S)	15	284.5	(134.0-434.9)	**0.76**	(0.4-1.2)	-	14	296.1	(129.4-462.7)	**1.09**	(0.5-1.7)	-
Chittering (S)	52	360.7	(255.1-466.2)	**0.93**	(0.7-1.2)	-	34	266.6	(168.1-365.1)	**0.98**	(0.7-1.3)	-

Table 11. Total cancer incidence by area, 2004-2008: all Regions and SLAs (cont.)

Area	Males		95%		95%	Sig.	Females		95%		95%	Sig.
(Region / SLA)	Cases	ASR	c.i.	SIRR	c.i.	(2)	Cases	ASR	c.i.	SIRR	c.i.	(2)
Corrigin (S)	18	396.3	(208.9-583.8)	**0.95**	(0.5-1.4)	-	12	255.6	(95.9-415.4)	**0.86**	(0.4-1.4)	-
Cuballing (S)	11	253.9	(102.4-405.4)	**0.8**	(0.4-1.3)	-	5	165.7	(17.6-313.9)	**0.67**	(0.2-1.4)	-
Cunderdin (S)	23	383.5	(216.4-550.7)	**1.01**	(0.6-1.5)	-	19	368.6	(196.8-540.4)	**1.35**	(0.8-2.0)	-
Dalwallinu (S)	24	462.1	(264.1-660.2)	**1.16**	(0.7-1.7)	-	21	450.9	(250.7-651.0)	**1.55**	(0.9-2.3)	-
Dandaragan (S)	72	473.8	(359.0-588.6)	**1.22**	(1.0-1.6)	-	29	219.2	(136.3-302.1)	**0.9**	(0.6-1.3)	-
Dowerin (S)	16	440.6	(207.4-673.8)	**1.23**	(0.6-1.9)	-	7	277.3	(64.2-490.3)	**0.95**	(0.3-1.8)	-
Dumbleyung (S)	13	501.2	(198.2-804.2)	**1.17**	(0.6-1.9)	-	6	240.3	(20.6-460.0)	**0.86**	(0.2-1.7)	-
Gingin (S)	91	388.4	(301.3-475.4)	**1.04**	(0.8-1.3)	-	50	240.5	(170.9-310.0)	**0.95**	(0.7-1.2)	-
Goomalling (S)	18	419.8	(203.3-636.4)	**1.05**	(0.6-1.6)	-	15	322.8	(131.9-513.7)	**1.43**	(0.7-2.2)	-
Kellerberrin (S)	17	406.9	(210.0-603.7)	**0.76**	(0.4-1.2)	-	13	179.5	(72.4-286.5)	**0.82**	(0.4-1.3)	-
Kondinin (S)	14	571.3	(248.1-894.6)	**0.99**	(0.5-1.6)	-	15	460	(216.6-703.4)	**1.89**	(1.0-3.0)	-
Koorda (S)	6	372.6	(72.0-673.2)	**0.69**	(0.2-1.3)	-	3	157.7	(0.0-342.7)	**0.55**	(0.0-1.3)	-
Kulin (S)	9	408.1	(121.6-694.6)	**0.71**	(0.3-1.2)	-	12	361.4	(134.5-588.4)	**1.32**	(0.6-2.2)	-
Lake Grace (S)	30	618.6	(375.8-861.4)	**1.42**	(0.9-2.0)	-	14	264.2	(117.0-411.4)	**1.05**	(0.5-1.7)	-
Merredin (S)	47	363	(254.3-471.7)	**0.98**	(0.7-1.3)	-	29	252.9	(155.5-350.3)	**0.86**	(0.6-1.2)	-
Moora (S)	45	476.6	(330.7-622.4)	**1.27**	(0.9-1.7)	-	32	363.8	(231.1-496.5)	**1.35**	(0.9-1.9)	-
Mount Marshall (S)	9	486.1	(146.6-825.7)	**1.08**	(0.4-1.9)	-	3	147	(0.0-313.5)	**0.58**	(0.1-1.4)	-
Mukinbudin (S)	10	323	(100.2-545.8)	**0.93**	(0.4-1.6)	-	9	403.8	(135.9-671.6)	**1.64**	(0.6-2.9)	-
Narembeen (S)	17	439.5	(209.2-669.9)	**1.11**	(0.6-1.7)	-	19	567.7	(264.9-870.6)	**1.76**	(1.0-2.6)	-
Narrogin (T)	69	402.7	(300.9-504.5)	**1.1**	(0.9-1.4)	-	53	267.1	(184.4-349.7)	**1.02**	(0.8-1.4)	-
Narrogin (S)	4	137.5	(2.0-273.0)	**0.34**	(0.1-0.8)	v	4	179	(0.0-366.7)	**0.51**	(0.1-1.1)	-
Northam (T)	101	409.4	(322.6-496.1)	**1.05**	(0.9-1.3)	-	74	274.2	(204.9-343.6)	**0.97**	(0.8-1.2)	-
Northam (S)	59	373.3	(270.3-476.3)	**0.92**	(0.7-1.2)	-	28	176.6	(109.7-243.4)	**0.69**	(0.4-1.0)	v
Nungarin (S)	2	240	(0.0-572.6)	**0.47**	(0.0-1.3)	-*	4	497.1	(0.0-1111.8)	**1.49**	(0.2-3.3)	-*
Pingelly (S)	28	431.9	(264.3-599.6)	**1.16**	(0.7-1.6)	-	16	274.1	(124.8-423.5)	**1.04**	(0.5-1.6)	-
Quairading (S)	20	342	(181.3-502.7)	**0.98**	(0.6-1.5)	-	14	308.8	(123.6-493.9)	**1.08**	(0.5-1.7)	-
Tammin (S)	6	309.8	(46.6-573.0)	**0.91**	(0.3-1.8)	-	5	279.6	(14.5-544.7)	**1.25**	(0.3-2.6)	-*
Toodyay (S)	59	280.1	(206.9-353.4)	**0.78**	(0.6-1.0)	-	50	283.7	(198.5-368.9)	**1.06**	(0.8-1.4)	-
Trayning (S)	7	306	(61.5-550.6)	**0.86**	(0.3-1.6)	-	4	169.2	(0.0-350.1)	**0.78**	(0.1-1.7)	-
Victoria Plains (S)	13	343.9	(145.1-542.7)	**0.82**	(0.4-1.3)	-	9	284.8	(95.6-474.0)	**1.11**	(0.4-1.9)	-
Wagin (S)	26	264.6	(156.3-372.9)	**0.77**	(0.5-1.1)	-	26	301.1	(164.4-437.8)	**1.09**	(0.7-1.5)	-
Wandering (S)	5	335.8	(0.0-671.6)	**0.73**	(0.2-1.5)	-	2	153.4	(0.0-369.6)	**0.52**	(0.0-1.5)	-*
West Arthur (S)	7	173.5	(42.0-305.0)	**0.48**	(0.2-0.9)	v	3	92.6	(0.0-200.1)	**0.34**	(0.0-0.8)	v
Westonia (S)	0	-	-	**-**	-	.	1	111.1	(0.0-328.9)	**0.58**	(0.0-2.1)	-*
Wickepin (S)	3	85.9	(0.0-183.1)	**0.26**	(0.0-0.6)	v	4	154.8	(0.0-319.6)	**0.52**	(0.1-1.1)	-
Williams (S)	18	479.5	(233.8-725.1)	**1.3**	(0.7-2.0)	-	6	171.8	(33.2-310.4)	**0.59**	(0.2-1.2)	-
Wongan-Ballidu (S)	16	307.9	(148.0-467.8)	**0.86**	(0.5-1.3)	-	17	299.8	(142.0-457.6)	**1.2**	(0.6-1.8)	-
Wyalkatchem (S)	12	324.2	(132.5-515.9)	**0.94**	(0.4-1.5)	-	4	184.8	(3.5-366.2)	**0.55**	(0.1-1.2)	-
Yilgarn (S)	34	524	(341.1-706.9)	**1.37**	(0.9-1.9)	-	13	296.3	(127.6-464.9)	**1.12**	(0.5-1.8)	-
York (S)	72	444.9	(324.3-565.6)	**1.17**	(0.9-1.5)	-	39	261.6	(162.5-360.7)	**0.92**	(0.6-1.2)	-
Goldfields Region	496	326.2	(297.0-355.5)	**0.88**	(0.8-1.0)	v	352	249.4	(222.5-276.3)	**0.92**	(0.8-1.0)	-
Coolgardie (S)	31	323.2	(203.3-443.1)	**0.9**	(0.6-1.2)	-	17	237.2	(117.7-356.8)	**0.81**	(0.4-1.3)	-
Dundas (S)	7	160.8	(39.6-282.0)	**0.42**	(0.1-0.8)	v	11	338.7	(134.9-542.5)	**1.35**	(0.6-2.3)	-
Esperance (S)	172	334.3	(283.2-385.5)	**0.92**	(0.8-1.1)	-	130	269.4	(220.9-318.0)	**0.99**	(0.8-1.2)	-
Kalgoorlie/Boulder (C) - Pt A	250	375.4	(326.8-424.0)	**0.99**	(0.9-1.1)	-	168	255.7	(214.7-296.8)	**0.92**	(0.8-1.1)	-
Kalgoorlie/Boulder (C) - Pt B	0	-	-	**-**	-	.	1	171.4	(0.0-507.4)	**0.92**	(0.0-3.4)	-*

Table 11. Total cancer incidence by area, 2004-2008: all Regions and SLAs (cont.)

Area	Males		95%		95%	Sig.	Females		95%		95%	Sig.
(Region / SLA)	Cases	ASR	c.i.	SIRR	c.i.	(2)	Cases	ASR	c.i.	SIRR	c.i.	(2)
Laverton (S)	4	124.1	(0.2-247.9)	**0.37**	(0.1-0.8)	**v**	4	186	(0.0-373.8)	**0.8**	(0.1-1.8)	**-**
Leonora (S)	9	300	(38.7-561.4)	**0.63**	(0.2-1.1)	**-**	6	265.5	(19.6-511.5)	**0.89**	(0.2-1.7)	**-**
Menzies (S)	3	323.3	(0.0-698.8)	**0.67**	(0.1-1.6)	**-***	1	166.7	(0.0-493.3)	**0.58**	(0.0-2.1)	**-***
Ngaanyatjarraku (S)	1	19.9	(0.0-58.9)	**0.08**	(0.0-0.3)	**v**	1	28.6	(0.0-84.6)	**0.11**	(0.0-0.4)	**v**
Ravensthorpe (S)	19	226.6	(121.7-331.4)	**0.62**	(0.4-0.9)	**v**	13	222	(100.6-343.4)	**0.9**	(0.4-1.5)	**-**
Great Southern Region	836	353.7	(328.2-379.1)	**0.93**	(0.9-1.0)	**-**	633	270	(247.0-292.9)	**1**	(0.9-1.1)	**-**
Albany (C) - Central	289	387.3	(336.6-437.9)	**0.96**	(0.9-1.1)	**-**	273	303.7	(261.0-346.3)	**1.11**	(1.0-1.3)	**-**
Albany (C) Bal	206	311.4	(266.7-356.2)	**0.82**	(0.7-0.9)	**v**	144	246.4	(205.1-287.7)	**0.94**	(0.8-1.1)	**-**
Broomehill (S)	5	330.8	(22.0-639.6)	**0.85**	(0.2-1.8)	**-**	7	553.1	(59.2-1047.0)	**1.41**	(0.4-2.6)	**-**
Cranbrook (S)	15	391.5	(186.7-596.3)	**0.89**	(0.5-1.4)	**-**	5	106.4	(10.4-202.4)	**0.46**	(0.1-0.9)	**v**
Denmark (S)	106	474.2	(374.6-573.7)	**1.17**	(1.0-1.4)	**-**	57	269.1	(180.9-357.3)	**0.92**	(0.7-1.2)	**-**
Gnowangerup (S)	26	644.1	(386.4-901.7)	**1.68**	(1.1-2.4)	**^**	19	544.2	(283.2-805.1)	**1.59**	(0.9-2.4)	**-**
Jerramungup (S)	12	290.5	(112.2-468.9)	**0.74**	(0.3-1.2)	**-**	10	348.6	(110.6-586.6)	**1.07**	(0.4-1.8)	**-**
Katanning (S)	41	394	(271.6-516.4)	**0.68**	(0.5-0.9)	**v**	39	254.1	(170.1-338.0)	**0.95**	(0.7-1.3)	**-**
Kent (S)	7	798.9	(103-1495)	**0.88**	(0.3-1.6)	**-**	1	50	(0.0-148.0)	**0.19**	(0.0-0.7)	**v**
Kojonup (S)	41	621.1	(427.1-815.0)	**1.06**	(0.7-1.4)	**-**	21	237.3	(129.7-344.9)	**0.82**	(0.5-1.2)	**-**
Plantagenet (S)	77	348	(267.8-428.2)	**0.95**	(0.8-1.2)	**-**	49	236.5	(166.6-306.5)	**0.96**	(0.7-1.3)	**-**
Tambellup (S)	7	345.2	(73.1-617.4)	**0.77**	(0.2-1.4)	**-**	6	339.4	(56.9-621.9)	**1.05**	(0.3-2.1)	**-**
Woodanilling (S)	4	375.7	(0.0-779.3)	**0.91**	(0.1-2.0)	**-***	2	210.7	(0.0-532.1)	**0.71**	(0.0-2.0)	**-***
South West Region	1,988	353.2	(336.9-369.4)	**0.96**	(0.9-1.0)	**-**	1,443	259.7	(245.4-274.0)	**0.98**	(0.9-1.0)	**-**
Augusta-Margaret River (S)	154	374.3	(312.4-436.2)	**1**	(0.9-1.2)	**-**	96	231.1	(181.0-281.1)	**0.87**	(0.7-1.1)	**-**
Boyup Brook (S)	40	490.3	(330.7-649.9)	**1.35**	(0.9-1.8)	**-**	19	258.6	(130.9-386.3)	**0.99**	(0.6-1.5)	**-**
Bridgetown-Greenbushes (S)	75	404.4	(307.1-501.8)	**1.04**	(0.8-1.3)	**-**	59	306	(223.4-388.5)	**1.17**	(0.9-1.5)	**-**
Bunbury (C)	444	341.9	(307.7-376.1)	**0.95**	(0.9-1.0)	**-**	340	258.9	(228.5-289.3)	**0.95**	(0.9-1.1)	**-**
Busselton (S)	414	355.8	(319.0-392.5)	**0.97**	(0.9-1.1)	**-**	329	285	(251.5-318.5)	**1.06**	(1.0-1.2)	**-**
Capel (S) - Pt A	45	304.6	(212.5-396.7)	**0.9**	(0.6-1.2)	**-**	28	202.3	(123.5-281.0)	**0.72**	(0.5-1.0)	**-**
Capel (S) - Pt B	54	316.4	(231.1-401.7)	**0.86**	(0.7-1.1)	**-**	45	287.8	(200.5-375.1)	**1.08**	(0.8-1.4)	**-**
Collie (S)	121	346	(281.2-410.9)	**0.91**	(0.8-1.1)	**-**	106	308	(245.2-370.8)	**1.14**	(0.9-1.4)	**-**
Dardanup (S) - Pt A	99	371.6	(294.9-448.4)	**0.95**	(0.8-1.2)	**-**	88	297.4	(229.6-365.2)	**1.18**	(1.0-1.5)	**-**
Dardanup (S) - Pt B	21	220.7	(122.3-319.1)	**0.59**	(0.4-0.9)	**v**	14	150.6	(68.9-232.3)	**0.63**	(0.3-1.0)	**-**
Donnybrook-Balingup (S)	62	298.6	(217.9-379.3)	**0.8**	(0.6-1.0)	**-**	49	234.9	(167.5-302.4)	**0.93**	(0.7-1.2)	**-**
Harvey (S) - Pt A	147	365.7	(304.4-427.1)	**0.99**	(0.8-1.2)	**-**	83	226	(175.6-276.4)	**0.83**	(0.7-1.0)	**-**
Harvey (S) - Pt B	135	389.3	(320.7-457.9)	**1.06**	(0.9-1.3)	**-**	86	269.9	(210.2-329.6)	**1.01**	(0.8-1.3)	**-**
Manjimup (S)	161	372.5	(313.2-431.8)	**1.03**	(0.9-1.2)	**-**	88	235.1	(181.0-289.2)	**0.86**	(0.7-1.1)	**-**
Nannup (S)	16	284.2	(135.4-432.9)	**0.69**	(0.4-1.1)	**-**	13	170.6	(76.6-264.7)	**0.81**	(0.4-1.3)	**-**
North Metro AHS	11,248	371.9	(364.8-379.0)	**1.01**	(1.0-1.0)	**-**	8,704	262.9	(256.9-268.8)	**0.99**	(1.0-1.0)	**-**
Bassendean (T)	201	353.5	(301.4-405.6)	**0.97**	(0.9-1.1)	**-**	149	233.1	(191.1-275.1)	**0.88**	(0.8-1.0)	**-**
Bayswater (C)	829	335.9	(311.5-360.3)	**0.93**	(0.9-1.0)	**-**	646	260.8	(238.4-283.3)	**0.96**	(0.9-1.0)	**-**
Cambridge (T)	408	395.5	(353.3-437.8)	**1.06**	(1.0-1.2)	**-**	276	235.4	(202.5-268.3)	**0.87**	(0.8-1.0)	**v**
Claremont (T)	179	416	(349.6-482.4)	**1.1**	(0.9-1.3)	**-**	139	252.2	(200.9-303.4)	**0.97**	(0.8-1.2)	**-**
Cottesloe (T)	143	428.7	(355.1-502.3)	**1.15**	(1.0-1.4)	**-**	112	332.4	(263.7-401.1)	**1.17**	(1.0-1.4)	**-**

Table 11. Total cancer incidence by area, 2004-2008: all Regions and SLAs (cont.)

Area	Males		95%		95%	Sig.	Females		95%		95%	Sig.
(Region / SLA)	Cases	ASR	c.i.	SIRR	c.i.	(2)	Cases	ASR	c.i.	SIRR	c.i.	(2)
Joondalup (C) - North	531	386.4	(352.4-420.4)	**1.03**	(1.0-1.1)	-	447	284.3	(256.7-311.9)	**1.07**	(1.0-1.2)	-
Joondalup (C) - South	1,376	380.8	(359.9-401.7)	**1.03**	(1.0-1.1)	-	1,074	270	(252.9-287.2)	**1.01**	(1.0-1.1)	-
Kalamunda (S)	697	359.1	(331.5-386.6)	**0.96**	(0.9-1.0)	-	519	256.8	(233.3-280.2)	**0.96**	(0.9-1.0)	-
Mosman Park (T)	131	385.3	(317.1-453.5)	**1.04**	(0.9-1.2)	-	112	287.2	(226.3-348.2)	**1.04**	(0.9-1.3)	-
Mundaring (S)	483	353.3	(320.9-385.7)	**0.95**	(0.9-1.0)	-	377	281.5	(250.8-312.2)	**1.02**	(0.9-1.1)	-
Nedlands (C)	337	387.2	(343.1-431.4)	**1.03**	(0.9-1.2)	-	288	246.3	(210.1-282.6)	**1**	(0.9-1.1)	-
Peppermint Grove (S)	33	466.4	(300.4-632.4)	**1.28**	(0.9-1.8)	-	27	340.6	(183.5-497.6)	**1.42**	(0.9-2.0)	-
Perth (C) - Inner	14	306.4	(139.6-473.3)	**0.91**	(0.5-1.4)	-	13	684	(269-1099)	**1.86**	(0.9-3.0)	-
Perth (C) - Remainder	171	405.7	(329.2-482.3)	**1.06**	(0.9-1.2)	-	96	286.8	(218.8-354.8)	**1.07**	(0.9-1.3)	-
Stirling (C) - Central	1,535	362.8	(343.5-382.2)	**0.99**	(1.0-1.1)	-	1,209	258	(241.9-274.1)	**0.99**	(0.9-1.1)	-
Stirling (C) - Coastal	1,019	392.7	(367.1-418.2)	**1.06**	(1.0-1.1)	-	780	264	(243.4-284.7)	**0.98**	(0.9-1.1)	-
Stirling (C) - South-Eastern	242	355.3	(304.0-406.5)	**0.99**	(0.9-1.1)	-	187	243.7	(200.0-287.5)	**0.87**	(0.8-1.0)	-
Subiaco (C)	242	393.9	(343.2-444.6)	**1.07**	(0.9-1.2)	-	197	255	(215.9-294.1)	**1.03**	(0.9-1.2)	-
Swan (C)	1,021	352.8	(330.8-374.9)	**0.97**	(0.9-1.0)	-	849	273.9	(254.8-292.9)	**1.04**	(1.0-1.1)	-
Vincent (T)	350	364.3	(323.1-405.4)	**0.94**	(0.9-1.1)	-	272	239.8	(206.4-273.1)	**0.94**	(0.8-1.1)	-
Wanneroo (C) - North-East	427	424.3	(383.3-465.4)	**1.16**	(1.1-1.3)	^	291	264.9	(233.4-296.3)	**1.01**	(0.9-1.1)	-
Wanneroo (C) - North-West	443	385.9	(348.5-423.2)	**1.07**	(1.0-1.2)	-	304	264.4	(233.9-295.0)	**0.99**	(0.9-1.1)	-
Wanneroo (C) - South	436	354.2	(320.5-387.9)	**0.95**	(0.9-1.0)	-	340	256.4	(228.3-284.4)	**0.94**	(0.9-1.1)	-
South Metro AHS	10,606	374.1	(366.7-381.6)	**1.02**	(1.0-1.0)	-	8,105	271.6	(265.2-278.0)	**1.02**	(1.0-1.0)	-
Armadale (C)	710	372.5	(344.4-400.6)	**1.01**	(0.9-1.1)	-	501	254.1	(230.8-277.4)	**0.96**	(0.9-1.1)	-
Belmont (C)	484	373.1	(337.4-408.7)	**0.99**	(0.9-1.1)	-	392	293.4	(261.2-325.7)	**1.05**	(1.0-1.2)	-
Canning (C)	1,032	371.2	(347.7-394.7)	**1.02**	(1.0-1.1)	-	819	261.2	(242.0-280.4)	**0.99**	(0.9-1.1)	-
Cockburn (C)	988	390.9	(366.1-415.6)	**1.07**	(1.0-1.1)	-	659	241.1	(221.9-260.3)	**0.92**	(0.9-1.0)	-
East Fremantle (T)	120	441.1	(358.3-524.0)	**1.16**	(1.0-1.4)	-	81	279.4	(212.6-346.1)	**1**	(0.8-1.3)	-
Fremantle (C) - Inner	11	200.5	(78.3-322.8)	**0.55**	(0.2-0.9)	v	5	153.6	(17.4-289.9)	**0.54**	(0.1-1.1)	-
Fremantle (C) - Remainder	431	374	(336.2-411.8)	**1.02**	(0.9-1.1)	-	337	278.7	(245.7-311.7)	**1.06**	(1.0-1.2)	-
Gosnells (C)	1,046	349	(327.4-370.6)	**0.95**	(0.9-1.0)	-	834	264.1	(245.6-282.7)	**0.98**	(0.9-1.1)	-
Kwinana (T)	275	347.2	(305.4-388.9)	**0.96**	(0.9-1.1)	-	240	309.8	(269.2-350.4)	**1.16**	(1.0-1.3)	^
Mandurah (C)	1,302	394.8	(370.7-418.9)	**1.08**	(1.0-1.1)	^	881	282.8	(261.5-304.2)	**1.08**	(1.0-1.2)	^
Melville (C)	1,563	387.8	(367.0-408.6)	**1.05**	(1.0-1.1)	-	1,248	269.8	(252.6-287.1)	**1**	(1.0-1.1)	-
Murray (S)	280	396.4	(346.3-446.4)	**1.07**	(1.0-1.2)	-	159	271.7	(227.1-316.3)	**1.07**	(0.9-1.3)	-
Rockingham (C)	1,221	376.2	(354.2-398.2)	**1.04**	(1.0-1.1)	-	916	283.1	(263.8-302.5)	**1.07**	(1.0-1.1)	-
Serpentine-Jarrahdale (S)	156	335.6	(281.2-390.0)	**0.9**	(0.8-1.1)	-	122	276.8	(226.0-327.5)	**1.06**	(0.9-1.3)	-
South Perth (C)	516	338.8	(307.6-370.1)	**0.95**	(0.9-1.0)	-	490	289.1	(259.1-319.1)	**1.01**	(0.9-1.1)	-
Victoria Park (T)	410	380.7	(339.5-422.0)	**0.99**	(0.9-1.1)	-	374	289.6	(253.4-325.8)	**1.03**	(0.9-1.1)	-
Waroona (S)	61	372.4	(275.8-469.0)	**1.02**	(0.8-1.3)	-	47	303.7	(212.1-395.3)	**1.2**	(0.9-1.6)	-
Whole of W.A.	27,774	368.3	(364-373)	**(1.00)**			20,967	1,257.90	(1240-1276)	**(1.00)**		

Source: W.A. Cancer Registry - Health Data Collections, Dept of Health (WA) 14/06/2010. ASRs: W1960.

Notes: (2) "-" statistically similar to State rates; "^" Significant excess of cases; "v" Significant deficit of cases; "." No assessment possible.

"*" denotes results based on less than 5 expected cases.

4. References

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

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

5 World Health Organization (2000) *ICD-O: International classification of diseases for oncology* (Third Edition). WHO, Geneva.

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

7 Threlfall TJ, English DR, Rouse IL (1998) Prostate cancer in Western Australia: trends in incidence and mortality from 1985 to 1996. *MJA* 169, 21-24.

8 Cancer Council Western Australia. The progress of tobacco control in Western Australia: Achievements, challenges and hopes for the future. Perth: The Cancer Council of Western Australia; 2008.

9 Threlfall TJ, Powers KA, Langley J (2004) Cancer in Western Australia, 1998-2002: incidence and mortality by Statistical Local Area (SLA). Department of Health, Western Australia, Perth. Statistical series number 72.

LIST OF APPENDICES

- Notes -

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. The Health (Notification of Cancer) Regulations 1981 require the reporting of cancers diagnosed by pathologists, haematologists and radiation oncologists; the current version can be found in **Appendix 2E**. 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) who collate State information and manage 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 nationally 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 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. A separate register is maintained for recording asbestos exposure and other history for all cases of mesothelioma. In practice, the Registry records available information about cancers diagnosed elsewhere, in Western Australians, 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 only 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.

Legislative basis

The Registry acts with the delegated authority of the Executive Director of Public Health with respect to the Health (Notification of Cancer) Regulations 1981. These, as amended in February 1996, require the notification of *in situ* neoplasms and all non-melanoma skin cancers other than basal cell and squamous cell carcinomas, as well as all invasive malignancies and benign CNS tumours (see **Appendix 2E**). New regulations are currently in draft form and will increase the range of conditions to be notified.

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 which reach the Registry, and it is believed that this has enhanced the completeness of reporting from the larger hospital laboratories. Radiation oncologists also notify 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 W.A. Registrar-General's Office via the Data Linkage Branch of the Population Health Division. Records are created on the Cancer Registry for persons with these previously-unrecorded tumours, 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 a Patient Master Index maintained in Perth Metropolitan Area government hospitals.

Data handling and maintenance

Since 2008 when a new SQL Server database was commissioned, Registry staff have been converting all paper records into image files that are stored within the database; the process for historical information is nearing completion. This permits a limited number of users with limited access from remote sites to find all information without making enquiries of other staff, and free Registry staff from the task of locating paper records for coding or review.

