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Cancer incidence and mortality in Western Australia, 2007

A report of the Western Australian Cancer Registry

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Contact regarding enquiries, additional information and further copies:

Principal Medical Officer/Manager
Western Australian Cancer Registry
Department of Health
1st Floor, C Block
189 Royal St
East Perth WA 6004
AUSTRALIA

Fax : +61 (0)8 9222 4236
Phone: +61 (0)8 9222 4022
E-mail - **wacanreg@health.wa.gov.au**
(No "spam" or commercial offers; cancer-related enquiries only please.)

Internet - Department of Health home page
www.health.wa.gov.au
- Western Australian Cancer Registry home page -
www.health.wa.gov.au/wacr/home

Cancer Registry Staff, 2004-2009

Timothy Threlfall	Principal medical officer/ Manager	John Langley	Analyst/programmer
Judith Thompson	Medical officer/ coding advisor	Cathy Johnston	Data quality officer
		Colleen Kontor	Data quality officer
Kaye Garrod	Senior Data quality officer	Nola Olsen	Research officer
Charmaine Brewster	Data quality officer	Bev Jamieson	Clerical Officer

Cancer Registry Scientific Advisory Committee, 2009

Dr James Semmens	Epidemiologist	Dr Christobel Saunders	Surgeon
Dr Peter Heenan	Pathologist	Dr Yee Leung	Gynaecologic oncologist
Dr Cecily Metcalf	Pathologist	Dr Gordon Harloe	Pathologist
Dr Chris Harper	Radiation Oncologist	Dr Judith Thompson	Cancer Registry
		Dr Timothy Threlfall	Cancer Registry

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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 9572 new cases of cancer recorded in Western Australians in 2007, 5545 (58%) occurring in males and 4027 in females. Age-standardised incidence rates were 357 per 100,000 males, and 251 per 100,000 females, both slightly lower than in 2006. 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 2007 were prostate and colorectal cancers, melanoma and lung cancer, with the proportions of colorectal and prostate cancers increasing. Breast cancer predominated among females, followed by colorectal cancer, melanoma and lung cancer, as in each of the last 3 years. While an increased rate of breast cancer in females was noted in 2006, the rate in 2007 has declined.

Among Western Australian residents, there were 3697 deaths due to cancer in 2007, 2064 in males and 1633 in females. All-cancers mortality rates for 2007 were 122 deaths per 100,000 males (slightly lower than in 2006) and 84 per 100,000 females (slightly higher). 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 68 children under the age of 15 years diagnosed with cancer in 2007 (ASR 19 per 100,000 in males and 16 in females), as well as a small number with other cancer-like conditions. Cancer at this age is a rare disease and annual variation in numbers and types is considerable. The largest proportional increases were in leukaemia in girls and neuroblastoma in boys, while lymphomas were less common than in 2006.

Melanoma of the skin was - as in most years since 1982 - the most common cancer in males in the 15-39 years age range, and in 2007, melanoma incidence was higher than breast cancer in young females. 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 2007 data, one in 7 men would be expected to have a diagnosis of prostate cancer before the age of 75, and one in 13 women could be expected to develop breast cancer. One in 100 men could be expected to die from prostate cancer before age 75, and one in 61 women to die from breast cancer. However, as in 2006, lung cancer was the most common cause of cancer-related death for both males and females.

For the Registry's last report, for 2006, the number of reported cancer cases had been increased by 6% as a result of staff investigation of ("HMDS-only") tumour records. Such a task has not been possible for 2007 data due to involvement of all staff in the re-engineering of the Cancer Registry's computer database system. This has contributed to the lower

numbers of reported cases for 2007 than for 2006. Anticipated changes in notification legislation have not yet occurred, however it is hoped that availability and verification of such hospital-sourced information will improve.

Registry data are widely used both locally and elsewhere, and this report incorporates work done in collaboration others and presented here to increase its accessibility. From the Epidemiology Branch, estimates of the prevalence of major cancer types, based on knowledge of incidence, death and migration, are presented, together with estimates of expected future mortality among persons with a cancer history. Age and time since diagnosis have been used to calculate "limited duration" prevalence estimates that can be of use to planners of treatment and support services.

Further work was done in the South Australian Cancer Registry using cancer incidence data for indigenous Australians from WA, South Australia and the Northern Territory, so as to provide more stable estimates of cancer incidence and mortality risks; State data are also shown for WA alone. Finally, cancer incidence projections produced by AIHW using WACR data for the purpose of a Commonwealth report to support the planning of radiotherapy services, are presented.

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. Members of the Registry's Scientific Advisory Committee have given valuable advice concerning a wide range of issues.

The cooperation of other Australian Cancer Registries regarding procedures, coding, duplication and demarcation issues, and of the National Cancer Statistics Clearing House 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. Special thanks are due to Dr Judy Katzenellenbogen (Epidemiology Branch, WA Health), Dr Katrina Spilsbury (Curtin University) and Peter Somerford (Epidemiology Branch, WA Health) for the cancer prevalence section, to staff at AIHW for the cancer incidence projections, and to Dr Adrian Heard of the South Australian Cancer Registry for the work on cancer in indigenous Australians.

1 Overview and Methods

1.1 This Report

Overview of this report

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 2007. 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. A Discussion Paper concerning proposed changes can be found on the Registry website at www.health.wa.gov.au/wacr/

1.2 General structure; how to find information

Time constraints, including a major Registry software redevelopment project, have forced the adoption of a shorter format for this year's report. The major statistical sections are based on cancers diagnosed, and deaths due to cancer, in 2007. 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 2007 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.
In particular, note that **Information for Appendices 1 and 2 is not printed in this report**, but is available on the Internet, as produced for the 2005 report, 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, an awareness is needed that assessing the importance 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 2006 were quoted at 9692 in our previous report,[1] the total currently recorded for 2006 is 9787, an increase of almost 1%. The corresponding increase for 2005 data was 1.4%. 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, 2007

2.1 All cancers

2.1.1 Incidence

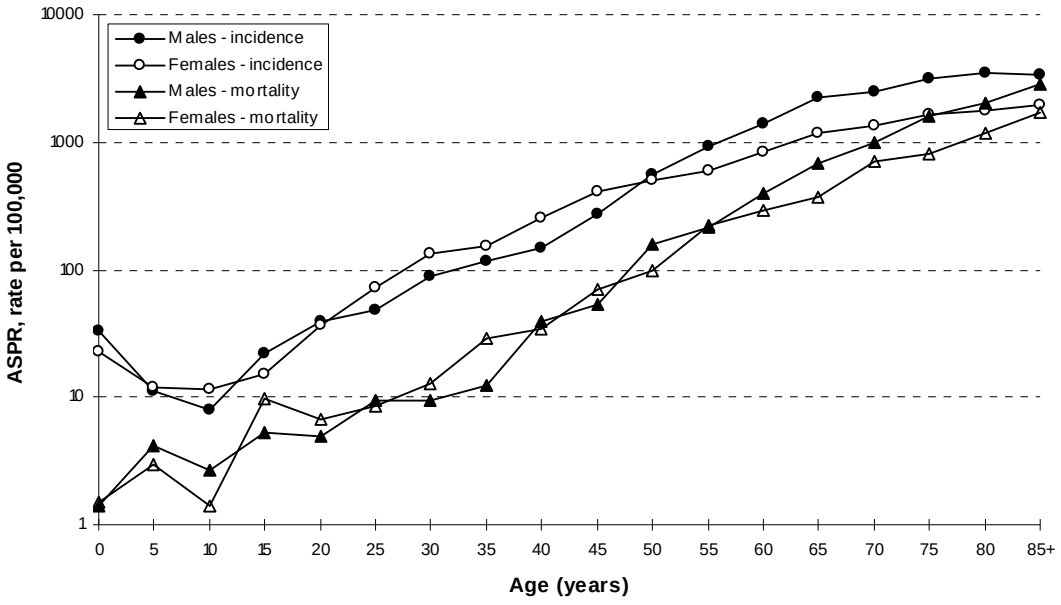
In 2007, there were 9572 new diagnoses of cancer in Western Australia, an apparent decrease of 2.2% over a "current" figure for 2006 (9787 cases). There were 5545 cancers diagnosed in males (58%) and 4027 (42%) in females. Corresponding age-standardised incidence rates were 357 per 100,000 (males) and 251 per 100,000 (females). These rates were both slightly lower than the all-cancers ASRS reported for 2006. However, database re-development work in 2008 imposed restrictions on the investigation of otherwise-unreported hospital-based tumour records and these data may be more incomplete than in some recent years.

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 42.0% for males and 27.8% for females.

Most of the excess cancer risk in females between ages 30 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 (94% in males and 93% in females, stable over the last 5 years). Among the most common types, primary liver cancer was the most often diagnosed by non-histological methods in both males and females (52% and 50% respectively). Cancers of unknown primary site and pancreatic cancers were also commonly diagnosed by non-microscopic methods.

Figure 1. Age-specific all-cancers incidence and mortality rates, Western Australia, 2007.



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 2007 data reported here include only a small number of such cases, as the more intensive follow-up processes described in *Cancer incidence and mortality in Western Australia, 2004* [5] could not be undertaken during 2008 (see Section 3.1). 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 2007, there were 2064 deaths due to cancer in males and 1633 in females (Table 1). Mortality ASRs were 122 deaths per 100,000 males (lower than in 2006 [123]) and 84.4 per 100,000 females (higher than in 2006 [82.5]). The estimated lifetime risk of death due to cancer before age 75 years was 1 in 8 for males and 1 in 11 for females. These rates and risks are statistically similar to those for 2006 and other recent years.

These statistics include 68 deaths due to non-melanocytic skin cancers, increased by 33% since 2006. Of the cancers concerned, 49 (72%) were of the types (squamous and basal cell carcinomas) that are not included in incidence data (37 males, 12 females; 48 SCCs and one BCC). The annual number of non-melanoma skin-cancer related deaths has increased significantly since 2001, outstripping the increase in melanoma-related deaths. Deaths recorded as being due to cancers of unknown primary site have decreased over the same period.

In 2007, there were 13 cancer-related deaths in persons not normally resident in Western Australia (5 Australian, 8 from overseas); these are not included in the population-based mortality statistics in this report.

Other 2007 deaths recorded by the Cancer Registry included:

- Deaths due to benign tumours - 8 (all 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 - 2
- Deaths due to non-tumour-related causes among persons with a Registry tumour record - 961 males, 699 females (both increased since 2006).
- Deaths of unresolved cause among persons with a tumour record - 31 (15 males, 16 females).

Before the age of 75 years, a total of 13610 person-years of life were lost due to cancer among males and 11943 in females, both decreased since 2006. 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 2007. 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 60 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 2007 mortality/incidence (M/I) rate ratio for prostate cancer was 0.10 and the ratio for breast cancer in females was 0.20. Lung cancer continues to have a far greater impact, with 2007 M/I ratios of 0.85 in males and 0.83 in females. All-cancers mortality/incidence ratios for 2007 were similar for males and females (both 0.34). All these M/I ratios have been relatively stable over recent years.

2.2 Common cancers

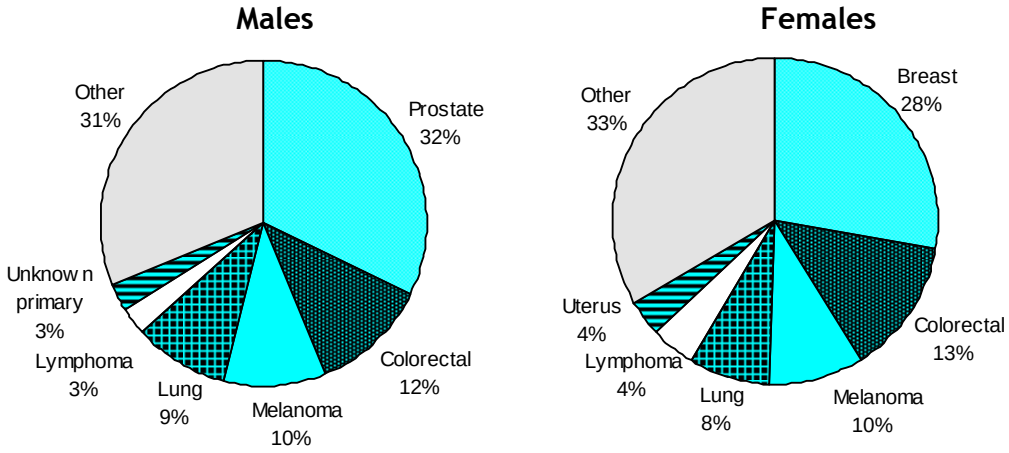
2.2.1 Incidence

In females, breast cancer was the most common incident cancer (1119 cases, 28% of all cancers in females; ASR 74 per 100,000). This was followed by colorectal cancer (531 cases, 13%), melanoma of the skin (383 cases, 10%) and lung cancer (330 cases, 8%). There were an additional 219 newly-diagnosed cases of *in situ* breast carcinoma reported (9 lobular, otherwise mainly ductal), fewer than the all-time peak count of 265 cases in 2005. Previously, the female breast cancer incidence ASR fell by a small amount each year since 2002, from 87.4 successively to 84.6, 82.8 and 81.2 for 2005, rose again to 85.5 in 2006, and is now further reduced. 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 (1781 cases; 32%), colorectal cancer (655 cases, 12%) and melanoma (552 cases, 10%) (Table 1; Figure 2). Lung cancer and melanoma were less common, but colorectal cancer more common, than in 2006. For all the major cancers affecting both males and females, males had a higher incidence than females. There were 994 *in situ* melanomas reported, 61% of them in males.

Lymphomas, collectively the next most common cancer in both sexes, accounted for 3% of cancers in males and 4% in females, with ASRs of 11 per 100,000. Cancers of unknown primary site were recorded in 157 males (3%, ASR 9.5) and 128 females (3%, ASR 6.2). Invasive bladder and other urinary tract cancers are not among the most common cancers in either males (155 cases, 3%) or females (56 cases, 1.4%), however there were 548 cases of *in situ* urinary system carcinomas, 77% of them in men. Likewise, invasive cervical cancer is relatively uncommon in women (81 cases, 2%) however there were 1433 *in situ* cervical carcinomas reported in 2007.

Figure 2. Cancer incidence, Western Australia, 2007: common cancers



Other common specific cancer types diagnosed included:

Leukaemias - 133 cases in men (ASR 9.2), 106 in women (ASR 7.7)
Bladder - 155 cases in men (ASR 8.9), 56 in women (ASR 2.7)
Kidney - 145 cases in men (ASR 9.6), 77 in women (ASR 5.0)
Pancreas - 121 cases in men (ASR 7.4), 111 in women (ASR 5.7)
Stomach - 118 cases in men (ASR 7.1), 66 in women (ASR 3.4)

**(note that the "Bladder" grouping now includes renal pelvis and ureter tumours.)*

Other common cancer types in women were cancers of the uterus (148 cases, ASR 9.4), ovary (110 cases, ASR 7.0), thyroid (130 cases, ASR 9.9) and cervix (81 cases, ASR 6.0).

2.2.2 Mortality

The most common causes of cancer-related death in males were lung cancer (22%), colorectal cancer (12%) and prostate cancer (11%) (Table 1; Figure 3). Lung (18%), breast (16%) and colorectal cancer deaths (11%) were the 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 incidence and mortality, rather than any dramatic change in female lung cancer rates.

Other major causes of cancer-related mortality included tumours of unknown primary site , brain and pancreas in both sexes, melanoma, stomach cancer and mesothelioma in males; and ovarian cancer and lymphomas in females. With minor changes, these results for 2007 are consistent with the usual common causes of cancer-related death in recent years.

Figure 3. Cancer mortality, Western Australia, 2007: common cancers

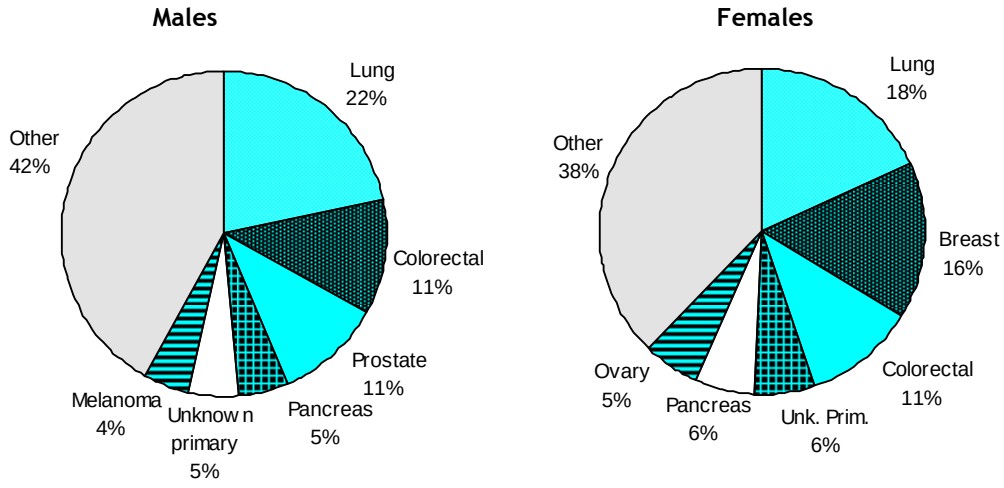


Table 1. Cancer incidence and mortality, Western Australia, 2007: leading types in males and females

Incidence

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**1781**	32.1	**114.1**	109-119	7
Colorectal	**655**	11.8	**40.6**	37.4-43.8	22
Colon	**382**	6.9	**23.3**	20.9-25.7	38
Rectum	**271**	4.9	**17.2**	15.1-19.3	49
Melanoma (skin)	**552**	10.0	**37.3**	34.1-40.5	24
Lung	**517**	9.3	**31.2**	28.4-34.0	27
Lymphoma	**164**	3.0	**11.2**	9.4-12.9	87
Lymphoma NOS	**3**	0.1	**0.2**	0 - 0.4	4249
Hodgkin lymphoma	**16**	0.3	**1.3**	0.6-1.9	1091
NHL	**145**	2.6	**9.7**	8.1-11.4	97
Unknown primary	**157**	2.8	**9.5**	8.0-11.1	90
Bladder & urinary tract	**155**	2.8	**8.9**	7.4-10.4	100
Kidney	**145**	2.6	**9.6**	8.0-11.2	100
Leukaemia	**133**	2.4	**9.2**	7.5-10.9	114
Leukaemia NOS	**6**	0.1	**0.3**	0.1-0.6	*
Lymphoid leukaemia	**78**	1.4	**5.6**	4.2-7.0	187
Myeloid leukaemia	**49**	0.9	**3.2**	2.3-4.1	296
Leukaemia, other	**0**				
Pancreas	**121**	2.2	**7.4**	6.0-8.8	126
Stomach	**118**	2.1	**7.1**	5.8-8.4	128
Lip, gum & mouth	**104**	1.9	**6.9**	5.6-8.3	134
Brain	**101**	1.8	**7.1**	5.6-8.5	144
Oesophagus	**91**	1.6	**5.5**	4.3-6.6	175
Liver	**77**	1.4	**5.2**	3.9-6.4	177
Testis	**77**	1.4	**6.9**	5.3-8.5	190
Mesothelioma	**67**	1.2	**4.2**	3.1-5.2	188
Myeloma	**61**	1.1	**3.8**	2.8-4.8	202
Pharynx	**48**	0.9	**3.3**	2.4-4.3	255
Skin (NMSC exc. SCC/BCC)	**48**	0.9	**2.9**	2.1-3.7	333
Myelodysplastic diseases	**46**	0.8	**2.4**	1.7-3.2	473
All cancers	**5545**	100.0	**356.9**	347-367	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**1119**	27.8	**73.8**	69.3-78.3	13
Colorectal	**531**	13.2	**30.3**	27.5-33.0	29
Colon	**385**	9.6	**21.5**	19.2-23.8	41
Rectum	**144**	3.6	**8.7**	7.2-10.2	97
Melanoma (skin)	**383**	9.5	**26.2**	23.5-28.9	36
Lung	**330**	8.2	**18.1**	16.0-20.2	46
Lymphoma	**179**	4.4	**11.5**	9.7-13.3	79
Lymphoma NOS	**1**	0.0	**0.0**	0 - 0.1	*
Hodgkin lymphoma	**21**	0.5	**2.0**	1.1-2.8	635
NHL	**157**	3.9	**9.5**	7.9-11.1	91
Uterus	**148**	3.7	**9.4**	7.8-11.0	85
Thyroid gland	**130**	3.2	**9.9**	8.2-11.7	97
Unknown primary	**128**	3.2	**6.2**	5.0-7.4	156
Pancreas	**111**	2.8	**5.7**	4.5-6.9	143
Ovary	**110**	2.7	**7.0**	5.6-8.4	130
Leukaemia	**106**	2.6	**7.7**	6.0-9.3	141
Leukaemia NOS	**3**	0.1	**0.1**	0 - 0.3	*
Lymphoid leukaemia	**60**	1.5	**4.7**	3.3-6.1	242
Myeloid leukaemia	**43**	1.1	**2.8**	1.9-3.7	343
Leukaemia, other	**0**				
Cervix	**81**	2.0	**6.0**	4.7-7.4	167
Kidney	**77**	1.9	**5.0**	3.8-6.2	168
Stomach	**66**	1.6	**3.4**	2.5-4.3	314
Bladder & urinary tract	**56**	1.4	**2.7**	1.9-3.5	367
Brain	**52**	1.3	**3.5**	2.5-4.6	332
Lip, gum & mouth	**43**	1.1	**2.3**	1.6-3.1	388
Myeloma	**43**	1.1	**2.1**	1.4-2.8	462
Gallbladder / bile ducts	**31**	0.8	**1.6**	1.0-2.3	573
Liver	**26**	0.6	**1.3**	0.7-1.8	589
Myelodysplastic diseases	**26**	0.6	**1.3**	0.7-1.9	674
All cancers	**4027**	100.0	**250.9**	243-259	4

Mortality

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**445**	21.6	**26.4**	23.9-29.0	32
Colorectal	**237**	11.5	**13.8**	12.0-15.7	73
Colon	**137**	6.6	**7.9**	6.6-9.3	128
Rectum	**100**	4.8	**5.9**	4.7-7.1	169
Prostate	**218**	10.6	**11.5**	9.9-13.1	100
Pancreas	**106**	5.1	**6.6**	5.3-7.9	137
Unknown primary	**100**	4.8	**5.8**	4.6-7.0	150
Melanoma (skin)	**92**	4.5	**5.6**	4.4-6.8	164
Stomach	**91**	4.4	**5.4**	4.3-6.6	176
Mesothelioma	**71**	3.4	**4.2**	3.2-5.2	221
Brain	**69**	3.3	**4.4**	3.3-5.5	206
Leukaemia	**69**	3.3	**4.6**	3.4-5.8	239
Leukaemia NOS	**5**	0.2	**0.2**	0.0-0.5	*
Lymphoid leukaemia	**30**	1.5	**2.1**	1.3-2.9	596
Myeloid leukaemia	**34**	1.6	**2.2**	1.5-3.0	398
Leukaemia, other	**0**				-
Bladder & urinary tract	**66**	3.2	**3.3**	2.5-4.1	523
Lymphoma	**63**	3.1	**3.8**	2.8-4.7	238
Lymphoma NOS	**2**	0.1	**0.1**	0 - 0.2	*
Hodgkin lymphoma	**2**	0.1	**0.1**	0 - 0.3	*
NHL	**59**	2.9	**3.6**	2.6-4.5	242
Oesophagus	**61**	3.0	**3.8**	2.8-4.7	237
Liver	**56**	2.7	**3.4**	2.5-4.3	239
Skin (NMSC inc. SCC/BCC)	**49**	2.4	**2.8**	2.0-3.6	368
Myeloma	**49**	2.4	**2.8**	2.0-3.6	324
Kidney	**32**	1.6	**1.9**	1.2-2.6	576
Myelodysplastic diseases	**27**	1.3	**1.4**	0.9-2.0	741
Pharynx	**23**	1.1	**1.5**	0.9-2.2	498
Gallbladder / bile ducts	**20**	1.0	**1.1**	0.6-1.7	957
Larynx	**18**	0.9	**1.1**	0.6-1.6	714
All cancer deaths	**2064**	100.0	**121.9**	116-127	8

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**294**	18.0	**15.1**	13.2-17.0	58
Breast	**256**	15.7	**14.6**	12.7-16.5	61
Colorectal	**181**	11.1	**8.8**	7.4-10.2	103
Colon	**132**	8.1	**6.3**	5.1-7.5	141
Rectum	**49**	3.0	**2.5**	1.7-3.2	377
Unknown primary	**99**	6.1	**4.6**	3.6-5.7	238
Pancreas	**97**	5.9	**4.7**	3.7-5.7	173
Ovary	**88**	5.4	**4.9**	3.8-6.0	194
Brain	**63**	3.9	**4.0**	2.9-5.1	240
Lymphoma	**63**	3.9	**3.0**	2.2-3.8	330
Lymphoma NOS	**1**	0.1	**0.0**	0 - 0.1	*
Hodgkin lymphoma	**2**	0.1	**0.1**	0 - 0.3	*
NHL	**60**	3.7	**2.8**	2.1-3.6	338
Leukaemia	**46**	2.8	**2.6**	1.8-3.5	359
Leukaemia NOS	**4**	0.2	**0.2**	0 - 0.3	*
Lymphoid leukaemia	**15**	0.9	**0.9**	0.4-1.5	1239
Myeloid leukaemia	**27**	1.7	**1.5**	0.9-2.2	522
Leukaemia, other	**0**				-
Stomach	**41**	2.5	**2.0**	1.3-2.7	578
Melanoma (skin)	**37**	2.3	**2.1**	1.3-2.8	474
Bladder & urinary tract	**35**	2.1	**1.5**	0.9-2.0	676
Gallbladder / bile ducts	**34**	2.1	**1.7**	1.1-2.3	436
Uterus	**32**	2.0	**1.6**	1.0-2.2	499
Liver	**24**	1.5	**1.3**	0.7-1.9	670
Cervix	**24**	1.5	**1.5**	0.9-2.1	700
Myeloma	**22**	1.3	**0.9**	0.5-1.4	1197
Oesophagus	**21**	1.3	**0.9**	0.5-1.4	998
Myelodysplastic diseases	**21**	1.3	**0.8**	0.4-1.2	1252
Skin (NMSC inc. SCC/BCC)	**19**	1.2	**0.7**	0.3-1.0	2918
Kidney	**19**	1.2	**1.1**	0.5-1.6	814
All cancer deaths	**1633**	100.0	**84.4**	79.9-88.9	11

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

2.3 Cancer in different age groups

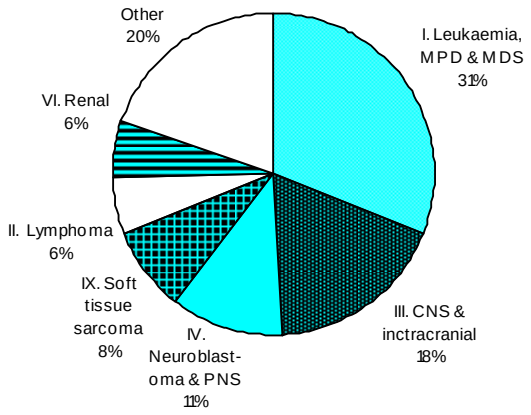
2.3.1 Cancer in children

In children under the age of 15 years, there were 68 cases of cancer diagnosed in 2007, 37 males and 31 females (**Appendix 3A**). The corresponding ASRs were 18.8 per 100,000 males, and 16.1 per 100,000 females, both markedly higher than in 2006. The risk of a child developing cancer before the age of 15 years was 1 in 382 for boys and 1 in 431 for girls. These rates and risks were higher than in 2006 but annual variation is considerable, and they were similar to those seen in 2003.

The estimated 0-14 years population in Western Australia in 2007 was 410,008 (211,788 males and 198,220 females).

Diagnoses are routinely coded and reported using ICD-O 3rd edition,[4] 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, 2 female), a total of 71 cases. The most common tumours diagnosed in children in 2007 are shown in Figure 4.

Figure 4. Tumours in children under 15 years of age, Western Australia, 2007: most common types (ICCC Version 3 - 71 cases).

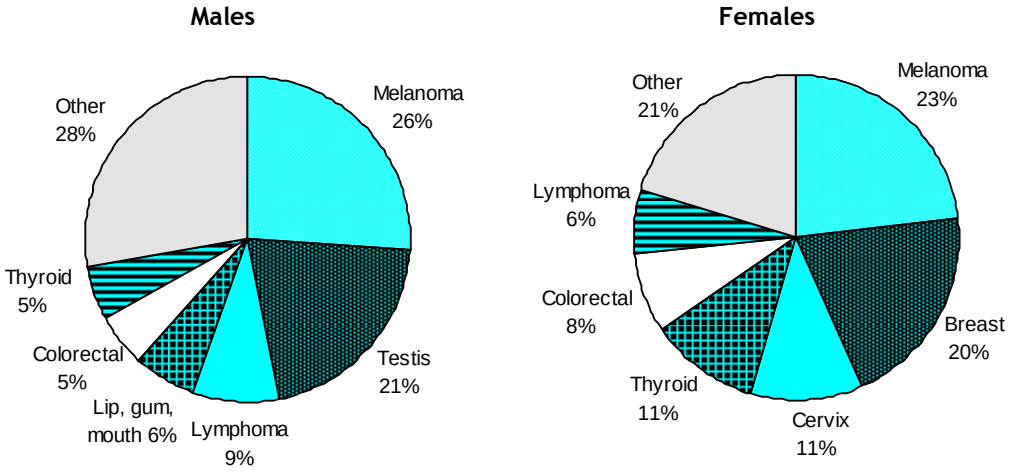


There were 10 cancer-related deaths (6 males, 4 females) in children in 2007. Age-adjusted death rates were 2.7 per 100,000 in males and 2.0 per 100,000 in females. The estimated risk of death due to cancer before the age of 15 was 1 in 2393 for males (higher than in 2006), and 1 in 3347 for females (lower).

2.3.2 Cancer in the 15-39 years age range

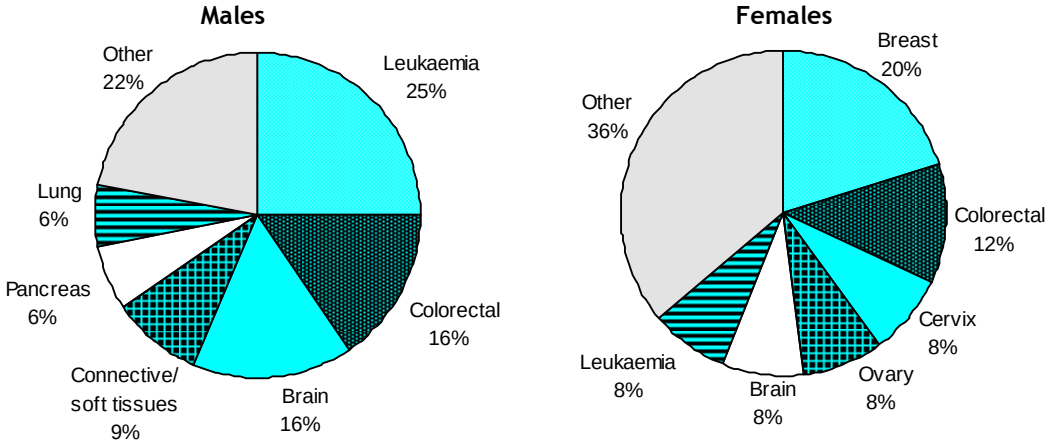
Incidence: In the 15 to 39 years age range, there were 550 cancer diagnoses in 2007 (245 males, ASR 58, 305 females, ASR 74) (Table 2). Melanoma was most common in both males (64 cases, ASR 15) and females (70 cases, ASR 17). Second-ranked cancers were testicular cancer in males (51 cases, 21% of all cancers) and breast cancer in females (62 cases, 20% of all cancers) (Figure 5). Cervical and thyroid cancers were the next most common in females, with lymphomas and oral cancers following next in males.

Figure 5. Cancer incidence, Western Australia, 2007: common cancers in the 15 to 39 years age group



Mortality: Among persons aged 15 to 39 years, there were 82 cancer-related deaths in 2007, 32 in males and 50 in females (Table 3). Among males, the most common causes of cancer-related death were leukaemia (8 deaths), colorectal and brain cancers (Figure 6). In females, most common causes of death were breast cancer (10 deaths) and colorectal cancer (6), followed by leukaemias and cancers of the brain, cervix and ovary (4 each) As cancer-related death in this age group is relatively uncommon, these 'rankings' remain variable from year to year.

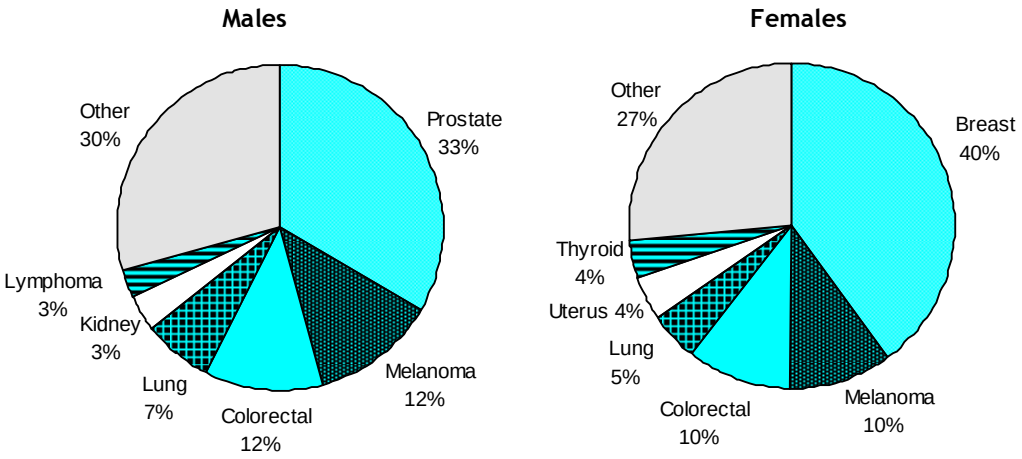
Figure 6. Cancer mortality, Western Australia, 2007: common cancers in the 15 to 39 years age group



2.3.3 Cancer in the 40-64 years age range

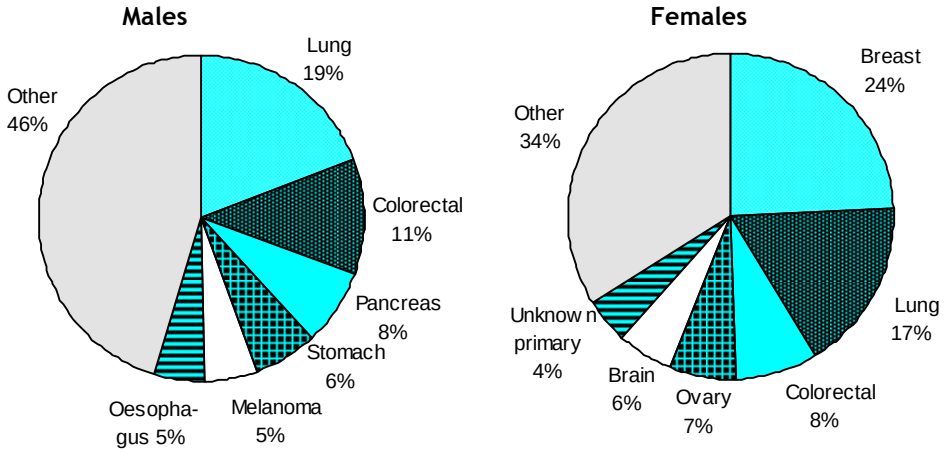
Incidence: In the age range 40 to 64 years, prostate cancer was the most common incident cancer type, continuing a significant rise in recent years. There were 694 cases reported, 33% of cancers in males in this age range. Breast cancer was again most common in women (661 cases, 40% of all female cancers in this age group, little-changed in the last 4 years) (Table 2; Figure 7). The overall risk of cancer occurring in this age range was 1 in 7 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, 2007: common cancers in the 40 to 64 years age group



Mortality: In 2007, 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 (102 deaths, age-adjusted rate of 29 per 100,000 males) (Table 3; Figure 8). Other leading causes of death in males were colorectal cancer (60 deaths), pancreatic cancer (41), stomach cancer (33) and melanoma (29 deaths). Major causes among females were breast cancer (106 deaths), lung cancer (75 deaths) and colorectal cancer (35 deaths).

Figure 8. Cancer mortality, Western Australia, 2007: common cancers in the 40 to 64 years age group

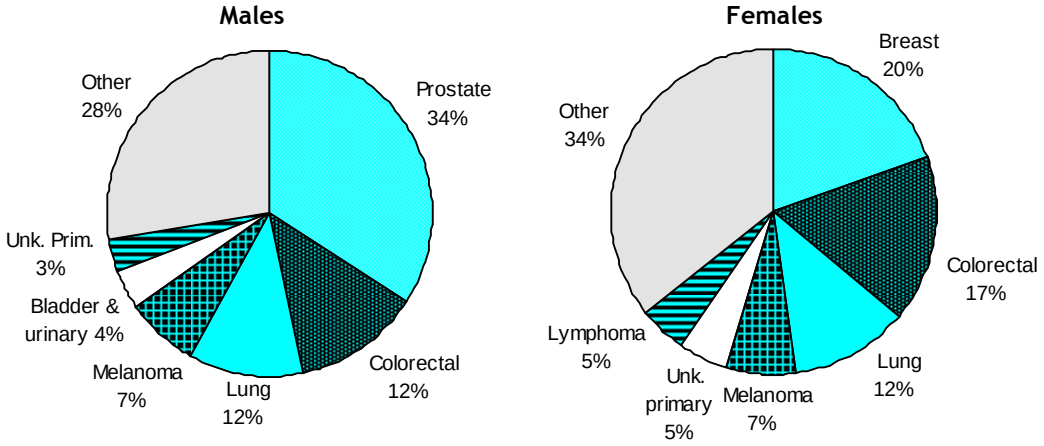


2.3.4 Cancer in persons aged 65 and over

Incidence: Over the age of 65 years, prostate cancer (1085 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 (396 cases, 20%).

Other common cancer types in this age range were colorectal cancer (12% in males, 17% in females) and lung cancer (12%, 12%) (relatively stable over recent years). Melanoma of the skin was the fourth most common cancer type in males and in females (7% in both).

Figure 9. Cancer incidence, Western Australia, 2007: 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 341 deaths among males, at an age-adjusted rate 272 per 100,000; still 23% of cancer-related deaths. Among females, it was responsible for 216 deaths at 133 per 100,000, 19% of all cancer deaths, slightly increased. Colorectal cancer ranked third in males (172 deaths, 12%) and second in females (140 deaths, 12%). Deaths due to prostate cancer ranked second in males (200 deaths, 13%). Breast cancer was the third most common cause of cancer-related death in females (140 deaths, 12%); the rate of death due to breast cancer in this age range was reduced in 2006, but the 2007 death rate is greater than in 2005. Cancers of unknown primary site were also a major cause of death in this age range (80 deaths in males, 78 in females) (Figure 10).

Figure 10. Cancer mortality, Western Australia, 2007: common cancers in the 65 years & over age group

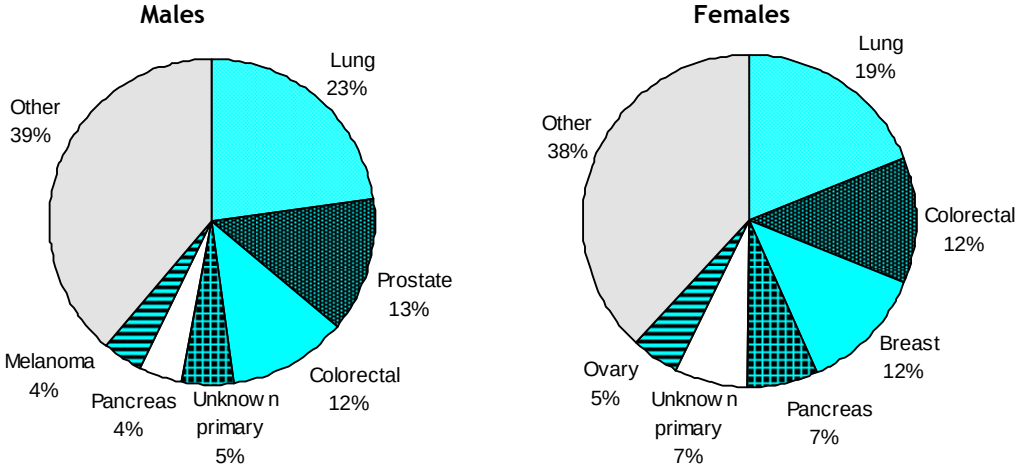


Table 2. Cancer incidence, Western Australia, 2007: leading types by sex and age group (ASR: age-adjusted rate)

15 to 39 years

Males	Cases	%	ASR	95%c.i.	Risk
Melanoma (skin)	**64**	26.1	**14.8**	11.2-18.5	243
Testis	**51**	20.8	**12.5**	9.0-16.0	303
Lymphoma	**21**	8.6	**5.3**	3.0-7.6	732
Lymphoma NOS	**0**				
Hodgkin lymphoma	**8**	3.3	**1.9**	0.6-3.3	1917
NHL	**13**	5.3	**3.4**	1.5-5.2	1183
Lip, gum & mouth	**15**	6.1	**3.1**	1.5-4.7	1069
Colorectal	**13**	5.3	**2.9**	1.3-4.5	1187
Colon	**5**	2.0	**1.2**	0.1-2.3	3012
Rectum	**8**	3.3	**1.7**	0.5-2.8	1959
Thyroid gland	**13**	5.3	**3.1**	1.4-4.8	1184
Leukaemia	**12**	4.9	**3.2**	1.4-5.0	1262
Leukaemia NOS	**0**				
Lymphoid leukaemia	**5**	2.0	**1.4**	0.2-2.7	3007
Myeloid leukaemia	**7**	2.9	**1.7**	0.4-3.0	2173
Leukaemia, other	**0**				
Brain	**10**	4.1	**2.3**	0.9-3.7	1536
All cancers	**245**	100.0	**57.8**	50.4-65.1	64

Females	Cases	%	ASR	95%c.i.	Risk
Melanoma (skin)	**70**	23.0	**16.6**	12.7-20.6	212
Breast	**62**	20.3	**14.0**	10.5-17.5	242
Cervix	**34**	11.1	**7.7**	5.1-10.3	442
Thyroid gland	**34**	11.1	**8.5**	5.6-11.4	433
Colorectal	**24**	7.9	**5.9**	3.5-8.3	621
Colon	**16**	5.2	**4.1**	2.1-6.1	930
Rectum	**8**	2.6	**1.8**	0.5-3.1	1867
Lymphoma	**19**	6.2	**5.3**	2.9-7.7	770
Lymphoma NOS	**0**				
Hodgkin lymphoma	**13**	4.3	**3.8**	1.7-5.9	1118
NHL	**6**	2.0	**1.5**	0.3-2.7	2474
Ovary	**8**	2.6	**2.1**	0.6-3.5	1832
Lung	**7**	2.3	**1.8**	0.4-3.1	2149
Brain	**7**	2.3	**1.9**	0.5-3.3	2077
Leukaemia	**6**	2.0	**1.5**	0.3-2.7	2424
Leukaemia NOS	**0**				
Lymphoid leukaemia	**0**				
All cancers	**305**	100.0	**73.9**	65.5-82.3	49

40 to 64 years

Males	Cases	%	ASR	95%c.i.	Risk
Prostate	**694**	33.2	**194.3**	180-209	18
Melanoma (skin)	**261**	12.5	**73.9**	64.9-82.9	51
Colorectal	**246**	11.8	**68.6**	60.0-77.2	51
Colon	**123**	5.9	**34.3**	28.2-40.3	102
Rectum	**122**	5.8	**34.1**	28.0-40.2	102
Lung	**148**	7.1	**41.6**	34.9-48.4	82
Kidney	**73**	3.5	**20.9**	16.1-25.7	180
Lymphoma	**60**	2.9	**17.2**	12.9-21.6	213
Lymphoma NOS	**1**	0.0	**0.3**	0 - 0.9	*
Hodgkin lymphoma	**6**	0.3	**1.8**	0.4-3.2	2531
NHL	**53**	2.5	**15.1**	11.1-19.2	236
Unknown primary	**51**	2.4	**14.4**	10.4-18.4	254
Lip, gum & mouth	**50**	2.4	**14.4**	10.4-18.4	262
Brain	**47**	2.2	**13.0**	9.2-16.7	284
Pancreas	**46**	2.2	**13.0**	9.2-16.7	272
Oesophagus	**39**	1.9	**10.9**	7.4-14.3	336
Stomach	**39**	1.9	**11.1**	7.6-14.6	322
All cancers	**2089**	100.0	**588.0**	563-613	7

Females	Cases	%	ASR	95%c.i.	Risk
Breast	**661**	39.9	**194.0**	179-209	20
Melanoma (skin)	**172**	10.4	**51.1**	43.4-58.8	75
Colorectal	**168**	10.1	**48.8**	41.4-56.3	73
Colon	**107**	6.5	**30.9**	25.0-36.8	115
Rectum	**59**	3.6	**17.4**	12.9-21.8	207
Lung	**83**	5.0	**24.8**	19.4-30.1	143
Uterus	**70**	4.2	**20.1**	15.4-24.8	182
Thyroid gland	**64**	3.9	**18.9**	14.2-23.5	212
Lymphoma	**60**	3.6	**17.5**	13.0-21.9	211
Lymphoma NOS	**0**				
Hodgkin lymphoma	**5**	0.3	**1.4**	0.2-2.7	2585
NHL	**55**	3.3	**16.0**	11.8-20.3	230
Ovary	**48**	2.9	**13.9**	9.9-17.8	270
Kidney	**35**	2.1	**10.3**	6.9-13.8	374
Leukaemia	**35**	2.1	**10.1**	6.7-13.5	372
Leukaemia NOS	**1**	0.1	**0.3**	0 - 0.9	*
Lymphoid leukaemia	**19**	1.1	**5.5**	3.0-8.0	650
All cancers	**1656**	100.0	**485.6**	462-509	8

65 years and over

Males	Cases	%	ASR	95%c.i.	Risk
Prostate	**1085**	34.2	**933.0**	876-990	11
Colorectal	**396**	12.5	**319.7**	287-352	38
Colon	**254**	8.0	**203.7**	178-230	61
Rectum	**141**	4.4	**115.5**	95.6-135	98
Lung	**364**	11.5	**290.2**	259-321	41
Melanoma (skin)	**227**	7.2	**190.5**	165-216	55
Bladder & urinary tract	**126**	4.0	**98.0**	80.2-116	129
Unknown primary	**102**	3.2	**79.7**	63.5-95.9	145
Lymphoma	**81**	2.6	**65.8**	50.9-80.7	189
Lymphoma NOS	**2**	0.1	**1.6**	0 - 3.9	5801
Hodgkin lymphoma	**2**	0.1	**1.2**	0 - 3.0	*
NHL	**77**	2.4	**62.9**	48.3-77.6	195
Stomach	**77**	2.4	**59.9**	45.9-73.9	216
Leukaemia	**75**	2.4	**56.7**	43.3-70.1	222
Leukaemia NOS	**5**	0.2	**3.4**	0.4-6.5	*
Lymphoid leukaemia	**44**	1.4	**33.3**	23.0-43.6	353
Myeloid leukaemia	**26**	0.8	**19.9**	11.9-28.0	597
All cancers	**3174**	100.0	**2609.4**	2516-2703	5

Females	Cases	%	ASR	95%c.i.	Risk
Breast	**396**	19.5	**288.0**	257-319	37
Colorectal	**339**	16.7	**226.8**	200-253	51
Colon	**262**	12.9	**174.7**	152-198	68
Rectum	**77**	3.8	**52.1**	39.2-64.9	200
Lung	**240**	11.8	**161.0**	139-183	68
Melanoma (skin)	**141**	6.9	**103.9**	85.3-123	98
Unknown primary	**100**	4.9	**57.5**	45.0-70.0	236
Lymphoma	**98**	4.8	**69.1**	54.2-83.9	155
Lymphoma NOS	**1**	0.0	**0.4**	0 - 1.1	*
Hodgkin lymphoma	**3**	0.1	**2.4**	0 - 5.3	3411
NHL	**94**	4.6	**66.3**	51.8-80.8	162
Pancreas	**83**	4.1	**51.6**	39.4-63.9	220
Uterus	**73**	3.6	**56.1**	42.2-70.0	169
Ovary	**52**	2.6	**36.1**	25.3-46.8	302
Leukaemia	**52**	2.6	**34.4**	24.3-44.6	330
Leukaemia NOS	**2**	0.1	**0.7**	0 - 1.7	*
Lymphoid leukaemia	**30**	1.5	**20.6**	12.6-28.6	569
All cancers	**2035**	100.0	**1388.6**	1323-1454	8

Table 3. Cancer mortality, Western Australia, 2007: leading types by sex and age group (ASR: age-adjusted rate)

15 to 39 years

Males

	Deaths	%	ASR	95%c.i.	Risk
Leukaemia	**8**	25.0	**2.2**	0.7-3.8	1910
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**5**	15.6	**1.4**	0.2-2.7	3073
Myeloid leukaemia	**3**	9.4	**0.8**	0 - 1.7	5044
Leukaemia, other	**0**				-
Colorectal	**5**	15.6	**1.3**	0.1-2.4	3014
Colon	**3**	9.4	**0.9**	0 - 1.9	4937
Rectum	**2**	6.3	**0.4**	0 - 1.0	7737
Brain	**5**	15.6	**1.0**	0.1-1.9	3189
Connective/ soft tissues	**3**	9.4	**0.7**	0 - 1.4	5380
Pancreas	**2**	6.3	**0.4**	0 - 1.0	7737
Lung	**2**	6.3	**0.6**	0 - 1.3	7665
Melanoma (skin)	**2**	6.3	**0.4**	0 - 1.0	7737
Nasopharynx	**1**	3.1	**0.2**	0 - 0.6	*
Small intestine	**1**	3.1	**0.2**	0 - 0.7	*
Testis	**1**	3.1	**0.3**	0 - 0.9	*
Unknown primary	**1**	3.1	**0.3**	0 - 0.9	*
All cancer deaths	**32**	100.0	**7.9**	5.1-10.7	483

Females

	Deaths	%	ASR	95%c.i.	Risk
Breast	**10**	20.0	**2.2**	0.8-3.6	1537
Colorectal	**6**	12.0	**1.4**	0.3-2.5	2511
Colon	**4**	8.0	**1.0**	0.0-1.9	3690
Rectum	**2**	4.0	**0.4**	0 - 1.0	7854
Cervix	**4**	8.0	**0.8**	0.0-1.7	3835
Ovary	**4**	8.0	**1.2**	0.0-2.4	3653
Brain	**4**	8.0	**1.1**	0.0-2.2	3645
Leukaemia	**4**	8.0	**1.0**	0.0-2.1	3634
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**1**	2.0	**0.3**	0 - 0.9	*
Myeloid leukaemia	**3**	6.0	**0.7**	0 - 1.6	4822
Leukaemia, other	**0**				-
Lung	**3**	6.0	**0.7**	0 - 1.6	5090
Melanoma (skin)	**3**	6.0	**0.7**	0 - 1.5	5125
Unknown primary	**2**	4.0	**0.6**	0 - 1.5	7096
Lymphoma	**2**	4.0	**0.4**	0 - 1.0	7493
Lymphoma NOS	**0**				-
All cancer deaths	**50**	100.0	**12.5**	8.9-16.0	299

40 to 64 years

Males

	Deaths	%	ASR	95%c.i.	Risk
Lung	**102**	19.2	**28.8**	23.2-34.4	120
Colorectal	**60**	11.3	**17.2**	12.8-21.5	206
Colon	**35**	6.6	**9.8**	6.5-13.0	355
Rectum	**25**	4.7	**7.4**	4.5-10.3	492
Pancreas	**41**	7.7	**11.6**	8.0-15.1	306
Stomach	**33**	6.2	**9.5**	6.2-12.7	377
Melanoma (skin)	**29**	5.5	**8.0**	5.1-11.0	454
Oesophagus	**26**	4.9	**7.4**	4.5-10.2	482
Brain	**25**	4.7	**7.0**	4.2-9.7	522
Liver	**23**	4.3	**6.4**	3.8-9.0	562
Mesothelioma	**22**	4.1	**6.2**	3.6-8.8	561
Lymphoma	**20**	3.8	**5.5**	3.1-7.9	629
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**1**	0.2	**0.3**	0 - 0.9	*
NHL	**19**	3.6	**5.2**	2.8-7.5	655
Unknown primary	**19**	3.6	**5.5**	3.0-8.0	647
Prostate	**18**	3.4	**5.1**	2.7-7.5	650
All cancer deaths	**532**	100.0	**150.4**	138-163	24

Females

	Deaths	%	ASR	95%c.i.	Risk
Breast	**106**	24.3	**30.4**	24.6-36.2	118
Lung	**75**	17.2	**22.1**	17.1-27.2	157
Colorectal	**35**	8.0	**10.2**	6.8-13.5	352
Colon	**23**	5.3	**6.6**	3.9-9.4	523
Rectum	**12**	2.7	**3.5**	1.5-5.5	1074
Ovary	**29**	6.6	**8.2**	5.2-11.2	414
Brain	**25**	5.7	**7.3**	4.4-10.2	505
Unknown primary	**19**	4.3	**5.9**	3.2-8.5	606
Pancreas	**18**	4.1	**5.4**	2.9-7.9	651
Melanoma (skin)	**14**	3.2	**4.2**	2.0-6.3	884
Cervix	**12**	2.7	**3.4**	1.5-5.4	1143
Stomach	**11**	2.5	**3.1**	1.3-5.0	1228
Lymphoma	**11**	2.5	**3.1**	1.3-5.0	1176
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**11**	2.5	**3.1**	1.3-5.0	1176
Leukaemia	**10**	2.3	**2.9**	1.1-4.6	1293
All cancer deaths	**437**	100.0	**126.8**	115-139	28

65 years and over

Males

	Deaths	%	ASR	95%c.i.	Risk
Lung	**341**	22.8	**271.6**	242-302	44
Prostate	**200**	13.4	**145.7**	125-167	119
Colorectal	**172**	11.5	**129.7**	109-150	117
Colon	**99**	6.6	**73.8**	58.7-89.0	208
Rectum	**73**	4.9	**55.8**	42.4-69.2	265
Unknown primary	**80**	5.4	**61.7**	47.5-75.8	198
Pancreas	**63**	4.2	**51.3**	38.1-64.4	254
Melanoma (skin)	**61**	4.1	**49.1**	36.3-61.8	265
Bladder & urinary tract	**59**	3.9	**39.9**	29.3-50.5	752
Stomach	**58**	3.9	**43.9**	32.2-55.7	328
Mesothelioma	**49**	3.3	**38.1**	26.9-49.4	365
Lymphoma	**43**	2.9	**34.2**	23.6-44.7	382
Lymphoma NOS	**2**	0.1	**1.1**	0 - 2.6	*
Hodgkin lymphoma	**1**	0.1	**0.6**	0 - 1.8	*
NHL	**40**	2.7	**32.5**	22.1-42.9	382
Leukaemia	**42**	2.8	**31.9**	21.8-41.9	476
Leukaemia NOS	**5**	0.3	**3.4**	0.4-6.5	*
All cancer deaths	**1494**	100.0	**1150.6**	1090-1211	12

Females

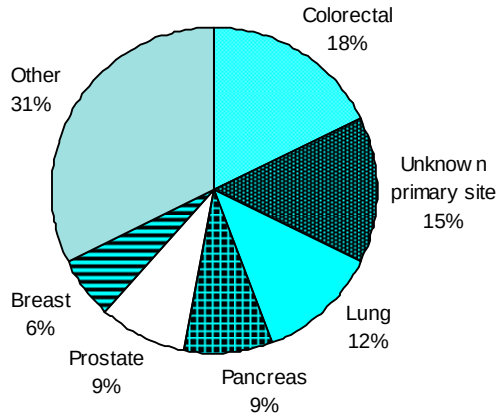
	Deaths	%	ASR	95%c.i.	Risk
Lung	**216**	18.9	**132.7**	113-152	93
Colorectal	**140**	12.3	**82.5**	67.2-97.8	153
Colon	**105**	9.2	**61.8**	48.6-75.0	202
Rectum	**35**	3.1	**20.7**	13.0-28.5	627
Breast	**140**	12.3	**88.0**	71.8-104	135
Pancreas	**78**	6.8	**46.7**	35.2-58.1	238
Unknown primary	**78**	6.8	**42.0**	31.8-52.3	415
Ovary	**55**	4.8	**34.3**	24.3-44.3	404
Lymphoma	**50**	4.4	**29.3**	20.3-38.3	488
Lymphoma NOS	**1**	0.1	**0.5**	0 - 1.6	*
Hodgkin lymphoma	**1**	0.1	**0.4**	0 - 1.1	*
NHL	**48**	4.2	**28.4**	19.4-37.3	488
Bladder & urinary tract	**32**	2.8	**17.7**	11.0-24.5	807
Brain	**31**	2.7	**19.3**	11.8-26.7	590
Leukaemia	**31**	2.7	**19.3**	11.8-26.8	602
Leukaemia NOS	**3**	0.3	**1.1**	0 - 2.3	*
Lymphoid leukaemia	**10**	0.9	**6.0**	1.8-10.2	2364
All cancer deaths	**1142**	100.0	**678.9**	635-722	19

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 34 DCO cancers recorded for 2007, representing only 0.36% of all cancers (low, but increased from 0.26% in 2005 and similar to the rate in 2006 (Figure 11).

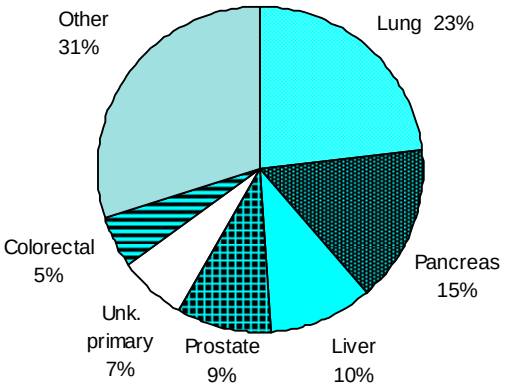
Figure 11. Death Certificate Only (DCO) cancers, 2007: common types (34 cases)



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 337 such "DC and HMDS" cases recorded for 2007, more than in 2006, with the date of diagnosis being taken from the hospital discharge date. Most common cance types were lung, pancreas and 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. The audits performed for 2005 and 2006 cancer data could not be undertaken in 2008 due to the development of the new Canis database system and lack of availability of project staff. The best available estimate of the degree to which incident cancer totals for 2007 might have been increased if such investigation were possible, is between 4% and 5%.

Figure 12. "DC & HMDS" cancers, 2007: common types (337 cases)



3.2 Trends in age-specific cancer incidence rates

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.[6] Updated incidence trends are presented graphically in the figures below for the more common cancer types.

Prostate cancer incidence declined sharply after the mid-1990s peak, but has risen steadily since 1997. The caseload is dominated by high incidence rates in those over 70 years of age especially (Fig. 13a), however the log-scale graph in Figure 13b indicates that the fastest increases since 1995 have occurred in the 40-49 years and 50-59 years age groups.
Breast cancer incidence generally increases with age, and local data reflected this pattern until the late 1990s, when the age-specific incidence in the 60-69 years age group overtook that in women over 70 years of age. Incidence in the over-70 age group has generally declined since a peak in 1995 (Figur4e 14).

Lung cancer incidence continues to decline in males in all ages groups (Fig. 15). However, overall lung cancer incidence is relatively steady in females, and the incidence rate in the oldest age group has been rising until recently (Fig. 16). Incidence in the youngest age group shown, 40-59 years, appears steady, but is generally as high or higher than in males of similar age. Colorectal cancer incidence rates appear relatively steady in all the age groups assessed (Figs 19, 20) while melanoma incidence appears to be rising in all groups especially in males (Figs 17, 18).