New registrations and updates are made on the new 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". Records which are incomplete or which are 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 that following confirmation of death information. Registry records that are duplicates of existing cases are now handled by cross-referencing to the "valid" case, rather than deletion, minimizing the repetition of "detective" work if more information later comes to hand.

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, customized 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 is superseded by ICD-10.

ICD-O permits separate coding of topography ("site"), morphology ("tissue") and behaviour, and thus allows a more comprehensive characterization 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) (ICDO-3),[a] following the successful conversion of software, and translation of historical data in 2003.

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 does use 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, C43*x*, to distinguish them from deaths due to non-melanoma skin cancers (C44*x*). In accordance with IACR guidelines adopted by AACR, 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 failed to support this since 2005. This exchange was extremely important, 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 those in Jensen *et al* (1991).[b]

WACR now uses the ICDO-3-based table as promulgated by the International Association of Cancer Registries (refer to http://www.iacr.com.fr/). 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

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

[b] Jensen OM, Parkin DM, MacLennan R *et al* (1991) *Cancer Registration: Principles and methods*. IARC Scientific Publications No. 95, Lyon, France.

differently, being tabulated by morphology, and their discovery in a 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 C65*x* to C68*x* , *including* bladder (C67*x*), 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 underestimates cure rates. To allow better analysis, the Registry now separately records all tumours, and statistics counting tumours, rather than cases, can be provided if required.

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

"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 "death certificate only" (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 been treated as "resolved" if a compatible hospital discharge record is found, and a special Basis of Diagnosis code of "H" 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 2F(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 generally regarded as the most reliable. Their percentage of the total cases is shown in the "TissDx" column of some tables in this report.

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

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

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 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 maximum thickness of the tumour and Clark's level are recorded (Breslow 1970[a] Clark *et al* 1975[b]), and are 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 tissue combinations and the rules encapsulated in a modified version of IARC's "Check" routine,[5] warns of unusual records. 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 hospitalization or death. Reports from radiation oncologists serve as a useful avenue for checking receipt of reports based on previous pathology specimens, and enables recording of a small number of cancers which were not diagnosed histologically. The Hospital Morbidity System, which records details of all hospitalizations 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.

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.

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.

Appendix 1B. Current issues

Registry staffing and workload

In 2003, a long process seeking reclassification of "Clerical officers" to a higher level, redesignated "Data quality officers", came to a successful conclusion. The resources now available to service the needs of a population of 2 million people now include -

Principal Medical Officer/Manager	1.0 fte
Medical Officer/coding adviser	0.2 fte
Data Quality Officers	3.5 fte
Mesothelioma research officer	0.25 fte
Analyst/programmer	1.0 fte

Additional resources used include financial/ Human Resources services, Epidemiology Branch advice on some statistical issues, and production/graphic design services from the Marketing Branch. However all reports such as this are produced primarily within the Registry itself.

Workload is not adequately represented by reported "cancer" totals. In 2005, there were 9151 invasive cancer cases as mentioned earlier in this report. However, in the same year there were 16275 pathology records added to the registry databases, and 20532 records were edited in some way by staff.

Increases in these workload estimates 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

Western Australia is the only Australian State in which there is 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, has recently been completed and was summarized in *Cancer incidence and mortality in Western Australia, 2005*.[a]

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 being sought in 2006 are still in draft form.

[a]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

ABS	Australian Bureau of Statistics
Age-adjusted rate	rate resulting from age-standardization using only a subset of the entire age range for cases and population, e.g. 0 - 15 years.
ASR	Age-standardized rate per 100,000 persons ("World standard" population) (Segi 1960)[a]
ASPR	Age-specific rate per 100,000 persons in a specified age range
BCC	Basal cell carcinoma
CHIC	Confidentiality of Health Information Committee
DCO	Death certificate only
LHN	Lymphohaematopoietic Neoplasms
NMSC	Non-melanoma skin cancer
SCC	Squamous cell carcinoma
SD	Standard deviation
ICD-O	International Classification of Diseases for Oncology
LR	Lifetime risk (to a particular age, usually 75 years)
NOS	Not otherwise specified
PYLL	Person-years of life lost (before a particular age, usually 75 years)
SIRR	Standardized Incidence Rate Ratio

Additional terms used in column headings 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).

[a] 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, ie "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 analyzed, 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-standardized rates (ASR in Tables) are calculated by the direct method [a] 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 [b]). 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:

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

where w_i is the World Standard Population [b] for the ith age group, $W = \Sigma_i \, w_i$ and Σ_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 standardization 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 standardization. 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. The **Standardized Incidence Rate Ratio (SIRR)**, derived from indirect standardization, is the ratio of incidence in one area compared to that in a reference area, usually the whole State. An SIRR of 1 indicates that rates are the same.

Relative survival has been calculated using Relsurv 2.5 (Hedelin[c]) which produces 5-year survival for even most recent cases by mathematical modelling. Detailed methods may be found in Threlfall TJ, Brameld K (2000) *Cancer survival in Western Australian residents, 1982-1997* (*see* WACR Publications) - which used an earlier version of the software.

[a] Rothman KJ (1986) *Modern epidemiology*. Little, Brown & Company, Boston.
[b] Segi M (1960) *Cancer mortality for selected sites in 24 countries (1950-1957)*. Sendai, Japan, Tohoku University Press.
[c] Hedelin G (2001) Relsurv A program for relative survival. Laboratory for Epidemiology and Public Health, Faculty of Medicine, 6700 Strasbourg Cedex, France.

Cumulative Incidence and Lifetime 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, while cumulative rates are commonly presented as percentages affected. In Registry reports, risk is usually presented as lifetime 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:

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

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.* [a.]

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:

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

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

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

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.

[a] 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

The following W.A. population data were used for calculation of 2008 rates in this report

Age	Males	(%)	Females	(%)	Total	(%)
0- 4	73589	6.7	69446	6.5	143035	6.6
5- 9	71354	6.5	67450	6.3	138804	6.4
10-14	75814	6.9	70200	6.5	146014	6.7
15-19	78775	7.2	73961	6.9	152736	7.0
20-24	82507	7.5	75807	7.1	158314	7.3
25-29	80149	7.3	73523	6.9	153672	7.1
30-34	75925	6.9	73108	6.8	149033	6.9
35-39	84272	7.7	80848	7.5	165120	7.6
40-44	80672	7.3	78432	7.3	159104	7.3
45-49	80553	7.3	79415	7.4	159968	7.4
50-54	73393	6.7	72550	6.8	145943	6.7
55-59	66401	6.0	64908	6.1	131309	6.0
60-64	56378	5.1	53346	5.0	109724	5.1
65-69	40217	3.7	39637	3.7	79854	3.7
70-74	30220	2.7	31684	3.0	61904	2.9
75-79	23170	2.1	26273	2.5	49443	2.3
80-84	15643	1.4	20738	1.9	36381	1.7
85 +	10374	0.9	20465	1.9	30839	1.4
TOTAL	1099406	(100)	1071791	(100)	2171197	(100)

(Data from Australian Bureau of Statistics as collated by Information Collection & Management, Department of Health, and used for calculation of rates in this Report.)

The Department of Health's area of responsibility is administered through 2 Area Health Services (AHS) (metropolitan) and the Country Health Service (WACHS), comprising 7 Regions. Overall, the area is divided into 34 Health Districts (HD), each lying entirely within an Area Health Service (AHS) or Health Region (HR). Areas may not match "current" arrangements at any given point in time however data files and population files are synchronized to ensure accurate calculation of incidence and mortality rates in this report.

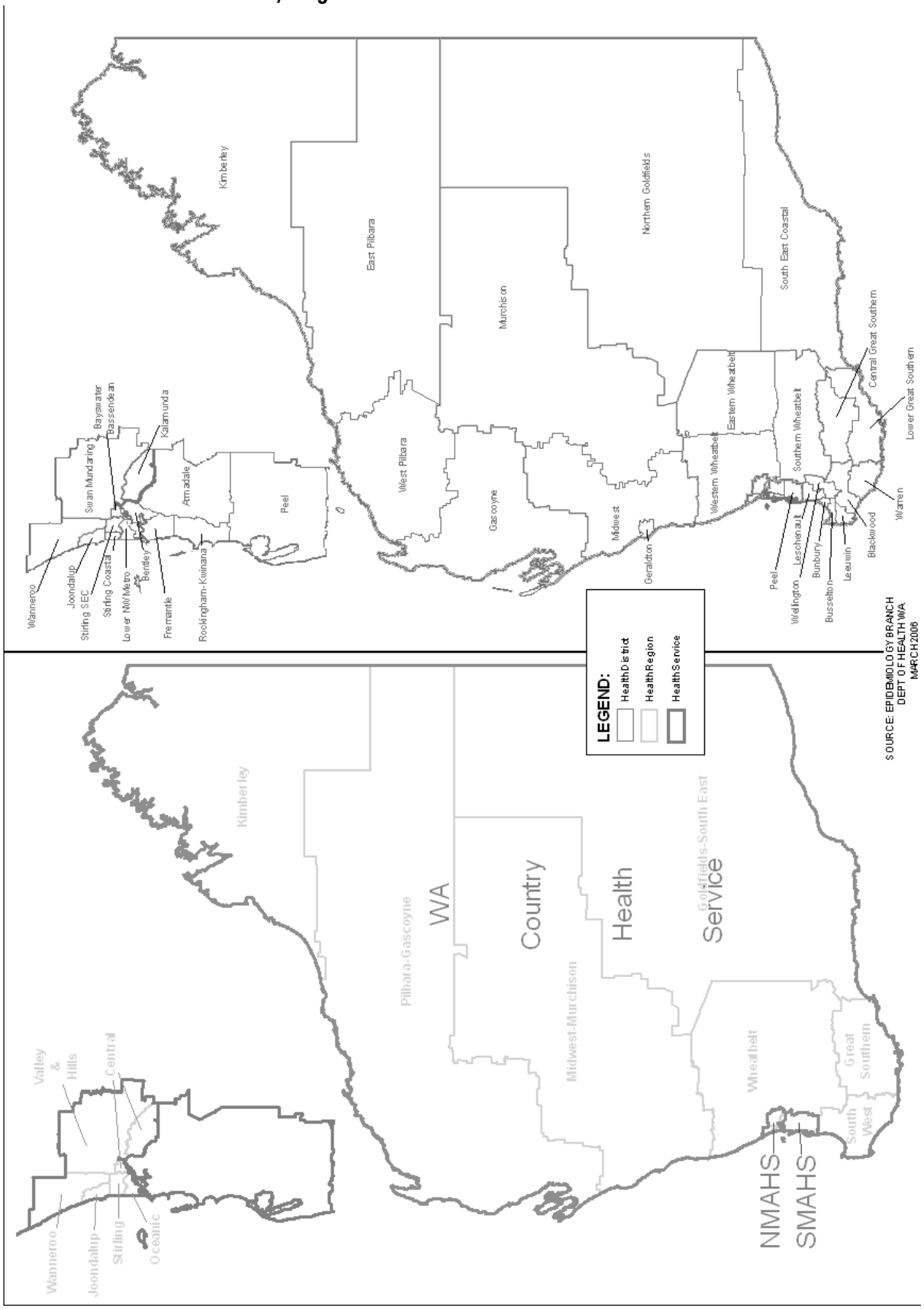
The table and maps below should assist comparison of boundaries and area names with those used in previous reports.

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

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

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

W.A. Area Health Service, Region and Health District boundaries



Appendix 2D. Confidentiality guidelines

1. Responsibility for the confidentiality of data held by the Cancer Registry will ultimately lie with the Director General of Health (hereafter referred to as the Director General).

2. All Cancer Registry staff will be instructed regarding the need for confidentiality. In addition, Cancer Registry staff will be required to sign a confidentiality declaration. The Principal Medical Officer of the Cancer Registry will be responsible to the Director General for ensuring that procedures for ensuring confidentiality are maintained.

3. Release of data may occur at a number of levels:
   (a) Summarized 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.

   (b) More detailed statistical information, which may include 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.

   (c) 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.

   (d) 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 Human Research Ethics Committee if there is concern regarding the identification of individual service providers.

   (e) Applications for further information required for specific areas of research will be referred to the Human Research Ethics Committee which, subject to formal application, may approve the release of identified information to researchers. Such approval will normally include directions regarding steps which may be taken by the researcher in approaching other persons or bodies for further information with respect to persons so identified.

   (f) Approval for the release of identified information for the purposes of research (i.e. in the case of (e) above) will be subject to the **Practice Code for the Use of Personal Health Information**. This Code includes requirements for written protocols, signed confidentiality declarations, and consent.
   The aims of the Committee are summarized in the Terms of Reference thus:
   To review projects requiring the use or disclosure of personal health information without consent to ensure:
   The public interest in the project outweighs the public interest in the protection of privacy;
   The project cannot be conducted using non-identifiable information;
   It is impracticable to seek consent from the people whose information is to be used or disclosed;
   The information requested is the minimum necessary to accomplish the purpose; and
   The project ensures the security of the information.
   The Committee's details and relevant documentation may be found at http://www.health.wa.gov.au/healthdata/HREC/index.cfm

Appendix 2E. Cancer notification regulations

HEALTH (NOTIFICATION OF CANCER) REGULATIONS 1981*
(as modified by the Health (Notification of Cancer) Amendment Regulations 1996)**
MADE by His Excellency the Governor in Executive Council.

1. These regulations may be cited as the Health (Notification of Cancer) Regulations 1981. — Citation.

2. These regulations shall come into operation on 1 August 1981 — Commencement.

3. In these regulations, unless the contrary intention appears, the term "cancer" means any malignant growth of human tissue which if unchecked is likely to spread to adjacent tissue and beyond its site of origin and includes - — Interpretation.
(a) all *in situ* neoplasms;
(b) all malignant neoplasms of the skin other than primary basal cell carcinoma and primary squamous cell carcinoma;
(c) all neoplasms of the brain, spinal cord and cranial nerves, and any other intracranial neoplasms, whether benign or malignant.

4. Cancer is prescribed as a condition of health to which Part IXA of the Health Act 1911 applies. — Cancer prescribed as a condition of health.

5. (1) A medical practitioner who undertakes pathological or biochemical examinations of specimens of human origin, including blood, shall, within 30 days of becoming aware that any specimen indicates that the person from whom it is taken suffers from cancer, forward to the Executive Director of Public Health a copy of any report that he may make upon the examination. — Notification by pathologist.

(2) A report made under subregulation (1) of this regulation in respect of any person shall include -
(a) the full name and address of the person;
(aa) the sex and date of birth of the person;
(b) the name of the medical practitioner by whom the person is referred for examination; and
(c) if the person is a patient in a hospital, the name and address of the hospital.

6. A person who is in charge of any place in which cancer is treated by ionising radiation or accelerated atomic particles shall, within 30 days of the first occasion on which any person is so treated, furnish the Executive Director of Public Health with the following information in relation to that person, namely - — Notification by radiation oncologist.
(a) full name and address of the person;
(b) sex and date of birth of the person; and
(c) the type of cancer for which that person is being treated.
(d) the name of the medical practitioner by whom the person is referred for examination; and
(e) if the person is a patient in a hospital, the name and address of the hospital.

7. A fee of $4 for each person in respect of whom notification is made under regulation 5 or 6 is payable to the person who makes the notification to the Executive Director of Public Health. — Fee for notification.

8. (1) Where the Executive Director of Public Health is notified of the name of a person who suffers from cancer or who is treated for cancer the Executive Director of Public Health may request any medical practitioner or person in charge of a hospital to provide him with any information of the kind set out in the Schedule to these regulations that is known to the medical practitioner in relation to that person. — Executive Director of Public Health may require further particulars.

(2) A person to whom a request is made pursuant to subregulation (1) of this regulation shall comply with that request within 30 days of the receipt of the request.

9. (1) A person who contravenes a provision of the regulations specified in the Table to this subregulation commits an offence.

Table
Regulations 5, 6 and 8(2).

(2) A person who commits an offence under subregulation (1) is liable to a penalty which is not more than $1,000 and not less than -
(a) in the case of a first offence, $100;
(b) in the case of a second offence, $200; and
(c) in the case of a third or subsequent offence, $500.

(** Published in the Gazette of 24 July 1981 at pp. 3056-6. For amendments to 15 January 1996 see 1994 Index to Legislation of Western Australia, Table 4, pp. 130-131.)*

** Presented in good faith as an accurate representation of the content of Regulations and Schedule as amended February 1996.

HEALTH (NOTIFICATION OF CANCER) REGULATIONS 1981*
(as modified by the Health (Notification of Cancer) Amendment Regulations 1996)**

(continued)

Schedule.
NOTIFICATION OF CANCER.

NAME OF PATIENT:
ADDRESS:
SEX:
DATE OF BIRTH:
OCCUPATION:
MARITAL STATUS:
PLACE AND COUNTRY OF BIRTH:
RACE:
DATE OF DIAGNOSIS OF CANCER:
PLACE OF RESIDENCE OF PATIENT AT DIAGNOSIS OF CANCER:
DATE OF ADMISSION OR OUTPATIENT CONSULTATION:
PRIMARY SITE OF CANCER (where known):
MORPHOLOGICAL SUBTYPE OF CANCER (where known):
METHOD OF DIAGNOSIS OF CANCER:

By His Excellency's Command.

Clerk of the Council.

Appendix 2F. 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 (not 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

The tabulation scheme for lymphohaematopoietic neoplasms (LHNs) used in previous WACR reports was based on a combination of groupings used in ICD-O, ICD9 and ICD10, which reflected, to varying degrees, previous well-accepted classification schemes such as the REAL and the Working Formulation. Increasingly, classification of such tumours as used by pathologists and clinicians has changed, and older headings have become somewhat irrelevant to modern medical practice.

The tabulation groupings used in this report are based on those used in the ICDO-3 classification, which has been influenced by the WHO Classification of Haematopoietic and Lymphoid Neoplasms (2001). In the current report, group headings still retain terms such as lymphoma and leukaemia, for the sake of familiarity. While these names 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" which may be unfamiliar to some users of Cancer Registry data. Depending on developments in this area (and on decisions made by other Registries, and by others who are concerned that cancer classification should be compatible with non-cancer disease classifications using ICD-10), future reports may eventually follow the WHO classification scheme.

Since 2003, some conditions previously not regarded as malignant (e.g. polycythaemia and myelodysplastic diseases) are now included as "cancers".

Revised multi-level tabulation scheme for reporting of Malignant lymphohaematopoietic neoplasms (WACR 2003, updated 2010)

			WACR code	ICDO-3 M codes
1 All lymphomas			Y**	
1a	Lymphomas, NOS/unclassifiable		YUC	9590
1b	Hodgkin lymphoma		YHO	9650-9667
1c	All NHL		YN*	
	1c1	NHL, mature B Cell	YNB	9670-9671, 9673, 9675, 9678-9680, 9684, 9687, 9689-9691, 9695, 9698-9699,9766
	1c2	NHL, mature T / N-K cell	YNT	9700-9702, 9705, 9708-9709, 9714, 9716, 9717-9719
	1c3	NHL, precursor cell lymphoblastic	YNP	9727-9729
	1c4	NHL, other / unclassifiable	YNO	9591, 9596-9599*
	1c1x	NHL, Burkitt *(subset of 1c1)*	YNBB	9687
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	9836-9837
	3b2	Leukaemias, lymphoid, chronic	LLC	9823
	3b3	Leukaemias, lymphoid, other/NOS	LLO	9820,9826, 9827, 9831-9834,
3c	Leukaemias, myeloid, all		LM*	
	3c1	Leukaemias, myeloid, acute	LMA	9840, 9861, 9866-9867, 9870-9874, 9891,9895-9897, 9910,9920,9930-9931
	3c2	Leukaemias, myeloid, chronic	LMC	9863,9875-9876
	3c3	Leukaemias, myeloid, other & NOS	LMO	9860
3d	Other leukaemias		LOT	9940,9945-9946,9948
4 Other lymphohaematopoietic malignancies				
4a	Myelodysplastic diseases, all		HM*	
	4a1	Refractory anaemias/cytopaenias	HMR	9980-9985
	4a2	Myelodysplastic syndromes	HMS	9986-9989
4b	Chronic myeloproliferative diseases, all		HC*	
	4b1	Chronic MPD, NOS	HCX	9960
	4b2	Polycythaemia rubra vera	HCP	9950
	4b3	Myelofibrosis/sclerosis	HCS	9961
	4b4	Other chronic MPDs	HCO	9962-9964
4c	Other immunoproliferative malignancies		HI*	
	4c1	Mast cell tumours	HIM	9740-9742
	4c2	Malig. histiocytic/dendritic cell neoplasms	HIH	9750, 9754-9758
	4c3	Other & U/S immunoproliferative neoplasms	HII	9760-9764

*9597, *9598 and *9599 are W.A.C.R. codes for “NOS” NHL which are able to be grouped as low, intermediate or high grade respectively but which could only be otherwise placed in the ICDO classification as code 9591.

Appendix 2G. WACR publications

Note: It is strongly recommended that retrospective studies utilize 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.

FitzGerald P, Thomson N and Thompson J (1994) *Cancer incidence and mortality in Western Australia 1991*. Health Department of Western Australia, Perth, Statistical Series number 39.

Thompson J, FitzGerald P (1995) *Childhood cancer incidence, mortality and survival in Western Australia 1982-1991*. Health Statistics Branch, Health Department of Western Australia, Perth.

Threlfall TJ, Whitfort MJ, Thompson JR (1996) *Cancer incidence and mortality in Western Australia, 1992-1994*. Health Department of Western Australia, Perth, Statistical Series number 45.

Threlfall T, Morgan A (1996) *Malignant mesothelioma in Western Australia, 1960 to 1994*. Health Department of Western Australia, Perth, Statistical Series number 46.

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.

Appendix 2H. Guide to tables in Appendix 3

Note: The order of cancer types in the tables in Appendix 2F are 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 2F**, 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 and squamous cell carcinoma (ICDO-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** ("all cancer deaths", "all cancers") apears on page A3-19. The "Total deaths of Cancer Registry cases" on page A3_20 includes noncancer and all other deaths in persons with a valid WA tumour record.

Appendix 3A. Cancer incidence, Western Australia, 2008

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						1	5	7	8	9	15	9	14	6	13	7	6	6	**106**	**6.9**	5.6-8.2	100.0	0.8	130	10.1 (8.1-12.0)
						1.2	6.6	8.3	9.9	11.2	20.4	13.6	24.8	14.9	43.0	30.2	38.4	57.8							
F						3			2	3	4	6	5	2	5	4	3	11	**48**	**2.7**	1.9-3.5	98.0	0.3	362	4.1 (2.9-5.3)
						4.1			2.5	3.8	5.5	9.2	9.4	5.0	15.8	15.2	14.5	53.8							
Tongue (C010-C029)																									
M								1	1	3	6	5	10	3	3	3	1	2	**38**	**2.5**	1.7-3.3	97.0	0.3	352	3.4 (2.3-4.6)
								1.2	1.2	3.7	8.2	7.5	17.7	7.5	9.9	12.9	6.4	19.3							
F										1	1	1	2	1		1	3	3	**13**	**0.6**	0.2-1.0	77.0	0.1	1914	1.1 (0.5-1.6)
										1.3	1.4	1.5	3.7	2.5		3.8	14.5	14.7							
Parotid gland (C070-C079)																									
M				1	1		1	1	1		2			1		1			**9**	**0.7**	0.2-1.2	100.0	0.1	1749	0.8 (0.3-1.4)
				1.3	1.2		1.3	1.2	1.2		2.7			2.5		4.3									
F						1			1								1		**3**	**0.2**	0 - 0.5	100.0	0.0	7702	0.3 (0 - 0.6)
						1.4			1.2								4.8								
Major salivary glands (not parotid) (C080-C089)																									
M									1		1			1					**3**	**0.2**	0 - 0.5	67.0	0.0	3931	0.3 (0 - 0.6)
									1.2		1.4			2.5											
F						1													**1**	**0.1**	0 - 0.3	100.0	0.0	*	0.1 (0 - 0.3)
						1.4																			
Pharynx (C090-C149) (not C11)																									
M								1	2	1	9	16	14	5	9	7	2	1	**67**	**4.2**	3.2-5.3	97.0	0.5	185	6.1 (4.6-7.5)
								1.2	2.5	1.2	12.3	24.1	24.8	12.4	29.8	30.2	12.8	9.6							
F								1	2	2	2	1		1	1	1	1		**12**	**0.8**	0.3-1.2	100.0	0.1	1229	1.1 (0.5-1.7)
								1.2	2.5	2.5	2.8	1.5		2.5	3.2	3.8	4.8								
Nasopharynx (C110-C119)																									
M			1						1	2			1	1				1	**7**	**0.5**	0.1-0.9	100.0	0.0	2151	0.7 (0.2-1.1)
			1.3						1.2	2.5			1.8	2.5				9.6							
F											1				1		1		**3**	**0.2**	0 - 0.3	67.0	0.0	4411	0.3 (0 - 0.6)
											1.4				3.2		4.8								
Oesophagus (C150-C159)																									
M									2	5	10	14	5	13	14	18	19	6	**106**	**6.0**	4.8-7.1	94.0	0.7	153	10.6 (8.6-12.6)
									2.5	6.2	13.6	21.1	8.9	32.3	46.3	77.7	121.5	57.8							
F									1		1	4	1	2	2	3	5	6	**25**	**1.1**	0.6-1.6	96.0	0.1	908	2.1 (1.3-2.9)
									1.3		1.4	6.2	1.9	5.0	6.3	11.4	24.1	29.3							
Stomach (C160-C169)																									
M							1		2	5	8	9	14	12	15	22	24	14	**126**	**7.0**	5.7-8.2	94.0	0.7	145	12.9 (10.6-15.2)
							1.3		2.5	6.2	10.9	13.6	24.8	29.8	49.6	95.0	153.4	135.0							
F							2	2	5	4	1	9	4	3	4	8	4	14	**60**	**3.1**	2.3-4.0	95.0	0.3	336	5.1 (3.8-6.4)
							2.7	2.5	6.4	5.0	1.4	13.9	7.5	7.6	12.6	30.4	19.3	68.4							
Small intestine (C170-C179)																									
M							1			1	1	3	1	5	3	2	3	1	**21**	**1.3**	0.7-1.8	100.0	0.2	615	2 (1.2-2.9)
							1.3			1.2	1.4	4.5	1.8	12.4	9.9	8.6	19.2	9.6							
F												4		1	3	1	1	5	**15**	**0.7**	0.3-1.1	80.0	0.1	1102	1.2 (0.6-1.9)
												6.2		2.5	9.5	3.8	4.8	24.4							