Figure 13a. Age-specific incidence rates for prostate cancer, Western Australian males, 1982-2007

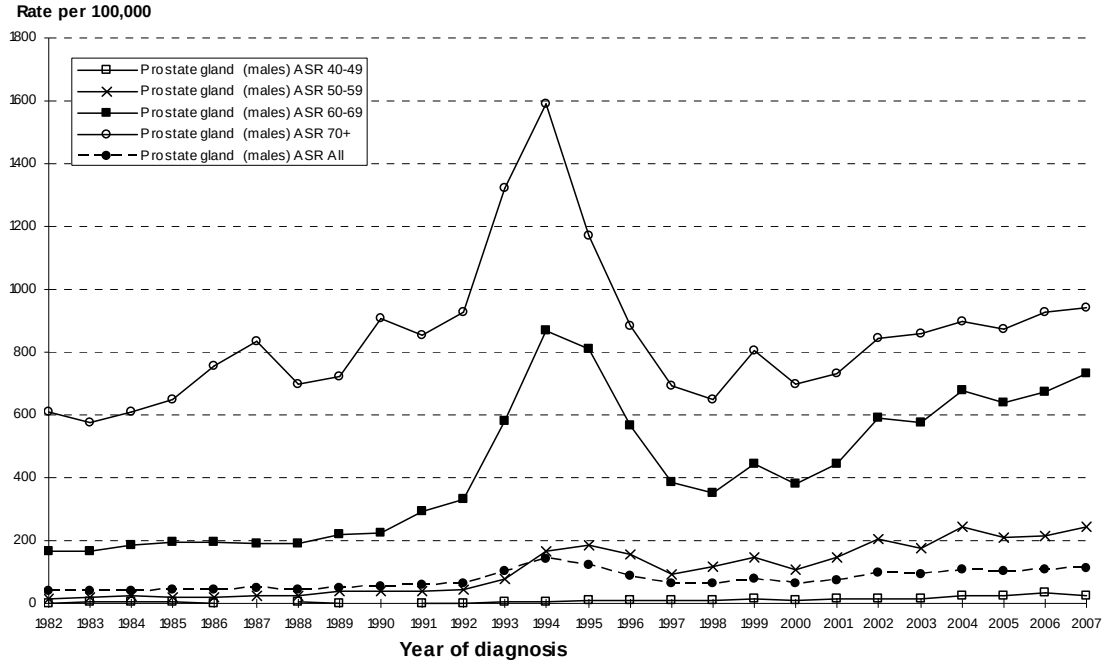


Figure 13b. Age-specific incidence rates for prostate cancer, Western Australian males, 1982-2007 (log scale)

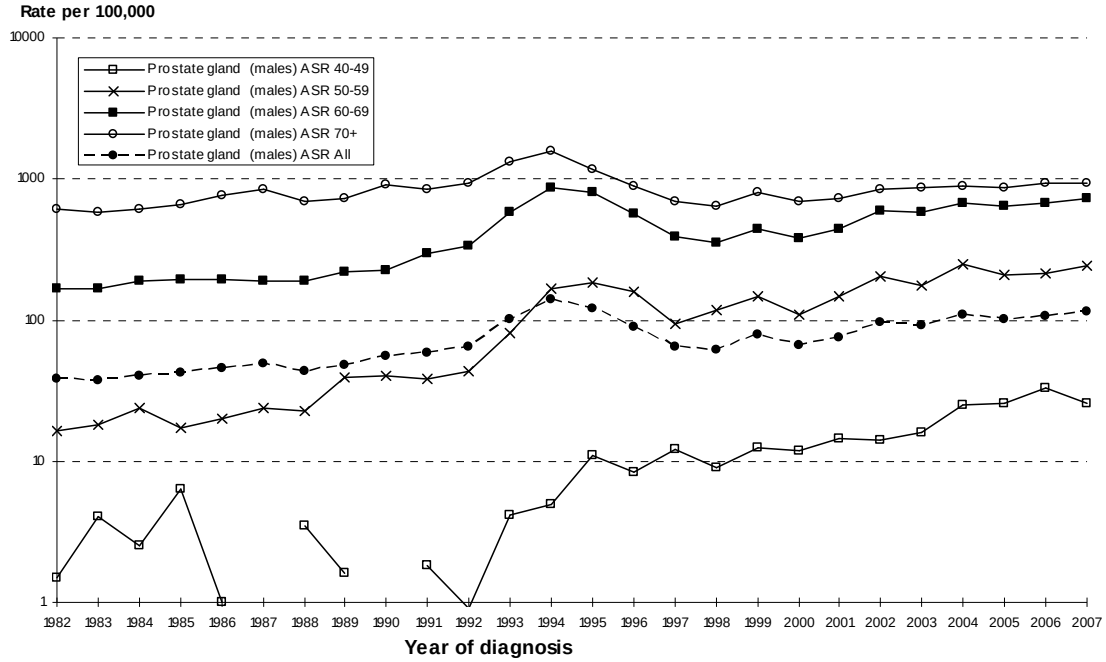


Figure 14. Age-specific incidence rates for breast cancer, Western Australian females, 1982-2007

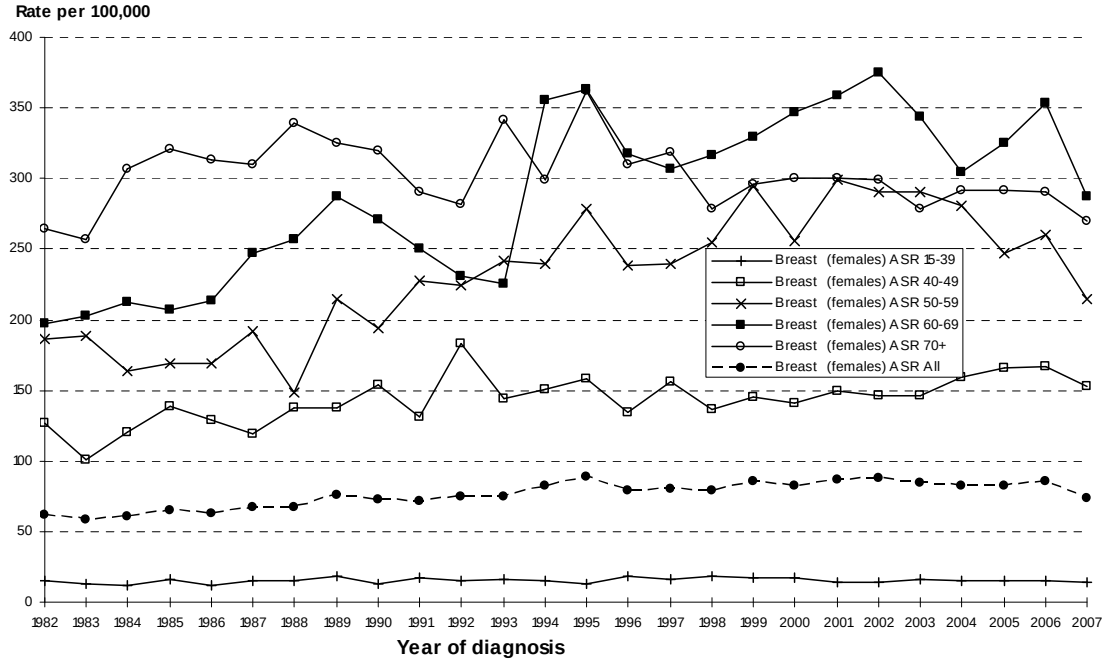


Figure 15. Age-specific incidence rates for lung cancer, Western Australian males, 1982-2007

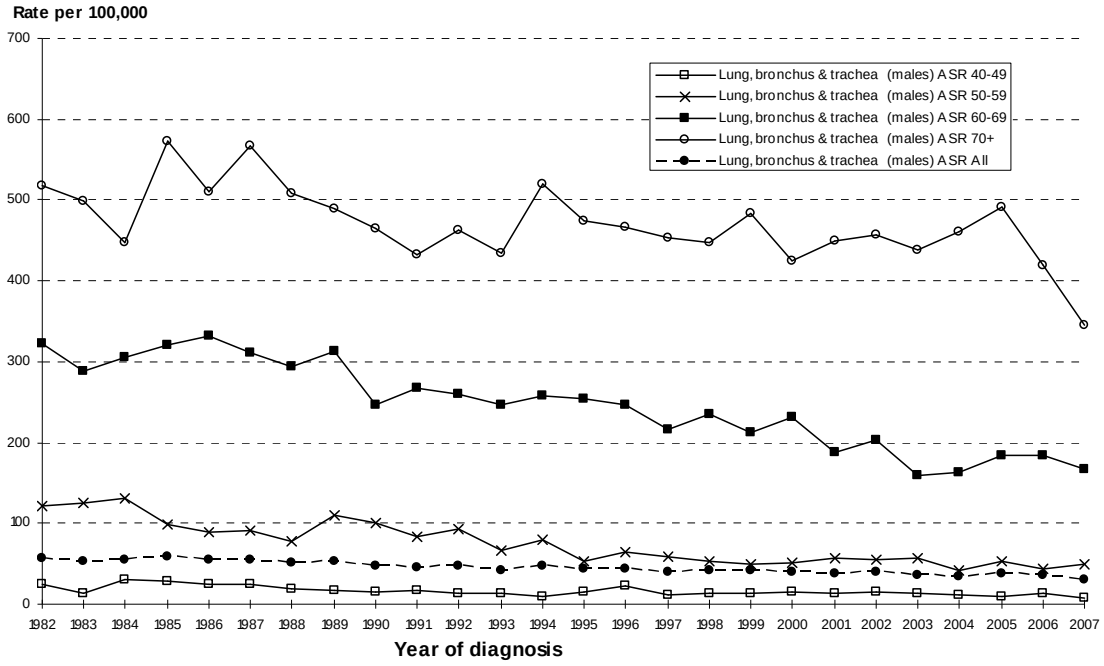


Figure 16. Age-specific incidence rates for lung cancer, Western Australian females, 1982-2007

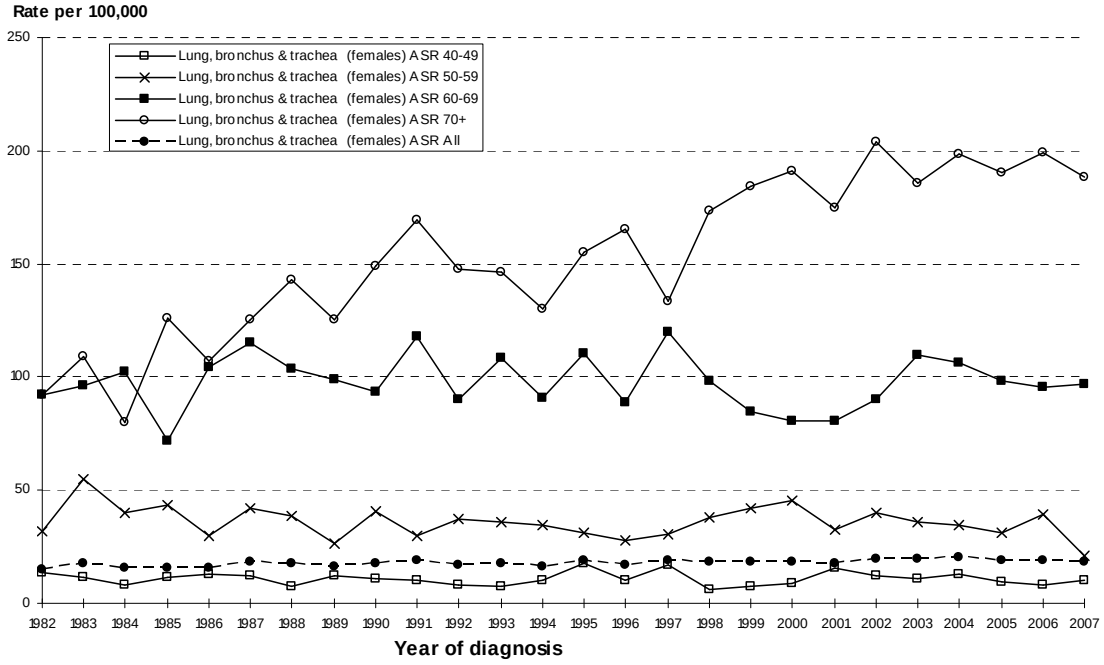


Figure 17. Age-specific incidence rates for melanoma, Western Australian males, 1982-2007

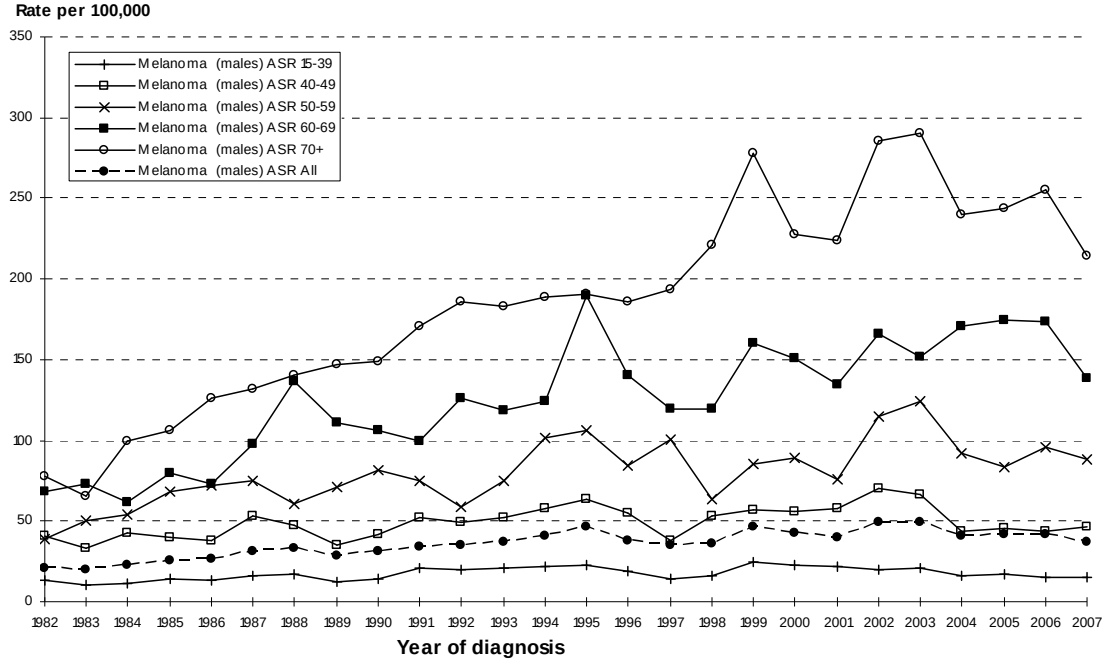


Figure 18. Age-specific incidence rates for melanoma, Western Australian females, 1982-2007

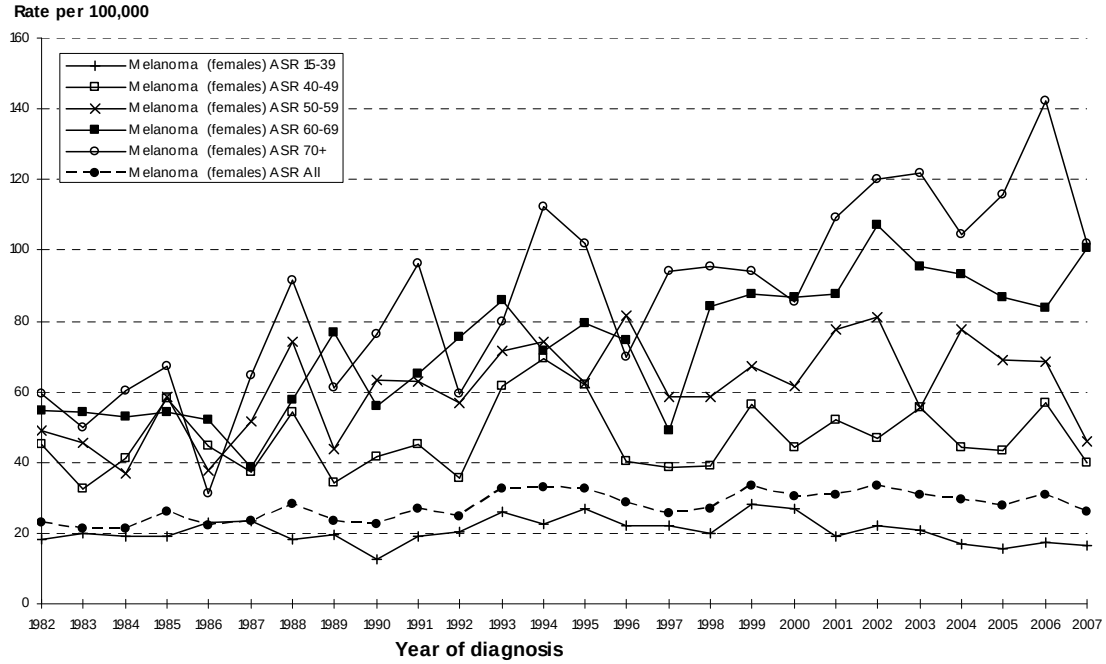


Figure 19. Age-specific incidence rates for colorectal cancer, Western Australian males, 1982-2007

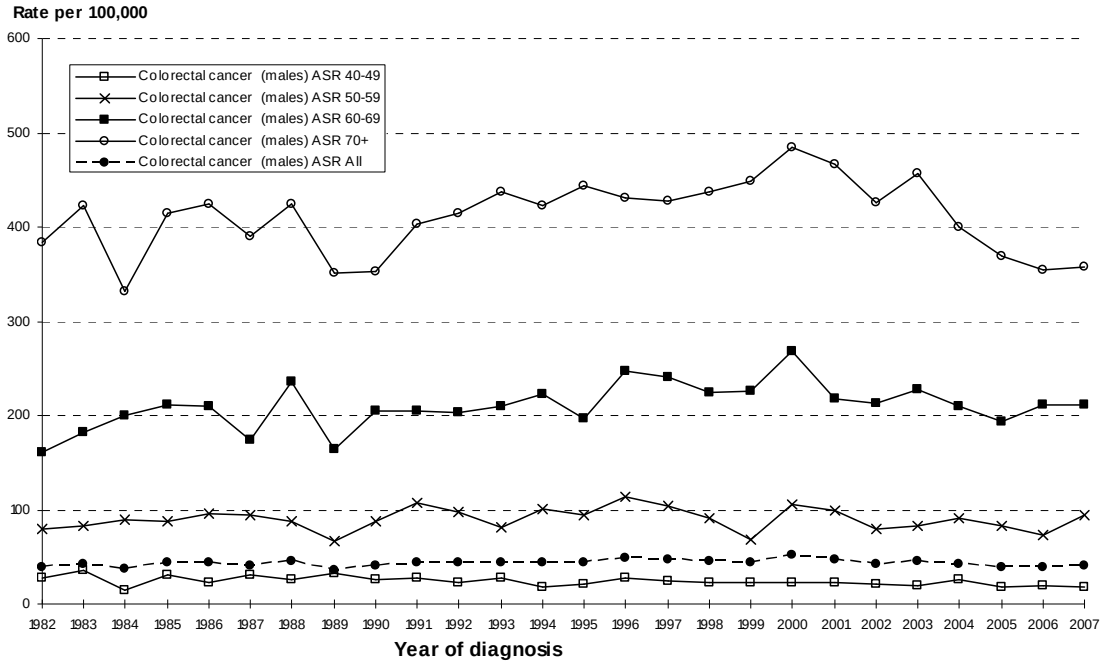
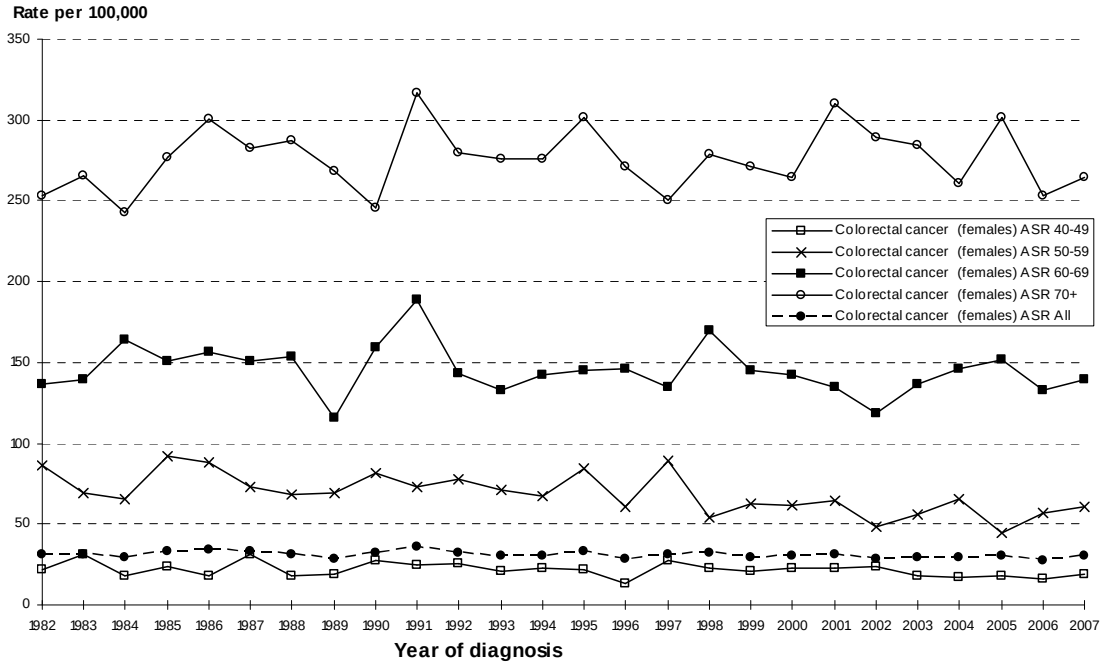


Figure 20. Age-specific incidence rates for colorectal cancer, Western Australian females, 1982-2007



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4. Cancer Prevalence

(Based on work by Dr Judy Katzenellenbogen (Epidemiology Branch, WA Health), Dr Katrina Spilsbury (Curtin University) and Peter Somerford (Epidemiology Branch, WA Health))

4.1 Introduction

The purpose of this section is to provide additional indicators of cancer burden that can be useful for program and service planning. For the first time, a profile of the prevalence of priority cancers in WA is presented.

Cancer prevalence is the number of people in the population who received a diagnosis of cancer at any time and are still alive. Estimating prevalence requires knowledge of all diagnosed cases and their survival at a particular point in time. Because cancer registration was started in 1982, estimates of prevalence reflect cases registered since 1982 only. The total registered prevalence estimates may be marginally lower than the true total prevalence due the survival of some cases whose diagnosis pre-dates 1982 when the register was started.

The following indicators of prevalence are reported:

- *Total registered cancer prevalence* includes people with varying needs, including those still undergoing primary treatment and those who may be considered 'cured' and make little demands on health-care services. Age-specific prevalence reflects current age.
- *Limited duration (or N-year) prevalence* includes cancer cases diagnosed within a specific timeframe, such as 1, 5 or 20 years. For example, 5-year prevalence includes all people diagnosed within the past five years and still alive, including those recently diagnosed.
- *Expected cancer deaths* reflect the number of prevalent cases that can be expected to die from their cancer in the future, providing an indication of those cases who will continue to make substantial demands on health services. The remaining cases will most likely be cured of their cancer in the future, some still requiring treatment at the current time. Expected cancer deaths are a subset of prevalence, and are provided for each N-year prevalence estimate.

4.2 Methodology

4.2.1 Total and Limited Duration Registered Prevalence

Total Registered Prevalence

Anonymous records of invasive colorectal, lung, melanoma, prostate, breast and cervical cancers and skin melanoma registered since 1 January 1982 and not known to have died by 31 December 2007 were extracted from the WA Cancer Registry. Evidence of vital status and continued residence in WA are maintained via linkage of cancer registry data with mortality and electoral roll records. For logistical reasons, cervical cancer estimates reflect prevalence on 31 December 2005, while prevalence for other cancers pertains to 31 December 2007. Frequencies for each age group were calculated using current age, not age at diagnosis.

Limited duration prevalence

Limited duration (or N-year) prevalence was calculated for 1, 3, 5, 10 and 20-year periods, based on the number of years since diagnosis.

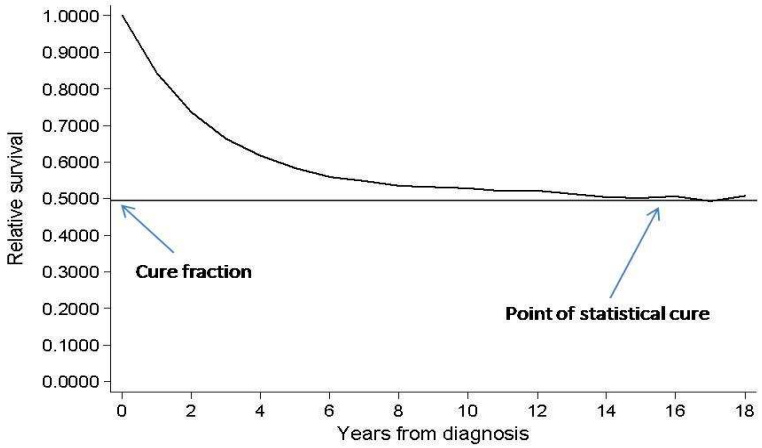
Expected deaths in prevalent cases

The expected cancer deaths, or the number of persons predicted to die from their cancer, were estimated in a series of steps that varied with the type of cancer. Each prevalent case was allocated a probability of dying from their cancer in the future, based on the survival experience of WA cases of similar sex, age and calendar period at diagnosis. The sum of these probabilities for any particular group provides an estimate of the number of people who will most likely die from their cancer at some time in the future.

To calculate probabilities of dying, survival data were obtained from the WA Cancer Registry for cases registered 1982-2006 and followed to December 2007, and relative survival calculated. Relative survival is simply a ratio of the observed survival rates of cancer patients and the expected survival rates in the general population of the same age, calendar period and gender. For example, a five-year relative survival of 0.8 for women aged 50-55 years diagnosed with breast cancer in 1990 means that their chance of being alive five years later is 80% of the chance that other women of the same age in the general population have, of being alive at that time. For lung, colorectal and cervical cancers, the probabilities of dying were estimated using cure fraction modeling (see explanation below). For breast cancer, prostate cancer and melanoma, expected cancer deaths were estimated by fitting fractional polynomial models to relative survival estimates (see explanation below).

Cure fraction models

Cure fraction modeling is ideal when the relative survival curve appears to plateau after a number of years. This indicates that the mortality rate in cancer patients has become almost the same as the general population, that is, there is no excess mortality and the patients have become effectively "cured" of cancer. Note that this cure refers to what is called a "statistical cure" at a population level and not the probability of cure at an individual level. Cure fraction modeling estimates the proportion of patients who will be cured by fitting parametric non-mixture models to the relative survival curves of cancer patients. The point in time at which excess mortality becomes zero is estimated by fitting the model and this is then used to estimate the proportion of patients who are cured and the proportion who are not cured at any point in time. A Stata program, ***strsnmix*****,** calculates these estimates and their standard errors in a single operation. [1] Cure fraction models were estimated for each age group (15-44 years, 45-64 years, 65-79 years and 80+ years), gender and calendar period of diagnosis (1980-1989, 1990-1999 and 2000-2006). An example of a hypothetical estimation of cure fraction is shown below.



Fractional polynomial models

For cancers where the relative survival curves do not appear to plateau, that is, cancers for which there always appears some excess mortality, even long after diagnosis, different methods of estimating the expected cancer deaths were needed. Cancers that show excess mortality many years after diagnosis include breast and prostate cancer. Cancers like melanoma that have a very high proportion of long term survivors due to low mortality also need alternative methods to estimate the expected cancer deaths. A two step approach was used in these cases. First, relative survival estimates were constructed using a Stata program, ***strs*** [2]. The grouped relative survival estimates for each year since diagnosis by age group, sex and calendar period were then modeled using linear regression. The variables age group, sex and calendar period were entered into the models as the best fitting fractional polynomial transformations and interaction terms. Based on these models, predicted relative survival and associated standard errors were estimated. Graphical confirmation that the predicted relative survival matched the observed relative survival estimates was performed before proceeding further. The probability of a cancer patient *i* dying from their disease at time *t* was estimated from the predicted relative survival estimates as described by Brameld *et al*. [3] That is:

$$p_i(t) = 1 - \frac{RS(Tc)}{RS(t)}$$

Where ***RS(Tc)*** is the relative survival at time to cure which was chosen as 15 years for prostate and melanoma cancers and 20

Standard errors for this estimated probability were calculated as follows where the numerator ***RS(Tc)*** was considered a subset of ***RS(t)***.

$$SE(p) = 1 - \frac{1}{RS(t)} * \sqrt{[SE(RS(Tc))]^2 - \frac{(RS(Tc))^2}{RS(t)^2}[SE(RS(t))]^2}$$

4.3 Results

In Table 4.1, the number of prevalent cases at December 2007, and the number of expected future cancer-related deaths among those cases, is shown for the common cancers assessed. In all cases, the proportion of prevalent cases expected to ultimately die due to their cancer decreases with increased time since diagnosis, and reinforces the view that the assumption of "cure" becomes more valid with the passage of time.

The most common cancers in either sex – prostate cancer and breast cancer – account for similar proportions of total prevalent cases after long periods, but mortality due to breast cancer continues at a much higher rate than for prostate cancer, even after the passage of many years. There are a number of major differences that may influence this – including the usual scale of surgery, and the common occurrence of second-primary breast cancers that may cause difficulties with proper attribution of cause of death.

For colorectal cancer, the proportion of cases who might be expected to die because of it, remains markedly higher for males than for females, regardless of the time since diagnosis. Attribution of death to original, resected tumours, versus new primaries, can be problematic as for breast cancer.

Table 4.1 Selected cancers: Limited duration prevalence all ages combined, by sex: WA December 2007 (numbers of cases and expected deaths)

Males	*Time since diagnosis -*					
	1 year	3 year	5 year	10 year	20 year	26 year
Colorectal						
Limited Duration Prevalence	579	1457	2171	3403	4463	4710
Expected cancer deaths	250	525	685	863	924	933
95% CI Expected deaths	(199 - 302)	(389 - 678)	(483 - 932)	(575 - 1258)	(604 - 1376)	(608 - 1398)
Lung						
Limited Duration Prevalence	259	533	686	864	1030	1081
Expected cancer deaths	217	371	411	428	433	436
95% CI Expected deaths	(205 - 256)	(332 - 406)	(358 - 463)	(367 - 495)	(369 - 507)	(370 - 513)
Melanoma						
Limited Duration Prevalence	611	1859	2896	5028	7122	7643
Expected cancer deaths	100	235	301	367	376	376
95% CI Expected deaths	(53 - 147)	(108 - 374)	(127 - 512)	(146 - 686)	(148 - 720)	(148 - 720)
Melanoma (Advanced : Clark Level V)						
Limited Duration Prevalence	6	39	59	84	108	114
Expected cancer deaths	3	13	16	17	17	17
95% CI Expected deaths	(2 - 4)	(8 - 20)	(9 - 29)	(10 - 36)	(10 - 41)	(10 - 41)
Prostate						
Limited Duration Prevalence	1726	4630	7000	10144	12788	12869
Expected cancer deaths	155	324	375	479	618	618
95% CI Expected deaths	(91 - 221)	(165 - 502)	(170 - 640)	(258 - 814)	(370 - 984)	(370 - 984)

Females	*Time since diagnosis -*					
	1 year	3 year	5 year	10 year	20 year	26 year
Colorectal						
Limited Duration Prevalence	428	1116	1723	2786	3795	4088
Expected cancer deaths	147	292	370	436	455	457
95% CI Expected deaths	(117 - 182)	(209 - 397)	(248 - 543)	(274 - 709)	(282 - 757)	(283 - 764)
Lung						
Limited Duration Prevalence	184	372	484	624	715	742
Expected cancer deaths	151	261	296	313	318	319
95% CI Expected deaths	(141 - 159)	(229 - 288)	(251 - 340)	(260 - 374)	(262 - 385)	(262 - 390)
Melanoma (All)						
Limited Duration Prevalence	374	1244	1984	3698	5730	6422
Expected cancer deaths	52	136	186	245	255	255
95% CI Expected deaths	(25 - 78)	(60 - 218)	(76 - 315)	(95 - 456)	(97 - 487)	(97 - 487)
Melanoma (Advanced : Clark Level V)						
Limited Duration Prevalence	0	20	42	72	90	100
Expected cancer deaths	0	6	9	11	11	11
95% CI Expected deaths	0	(3 - 10)	(5 - 21)	(5 - 36)	(5 - 40)	(5 - 41)
Breast						
Limited Duration Prevalence	1183	3601	5674	9804	13783	14574
Expected cancer deaths	412	1166	1361	2564	2870	2870
95% CI Expected deaths	(331 - 492)	(928 - 1404)	(1735 - 2109)	(1985 - 3148)	(2232 - 3521)	(2232 - 3523)
Cervical (2005)						
Limited Duration Prevalence	75	205	335	578	1171	1355
Expected cancer deaths	22	50	65	78	84	85
95% CI Expected deaths	(16 - 29)	(35 - 67)	(45 - 90)	(52 - 111)	(55 - 125)	(55 - 128)

While case numbers in Table 4.1 provide an idea of the scale of the cancer-prevalence issue, age-standardised rates facilitate comparisons between areas. ASRs for the common cancers assessed are shown graphically in Figure 4.1. While the numbers are more difficult to assess, the graphics serve better than a table to illustrate the differences between cancer types, in terms of long-term mortality risk. The data series for prevalence and for expected mortality diverge more sharply for prostate cancer and melanoma especially, than for lung cancer, indicating a greater proportion of cures in the earlier periods after diagnosis.