Appendix 3A. Cancer incidence, Western Australia, 2008

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
Colorectal cancer (C18-C20, C218)																										
M				2		2	2	8	8	27	44	75	92	139	110	91	78	45		**723**	**44.0**	40.7-47.3	97.0	5.5	19	70.2 (65.0-75.4)
				2.5		2.5	2.6	9.5	9.9	33.5	60.0	113.0	163.2	345.6	364.0	392.7	498.6	433.8								
F	1					2		5	10	26	34	41	53	66	58	73	80	77		**526**	**27.6**	25.0-30.1	96.0	3.1	33	45.7 (41.7-49.6)
	1.4					2.7		6.2	12.7	32.7	46.9	63.2	99.4	166.5	183.1	277.9	385.8	376.3								
Colon (C180-C189)																										
M				2		1	1	5	5	15	18	41	62	83	62	65	58	31		**449**	**26.8**	24.2-29.4	96.0	3.2	32	44 (39.9-48.1)
				2.5		1.2	1.3	5.9	6.2	18.6	24.5	61.7	110.0	206.4	205.2	280.5	370.8	298.8								
F	1					2		4	5	18	21	27	31	46	46	53	54	59		**367**	**19.0**	16.9-21.1	96.0	2.1	47	31.9 (28.6-35.2)
	1.4					2.7		4.9	6.4	22.7	28.9	41.6	58.1	116.1	145.2	201.7	260.4	288.3								
Rectosigmoid junction & rectum (C190-C209)																										
M						1	1	3	3	12	25	34	29	56	48	26	20	13		**271**	**17.1**	15.0-19.1	98.0	2.3	44	25.9 (22.8-29.0)
						1.2	1.3	3.6	3.7	14.9	34.1	51.2	51.4	139.2	158.8	112.2	127.9	125.3								
F								1	5	8	11	14	22	19	12	19	26	18		**155**	**8.3**	6.9-9.7	97.0	0.9	111	13.4 (11.2-15.5)
								1.2	6.4	10.1	15.2	21.6	41.2	47.9	37.9	72.3	125.4	88.0								
Anus (C210-C219)																										
M										1	2	2	2	3	3	1		1		**15**	**1.0**	0.5-1.5	100.0	0.1	717	1.4 (0.7-2.1)
										1.2	2.7	3.0	3.5	7.5	9.9	4.3		9.6								
F									3	1	3		2	5		1	2			**17**	**1.1**	0.6-1.7	100.0	0.1	782	1.5 (0.8-2.3)
									3.8	1.3	4.1		3.7	12.6		3.8	9.6									
Liver & intrahepatic bile ducts (C220-C229)																										
M						1				4	10	13	7	7	9	5	4	5		**65**	**4.1**	3.1-5.1	62.0	0.5	202	6.2 (4.6-7.7)
						1.2				5.0	13.6	19.6	12.4	17.4	29.8	21.6	25.6	48.2								
F								1		2	4		4	4	7	2	2	3		**29**	**1.7**	1.1-2.4	48.0	0.2	409	2.6 (1.7-3.6)
								1.2		2.5	5.5		7.5	10.1	22.1	7.6	9.6	14.7								
Gallbladder & bile ducts (C230-C249)																										
M									1	1	1	3	3	7	5	6	5	2		**34**	**2.0**	1.3-2.7	88.0	0.2	420	3.4 (2.2-4.5)
									1.2	1.2	1.4	4.5	5.3	17.4	16.5	25.9	32.0	19.3								
F								1				2	2	4	4	10	8	8		**39**	**1.7**	1.1-2.3	79.0	0.2	650	3.4 (2.3-4.5)
								1.2				3.1	3.7	10.1	12.6	38.1	38.6	39.1								
Pancreas (C250-C259)																										
M									1	1	5	10	15	13	15	21	16	9		**106**	**6.0**	4.8-7.1	68.0	0.7	151	10.7 (8.6-12.7)
									1.2	1.2	6.8	15.1	26.6	32.3	49.6	90.6	102.3	86.8								
F							1	1	3		5	11	12	11	13	21	13	19		**110**	**5.5**	4.4-6.7	61.0	0.6	165	9.6 (7.8-11.4)
							1.4	1.2	3.8		6.9	16.9	22.5	27.8	41.0	79.9	62.7	92.8								
Nasal cavity/sinuses, middle & inner ear (C300-C319)																										
M		1								2	2			2	1	1	2	2		**13**	**0.8**	0.3-1.3	92.0	0.1	1344	1.3 (0.6-2.1)
		1.4								2.5	2.7			5.0	3.3	4.3	12.8	19.3								
F												1	2	1				2		**6**	**0.3**	0.0-0.6	100.0	0.0	2560	0.5 (0.1-0.8)
												1.5	3.7	2.5				9.8								
Larynx (C320-C329)																										
M							1			1	5	7	4	10	11	4	4	1		**48**	**3.0**	2.1-3.9	96.0	0.4	227	4.6 (3.3-5.9)
							1.3			1.2	6.8	10.5	7.1	24.9	36.4	17.3	25.6	9.6								
F											1		1		1			1		**4**	**0.2**	0 - 0.5	100.0	0.0	3121	0.3 (0.0-0.7)
											1.4		1.9		3.2			4.9								

Appendix 3A. Cancer incidence, Western Australia, 2008

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					1		1	5	6	11	25	43	60	91	92	78	73	56	**542**	**31.6**	28.9-34.4	86.0	3.8	27	54.6 (49.9-59.3)
					1.2		1.3	5.9	7.4	13.7	34.1	64.8	106.4	226.3	304.4	336.6	466.7	539.8							
F					2	1	1	3	3	10	14	42	53	50	45	61	59	38	**382**	**20.4**	18.2-22.6	85.0	2.4	42	33.4 (30.0-36.8)
					2.6	1.4	1.4	3.7	3.8	12.6	19.3	64.7	99.4	126.1	142.0	232.2	284.5	185.7							
Thymus (C370-C379)																									
M													1		1	1			**3**	**0.2**	0 - 0.4	100.0	0.0	3935	0.3 (0 - 0.6)
													1.8		3.3	4.3									
F											1			1	1		1		**4**	**0.2**	0 - 0.5	100.0	0.0	2834	0.4 (0.0-0.7)
											1.4			2.5	3.2		4.8								
Pleura, heart & mediastinum (C380-C389)																									
M										1									**1**	**0.1**	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.3)
										1.2															
F									1				1						**2**	**0.2**	0 - 0.4	100.0	0.0	6351	0.2 (0 - 0.4)
									1.3				1.9												
Bones, joints & articular cartilages (C400-C419)																									
M			2						1	2		1	1		1	1	1	1	**11**	**0.8**	0.3-1.3	100.0	0.1	1545	1.1 (0.4-1.7)
			2.6						1.2	2.5		1.5	1.8		3.3	4.3	6.4	9.6							
F		1	3				1			1			2		1			1	**10**	**0.9**	0.3-1.5	100.0	0.1	1309	0.9 (0.3-1.5)
		1.5	4.3				1.4			1.3			3.7		3.2			4.9							
Skin (melanoma only) (C440-C449; M-8720 - 8790)																									
M				1	6	7	21	27	35	39	66	80	73	81	67	64	53	39	**659**	**41.8**	38.5-45.1	99.0	4.7	22	62.9 (58.0-67.7)
				1.3	7.3	8.7	27.7	32.0	43.4	48.4	89.9	120.5	129.5	201.4	221.7	276.2	338.8	375.9							
F				1	5	9	14	27	29	26	44	55	44	41	34	36	33	25	**423**	**26.7**	24.0-29.4	99.0	2.9	35	37.7 (34.1-41.3)
				1.4	6.6	12.2	19.1	33.4	37.0	32.7	60.6	84.7	82.5	103.4	107.3	137.0	159.1	122.2							
Skin (not melanoma/SCC/BCC) (C440-C449)																									
M						1	1		1	6	3	5	3	4	10	6	4	9	**53**	**3.2**	2.3-4.1	100.0	0.4	281	5.4 (4.0-6.9)
						1.2	1.3		1.2	7.4	4.1	7.5	5.3	9.9	33.1	25.9	25.6	86.8							
F								1	2	1	2	2	1	1	2	2	3	10	**27**	**1.2**	0.7-1.8	89.0	0.1	927	2.2 (1.4-3.1)
								1.2	2.5	1.3	2.8	3.1	1.9	2.5	6.3	7.6	14.5	48.9							
Mesothelioma (M905; ICD10 C45)																									
M									1	2	5	3	15	18	11	15	12	6	**88**	**5.2**	4.1-6.3	97.0	0.6	163	8.7 (6.8-10.5)
									1.2	2.5	6.8	4.5	26.6	44.8	36.4	64.7	76.7	57.8							
F											1	1		3	2	3	4	2	**16**	**0.7**	0.3-1.1	94.0	0.1	1191	1.4 (0.7-2.1)
											1.4	1.5		7.6	6.3	11.4	19.3	9.8							
Kaposi sarcoma (M914; ICD10 C46)																									
M																			**0**						()
F																			**0**						()
Nervous system, peripheral/autonomic (C470-C479)																									
M			1													1			**2**	**0.2**	0 - 0.4	100.0	0.0	*	0.2 (0 - 0.5)
			1.3													4.3									
F								1											**1**	**0.1**	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.3)
								1.2																	

Appendix 3A. Cancer incidence, Western Australia, 2008

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
Retroperitoneum and peritoneum (C480-C489)																										
M													1							**1**	**0.1**	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.2)
													1.8													
F										1			1		1		1			**4**	**0.2**	0 - 0.5	100.0	0.0	3180	0.4 (0.0-0.7)
										1.3			1.9		3.2		4.8									
Connective, subcutaneous & other soft tissues (C490-C499)																										
M				1			2	2	1		1	1	2	3	2	2	3	4		**24**	**1.5**	0.9-2.1	96.0	0.1	715	2.4 (1.5-3.4)
				1.3			2.6	2.4	1.2		1.4	1.5	3.5	7.5	6.6	8.6	19.2	38.6								
F			1			1		2		1	1	5	1		1	4	2	2		**21**	**1.2**	0.6-1.8	100.0	0.1	970	1.9 (1.1-2.7)
			1.4			1.4		2.5		1.3	1.4	7.7	1.9		3.2	15.2	9.6	9.8								
Breast (C500-C509)																										
M										2			1	3	3	1	2	1		**13**	**0.8**	0.3-1.2	100.0	0.1	925	1.3 (0.6-2.0)
										2.5			1.8	7.5	9.9	4.3	12.8	9.6								
F						4	18	50	95	159	169	173	169	174	99	96	70	61		**1337**	**86.1**	81.4-90.9	99.0	9.9	11	118.4 (112-125)
						5.4	24.6	61.8	121.1	200.2	232.9	266.5	316.8	439.0	312.5	365.4	337.5	298.1								
Vulva (C510-C519)																										
F							1		3		2	2	3	3	1	2	3	3		**23**	**1.3**	0.7-1.9	100.0	0.1	731	2 (1.2-2.8)
							1.4		3.8		2.8	3.1	5.6	7.6	3.2	7.6	14.5	14.7								
Vagina (C520-C529)																										
F											2	1	2	2	2	3		1		**13**	**0.8**	0.3-1.2	100.0	0.1	1031	1.2 (0.5-1.8)
											2.8	1.5	3.7	5.0	6.3	11.4		4.9								
Cervix uteri (C530-C539)																										
F					2	5	13	10	14	5	11	7	9	4	6	2	3	7		**98**	**6.9**	5.5-8.3	98.0	0.7	148	8.9 (7.2-10.7)
					2.6	6.8	17.8	12.4	17.8	6.3	15.2	10.8	16.9	10.1	18.9	7.6	14.5	34.2								
Corpus uteri (C540-C549)																										
F						1	2	2	4	13	12	21	26	21	23	22	6	14		**167**	**10.1**	8.5-11.8	98.0	1.3	80	14.8 (12.5-17.1)
						1.4	2.7	2.5	5.1	16.4	16.5	32.4	48.7	53.0	72.6	83.7	28.9	68.4								
Uterus, nos (C550-C559)																										
F											1									**1**	**0.1**	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.3)
											1.4															
Ovary (C560-C569)																										
F			1	1			1	3	2	5	6	16	18	12	17	13	5	10		**110**	**6.7**	5.4-8.0	90.0	0.8	120	9.7 (7.9-11.5)
			1.4	1.4			1.4	3.7	2.5	6.3	8.3	24.7	33.7	30.3	53.7	49.5	24.1	48.9								
Uterine adnexa & oth. fem gen. (C570-C579)																										
F												2	2	1	1	1				**7**	**0.5**	0.1-0.8	100.0	0.1	1599	0.6 (0.2-1.1)
												3.1	3.7	2.5	3.2	3.8										
Placenta (C580-C589)																										
F																				**0**						()
Penis (C600-C609)																										
M											1	2		1	3	1				**8**	**0.5**	0.2-0.9	100.0	0.1	1192	0.8 (0.2-1.3)
											1.4	3.0		2.5	9.9	4.3										
Prostate gland (C610-C619)																										
M								1	9	46	106	259	371	365	317	251	156	82		**1963**	**121.3**	116-127	98.0	16.1	7	185.9 (178-194)
								1.2	11.2	57.1	144.4	390.1	658.1	907.6	1049.0	1083.3	997.3	790.4								
Testis (C620-C629)																										
M	1			5	10	10	12	12	11	7	4		2	1	1					**76**	**6.4**	4.9-7.9	99.0	0.5	202	6.9 (5.3-8.5)
	1.4			6.3	12.1	12.5	15.8	14.2	13.6	8.7	5.5		3.5	2.5	3.3											

Appendix 3A. Cancer incidence, Western Australia, 2008

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
Other male genital (C630-C639)																									
M										1			1						**2**	**0.1**	0 - 0.3	100.0	0.0	6634	0.2 (0 - 0.4)
										1.2			1.8												
Kidney (C640-C649)																									
M	1	1				1	1	1	12	9	12	31	22	11	22	11	15	6	**156**	**9.9**	8.3-11.5	96.0	1.2	86	14.6 (12.3-16.9)
	1.4	1.4				1.2	1.3	1.2	14.9	11.2	16.4	46.7	39.0	27.4	72.8	47.5	95.9	57.8							
F	1							1	2	2	7	11	8	11	6	12	6	9	**76**	**4.3**	3.3-5.4	88.0	0.5	209	6.6 (5.1-8.1)
	1.4							1.2	2.5	2.5	9.6	16.9	15.0	27.8	18.9	45.7	28.9	44.0							
Bladder & urinary tract (C650-C689)																									
M									3	4	7	10	14	23	22	26	29	18	**156**	**8.7**	7.3-10.1	95.0	0.9	107	16 (13.5-18.6)
									3.7	5.0	9.5	15.1	24.8	57.2	72.8	112.2	185.4	173.5							
F										1	1	4	4	10	10	13	12	24	**79**	**3.4**	2.6-4.3	87.0	0.4	274	6.7 (5.2-8.1)
										1.3	1.4	6.2	7.5	25.2	31.6	49.5	57.9	117.3							
Eye & lacrimal gland (C690-C699)																									
M	1								1	1		1						2	**6**	**0.5**	0.0-0.9	100.0	0.0	3742	0.6 (0.1-1.1)
	1.4								1.2	1.2		1.5						19.3							
F											1		1			1	1		**4**	**0.2**	0 - 0.4	100.0	0.0	6149	0.4 (0.0-0.7)
											1.4		1.9			3.8	4.8								
Meninges (cerebral & spinal) (C700-C709)																									
M																			**0**						()
F										1								1	**2**	**0.1**	0 - 0.3	50.0	0.0	*	0.2 (0 - 0.4)
										1.3								4.9							
Brain (C710-C719)																									
M	1		1	1		1	3	7	2	4	7	3	5	12	13	8	1		**69**	**4.8**	3.6-6.0	94.0	0.6	166	6.6 (5.0-8.1)
	1.4		1.3	1.3		1.2	4.0	8.3	2.5	5.0	9.5	4.5	8.9	29.8	43.0	34.5	6.4								
F		1	1		1	2	1	1	3	2	5	5	7	4	13	8	8	3	**65**	**4.0**	3.0-5.1	75.0	0.5	212	5.9 (4.5-7.4)
		1.5	1.4		1.3	2.7	1.4	1.2	3.8	2.5	6.9	7.7	13.1	10.1	41.0	30.4	38.6	14.7							
Spinal cord & cranial nerves (C720-C729)																									
M	1																		**1**	**0.2**	0 - 0.5	0.0	0.0	*	0.1 (0 - 0.3)
	1.4																								
F								1			1								**2**	**0.1**	0 - 0.3	100.0	0.0	7648	0.2 (0 - 0.4)
								1.2			1.4														
Thyroid gland (C730-C739)																									
M				1	1	5	3	7	8	4	3	3	3	4	2	3		1	**48**	**3.5**	2.5-4.6	100.0	0.3	302	4.4 (3.2-5.7)
				1.3	1.2	6.2	4.0	8.3	9.9	5.0	4.1	4.5	5.3	9.9	6.6	12.9		9.6							
F				2	5	12	11	13	14	16	20	17	6	11	2	5	1	4	**139**	**10.4**	8.6-12.1	99.0	1.0	104	12.7 (10.6-14.8)
				2.7	6.6	16.3	15.0	16.1	17.8	20.1	27.6	26.2	11.2	27.8	6.3	19.0	4.8	19.5							
Adrenal gland (C740-C749)																									
M	3	1				1				1									**6**	**0.8**	0.1-1.5	100.0	0.0	2511	0.5 (0.1-1.0)
	4.1	1.4				1.2				1.2															
F	4								1				1	1			1		**8**	**0.9**	0.2-1.7	75.0	0.1	1750	0.7 (0.2-1.2)
	5.8								1.3				1.9	2.5			4.8								
Endocrine glands (not adrenal) (C750-C759)																									
M							1	1						1					**3**	**0.2**	0 - 0.5	67.0	0.0	4008	0.3 (0 - 0.6)
							1.3	1.2						2.5											
F				1								1							**2**	**0.2**	0 - 0.5	50.0	0.0	6914	0.2 (0 - 0.4)
				1.4								1.5													

Appendix 3A. Cancer incidence, Western Australia, 2008

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
LYMPHOMAS																									
Lymphoma, NOS / unclassifiable																									
M				1		1				1	1			1		1			**6**	**0.5**	0.1-0.9	83.0	0.0	2629	0.6 (0.1-1.0)
				1.3		1.2				1.2	1.4			2.5		4.3									
F															1				**1**	**0.1**	0 - 0.2	100.0	0.0	6337	0.1 (0 - 0.3)
															3										
Hodgkin lymphoma																									
M				2	5	3		1	3	3	1	1	2	3	2	2			**28**	**2.2**	1.4-3.1	100.0	0.2	483	2.5 (1.6-3.5)
				2.5	6.1	3.7		1.2	3.7	3.7	1.4	1.5	3.5	7.5	6.6	8.6									
F					6	3		1	2	2		2	1		2		4		**23**	**1.8**	1.0-2.5	100.0	0.1	677	2.1 (1.2-2.9)
					7.9	4.1		1.2	2.5	2.5		3.1	1.9		6.3		19.3								
All NHL																									
M	2	3	2	3		2	3	5	6	10	15	24	32	28	34	15	12	9	**205**	**13.9**	11.9-15.8	100.0	1.7	59	19.3 (16.6-22.0)
	2.7	4.2	2.6	3.8		2.5	4.0	5.9	7.4	12.4	20.4	36.1	56.8	69.6	112.5	64.7	76.7	86.8							
F			2	2	2		1	2	7	12	8	9	12	18	20	22	23	12	**152**	**8.7**	7.2-10.2	98.0	1.0	105	13.6 (11.4-15.8)
			2.8	2.7	2.6		1.4	2.5	8.9	15.1	11.0	13.9	22.5	45.4	63.1	83.7	110.9	58.6							
NHL, mature B cell																									
M	2	2		1		1	3	3	5	6	12	17	27	20	28	12	9	5	**153**	**10.2**	8.6-11.9	100.0	1.3	77	14.4 (12.1-16.7)
	2.7	2.8		1.3		1.2	4.0	3.6	6.2	7.4	16.4	25.6	47.9	49.7	92.7	51.8	57.5	48.2							
F			2		1			2	4	9	5	8	7	15	12	14	20	8	**107**	**6.0**	4.7-7.2	99.0	0.7	153	9.5 (7.7-11.3)
			2.8		1.3			2.5	5.1	11.3	6.9	12.3	13.1	37.8	37.9	53.3	96.4	39.1							
NHL, mature T/NK cell																									
M				2		1				1	2	4	3	4	4		2	2	**25**	**1.7**	1.0-2.4	100.0	0.2	474	2.3 (1.4-3.3)
				2.5		1.2				1.2	2.7	6.0	5.3	9.9	13.2		12.8	19.3							
F				1	1		1		1	1	1		1	1	2	5	1	1	**17**	**1.0**	0.5-1.6	100.0	0.1	1072	1.6 (0.8-2.4)
				1.4	1.3		1.4		1.3	1.3	1.4		1.9	2.5	6.3	19.0	4.8	4.9							
NHL, precursor cell lymphoblastic																									
M		1	1																**2**	**0.3**	0 - 0.6	100.0	0.0	7352	0.2 (0 - 0.5)
		1.4	1.3																						
F				1									1						**2**	**0.2**	0 - 0.5	100.0	0.0	6199	0.2 (0 - 0.4)
				1.4									1.9												
NHL, other/unclassifiable																									
M			1					2	1	3	1	3	2	4	2	3	1	2	**25**	**1.6**	1.0-2.3	96.0	0.2	578	2.4 (1.4-3.3)
			1.3					2.4	1.2	3.7	1.4	4.5	3.5	9.9	6.6	12.9	6.4	19.3							
F									2	2	2	1	3	2	6	3	2	3	**26**	**1.5**	0.9-2.1	92.0	0.2	514	2.3 (1.4-3.3)
									2.5	2.5	2.8	1.5	5.6	5.0	18.9	11.4	9.6	14.7							
Lymphomas (all)																									
M	2	3	2	6	5	6	3	6	9	14	17	25	34	32	36	18	12	9	**239**	**16.6**	14.4-18.8	99.0	2.0	52	22.4 (19.5-25.3)
	2.7	4.2	2.6	7.6	6.1	7.5	4.0	7.1	11.2	17.4	23.2	37.7	60.3	79.6	119.1	77.7	76.7	86.8							
F			2	2	8	3	1	3	9	14	8	11	13	18	23	22	27	12	**176**	**10.5**	8.8-12.2	98.0	1.1	90	15.8 (13.4-18.1)
			2.8	2.7	10.6	4.1	1.4	3.7	11.5	17.6	11.0	16.9	24.4	45.4	72.6	83.7	130.2	58.6							
MYELOMA																									
Myeloma/plasma cell tumours																									
M						1			2	4	4	8	7	10	3	13	5	5	**62**	**3.7**	2.8-4.7	94.0	0.4	273	6 (4.5-7.6)
						1.2			2.5	5.0	5.5	12.0	12.4	24.9	9.9	56.1	32.0	48.2							
F						1			4		6	3	4	9	13	7	8	6	**61**	**3.4**	2.5-4.3	89.0	0.5	221	5.5 (4.1-6.9)
						1.4			5.1		8.3	4.6	7.5	22.7	41.0	26.6	38.6	29.3							

Appendix 3A. Cancer incidence, Western Australia, 2008

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
LEUKAEMIAS																									
Leukaemias, NOS/unclassifiable																									
M											1					1	1		**3**	**0.1**	0 - 0.3	100.0	0.0	*	0.3 (0 - 0.7)
											1.4					4.3	6.4								
F												1.0						2.0	**3**	**0.1**	0 - 0.2	67.0	0.0	*	0.2 (0 - 0.5)
												1.5						9.8							
Leukaemias, lymphoid, all																									
M	1	2	3	2	2	1	1	3	1	2	6	7	5	7	8	7	8	2	**68**	**4.7**	3.5-5.9	99.0	0.5	212	6.5 (5.0-8.1)
	1.4	2.8	4.0	2.5	2.4	1.2	1.3	3.6	1.2	2.5	8.2	10.5	8.9	17.4	26.5	30.2	51.1	19.3							
F	3	1							1	2	6	4	2	6	5	6	3	4	**43**	**2.9**	1.9-3.9	98.0	0.3	341	3.9 (2.7-5.0)
	4.3	1.5							1.3	2.5	8.3	6.2	3.7	15.1	15.8	22.8	14.5	19.5							
Leukaemias, lymphoid, acute																									
M	1	2	3	2	2	1	1		1	1	1	2					1		**18**	**1.8**	0.9-2.6	100.0	0.1	889	1.6 (0.9-2.4)
	1.4	2.8	4.0	2.5	2.4	1.2	1.3		1.2	1.2	1.4	3.0					6.4								
F	3	1									2		1			1			**8**	**0.9**	0.2-1.6	100.0	0.1	1917	0.8 (0.2-1.3)
	4.3	1.5									2.8		1.9			3.8									
Leukaemias, lymphoid, chronic																									
M								2		1	4	5	4	6	8	6	7	2	**45**	**2.6**	1.8-3.4	98.0	0.3	308	4.4 (3.1-5.8)
								2.4		1.2	5.5	7.5	7.1	14.9	26.5	25.9	44.7	19.3							
F									1	2	4	3	1	6	5	5	2	4	**33**	**1.9**	1.2-2.5	97.0	0.2	429	3 (1.9-4.0)
									1.3	2.5	5.5	4.6	1.9	15.1	15.8	19.0	9.6	19.5							
Leukaemias, lymphoid, other/NOS																									
M								1			1		1	1		1			5	**0.3**	0.0-0.6	100.0	0.0	2938	0.5 (0.1-0.9)
								1.2			1.4		1.8	2.5		4.3									
F												1					1		**2**	**0.1**	0 - 0.2	100.0	0.0	*	0.2 (0 - 0.4)
												1.5					4.8								
Leukaemias, myeloid, all																									
M			4	1	1	3		3	2	3	6	4	7	5	4	9	4	4	**60**	**4.1**	3.0-5.1	98.0	0.4	272	5.8 (4.3-7.3)
			5.3	1.3	1.2	3.7		3.6	2.5	3.7	8.2	6.0	12.4	12.4	13.2	38.8	25.6	38.6							
F		1	3	2	1	1	1	2	1	4	2	7	4	6	5	3	6	3	**52**	**3.6**	2.5-4.6	94.0	0.4	274	4.6 (3.4-5.9)
		1.5	4.3	2.7	1.3	1.4	1.4	2.5	1.3	5.0	2.8	10.8	7.5	15.1	15.8	11.4	28.9	14.7							
Leukaemias, myeloid, acute																									
M			4			2		2	2	3	6	3	4	4	3	5	2	3	**43**	**3.0**	2.1-3.9	98.0	0.3	358	4.1 (2.9-5.4)
			5.3			2.5		2.4	2.5	3.7	8.2	4.5	7.1	9.9	9.9	21.6	12.8	28.9							
F		1	3	2	1	1	1	2	1	4	1	7	4	4	3		4	3	**42**	**3.1**	2.1-4.1	95.0	0.3	331	3.7 (2.6-4.8)
		1.5	4.3	2.7	1.3	1.4	1.4	2.5	1.3	5.0	1.4	10.8	7.5	10.1	9.5		19.3	14.7							
Leukaemias, myeloid, chronic																									
M				1	1	1		1				1	2	1		1			**9**	**0.7**	0.2-1.2	100.0	0.1	1606	0.8 (0.3-1.3)
				1.3	1.2	1.2		1.2				1.5	3.5	2.5		4.3									
F											1			1	1		1		**4**	**0.2**	0 - 0.5	100.0	0.0	2834	0.4 (0.0-0.7)
											1.4			2.5	3.2		4.8								
Leukaemias, myeloid, other/NOS																									
M													1		1	3	2	1	**8**	**0.4**	0.1-0.7	100.0	0.0	3935	0.9 (0.3-1.5)
													1.8		3.3	12.9	12.8	9.6							
F														1	1	3	1		**6**	**0.3**	0.0-0.5	83.0	0.0	3522	0.6 (0.1-1.0)
														2.5	3.2	11.4	4.8								

Appendix 3A. Cancer incidence, Western Australia, 2008

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
Leukaemias, other																										
M																				**0**						()
F																				**0**						()
Leukaemias (all)																										
M	1	2	7	3	3	4	1	6	3	5	13	11	12	12	12	17	13	6		**131**	**8.9**	7.3-10.6	98.0	0.8	119	12.6 (10.4-14.8)
	1.4	2.8	9.2	3.8	3.6	5.0	1.3	7.1	3.7	6.2	17.7	16.6	21.3	29.8	39.7	73.4	83.1	57.8								
F	3	2	3	2	1	1	1	2	2	6	8	12	6	12	10	9	9	9		**98**	**6.6**	5.1-8.0	95.0	0.7	150	8.7 (7.0-10.5)
	4.3	3.0	4.3	2.7	1.3	1.4	1.4	2.5	2.5	7.6	11.0	18.5	11.2	30.3	31.6	34.3	43.4	44.0								
MYELODYSPLASTIC DISEASES																										
Refractory anaemias/cytopaenias																										
M												1	2	1	1	3	4	2		**14**	**0.7**	0.3-1.1	100.0	0.1	1844	1.5 (0.7-2.3)
												1.5	3.5	2.5	3.3	12.9	25.6	19.3								
F											1				1		4			**6**	**0.2**	0.0-0.4	100.0	0.0	4411	0.5 (0.1-0.9)
											1.4				3.2		19.3									
Myelodysplastic syndromes																										
M											1	1	2	2	2	5	3	3		**19**	**1.0**	0.5-1.5	68.0	0.1	1111	2 (1.1-2.9)
											1.4	1.5	3.5	5	6.6	21.6	19.2	28.9								
F											1			1	1	1	2	6		**12**	**0.4**	0.2-0.7	75.0	0.0	2834	1 (0.4-1.5)
											1.4			2.5	3.2	3.8	9.6	29.3								
Myelodysplastic diseases, all																										
M											1	2	4	3	3	8	7	5		**33**	**1.7**	1.1-2.3	82.0	0.1	694	3.5 (2.3-4.7)
											1.4	3.0	7.1	7.5	9.9	34.5	44.7	48.2								
F											2			1	2	1	6	6		**18**	**0.7**	0.3-1.0	83.0	0.1	1726	1.5 (0.8-2.2)
											2.8			2.5	6.3	3.8	28.9	29.3								
CHRONIC MYELOPROLIFERATIVE DISEASES																										
Chronic myeloproliferative disorder, NOS																										
M										1						1				**2**	**0.1**	0 - 0.3	100.0	0.0	*	0.2 (0 - 0.5)
										1.2						4.3										
F					1									1						**2**	**0.2**	0 - 0.4	100.0	0.0	5206	0.2 (0 - 0.4)
					1.3									2.5												
Polycythaemia rubra vera																										
M																		1		**1**	**0.0**	0 - 0.1	100.0	0.0	*	0.1 (0 - 0.4)
																		9.6								
F																1	1			**2**	**0.1**	0 - 0.2	100.0	0.0	*	0.2 (0 - 0.4)
																3.8	4.8									
Myelofibrosis/sclerosis																										
M																3				**3**	**0.1**	0 - 0.3	100.0	0.0	*	0.3 (0 - 0.7)
																12.9										
F													1			1				**2**	**0.1**	0 - 0.3	50.0	0.0	*	0.2 (0 - 0.4)
													1.9			3.8										
Other chronic myeloproliferative d/o																										
M							1						1	1	1					**4**	**0.3**	0.0-0.6	100.0	0.0	2251	0.4 (0.0-0.7)
							1.3						1.8	2.5	3.3											
F										1		1						1		**3**	**0.2**	0 - 0.4	100.0	0.0	7144	0.2 (0 - 0.5)
										1.3		1.5						4.9								

Appendix 3A. Cancer incidence, Western Australia, 2008

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							1			1			1	1	1	4		1	**10**	**0.6**	0.2-1.0	100.0	0.1	1975	1.1 (0.4-1.7)
							1.3			1.2			1.8	2.5	3.3	17.3		9.6							
F					1					1		1	1	1		2	1	1	**9**	**0.5**	0.1-0.9	89.0	0.0	2349	0.8 (0.3-1.3)
					1.3					1.3		1.5	1.9	2.5		7.6	4.8	4.9							
OTHER CHRONIC IMMUNOPROLIFERATIVE DISEASES																									
Mast cell tumours																									
M																			**0**						()
F																			**0**						()
Histiocytic/dendritic cell malignancies																									
M						1								1					**2**	**0.2**	0 - 0.4	100.0	0.0	5356	0.2 (0 - 0.4)
						1.2								2.5											
F																			**0**						()
Other & U/S immunoproliferative neoplasms																									
M											1	1		1	1		1		**5**	**0.3**	0.0-0.6	80.0	0.0	2309	0.5 (0.1-0.9)
											1.4	1.5		2.5	3.3		6.4								
F															1		1		**2**	**0.1**	0 - 0.2	50.0	0.0	6337	0.2 (0 - 0.4)
															3.2		4.8								
Other chronic immunoproliferative d/o, all																									
M						1					1	1		2	1		1		**7**	**0.5**	0.1-0.8	86.0	0.1	1614	0.7 (0.2-1.1)
						1.2					1.4	1.5		5.0	3.3		6.4								
F															1		1		**2**	**0.1**	0 - 0.2	50.0	0.0	6337	0.2 (0 - 0.4)
															3.2		4.8								
Unknown primary site (C26, C39, C76, C80; Behaviour 6/9)																									
M	1						1		2	3	13	9	11	18	13	23	24	22	**140**	**7.8**	6.5-9.2	69.0	0.7	136	14.5 (12.1-16.9)
	1.4						1.3		2.5	3.7	17.7	13.6	19.5	44.8	43.0	99.3	153.4	212.1							
F								2	4	3	8	3	9	9	12	12	19	36	**117**	**5.3**	4.3-6.4	69.0	0.5	192	9.8 (8.0-11.6)
								2.5	5.1	3.8	11.0	4.6	16.9	22.7	37.9	45.7	91.6	175.9							
All cancers																									
M	12	8	14	21	27	42	62	93	135	230	409	664	825	924	847	741	575	368	**5997**	**372.1**	362-382	95.0	44.6	3	579.1 (564-594)
	16.3	11.2	18.5	26.7	32.7	52.4	81.7	110.4	167.3	285.5	557.3	1000.0	1463.3	2298	2803	3198	3676	3547							
F	9	4	11	9	25	47	68	134	218	307	388	475	480	500	427	461	414	434	**4411**	**262.7**	254-271	93.0	29.2	4	388.5 (377-400)
	13.0	5.9	15.7	12.2	33.0	63.9	93.0	165.7	277.9	386.6	534.8	731.8	899.8	1261	1348	1755	1996	2121							

Appendix 3A. Cancer incidence, Western Australia, 2008

Summary of most common cancer types 2008

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
Prostate gland (C610-C619)																										
M								1	9	46	106	259	371	365	317	251	156	82		**1963**	**121.3**	116-127	98.0	16.1	7	185.9 (178-194)
								1.2	11.2	57.1	144.4	390.1	658.1	907.6	1049.0	1083.3	997.3	790.4							
Breast (C500-C509)																										
M										2			1	3	3	1	2	1		**13**	**0.8**	0.3-1.2	100.0	0.1	925	1.3 (0.6-2.0)
										2.5			1.8	7.5	9.9	4.3	12.8	9.6							
F						4	18	50	95	159	169	173	169	174	99	96	70	61		**1337**	**86.1**	81.4-90.9	99.0	9.9	11	118.4 (112-125)
						5.4	24.6	61.8	121.1	200.2	232.9	266.5	316.8	439.0	312.5	365.4	337.5	298.1							
Colorectal cancer (C18-C20, C218)																										
M				2		2	2	8	8	27	44	75	92	139	110	91	78	45		**723**	**44.0**	40.7-47.3	97.0	5.5	19	70.2 (65.0-75.4)
				2.5		2.5	2.6	9.5	9.9	33.5	60.0	113.0	163.2	345.6	364.0	392.7	498.6	433.8							
F	1					2		5	10	26	34	41	53	66	58	73	80	77		**526**	**27.6**	25.0-30.1	96.0	3.1	33	45.7 (41.7-49.6)
	1.4					2.7		6.2	12.7	32.7	46.9	63.2	99.4	166.5	183.1	277.9	385.8	376.3							
Skin (melanoma only) (C440-C449; M-8720 - 8774)																										
M				1	6	7	21	27	35	39	66	80	73	81	67	64	53	39		**659**	**41.8**	38.5-45.1	99.0	4.7	22	62.9 (58.0-67.7)
				1.3	7.3	8.7	27.7	32.0	43.4	48.4	89.9	120.5	129.5	201.4	221.7	276.2	338.8	375.9							
F				1	5	9	14	27	29	26	44	55	44	41	34	36	33	25		**423**	**26.7**	24.0-29.4	99.0	2.9	35	37.7 (34.1-41.3)
				1.4	6.6	12.2	19.1	33.4	37.0	32.7	60.6	84.7	82.5	103.4	107.3	137.0	159.1	122.2							
Lung, bronchus & trachea (C330-C349)																										
M					1		1	5	6	11	25	43	60	91	92	78	73	56		**542**	**31.6**	28.9-34.4	86.0	3.8	27	54.6 (49.9-59.3)
					1.2		1.3	5.9	7.4	13.7	34.1	64.8	106.4	226.3	304.4	336.6	466.7	539.8							
F					2	1	1	3	3	10	14	42	53	50	45	61	59	38		**382**	**20.4**	18.2-22.6	85.0	2.4	42	33.4 (30.0-36.8)
					2.6	1.4	1.4	3.7	3.8	12.6	19.3	64.7	99.4	126.1	142.0	232.2	284.5	185.7							
Lymphomas (all)																										
M	2	3	2	6	5	6	3	6	9	14	17	25	34	32	36	18	12	9		**239**	**16.6**	14.4-18.8	99.0	2.0	52	22.4 (19.5-25.3)
	2.7	4.2	2.6	7.6	6.1	7.5	4.0	7.1	11.2	17.4	23.2	37.7	60.3	79.6	119.1	77.7	76.7	86.8							
F			2	2	8	3	1	3	9	14	8	11	13	18	23	22	27	12		**176**	**10.5**	8.8-12.2	98.0	1.1	90	15.8 (13.4-18.1)
			2.8	2.7	10.6	4.1	1.4	3.7	11.5	17.6	11.0	16.9	24.4	45.4	72.6	83.7	130.2	58.6							
Unknown primary site (C26, C39, C76, C80; Behaviour 6/9)																										
M	1						1		2	3	13	9	11	18	13	23	24	22		**140**	**7.8**	6.5-9.2	69.0	0.7	136	14.5 (12.1-16.9)
	1.4						1.3		2.5	3.7	17.7	13.6	19.5	44.8	43.0	99.3	153.4	212.1							
F								2	4	3	8	3	9	9	12	12	19	36		**117**	**5.3**	4.3-6.4	69.0	0.5	192	9.8 (8.0-11.6)
								2.5	5.1	3.8	11.0	4.6	16.9	22.7	37.9	45.7	91.6	175.9							
All cancers																										
M	12	8	14	21	27	42	62	93	135	230	409	664	825	924	847	741	575	368		**5997**	**372.1**	362-382	95.0	44.6	3	579.1 (564-594)
	16.3	11.2	18.5	26.7	32.7	52.4	81.7	110.4	167.3	285.5	557.3	1000.0	1463.3	2298	2803	3198	3676	3547							
F	9	4	11	9	25	47	68	134	218	307	388	475	480	500	427	461	414	434		**4411**	**262.7**	254-271	93.0	29.2	4	388.5 (377-400)
	13.0	5.9	15.7	12.2	33.0	63.9	93.0	165.7	277.9	386.6	534.8	731.8	899.8	1261	1348	1755	1996	2121							

Appendix 3B. Cancer mortality, Western Australia, 2008

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
Lip, gum & mouth (C000-C069) (not C01 C02)																									
M										1	1	3	5	4	2	1	2		**19**	**1.2**	0.7-1.8	184	0.2	615	1.7 (0.9-2.5)
										1.2	1.4	4.5	8.9	9.9	6.6	4.3	12.8							
F												1		1			1	2	**5**	**0.2**	0.0-0.4	24	0.0	4922	0.4 (0.0-0.7)
												1.5		2.5			4.8	9.8							
Tongue (C010-C029)																									
M										3	2	1		2	1	4	1	1	**15**	**0.9**	0.4-1.4	149	0.1	1232	1.5 (0.7-2.3)
										3.7	2.7	1.5		5.0	3.3	17.3	6.4	9.6						
F								1				2	1		2	1	2	1	**10**	**0.5**	0.2-0.8	86	0.1	1600	0.9 (0.3-1.4)
								1.2				3.1	1.9		6.3	3.8	9.6	4.9							
Parotid gland (C070-C079)																									
M															1		1		**2**	**0.1**	0 - 0.2	2	0.0	6045	0.2 (0 - 0.5)
															3.3		6.4								
F																		1	**1**	**0.0**	0 - 0.1	0	0.0	*	0.1 (0 - 0.2)
																		4.9							
Major salivary glands (not parotid) (C080-C089)																									
M															1				**1**	**0.1**	0 - 0.2	2	0.0	6045	0.1 (0 - 0.3)
															3.3										
F																			**0**					-	
Pharynx (C090-C149) (not C11)																									
M										1	1	1	5	2	3	2	3	1	**19**	**1.1**	0.6-1.7	140	0.1	718	1.8 (1.0-2.7)
										1.2	1.4	1.5	8.9	5.0	9.9	8.6	19.2	9.6							
F										1	1	1				2	1		**6**	**0.3**	0.0-0.6	64	0.0	4787	0.5 (0.1-1.0)
										1.3	1.4	1.5				7.6	4.8								
Nasopharynx (C110-C119)																									
M											1	1		1					**3**	**0.2**	0 - 0.4	44	0.0	3735	0.3 (0 - 0.5)
											1.4	1.5		2.5											
F												1		1			1		**3**	**0.2**	0 - 0.4	24	0.0	4922	0.3 (0 - 0.5)
												1.5		2.5			4.8								
Oesophagus (C150-C159)																									
M							1			6	6	6	10	6	10	13	13	7	**78**	**4.4**	3.4-5.4	592	0.5	219	7.8 (6.1-9.6)
							1.3			7.4	8.2	9.0	17.7	14.9	33.1	56.1	83.1	67.5							
F											2	1		2	4	2	5	9	**25**	**1.0**	0.6-1.5	83	0.1	911	2.1 (1.2-2.9)
											2.8	1.5		5.0	12.6	7.6	24.1	44.0							
Stomach (C160-C169)																									
M								2	1		3	8	9	3	15	15	12	13	**81**	**4.4**	3.4-5.4	450	0.5	216	8.5 (6.6-10.4)
								2.4	1.2		4.1	12.0	16.0	7.5	49.6	64.7	76.7	125.3							
F						1	2		4	3		4	2	2	3	3	3	9	**36**	**1.9**	1.3-2.6	441	0.2	535	3.1 (2.1-4.1)
						1.4	2.7		5.1	3.8		6.2	3.7	5.0	9.5	11.4	14.5	44.0							
Small intestine (C170-C179)																									
M								1						2	1	2	1	1	**8**	**0.5**	0.1-0.8	51	0.0	2113	0.8 (0.3-1.4)
								1.2						5.0	3.3	8.6	6.4	9.6							
F												1		2	2	1	1	4	**11**	**0.5**	0.2-0.8	36	0.1	1551	0.9 (0.4-1.5)
												1.5		5.0	6.3	3.8	4.8	19.5							

Appendix 3B. Cancer mortality, Western Australia, 2008

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
Colorectal cancer (C18-C20, C218)																									
M						1		2		2	12	30	25	34	28	35	41	35	**245**	**13.7**	11.9-15.5	1489	1.4	70	24.9 (21.7-28.1)
						1.2		2.4		2.5	16.4	45.2	44.3	84.5	92.7	151.1	262.1	337.4							
F					1			2		6	3	10	13	25	26	26	28	47	**187**	**8.9**	7.5-10.3	907	1.0	100	15.9 (13.6-18.2)
					1.3			2.5		7.6	4.1	15.4	24.4	63.1	82.1	99.0	135.0	229.7							
Colon (C180-C189)																									
M								2		1	9	19	14	21	14	24	30	20	**154**	**8.4**	7.0-9.8	927	0.8	120	15.7 (13.1-18.2)
								2.4		1.2	12.3	28.6	24.8	52.2	46.3	103.6	191.8	192.8							
F					1			2		5	3	7	9	18	20	19	16	34	**134**	**6.5**	5.3-7.7	718	0.8	133	11.5 (9.5-13.4)
					1.3			2.5		6.3	4.1	10.8	16.9	45.4	63.1	72.3	77.2	166.1							
Rectosigmoid junction & rectum (C190-C209)																									
M						1				1	3	11	11	13	14	11	11	15	**91**	**5.3**	4.2-6.4	559	0.6	165	9.2 (7.3-11.2)
						1.2				1.2	4.1	16.6	19.5	32.3	46.3	47.5	70.3	144.6							
F										1		3	4	7	6	7	12	13	**53**	**2.3**	1.6-3.0	188	0.2	401	4.5 (3.2-5.7)
										1.3		4.6	7.5	17.7	18.9	26.6	57.9	63.5							
Anus (C210-C219)																									
M												1		1					**2**	**0.1**	0 - 0.3	23	0.0	5010	0.2 (0 - 0.4)
												1.5		2.5											
F									1			1	1	3					**6**	**0.4**	0.1-0.8	81	0.1	1632	0.5 (0.1-0.9)
									1.3			1.5	1.9	7.6											
Liver & intrahepatic bile ducts (C220-C229)																									
M										3	5	10	2	7	4	8	8	4	**51**	**2.9**	2.1-3.7	421	0.3	335	5 (3.6-6.4)
										3.7	6.8	15.1	3.5	17.4	13.2	34.5	51.1	38.6							
F								1			2	3	2	3	4	4	4	4	**27**	**1.4**	0.8-1.9	183	0.2	615	2.4 (1.5-3.3)
								1.2			2.8	4.6	3.7	7.6	12.6	15.2	19.3	19.5							
Gallbladder & bile ducts (C230-C249)																									
M									1	1	1	4	3		4	5	4	6	**29**	**1.6**	1.0-2.2	184	0.1	704	3 (1.9-4.2)
									1.2	1.2	1.4	6.0	5.3		13.2	21.6	25.6	57.8							
F												2	3	3	4	11	3	9	**35**	**1.5**	1.0-2.1	100	0.1	693	3 (2.0-4.1)
												3.1	5.6	7.6	12.6	41.9	14.5	44.0							
Pancreas (C250-C259)																									
M										2	6	7	19	13	8	21	13	11	**100**	**5.7**	4.5-6.8	615	0.6	176	10 (8.0-12.0)
										2.5	8.2	10.5	33.7	32.3	26.5	90.6	83.1	106.0							
F							1		1		3	13	9	9	8	18	13	20	**95**	**4.5**	3.5-5.5	543	0.5	219	8.1 (6.4-9.7)
							1.4		1.3		4.1	20.0	16.9	22.7	25.2	68.5	62.7	97.7							
Nasal cavity/sinuses, middle & inner ear (C300-C319)																									
M									1			1	1	1		1	1	1	**7**	**0.4**	0.1-0.7	64	0.0	2855	0.7 (0.2-1.2)
									1.2			1.5	1.8	2.5		4.3	6.4	9.6							
F													1	1				1	**3**	**0.2**	0 - 0.4	19	0.0	4549	0.2 (0 - 0.5)
													1.9	2.5				4.9							
Larynx (C320-C329)																									
M														3	3	2	1	2	**11**	**0.6**	0.2-1.0	28	0.1	1151	1.2 (0.5-1.9)
														7.5	9.9	8.6	6.4	19.3							
F																		1	**1**	**0.0**	0 - 0.1	0	0.0	*	0.1 (0 - 0.2)
																		4.9							

Appendix 3B. Cancer mortality, Western Australia, 2008

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							1	3	1	4	21	34	54	77	67	79	57	49	**447**	**25.7**	23.3-28.2	2588	3.0	34	45.2 (41.0-49.5)
							1.3	3.6	1.2	5.0	28.6	51.2	95.8	191.5	221.7	341.0	364.4	472.3							
F									1	5	6	23	35	31	38	54	51	46	**290**	**14.1**	12.3-15.8	1407	1.6	64	25.2 (22.2-28.1)
									1.3	6.3	8.3	35.4	65.6	78.2	119.9	205.5	245.9	224.8							
Thymus (C370-C379)																									
M																1		1	**2**	**0.1**	0 - 0.2	0	0.0	*	0.2 (0 - 0.6)
																4.3		9.6							
F																1			**1**	**0.0**	0 - 0.1	0	0.0	*	0.1 (0 - 0.3)
																3.8									
Pleura, heart & mediastinum (C380-C389)																									
M					1										1			1	**3**	**0.2**	0 - 0.5	52	0.0	4424	0.3 (0 - 0.7)
					1.2										3.3			9.6							
F													1						**1**	**0.1**	0 - 0.2	12	0.0	*	0.1 (0 - 0.2)
													1.9												
Bones, joints & articular cartilages (C400-C419)																									
M				1			1							1	1				**4**	**0.3**	0 - 0.7	103	0.0	2387	0.4 (0.0-0.8)
				1.3			1.3							2.5	3.3										
F					1			1			1				2			1	**6**	**0.4**	0.1-0.7	113	0.1	1952	0.6 (0.1-1.0)
					1.3			1.2			1.4				6.3			4.9							
Skin (melanoma only) (C430-C439)																									
M							2	2	3	3	3	8	11	11	14	15	11	10	**93**	**5.4**	4.3-6.6	741	0.6	165	9.4 (7.4-11.3)
							2.6	2.4	3.7	3.7	4.1	12.0	19.5	27.4	46.3	64.7	70.3	96.4							
F							1		3		3	1	3	1	1	3	7	7	**30**	**1.4**	0.8-2.0	259	0.1	903	2.5 (1.6-3.4)
							1.4		3.8		4.1	1.5	5.6	2.5	3.2	11.4	33.8	34.2							
Skin (non-melanoma; includes SCC-BCC) (C440-C449)																									
M										1	1	1	1	4	5	9	4	9	**35**	**1.9**	1.2-2.5	113	0.2	618	3.9 (2.6-5.2)
										1.2	1.4	1.5	1.8	9.9	16.5	38.8	25.6	86.8							
F														2	1		2	7	**12**	**0.4**	0.2-0.7	17	0.0	2439	0.9 (0.4-1.4)
														5.0	3.2		9.6	34.2							
Mesothelioma (M905; ICD10 C45)																									
M										1	2	3	7	16	14	15	8	6	**72**	**4.2**	3.2-5.2	340	0.5	187	7.3 (5.6-9.1)
										1.2	2.7	4.5	12.4	39.8	46.3	64.7	51.1	57.8							
F											1	2	1	4	4	4	5	2	**23**	**1.1**	0.6-1.7	105	0.1	689	2.1 (1.2-2.9)
											1.4	3.1	1.9	10.1	12.6	15.2	24.1	9.8							
Kaposi sarcoma (M914; ICD10 C46)																									
M																		1	**1**	**0.0**	0 - 0.1	0	0.0	*	0.1 (0 - 0.4)
																		9.6							
F																			**0**					-	
Nervous system, peripheral/autonomic (C470-C479)																									
M																			**0**					-	
F						1													**1**	**0.1**	0 - 0.3	46	0.0	*	0.1 (0 - 0.3)
						1.4																			

Appendix 3B. Cancer mortality, Western Australia, 2008

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
Retroperitoneum and peritoneum (C480-C489)																									
M														1		1			**2**	**0.1**	0 - 0.3	7	0.0	8044	0.2 (0 - 0.5)
														2.5		4.3									
F													2		1	1	2		**6**	**0.3**	0.0-0.6	26	0.0	2897	0.5 (0.1-1.0)
													3.7		3.2	3.8	9.6								
Connective, subcutaneous & other soft tissues (C490-C499)																									
M	1											1			1	1	2	1	**7**	**0.4**	0.0-0.8	89	0.0	3240	0.7 (0.2-1.3)
	1.4											1.5			3.3	4.3	12.8	9.6							
F				1					1	1				2			1	1	**7**	**0.5**	0.1-0.9	127	0.0	2240	0.6 (0.2-1.1)
				1.4					1.3	1.3				5.0			4.8	4.9							
Breast (C500-C509)																									
M																		1	**1**	**0.0**	0 - 0.1	0	0.0	*	0.1 (0 - 0.4)
																		9.6							
F						1	1	3	14	27	30	28	22	15	24	21	22	35	**243**	**13.8**	12.0-15.7	2876	1.5	68	21.1 (18.4-23.8)
						1.4	1.4	3.7	17.8	34.0	41.4	43.1	41.2	37.8	75.7	79.9	106.1	171.0							
Vulva (C510-C519)																									
F												1	1	1		2	2	1	**8**	**0.4**	0.1-0.6	36	0.0	3369	0.7 (0.2-1.2)
												1.5	1.9	2.5		7.6	9.6	4.9							
Vagina (C520-C529)																									
F										1		1				2	1	2	**7**	**0.3**	0.1-0.5	43	0.0	7144	0.6 (0.1-1.0)
										1.3		1.5				7.6	4.8	9.8							
Cervix uteri (C530-C539)																									
F							1		2	1	2		2	2				1	**11**	**0.8**	0.3-1.2	210	0.1	1196	1 (0.4-1.6)
							1.4		2.5	1.3	2.8		3.7	5.0				4.9							
Corpus uteri (C540-C549)																									
F								1	2	1		3	1	2	2	5	4	10	**31**	**1.4**	0.8-1.9	205	0.1	874	2.6 (1.7-3.5)
								1.2	2.5	1.3		4.6	1.9	5.0	6.3	19.0	19.3	48.9							
Uterus, nos (C550-C559)																									
F																			**0**					-	
Ovary (C560-C569)																									
F						1			3	2	3	9	7	6	10	13	13	12	**79**	**4.0**	3.0-4.9	555	0.4	234	6.9 (5.3-8.4)
						1.4			3.8	2.5	4.1	13.9	13.1	15.1	31.6	49.5	62.7	58.6							
Uterine adnexa & oth. fem gen. (C570-C579)																									
F															1	1			**2**	**0.1**	0 - 0.2	2	0.0	6337	0.2 (0 - 0.5)
															3.2	3.8									
Placenta (C580-C589)																									
F																			**0**					-	
Penis (C600-C609)																									
M															1				**1**	**0.1**	0 - 0.2	2	0.0	6045	0.1 (0 - 0.3)
															3.3										
Prostate gland (C610-C619)																									
M									1		2	5	11	22	33	37	60	73	**244**	**12.2**	10.6-13.7	510	1.0	103	27.4 (23.9-30.9)
									1.2		2.7	7.5	19.5	54.7	109.2	159.7	383.6	703.7							
Testis (C620-C629)																									
M			1		1	1								1					**4**	**0.4**	0.0-0.8	159	0.0	3193	0.4 (0.0-0.7)
			1.3		1.2	1.2								2.5											