Figure 4.1 Age-standardised limited duration prevalence and expected future mortality, Western Australia, December 2007 (except cervical cancer, 2005)

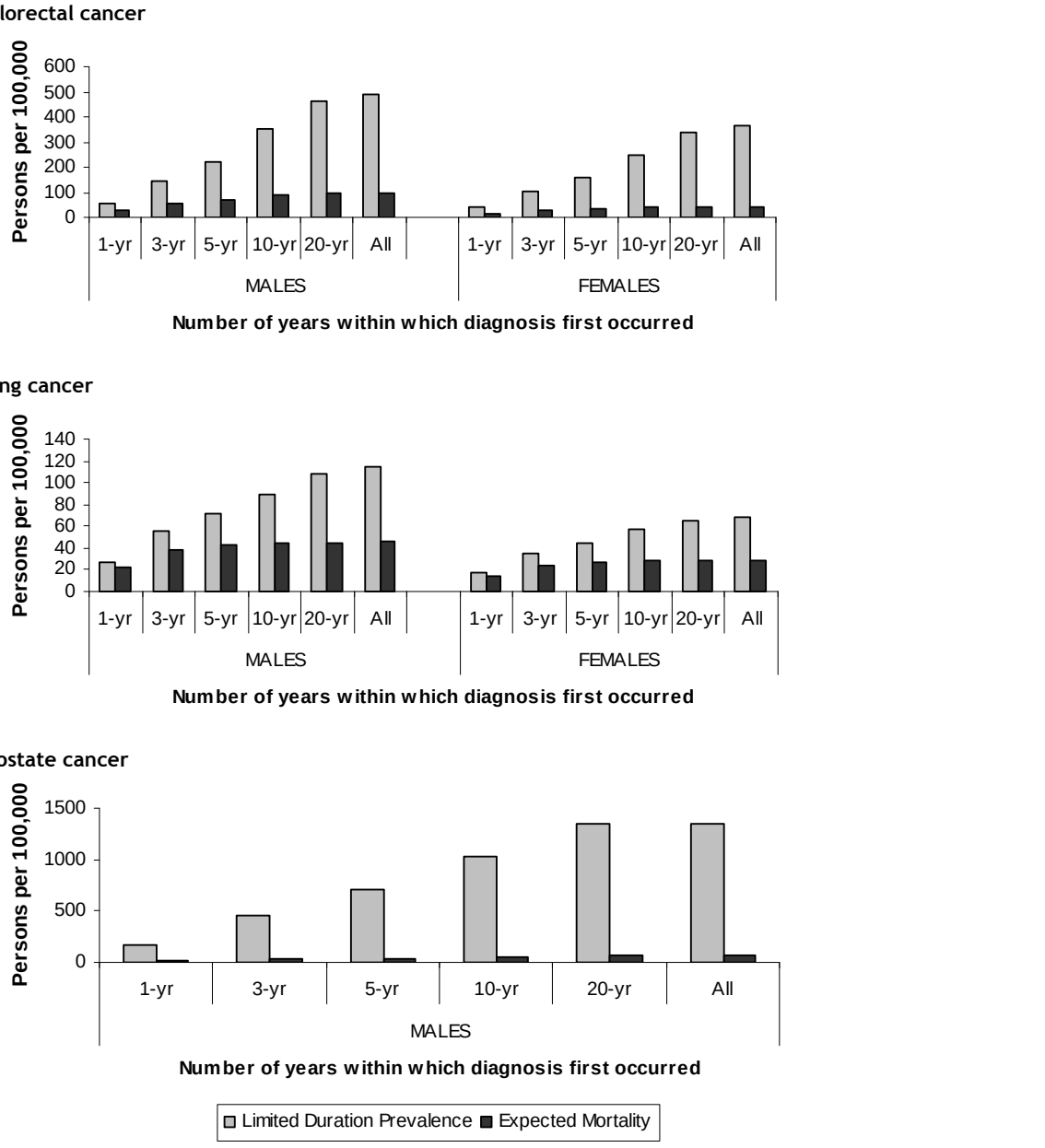
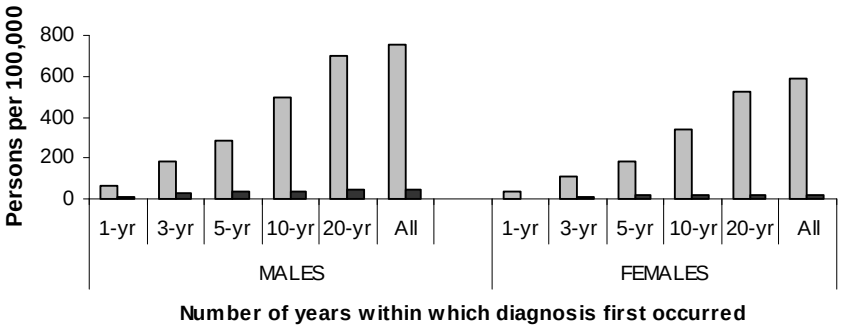
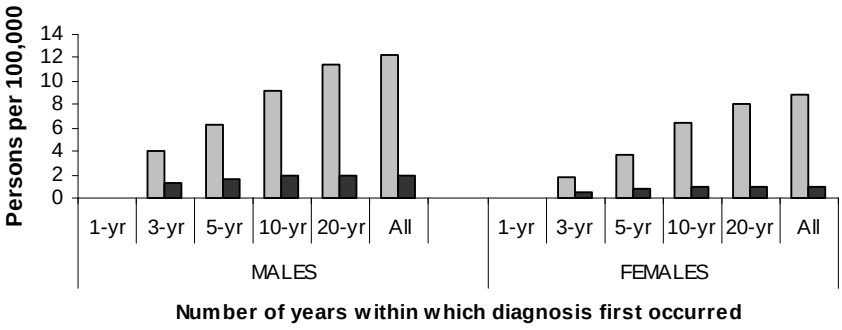


Figure 4.1 (cont.) Age-standardised limited duration prevalence and expected future mortality, Western Australia, December 2007 (except cervical cancer, 2005)

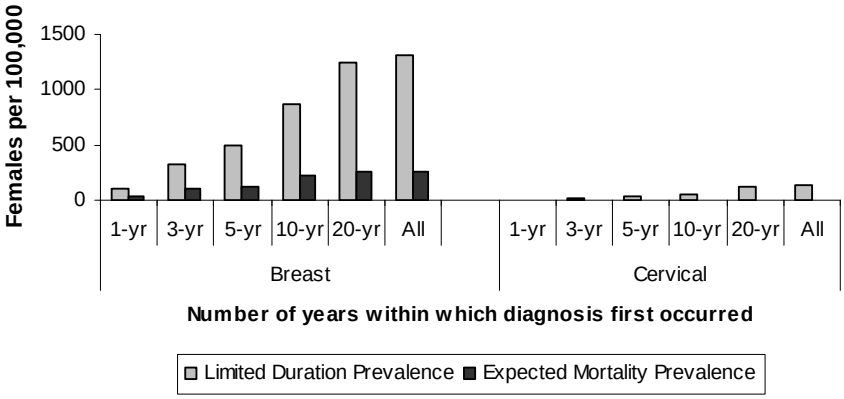
Melanoma



Advanced melanoma



Breast cancer and cervical cancer



Age-specific limited-duration prevalence and expected future mortality

The following pages show age-specific prevalence as numbers of persons and as rates for the common cancers assessed, based on current age, in Tables 4.2 – 4.8. Age-specific expected mortality numbers and rates have been calculated, and are not presented here due to space limitations but are available on request.

Table 4.2 Cancer limited duration prevalence, Western Australia: Colorectal cancer

NUMBER OF PREVALENT CASES AS AT 31 DECEMBER 2007

Current 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	70-75	75-79	80-84	85+	Total
Males																			
1 yr	0	0	0	1	0	0	6	6	6	15	41	74	72	114	78	70	59	37	579
3 yr	0	0	0	1	3	2	12	12	24	39	93	166	203	271	202	189	147	93	1457
5yr	0	0	0	1	5	3	14	15	30	57	130	238	299	371	324	309	220	155	2171
10 yr	0	0	0	2	6	4	16	21	44	79	169	341	449	550	535	517	388	282	3403
20 yr	0	0	0	2	6	5	16	21	50	89	201	393	547	712	704	710	558	449	4463
26 yr	0	0	0	2	6	5	16	21	51	91	207	402	560	742	736	759	603	509	4710
Females																			
1 yr	0	0	0	0	4	4	3	5	9	22	33	45	50	52	60	54	44	43	428
3 yr	0	0	0	2	1	1	1	2	3	6	9	12	13	20	23	21	18	17	147
5yr	0	0	0	0	5	8	11	10	17	42	67	113	134	141	146	151	139	132	1116
10 yr	0	0	0	2	2	2	3	3	5	10	15	24	29	39	45	46	37	32	292
20 yr	0	0	0	2	5	12	12	12	27	58	93	164	203	230	236	237	215	217	1723
26 yr	0	0	0	0	2	3	3	3	6	11	17	29	36	50	60	60	49	40	370

AGE-SPECIFIC PREVALENCE PER 100,000 AS AT 31 DECEMBER 2007

Current 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	70-75	75-79	80-84	85+	Crude prev.	**AGE-STANDARDISED PREVALENCE (ASP)** ASP (Aust 01)	(95% ci)	ASP (Segi)	(95% ci)
Males																							
1 yr	0	0	0	1	0	0	8	7	8	19	57	113	137	292	269	305	392	385	54	58	(53 - 63)	37	(34 - 40)
3 yr	0	0	0	1	4	3	16	15	30	50	129	253	385	695	697	822	975	968	137	146	(138 - 154)	92	(87 - 97)
5yr	0	0	0	1	6	4	19	18	38	73	181	363	567	952	1117	1344	1460	1613	204	220	(210 - 229)	136	(130 - 142)
10 yr	0	0	0	3	8	5	22	26	55	101	235	520	852	1411	1845	2249	2575	2935	320	349	(337 - 361)	209	(202 - 217)
20 yr	0	0	0	3	8	7	22	26	63	114	279	600	1038	1826	2427	3088	3703	4674	420	465	(451 - 479)	270	(262 - 279)
26 yr	0	0	0	3	8	7	22	26	64	117	288	613	1063	1903	2538	3301	4001	5298	443	493	(479 - 507)	284	(276 - 292)
Females																							
1 yr	0	0	0	0	5	6	4	6	12	28	46	71	100	135	196	207	218	218	41	39	(35 - 43)	25	(23 - 28)
3 yr	0	0	0	0	7	12	15	13	22	54	94	179	268	366	477	577	688	670	107	101	(95 - 107)	63	(59 - 67)
5yr	0	0	0	3	7	17	17	15	35	75	131	260	406	597	771	906	1065	1102	165	155	(148 - 163)	97	(92 - 102)
10 yr	0	0	0	3	7	19	20	27	51	115	184	394	610	953	1134	1503	1857	2209	267	249	(240 - 258)	151	(145 - 157)
20 yr	0	0	0	3	7	20	21	28	53	129	227	465	772	1272	1572	2195	2679	3391	364	338	(327 - 349)	199	(192 - 206)
26 yr	0	0	0	3	7	20	21	28	53	130	236	479	786	1337	1699	2424	2912	3894	392	363	(352 - 375)	211	(204 - 218)

Table 4.3 Cancer limited duration prevalence, Western Australia: Lung cancer

NUMBER OF PREVALENT CASES AS AT 31 DECEMBER 2007

Current 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	70-75	75-79	80-84	85+	Total
Males																			
1 yr	0	0	1	0	0	0	0	3	2	5	12	24	33	39	48	50	29	13	259
3 yr	0	0	1	0	0	0	2	3	5	11	19	46	70	83	105	99	57	32	533
5yr	0	0	1	0	0	1	2	3	6	13	27	54	86	110	132	138	75	38	686
10 yr	0	0	2	0	0	1	2	3	7	17	32	69	102	134	162	174	109	50	864
20 yr	0	0	3	1	0	2	2	4	8	18	35	77	111	150	192	210	139	78	1030
26 yr	0	0	3	1	0	2	2	4	8	18	37	77	114	158	195	212	150	100	1081
Females																			
1 yr	0	0	0	0	3	0	1	2	2	6	11	17	32	27	30	27	19	7	184
3 yr	0	0	0	0	3	0	2	3	5	12	23	41	58	46	64	57	41	17	372
5yr	0	0	0	0	3	1	2	3	5	13	30	49	66	65	92	68	64	23	484
10 yr	0	0	0	0	3	1	3	3	6	18	35	66	87	76	115	92	83	36	624
20 yr	0	0	1	0	3	1	3	3	6	19	37	76	95	85	125	115	99	47	715
26 yr	0	0	1	0	3	1	3	3	6	21	38	77	96	88	127	119	103	56	742

AGE-SPECIFIC PREVALENCE PER 100,000 AS AT 31 DECEMBER 2007

AGE-STANDARDISED PREVALENCE (ASP)

Current 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	70-75	75-79	80-84	85+	Crude prev.	ASP (Aust 01)	(95% ci)	ASP (Segi)	(95% ci)
Males																							
1 yr	0	0	1	0	0	0	0	4	3	6	17	37	63	100	166	218	192	135	24	27	(23 - 30)	16	(14 - 18)
3 yr	0	0	0	0	0	0	1	3	4	9	18	49	91	146	241	300	285	271	50	55	(50 - 60)	33	(30 - 36)
5yr	0	0	0	0	0	0	1	3	4	9	21	52	99	164	266	344	319	302	65	71	(66 - 76)	42	(39 - 45)
10 yr	0	0	0	0	0	0	1	3	4	9	22	53	101	169	276	357	338	323	81	90	(84 - 96)	52	(48 - 56)
20 yr	0	0	0	0	0	0	1	3	4	9	22	53	101	172	279	361	352	344	97	108	(102 - 115)	61	(57 - 65)
26 yr	0	0	0	0	0	0	1	3	4	9	22	53	101	172	279	361	352	354	102	114	(108 - 121)	64	(60 - 68)
Females																							
1 yr	0	0	0	0	4	0	1	3	3	8	15	27	64	70	98	103	94	36	18	17	(15, 20)	11	(10 - 13)
3 yr	0	0	0	0	4	0	3	4	6	16	32	65	116	119	209	218	203	86	36	34	(31 - 38)	22	(20 - 25)
5yr	0	0	0	0	4	1	3	4	6	17	42	78	132	169	301	260	317	117	46	45	(41 - 49)	29	(26 - 31)
10 yr	0	0	0	0	4	1	4	4	8	23	49	104	174	197	376	352	411	183	60	58	(53 - 62)	36	(33 - 39)
20 yr	0	0	1	0	4	1	4	4	8	25	52	120	190	221	409	440	490	239	69	66	(61 - 71)	41	(38 - 44)
26 yr	0	0	1	0	4	1	4	4	8	27	53	122	192	229	415	455	510	284	71	68	(63 - 73)	42	(39 - 45)

Table 4.4 Cancer limited duration prevalence, Western Australia: Melanoma

NUMBER OF PREVALENT CASES AS AT 31 DECEMBER 2007

Current 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	70-75	75-79	80-84	85+	Total
Males																			
1 yr	0	0	1	1	4	9	17	24	24	42	55	68	72	84	55	68	55	32	611
3 yr	0	0	2	7	18	30	47	80	80	123	148	218	228	224	206	200	158	90	1859
5yr	0	0	2	8	25	44	69	133	133	177	242	336	360	341	333	307	248	138	2896
10 yr	0	0	2	10	42	74	128	232	259	358	444	553	609	566	531	533	423	264	5028
20 yr	0	0	2	10	46	91	168	318	361	518	641	825	892	797	751	754	576	372	7122
26 yr	0	0	2	10	46	91	171	326	387	566	688	886	969	862	809	810	617	403	7643
Females																			
1 yr	0	0	0	2	2	5	25	21	25	28	39	34	38	45	29	29	28	24	374
3 yr	0	0	0	6	17	24	66	67	90	89	132	138	121	128	101	106	81	77	1244
5yr	0	0	1	8	25	39	90	124	129	152	220	223	206	194	156	154	136	127	1984
10 yr	0	0	1	8	35	73	162	242	267	295	399	422	392	332	297	284	232	257	3698
20 yr	0	0	1	8	37	88	199	351	416	506	624	659	636	538	460	447	369	391	5730
26 yr	0	0	1	8	38	89	199	363	450	560	698	756	737	619	541	496	422	445	6422

AGE-SPECIFIC PREVALENCE PER 100,000 AS AT 31 DECEMBER 2007

AGE-STANDARDISED PREVALENCE (ASP)

Current 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	70-75	75-79	80-84	85+	Crude prev.	ASP (Aust 01)	(95% ci)	ASP (Segi)	(95% ci)
Males																							
1 yr	0	0	1	1	5	12	23	30	30	54	76	104	137	216	190	296	365	333	57	60	(55 - 65)	40	(37 - 43)
3 yr	0	0	3	9	23	41	64	98	101	158	206	333	433	575	710	870	1048	937	175	183	(175 - 192)	122	(117 - 128)
5yr	0	0	3	10	32	59	94	164	168	227	336	513	683	875	1148	1335	1646	1437	272	286	(275 - 296)	190	(183 - 197)
10 yr	0	0	3	13	53	100	174	285	326	459	617	844	1156	1452	1831	2318	2807	2748	473	497	(483 - 510)	330	(321 - 340)
20 yr	0	0	3	13	58	123	228	391	455	664	891	1259	1692	2044	2590	3279	3822	3872	670	702	(685 - 718)	467	(456 - 478)
26 yr	0	0	3	13	58	123	232	401	488	725	956	1352	1839	2211	2790	3523	4094	4195	718	753	(736 - 770)	501	(489 - 512)
Females																							
1 yr	0	0	0	3	3	7	35	27	32	36	55	54	76	117	95	111	139	122	36	35	(31 - 38)	25	(22 - 27)
3 yr	0	0	0	8	23	34	92	85	116	115	185	218	242	332	330	405	401	391	119	115	(108 - 121)	82	(77 - 87)
5yr	0	0	1	11	34	56	126	158	166	196	309	353	412	504	510	589	674	645	190	182	(174 - 190)	131	(125 - 137)
10 yr	0	0	1	11	48	105	226	308	343	381	560	668	784	862	971	1086	1149	1305	355	339	(328 - 350)	243	(235 - 252)
20 yr	0	0	1	11	50	126	278	447	534	653	876	1043	1272	1397	1503	1709	1827	1985	550	524	(511 - 538)	375	(364 - 385)
26 yr	0	0	1	11	52	128	278	462	578	723	980	1196	1474	1607	1768	1896	2090	2259	616	587	(572 - 601)	418	(407 - 429)

Table 4.5 Cancer limited duration prevalence, Western Australia: Advanced melanoma

NUMBER OF PREVALENT CASES AS AT 31 DECEMBER 2007

Current 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	70-75	75-79	80-84	85+	Total
Males																			
1 yr	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	3	0	6
3 yr	0	0	0	0	0	1	0	0	0	.	2	3	4	7	2	4	11	5	39
5yr	0	0	0	0	0	1	0	0	0	2	3	5	6	7	5	7	14	9	59
10 yr	0	0	0	0	0	1	1	0	0	2	4	5	8	7	13	15	16	12	84
20 yr	0	0	0	0	0	2	3	0	1	2	5	9	11	11	13	19	19	13	108
26 yr	0	0	0	0	0	2	3	0	1	2	5	10	11	12	14	20	20	14	114
Females																			
1 yr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 yr	0	0	0	0	0	0	0	1	0	1	2	0	3	0	0	6	2	5	20
5yr	0	0	0	0	0	0	0	2	1	2	3	2	3	4	2	8	4	11	42
10 yr	0	0	0	0	0	0	1	4	4	3	6	4	7	6	5	13	6	13	72
20 yr	0	0	0	0	0	0	1	5	5	3	6	7	9	7	6	15	9	17	90
26 yr	0	0	0	0	0	0	1	5	5	3	7	7	9	7	9	16	11	20	100

AGE-SPECIFIC PREVALENCE PER 100,000 AS AT 31 DECEMBER 2007

AGE-STANDARDISED PREVALENCE (ASP)

Current 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	70-75	75-79	80-84	85+	Crude prev.	ASP (Aust 01)	(95% ci)	ASP (Segi)	(95% ci)
Males																							
1 yr	Too few cases to report as rates																						
3 yr	0	0	0	0	0	1	0	0	0	0	3	5	8	18	7	17	73	52	4	4	(3 - 5)	2	(2 - 3)
5yr	0	0	0	0	0	1	0	0	0	3	4	8	11	18	17	30	93	94	6	6	(5 - 8)	3	(3 - 4)
10 yr	0	0	0	0	0	1	1	0	0	3	6	8	15	18	45	65	106	125	8	9	(7 - 11)	5	(4 - 6)
20 yr	0	0	0	0	0	3	4	0	1	3	7	14	21	28	45	83	126	135	10	12	(9 - 14)	6	(5 - 8)
26 yr	0	0	0	0	0	3	4	0	1	3	7	15	21	31	48	87	133	146	11	12	(10 - 14)	7	(5 - 8)
Females																							
Yr	Too few cases to report as rates																						
3 yr	0	0	0	0	0	0	0	1	0	1	3	0	6	0	0	23	10	25	2	2	(1 - 3)	1	(1 - 1)
5yr	0	0	0	0	0	0	0	3	1	3	4	3	6	10	7	31	20	56	4	4	(3 - 5)	2	(1 - 3)
10 yr	0	0	0	0	0	0	1	5	5	4	8	6	14	16	16	50	30	66	7	7	(5 - 8)	4	(3 - 5)
20 yr	0	0	0	0	0	0	1	6	6	4	8	11	18	18	20	57	45	86	9	8	(6 - 10)	5	(4 - 0)
26 yr	0	0	0	0	0	0	1	6	6	4	10	11	18	18	29	61	55	102	10	9	(7 - 11)	5	(4 - 6)

Table 4.6 Cancer limited duration prevalence, Western Australia: Prostate cancer

NUMBER OF PREVALENT CASES AS AT 31 DECEMBER 2007

Current 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	70-75	75-79	80-84	85+	Total
Males																			
1 yr	0	0	0	0	0	0	1	0	6	33	89	221	305	369	267	211	150	74	1726
3 yr	0	0	0	0	0	0	1	1	14	71	209	525	826	945	740	649	433	216	4630
5yr	0	0	0	0	0	0	1	2	15	91	289	716	1242	1363	1225	1020	673	363	7000
10 yr	0	0	0	0	0	0	1	2	16	98	320	895	1636	1903	1873	1654	1089	657	10144
20 yr	0	0	0	0	0	0	1	2	16	99	321	917	1717	2156	2315	2308	1760	1176	12788
26 yr	0	0	0	0	0	0	1	2	16	99	321	917	1718	2157	2316	2316	1775	1231	12869

AGE-SPECIFIC PREVALENCE PER 100,000 AS AT 31 DECEMBER 2007

Current 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	70-75	75-79	80-84	85+	Crude prev.	**AGE-STANDARDISED PREVALENCE (ASP)** ASP (Aust 01)	(95% ci)	ASP (Segi)	(95% ci)
Males																							
1 yr	0	0	0	0	0	0	1	0	8	42	124	337	579	946	921	918	995	770	162	170	(161- 178)	111	(105 - 116)
3 yr	0	0	0	0	0	0	1	1	18	91	290	801	1567	2424	2552	2823	2873	2248	435	460	(446 - 473)	294	(285 - 302)
5yr	0	0	0	0	0	0	1	3	19	117	402	1093	2357	3496	4224	4436	4466	3779	658	701	(685 - 718)	441	(431 - 452)
10 yr	0	0	0	0	0	0	1	3	20	126	445	1366	3104	4881	6458	7194	7226	6839	954	1036	(1016 - 1055)	628	(616 - 640)
20 yr	0	0	0	0	0	0	1	3	20	127	446	1399	3258	5530	7982	10038	11679	12241	1202	1342	(1320 - 1365)	763	(750 - 776)
26 yr	0	0	0	0	0	0	1	3	20	127	446	1399	3260	5533	7986	10073	11778	12814	1210	1353	(1330 - 1376)	767	(754 - 780)

Table 4.7 Cancer limited duration prevalence, Western Australia: Breast cancer

NUMBER OF PREVALENT CASES AS AT 31 DECEMBER 2007

Current 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	70-75	75-79	80-84	85+	Total
Females																			
1 yr	0	0	0	0	0	4	19	36	81	153	158	146	143	141	81	88	73	60	1183
3 yr	0	0	0	0	0	12	39	96	228	421	501	494	492	424	258	258	197	181	3601
5yr	0	0	0	0	1	12	49	129	326	605	822	796	776	701	455	400	300	302	5674
10 yr	0	0	0	0	1	15	58	173	447	866	1268	1453	1427	1261	997	739	546	553	9804
20 yr	0	0	0	0	1	16	59	180	482	989	1540	1939	2048	1896	1525	1216	921	971	13783
26 yr	0	0	0	0	1	16	59	180	482	996	1566	1990	2165	2035	1653	1309	1026	1096	14574

AGE-SPECIFIC PREVALENCE PER 100,000 AS AT 31 DECEMBER 2007

AGE-STANDARDISED PREVALENCE (ASP)

Current 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	70-75	75-79	80-84	85+	Crude prev.	ASP (Aust 01)	(95% ci)	ASP (Segi)	(95% ci)
Females																							
1 yr	0	0	0	0	0	6	27	46	104	198	222	231	286	366	265	337	362	305	114	108	(101 - 114)	78	(73 - 82)
3 yr	0	0	0	0	0	17	54	122	293	544	703	782	984	1101	843	986	976	919	346	327	(316 - 337)	237	(229 - 245)
5yr	0	0	0	0	1	17	68	164	419	781	1154	1259	1552	1820	1487	1529	1486	1533	544	514	(501 - 528)	372	(362 - 382)
10 yr	0	0	0	0	1	22	81	220	574	1118	1780	2299	2853	3274	3258	2826	2704	2808	941	888	(871 - 906)	636	(623 - 649)
20 yr	0	0	0	0	1	23	82	229	619	1277	2162	3068	4095	4923	4984	4649	4561	4930	1322	1246	(1225 - 1267)	870	(855 - 885)
26 yr	0	0	0	0	1	23	82	229	619	1286	2199	3148	4329	5283	5402	5005	5081	5564	1398	1317	(1296 - 1338)	914	(899 - 929)

Table 4.8 Cancer limited duration prevalence, Western Australia: Cervical cancer

NUMBER OF PREVALENT CASES AS AT 31 DECEMBER 2007

Current 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	70-75	75-79	80-84	85+	Total
Females																			
1 yr	0	0	0	0	3	2	9	8	14	7	6	6	3	2	6	2	4	3	75
3 yr	0	0	0	0	5	7	18	29	37	20	15	15	13	8	12	12	7	7	205
5yr	0	0	0	0	8	12	27	45	58	40	29	26	20	11	23	19	8	9	335
10 yr	0	0	0	0	8	12	38	62	95	81	77	50	32	29	32	32	16	14	578
20 yr	0	0	0	0	8	12	39	79	141	175	193	154	98	68	74	61	38	31	1171
26 yr	0	0	0	0	8	12	39	79	146	183	223	196	123	91	90	72	46	47	1355

AGE-SPECIFIC PREVALENCE PER 100,000 AS AT 31 DECEMBER 2005

AGE-STANDARDISED PREVALENCE (ASP)

Current 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	70-75	75-79	80-84	85+	Crude prev.	ASP (Aust 01)	95% C I	ASP (Segi)	95% C I
Females																							
1 yr	0	0	0	0	4	3	12	11	18	9	9	10	7	6	21	8	21	17	8	7	(6 - 9)	6	(4 - 7)
3 yr	0	0	0	0	7	11	25	39	48	27	22	25	29	22	41	47	36	39	21	20	(17 - 23)	15	(13 - 18)
5yr	0	0	0	0	12	18	37	61	75	54	43	43	45	31	79	74	41	51	34	33	(30 - 37)	25	(23 - 28)
10 yr	0	0	0	0	12	18	52	84	122	109	113	84	72	81	110	125	83	79	58	57	(52 - 61)	43	(39 - 47)
20 yr	0	0	0	0	12	18	54	107	182	234	283	257	221	190	253	239	196	174	117	113	(107 - 120)	85	(80 - 90)
26 yr	0	0	0	0	12	18	54	107	188	245	327	327	278	254	308	282	237	264	135	131	(124 - 138)	98	(92 - 103)

4.4 References for Section 4

1. Lambert PC, Thompson JR, Weston CL, Dickman PW. Estimating and modeling the cure fraction in population-based cancer survival analysis. *Biostatistics* 2007;8(3):576-94.

2. Estimating and modeling relative survival [program], 2004.

3. Brameld KJ, Holman CD, Threlfall TJ, Lawrence DM, De Klerk NH. Increasing 'active prevalence' of cancer in Western Australia and its implications for health services. *Aust N Z J Public Health* 2002;26(2):164-9.

5. A comparison of indigenous and non-indigenous age-specific cancer rates (using data from three jurisdictions)

This large section of this report was written by Dr Adrian Heard of the South Australian Cancer Registry, using data supplied by the Western Australian, Northern territory and South Australian registries. It has been reviewed and edited, with the assistance of Dr Threlfall as well as Dr Steve Guthridge (Director, Health Gains Planning, NT Department of Health & Families) and Dr Ron Somers (Director, Epidemiology, Policy and Intergovernment Relations Division, SA Health).

5.1 Introduction

For a number of years the group involved in the production of the South Australian Cancer Registry report were aware that even when examining age-specific rates for major cancers using five years of data, the resultant graphs contained highly variable data points due to sparse data. The request for indigenous and non-indigenous data from the WA and NT cancer registries was aimed at making the age-specific graphs much easier to interpret. The broad goal was to generate the best comparative data on age-specific rates for Indigenous and non-Indigenous cancers yet produced in Australia. The figures and graphs generated could provide the basis for reporting on Indigenous and non-Indigenous cancer rates in SA, WA and NT in future years.

5.2 Indigenous and non-indigenous age-specific cancer incidence rates

5.2.1 Introduction

This section outlines the age-specific incidence rates for persons of both genders for a range of cancers using combined data from South Australia (SA), Western Australia (WA) and the Northern Territory (NT). These jurisdictions are included because they are considered to have better Indigenous ascertainment in their hospital data than other jurisdictions[1], which would increase the quality of these data in their cancer registries. By bringing the data from these three jurisdictions together and by using five years of data, the information presented gives the most detailed picture of Indigenous age-specific cancer incidence rates yet presented in Australia.

Making effective comparisons between Indigenous and non-Indigenous age-specific cancer incidence rates is a complicated task, primarily due to the small size of the Indigenous population in most Australian states and territories. In the Northern Territory, where the Indigenous population represents about 30% of the population, the total population is only about 220,000 people. The jurisdictions included in this report do not have large Indigenous populations, yet together they constitute one-third of Australia's Indigenous population. In 2006 the estimated resident Indigenous population for Australia was 517,200, with WA (77,900), NT (66,600), SA (27,800) making up a population of 172,300 people.

Under-ascertainment of cancer cases among Indigenous people can occur for two reasons[2]. The first, which is considered to be the primary reason for under-ascertainment in all jurisdictions, is the under-ascertainment of Indigenous status. The second, is the under-ascertainment of Indigenous cancers, which results from factors such as lower rates of autopsy for Indigenous persons. The best estimates of under-ascertainment from both

causes made in the past are for cancer mortality. In NT it has been estimated that the under reporting of Indigenous cancer mortality may be 15-20%, whereas in WA and SA the under reporting is more likely to be in the range of 25-30% and 30-35% respectively[3]. More recent data from WA shows that the recording of Indigenous status in metropolitan hospital admission data has improved significantly since 2002, with under reporting now being less than 10%.[4] This does not necessarily mean that the level of under reporting in Indigenous cancer statistics is this low however, as hospital admission data are only one of a number of sources of information for cancer registries. This level of ascertainment means there are inaccuracies in Indigenous cancer registry data, and when examining age-specific rates, these inaccuracies may not be equally distributed across all age ranges.

Another factor which leads to lower than expected age-specific rates for cancers where screening programs exist, is the low participation of Indigenous persons in these programs. The increasing level of Indigenous participation over time is leading to increasing incidence of these cancers.

5.2.2 Methods

Indigenous and non-Indigenous summary cancer incidence data for major cancer types were sourced from the South Australian Cancer Registry, the Northern Territory Cancer Registry and the Western Australian Cancer Registry for the five-year study period 2002-06. Age-specific rates were calculated using 2001 estimated resident Indigenous and non-Indigenous populations for each jurisdiction (individual year Indigenous population data were not available for some jurisdictions). Because populations have increased since 2001, this may mean that some of the incidence rates quoted in this section will be higher than other rates given for these populations. Age-specific rates were determined for all major cancer types (prostate, female breast, colorectal, lung, melanoma, non-Hodgkin's lymphoma, uterus, pancreas, stomach, bladder and unknown primary site) and for several cancer types of particular importance to Indigenous populations (cervix, lip/mouth/pharynx and liver). The order of listing of cancer types in this section was determined by the ranking of age-standardised rates for Indigenous persons for the combined state data. The age-specific rates included only 16 age categories up to age 75+, as one state analysed Indigenous data only in these categories.