Appendix 3B. Cancer mortality, Western Australia, 2008

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											1								**1**	**0.1**	0 - 0.2	21	0.0	*	0.1 (0 - 0.3)
											1.4														
Kidney (C640-C649)																									
M									1	2	1	4	7	5	2	4	10	4	**40**	**2.2**	1.5-2.9	285	0.2	470	3.9 (2.7-5.2)
									1.2	2.5	1.4	6.0	12.4	12.4	6.6	17.3	63.9	38.6							
F						1			1			1	2	3	3	3	3	5	**22**	**1.1**	0.6-1.6	146	0.1	802	1.9 (1.1-2.7)
						1.4			1.3			1.5	3.7	7.6	9.5	11.4	14.5	24.4							
Bladder & urinary tract (C650-C689)																									
M											1	1	2	6	9	11	13	14	**57**	**2.9**	2.1-3.7	123	0.3	392	6.4 (4.7-8.0)
											1.4	1.5	3.5	14.9	29.8	47.5	83.1	135.0							
F							1		1			1	1	5	2	4	3	16	**34**	**1.4**	0.9-2.0	141	0.1	801	2.7 (1.8-3.7)
							1.4		1.3			1.5	1.9	12.6	6.3	15.2	14.5	78.2							
Eye & lacrimal gland (C690-C699)																									
M										1	1					1	1	1	**5**	**0.3**	0.0-0.5	46	0.0	7681	0.5 (0.1-1.0)
										1.2	1.4					4.3	6.4	9.6							
F															1			1	**2**	**0.1**	0 - 0.2	2	0.0	6337	0.2 (0 - 0.4)
															3.2			4.9							
Meninges (cerebral & spinal) (C700-C709)																									
M																			**0**					-	
F													2					1	**3**	**0.2**	0 - 0.4	24	0.0	5335	0.2 (0 - 0.5)
													3.7					4.9							
Brain (C710-C719)																									
M					2	1	1	3		3	11	12	5	8	7	9	3	1	**66**	**4.2**	3.2-5.3	912	0.5	206	6.2 (4.7-7.7)
					2.4	1.2	1.3	3.6		3.7	15.0	18.1	8.9	19.9	23.2	38.8	19.2	9.6							
F			2					1	1	3		4	7	2	3	10	9	2	**44**	**2.4**	1.6-3.2	437	0.2	466	3.9 (2.7-5.1)
			2.8					1.2	1.3	3.8		6.2	13.1	5.0	9.5	38.1	43.4	9.8							
Spinal cord & cranial nerves (C720-C729)																									
M																			**0**					-	
F																			**0**					-	
Thyroid gland (C730-C739)																									
M								1					1	1		1	1		**5**	**0.3**	0.0-0.6	53	0.0	3672	0.5 (0.1-0.9)
								1.2					1.8	2.5		4.3	6.4								
F											1			1	1	1		1	**5**	**0.3**	0.0-0.5	31	0.0	2834	0.5 (0.1-0.9)
											1.4			2.5	3.2	3.8		4.9							
Adrenal gland (C740-C749)																									
M	1	1								1									**3**	**0.4**	0 - 0.8	160	0.0	4998	0.3 (0 - 0.6)
	1.4	1.4								1.2															
F												2				1			**3**	**0.2**	0 - 0.3	33	0.0	6491	0.3 (0 - 0.6)
												3.1				3.8									
Endocrine glands (not adrenal) (C750-C759)																									
M					1														**1**	**0.1**	0 - 0.3	49	0.0	*	0.1 (0 - 0.2)
					1.2																				
F																			**0**					-	

Appendix 3B. Cancer mortality, Western Australia, 2008

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
LYMPHOMAS																									
Lymphoma, NOS / unclassifiable																									
M				1						1						2	1		**5**	**0.3**	0.0-0.6	79	0.0	7966	0.5 (0.1-1.0)
				1.3						1.2						8.6	6.4								
F															1				**1**	**0.1**	0 - 0.2	2	0.0	6337	0.1 (0 - 0.3)
															3.2										
Hodgkin lymphoma																									
M				1												1			**2**	**0.2**	0 - 0.4	54	0.0	*	0.2 (0 - 0.5)
				1.3												4.3									
F							1					1		1			1		**4**	**0.2**	0 - 0.5	65	0.0	3683	0.4 (0.0-0.7)
							1.4					1.5		2.5			4.8								
All NHL																									
M			1					2	3	1	3	2	7	10	12	10	13	6	**70**	**4.1**	3.1-5.0	516	0.5	216	7.1 (5.4-8.8)
			1.3					2.4	3.7	1.2	4.1	3.0	12.4	24.9	39.7	43.2	83.1	57.8							
F										2	4		1	5	5	10	11	11	**49**	**2.1**	1.5-2.8	197	0.2	523	4.2 (3.0-5.4)
										2.5	5.5		1.9	12.6	15.8	38.1	53.0	53.8							
NHL, mature B cell																									
M								1	3		3	1	4	8	10	8	8	2	**48**	**2.8**	2.0-3.6	328	0.4	284	4.9 (3.5-6.3)
								1.2	3.7		4.1	1.5	7.1	19.9	33.1	34.5	51.1	19.3							
F										1	4		1	3	2	7	10	8	**36**	**1.5**	0.9-2.0	150	0.1	888	3.1 (2.1-4.1)
										1.3	5.5		1.9	7.6	6.3	26.6	48.2	39.1							
NHL, mature T/NK cell																									
M								1				1	1	2	1		3		**9**	**0.5**	0.2-0.9	79	0.1	1569	0.9 (0.3-1.4)
								1.2				1.5	1.8	5.0	3.3		19.2								
F										1				1		1			**3**	**0.2**	0 - 0.4	33	0.0	5289	0.3 (0 - 0.6)
										1.3				2.5		3.8									
NHL, precursor cell lymphoblastic																									
M																			**0**					-	
F																			**0**					-	
NHL, other/unclassifiable																									
M			1							1			2		1	2	2	4	**13**	**0.7**	0.3-1.2	109	0.0	2124	1.4 (0.6-2.2)
			1.3							1.2			3.5		3.3	8.6	12.8	38.6							
F														1	3	2	1	3	**10**	**0.4**	0.1-0.7	14	0.1	1668	0.9 (0.3-1.4)
														2.5	9.5	7.6	4.8	14.7							
Lymphomas (all)																									
M			1	2				2	3	2	3	2	7	10	12	13	14	6	**77**	**4.5**	3.5-5.6	648	0.5	208	7.9 (6.1-9.6)
			1.3	2.5				2.4	3.7	2.5	4.1	3.0	12.4	24.9	39.7	56.1	89.5	57.8							
F							1			2	4	1	1	6	6	10	12	11	**54**	**2.4**	1.7-3.1	264	0.2	427	4.7 (3.4-6.0)
							1.4			2.5	5.5	1.5	1.9	15.1	18.9	38.1	57.9	53.8							
MYELOMA																									
Myeloma/plasma cell tumours																									
M											4	3	3	7	5	7	10	7	**46**	**2.5**	1.7-3.2	226	0.2	407	4.8 (3.4-6.2)
											5.5	4.5	5.3	17.4	16.5	30.2	63.9	67.5							
F									1			1	8	3	7	6	9	5	**40**	**2.0**	1.3-2.6	181	0.2	422	3.5 (2.4-4.6)
									1.3			1.5	15.0	7.6	22.1	22.8	43.4	24.4							

Appendix 3B. Cancer mortality, Western Australia, 2008

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
LEUKAEMIAS																									
Leukaemias, NOS/unclassifiable																									
M											1					1	1		**3**	**0.1**	0 - 0.3	21	0.0	*	0.3 (0 - 0.7)
											1.4					4.3	6.4								
F												1						3	**4**	**0.1**	0 - 0.3	17	0.0	*	0.3 (0.0-0.6)
												1.5						14.7							
Leukaemias, lymphoid, all																									
M			1		1		1				1	3	1	3	4	6	6		**27**	**1.6**	0.9-2.2	258	0.2	622	2.7 (1.7-3.8)
			1.3		1.2		1.3				1.4	4.5	1.8	7.5	13.2	25.9	38.4								
F												1		1	2		5	5	**14**	**0.5**	0.2-0.8	29	0.1	1928	1.1 (0.5-1.7)
												1.5		2.5	6.3		24.1	24.4							
Leukaemias, lymphoid, acute																									
M			1		1		1					1					1		**5**	**0.4**	0.0-0.8	164	0.0	3736	0.5 (0.1-0.9)
			1.3		1.2		1.3					1.5					6.4								
F														1			1		**2**	**0.1**	0 - 0.3	7	0.0	7928	0.2 (0 - 0.4)
														2.5			4.8								
Leukaemias, lymphoid, chronic																									
M											1	1	1	3	4	6	5		**21**	**1.1**	0.6-1.6	79	0.1	790	2.2 (1.2-3.1)
											1.4	1.5	1.8	7.5	13.2	25.9	32.0								
F												1			2		4	4	**11**	**0.4**	0.1-0.6	21	0.0	2547	0.9 (0.4-1.4)
												1.5			6.3		19.3	19.5							
Leukaemias, lymphoid, other/NOS																									
M												1							1	**0.1**	0 - 0.2	16	0.0	*	0.1 (0 - 0.2)
												1.5													
F																		1	**1**	**0.0**	0 - 0.1	0	0.0	*	0.1 (0 - 0.2)
																		4.9							
Leukaemias, myeloid, all																									
M			1	1	1			1	1	1	3	2	5	1	2	8		4	**31**	**2.0**	1.2-2.7	415	0.2	615	3.1 (2.0-4.2)
			1.3	1.3	1.2			1.2	1.2	1.2	4.1	3.0	8.9	2.5	6.6	34.5		38.6							
F		1	1	1		2				1	1	5	3	1	1	2	5	6	**30**	**1.8**	1.0-2.5	449	0.1	699	2.5 (1.6-3.4)
		1.5	1.4	1.4		2.7				1.3	1.4	7.7	5.6	2.5	3.2	7.6	24.1	29.3							
Leukaemias, myeloid, acute																									
M			1	1	1				1	1	3	2	5	1	2	6		2	**26**	**1.7**	1.0-2.4	380	0.2	638	2.5 (1.5-3.5)
			1.3	1.3	1.2				1.2	1.2	4.1	3.0	8.9	2.5	6.6	25.9		19.3							
F		1	1	1		2				1	1	4	3	1	1		5	4	**25**	**1.6**	0.9-2.3	432	0.1	739	2.1 (1.3-2.9)
		1.5	1.4	1.4		2.7				1.3	1.4	6.2	5.6	2.5	3.2		24.1	19.5							
Leukaemias, myeloid, chronic																									
M								1								1			**2**	**0.1**	0 - 0.3	35	0.0	*	0.2 (0 - 0.5)
								1.2								4.3									
F												1							**1**	**0.1**	0 - 0.2	17	0.0	*	0.1 (0 - 0.2)
												1.5													
Leukaemias, myeloid, other/NOS																									
M																1		2	**3**	**0.1**	0 - 0.3	0	0.0	*	0.4 (0 - 0.8)
																4.3		19.3							
F																2		2	**4**	**0.1**	0 - 0.3	0	0.0	*	0.3 (0 - 0.7)
																7.6		9.8							

Appendix 3B. Cancer mortality, Western Australia, 2008

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
Leukaemias, other																									
M																			**0**					-	
F																			**0**					-	
Leukaemias (all)																									
M			2	1	2		1	1	1	1	5	5	6	4	6	15	7	4	**61**	**3.7**	2.7-4.6	693	0.3	303	6.1 (4.6-7.7)
			2.6	1.3	2.4		1.3	1.2	1.2	1.2	6.8	7.5	10.6	9.9	19.9	64.7	44.7	38.6							
F		1	1	1		2				1	1	7	3	2	3	2	10	14	**48**	**2.4**	1.6-3.2	494	0.2	494	3.9 (2.8-5.0)
		1.5	1.4	1.4		2.7				1.3	1.4	10.8	5.6	5.0	9.5	7.6	48.2	68.4							
MYELODYSPLASTIC DISEASES																									
Refractory anaemias/cytopaenias																									
M															1	3	4	2	**10**	**0.4**	0.2-0.7	2	0.0	6045	1.2 (0.4-1.9)
															3.3	12.9	25.6	19.3							
F					1										4	3	2	3	**13**	**0.6**	0.2-1.0	60	0.1	1435	1.2 (0.5-1.8)
					1.3										12.6	11.4	9.6	14.7							
Myelodysplastic syndromes																									
M											1	1	1	1	1	7	3	11	**26**	**1.3**	0.8-1.8	58	0.1	1917	3 (1.8-4.2)
											1.4	1.5	1.8	2.5	3.3	30.2	19.2	106.0							
F												1			1	1	1	7	**11**	**0.4**	0.1-0.6	19	0.0	4259	0.8 (0.3-1.3)
												1.5			3.2	3.8	4.8	34.2							
Myelodysplastic diseases, all																									
M											1	1	1	1	2	10	7	13	**36**	**1.7**	1.1-2.3	60	0.1	1455	4.2 (2.8-5.6)
											1.4	1.5	1.8	2.5	6.6	43.2	44.7	125.3							
F					1							1			5	4	3	10	**24**	**1.0**	0.5-1.4	79	0.1	1073	2 (1.2-2.8)
					1.3							1.5			15.8	15.2	14.5	48.9							
CHRONIC MYELOPROLIFERATIVE DISEASES																									
Chronic myeloproliferative disorder, NOS																									
M									1										**1**	**0.1**	0 - 0.2	30	0.0	*	0.1 (0 - 0.3)
									1.2																
F																1			**1**	**0.0**	0 - 0.1	0	0.0	*	0.1 (0 - 0.3)
																3.8									
Polycythaemia rubra vera																									
M												1		1				1	**3**	**0.2**	0 - 0.4	23	0.0	5010	0.3 (0 - 0.6)
												1.5		2.5				9.6							
F																1		1	**2**	**0.1**	0 - 0.2	0	0.0	*	0.2 (0 - 0.4)
																3.8		4.9							
Myelofibrosis/sclerosis																									
M												1	1	1	1	2		1	**7**	**0.4**	0.1-0.7	37	0.0	2204	0.7 (0.2-1.2)
												1.5	1.8	2.5	3.3	8.6		9.6							
F													1					1	**2**	**0.1**	0 - 0.3	12	0.0	*	0.1 (0 - 0.3)
													1.9					4.9							
Other chronic myeloproliferative d/o																									
M													1			1			**2**	**0.1**	0 - 0.3	12	0.0	*	0.2 (0 - 0.5)
													1.8			4.3									
F													1	1			1		**3**	**0.2**	0 - 0.4	19	0.0	4549	0.3 (0 - 0.5)
													1.9	2.5			4.8								

Appendix 3B. Cancer mortality, Western Australia, 2008

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									1			2	2	2	1	3		2	**13**	**0.8**	0.3-1.2	101	0.1	1244	1.3 (0.6-2.0)
									1.2			3.0	3.5	5.0	3.3	12.9		19.3							
F													2	1		2	1	2	**8**	**0.4**	0.1-0.7	31	0.0	3189	0.7 (0.2-1.1)
													3.7	2.5		7.6	4.8	9.8							
OTHER CHRONIC IMMUNOPROLIFERATIVE DISEASES																									
Mast cell tumours																									
M																			**0**					-	
F																			**0**					-	
Histiocytic/dendritic cell malignancies																									
M																			**0**					-	
F																			**0**					-	
Other & U/S immunoproliferative neoplasms																									
M														1					**1**	**0.1**	0 - 0.2	7	0.0	8044	0.1 (0 - 0.3)
														2.5											
F																		1	**1**	**0.0**	0 - 0.1	0	0.0	*	0.1 (0 - 0.2)
																		4.9							
Other chronic immunoproliferative d/o, all																									
M														1					**1**	**0.1**	0 - 0.2	7	0.0	8044	0.1 (0 - 0.3)
														2.5											
F																		1	**1**	**0.0**	0 - 0.1	0	0.0	*	0.1 (0 - 0.2)
																		4.9							
Unknown primary site (C80 or Behaviour 6/9)																									
M	1								1	1	3	6	7	11	11	13	12	17	**83**	**4.7**	3.6-5.7	467	0.5	215	8.7 (6.8-10.7)
	1.4								1.2	1.2	4.1	9.0	12.4	27.4	36.4	56.1	76.7	163.9							
F							1		1	2	2	2	3	5	6	6	22	26	**76**	**2.9**	2.2-3.7	286	0.2	416	6.2 (4.8-7.6)
							1.4		1.3	2.5	2.8	3.1	5.6	12.6	18.9	22.8	106.1	127.0							
Total deaths due to cancer																									
M	3	1	4	4	7	3	7	17	15	39	98	161	204	268	273	354	321	303	**2082**	**117.4**	112-123	13366	12.2	9	214.7 (205-224)
	4.1	1.4	5.3	5.1	8.5	3.7	9.2	20.2	18.6	48.4	133.5	242.5	362	666	903	1528	2052	2921							
F		1	3	2	3	7	9	10	37	56	65	128	136	146	174	224	244	328	**1573**	**77.4**	73.2-81.6	10987	8.1	13	134.7 (128-141)
		1.5	4.3	2.7	4.0	9.5	12.3	12.4	47.2	70.5	89.6	197.2	254.9	368	549	853	1177	1603							

Appendix 3B. Cancer mortality, Western Australia, 2008

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 non-"cancer" mortality data, 2008																									
Deaths due to benign tumours in CR cases																									
M																			**0**					-	
F														2	1	2		1	**6**	**0.3**	0.0-0.6	17	0.0	2439	0.6 (0.1-1.0)
														5.0	3.2	7.6		4.9							
Deaths due to lymphohaematopoietic tumours of uncertain malignant potential																									
M																		1	**1**	**0.0**	0 - 0.1	0	0.0	*	0.1 (0 - 0.4)
																		9.6							
F										1						1			**2**	**0.1**	0 - 0.3	26	0.0	*	0.2 (0 - 0.5)
										1.3						3.8									
Deaths due to non-lymphohaematopoietic tumours of uncertain/unspecified nature																									
M							1						1						**2**	**0.1**	0 - 0.4	51	0.0	6471	0.2 (0 - 0.4)
							1.3						1.8												
F												1			1		1	1	**4**	**0.2**	0 - 0.4	19	0.0	4259	0.3 (0.0-0.7)
												1.5			3.2		4.8	4.9							
Non-cancer deaths in CR cases																									
M								2	3	5	8	10	28	48	85	161	241	367	**958**	**45.4**	42.5-48.4	1476	2.4	41	111.1 (104-118)
								2.4	3.7	6.2	10.9	15.1	49.7	119.4	281.3	694.9	1540.6	3537.7							
F				1	1	2	2		3	4	6	8	13	26	38	80	128	390	**702**	**23.0**	21.1-25.0	1172	1.2	81	54.4 (50.3-58.4)
				1.4	1.3	2.7	2.7		3.8	5.0	8.3	12.3	24.4	65.6	119.9	304.5	617.2	1905.7							
Deaths of undetermined cause in CR cases																									
M										2	2		1	2	1	4	2	2	**16**	**0.9**	0.4-1.4	119	0.1	1311	1.7 (0.8-2.5)
										2.5	2.7		1.8	5.0	3.3	17.3	12.8	19.3							
F									2			1		3		1	2	4	**13**	**0.6**	0.2-1.0	100	0.1	1716	1.1 (0.5-1.7)
									2.5			1.5		7.6		3.8	9.6	19.5							
Total deaths **(cancer and non-cancer)** of Cancer Registry cases																									
M	3	1	4	4	7	3	8	19	18	44	106	171	233	316	358	516	562	671	**3044**	**163.0**	157-169	15015	14.6	7	326.2 (315-338)
	4.1	1.4	5.3	5.1	8.5	3.7	10.5	22.5	22.3	54.6	144.4	257.5	413.3	785.7	1184.6	2227.0	3592.7	6468.1							
F		1	3	3	4	9	11	10	40	61	71	137	149	174	214	307	374	720	**2288**	**101.1**	96.5-106	12280	9.4	11	190.3 (182-198)
		1.5	4.3	4.1	5.3	12.2	15.0	12.4	51.0	76.8	97.9	211.1	279.3	439.0	675.4	1168.5	1803.5	3518.2							

Appendix 3.Childhood cancer, Western Australia, 2008 (WHO International Classification, version 3)

	Males								Females								All							
	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%	0	1-4	5-9	10-14	**Total**	**ASR**	95%c.i.	TD%
I. LEUKAEMIAS, MYELOPROLIFERATIVE AND MYELODYSPLASTIC DISEASES																								
All		1 1.7	2 2.8	7 9.2	**10**	**4.1**	1.5-6.7	100		3 5.4	2 3.0	3 4.3	**8**	**3.9**	1.2-6.6	100		4 3.5	4 2.9	10 6.8	**18**	**4.0**	2.1-5.9	100
Lymphoid leukaemia		1 1.7	2 2.8	3 4.0	**6**	**2.6**	0.5-4.7	100		3 5.4	1 1.5		**4**	**2.2**	0.0-4.3	100		4 3.5	3 2.2	3 2.1	**10**	**2.4**	0.9-3.9	100
Acute myeloid leukaemia				4 5.3	**4**	**1.5**	0.0-3.0	100			1 1.5	3 4.3	**4**	**1.7**	0.0-3.4	100			1 0.7	7 4.8	**8**	**1.6**	0.5-2.8	100
Chronic MPDs					**0**								**0**								**0**			
MDS & other MPDs					**0**								**0**								**0**			
Unspecified/other leukaemia					**0**								**0**								**0**			
II. LYMPHOMAS																								
All	1 6.6	1 1.7	3 4.2	2 2.6	**7**	**3.2**	0.8-5.5	100				2 2.8	**2**	**0.8**	0 - 2.0	100	1 3.4	1 0.9	3 2.2	4 2.7	**9**	**2.0**	0.7-3.4	100
Hodgkin lymphoma					**0**								**0**								**0**			
Non-Hodgkin lymphoma exc Burki	1 6.6		1 1.4	2 2.6	**4**	**1.7**	0.0-3.4	100				1 1.4	**1**	**0.4**	0 - 1.2	100	1 3.4		1 0.7	3 2.1	**5**	**1.1**	0.1-2.1	100
Burkitt lymphoma		1 1.7	2 2.8		**3**	**1.4**	0 - 3.1	100				1 1.4	**1**	**0.4**	0 - 1.2	100		1 0.9	2 1.4	1 0.7	**4**	**0.9**	0.0-1.9	100
Misc. lymphoreticular neoplasms					**0**								**0**								**0**			
Unspecified lymphoma					**0**								**0**								**0**			
III. CNS AND INTRACRANIAL/SPINAL																								
All		2 3.4	1 1.4	2 2.6	**5**	**2.3**	0.3-4.3	60			1 1.5	1 1.4	**2**	**0.9**	0 - 2.1	0		2 1.8	2 1.4	3 2.1	**7**	**1.6**	0.4-2.8	43
Ependymoma/choroid plexus					**0**								**0**								**0**			
Astrocytoma		1 1.7	1 1.4		**2**	**1.0**	0 - 2.3	0					**0**					1 0.9	1 0.7		**2**	**0.5**	0 - 1.2	0
Embryonal tumours		1 1.7		1 1.3	**2**	**0.9**	0 - 2.2	100					**0**					1 0.9		1 0.7	**2**	**0.5**	0 - 1.1	100
Other gliomas					**0**						1 1.5	1 1.4	**2**	**0.9**	0 - 2.1	0			1 0.7	1 0.7	**2**	**0.4**	0 - 1.0	0
Other intracranial/spinal				1 1.3	**1**	**0.4**	0 - 1.1	100					**0**							1 0.7	**1**	**0.2**	0 - 0.6	100
Unspecified					**0**								**0**								**0**			

Appendix 3.Childhood cancer, Western Australia, 2008 (WHO International Classification, version 3)

	Males								Females								All							
	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%	0	1-4	5-9	10-14	**Total**	**ASR**	95%c.i.	TD%
IV. NEUROBLASTOMA & PERIPHERAL NERVOUS SYSTEM TUMOURS																								
All	2	1	1		**4**	**2.0**	0.0-4.0	100	3	1			**4**	**2.2**	0.0-4.3	75	5	2	1		**8**	**2.1**	0.6-3.5	88
	13.2	1.7	1.4						20.9	1.8							16.9	1.8	0.7					
Neuroblastoma/ganglioneurobl.	2	1	1		**4**	**2.0**	0.0-4.0	100	3	1			**4**	**2.2**	0.0-4.3	75	5	2	1		**8**	**2.1**	0.6-3.5	88
	13.2	1.7	1.4						20.9	1.8							16.9	1.8	0.7					
Other					**0**								**0**								**0**			
V. RETINOBLASTOMA																								
All		1			**1**	**0.5**	0 - 1.6	100					**0**					1			**1**	**0.3**	0 - 0.8	100
		1.7																0.9						
VI. RENAL TUMOURS																								
All		1	1		**2**	**1.0**	0 - 2.3	100		1			**1**	**0.6**	0 - 1.7	100		2	1		**3**	**0.8**	0 - 1.7	100
		1.7	1.4							1.8								1.8	0.7					
Nephroblastoma/oth non-epithel.		1	1		**2**	**1.0**	0 - 2.3	100		1			**1**	**0.6**	0 - 1.7	100		2	1		**3**	**0.8**	0 - 1.7	100
		1.7	1.4							1.8								1.8	0.7					
Renal carcinoma					**0**								**0**								**0**			
Unspecified					**0**								**0**								**0**			
VII. HEPATIC TUMOURS																								
All					**0**								**0**								**0**			
Hepatoblastoma					**0**								**0**								**0**			
Hepatic carcinoma					**0**								**0**								**0**			
Unspecified					**0**								**0**								**0**			
VIII. BONE																								
All				2	**2**	**0.8**	0 - 1.8	100			1	3	**4**	**1.7**	0.0-3.4	100			1	5	**6**	**1.2**	0.2-2.2	100
				2.6							1.5	4.3							0.7	3.4				
Osteosarcoma				2	**2**	**0.8**	0 - 1.8	100			1	3	**4**	**1.7**	0.0-3.4	100			1	5	**6**	**1.2**	0.2-2.2	100
				2.6							1.5	4.3							0.7	3.4				
Chondrosarcoma					**0**								**0**								**0**			
Ewing & related sarcoma					**0**								**0**								**0**			
Other specified					**0**								**0**								**0**			
Unspecified					**0**								**0**								**0**			

Appendix 3.Childhood cancer, Western Australia, 2008 (WHO International Classification, version 3)

	Males								Females								All							
	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%	0	1-4	5-9	10-14	**Total**	**ASR**	95%c.i.	TD%
IX. SOFT TISSUE SARCOMA																								
All			1 1.4	1 1.3	**2**	**0.8**	0 - 2.0	100				1 1.4	**1**	**0.4**	0 - 1.2	100			1 0.7	2 1.4	**3**	**0.6**	0 - 1.3	100
Rhabdomyosarcoma			1 1.4		**1**	**0.5**	0 - 1.3	100					**0**						1 0.7		**1**	**0.2**	0 - 0.7	100
Fibrosarcoma/Neurofibrosarc.				1 1.3	**1**	**0.4**	0 - 1.1	100					**0**							1 0.7	**1**	**0.2**	0 - 0.6	100
Kaposi sarcoma					**0**								**0**								**0**			
Other specified					**0**							1 1.4	**1**	**0.4**	0 - 1.2	100				1 0.7	**1**	**0.2**	0 - 0.6	100
Unspecified					**0**								**0**								**0**			
X. GONADAL AND GERM CELL																								
All		1 1.7			**1**	**0.5**	0 - 1.6	100				1 1.4	**1**	**0.4**	0 - 1.2	100		1 0.9		1 0.7	**2**	**0.5**	0 - 1.1	100
Intracranial/spinal					**0**								**0**								**0**			
Other/unspecified non-gonadal					**0**								**0**								**0**			
Gonadal germ cell		1 1.7			**1**	**0.5**	0 - 1.6	100				1 1.4	**1**	**0.4**	0 - 1.2	100		1 0.9		1 0.7	**2**	**0.5**	0 - 1.1	100
Gonadal carcinoma					**0**								**0**								**0**			
Other and unspecified					**0**								**0**								**0**			
XI. OTHER EPITHELIAL / MELANOMA																								
All				1 1.3	**1**	**0.4**	0 - 1.1	100	1 7.0				**1**	**0.5**	0 - 1.6	100	1 3.4			1 0.7	**2**	**0.5**	0 - 1.1	100
Adrenocortical carcinoma					**0**								**0**								**0**			
Thyroid carcinoma					**0**								**0**								**0**			
Nasopharyngeal carcinoma				1 1.3	**1**	**0.4**	0 - 1.1	100					**0**							1 0.7	**1**	**0.2**	0 - 0.6	100
Malignant melanoma					**0**								**0**								**0**			
Skin carcinomas					**0**								**0**								**0**			
Other/unspecified carcinoma					**0**				1 7.0				**1**	**0.5**	0 - 1.6	100	1 3.4				**1**	**0.3**	0 - 0.8	100