The number of cancer cases in age groupings above age 50, were low for some major cancer types, giving wide confidence intervals for incidence rates of older age groups. Confidence intervals for age-specific rates are only shown for cancer types where there was a large difference between Indigenous and non-Indigenous rates. All confidence intervals on the age-specific rate graphs were calculated using the Poisson exact method.

Age-standardised rates were calculated using direct standardisation with the Australian 2001 population. Age-standardised rates for the three jurisdictions combined and for each jurisdiction individually are included for each cancer site.

5.2.3 Results

All Cancers

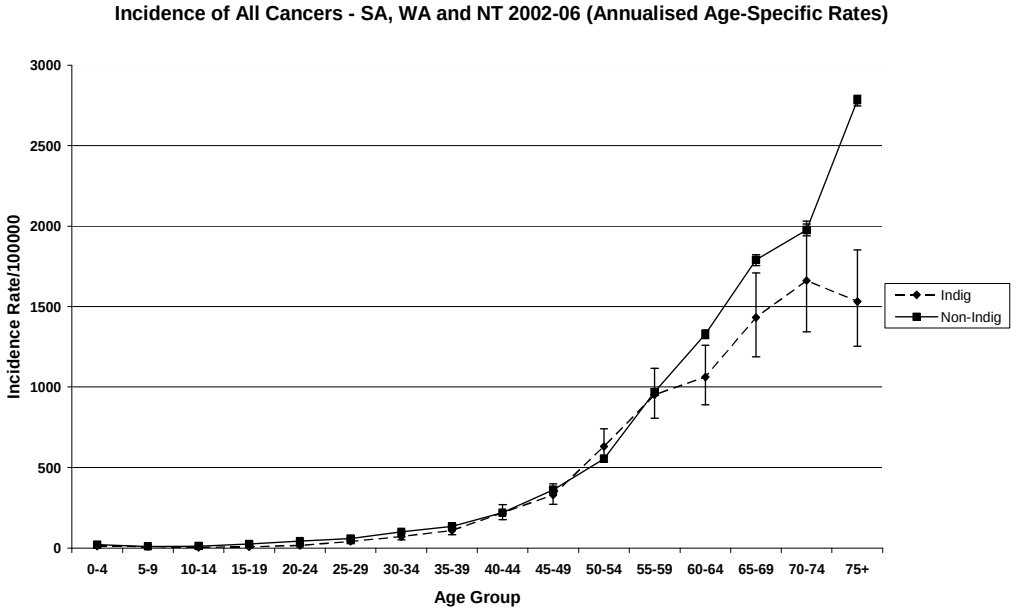
For the five year study period there were 1115 Indigenous cancer cases and 88434 non-Indigenous cancer cases for the combined (SA, WA, NT) population. Indigenous cancer cases

represented 1.2% of all cases, whereas Indigenous persons represented 4.0% of the total population. The combined age-standardised rate for all cancers per 100,000 for Indigenous persons was 391.6 (CI 366.2 - 417.0) and non-Indigenous persons 503.3 (CI 500.2 - 506.5). By individual jurisdictions, NT recorded the highest rates for both Indigenous and non-Indigenous groups – Indigenous 413.7 (CI 373.0 – 454.4) non-Indigenous 517.3 (CI 491.9 – 542.6); WA was intermediate – Indigenous 394.9 (CI 355.4 – 434.3) non-Indigenous 514.2 (CI 509.7 – 518.8); and SA had the lowest rates – Indigenous 326.3 (CI 268.1 – 384.5) non-Indigenous 491.8 (CI 487.2 – 496.3). These state rankings were broadly in line with the estimated under-reporting of Indigenous cancer mortality, with the age-standardised Indigenous: non-Indigenous rate ratio being NT 0.811, WA 0.768, SA 0.666.[3]

There were important differences in the male:female incidence ratio between Indigenous and non-Indigenous populations for some jurisdictions. The NT male:female ratio for Indigenous cases was 1:1.1 and for non-Indigenous cases 1:0.6. This difference in ratios was not replicated in SA (1:0.8 for Indigenous cases and 1:0.8 for non-Indigenous cases), but was confirmed in WA (1: 1.1 for Indigenous cases and 1:0.8 for non-Indigenous cases). It is worth noting that even though more Indigenous women than men were diagnosed with cancer, the male age-standardised incidence rates were higher due to high incidence rates for men in older age groups.

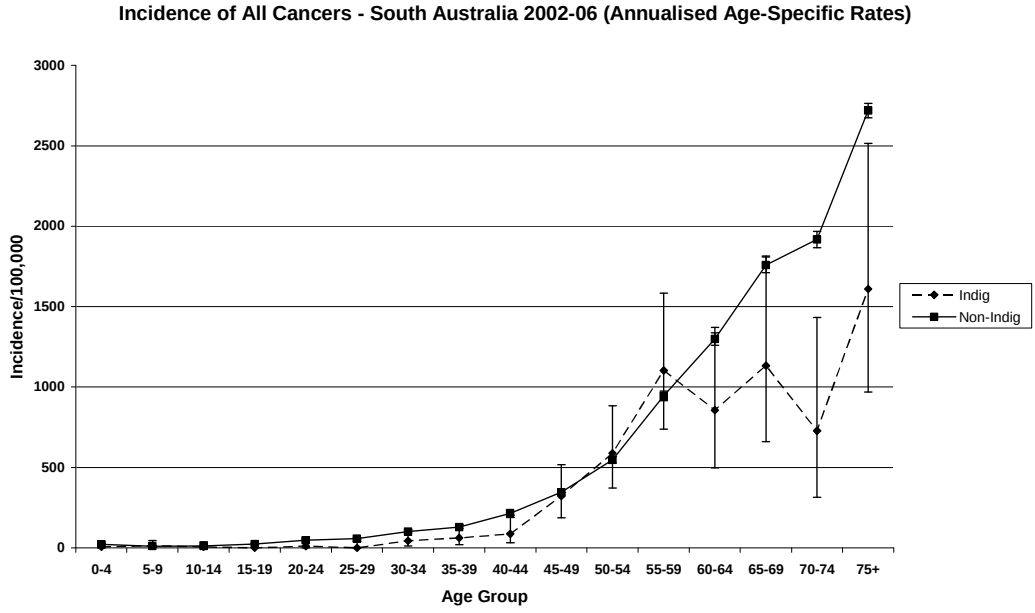
There was a trend for Indigenous persons to be more likely to be diagnosed with cancer in the 50-54 age group than non-Indigenous persons, although this trend has to be viewed with caution as it was the only age group where the Indigenous incidence rate was higher than the non-Indigenous rate. For Indigenous persons aged 50-54 the age-specific incidence rate was $638.8/10^5$ (CI 541.3 – 748.8), whereas for non-Indigenous persons the rate was $554.6/10^5$ (CI 541.5 – 568.0).
By comparison, non-Indigenous persons had significantly higher age-specific incidence rates in three age groups 60-64, 65-69 and 75+. Incidence rates for the 75+ age group were non-Indigenous $2782.7/10^5$ (CI 2750.2 – 2815.5), Indigenous $1531.8/10^5$ (CI 1254.1 – 1852.7).

Figure 5.1



It was notable that all cancer age-specific incidence rates were not greatly different between Indigenous and non-Indigenous populations up to age 60 (see Figure 5.1).

Figure 5.2



The SA only data showed highly variable age-specific rates in the Indigenous population beyond age 60, due mainly to small Indigenous populations and low numbers of cancers in the 60+ age groups.

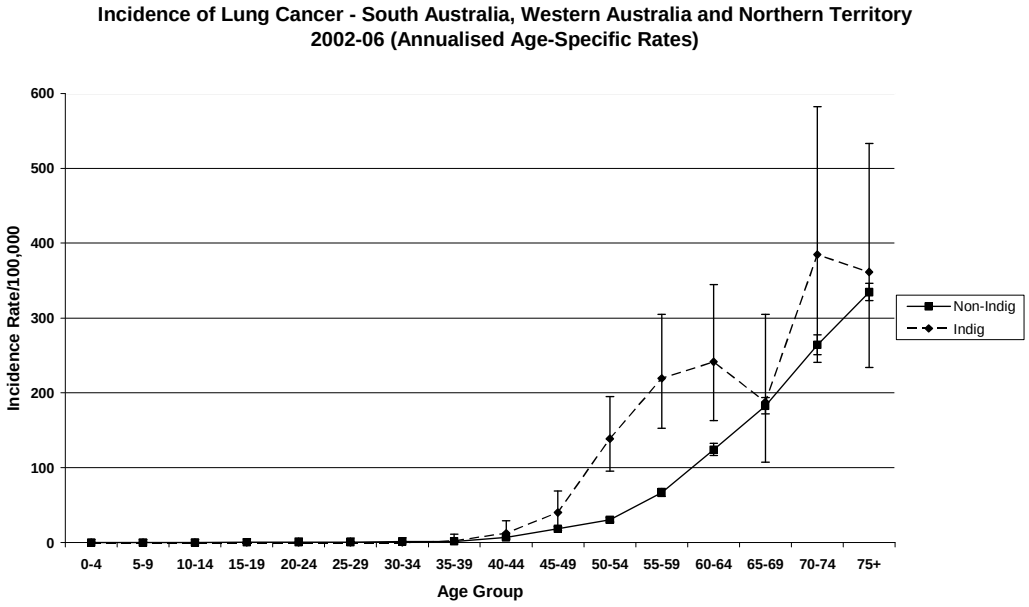
Lung

Jurisdiction-combined, age-standardised rate per 100,000 (2002-06) with 95% confidence intervals:
Indigenous 74.8 (62.8 – 86.8); non-Indigenous 47.1 (46.1 – 48.1)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 81.5 (51.0 – 112.1); non-Indigenous 44.0 (42.6 – 45.4)
WA Indigenous 67.6 (49.6 – 85.6); non-Indigenous 49.8 (48.3 – 51.3)
NT Indigenous 78.7 (60.5 – 96.9); non-Indigenous 62.7 (52.7 – 72.7)

Lung cancer was the most important cancer when making comparisons between Indigenous and non-Indigenous populations. It was common in both populations, with Indigenous persons having high smoking rates throughout the three jurisdictions. In SA lung cancer was the most common cancer amongst Indigenous persons and the fourth most common cancer amongst non-Indigenous persons. It was also the most common cancer in Indigenous persons in WA and NT[5]. The non-Indigenous incidence rate in the NT was significantly higher than WA and SA.

Figure 5.3



Lung cancer incidence was significantly higher in the Indigenous population than in the non-Indigenous population in the 50-64 year age groups (see Figure 5.3).
The bi-modal pattern in the Indigenous graph is replicated in a number of cancer types for both incidence and mortality. The dip in the Indigenous graph for age group 65-69 may be due to a number of factors including death from co-morbidities in Indigenous persons beyond age 60 which may lower the cancer detection rate in this age grouping. One factor which does assist the detection of Indigenous lung cancer is its severe impact on health with the short survival time of 4.3 months[6].

It is likely that the higher than average Indigenous rate was maintained across the age range to age 75+ but the large confidence intervals around Indigenous data beyond age 65 ensured that there were no significant differences between Indigenous and non-Indigenous incidence rates in the three oldest age-specific groups.

Unknown Primary Site

Jurisdiction-combined age-standardised rate per 100,000 (2002-06) with 95% confidence intervals:
Indigenous 42.9 (33.4 – 52.4); non-Indigenous 15.8 (15.2 – 16.3)

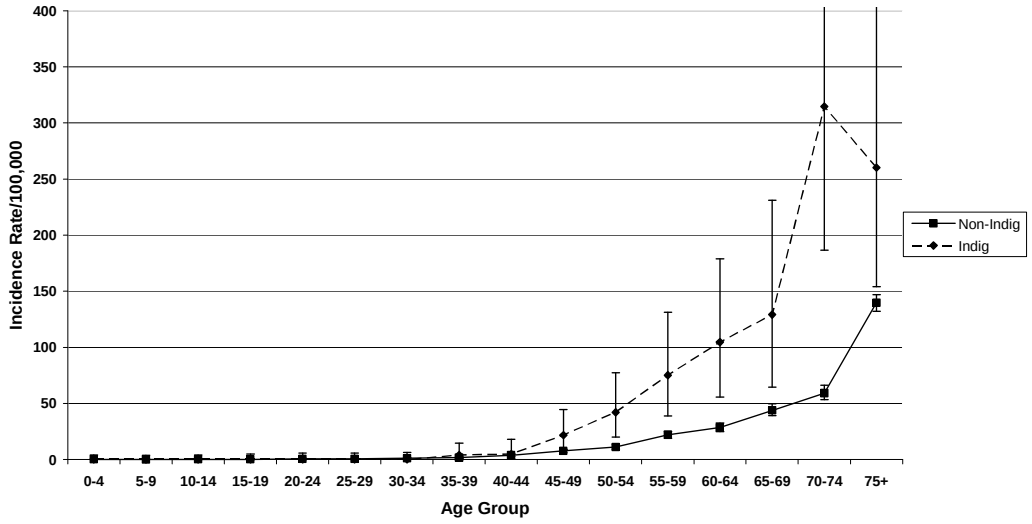
Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 31.3 (13.3 – 49.2); non-Indigenous 15.5 (14.7 – 16.3)
WA Indigenous 41.9 (27.0 – 56.7); non-Indigenous 15.7 (14.8 – 16.5)
NT Indigenous 49.7 (33.7 – 65.7); non-Indigenous 24.9 (18.5 – 31.4)

Cancer of unknown primary site was the fourth most common cancer in Indigenous persons and the seventh most common cancer in non-Indigenous persons in SA. NT and WA had higher Indigenous incidence rates than SA, and NT had significantly higher non-Indigenous rates than both SA and WA. While cancer of unknown primary site has been increasing in incidence across Australia recently[7], some aspects of this cancer are poorly understood. Smoking is the major risk factor, with half of all cases having a current or past smoking history. It is also likely that late stage presentation of cancer, and poor or delayed access to diagnostic and treatment services may be responsible for the higher rate among Indigenous persons. The refusal to have autopsies by some Indigenous persons who have a poorly defined cause of death may also have elevated the Indigenous rate for this site.

As can be seen from Figure 4 Indigenous rates of cancer of unknown primary site were uniformly higher than non-Indigenous rates beyond age 45. Indigenous incidence rates for age groups 70-74 and 75+ are both in the range of 250-300/100,000. Only for lung cancer, were age-specific rates higher than this found in the Indigenous population.

Figure 5.4

Incidence of Cancer of Unknown Primary Site - South Australia, Western Australia and Northern Territory 2002-06 (Annualised Age-Specific Rates)



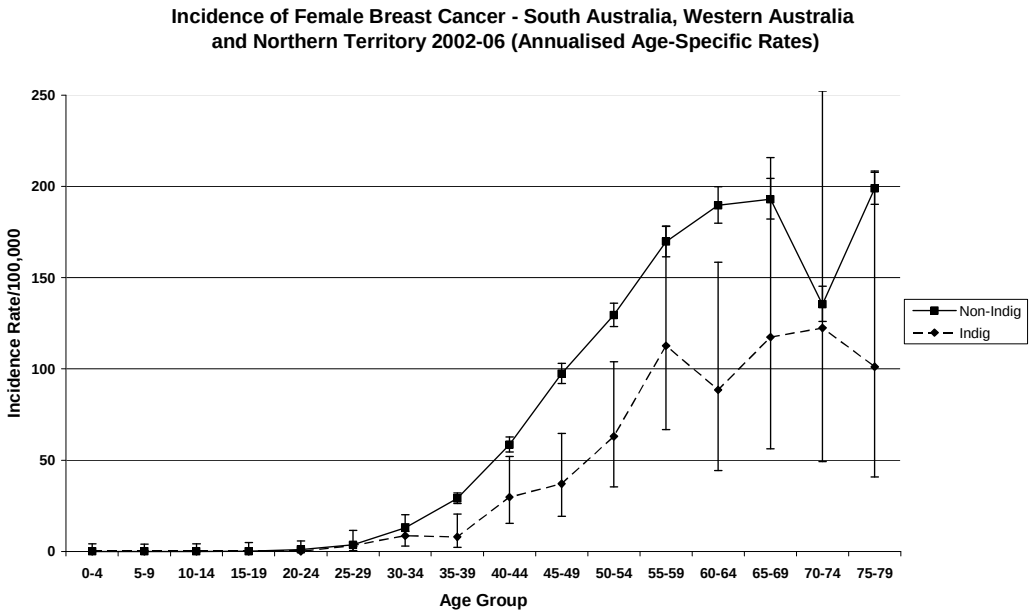
Female Breast

Jurisdiction-combined age-standardised rate per 100,000 (2002-06) with 95% confidence intervals:
Indigenous 34.1 (26.7 – 41.6); non-Indigenous 63.0 (61.8 – 64.1)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 44.7 (16.4 – 73.0); non-Indigenous 63.0 (61.3 – 64.7)
WA Indigenous 34.5 (23.5 – 45.6); non-Indigenous 63.8 (62.2 – 65.4)
NT Indigenous 32.5 (21.3 – 43.8); non-Indigenous 47.1 (40.1 – 54.1)

In SA female breast cancer was the second most common cancer in Indigenous persons and the third most common cancer in non-Indigenous persons, but incidence rates were lower in Indigenous persons. Age-specific rates were lower in Indigenous females across the entire age range beyond 30 years, and significantly lower in the 30-64 age group (see Figure 5.5). There was a significant decrease in the non-Indigenous rate in the 70-74 age group. This difference was consistent across SA, WA and NT. The dip in the non-Indigenous incidence rate for age 70-74 occurs in the age group immediately beyond the breast screening target age group. It is well documented that breast cancer incidence rates decrease with decreasing socio-economic status, as women from poor communities including Indigenous communities are less likely to use and/or have access to breast cancer screening services[2].

Figure 5.5



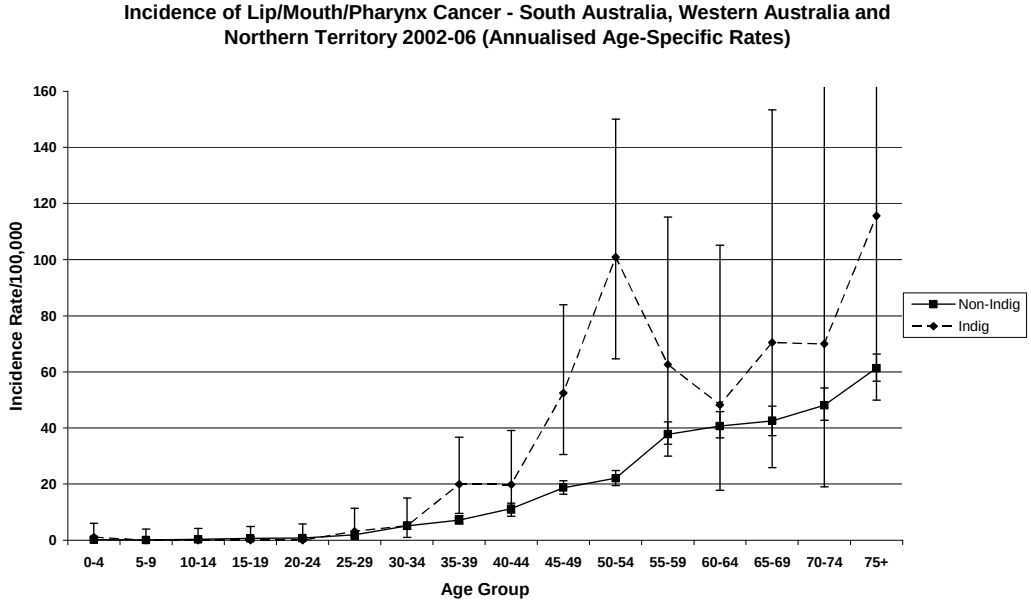
Lip/Mouth/Pharynx

Jurisdiction-combined age-standardised rate per 100,000 (2002-06) with 95% confidence intervals:
Indigenous 30.9 (23.9 – 37.9); non-Indigenous 15.2 (14.6 – 15.7)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 19.2 (7.6 – 30.7); non-Indigenous 8.3 (7.7 – 9.0)
WA Indigenous 26.9 (16.9 – 36.8); non-Indigenous 14.8 (14.0 – 15.6)
NT Indigenous 40.1 (27.2 – 53.0); non-Indigenous 25.2 (19.7 – 30.7)

Lip/mouth/pharynx cancers include all cancers of the oral cavity associated with smoking. In SA cancer of the lip/mouth/pharynx was the fifth most common cancer in Indigenous persons and was not included in the top ten cancers for non-Indigenous persons. In NT this site was third ranked for Indigenous persons and sixth ranked for non-Indigenous persons. This cancer shows a clear pattern of being most common in NT, intermediate in WA and least common in SA, in both Indigenous and non-Indigenous populations.
The most important risk factors for these cancers are smoking and alcohol consumption and the incidence rate is increasing in women[8]. This cancer can often lead to facial disfigurement, making diagnosis in advanced cases relatively straight-forward.

Figure 5.6



The Indigenous incidence graph showed a strongly bi-modal pattern (see Figure 5.6) which was very different to the non-Indigenous graph. Indigenous incidence rates of lip/mouth/pharynx cancer were significantly higher than non-Indigenous rates for the 45-49 and 50-54 age groups.

Colorectal

Jurisdiction-combined age-standardised rate per 100,000 (2002-06) with 95% confidence intervals:
Indigenous 29.9 (22.5 – 37.3); non-Indigenous 64.7 (63.5 – 65.9)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 37.4 (14.7 – 60.1); non-Indigenous 67.7 (66.0 – 69.5)
WA Indigenous 30.7 (18.1 – 43.3); non-Indigenous 61.7 (60.0 – 63.3)
NT Indigenous 27.8 (17.7 – 38.0); non-Indigenous 65.6 (55.7 – 75.4)

Colorectal cancer was the third most common cancer in Indigenous persons and the second most common cancer in non-Indigenous persons in SA. The higher SA incidence rates than both WA and NT may be due to a longer history of colorectal cancer screening in SA (national pilot screening program began in 2003). Interestingly, colorectal cancer rates were similar for Indigenous and non-Indigenous populations up to age 50 (see fig 7). Closer examination of the data shows that there was an elevated rate of rectal cancer in Indigenous men for ages 40-49 (see fig 8), which maintained the rates for the two populations at an equivalent level up to age 50, but beyond age 50 the two rates diverged sharply. The elevated (but non-significant) rate of rectal cancer in Indigenous men may be related to excessive alcohol consumption[9] in a small proportion of the Indigenous population.

Figure 5.7

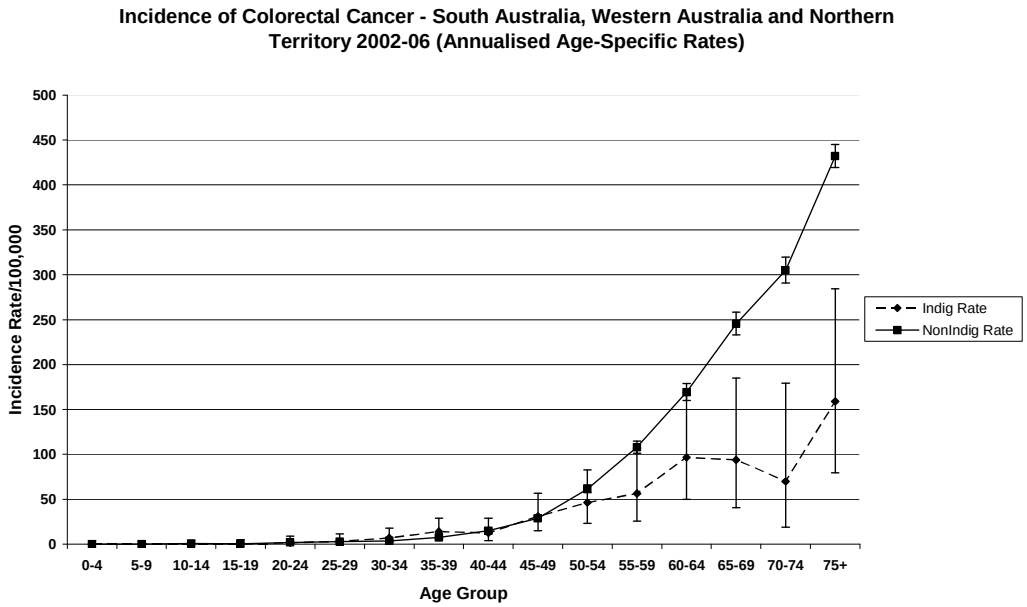
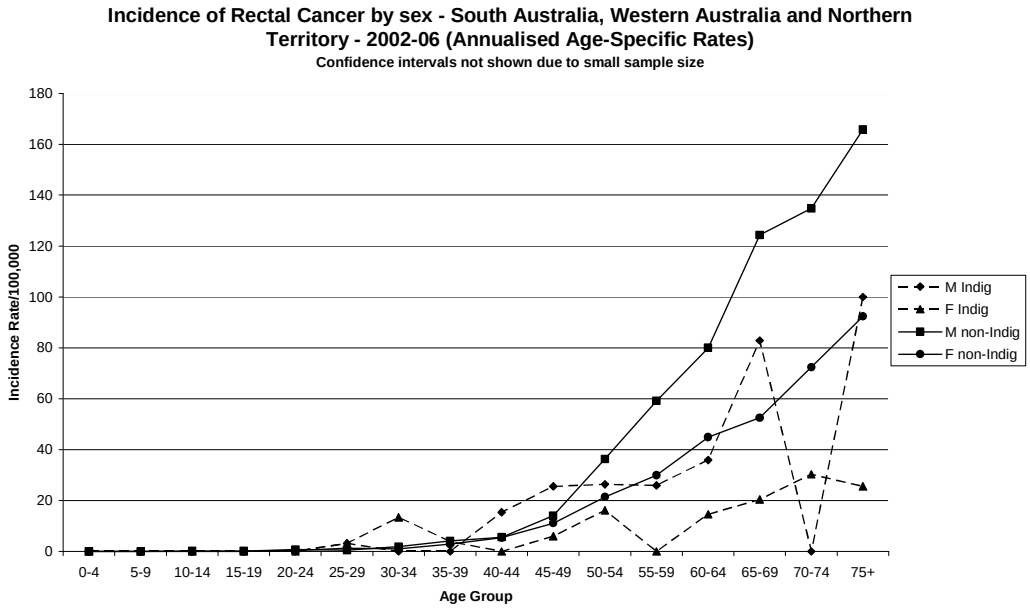


Figure 5.8


Incidence of Rectal Cancer by sex - South Australia, Western Australia and Northern Territory - 2002-06 (Annualised Age-Specific Rates)
Confidence intervals not shown due to small sample size
Incidence Rate/100,000
180
160
140
120
100
80
60
40
20
0
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+
Age Group
M Indig
F Indig
M non-Indig
F non-Indig

Prostate

Jurisdiction-combined age-standardised rate per 100,000 (2002-06) with 95% confidence intervals:
Indigenous 17.4 (11.5 – 23.3); non-Indigenous 77.9 (76.6 – 79.2)

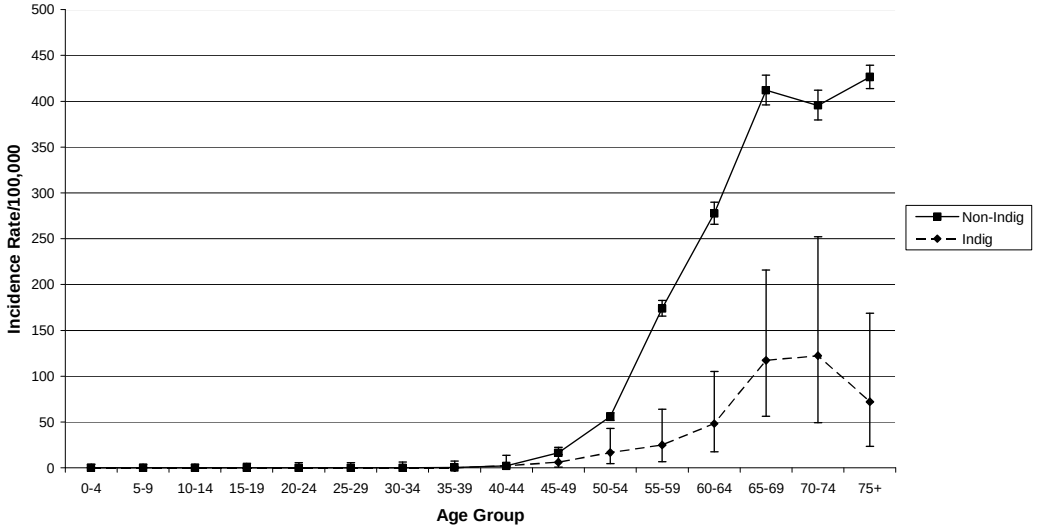
Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 11.5 (0.0 – 23.0); non-Indigenous 73.8 (72.0 – 75.6)
WA Indigenous 22.0 (12.3 – 31.7); non-Indigenous 81.4 (79.5 – 83.3)
NT Indigenous 14.0 (5.4 – 22.6); non-Indigenous 89.2 (77.5 – 100.9)

Prostate Cancer was the eighth most common cancer in Indigenous persons and the most common cancer in non-Indigenous persons in SA. This large difference between non-Indigenous and Indigenous incidence rates occurs in NT and WA as well. Interestingly NT has a significantly higher non-Indigenous rate of prostate cancer than SA.

Indigenous men having low participation rates in PSA testing for prostate cancer[10], supports the finding that non-Indigenous incidence rates are higher than Indigenous rates. The fact that non-Indigenous rates are very much higher than Indigenous rates (age-standardised rate is 348% higher) points towards other factors being involved, but there are no studies available at present to shed further light on this situation.

Figure 5.9

Incidence of Prostate Cancer - South Australia, Western Australia and Northern Territory 2002-06 (Annualised Age-Specific Rates)



Pancreas

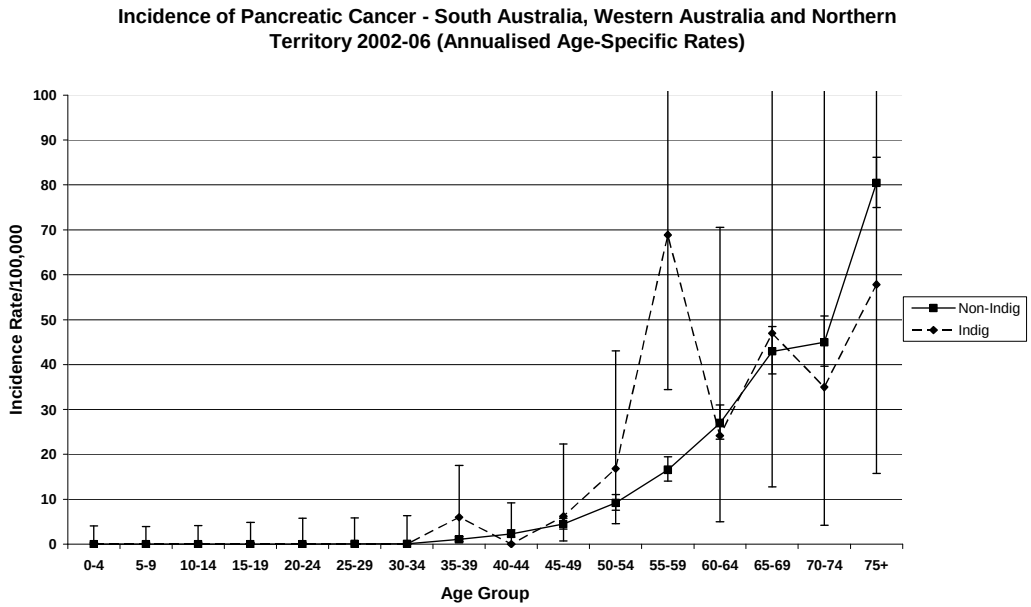
Jurisdiction-combined age-standardised rate per 100,000 (2002-06) with 95% confidence intervals:
Indigenous 12.7 (7.9 – 17.6); non-Indigenous 10.8 (10.3 – 11.3)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 11.2 (0.0 – 23.3); non-Indigenous 10.6 (9.9 – 11.3)
WA Indigenous 16.2 (7.7 – 24.7); non-Indigenous 11.1 (10.4 – 11.8)
NT Indigenous 9.2 (3.0 – 15.4); non-Indigenous 9.7 (5.7 – 13.7)

Pancreatic cancer was the ninth most common cancer in Indigenous persons and the ninth most common cancer in non-Indigenous persons in SA. The number of pancreatic cancers in the Indigenous population across three jurisdictions was low, which lead to wide variation in age-specific rates. However, pancreatic cancer was an important cancer with high mortality rates among Indigenous and non-Indigenous people.

The high incidence rate in the 55-59 year age group in the Indigenous population (see fig 10) is also reflected in a high mortality rate in the same age group. This early onset of pancreatic cancer compared with the Non-Indigenous population reflects the importance of smoking as a risk factor[11] and the shorter life expectancy of Indigenous persons.

Figure 5.10



Liver

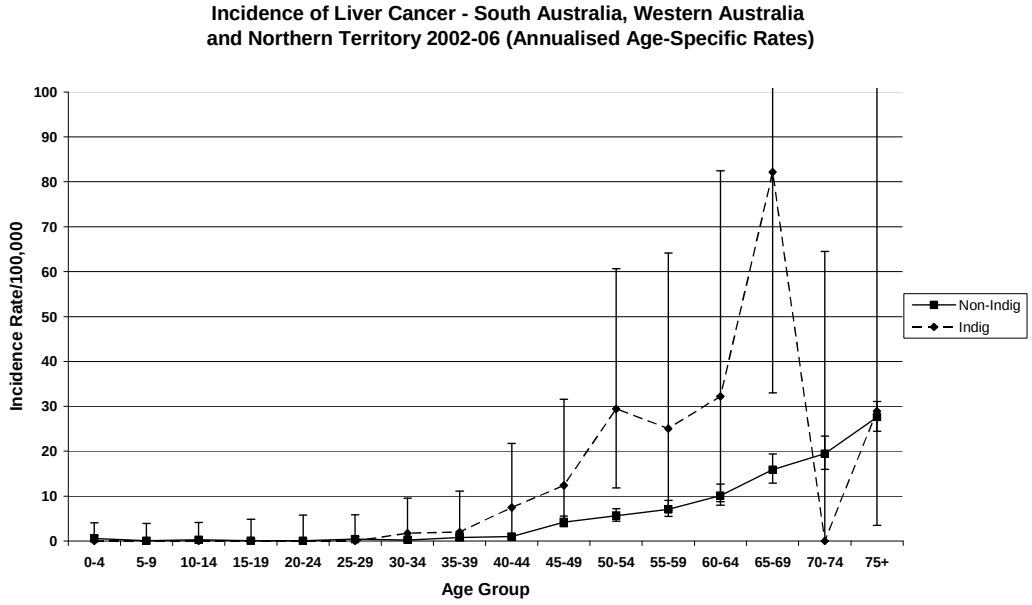
Jurisdiction-combined age-standardised rate per 100,000 (2002-06) with 95% confidence intervals:
Indigenous 10.9 (6.8 – 15.0); non-Indigenous 4.5 (4.2 – 4.8)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 4.4 (0.0 – 9.4); non-Indigenous 4.6 (4.1 – 5.0)
WA Indigenous 11.2 (4.9 – 17.5); non-Indigenous 4.5 (4.1 – 5.0)
NT Indigenous 13.5 (CI 6.1 – 21.0); non-Indigenous 2.6 (0.8 – 4.3)

Liver cancer is known to be an important cancer in Indigenous populations. In SA however, liver cancer was a relatively rare cancer in both Indigenous and non-Indigenous populations. This was compared with NT and WA where Indigenous rates are higher (significantly so in NT) than non-Indigenous rates.

The high Indigenous incidence rate of liver cancer across the 50-59 age range (see Figure 5.11), was largely attributable to high rates of Hepatitis B infection and excessive alcohol consumption in some males. The rate of Hepatitis B infection would itself have been strongly associated with past periods of incarceration and injecting drug use[12].
The decline in Indigenous liver cancer rates in the 70+ age group may reflect a number of factors including premature death of the at risk population due to other causes.

Figure 5.11



Non-Hodgkin Lymphoma (NHL)

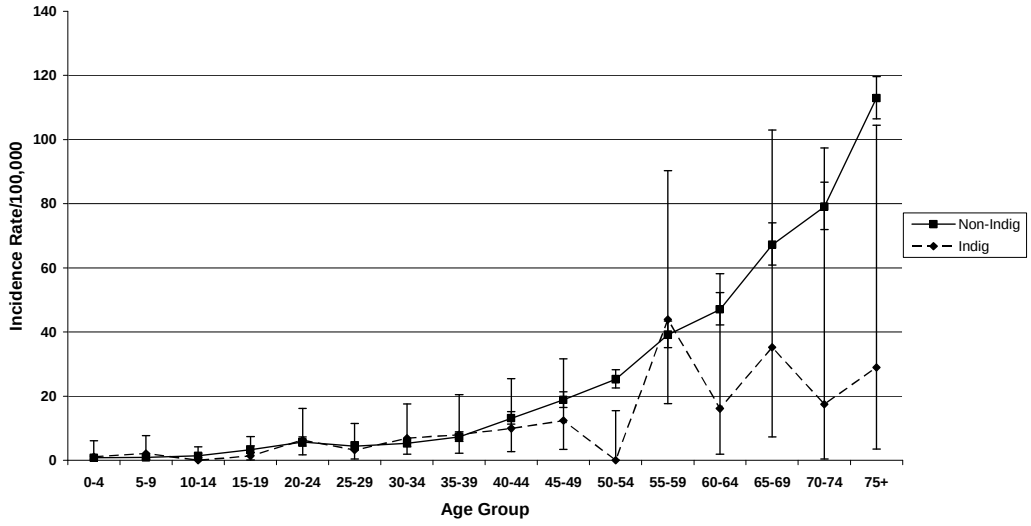
Jurisdiction-combined age-standardised rate per 100,000 (2002-06) with 95% confidence intervals:
Indigenous 10.1 (6.3 – 14.0); non-Indigenous 21.6 (20.9 – 22.3)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 12.5 (3.4 – 21.6); non-Indigenous 24.4 (23.3 – 25.5)
WA Indigenous 7.7 (2.3 – 13.1); non-Indigenous 19.2 (18.3 – 20.2)
NT Indigenous 12.0 (5.4 – 18.7); non-Indigenous 19.4 (14.5 – 24.4)

NHL was the seventh most common cancer in Indigenous persons and the sixth most common cancer in non-Indigenous persons in SA. WA had generally lower rates of NHL for Indigenous persons and non-Indigenous persons. Figure 12 shows that the age-specific rates for NHL for Indigenous and non-Indigenous populations tended to diverge at around age 40, with Indigenous age-specific rates remaining at around $30/10^5$ in the 55+ age group and non-Indigenous rates increasing to about $110/10^5$ at age 75+. The high variability of Indigenous data beyond age 50 made it difficult to determine the true age-specific rates in elderly Indigenous persons, but it is clear that the incidence rate is lower than that of elderly non-Indigenous persons.

Figure 5.12

Incidence of NHL - South Australia, Western Australia and Northern Territory 2002-06 (Annualised Age-Specific Rates)



Uterus

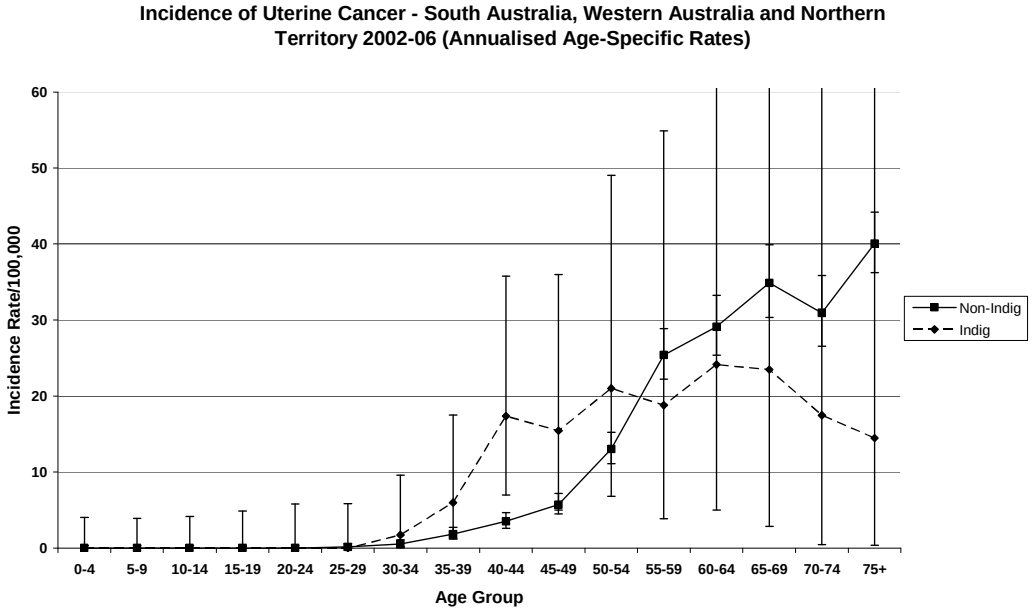
Jurisdiction-combined age-standardised rate per 100,000 (2002-06)with 95% confidence intervals:
Indigenous 8.6 (5.2 – 12.0); non-Indigenous 8.8 (8.4 – 9.3)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 1.7 (0.0 – 5.1); non-Indigenous 10.0 (9.3 – 10.7)
WA Indigenous 7.2 (2.7 – 11.7); non-Indigenous 7.9 (7.3 – 8.5)
NT Indigenous 13.1 (6.3 – 19.8); non-Indigenous 8.7 (5.0 – 12.4)

Uterine cancer incidence rates for non-Indigenous persons in SA were significantly higher than WA rates, and for Indigenous persons SA rates were significantly lower than NT rates. As with cervical cancer the SA Indigenous rate may be lower than the national average due to poor ascertainment of Indigenous status in women.

While the incidence of uterine cancer generally increases with age, this is not the case for Indigenous women (see fig 13). Age-specific incidence rates for uterine cancer were reasonably high for Indigenous women from age 40 and above and significantly higher than non-Indigenous rates for age 40-44, with a tendency for rates to plateau in the 40+ age groups. For non-Indigenous women rates increase markedly above age 50. An elevated risk of uterine cancer is associated with higher abdominal fatness and low levels of physical activity[13,14]. The earlier age at which uterine cancer becomes an issue for Indigenous women, may be due to an earlier onset of obesity in Indigenous women[15].

Figure 5.13



Bladder

Jurisdiction-combined age-standardised rate per 100,000 (2002-06) with 95% confidence intervals:
Indigenous 8.9 (4.8 – 13.1); non-Indigenous 10.9 (10.4 – 11.4)

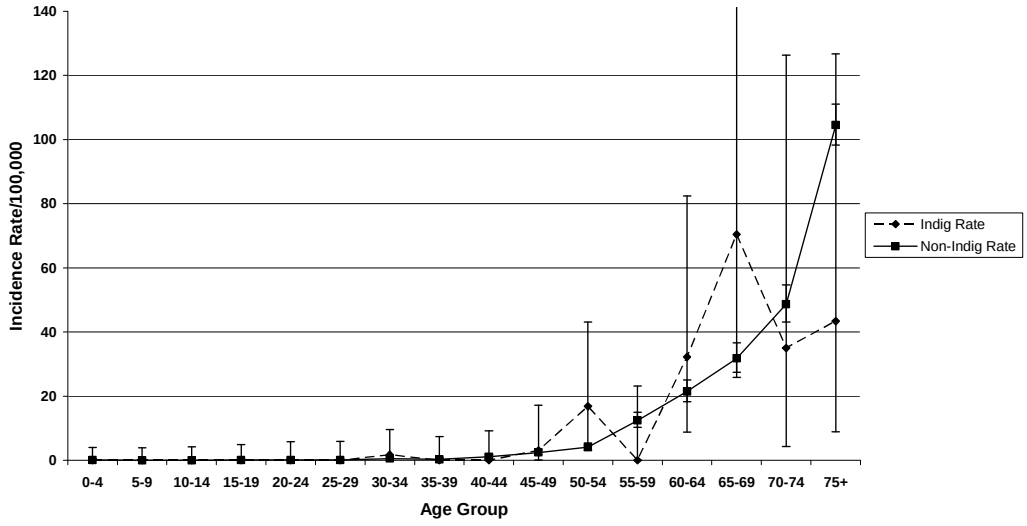
Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 16.5 (2.2 – 30.9); non-Indigenous 10.5 (9.8 – 11.1)
WA Indigenous 6.1 (0.9 – 11.3); non-Indigenous 11.2 (10.5 – 12.0)
NT Indigenous 9.0 (2.3 – 15.6); non-Indigenous 12.9 (8.0 – 17.7)

Bladder cancer ranked sixth in Indigenous persons in SA and tenth in non-Indigenous persons. There were no significant differences between states for either Indigenous or non-Indigenous incidence rates. Smoking is the major risk factor for bladder cancer[17], and the high Indigenous rates of smoking in many Indigenous communities may explain why Indigenous incidence rates were elevated in SA.

Figure 5.14 shows that Indigenous and non-Indigenous age-specific incidence rates were comparable for bladder cancer in all age groups with the exception of the 65-69 and 75+ age groups.

Figure 5.14

Incidence of Bladder Cancer - South Australia, Western Australia and Northern Territory 2002-06 (Annualised Age-Specific Rates)



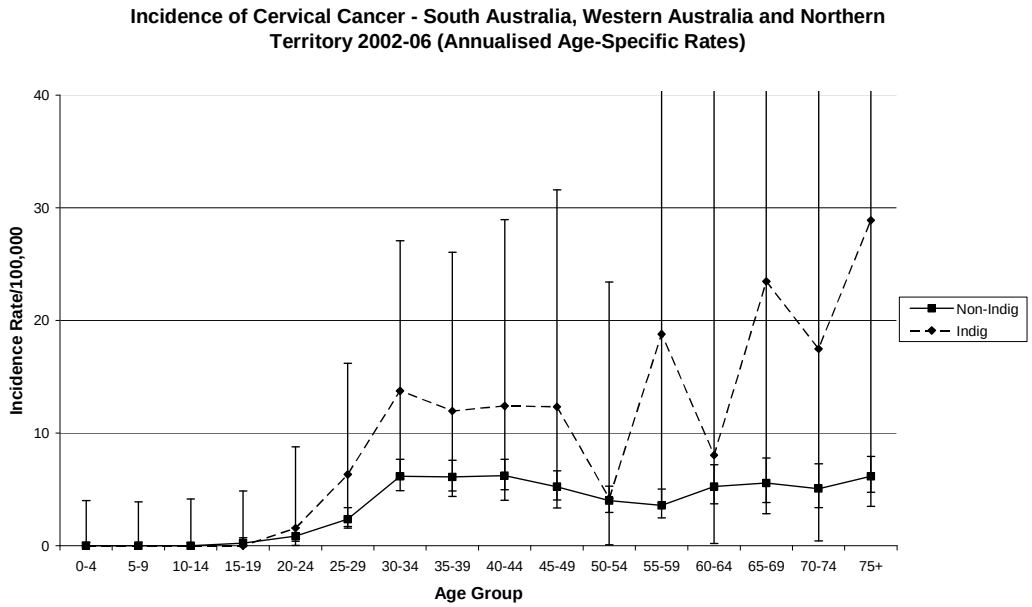
Cervix

Jurisdiction-combined age-standardised rate per 100,000 (2002-06) with 95% confidence intervals:
Indigenous 8.6 (5.1 – 12.1); non-Indigenous 3.4 (3.2 – 3.7)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 2.3 (0.0 – 5.5); non-Indigenous 3.0 (2.6 – 3.4)
WA Indigenous 6.7 (3.3 – 10.1); non-Indigenous 4.0 (3.6 – 4.4)
NT Indigenous 14.5 (6.4 – 22.5); non-Indigenous 4.3 (2.4 – 6.2)

Cervical cancer incidence rates are known to be higher in Indigenous women than non-Indigenous women potentially reflecting higher rates of human papillomavirus (HPV) infection in Indigenous women[2]. As with uterine cancer, NT had the highest Indigenous rates (significantly higher than SA), followed by WA and SA. Interestingly, even with five years of data and a combined population of 73,500 Indigenous women, the age-specific rates in the 50+ age group were highly variable (see Figure 5.15). The SA Indigenous rate appears to be artificially low. This may be due to either poor ascertainment of ethnicity for this cancer in SA or recording of SA cases as NT cases due to service patterns. A similar pattern was evident for other cancers of the female genitalia, in that SA incidence rates were below those recorded in NT and WA.
The high rates of cervical cancer amongst older Indigenous women in NT and WA is of concern.
It is well known that incidence of cervical cancer is related to human papillomavirus (HPV) infection which may be correlated with other sexually transmitted infection (STIs). The incidence of these infections has been very high in areas such as central Australia, but has decreased in recent years with comprehensive control programs[16].

Figure 5.15



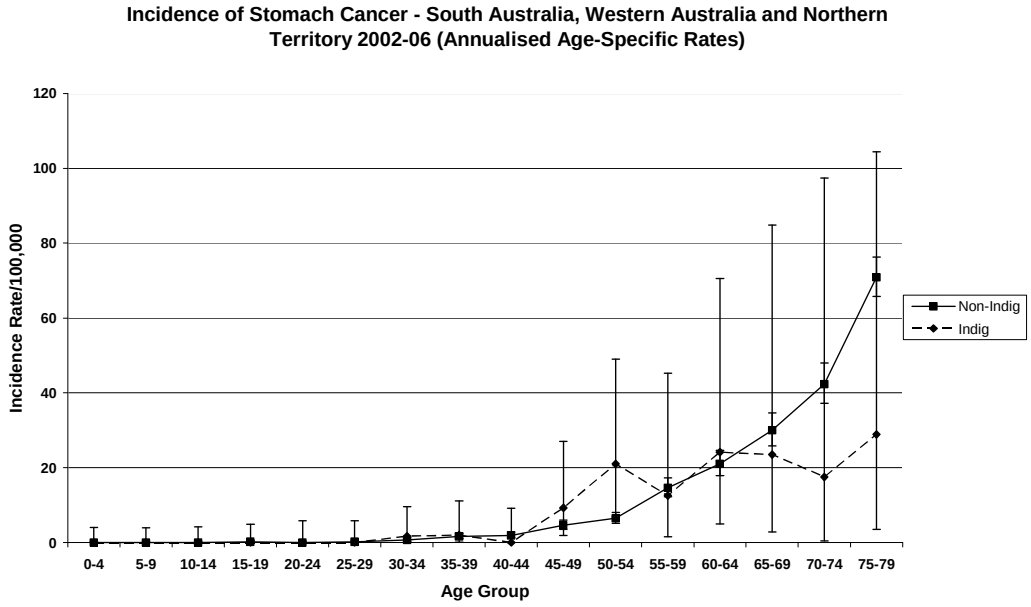
Stomach

Jurisdiction-combined age-standardised rate per 100,000 (2002-06) with 95% confidence intervals:
Indigenous 7.1 (3.6 – 10.6); non-Indigenous 9.3 (8.8 – 9.7)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 7.8 (0.1 – 15.5); non-Indigenous 9.7 (9.1 – 10.2)
WA Indigenous 6.8 (0.7 – 12.9); non-Indigenous 8.9 (8.3 – 9.6)
NT Indigenous 7.6 (2.2 – 13.0); non-Indigenous 6.5 (3.5 – 9.4)

In SA stomach cancer was ranked eleventh in Indigenous persons and twelfth in non-Indigenous persons. Incidence rates across the three jurisdictions are remarkably consistent compared with other cancer types. Age-specific incidence rates for both populations remained similar up to age 70, beyond which there is a major divergence in age-specific rates. Helicobacter pylori infection, obesity and smoking are all linked with increased rates of stomach cancer[17]. These risk factors may help explain the elevated incidence of stomach cancer in Indigenous persons for age groups 45-49 and 50-54 (see Figure 5.16).

Figure 5.16



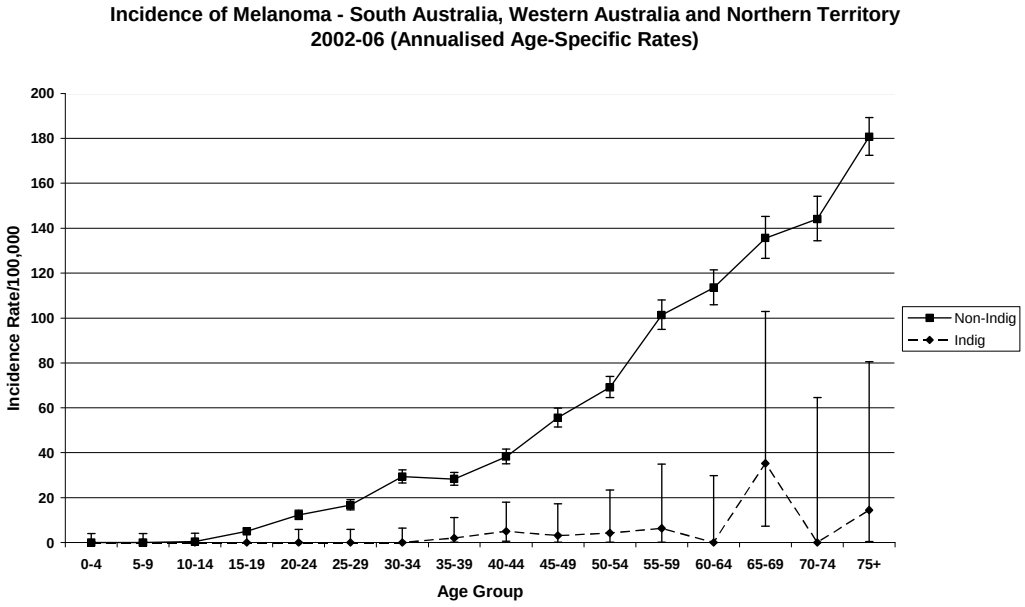
Melanoma

Jurisdiction-combined age-standardised rate per 100,000 (2002-06) with 95% confidence intervals:
Indigenous 3.4 (1.0 – 5.8); non-Indigenous 48.2 (47.2 – 49.2)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06) with 95% confidence intervals:
SA Indigenous 7.9 (0.0 – 17.3); non-Indigenous 41.5 (40.1 – 43.0)
WA Indigenous 2.1 (0.0 – 4.5); non-Indigenous 54.5 (52.9 – 56.0)
NT Indigenous 2.6 (0.0 – 5.3); non-Indigenous 41.9 (35.4 – 48.4)

Melanoma was a rare cancer in the combined Indigenous population, but in the non-Indigenous population it was the fourth-fifth ranked cancer. In SA melanoma was the ninth ranked cancer for Indigenous persons and the fifth ranked cancer for non-Indigenous persons. The higher rates in WA than in SA in the non-Indigenous population was probably due to a larger non-Indigenous population living in middle latitudes (10° S – 25° S). Non-Indigenous incidence rates for melanoma were significantly higher than Indigenous rates for all age groups, with the exception of the three age groups less than age 15 (see Figure 5.17).

Figure 5.17



Ranking of Cancer Incidence for Persons by Indigenous Status

The top ten ranked cancer types by incidence rate were quite different for Indigenous persons and non-Indigenous persons (Table 5.1). The most notable cancer types which were ranked much higher amongst Indigenous persons than non-Indigenous persons were lung (rank 1 vs 5) and unknown primary site (rank 2 vs 7). Conversely, prostate cancer (rank 1 vs 6) and bowel cancer (rank 2 vs 5) were ranked higher in non-Indigenous persons than Indigenous persons. An earlier report (1996) on the actual and expected number of Indigenous cancer cases in SA, gives a similar ranking of Indigenous cancers, with the only notable change being the decline in importance of cervical cancer[18].

Table 5.1 – Top ten ranked Indigenous and non-Indigenous cancer types by incidence rate (persons) 2002-06, SA WA & NT.

Rank	Indigenous	Rate	CI	Non-Indigenous	Rate	CI
1	Lung	74.8	(62.8-86.8)	Prostate	77.9	(76.6-79.2)
2	Unknown Primary	42.9	(33.4-52.4)	Colorectal	64.7	(63.5-65.9)
3	Female Breast	34.1	(26.7-41.6)	Female Breast	63.0	(61.8-64.1)
4	Lip/Mouth/Pharynx	30.9	(23.9-37.9)	Melanoma	48.2	(47.2-49.2)
5	Colorectal	29.9	(22.5-37.3)	Lung	47.1	(46.1-48.1)
6	Prostate	17.4	(11.5-23.3)	NHL	21.6	(20.9-22.3)
7	Pancreas	12.7	(7.9-17.6)	Unknown Primary	15.8	(15.2-16.3)
8	Liver	10.9	(6.8-15.0)	Lip/Mouth/Pharynx	15.2	(14.6-15.7)
9	NHL	10.1	(6.3-14.0)	Kidney	12.5	(12.0-13.0)
10	Bladder	8.9	(4.8-13.1)	Bladder	10.9	(10.4-11.4)
11	Uterus	8.6	(5.2-12.0)	Pancreas	10.8	(10.3-11.3)
12	Cervix	8.6	(5.1-12.1)	Stomach	9.3	(8.8-9.7)
13	Stomach	7.1	(3.6-10.6)	Uterus	8.8	(8.4-9.3)
	Other Types					
	Kidney	5.6	(2.8-8.5)	Liver	4.5	(4.2-4.8)
	Melanoma	3.4	(1.0-5.8)	Cervix	3.4	(3.2-3.7)

5.2.4 References for section 5.2

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5.3 Indigenous and non-indigenous age-specific cancer mortality rates

5.3.1 Introduction

This section outlines the age-specific mortality rates for a range of cancers using the same methodology as that used in Section 5.2. The problems associated with high variation in age-specific rates in Indigenous incidence data are more acute in mortality data because the rates for most cancers are significantly lower. For most Indigenous cancers, age-specific rates become highly variable once the overall age-standardised rate drops below $10/10^5$ and thus Indigenous graphs for NHL, prostate, bladder, stomach, uterus, melanoma, brain, kidney and cervical cancers need to be interpreted with caution.

Table 5.2 shows that while Indigenous incidence rates may be lower than Non-Indigenous rates, Indigenous mortality rates are higher than non-Indigenous rates. For the combined data the mortality:incidence ratio for Indigenous persons is 70% higher than that of non-Indigenous persons.

Table 5.2 Age-standardised incidence and mortality rates for the combined and individual jurisdictions

	Incidence rate	Mortality rate	Mort:Inc ratio
Indigenous Combined	392	261	0.67
Non-Indigenous Combined	503	195	0.39
Indigenous SA	327	204	0.62
Non-Indigenous SA	492	198	0.40
Indigenous WA	395	270	0.68
Non-Indigenous WA	514	196	0.38
Indigenous NT	423	280	0.66
Non-Indigenous NT	522	204	0.39

Essentially, Indigenous and non-Indigenous cancer mortality can be summarised as follows. Cancers where Indigenous persons have a much higher mortality rate than non-Indigenous persons (in order of mortality rate) include – lung (2x), unknown primary (3x), lip/mouth/pharynx (4x), pancreas (1.5x), liver (3x), cervix (5x) and uterus (2x). Cancers where the opposite is true include – colorectal (1.5x), prostate (3x), non-Hodgkin's Lymphoma (NHL) (2x), brain (3x), melanoma (6x) and kidney (3x). Cancers where the mortality rate is even include – female breast, stomach and bladder. For five of the seven types where Indigenous mortality rates are higher than non-Indigenous rates the Indigenous rate is over $10.0/10^5$, whereas for four of the six types where non-Indigenous rates are higher the non-Indigenous rate is under $10.0/10^5$.

5.3.2 Methods

The methods used with the mortality data were identical to those described in the previous section on incidence. Cancer deaths were recorded in SA and WA using Births, Deaths and Marriages (BDM) notifications, whereas NT used Australian Bureau of Statistics (ABS) causes of death. As a result of this, NT data used in this analysis could not include 2006, and was for 2001-2005.

Please note that as in Section 5.2, age-standardised and age-specific death rates were calculated using the 2001 estimated resident Indigenous and non-Indigenous populations from the three jurisdictions, which may mean that some of the mortality rates quoted in this section will be higher than other rates given for these populations.

Again, the order of listing of cancer types in this section, was determined by the ranking of age-standardised mortality rates for Indigenous persons for the combined jurisdictional data, and age-standardised rates for the combined data and for each individual jurisdiction are listed for each cancer site.

5.3.3 Results

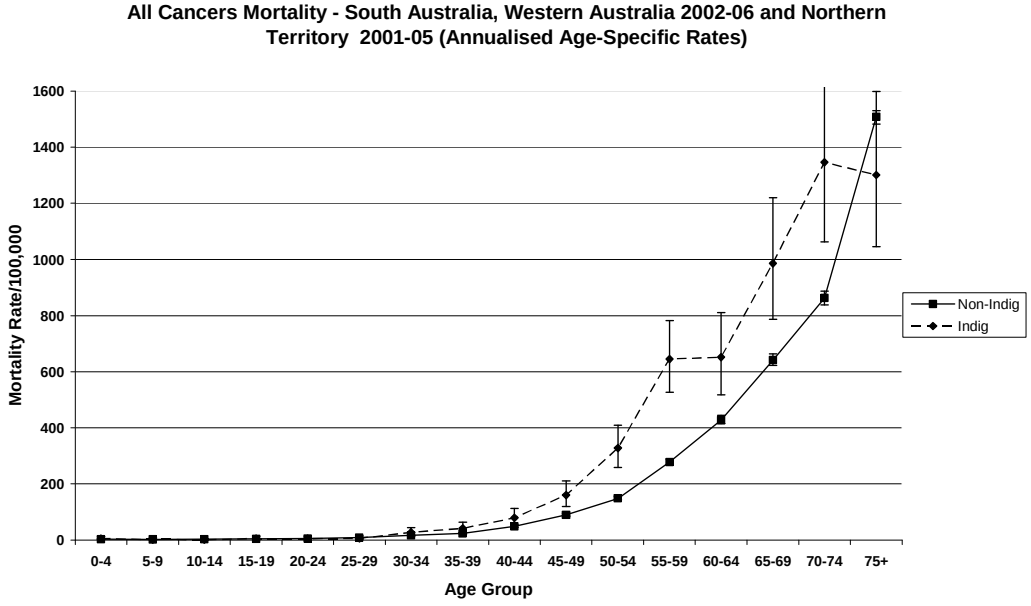
All Cancers

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 261.0 (239.0 –282.9); non-Indigenous 195.0 (193.0 – 197.0)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 204.1 (158.6 – 249.7); non-Indigenous 197.8 (194.9 – 200.8)
WA Indigenous 270.3 (235.2 – 305.4); non-Indigenous 195.5 (192.6 – 198.4)
NT Indigenous 279.6 (244.3 – 315.0); non-Indigenous 204.0 (186.0 – 222.0)

For the five year study period there were 653 Indigenous cancer deaths and 34,202 non-Indigenous cancer deaths for the combined (SA, WA, NT) population. Indigenous cancer deaths represented 2.4% of all cancer deaths, whereas Indigenous persons represented 4.0% of the total population. The mortality graph (Figure 5.18) was virtually a reversal of the incidence graph in Section 5.2, with Indigenous mortality rates significantly higher than non-Indigenous rates for all age groups above age 35-39 with the exception of age 75+. Higher age-specific mortality rates confirmed a previous finding that non-Indigenous cancer patients survive longer than Indigenous patients, even after allowing for a range of factors such as more advanced stage at diagnosis and higher co-morbidity[1]. There was evidence in Figure 1 of an elevated mortality rate in Indigenous persons in the 55-59 age group, which was consistent with the bi-modal age-specific incidence graphs shown for some cancers in Section 5.2.