Appendix 3.Childhood cancer, Western Australia, 2008 (WHO International Classification, version 3)

	Males								Females								All							
	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%	0	1-4	5-9	10-14	**Total**	**ASR**	95%c.i.	TD%
XII. OTHER																								
All	1				**1**	**0.5**	0 - 1.5	0					**0**				1				**1**	**0.3**	0 - 0.8	0
	6.6																3.4							
Other specified malignancy					**0**								**0**								**0**			
Other unspecified malignancy	1				**1**	**0.5**	0 - 1.5	0					**0**				1				**1**	**0.3**	0 - 0.8	0
	6.6																3.4							
Total																								
	4	8	9	15	**36**	**16.1**	10.8-21.4	92	4	5	4	11	**24**	**11.4**	6.8-16.0	88	8	13	13	26	**60**	**13.8**	10.3-17.4	90
	26.3	13.7	12.6	19.8					27.8	9.1	5.9	15.7					27.0	11.5	9.4	17.8				

Appendix 3D. Cancer incidence, Western Australia, 2008: Leading types by sex and geographic area

CHS Kimberley Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**17**	25.8	**106.3**	55.0-158	7
Lung	**7**	10.6	**44.1**	10.8-77.3	14
Lip, gum & mouth	**4**	6.1	**23.9**	0 - 48.1	51
Tongue	**4**	6.1	**21.0**	0 - 42.4	66
Melanoma (skin)	**4**	6.1	**23.1**	0 - 46.7	54
Unknown primary	**4**	6.1	**30.0**	0.6-59.3	86
Lymphoma	**4**	6.1	**21.9**	0.1-43.8	43
Lymphoma NOS	**0**				
Hodgkin lymphoma	**2**	3.0	**12.7**	0 - 30.4	66
NHL	**2**	3.0	**9.2**	0 - 22.0	118
Colorectal	**3**	4.5	**16.6**	0 - 36.2	110
Colon	**2**	3.0	**12.3**	0 - 29.9	182
Rectum	**1**	1.5	**4.4**	0 - 12.9	276
Pharynx	**3**	4.5	**18.8**	0 - 40.6	31
Kidney	**3**	4.5	**18.8**	0 - 40.5	32
All cancers	**66**	100.0	**401.1**	303-500	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**9**	20.9	**67.8**	20.4-115	12
Melanoma (skin)	**7**	16.3	**51.3**	10.7-91.8	14
Leukaemia	**4**	9.3	**31.4**	0 - 63.3	26
Leukaemia NOS	**0**				
Lymphoid leukaemia	**2**	4.7	**12.8**	0 - 31.0	137
Myeloid leukaemia	**2**	4.7	**18.6**	0 - 44.8	32
Leukaemia, other	**0**				
Lung	**3**	7.0	**19.4**	0 - 41.2	189
Kidney	**3**	7.0	**19.1**	0 - 41.2	50
Thyroid gland	**3**	7.0	**17.1**	0 - 36.4	50
Unknown primary	**3**	7.0	**32.4**	0 - 69.0	27
Colorectal	**2**	4.7	**12.9**	0 - 30.9	136
Colon	**2**	4.7	**12.9**	0 - 30.9	136
Rectum	**0**				
Gallbladder / bile ducts	**2**	4.7	**19.8**	0 - 47.5	34
Lymphoma	**2**	4.7	**10.9**	0 - 25.9	127
All cancers	**43**	100.0	**319.6**	220-419	3

CHS Pilbara Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**15**	25.4	**80.1**	34.4-126	9
Melanoma (skin)	**8**	13.6	**39.2**	7.1-71.2	16
Colorectal	**6**	10.2	**39.0**	4.8-73.2	17
Colon	**5**	8.5	**36.3**	2.5-70.2	18
Rectum	**1**	1.7	**2.6**	0 - 7.8	379
Stomach	**3**	5.1	**10.6**	0 - 23.2	85
Lung	**3**	5.1	**31.4**	0 - 67.2	33
Lip, gum & mouth	**2**	3.4	**5.6**	0 - 13.3	171
Oesophagus	**2**	3.4	**13.3**	0 - 34.9	35
Pancreas	**2**	3.4	**8.2**	0 - 20.1	98
Testis	**2**	3.4	**5.7**	0 - 13.8	248
Kidney	**2**	3.4	**5.9**	0 - 14.0	137
Unknown primary	**2**	3.4	**12.0**	0 - 31.1	57
All cancers	**59**	100.0	**301.1**	212-390	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**8**	25.0	**51.8**	7.2-96.5	45
Melanoma (skin)	**3**	9.4	**12.7**	0 - 27.0	97
Thyroid gland	**3**	9.4	**13.9**	0 - 29.7	64
Leukaemia	**3**	9.4	**28.5**	0 - 68.5	18
Leukaemia NOS	**0**				
Lymphoid leukaemia	**0**				
Myeloid leukaemia	**3**	9.4	**28.5**	0 - 68.5	18
Leukaemia, other	**0**				
Lung	**2**	6.3	**33.2**	0 - 79.8	14
Uterus	**2**	6.3	**7.6**	0 - 18.2	158
Ovary	**2**	6.3	**7.2**	0 - 17.5	148
Unknown primary	**2**	6.3	**22.3**	0 - 58.0	226
Lymphoma	**2**	6.3	**14.9**	0 - 36.3	66
Lymphoma NOS	**0**				
Hodgkin lymphoma	**1**	3.1	**5.3**	0 - 15.6	305
NHL	**1**	3.1	**9.6**	0 - 28.4	84
All cancers	**32**	100.0	**226.8**	128-325	4

CHS Midwest Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**46**	24.5	**86.2**	60.7-112	10
Colorectal	**30**	16.0	**55.1**	34.8-75.5	17
Colon	**18**	9.6	**30.6**	15.8-45.3	36
Rectum	**12**	6.4	**24.6**	10.5-38.7	32
Lung	**21**	11.2	**41.0**	23.2-58.9	19
Melanoma (skin)	**19**	10.1	**41.1**	22.5-59.7	21
Kidney	**8**	4.3	**15.4**	4.5-26.2	54
Bladder & urinary tract	**8**	4.3	**16.7**	5.0-28.4	51
Lymphoma	**7**	3.7	**14.2**	3.5-24.9	75
Lymphoma NOS	**0**				
Hodgkin lymphoma	**1**	0.5	**1.3**	0 - 3.9	*
NHL	**6**	3.2	**12.9**	2.5-23.2	75
Lip, gum & mouth	**5**	2.7	**9.1**	0.8-17.4	145
Pharynx	**5**	2.7	**8.6**	0.8-16.4	115
Oesophagus	**5**	2.7	**9.8**	0.9-18.7	93
Testis	**4**	2.1	**13.2**	0 - 26.6	105
Unknown primary	**4**	2.1	**7.7**	0.2-15.2	70
All cancers	**188**	100.0	**370.8**	316-425	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**41**	33.1	**99.3**	68.5-130	9
Colorectal	**16**	12.9	**32.1**	15.6-48.7	31
Colon	**14**	11.3	**27.1**	12.1-42.1	40
Rectum	**2**	1.6	**5.0**	0 - 12.0	148
Melanoma (skin)	**12**	9.7	**28.9**	11.7-46.1	26
Lung	**8**	6.5	**17.9**	5.4-30.4	34
Uterus	**6**	4.8	**15.1**	3.0-27.2	49
Cervix	**4**	3.2	**10.4**	0.2-20.6	111
Unknown primary	**4**	3.2	**5.0**	0.1-10.0	*
Pharynx	**3**	2.4	**7.1**	0 - 15.3	95
Pancreas	**3**	2.4	**5.6**	0 - 12.2	181
Bladder & urinary tract	**3**	2.4	**7.5**	0 - 16.0	87
Thyroid gland	**3**	2.4	**11.0**	0 - 23.8	129
All cancers	**124**	100.0	**291.4**	238-345	3

Appendix 3D. Cancer incidence, Western Australia, 2008: Leading types by sex and geographic area

CHS Wheatbelt Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**90**	36.4	**124.3**	98.3-150	6
Colorectal	**31**	12.6	**41.1**	26.3-56.0	19
Colon	**18**	7.3	**23.2**	12.1-34.2	35
Rectum	**13**	5.3	**18.0**	8.1-27.9	40
Lung	**26**	10.5	**36.2**	22.1-50.4	26
Melanoma (skin)	**24**	9.7	**36.8**	21.8-51.9	24
Kidney	**13**	5.3	**20.1**	8.0-32.3	35
Lymphoma	**7**	2.8	**12.4**	2.0-22.7	73
Lymphoma NOS	**0**				
Hodgkin lymphoma	**2**	0.8	**4.9**	0 - 12.9	405
NHL	**5**	2.0	**7.5**	0.9-14.1	89
Pancreas	**6**	2.4	**7.5**	1.4-13.7	98
Unknown primary	**6**	2.4	**7.7**	1.4-13.9	147
Lip, gum & mouth	**5**	2.0	**9.2**	0.9-17.6	89
Oesophagus	**5**	2.0	**7.4**	0.9-14.0	118
Bladder & urinary tract	**4**	1.6	**3.6**	0.1-7.1	*
Myelodysplastic diseases	**4**	1.6	**4.9**	0 - 9.9	599
All cancers	**247**	100.0	**352.8**	307-398	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**44**	25.7	**71.3**	49.1-93.4	13
Colorectal	**23**	13.5	**38.5**	21.2-55.7	22
Colon	**19**	11.1	**31.4**	15.8-47.1	25
Rectum	**3**	1.8	**5.3**	0 - 11.8	262
Melanoma (skin)	**20**	11.7	**40.1**	20.7-59.5	30
Lung	**18**	10.5	**27.0**	14.0-40.1	33
Pancreas	**8**	4.7	**9.5**	2.3-16.7	115
Uterus	**7**	4.1	**10.2**	1.8-18.6	122
Ovary	**7**	4.1	**11.3**	2.9-19.8	46
Unknown primary	**7**	4.1	**10.7**	2.2-19.2	71
Lymphoma	**5**	2.9	**6.9**	0.6-13.3	127
Lymphoma NOS	**0**				
Hodgkin lymphoma	**2**	1.2	**2.5**	0 - 6.1	459
NHL	**3**	1.8	**4.5**	0 - 9.7	174
Cervix	**4**	2.3	**7.4**	0.0-14.7	122
Bladder & urinary tract	**4**	2.3	**4.5**	0 - 9.1	234
Myeloma	**4**	2.3	**7.6**	0.1-15.1	75
All cancers	**171**	100.0	**275.5**	231-320	4

CHS Goldfields Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**37**	29.6	**111.6**	75.3-148	7
Colorectal	**19**	15.2	**53.7**	29.2-78.2	19
Colon	**16**	12.8	**44.8**	22.6-66.9	21
Rectum	**3**	2.4	**8.9**	0 - 19.4	167
Melanoma (skin)	**14**	11.2	**41.6**	19.6-63.6	19
Lung	**9**	7.2	**27.4**	9.2-45.5	23
Lymphoma	**7**	5.6	**21.8**	5.4-38.2	54
Lymphoma NOS	**2**	1.6	**6.9**	0 - 16.7	203
Hodgkin lymphoma	**1**	0.8	**3.0**	0 - 8.9	533
NHL	**4**	3.2	**12.0**	0.2-23.7	85
Tongue	**4**	3.2	**10.5**	0.1-20.9	96
Stomach	**4**	3.2	**12.1**	0.1-24.2	59
Unknown primary	**4**	3.2	**11.5**	0.1-22.9	94
Bladder & urinary tract	**3**	2.4	**9.3**	0 - 19.9	65
Leukaemia	**3**	2.4	**8.6**	0 - 18.4	90
All cancers	**125**	100.0	**372.0**	306-437	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**30**	37.0	**103.5**	65.6-141	9
Colorectal	**14**	17.3	**47.9**	21.9-73.9	18
Colon	**11**	13.6	**38.9**	15.2-62.6	19
Rectum	**3**	3.7	**9.0**	0 - 19.8	184
Lung	**8**	9.9	**31.0**	9.1-53.0	21
Melanoma (skin)	**6**	7.4	**18.9**	3.5-34.2	59
Uterus	**4**	4.9	**13.8**	0.1-27.4	67
Unknown primary	**4**	4.9	**12.2**	0 - 24.6	124
Pancreas	**2**	2.5	**6.9**	0 - 16.8	94
Ovary	**2**	2.5	**7.4**	0 - 17.8	69
Kidney	**2**	2.5	**7.5**	0 - 17.9	90
All cancers	**81**	100.0	**281.4**	219-344	3

CHS Great Southern Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**61**	32.3	**113.1**	83.8-142	7
Melanoma (skin)	**29**	15.3	**60.4**	37.6-83.2	15
Colorectal	**26**	13.8	**49.0**	29.4-68.7	16
Colon	**19**	10.1	**35.3**	18.8-51.8	21
Rectum	**7**	3.7	**13.7**	3.0-24.4	68
Lung	**12**	6.3	**23.7**	9.7-37.8	36
Lymphoma	**10**	5.3	**22.2**	7.0-37.4	34
Lymphoma NOS	**0**				
Hodgkin lymphoma	**1**	0.5	**5.2**	0 - 15.3	309
NHL	**9**	4.8	**17.0**	5.7-28.3	38
Leukaemia	**6**	3.2	**10.5**	1.9-19.0	69
Leukaemia NOS	**0**				
Lymphoid leukaemia	**5**	2.6	**9.2**	1.0-17.5	69
Myeloid leukaemia	**1**	0.5	**1.2**	0 - 3.6	*
Leukaemia, other	**0**				
Kidney	**5**	2.6	**12.0**	1.4-22.7	66
Bladder & urinary tract	**5**	2.6	**9.1**	0.9-17.4	96
All cancers	**189**	100.0	**376.8**	320-433	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**39**	30.5	**82.4**	55.3-110	11
Colorectal	**21**	16.4	**38.9**	21.0-56.9	24
Colon	**15**	11.7	**28.4**	12.9-43.9	31
Rectum	**5**	3.9	**9.3**	0.5-18.1	99
Melanoma (skin)	**15**	11.7	**34.0**	14.7-53.3	32
Lung	**11**	8.6	**22.9**	9.0-36.8	26
Uterus	**7**	5.5	**13.0**	2.7-23.3	56
Unknown primary	**7**	5.5	**13.0**	2.7-23.3	65
Pancreas	**3**	2.3	**5.0**	0 - 11.1	116
Ovary	**3**	2.3	**6.5**	0 - 14.0	100
Lymphoma	**3**	2.3	**11.6**	0 - 25.7	119
Lymphoma NOS	**0**				
Hodgkin lymphoma	**2**	1.6	**8.9**	0 - 22.0	162
NHL	**1**	0.8	**2.7**	0 - 7.9	448
Leukaemia	**3**	2.3	**7.2**	0 - 16.4	156
All cancers	**128**	100.0	**267.5**	217-318	4

Appendix 3D. Cancer incidence, Western Australia, 2008: Leading types by sex and geographic area

CHS South West Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**116**	27.2	**93.3**	75.9-111	8
Melanoma (skin)	**60**	14.1	**49.9**	37.0-62.8	20
Colorectal	**59**	13.8	**48.2**	35.5-61.0	16
Colon	**32**	7.5	**24.7**	15.8-33.6	31
Rectum	**27**	6.3	**23.5**	14.4-32.7	33
Lung	**41**	9.6	**29.9**	20.4-39.3	28
Lymphoma	**16**	3.8	**12.8**	6.4-19.2	65
Lymphoma NOS	**0**				
Hodgkin lymphoma	**1**	0.2	**0.9**	0 - 2.6	463
NHL	**15**	3.5	**11.9**	5.7-18.1	76
Pancreas	**14**	3.3	**8.6**	3.8-13.4	109
Kidney	**13**	3.1	**10.9**	4.9-16.9	68
Bladder & urinary tract	**11**	2.6	**6.7**	2.6-10.8	341
Leukaemia	**11**	2.6	**8.8**	3.4-14.2	94
Leukaemia NOS	**0**				
Lymphoid leukaemia	**9**	2.1	**6.9**	2.2-11.5	112
Myeloid leukaemia	**2**	0.5	**1.9**	0 - 4.6	568
Leukaemia, other	**0**				
Stomach	**9**	2.1	**6.5**	2.0-10.9	177
Lip, gum & mouth	**7**	1.6	**5.3**	1.2-9.3	208
Pharynx	**7**	1.6	**5.8**	1.5-10.1	116
Mesothelioma	**6**	1.4	**5.0**	1.0-9.0	110
Unknown primary	**6**	1.4	**4.0**	0.7-7.3	302
Oesophagus	**4**	0.9	**3.0**	0 - 6.0	246
Liver	**4**	0.9	**3.5**	0.1-7.0	164
Larynx	**4**	0.9	**3.3**	0 - 6.6	216
Breast	**4**	0.9	**2.4**	0 - 4.9	618
Testis	**4**	0.9	**5.2**	0.0-10.4	290
Brain	**4**	0.9	**3.3**	0.0-6.6	214
Myeloma	**4**	0.9	**3.0**	0 - 6.1	361
All cancers	**426**	100.0	**340.5**	307-374	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**85**	29.0	**76.3**	59.7-93.0	11
Colorectal	**35**	11.9	**25.8**	16.1-35.5	44
Colon	**25**	8.5	**19.3**	10.7-27.9	57
Rectum	**10**	3.4	**6.5**	2.1-10.9	200
Melanoma (skin)	**35**	11.9	**28.5**	18.7-38.4	31
Lung	**21**	7.2	**16.8**	9.3-24.2	48
Lymphoma	**15**	5.1	**12.6**	5.7-19.6	66
Lymphoma NOS	**0**				
Hodgkin lymphoma	**0**				
NHL	**15**	5.1	**12.6**	5.7-19.6	66
Uterus	**13**	4.4	**11.1**	4.9-17.2	63
Pancreas	**11**	3.8	**7.8**	3.0-12.7	108
Gallbladder / bile ducts	**9**	3.1	**4.8**	1.4-8.3	264
Ovary	**7**	2.4	**6.5**	1.6-11.3	141
Brain	**7**	2.4	**6.1**	0.4-11.8	290
Unknown primary	**7**	2.4	**2.8**	0.7-4.9	*
Cervix	**6**	2.0	**6.0**	1.2-10.9	164
Leukaemia	**5**	1.7	**4.0**	0.4-7.7	145
Leukaemia NOS	**0**				
Lymphoid leukaemia	**4**	1.4	**3.0**	0 - 6.2	189
Myeloid leukaemia	**1**	0.3	**1.0**	0 - 2.9	619
Leukaemia, other	**0**				
Lip, gum & mouth	**4**	1.4	**2.7**	0 - 5.4	453
Stomach	**4**	1.4	**3.5**	0 - 7.0	354
Kidney	**4**	1.4	**3.8**	0 - 8.8	997
Thyroid gland	**4**	1.4	**3.4**	0 - 6.9	300
Bladder & urinary tract	**3**	1.0	**1.9**	0 - 4.2	798
Bone	**2**	0.7	**2.7**	0 - 6.6	454
All cancers	**293**	100.0	**238.8**	210-268	4

WA Country - all

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**382**	29.4	**103.7**	93.2-114	8
Colorectal	**174**	13.4	**46.3**	39.3-53.3	18
Colon	**110**	8.5	**28.5**	23.0-33.9	29
Rectum	**64**	4.9	**17.9**	13.4-22.3	44
Melanoma (skin)	**158**	12.2	**43.9**	37.0-50.8	21
Lung	**119**	9.2	**32.0**	26.2-37.9	26
Lymphoma	**52**	4.0	**15.6**	11.2-20.1	58
Lymphoma NOS	**2**	0.2	**0.8**	0 - 2.0	1761
Hodgkin lymphoma	**8**	0.6	**3.0**	0.8-5.3	396
NHL	**42**	3.2	**11.8**	8.2-15.4	70
Kidney	**46**	3.5	**12.8**	9.0-16.5	58
Bladder & urinary tract	**32**	2.5	**7.9**	5.1-10.8	146
Unknown primary	**29**	2.2	**7.3**	4.6-10.0	144
Lip, gum & mouth	**28**	2.2	**7.8**	4.8-10.7	142
Leukaemia	**28**	2.2	**7.6**	4.7-10.5	107
Leukaemia NOS	**0**				
Lymphoid leukaemia	**17**	1.3	**4.5**	2.3-6.7	148
Myeloid leukaemia	**11**	0.8	**3.1**	1.2-5.0	385
Leukaemia, other	**0**				
Pancreas	**25**	1.9	**5.9**	3.5-8.3	145
Stomach	**23**	1.8	**5.8**	3.3-8.2	191
Pharynx	**19**	1.5	**5.2**	2.8-7.6	138
Oesophagus	**19**	1.5	**5.0**	2.7-7.3	167
Testis	**15**	1.2	**5.8**	2.8-8.8	234
Tongue	**13**	1.0	**3.7**	1.7-5.7	237
Liver	**13**	1.0	**3.7**	1.7-5.6	176
Larynx	**13**	1.0	**3.6**	1.6-5.6	177
Brain	**13**	1.0	**3.8**	1.7-5.9	253
Skin (NMSC exc. SCC/BCC)	**12**	0.9	**3.5**	1.5-5.6	230
Mesothelioma	**12**	0.9	**3.6**	1.5-5.6	172
All cancers	**1300**	100.0	**356.3**	337-376	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**256**	29.4	**79.3**	69.3-89.2	11
Colorectal	**112**	12.8	**30.7**	24.6-36.7	30
Colon	**87**	10.0	**24.1**	18.7-29.5	37
Rectum	**23**	2.6	**6.0**	3.4-8.6	193
Melanoma (skin)	**98**	11.2	**30.3**	24.1-36.5	31
Lung	**71**	8.1	**21.0**	16.0-26.1	34
Uterus	**40**	4.6	**12.0**	8.2-15.8	68
Unknown primary	**34**	3.9	**8.0**	5.1-10.9	139
Lymphoma	**30**	3.4	**10.1**	6.2-13.9	99
Lymphoma NOS	**0**				
Hodgkin lymphoma	**6**	0.7	**2.4**	0.3-4.4	570
NHL	**24**	2.8	**7.7**	4.4-11.0	119
Pancreas	**28**	3.2	**7.2**	4.4-10.0	120
Ovary	**24**	2.8	**8.0**	4.7-11.2	88
Leukaemia	**19**	2.2	**6.4**	3.3-9.4	132
Leukaemia NOS	**0**				
Lymphoid leukaemia	**9**	1.0	**3.0**	0.9-5.2	292
Myeloid leukaemia	**10**	1.1	**3.4**	1.2-5.5	238
Leukaemia, other	**0**				
Cervix	**17**	1.9	**5.8**	3.0-8.5	177
Thyroid gland	**17**	1.9	**5.5**	2.8-8.3	191
Kidney	**13**	1.5	**3.9**	1.6-6.3	261
Bladder & urinary tract	**13**	1.5	**3.2**	1.3-5.0	276
Gallbladder / bile ducts	**12**	1.4	**2.9**	1.1-4.6	307
Brain	**11**	1.3	**3.3**	1.1-5.5	361
Myeloma	**10**	1.1	**3.0**	1.0-5.0	244
Lip, gum & mouth	**9**	1.0	**2.7**	0.8-4.6	291
Stomach	**9**	1.0	**2.9**	1.0-4.8	248
Pharynx	**6**	0.7	**2.0**	0.4-3.5	424
All cancers	**872**	100.0	**260.2**	242-278	4

Appendix 3D. Cancer incidence, Western Australia, 2008: Leading types by sex and geographic area

North Metro AHS

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**833**	34.3	**130.0**	121-139	6
Colorectal	**284**	11.7	**43.4**	38.2-48.6	19
Colon	**169**	7.0	**25.5**	21.5-29.4	34
Rectum	**113**	4.7	**17.7**	14.3-21.0	42
Melanoma (skin)	**256**	10.5	**40.2**	35.1-45.3	23
Lung	**214**	8.8	**31.1**	26.8-35.5	27
Lymphoma	**102**	4.2	**17.7**	14.1-21.2	48
Lymphoma NOS	**1**	0.0	**0.2**	0 - 0.6	3151
Hodgkin lymphoma	**10**	0.4	**2.0**	0.7-3.2	586
NHL	**91**	3.7	**15.5**	12.2-18.8	53
Leukaemia	**57**	2.3	**9.9**	7.2-12.7	109
Leukaemia NOS	**1**	0.0	**0.2**	0 - 0.5	5920
Lymphoid leukaemia	**26**	1.1	**4.5**	2.6-6.3	257
Myeloid leukaemia	**30**	1.2	**5.3**	3.3-7.3	195
Leukaemia, other	**0**				
Kidney	**54**	2.2	**8.9**	6.4-11.3	92
Bladder & urinary tract	**54**	2.2	**7.6**	5.5-9.7	111
Unknown primary	**53**	2.2	**7.5**	5.4-9.6	128
Stomach	**49**	2.0	**6.6**	4.7-8.5	156
Lip, gum & mouth	**44**	1.8	**7.1**	4.9-9.2	120
Pancreas	**38**	1.6	**5.6**	3.8-7.4	162
Testis	**38**	1.6	**7.5**	5.1-9.9	161
Oesophagus	**36**	1.5	**5.2**	3.4-6.9	156
Brain	**35**	1.4	**6.0**	4.0-8.1	138
Mesothelioma	**33**	1.4	**4.8**	3.1-6.5	196
Myeloma	**32**	1.3	**4.8**	3.1-6.5	234
Pharynx	**24**	1.0	**3.9**	2.3-5.5	212
Liver	**23**	0.9	**3.5**	2.1-5.0	240
Skin (NMSC exc. SCC/BCC)	**23**	0.9	**3.5**	2.0-4.9	236
Thyroid gland	**23**	0.9	**3.9**	2.3-5.6	281
All cancers	**2427**	100.0	**378.3**	363-394	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**557**	30.0	**86.5**	79.0-93.9	11
Colorectal	**217**	11.7	**26.8**	23.0-30.7	33
Colon	**150**	8.1	**17.9**	14.8-21.1	51
Rectum	**67**	3.6	**8.9**	6.6-11.2	90
Melanoma (skin)	**171**	9.2	**26.4**	22.2-30.5	36
Lung	**158**	8.5	**20.4**	17.0-23.8	42
Lymphoma	**84**	4.5	**11.9**	9.2-14.7	80
Lymphoma NOS	**0**				
Hodgkin lymphoma	**7**	0.4	**1.4**	0.3-2.4	887
NHL	**77**	4.2	**10.5**	8.0-13.0	88
Uterus	**69**	3.7	**10.3**	7.7-12.8	75
Thyroid gland	**66**	3.6	**11.7**	8.8-14.5	93
Ovary	**45**	2.4	**6.2**	4.3-8.2	137
Unknown primary	**44**	2.4	**4.4**	3.0-5.9	233
Leukaemia	**44**	2.4	**7.0**	4.6-9.4	153
Leukaemia NOS	**1**	0.1	**0.1**	0 - 0.2	*
Lymphoid leukaemia	**19**	1.0	**2.9**	1.3-4.5	425
Myeloid leukaemia	**24**	1.3	**4.0**	2.3-5.8	237
Leukaemia, other	**0**				
Cervix	**42**	2.3	**6.5**	4.4-8.6	149
Pancreas	**40**	2.2	**4.6**	3.0-6.2	200
Bladder & urinary tract	**35**	1.9	**3.6**	2.3-4.9	271
Kidney	**33**	1.8	**4.0**	2.5-5.5	250
Brain	**31**	1.7	**4.5**	2.8-6.2	169
Myeloma	**26**	1.4	**3.5**	2.1-4.9	212
Stomach	**23**	1.2	**2.3**	1.2-3.4	606
Lip, gum & mouth	**19**	1.0	**2.4**	1.2-3.6	407
Gallbladder / bile ducts	**16**	0.9	**1.5**	0.7-2.3	827
Skin (NMSC exc. SCC/BCC)	**15**	0.8	**1.7**	0.7-2.6	632
Oesophagus	**13**	0.7	**1.4**	0.6-2.3	624
All cancers	**1854**	100.0	**262.5**	250-275	4

South Metro AHS

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**748**	33.0	**122.5**	114-132	7
Colorectal	**265**	11.7	**43.3**	37.9-48.7	19
Colon	**170**	7.5	**27.2**	22.9-31.4	31
Rectum	**94**	4.1	**15.9**	12.6-19.2	46
Melanoma (skin)	**245**	10.8	**42.0**	36.6-47.5	22
Lung	**208**	9.2	**31.6**	27.2-36.1	27
Lymphoma	**85**	3.7	**16.4**	12.7-20.0	53
Lymphoma NOS	**3**	0.1	**0.6**	0 - 1.3	2873
Hodgkin lymphoma	**10**	0.4	**2.2**	0.8-3.6	442
NHL	**72**	3.2	**13.6**	10.2-16.9	61
Bladder & urinary tract	**70**	3.1	**10.2**	7.7-12.7	89
Unknown primary	**58**	2.6	**8.5**	6.2-10.9	140
Kidney	**56**	2.5	**9.2**	6.7-11.7	110
Stomach	**54**	2.4	**8.0**	5.8-10.2	119
Oesophagus	**51**	2.2	**7.3**	5.2-9.4	143
Leukaemia	**46**	2.0	**8.7**	5.9-11.4	142
Leukaemia NOS	**2**	0.1	**0.2**	0 - 0.5	*
Lymphoid leukaemia	**25**	1.1	**5.2**	3.0-7.4	230
Myeloid leukaemia	**19**	0.8	**3.3**	1.7-4.8	369
Leukaemia, other	**0**				
Pancreas	**43**	1.9	**6.4**	4.4-8.4	145
Mesothelioma	**43**	1.9	**6.6**	4.5-8.7	135
Lip, gum & mouth	**34**	1.5	**6.3**	4.2-8.5	135
Liver	**28**	1.2	**4.7**	2.9-6.5	198
Pharynx	**24**	1.1	**4.0**	2.4-5.6	201
Testis	**23**	1.0	**5.6**	3.2-7.9	250
Brain	**21**	0.9	**4.1**	2.2-5.9	171
Myeloma	**19**	0.8	**3.3**	1.8-4.8	265
Skin (NMSC exc. SCC/BCC)	**18**	0.8	**2.7**	1.4-4.0	420
Myelodysplastic diseases	**17**	0.7	**2.3**	1.1-3.4	499
All cancers	**2268**	100.0	**374.1**	358-390	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**519**	30.9	**88.6**	80.7-96.6	10
Colorectal	**197**	11.7	**26.7**	22.6-30.8	35
Colon	**130**	7.7	**17.3**	14.0-20.6	52
Rectum	**65**	3.9	**9.1**	6.6-11.5	112
Melanoma (skin)	**154**	9.2	**25.0**	20.8-29.1	36
Lung	**153**	9.1	**19.9**	16.5-23.4	49
Lymphoma	**62**	3.7	**9.2**	6.7-11.7	98
Lymphoma NOS	**1**	0.1	**0.2**	0 - 0.5	2504
Hodgkin lymphoma	**10**	0.6	**1.8**	0.6-3.1	595
NHL	**51**	3.0	**7.2**	5.0-9.4	123
Uterus	**58**	3.5	**8.9**	6.5-11.3	97
Thyroid gland	**56**	3.3	**11.7**	8.6-14.8	92
Pancreas	**42**	2.5	**5.7**	3.9-7.6	166
Ovary	**41**	2.4	**6.4**	4.4-8.5	127
Cervix	**39**	2.3	**7.9**	5.3-10.5	134
Unknown primary	**39**	2.3	**4.9**	3.2-6.6	197
Leukaemia	**35**	2.1	**6.2**	3.9-8.5	158
Leukaemia NOS	**2**	0.1	**0.2**	0 - 0.6	4827
Lymphoid leukaemia	**15**	0.9	**2.8**	1.3-4.3	300
Myeloid leukaemia	**18**	1.1	**3.2**	1.5-4.9	357
Leukaemia, other	**0**				
Bladder & urinary tract	**31**	1.8	**3.5**	2.1-4.8	274
Kidney	**30**	1.8	**4.9**	3.1-6.7	162
Stomach	**28**	1.7	**4.2**	2.5-5.9	254
Myeloma	**25**	1.5	**3.5**	2.0-5.0	219
Brain	**23**	1.4	**3.8**	2.1-5.5	226
Lip, gum & mouth	**19**	1.1	**2.7**	1.4-4.1	381
Liver	**16**	1.0	**2.5**	1.2-3.7	332
Gallbladder / bile ducts	**11**	0.7	**1.2**	0.4-2.0	1023
All cancers	**1679**	100.0	**263.1**	250-277	4

Appendix 3D. Cancer incidence, Western Australia, 2008: Leading types by sex and geographic area

WA Metro - all

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**1581**	33.7	**126.4**	120-133	6
Colorectal	**549**	11.7	**43.3**	39.6-47.0	19
Colon	**339**	7.2	**26.3**	23.4-29.2	32
Rectum	**207**	4.4	**16.8**	14.5-19.2	44
Melanoma (skin)	**501**	10.7	**41.0**	37.3-44.7	22
Lung	**422**	9.0	**31.4**	28.3-34.5	27
Lymphoma	**187**	4.0	**17.0**	14.5-19.6	50
Lymphoma NOS	**4**	0.1	**0.4**	0 - 0.8	3100
Hodgkin lymphoma	**20**	0.4	**2.1**	1.2-3.0	503
NHL	**163**	3.5	**14.6**	12.2-16.9	56
Bladder & urinary tract	**124**	2.6	**8.9**	7.3-10.5	99
Unknown primary	**111**	2.4	**8.0**	6.4-9.6	134
Kidney	**110**	2.3	**9.0**	7.3-10.8	100
Stomach	**103**	2.2	**7.2**	5.8-8.7	135
Leukaemia	**103**	2.2	**9.3**	7.4-11.3	123
Leukaemia NOS	**3**	0.1	**0.2**	0 - 0.4	*
Lymphoid leukaemia	**51**	1.1	**4.8**	3.4-6.2	243
Myeloid leukaemia	**49**	1.0	**4.3**	3.1-5.6	251
Leukaemia, other	**0**				
Oesophagus	**87**	1.9	**6.2**	4.9-7.6	150
Pancreas	**81**	1.7	**6.0**	4.6-7.3	153
Lip, gum & mouth	**78**	1.7	**6.7**	5.2-8.2	127
Mesothelioma	**76**	1.6	**5.7**	4.3-7.0	161
Testis	**61**	1.3	**6.6**	4.9-8.3	193
Brain	**56**	1.2	**5.1**	3.7-6.5	151
Liver	**51**	1.1	**4.1**	2.9-5.2	219
Myeloma	**51**	1.1	**4.0**	2.9-5.2	248
Pharynx	**48**	1.0	**4.0**	2.8-5.1	205
Skin (NMSC exc. SCC/BCC)	**41**	0.9	**3.1**	2.1-4.1	301
Thyroid gland	**39**	0.8	**3.7**	2.5-4.9	292
All cancers	**4695**	100.0	**376.4**	365-387	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**1076**	30.5	**87.5**	82.1-92.9	10
Colorectal	**414**	11.7	**26.7**	23.9-29.6	34
Colon	**280**	7.9	**17.6**	15.4-19.9	51
Rectum	**132**	3.7	**8.9**	7.3-10.6	100
Melanoma (skin)	**325**	9.2	**25.8**	22.8-28.7	36
Lung	**311**	8.8	**20.2**	17.8-22.7	45
Lymphoma	**146**	4.1	**10.6**	8.8-12.5	87
Lymphoma NOS	**1**	0.0	**0.1**	0 - 0.2	5114
Hodgkin lymphoma	**17**	0.5	**1.6**	0.8-2.4	712
NHL	**128**	3.6	**8.9**	7.3-10.6	101
Uterus	**127**	3.6	**9.7**	7.9-11.4	84
Thyroid gland	**122**	3.5	**11.7**	9.6-13.8	92
Ovary	**86**	2.4	**6.3**	4.9-7.8	132
Unknown primary	**83**	2.3	**4.6**	3.5-5.8	214
Pancreas	**82**	2.3	**5.1**	3.9-6.3	182
Cervix	**81**	2.3	**7.1**	5.5-8.8	142
Leukaemia	**79**	2.2	**6.6**	4.9-8.2	155
Leukaemia NOS	**3**	0.1	**0.1**	0 - 0.3	*
Lymphoid leukaemia	**34**	1.0	**2.8**	1.7-3.9	355
Myeloid leukaemia	**42**	1.2	**3.6**	2.4-4.8	283
Leukaemia, other	**0**				
Bladder & urinary tract	**66**	1.9	**3.5**	2.6-4.5	273
Kidney	**63**	1.8	**4.4**	3.2-5.6	199
Brain	**54**	1.5	**4.2**	3.0-5.4	192
Stomach	**51**	1.4	**3.2**	2.2-4.2	368
Myeloma	**51**	1.4	**3.5**	2.5-4.6	215
Lip, gum & mouth	**38**	1.1	**2.6**	1.7-3.5	394
Gallbladder / bile ducts	**27**	0.8	**1.4**	0.8-2.0	905
Liver	**25**	0.7	**1.9**	1.1-2.7	369
Skin (NMSC exc. SCC/BCC)	**23**	0.7	**1.2**	0.7-1.8	993
All cancers	**3533**	100.0	**262.8**	254-272	4

All Western Australia

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**1963**	32.7	**121.3**	116-127	7
Colorectal	**723**	12.1	**44.0**	40.7-47.3	19
Colon	**449**	7.5	**26.8**	24.2-29.4	32
Rectum	**271**	4.5	**17.1**	15.0-19.1	44
Melanoma (skin)	**659**	11.0	**41.8**	38.5-45.1	22
Lung	**542**	9.0	**31.6**	28.9-34.4	27
Lymphoma	**239**	4.0	**16.6**	14.4-18.8	52
Lymphoma NOS	**6**	0.1	**0.5**	0.1-0.9	2629
Hodgkin lymphoma	**28**	0.5	**2.2**	1.4-3.1	483
NHL	**205**	3.4	**13.9**	11.9-15.8	59
Kidney	**156**	2.6	**9.9**	8.3-11.5	86
Bladder & urinary tract	**156**	2.6	**8.7**	7.3-10.1	107
Unknown primary	**140**	2.3	**7.8**	6.5-9.2	136
Leukaemia	**131**	2.2	**8.9**	7.3-10.6	119
Leukaemia NOS	**3**	0.1	**0.1**	0 - 0.3	*
Lymphoid leukaemia	**68**	1.1	**4.7**	3.5-5.9	212
Myeloid leukaemia	**60**	1.0	**4.1**	3.0-5.1	272
Leukaemia, other	**0**				
Stomach	**126**	2.1	**7.0**	5.7-8.2	145
Lip, gum & mouth	**106**	1.8	**6.9**	5.6-8.2	130
Oesophagus	**106**	1.8	**6.0**	4.8-7.1	153
Pancreas	**106**	1.8	**6.0**	4.8-7.1	151
Mesothelioma	**88**	1.5	**5.2**	4.1-6.3	163
Testis	**76**	1.3	**6.4**	4.9-7.9	202
Brain	**69**	1.2	**4.8**	3.6-6.0	166
Pharynx	**67**	1.1	**4.2**	3.2-5.3	185
Liver	**65**	1.1	**4.1**	3.1-5.1	202
Myeloma	**62**	1.0	**3.7**	2.8-4.7	273
Skin (NMSC exc. SCC/BCC)	**53**	0.9	**3.2**	2.3-4.1	281
Larynx	**48**	0.8	**3.0**	2.1-3.9	227
All cancers	**5997**	100.0	**372.1**	362-382	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**1337**	30.3	**86.1**	81.4-90.9	11
Colorectal	**526**	11.9	**27.6**	25.0-30.1	33
Colon	**367**	8.3	**19.0**	16.9-21.1	47
Rectum	**155**	3.5	**8.3**	6.9-9.7	111
Melanoma (skin)	**423**	9.6	**26.7**	24.0-29.4	35
Lung	**382**	8.7	**20.4**	18.2-22.6	42
Lymphoma	**176**	4.0	**10.5**	8.8-12.2	90
Lymphoma NOS	**1**	0.0	**0.1**	0 - 0.2	6337
Hodgkin lymphoma	**23**	0.5	**1.8**	1.0-2.5	677
NHL	**152**	3.4	**8.7**	7.2-10.2	105
Uterus	**167**	3.8	**10.1**	8.5-11.8	80
Thyroid gland	**139**	3.2	**10.4**	8.6-12.1	104
Unknown primary	**117**	2.7	**5.3**	4.3-6.4	192
Pancreas	**110**	2.5	**5.5**	4.4-6.7	165
Ovary	**110**	2.5	**6.7**	5.4-8.0	120
Cervix	**98**	2.2	**6.9**	5.5-8.3	148
Leukaemia	**98**	2.2	**6.6**	5.1-8.0	150
Leukaemia NOS	**3**	0.1	**0.1**	0 - 0.2	*
Lymphoid leukaemia	**43**	1.0	**2.9**	1.9-3.9	341
Myeloid leukaemia	**52**	1.2	**3.6**	2.5-4.6	274
Leukaemia, other	**0**				
Bladder & urinary tract	**79**	1.8	**3.4**	2.6-4.3	274
Kidney	**76**	1.7	**4.3**	3.3-5.4	209
Brain	**65**	1.5	**4.0**	3.0-5.1	212
Myeloma	**61**	1.4	**3.4**	2.5-4.3	221
Stomach	**60**	1.4	**3.1**	2.3-4.0	336
Lip, gum & mouth	**48**	1.1	**2.7**	1.9-3.5	362
Gallbladder / bile ducts	**39**	0.9	**1.7**	1.1-2.3	650
Liver	**29**	0.7	**1.7**	1.1-2.4	409
Skin (NMSC exc. SCC/BCC)	**27**	0.6	**1.2**	0.7-1.8	927
All cancers	**4411**	100.0	**262.7**	254-271	4

Appendix 3E. Cancer mortality, Western Australia, 2008: Leading types by sex and geographic area

CHS Kimberley Region

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**5**	27.8	**29.3**	3.1-55.5	25
Colorectal	**2**	11.1	**12.2**	0 - 29.7	41
Colon	**2**	11.1	**12.2**	0 - 29.7	41
Rectum	**0**				-
Tongue	**2**	11.1	**8.7**	0 - 20.8	102
Melanoma (skin)	**2**	11.1	**13.6**	0 - 32.4	86
Leukaemia	**2**	11.1	**16.3**	0 - 38.9	*
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**1**	5.6	**7.9**	0 - 23.2	*
Myeloid leukaemia	**1**	5.6	**8.5**	0 - 24.9	*
Leukaemia, other	**0**				-
Pharynx	**1**	5.6	**4.3**	0 - 12.7	233
Pancreas	**1**	5.6	**6.6**	0 - 19.6	122
Brain	**1**	5.6	**4.7**	0 - 14.0	254
Unknown primary	**1**	5.6	**4.4**	0 - 13.0	182
Lymphoma	**1**	5.6	**3.8**	0 - 11.4	313
All cancer deaths	**18**	100.0	**104.1**	54.5-154	9

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**2**	22.2	**10.7**	0 - 25.5	103
Breast	**2**	22.2	**17.6**	0 - 42.1	96
Unknown primary	**2**	22.2	**21.0**	0 - 50.1	53
Gallbladder / bile ducts	**1**	11.1	**11.4**	0 - 33.7	53
Pancreas	**1**	11.1	**4.3**	0 - 12.7	281
Ovary	**1**	11.1	**5.9**	0 - 17.5	136
All cancer deaths	**9**	100.0	**70.9**	22.4-119	15

CHS Pilbara Region

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**4**	26.7	**44.1**	0.8-87.3	33
Lip, gum & mouth	**2**	13.3	**8.2**	0 - 20.1	98
Stomach	**2**	13.3	**7.9**	0 - 19.5	109
Brain	**2**	13.3	**11.7**	0 - 30.6	57
Tongue	**1**	6.7	**10.7**	0 - 31.6	38
Oesophagus	**1**	6.7	**2.6**	0 - 7.8	379
Melanoma (skin)	**1**	6.7	**5.3**	0 - 15.6	152
Unknown primary	**1**	6.7	**9.4**	0 - 27.7	65
Leukaemia	**1**	6.7	**2.9**	0 - 8.7	273
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**0**				-
Myeloid leukaemia	**1**	6.7	**2.9**	0 - 8.7	273
Leukaemia, other	**0**				-
All cancer deaths	**15**	100.0	**102.8**	44.3-161	9

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**3**	25.0	**26.1**	0 - 62.6	132
Lung	**2**	16.7	**33.2**	0 - 79.8	14
Colorectal	**1**	8.3	**13.8**	0 - 40.9	44
Colon	**1**	8.3	**13.8**	0 - 40.9	44
Rectum	**0**				-
Lip, gum & mouth	**1**	8.3	**13.8**	0 - 40.9	44
Liver	**1**	8.3	**2.9**	0 - 8.7	408
Nervous system, periph/autc	**1**	8.3	**4.2**	0 - 12.3	385
Peritoneum/retro-p.	**1**	8.3	**9.6**	0 - 28.4	84
Ovary	**1**	8.3	**4.1**	0 - 12.0	296
Unknown primary	**1**	8.3	**17.9**	0 - 52.5	*
All cancer deaths	**12**	100.0	**125.6**	44.3-207	7

CHS Midwest Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**16**	27.1	**28.9**	14.4-43.4	31
Lung	**10**	16.9	**18.8**	6.9-30.7	46
Colorectal	**6**	10.2	**11.2**	1.9-20.4	129
Colon	**6**	10.2	**11.2**	1.9-20.4	129
Rectum	**0**				-
Oesophagus	**5**	8.5	**9.8**	0.9-18.7	93
Melanoma (skin)	**3**	5.1	**5.0**	0 - 11.0	500
Lip, gum & mouth	**2**	3.4	**4.1**	0 - 9.9	194
Pharynx	**2**	3.4	**3.3**	0 - 8.2	353
Pancreas	**2**	3.4	**4.0**	0 - 9.5	226
Unknown primary	**2**	3.4	**3.8**	0 - 9.1	139
Lymphoma	**2**	3.4	**4.3**	0 - 10.3	146
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**2**	3.4	**4.3**	0 - 10.3	146
Myeloma	**2**	3.4	**3.1**	0 - 7.7	477
All cancer deaths	**59**	100.0	**109.2**	80.7-138	9

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**9**	18.8	**19.5**	6.5-32.6	33
Breast	**8**	16.7	**17.5**	4.9-30.1	50
Colorectal	**6**	12.5	**12.4**	2.0-22.9	61
Colon	**5**	10.4	**10.2**	0.7-19.7	92
Rectum	**1**	2.1	**2.3**	0 - 6.7	178
Unknown primary	**4**	8.3	**6.6**	0 - 13.7	403
Ovary	**3**	6.3	**7.6**	0 - 16.2	120
Pharynx	**2**	4.2	**4.9**	0 - 11.7	201
Stomach	**2**	4.2	**6.9**	0 - 16.8	142
Pancreas	**2**	4.2	**3.4**	0 - 8.4	362
Melanoma (skin)	**2**	4.2	**3.6**	0 - 8.9	416
Mesothelioma	**2**	4.2	**4.8**	0 - 11.6	140
Lymphoma	**2**	4.2	**5.3**	0 - 12.6	114
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**2**	4.2	**5.3**	0 - 12.6	114
All cancer deaths	**48**	100.0	**103.6**	73.0-134	9

Appendix 3E. Cancer mortality, Western Australia, 2008: Leading types by sex and geographic area

CHS Wheatbelt Region

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**19**	25.3	**27.4**	14.9-39.8	33
Colorectal	**9**	12.0	**11.2**	3.8-18.7	98
Colon	**6**	8.0	**7.5**	1.4-13.6	167
Rectum	**3**	4.0	**3.7**	0 - 8.1	236
Pancreas	**6**	8.0	**8.3**	1.6-15.0	78
Prostate	**6**	8.0	**6.8**	1.3-12.4	291
Myeloma	**5**	6.7	**6.3**	0.6-11.9	126
Oesophagus	**4**	5.3	**5.6**	0.1-11.1	142
Bladder & urinary tract	**3**	4.0	**3.7**	0 - 7.9	291
Unknown primary	**3**	4.0	**4.4**	0 - 9.4	147
Lymphoma	**3**	4.0	**3.5**	0 - 7.6	599
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**3**	4.0	**3.5**	0 - 7.6	599
Leukaemia	**3**	4.0	**3.4**	0 - 7.4	390
All cancer deaths	**75**	100.0	**99.8**	76.9-123	10

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**13**	26.5	**21.0**	9.2-32.9	40
Pancreas	**7**	14.3	**8.8**	1.8-15.7	120
Lung	**7**	14.3	**8.3**	1.7-14.9	108
Colorectal	**5**	10.2	**8.6**	1.1-16.2	64
Colon	**3**	6.1	**5.2**	0 - 11.0	100
Rectum	**2**	4.1	**3.5**	0 - 8.2	174
Unknown primary	**4**	8.2	**4.9**	0 - 10.0	174
Stomach	**2**	4.1	**3.4**	0 - 8.2	140
Cervix	**2**	4.1	**3.5**	0 - 8.3	198
Uterus	**2**	4.1	**1.4**	0 - 3.4	*
Myeloma	**2**	4.1	**3.5**	0 - 8.2	155
Mesothelioma	**1**	2.0	**1.7**	0 - 5.1	234
Peritoneum/retro-p.	**1**	2.0	**1.7**	0 - 5.1	234
Ovary	**1**	2.0	**1.0**	0 - 3.0	*
Kidney	**1**	2.0	**0.7**	0 - 2.0	*
Thyroid gland	**1**	2.0	**1.7**	0 - 5.1	234
All cancer deaths	**49**	100.0	**70.2**	49.5-90.9	11

CHS Goldfields Region

Males

	Cases	%	ASR	95%c.i.	Risk
Colorectal	**8**	23.5	**24.5**	7.1-41.8	31
Colon	**6**	17.6	**16.8**	3.1-30.4	42
Rectum	**2**	5.9	**7.7**	0 - 18.4	112
Prostate	**6**	17.6	**19.0**	3.5-34.4	68
Lung	**5**	14.7	**15.6**	1.9-29.4	50
Unknown primary	**3**	8.8	**10.0**	0 - 21.3	85
Oesophagus	**2**	5.9	**4.9**	0 - 11.6	497
Gallbladder / bile ducts	**2**	5.9	**6.8**	0 - 16.1	78
Melanoma (skin)	**2**	5.9	**6.4**	0 - 15.4	112
Stomach	**1**	2.9	**3.2**	0 - 9.4	253
Pancreas	**1**	2.9	**3.2**	0 - 9.4	253
Skin (NMSC inc. SCC/BCC)	**1**	2.9	**3.6**	0 - 10.6	112
Kidney	**1**	2.9	**2.6**	0 - 7.6	465
Thyroid gland	**1**	2.9	**2.5**	0 - 7.2	*
Lymphoma	**1**	2.9	**4.3**	0 - 12.8	416
All cancer deaths	**34**	100.0	**106.4**	70.2-143	8

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**5**	20.0	**16.5**	1.5-31.6	75
Colorectal	**3**	12.0	**11.2**	0 - 24.1	125
Colon	**3**	12.0	**11.2**	0 - 24.1	125
Rectum	**0**				-
Breast	**3**	12.0	**10.6**	0 - 22.7	78
Stomach	**2**	8.0	**5.9**	0 - 14.0	205
Pancreas	**2**	8.0	**6.9**	0 - 16.8	94
Unknown primary	**2**	8.0	**7.5**	0 - 18.0	124
Tongue	**1**	4.0	**4.3**	0 - 12.7	94
Uterus	**1**	4.0	**2.9**	0 - 8.5	416
Brain	**1**	4.0	**4.3**	0 - 12.8	140
Thyroid gland	**1**	4.0	**3.1**	0 - 9.2	322
Lymphoma	**1**	4.0	**4.4**	0 - 12.9	184
Leukaemia	**1**	4.0	**4.4**	0 - 13.0	411
Myeloma	**1**	4.0	**2.7**	0 - 7.9	*
Myelodysplastic diseases	**1**	4.0	**4.3**	0 - 12.7	94
All cancer deaths	**25**	100.0	**88.9**	53.3-124	10

CHS Great Southern Region

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**19**	25.0	**35.5**	18.9-52.1	25
Prostate	**10**	13.2	**12.7**	4.6-20.9	109
Colorectal	**9**	11.8	**16.7**	5.5-27.8	55
Colon	**8**	10.5	**15.3**	4.4-26.1	55
Rectum	**1**	1.3	**1.4**	0 - 4.1	*
Bladder & urinary tract	**5**	6.6	**7.9**	0.8-15.1	119
Pancreas	**4**	5.3	**7.1**	0 - 14.3	100
Brain	**4**	5.3	**6.3**	0 - 12.6	141
Lymphoma	**4**	5.3	**4.9**	0.1-9.7	*
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**4**	5.3	**4.9**	0.1-9.7	*
Mesothelioma	**3**	3.9	**5.8**	0 - 12.5	132
Kidney	**3**	3.9	**4.1**	0 - 9.2	264
All cancer deaths	**76**	100.0	**128.8**	98.6-159	8