Figure 5.18



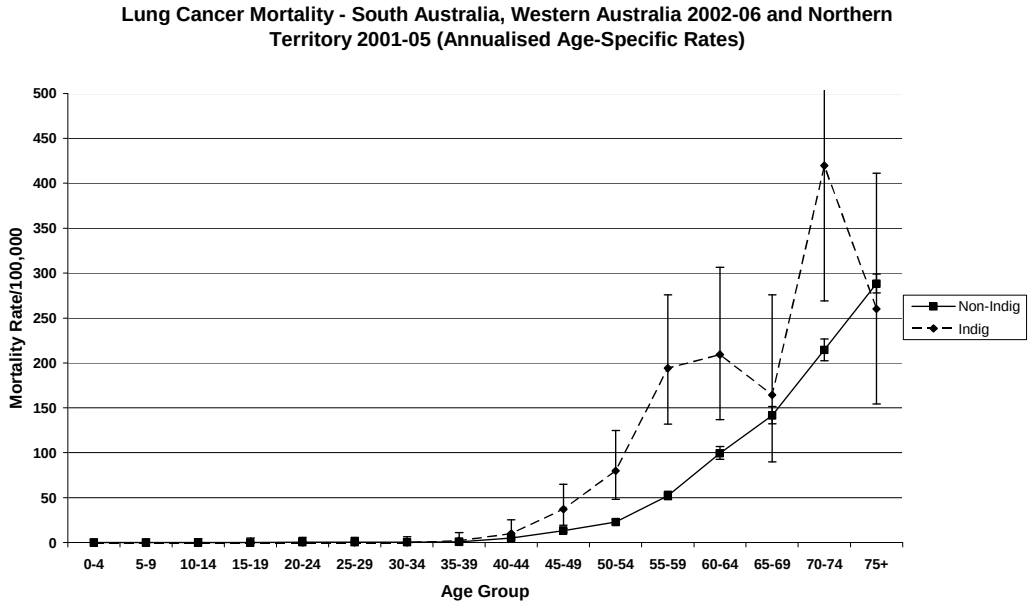
Lung

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 62.3 (51.4 – 73.2); non-Indigenous 38.5 (37.5 – 39.4)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 54.3 (29.8 – 78.7); non-Indigenous 36.5 (35.3 – 37.8)
WA Indigenous 60.1 (42.7 – 77.6); non-Indigenous 40.5 (39.2 – 41.8)
NT Indigenous 70.1 (52.7 – 87.4); non-Indigenous 45.6 (37.1 – 54.2)

The combined and WA lung cancer mortality rates for Indigenous persons were significantly higher than for non-Indigenous persons. There was a trend for NT to have the highest lung cancer mortality rates in both populations followed by WA and SA, which is consistent with the very high rates of smoking reported for parts of NT[2]. Age-specific rates for age groups 40-44 through to 60-64 and for age group 70-74 were significantly higher for Indigenous persons, than for non-Indigenous persons (see Figure 5.19). As with the lung cancer incidence graph there was evidence of a bi-modal pattern of mortality for lung mortality.

Figure 5.19



Unknown Primary Site

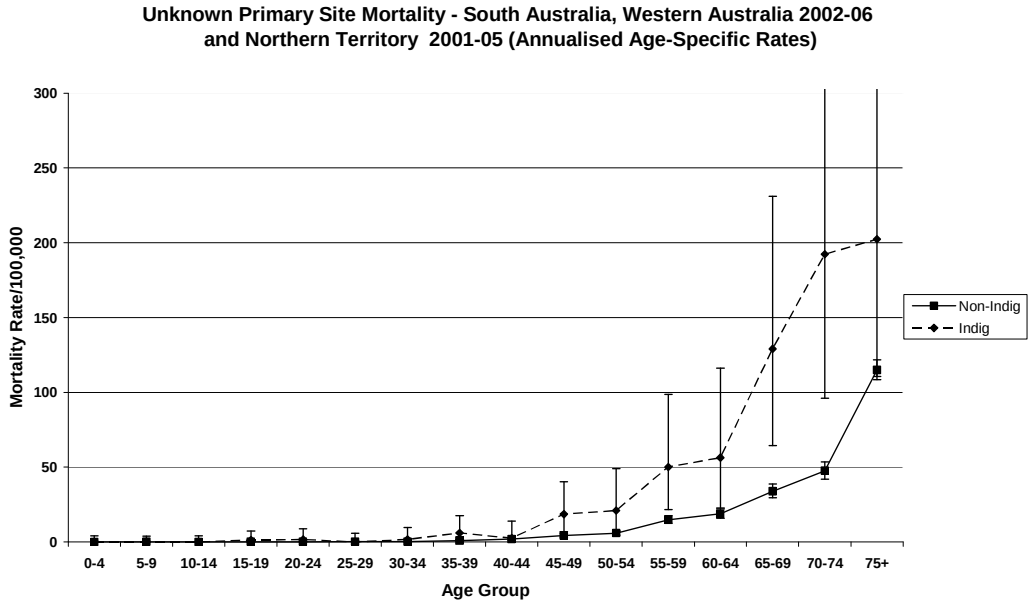
Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 31.1 (23.0 – 39.3); non-Indigenous 11.9 (11.4 – 12.4)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 32.3 (12.0 – 52.5); non-Indigenous 13.2 (12.5 – 14.0)
WA Indigenous 34.1 (20.6 – 47.6); non-Indigenous 10.5 (9.8 – 11.1)
NT Indigenous 27.6 (16.0 – 39.3); non-Indigenous 19.1 (13.3 – 24.9)

The combined and WA cancer of unknown primary site mortality rates for Indigenous persons were significantly higher than for non-Indigenous persons. Jurisdictional mortality rates were similar, with the exception of the NT non-Indigenous rate which was significantly higher than the WA non-Indigenous rate.

Cancer of unknown primary site and liver cancer were the only types where the age-specific mortality rates were higher in the Indigenous population than the Non-Indigenous population in all four 60+ age groups, and in the case of unknown primary site three of those four age groups had significantly higher rates for Indigenous persons. Lung cancer and cancer of the unknown primary site both had age-specific mortality rates approaching or above $200/10^5$ and therefore account for much of the mortality in Indigenous persons in the 70-74 and 75+ age groups

Figure 5.20



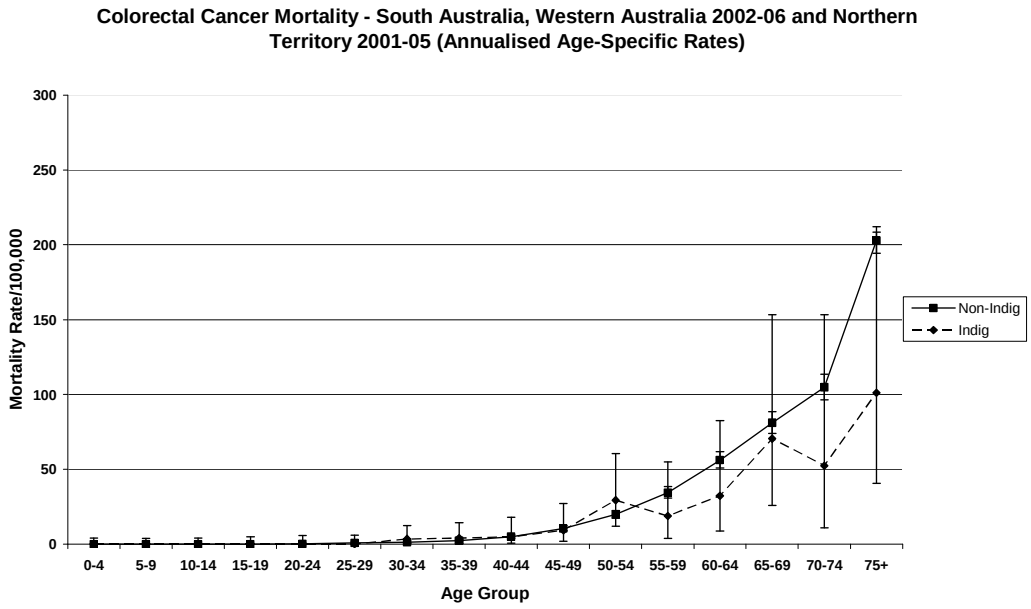
Colorectal

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 16.7 (10.9 – 22.5); non-Indigenous 25.0 (24.3 – 25.7)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 23.4 (8.5 – 38.2); non-Indigenous 26.4 (25.3 – 27.5)
WA Indigenous 18.4 (8.1 – 28.7); non-Indigenous 23.9 (22.9 – 25.0)
NT Indigenous 10.5 (3.9 – 17.1); non-Indigenous 22.5 (16.3 – 28.7)

SA which had the most comprehensive bowel cancer screening program in the study period of the three jurisdictions[3], had the highest bowel cancer mortality rate for both Indigenous and non-Indigenous persons, with only a small difference in rates between the two populations. While there was a much smaller disparity between Indigenous and non-Indigenous persons in colorectal mortality rates than there was for colorectal incidence rates, nonetheless the age-standardised mortality rate for non-Indigenous persons was still higher than for Indigenous persons across the 55+ age range. While this situation may alter in future as the availability of colorectal screening services improves, there are significant cultural issues for Indigenous persons[4] around bowel cancer testing which will hinder the rate of uptake of screening.

Figure 5.21



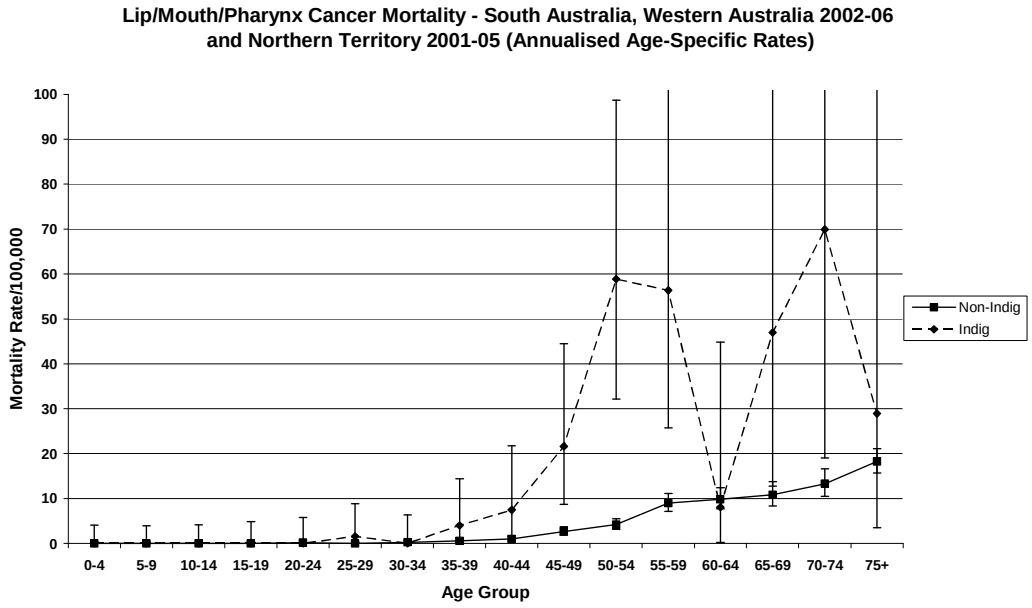
Lip/Mouth/Pharynx

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 15.3 (10.5 – 20.1); non-Indigenous 3.4 (3.1 – 3.6)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 5.0 (0.0 – 10.8); non-Indigenous 3.0 (2.6 – 3.4)
WA Indigenous 12.8 (6.3 – 19.3); non-Indigenous 3.6 (3.2 – 4.0)
NT Indigenous 22.6 (13.0 – 32.1); non-Indigenous 9.6 (5.8 – 13.5)

The combined and WA age-standardised mortality rates for Indigenous persons were significantly higher than the corresponding rates for non-Indigenous persons. The NT Indigenous rate was significantly higher than the SA rate, and the NT non-Indigenous rate was significantly higher than both WA and SA. There was generally a large disparity in age-specific mortality rates between Indigenous and non-Indigenous persons for persons over 35 years of age (see Figure 5.22), which reflected the significantly higher age-standardised mortality rate for Indigenous persons. The strongly bi-modal pattern shown in the lip/mouth/pharynx Indigenous incidence graph was also repeated in the mortality graph.

Figure 5.22



Female Breast

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 14.9 (9.5 – 20.4); non-Indigenous 14.0 (13.4 – 14.5)

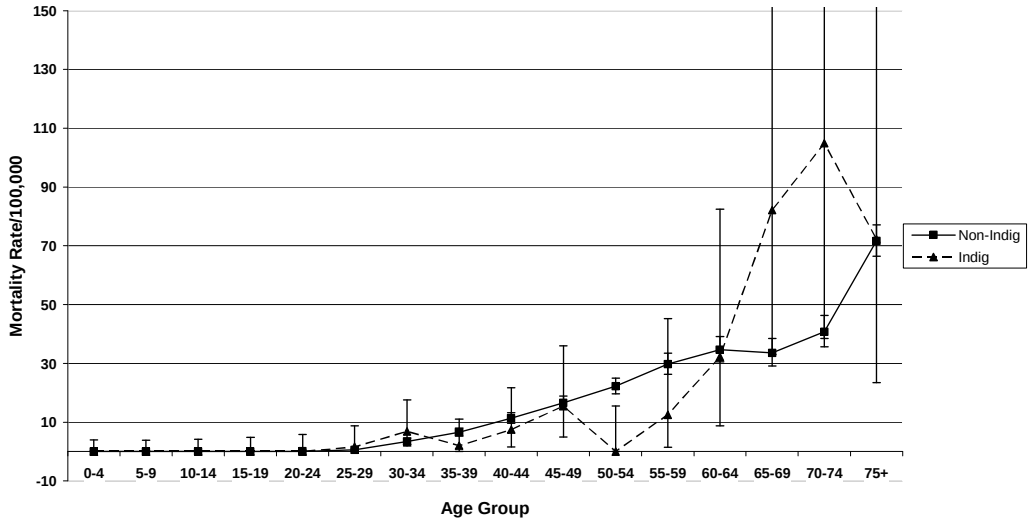
Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 10.2 (0.0 – 21.6); non-Indigenous 15.7 (14.9 – 16.6)
WA Indigenous 16.6 (7.5 – 25.8); non-Indigenous 13.0 (12.3 – 13.8)
NT Indigenous 15.6 (7.2 – 24.0); non-Indigenous 8.9 (5.4 – 12.5)

Indigenous and non-Indigenous breast cancer age-standardised mortality rates are generally similar, with some variation between jurisdictions. The pattern of age-specific rates however, is quite different between the two populations, with two points worth noting. Firstly, the generally lower incidence of breast cancer in Indigenous than non-Indigenous women is reflected in the lower mortality rates in the 50-54 and 55-59 age groups, with Indigenous women in these age groups tending to take appropriate action after diagnosis. Secondly, the higher mortality in Indigenous women in the 65-69 and 70-74 age groups may be due to the fact that elderly Indigenous women are disproportionately affected by poor access and cultural reticence to treatment and surgery[5,6,7]. Some of these cancers in elderly women may have been detected when the affected women were in the breast screening target age group, and some may have been diagnosed as late stage breast cancers[5].

These mortality figures show the Indigenous mortality rate being very similar to the non-Indigenous rate, which is consistent with previous publications which have reported the combined Indigenous rate for Qld, SA, WA and NT (2000-04) being 9% higher (but not significantly so) than the non-Indigenous rate[8].

Figure 5.23

Female Breast Cancer Mortality - South Australia, Western Australia 2002-06 and Northern Territory 2001-05 (Annualised Age-Specific Rates)



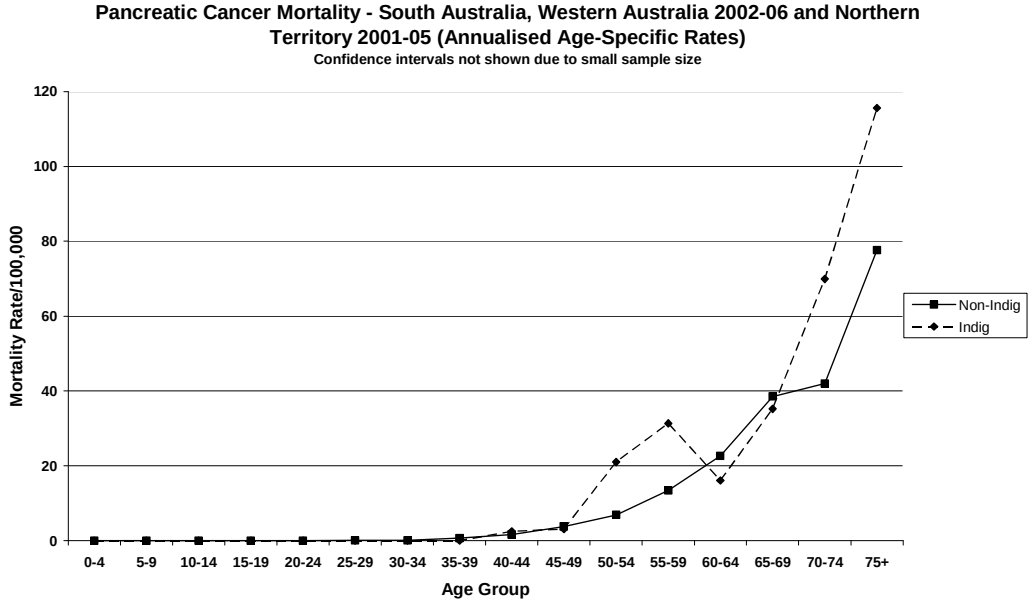
Pancreas

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 14.3 (8.6 – 20.0); non-Indigenous 9.8 (9.3 – 10.2)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 10.8 (0.0 – 22.4); non-Indigenous 9.6 (8.9 – 10.2)
WA Indigenous 18.4 (8.1 – 28.7); non-Indigenous 10.1 (9.4 – 10.8)
NT Indigenous 11.5 (3.7 – 19.2); non-Indigenous 7.1 (3.6 – 10.5)

Pancreatic cancer mortality rates tend to be higher in Indigenous populations than non-Indigenous populations, but not significantly so. The bi-modal pattern of pancreatic cancer incidence for Indigenous persons shown in Section 5.2, is repeated in the mortality graph (see Figure 5.24) and is common in most cancer types where smoking is a risk factor. Error bars are not shown on this graph as there were no significant differences between Indigenous and non-Indigenous mortality rates.

Figure 5.24



Liver

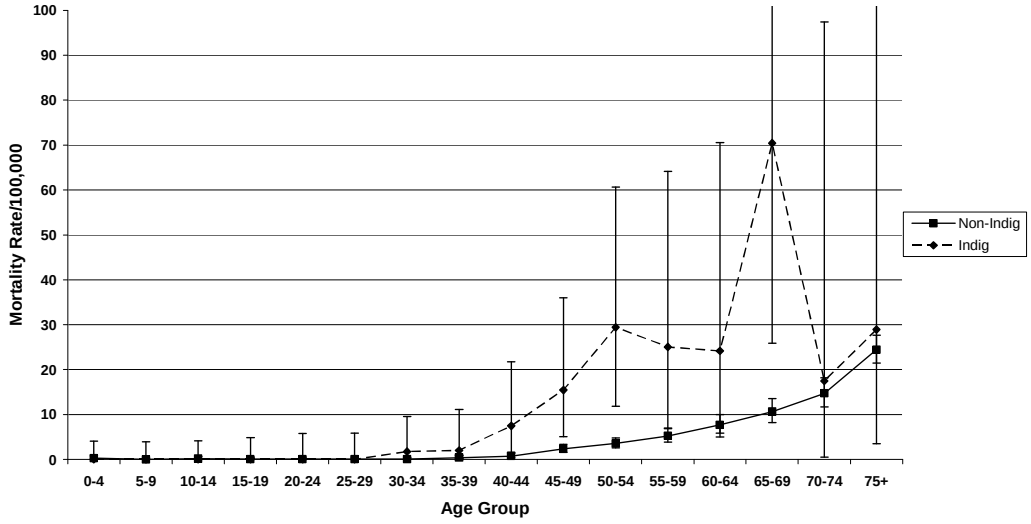
Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 10.9 (6.8 – 15.1); non-Indigenous 3.4 (3.1 – 3.7)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 4.4 (0.0 – 9.4); non-Indigenous 3.4 (3.0 – 3.8)
WA Indigenous 11.3 (4.8 – 17.7); non-Indigenous 3.4 (3.0 – 3.8)
NT Indigenous 13.5 (6.1 – 21.0); non-Indigenous 2.6 (0.8 – 4.3)

The combined, WA and NT age-standardised mortality rates for liver cancer for Indigenous persons were significantly higher than the rates for non-Indigenous persons. In SA there was little difference between Indigenous and non-Indigenous rates, but there were few liver cancer deaths in the Indigenous population. Although liver cancer mortality is high in WA and NT, it is not a cancer where mortality rates are especially high in rural and remote communities[9]. The liver cancer age-specific mortality graph is remarkably similar to the incidence graph, which reflects the low survival rate from this cancer (see Figure 5.25). Both graphs show a bi-modal pattern for the Indigenous population.

Figure 5.25

Liver Cancer Mortality - South Australia, Western Australia 2002-06 and Northern Territory 2001-05 (Annualised Age-Specific Rates)



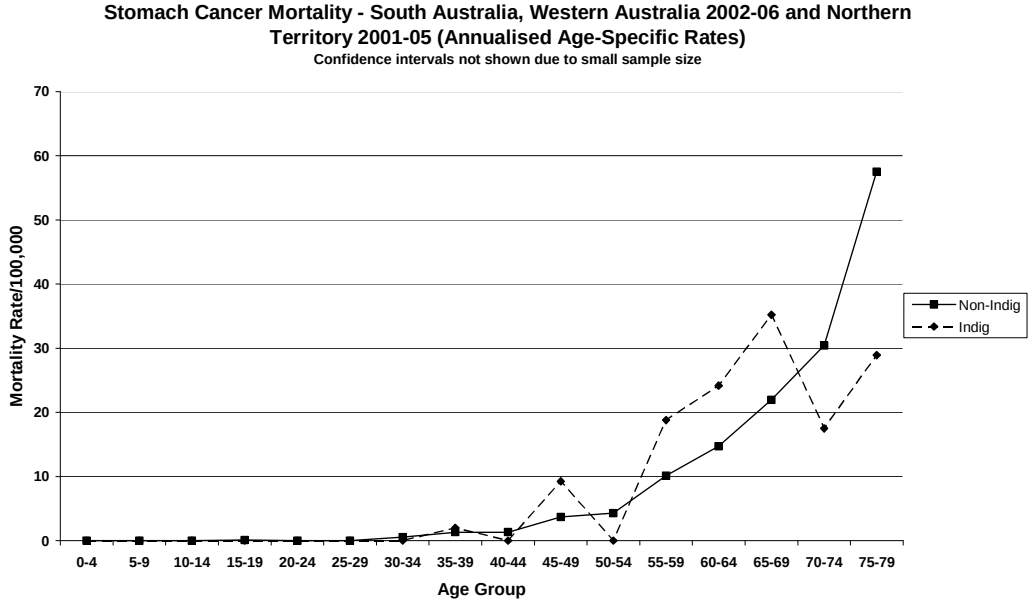
Stomach

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 6.3 (2.9 – 9.7); non-Indigenous 7.0 (6.6 – 7.4)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 6.5 (0.0 – 13.8); non-Indigenous 7.5 (6.9 – 8.1)
WA Indigenous 6.8 (0.7 – 12.9); non-Indigenous 6.7 (6.1 – 7.2)
NT Indigenous 6.0 (1.0 – 11.1); non-Indigenous 5.9 (2.7 – 9.1)

The Indigenous and non-Indigenous stomach cancer age-standardised rates are remarkably consistent across all three jurisdictions. The age-specific mortality rate graph for stomach cancer like the incidence graph, indicates that Indigenous persons tend to be diagnosed with stomach cancer at a relatively younger age than are non-Indigenous persons (see Figure 5.26). Error bars are not shown on this graph as there were no significant differences between Indigenous and non-Indigenous mortality rates.

Figure 5.26



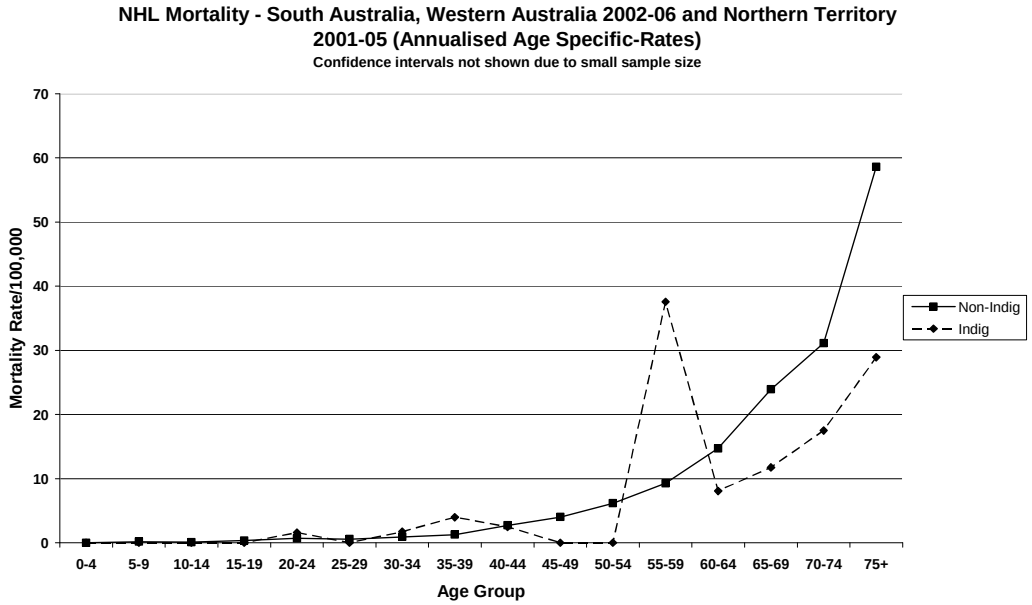
Non-Hodgkin Lymphoma (NHL)

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 5.7 (2.4 – 8.9); non-Indigenous 7.5 (7.1 – 7.9)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 4.9 (0.0 – 10.7); non-Indigenous 8.4 (7.8 – 9.0)
WA Indigenous 2.7 (0.0 – 5.4); non-Indigenous 6.9 (6.3 – 7.5)
NT Indigenous 9.3 (2.1 – 16.4); non-Indigenous 5.1 (2.2 – 8.0)

As with NHL incidence, Indigenous age-standardised NHL mortality rates were generally lower than non-Indigenous rates. With only 16 Indigenous deaths from NHL in SA, WA and NT over the 2002-06 (2001-05 for NT) period there were insufficient numbers to produce a meaningful age-specific mortality graph. Error bars are not shown on this graph as there were no significant differences between Indigenous and non-Indigenous mortality rates.

Figure 5.27



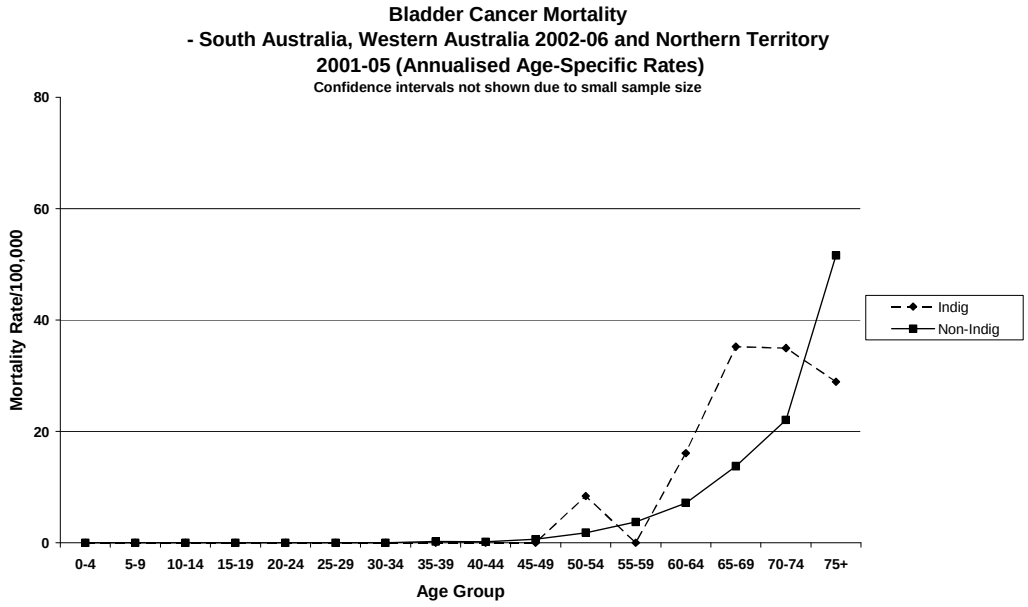
Bladder

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 5.3 (2.1 – 7.6); non-Indigenous 4.9 (4.5 – 5.2)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 14.0 (0.8 – 27.3); non-Indigenous 5.1 (4.7 – 5.6)
WA Indigenous 2.9 (0.0 – 7.2); non-Indigenous 4.7 (4.2– 5.1)
NT Indigenous 4.3 (0.0 – 8.6); non-Indigenous 5.9 (2.4 – 9.5)

Bladder cancer mortality rates were highly variable both between jurisdictions at the age-standardised rate level and also at the age-specific rate level (see Figure 5.28). More data are required to better understand bladder cancer mortality in Indigenous populations. Error bars are not shown on this graph as there were no significant differences between Indigenous and non-Indigenous mortality rates.

Figure 5.28



Cervix

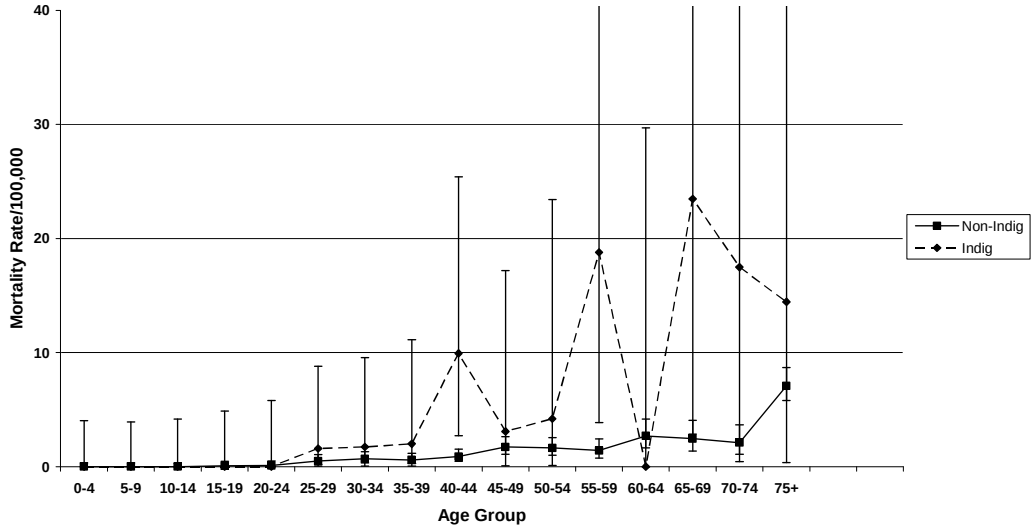
Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 4.9 (2.1 – 7.6); non-Indigenous 1.1 (0.9 – 1.2)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 3.3 (0.0 – 8.0); non-Indigenous 1.1 (0.9 – 1.4)
WA Indigenous 5.9 (1.8 – 10.0); non-Indigenous 1.3 (1.1 – 1.5)
NT Indigenous 4.3 (0.0 – 9.1); non-Indigenous 0.6 (0.1 – 1.2)

The combined and WA cervical cancer mortality rates for Indigenous persons were significantly higher than for non-Indigenous persons. There is evidence that cervical cancer mortality has declined in Indigenous populations in recent years[10], but that it still remains a problem in rural and remote communities[9]. The highly variable nature of the Indigenous mortality data for cervical cancer in the age-specific rates graph means that although Indigenous rates were significantly higher than non-Indigenous rates in the 40-44 and 55-59 age groups, it is difficult to gain an accurate picture of the pattern of Indigenous age-specific rates (see Figure 5.29).