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**12**	22.6	**21.9**	8.9-35.0	31
Breast	**7**	13.2	**11.5**	2.0-20.9	82
Colorectal	**6**	11.3	**9.5**	1.2-17.9	85
Colon	**4**	7.5	**6.8**	0 - 14.0	144
Rectum	**2**	3.8	**2.8**	0 - 6.9	205
Unknown primary	**4**	7.5	**5.7**	0 - 11.8	131
Pancreas	**3**	5.7	**4.9**	0 - 10.9	116
Leukaemia	**3**	5.7	**3.9**	0 - 9.0	421
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**0**				-
Myeloid leukaemia	**3**	5.7	**3.9**	0 - 9.0	421
Leukaemia, other	**0**				-
Small intestine	**2**	3.8	**2.0**	0 - 4.7	*
Melanoma (skin)	**2**	3.8	**3.3**	0 - 8.5	313
Bladder & urinary tract	**2**	3.8	**2.8**	0 - 6.9	205
Lymphoma	**2**	3.8	**1.6**	0 - 3.9	*
All cancer deaths	**53**	100.0	**89.5**	62.6-116	10

Appendix 3E. Cancer mortality, Western Australia, 2008: Leading types by sex and geographic area

CHS South West Region

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**33**	21.3	**25.5**	16.5-34.5	35
Colorectal	**19**	12.3	**14.0**	7.4-20.6	65
Colon	**10**	6.5	**7.3**	2.5-12.2	137
Rectum	**9**	5.8	**6.7**	2.2-11.1	124
Prostate	**14**	9.0	**8.1**	3.7-12.5	265
Melanoma (skin)	**13**	8.4	**10.7**	4.7-16.7	61
Stomach	**11**	7.1	**8.1**	3.1-13.0	102
Pancreas	**10**	6.5	**6.2**	2.1-10.2	124
Brain	**7**	4.5	**5.9**	1.5-10.4	106
Myeloma	**6**	3.9	**3.3**	0.5-6.1	618
Liver	**5**	3.2	**4.2**	0.5-8.0	208
Bladder & urinary tract	**5**	3.2	**2.8**	0.3-5.3	*
Unknown primary	**5**	3.2	**2.6**	0.3-5.0	*
Oesophagus	**4**	2.6	**2.7**	0 - 5.5	399
Mesothelioma	**4**	2.6	**3.8**	0.1-7.5	173
Kidney	**3**	1.9	**2.4**	0 - 5.1	461
Gallbladder / bile ducts	**2**	1.3	**1.0**	0 - 2.5	*
Skin (NMSC inc. SCC/BCC)	**2**	1.3	**1.3**	0 - 3.3	869
Lymphoma	**2**	1.3	**1.5**	0 - 3.6	463
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**2**	1.3	**1.5**	0 - 3.6	463
Leukaemia	**2**	1.3	**1.4**	0 - 3.6	1160
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**1**	0.6	**0.4**	0 - 1.2	*
Myeloid leukaemia	**1**	0.6	**1.0**	0 - 3.1	1160
Leukaemia, other	**0**				-
Myelodysplastic diseases	**2**	1.3	**1.2**	0 - 2.8	*
Myeloprolif. d/o (chronic)	**2**	1.3	**1.8**	0 - 4.3	379
All cancer deaths	**155**	100.0	**111.2**	93.0-129	9

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**16**	14.7	**11.1**	5.3-16.9	62
Colorectal	**15**	13.8	**8.5**	3.8-13.3	103
Colon	**10**	9.2	**5.5**	1.8-9.2	168
Rectum	**5**	4.6	**3.1**	0.2-6.0	264
Breast	**10**	9.2	**6.7**	2.3-11.1	102
Pancreas	**8**	7.3	**4.5**	1.1-7.8	322
Gallbladder / bile ducts	**6**	5.5	**3.8**	0.6-7.0	368
Brain	**6**	5.5	**4.1**	0.0-8.3	454
Ovary	**5**	4.6	**3.6**	0.2-7.1	292
Unknown primary	**5**	4.6	**1.7**	0.2-3.3	*
Leukaemia	**4**	3.7	**2.6**	0 - 5.3	368
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**3**	2.8	**1.6**	0 - 3.6	905
Myeloid leukaemia	**1**	0.9	**1.0**	0 - 2.9	619
Leukaemia, other	**0**				-
Myeloma	**4**	3.7	**1.9**	0 - 4.0	459
Uterus	**3**	2.8	**1.7**	0 - 3.8	619
Bladder & urinary tract	**3**	2.8	**2.0**	0 - 4.7	941
Oesophagus	**2**	1.8	**1.2**	0 - 3.1	459
Stomach	**2**	1.8	**1.9**	0 - 4.6	504
Melanoma (skin)	**2**	1.8	**0.7**	0 - 1.7	*
Skin (NMSC inc. SCC/BCC)	**2**	1.8	**0.7**	0 - 1.7	*
Mesothelioma	**2**	1.8	**0.7**	0 - 1.6	*
Connective/ soft tissues	**2**	1.8	**2.0**	0 - 4.7	407
Vulva	**2**	1.8	**2.0**	0 - 4.7	349
Kidney	**2**	1.8	**1.5**	0 - 3.8	798
Lymphoma	**2**	1.8	**0.9**	0 - 2.1	*
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**2**	1.8	**0.9**	0 - 2.1	*
All cancer deaths	**109**	100.0	**69.2**	54.9-83.5	14

WA Country - all

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**95**	22.0	**25.8**	20.5-31.0	34
Colorectal	**53**	12.3	**13.7**	9.9-17.5	68
Colon	**38**	8.8	**9.8**	6.7-13.0	95
Rectum	**15**	3.5	**3.8**	1.9-5.8	235
Prostate	**52**	12.0	**12.2**	8.8-15.6	105
Pancreas	**24**	5.6	**6.0**	3.5-8.5	123
Melanoma (skin)	**24**	5.6	**6.3**	3.7-8.8	120
Oesophagus	**18**	4.2	**4.7**	2.5-6.9	195
Stomach	**18**	4.2	**4.5**	2.4-6.6	216
Unknown primary	**17**	3.9	**4.3**	2.2-6.3	231
Brain	**16**	3.7	**4.4**	2.2-6.6	173
Bladder & urinary tract	**14**	3.2	**3.4**	1.6-5.2	368
Lymphoma	**13**	3.0	**3.5**	1.5-5.5	396
Lymphoma NOS	**1**	0.2	**0.5**	0 - 1.6	3412
Hodgkin lymphoma	**0**				-
NHL	**12**	2.8	**2.9**	1.2-4.6	447
Myeloma	**13**	3.0	**2.9**	1.3-4.6	408
Leukaemia	**10**	2.3	**2.4**	0.9-3.9	545
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**4**	0.9	**0.9**	0 - 1.8	1869
Myeloid leukaemia	**6**	1.4	**1.5**	0.3-2.7	769
Leukaemia, other	**0**				-
Mesothelioma	**9**	2.1	**2.7**	0.9-4.5	248
Kidney	**9**	2.1	**2.3**	0.8-3.8	395
Liver	**7**	1.6	**1.8**	0.5-3.2	651
Skin (NMSC inc. SCC/BCC)	**6**	1.4	**1.7**	0.3-3.0	459
Lip, gum & mouth	**5**	1.2	**1.4**	0.2-2.7	519
Pharynx	**5**	1.2	**1.2**	0.1-2.4	960
Myelodysplastic diseases	**5**	1.2	**1.2**	0.1-2.2	*
All cancer deaths	**432**	100.0	**111.3**	101-122	9

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**53**	17.4	**14.7**	10.6-18.8	49
Breast	**46**	15.1	**12.8**	8.9-16.6	67
Colorectal	**36**	11.8	**9.7**	6.3-13.1	81
Colon	**26**	8.5	**7.0**	4.1-9.9	123
Rectum	**10**	3.3	**2.7**	0.9-4.4	237
Pancreas	**23**	7.5	**5.6**	3.2-8.1	175
Unknown primary	**22**	7.2	**4.8**	2.6-7.0	251
Ovary	**12**	3.9	**3.5**	1.4-5.5	295
Stomach	**8**	2.6	**2.9**	0.9-5.0	279
Gallbladder / bile ducts	**8**	2.6	**2.1**	0.6-3.6	502
Brain	**8**	2.6	**2.2**	0.5-3.8	563
Leukaemia	**8**	2.6	**2.1**	0.4-3.8	625
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**3**	1.0	**0.6**	0 - 1.3	2720
Myeloid leukaemia	**5**	1.6	**1.5**	0.0-3.1	812
Leukaemia, other	**0**				-
Lymphoma	**7**	2.3	**1.7**	0.3-3.0	615
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**7**	2.3	**1.7**	0.3-3.0	615
Myeloma	**7**	2.3	**1.6**	0.3-2.9	481
Melanoma (skin)	**6**	2.0	**1.2**	0.2-2.3	1315
Uterus	**6**	2.0	**1.3**	0.1-2.4	1138
Mesothelioma	**5**	1.6	**1.2**	0.1-2.4	564
Bladder & urinary tract	**5**	1.6	**1.1**	0.0-2.2	886
Skin (NMSC inc. SCC/BCC)	**4**	1.3	**0.8**	0 - 1.6	1696
Vulva	**4**	1.3	**1.1**	0 - 2.2	964
All cancer deaths	**305**	100.0	**81.7**	71.9-91.5	11

Appendix 3E. Cancer mortality, Western Australia, 2008: Leading types by sex and geographic area

North Metro AHS

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**169**	21.4	**24.2**	20.4-28.0	34
Colorectal	**91**	11.5	**12.8**	10.0-15.5	74
Colon	**56**	7.1	**7.8**	5.6-9.9	132
Rectum	**35**	4.4	**5.0**	3.3-6.7	166
Prostate	**86**	10.9	**10.8**	8.4-13.2	107
Melanoma (skin)	**36**	4.6	**4.9**	3.2-6.6	216
Lymphoma	**33**	4.2	**4.6**	3.0-6.2	201
Lymphoma NOS	**1**	0.1	**0.1**	0 - 0.3	*
Hodgkin lymphoma	**1**	0.1	**0.1**	0 - 0.3	*
NHL	**31**	3.9	**4.4**	2.8-6.0	201
Oesophagus	**32**	4.1	**4.8**	3.1-6.4	177
Mesothelioma	**32**	4.1	**4.5**	2.9-6.2	176
Stomach	**29**	3.7	**3.9**	2.4-5.4	200
Brain	**29**	3.7	**4.5**	2.8-6.2	236
Unknown primary	**29**	3.7	**4.1**	2.5-5.6	251
Pancreas	**28**	3.6	**3.9**	2.4-5.4	311
Leukaemia	**26**	3.3	**4.0**	2.3-5.6	346
Leukaemia NOS	**1**	0.1	**0.2**	0 - 0.5	5920
Lymphoid leukaemia	**11**	1.4	**1.5**	0.5-2.5	928
Myeloid leukaemia	**14**	1.8	**2.3**	1.0-3.6	607
Leukaemia, other	**0**				-
Liver	**21**	2.7	**2.8**	1.5-4.0	349
Bladder & urinary tract	**18**	2.3	**2.3**	1.2-3.4	441
Kidney	**17**	2.2	**2.1**	1.0-3.2	651
Myeloma	**16**	2.0	**2.0**	1.0-3.1	733
Myelodysplastic diseases	**16**	2.0	**1.8**	0.9-2.8	1199
Gallbladder / bile ducts	**15**	1.9	**2.0**	0.9-3.0	736
Skin (NMSC inc. SCC/BCC)	**13**	1.6	**1.6**	0.7-2.5	962
Tongue	**8**	1.0	**1.1**	0.3-1.8	1570
All cancer deaths	**788**	100.0	**110.0**	102-118	9

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**115**	17.3	**12.7**	10.1-15.2	75
Breast	**103**	15.5	**14.4**	11.4-17.3	62
Colorectal	**81**	12.2	**9.3**	7.1-11.6	86
Colon	**55**	8.3	**6.5**	4.6-8.4	117
Rectum	**26**	3.9	**2.8**	1.6-4.0	319
Pancreas	**42**	6.3	**4.3**	2.8-5.7	292
Ovary	**33**	5.0	**3.9**	2.4-5.3	225
Lymphoma	**29**	4.4	**3.1**	1.8-4.3	338
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**2**	0.3	**0.4**	0 - 0.9	2112
NHL	**27**	4.1	**2.7**	1.6-3.8	402
Unknown primary	**28**	4.2	**2.4**	1.4-3.4	545
Leukaemia	**22**	3.3	**2.6**	1.3-3.9	509
Leukaemia NOS	**2**	0.3	**0.1**	0 - 0.3	*
Lymphoid leukaemia	**7**	1.1	**0.5**	0.1-1.0	3192
Myeloid leukaemia	**13**	2.0	**1.9**	0.7-3.1	605
Leukaemia, other	**0**				-
Brain	**20**	3.0	**2.5**	1.3-3.6	533
Myeloma	**18**	2.7	**2.0**	1.0-3.0	462
Stomach	**15**	2.3	**1.6**	0.7-2.5	894
Bladder & urinary tract	**15**	2.3	**1.6**	0.7-2.5	680
Gallbladder / bile ducts	**14**	2.1	**1.2**	0.5-1.9	1136
Melanoma (skin)	**14**	2.1	**1.5**	0.6-2.4	1130
Uterus	**14**	2.1	**1.4**	0.6-2.2	1510
Mesothelioma	**12**	1.8	**1.5**	0.6-2.4	535
Myelodysplastic diseases	**12**	1.8	**1.2**	0.4-2.0	907
Liver	**11**	1.7	**1.5**	0.6-2.4	421
Oesophagus	**10**	1.5	**1.0**	0.3-1.7	684
Kidney	**9**	1.4	**1.1**	0.2-1.9	926
Cervix	**6**	0.9	**0.9**	0.2-1.7	1154
All cancer deaths	**665**	100.0	**75.8**	69.4-82.2	13

South Metro AHS

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**183**	21.2	**27.2**	23.1-31.3	33
Prostate	**106**	12.3	**13.5**	10.8-16.2	99
Colorectal	**101**	11.7	**14.6**	11.6-17.6	67
Colon	**60**	7.0	**8.1**	6.0-10.3	130
Rectum	**41**	4.8	**6.5**	4.4-8.6	138
Pancreas	**48**	5.6	**7.4**	5.2-9.6	147
Unknown primary	**37**	4.3	**5.5**	3.6-7.5	182
Stomach	**34**	3.9	**4.9**	3.2-6.6	233
Melanoma (skin)	**33**	3.8	**5.5**	3.6-7.4	160
Mesothelioma	**31**	3.6	**4.7**	3.0-6.5	172
Lymphoma	**31**	3.6	**5.2**	3.3-7.2	164
Lymphoma NOS	**3**	0.3	**0.4**	0 - 0.9	5624
Hodgkin lymphoma	**1**	0.1	**0.3**	0 - 0.9	5834
NHL	**27**	3.1	**4.5**	2.7-6.3	174
Oesophagus	**28**	3.2	**3.8**	2.3-5.3	326
Bladder & urinary tract	**25**	2.9	**3.2**	1.9-4.5	362
Leukaemia	**25**	2.9	**4.1**	2.4-5.8	217
Leukaemia NOS	**2**	0.2	**0.2**	0 - 0.5	*
Lymphoid leukaemia	**12**	1.4	**2.1**	0.8-3.3	353
Myeloid leukaemia	**11**	1.3	**1.9**	0.7-3.0	564
Leukaemia, other	**0**				-
Liver	**23**	2.7	**3.7**	2.1-5.2	246
Brain	**21**	2.4	**3.8**	2.2-5.5	203
Myeloma	**17**	2.0	**2.7**	1.4-4.0	279
Skin (NMSC inc. SCC/BCC)	**16**	1.9	**2.2**	1.1-3.2	540
Myelodysplastic diseases	**15**	1.7	**1.8**	0.9-2.8	1046
Kidney	**14**	1.6	**2.3**	1.0-3.5	402
Pharynx	**10**	1.2	**1.5**	0.5-2.5	531
Gallbladder / bile ducts	**10**	1.2	**1.5**	0.5-2.5	593
Lip, gum & mouth	**8**	0.9	**1.4**	0.4-2.4	452
All cancer deaths	**862**	100.0	**128.5**	120-137	8

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**122**	20.3	**15.2**	12.2-18.2	63
Breast	**94**	15.6	**13.9**	10.8-16.9	75
Colorectal	**70**	11.6	**8.0**	5.9-10.1	143
Colon	**53**	8.8	**6.3**	4.4-8.2	165
Rectum	**17**	2.8	**1.7**	0.8-2.6	1040
Ovary	**34**	5.6	**4.2**	2.6-5.8	225
Pancreas	**30**	5.0	**4.2**	2.6-5.8	193
Unknown primary	**26**	4.3	**2.6**	1.5-3.8	467
Lymphoma	**18**	3.0	**2.1**	1.0-3.2	493
Lymphoma NOS	**1**	0.2	**0.2**	0 - 0.5	2504
Hodgkin lymphoma	**2**	0.3	**0.2**	0 - 0.6	4827
NHL	**15**	2.5	**1.7**	0.7-2.7	703
Leukaemia	**17**	2.8	**2.2**	0.9-3.5	469
Leukaemia NOS	**2**	0.3	**0.2**	0 - 0.6	4827
Lymphoid leukaemia	**4**	0.7	**0.4**	0 - 0.9	1252
Myeloid leukaemia	**11**	1.8	**1.6**	0.4-2.7	886
Leukaemia, other	**0**				-
Brain	**16**	2.7	**2.4**	1.1-3.7	387
Myeloma	**15**	2.5	**2.2**	1.0-3.3	360
Bladder & urinary tract	**14**	2.3	**1.4**	0.6-2.3	898
Oesophagus	**13**	2.2	**1.4**	0.5-2.2	1094
Stomach	**13**	2.2	**1.8**	0.7-2.8	577
Liver	**13**	2.2	**1.6**	0.6-2.6	644
Gallbladder / bile ducts	**13**	2.2	**1.6**	0.7-2.5	590
Uterus	**11**	1.8	**1.4**	0.5-2.3	567
Melanoma (skin)	**10**	1.7	**1.4**	0.4-2.4	655
Kidney	**10**	1.7	**1.4**	0.5-2.3	543
Myelodysplastic diseases	**9**	1.5	**0.7**	0.2-1.2	2504
Mesothelioma	**6**	1.0	**0.8**	0.1-1.4	1168
Myeloprolif. d/o (chronic)	**6**	1.0	**0.7**	0.1-1.3	1729
All cancer deaths	**602**	100.0	**76.5**	69.7-83.3	13

Appendix 3E. Cancer mortality, Western Australia, 2008: Leading types by sex and geographic area

WA Metro - all

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**352**	21.3	**25.7**	22.9-28.4	34
Colorectal	**192**	11.6	**13.7**	11.7-15.7	70
Colon	**116**	7.0	**8.0**	6.5-9.5	130
Rectum	**76**	4.6	**5.7**	4.4-7.0	152
Prostate	**192**	11.6	**12.1**	10.3-13.9	103
Pancreas	**76**	4.6	**5.6**	4.3-6.8	202
Melanoma (skin)	**69**	4.2	**5.2**	3.9-6.5	185
Unknown primary	**66**	4.0	**4.8**	3.6-6.0	211
Lymphoma	**64**	3.9	**4.9**	3.6-6.1	182
Lymphoma NOS	**4**	0.2	**0.2**	0 - 0.5	*
Hodgkin lymphoma	**2**	0.1	**0.2**	0 - 0.5	*
NHL	**58**	3.5	**4.4**	3.2-5.6	187
Stomach	**63**	3.8	**4.4**	3.3-5.5	216
Mesothelioma	**63**	3.8	**4.6**	3.4-5.8	175
Oesophagus	**60**	3.6	**4.3**	3.2-5.5	228
Leukaemia	**51**	3.1	**4.1**	2.9-5.2	267
Leukaemia NOS	**3**	0.2	**0.2**	0 - 0.4	*
Lymphoid leukaemia	**23**	1.4	**1.8**	1.0-2.5	518
Myeloid leukaemia	**25**	1.5	**2.1**	1.2-3.0	580
Leukaemia, other	**0**				-
Brain	**50**	3.0	**4.2**	3.0-5.3	219
Liver	**44**	2.7	**3.2**	2.2-4.2	292
Bladder & urinary tract	**43**	2.6	**2.8**	1.9-3.6	398
Myeloma	**33**	2.0	**2.4**	1.5-3.2	406
Kidney	**31**	1.9	**2.2**	1.4-3.0	499
Myelodysplastic diseases	**31**	1.9	**1.8**	1.2-2.5	1118
Skin (NMSC inc. SCC/BCC)	**29**	1.8	**1.9**	1.2-2.6	694
Gallbladder / bile ducts	**25**	1.5	**1.7**	1.0-2.4	657
Lip, gum & mouth	**14**	0.8	**1.1**	0.5-1.8	654
Pharynx	**14**	0.8	**1.1**	0.5-1.7	670
All cancer deaths	**1650**	100.0	**119.0**	113-125	9

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**237**	18.7	**13.9**	11.9-15.8	69
Breast	**197**	15.5	**14.1**	12.0-16.2	68
Colorectal	**151**	11.9	**8.7**	7.1-10.2	107
Colon	**108**	8.5	**6.4**	5.1-7.7	136
Rectum	**43**	3.4	**2.3**	1.5-3.0	482
Pancreas	**72**	5.7	**4.3**	3.2-5.3	233
Ovary	**67**	5.3	**4.0**	3.0-5.1	225
Unknown primary	**54**	4.3	**2.5**	1.7-3.2	507
Lymphoma	**47**	3.7	**2.6**	1.8-3.4	398
Lymphoma NOS	**1**	0.1	**0.1**	0 - 0.2	5114
Hodgkin lymphoma	**4**	0.3	**0.3**	0 - 0.6	2894
NHL	**42**	3.3	**2.2**	1.5-3.0	507
Leukaemia	**39**	3.1	**2.4**	1.5-3.3	488
Leukaemia NOS	**4**	0.3	**0.2**	0 - 0.3	*
Lymphoid leukaemia	**11**	0.9	**0.5**	0.2-0.8	1813
Myeloid leukaemia	**24**	1.9	**1.8**	0.9-2.6	713
Leukaemia, other	**0**				-
Brain	**36**	2.8	**2.4**	1.6-3.3	449
Myeloma	**33**	2.6	**2.1**	1.3-2.9	406
Bladder & urinary tract	**29**	2.3	**1.5**	0.9-2.1	772
Stomach	**28**	2.2	**1.7**	1.0-2.4	707
Gallbladder / bile ducts	**27**	2.1	**1.4**	0.8-1.9	783
Uterus	**25**	2.0	**1.4**	0.8-2.0	830
Liver	**24**	1.9	**1.6**	0.9-2.2	508
Melanoma (skin)	**24**	1.9	**1.5**	0.8-2.1	834
Oesophagus	**23**	1.8	**1.2**	0.6-1.7	847
Myelodysplastic diseases	**21**	1.7	**1.0**	0.5-1.4	1309
Kidney	**19**	1.5	**1.2**	0.6-1.8	690
Mesothelioma	**18**	1.4	**1.1**	0.6-1.7	729
All cancer deaths	**1267**	100.0	**76.2**	71.5-80.8	13

All Western Australia

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**447**	21.5	**25.7**	23.3-28.2	34
Colorectal	**245**	11.8	**13.7**	11.9-15.5	70
Colon	**154**	7.4	**8.4**	7.0-9.8	120
Rectum	**91**	4.4	**5.3**	4.2-6.4	165
Prostate	**244**	11.7	**12.2**	10.6-13.7	103
Pancreas	**100**	4.8	**5.7**	4.5-6.8	176
Melanoma (skin)	**93**	4.5	**5.4**	4.3-6.6	165
Unknown primary	**83**	4.0	**4.7**	3.6-5.7	215
Stomach	**81**	3.9	**4.4**	3.4-5.4	216
Oesophagus	**78**	3.7	**4.4**	3.4-5.4	219
Lymphoma	**77**	3.7	**4.5**	3.5-5.6	208
Lymphoma NOS	**5**	0.2	**0.3**	0.0-0.6	7966
Hodgkin lymphoma	**2**	0.1	**0.2**	0 - 0.4	*
NHL	**70**	3.4	**4.1**	3.1-5.0	216
Mesothelioma	**72**	3.5	**4.2**	3.2-5.2	187
Brain	**66**	3.2	**4.2**	3.2-5.3	206
Leukaemia	**61**	2.9	**3.7**	2.7-4.6	303
Leukaemia NOS	**3**	0.1	**0.1**	0 - 0.3	*
Lymphoid leukaemia	**27**	1.3	**1.6**	0.9-2.2	622
Myeloid leukaemia	**31**	1.5	**2.0**	1.2-2.7	615
Leukaemia, other	**0**				-
Bladder & urinary tract	**57**	2.7	**2.9**	2.1-3.7	392
Liver	**51**	2.4	**2.9**	2.1-3.7	335
Myeloma	**46**	2.2	**2.5**	1.7-3.2	407
Kidney	**40**	1.9	**2.2**	1.5-2.9	470
Myelodysplastic diseases	**36**	1.7	**1.7**	1.1-2.3	1455
Skin (NMSC inc. SCC/BCC)	**35**	1.7	**1.9**	1.2-2.5	618
Gallbladder / bile ducts	**29**	1.4	**1.6**	1.0-2.2	704
Lip, gum & mouth	**19**	0.9	**1.2**	0.7-1.8	615
Pharynx	**19**	0.9	**1.1**	0.6-1.7	718
All cancer deaths	**2082**	100.0	**117.4**	112-123	9

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**290**	18.4	**14.1**	12.3-15.8	64
Breast	**243**	15.4	**13.8**	12.0-15.7	68
Colorectal	**187**	11.9	**8.9**	7.5-10.3	100
Colon	**134**	8.5	**6.5**	5.3-7.7	133
Rectum	**53**	3.4	**2.3**	1.6-3.0	401
Pancreas	**95**	6.0	**4.5**	3.5-5.5	219
Ovary	**79**	5.0	**4.0**	3.0-4.9	234
Unknown primary	**76**	4.8	**2.9**	2.2-3.7	416
Lymphoma	**54**	3.4	**2.4**	1.7-3.1	427
Lymphoma NOS	**1**	0.1	**0.1**	0 - 0.2	6337
Hodgkin lymphoma	**4**	0.3	**0.2**	0 - 0.5	3683
NHL	**49**	3.1	**2.1**	1.5-2.8	523
Leukaemia	**48**	3.1	**2.4**	1.6-3.2	494
Leukaemia NOS	**4**	0.3	**0.1**	0 - 0.3	*
Lymphoid leukaemia	**14**	0.9	**0.5**	0.2-0.8	1928
Myeloid leukaemia	**30**	1.9	**1.8**	1.0-2.5	699
Leukaemia, other	**0**				-
Brain	**44**	2.8	**2.4**	1.6-3.2	466
Myeloma	**40**	2.5	**2.0**	1.3-2.6	422
Stomach	**36**	2.3	**1.9**	1.3-2.6	535
Gallbladder / bile ducts	**35**	2.2	**1.5**	1.0-2.1	693
Bladder & urinary tract	**34**	2.2	**1.4**	0.9-2.0	801
Uterus	**31**	2.0	**1.4**	0.8-1.9	874
Melanoma (skin)	**30**	1.9	**1.4**	0.8-2.0	903
Liver	**27**	1.7	**1.4**	0.8-1.9	615
Oesophagus	**25**	1.6	**1.0**	0.6-1.5	911
Myelodysplastic diseases	**24**	1.5	**1.0**	0.5-1.4	1073
Mesothelioma	**23**	1.5	**1.1**	0.6-1.7	689
Kidney	**22**	1.4	**1.1**	0.6-1.6	802
Skin (NMSC inc. SCC/BCC)	**12**	0.8	**0.4**	0.2-0.7	2439
All cancer deaths	**1573**	100.0	**77.4**	73.2-81.6	13

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