Figure 5.29

Cervical Cancer Mortality - South Australia, Western Australia 2002-06 and Northern Territory 2001-05 (Annualised Age-Specific Rates)



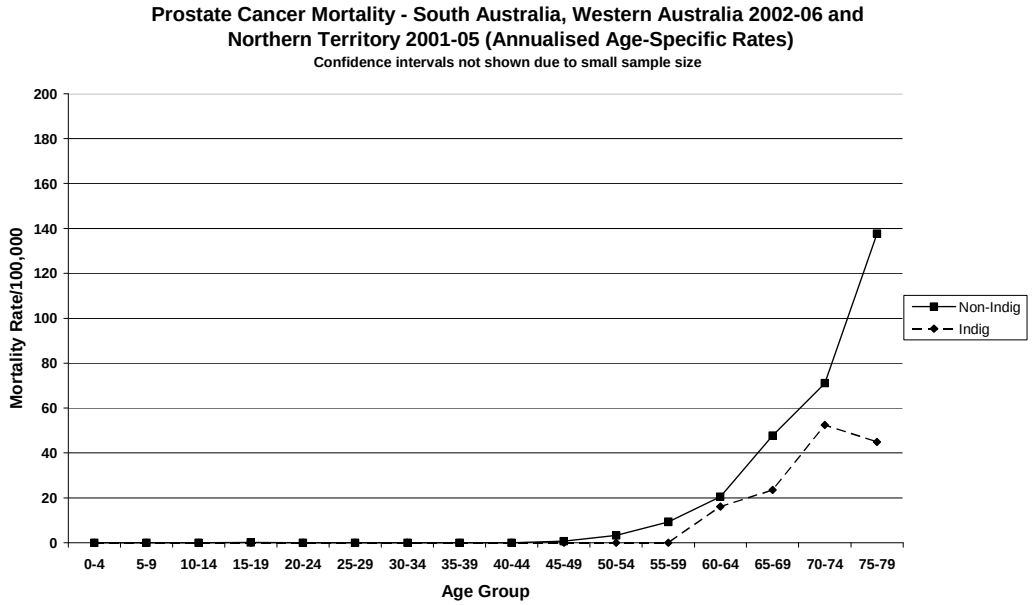
Prostate

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 4.9 (1.5 – 8.2); non-Indigenous 13.5 (13.0 – 14.1)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 0.0 (0.0 – 0.0); non-Indigenous 14.3 (13.5 – 15.1)
WA Indigenous 8.3 (1.9 – 14.8); non-Indigenous 12.9 (12.1 – 13.7)
NT Indigenous 3.1 (0.0 – 7.7); non-Indigenous 16.3 (10.5 – 22.2)

The combined, SA and NT prostate cancer mortality rates for Indigenous persons were significantly lower than for non-Indigenous persons. Prostate cancer mortality rates tended to be lower for Indigenous persons than Non-Indigenous persons in the four oldest age groups where Indigenous deaths were recorded. Error bars are not shown on this graph as there were no significant differences between Indigenous and non-Indigenous mortality rates.

Figure 5.30



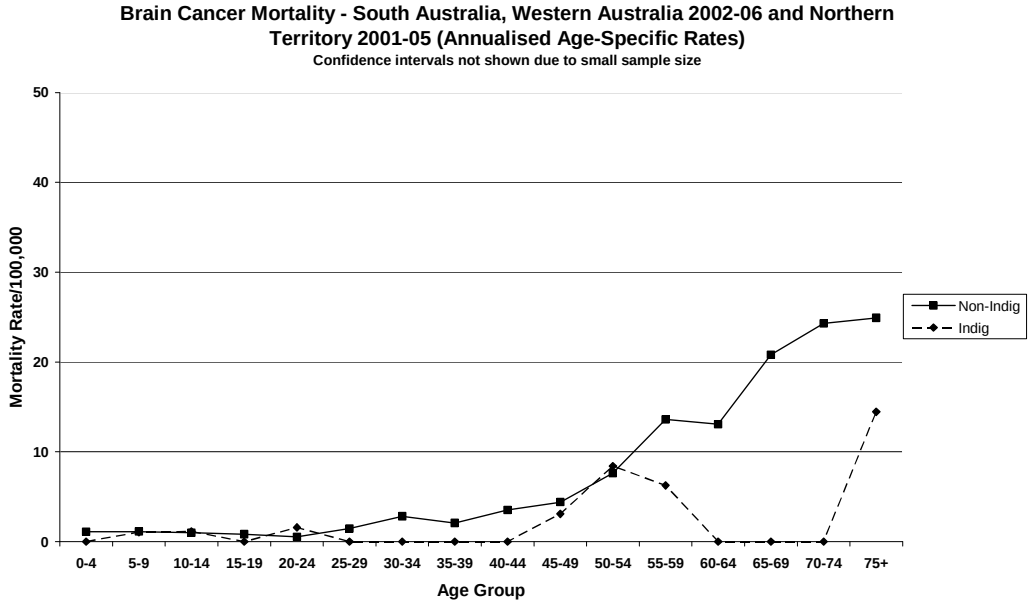
Brain

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 2.2 (0.2 – 4.2); non-Indigenous 6.1 (5.7 – 6.5)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 2.1 (0.0 – 5.0); non-Indigenous 6.4 (5.8 – 6.9)
WA Indigenous 0.6 (0.0 – 1.8); non-Indigenous 5.9 (5.4 – 6.4)
NT Indigenous 4.0 (0.0 – 8.6); non-Indigenous 4.4 (2.4 – 6.3)

Brain cancer is amongst the top ten leading types in terms of non-Indigenous cancer mortality. The non-Indigenous age-standardised mortality rate is significantly higher than the Indigenous rate. The number of Indigenous deaths is too low to make an effective comparison of age-specific mortality rates (see Figure 5.31). Error bars are not shown on this graph as there were no significant differences between Indigenous and non-Indigenous mortality rates.

Figure 5.31



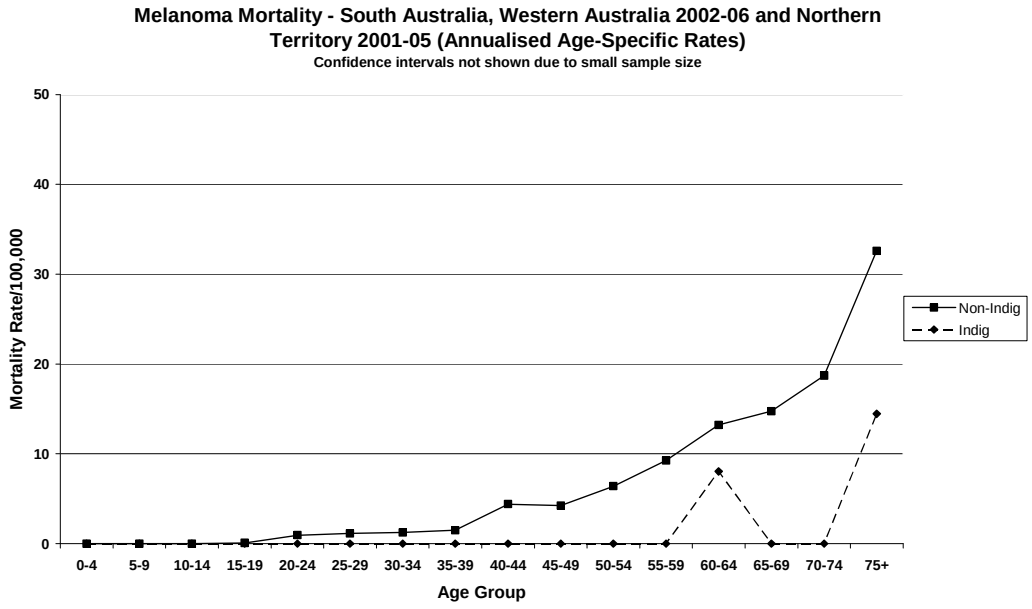
Melanoma

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 1.2 (0.0 – 2.9); non-Indigenous 5.5 (5.1 – 5.8)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 0.0 (0.0 – 0.0); non-Indigenous 4.5 (4.1 – 5.0)
WA Indigenous 0.0 (0.0 – 0.0); non-Indigenous 6.6 (6.0 – 7.1)
NT Indigenous 2.9 (0.0 – 7.2); non-Indigenous 2.2 (0.7 – 3.8)

The combined non-Indigenous age-standardised melanoma mortality rate is significantly higher than the Indigenous rate. The WA non-Indigenous mortality rate was significantly higher than the SA rate, which was in turn significantly higher than the NT rate. There were very few Indigenous deaths from melanoma, and besides confirming that the non-Indigenous mortality rate is higher than the Indigenous rate (see Figure 5.32), the age-specific graph adds little. Error bars are omitted.

Figure 5.32



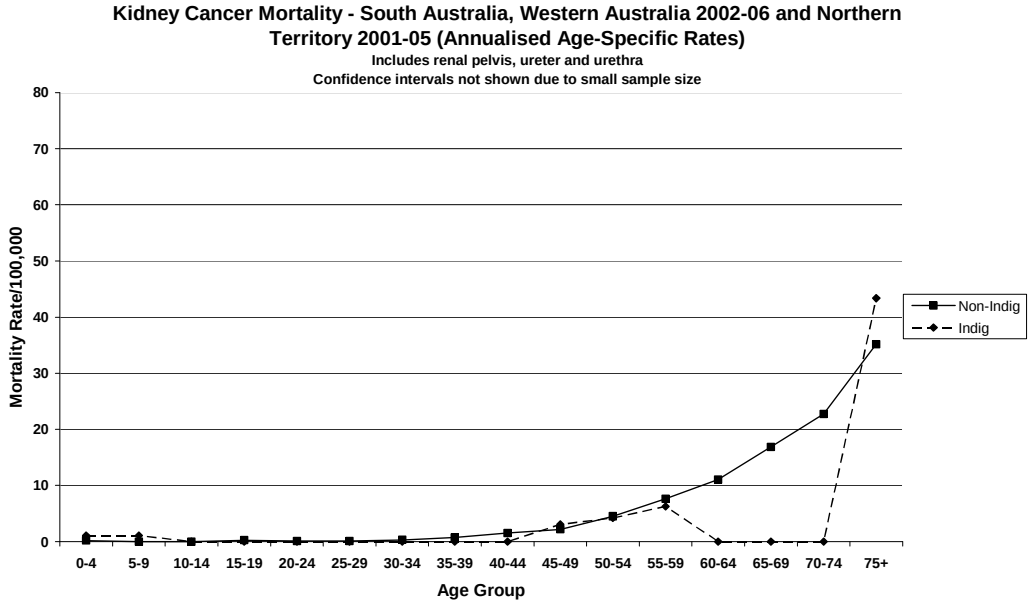
Kidney

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 3.5 (0.5 – 6.4); non-Indigenous 4.9 (4.6 – 5.2)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 1.3 (0.0 – 3.9); non-Indigenous 5.2 (4.7 – 5.7)
WA Indigenous 4.8 (0.0 – 10.5); non-Indigenous 4.7 (4.2 – 5.2)
NT Indigenous 3.0 (0.0 – 7.2); non-Indigenous 5.5 (2.4 – 8.7)

There was no significant difference in kidney cancer mortality rates, with the exception of SA, where the non-Indigenous rate was higher than the Indigenous rate. The SA figures were based on very few Indigenous deaths, and as such should be viewed with caution. There were too few Indigenous deaths for the age-specific graph to provide further information. Error bars are omitted.

Figure 5.33



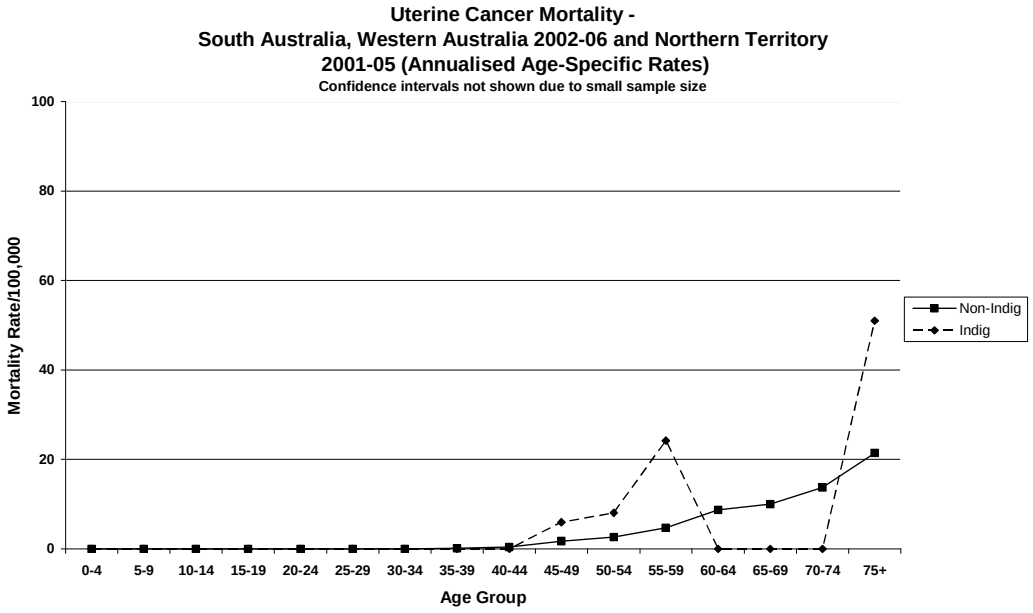
Uterus

Jurisdiction-combined age-standardised rate per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
Indigenous 2.8 (0.2 – 5.4); non-Indigenous 1.6 (1.4 – 1.8)

Jurisdiction-specific age-standardised rates per 100,000 (2002-06; NT 2001-05) with 95% confidence intervals:
SA Indigenous 0.0 (0.0 – 0.0); non-Indigenous 1.7 (1.4 – 2.0)
WA Indigenous 3.3 (0.0 – 7.6); non-Indigenous 1.7 (1.4 – 1.9)
NT Indigenous 3.4 (0.0 – 7.9); non-Indigenous 1.3 (0.0 – 2.9)

There was no significant difference in uterine age-standardised mortality rates between Indigenous and non-Indigenous populations. Mortality data were too sparse to provide a useful Indigenous age-specific graph (see Figure 5.34). Error bars are omitted.

Figure 5.34



Ranking of Cancer Mortality for Persons by Indigenous Status

The top ten ranked cancer types by mortality rate for Indigenous persons and non-Indigenous persons were closer in order than they were for incidence rate (Table 5.3). Lung, colorectal, female breast and unknown primary were ranked in the top five types in both populations. The most notable cancer types which were ranked higher amongst Indigenous persons than non-Indigenous persons were unknown primary (rank 2 vs 5), lip/mouth/pharynx (rank 4 vs unranked) and liver (rank 7 vs unranked). Conversely, prostate cancer (rank 4 vs 12) , brain cancer (rank 9 vs unranked) and melanoma (rank 10 vs unranked) were ranked higher in non-Indigenous persons than Indigenous persons.

Table 5.3 – Top ten ranked Indigenous and Non-Indigenous cancer types by mortality rate (persons), SA WA 2002-06 & NT 2001-05.

Rank	Indigenous	Rate	CI	Non-Indigenous	Rate	CI
1	Lung	62.3	(51.4-73.2)	Lung	38.5	(37.5-39.4)
2	Unknown Primary	31.1	(23.0-39.3)	Colorectal	25.0	(24.3-25.7)
3	Colorectal	16.7	(10.9-22.5)	Female Breast	14.0	(13.4-14.5)
4	Lip/Mouth	15.3	(10.5-20.1)	Prostate	13.5	(13.0-14.1)
5	Female Breast	14.9	(9.5-20.4)	Unknown Primary	11.9	(11.4-12.4)
6	Pancreas	14.3	(8.6-20.0)	Pancreas	9.8	(9.3-10.2)
7	Liver	10.9	(6.8-15.1)	NHL	7.5	(7.1-7.9)
8	Stomach	6.3	(2.9-9.7)	Stomach	7.0	(6.6-7.4)
9	NHL	5.7	(2.4-8.9)	Brain	6.1	(5.7-6.5)
10	Bladder	5.3	(1.9-8.6)	Melanoma	5.5	(5.1-5.8)
11	Cervix	4.9	(2.1-7.6)	Kidney	4.9	(4.6-5.2)
12	Prostate	4.9	(1.5-8.2)	Bladder	4.9	(4.5-5.2)
	Other Types					
	Kidney	3.5	(0.5-6.4)	Liver	3.4	(3.1-3.7)
	Uterus	2.8	(0.2-5.4)	Lip/Mouth	3.4	(3.1-3.6)
	Brain	2.2	(0.2-4.2)	Uterus	1.6	(1.4-1.8)
	Melanoma	1.2	(0.0-2.9)	Cervix	1.1	(0.9-1.2)

5.3.4 References for Section 5.3

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5.4 Major outcomes and issues in comparison of indigenous and non-indigenous cancer rates

5.4.1 Discussion

This section outlines the most important outcomes and issues around comparing Indigenous and non-Indigenous cancer rates, most of which have been briefly outlined in the two previous sections.

There are some very pronounced differences in both age-specific and age-standardised cancer incidence and mortality rates between Indigenous and non-Indigenous populations in South Australia, Western Australia and Northern Territory. Overall, cancer is a bigger issue for the Indigenous community than it is for the non-Indigenous community for a couple of reasons. Firstly, while Indigenous persons may have lower rates of cancer incidence for some cancers, the observation that the age-standardised Indigenous mortality is 34% higher than non-Indigenous mortality rate highlights the fact that proportionately more Indigenous people are dying from cancer than non-Indigenous people. Secondly, Indigenous persons are diagnosed with and die from cancer at a younger age than non-Indigenous persons, meaning that cancer mortality is contributing to the shorter life expectancy of Indigenous persons.

These large differences in cancer incidence and mortality occur in a health information environment where there are some deficiencies in the recording of Indigenous cancer data, and more specifically the recording of Indigenous status within cancer data. However, cancer registries get and verify case and death information from a number of sources, and it is clear that some of those sources such as hospital case notifications, hospital morbidity databases and mortality data have improved over time[1]. Other sources such as pathology data still do not record Indigenous status. Having multiple sources of demographic information does allow for checking of Indigenous status, using secondary data sources. In SA verification of Indigenous status within cancer registry data for the period 2002-06 by using the SA hospital morbidity database, led to an increased ascertainment of Indigenous cases and deaths of about 15%. While Indigenous cancer data quality issues are acknowledged, it should be noted that there is now strong corroboration of evidence over a series of studies on what are the most important cancers in the Indigenous population, and on the high rate of cancer mortality for Indigenous persons[2,3,4.5]. There is also agreement that the current data errs on the side of under-reporting Indigenous morbidity and mortality rates.

An important difference in age-specific rates between Indigenous and non-Indigenous persons is the bi-modal pattern of Indigenous cancer incidence and mortality across the 16 age groups for a range of cancers. It is worth outlining a possible reason for this difference, as it is such a pronounced pattern.

The bi-modal pattern of incidence and mortality for Indigenous cancers in types such as lip/mouth/pharynx cancer and pancreatic cancer and to a lesser extent lung cancer, liver cancer and cervical cancer is probably due to a subset of the Indigenous population having a much higher exposure than the non-Indigenous population to tobacco smoking, excessive alcohol consumption, hepatitis C/D, HPV or a mix of these factors, and commencing this higher exposure at a young age[5].

Of these risk factors tobacco smoking is the most important being a well established risk factor for three of the five types. This increased exposure leads to high cancer and other chronic illness morbidity and mortality rates in the 50-54 and 55-59 age groups, which for some cancers such as lip/mouth/pharynx and pancreatic cancer match the morbidity and mortality rate in the 75+ age group.

Despite this peak in Indigenous cancer morbidity and mortality in the earlier age groups, there is also a population of Indigenous persons whose exposure to these risk factors more closely resembles the non-Indigenous population and whose cancer morbidity and mortality peaks in the 75+ age group. Factors which contribute to the decrease in incidence and mortality in the 60-64 and 65-69 age groups and which accentuate the bi-modal pattern are twofold. Firstly, the under-investigation by health practitioners of Indigenous persons in the 60+ age groups, and secondly the high death rates from co-morbidities in the Indigenous population which could explain both the loss of people who would have potentially developed cancer in the future and the loss of people with cancers with a long latency period which remained undiagnosed. Under-investigation for cancer of the elderly and people with co-morbid conditions, has been reported in past studies in non-Indigenous populations[6] for people over age 75-80, and probably leads to the decline in non-Indigenous age-specific rates in the 90+ population for colorectal cancer in SA shown in Figure 5.35. This decline in cancer rates occurs despite an all-cause mortality rate which increases with age (see Figure 5.36).

Figure 5.35

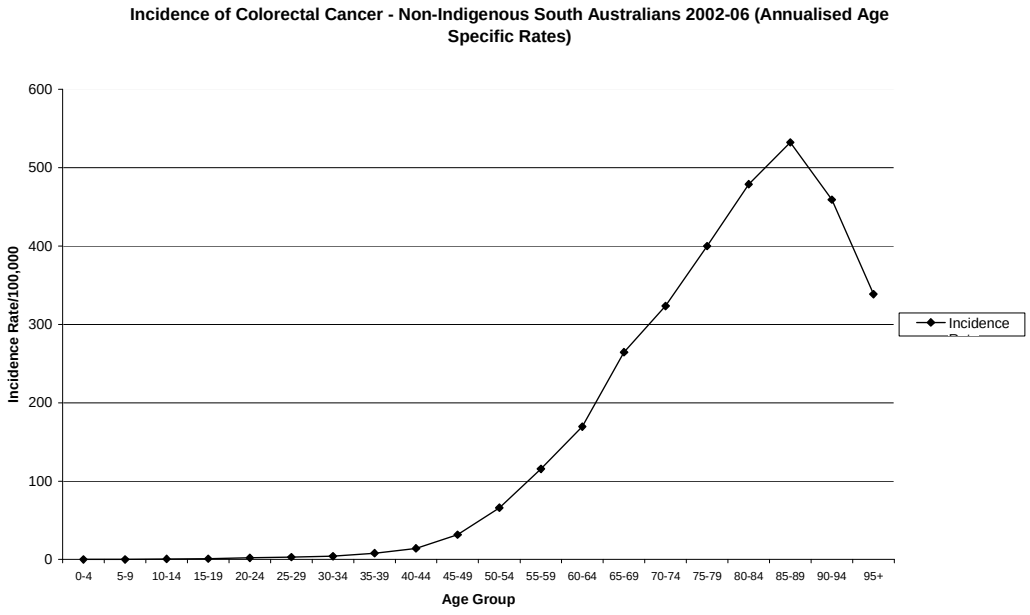
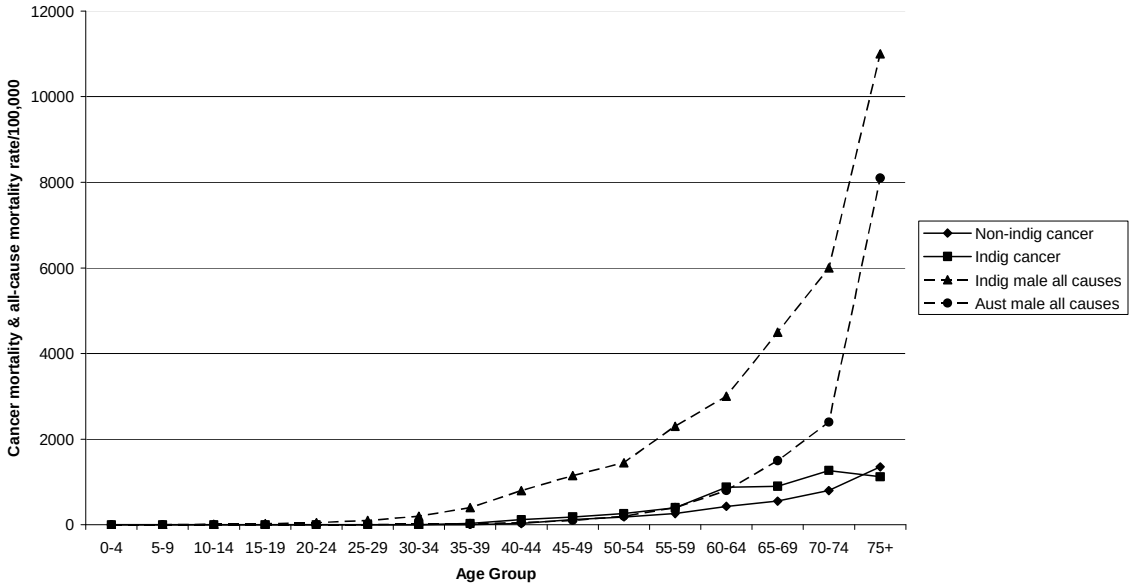


Figure 5.36

Indigenous and Non-Indigenous Cancer Mortality Rates (SA, WA & NT 2002-2006) and All-Australian and Indigenous Male All Cause Mortality Rates (Qld, SA, WA & NT 1999-2001)

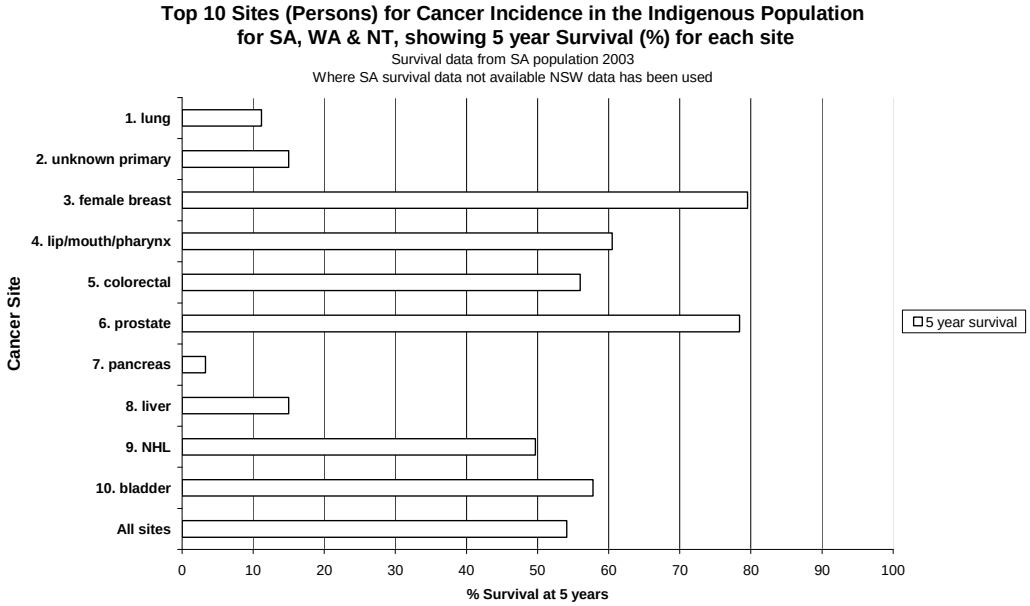


All cause mortality data from ABS The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples Cat No. 4704.0 ABS Canberra 2003

There are several points of note which relate to age-standardised cancer rates rather than age-specific rates. An Indigenous person diagnosed with cancer was 1.29 times more likely to be a woman than a non-Indigenous person. It appears that the factors that are protective for non-Indigenous women (relative to men) being diagnosed with cancer, are less prevalent amongst Indigenous women.

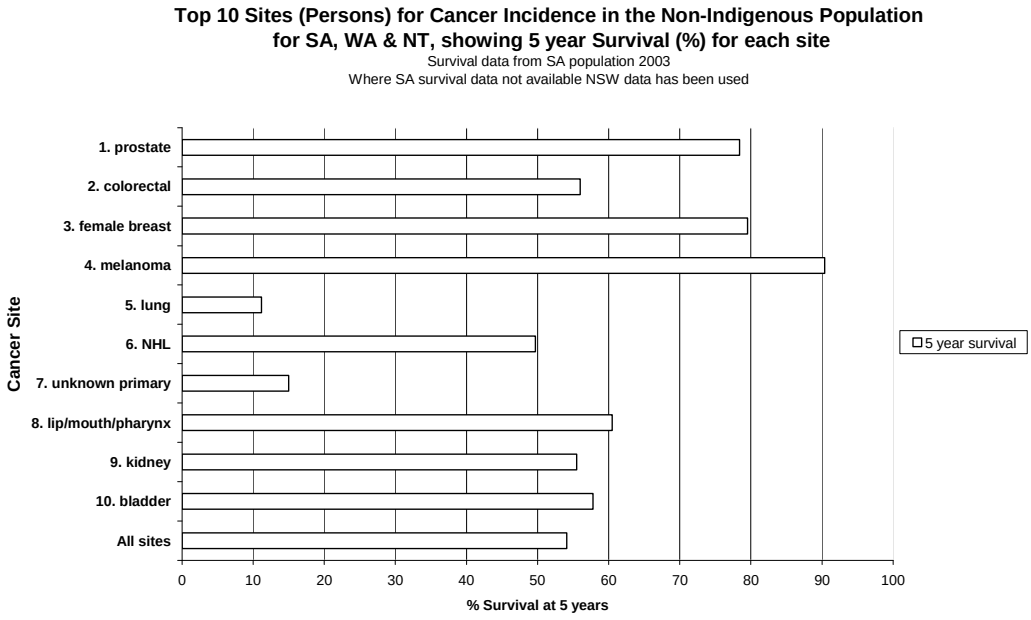
Indigenous persons are more likely to be diagnosed with cancers which have a low survival rate than non-Indigenous persons. Figures 5.37 and 5.38 show that lung, unknown primary, pancreatic and liver cancers are more highly ranked in incidence than they are for non-Indigenous persons. These four cancers all have very low 5-year survival rates.

Figure 5.37



SA survival data 2003 from South Australian Cancer Registry (2007) Cancer in South Australia 2004 – with projections to 2007. Adelaide: South Australian Department of Health.
NSW survival data from Tracey E, Alam N, Chen W et al. Cancer in New South Wales: Incidence and Mortality 2006. Sydney: Cancer Institute NSW, November 2008

Figure 5.38



SA survival data 2003 from South Australian Cancer Registry (2007) Cancer in South Australia 2004 – with projections to 2007. Adelaide: South Australian Department of Health.
NSW survival data from Tracey E, Alam N, Chen W et al. Cancer in New South Wales: Incidence and Mortality 2006. Sydney: Cancer Institute NSW, November 2008

There are two cancer types where unusual Indigenous profiles of age-specific rates, which were quite different to the bi-modal pattern, occurred – uterine cancer incidence and female breast cancer mortality. In the case of Indigenous incidence of uterine cancer, the strong link between obesity and uterine cancer seems a highly plausible explanation as to why indigenous women would have higher rates of this cancer in younger age groups. Breast cancer mortality is more complex, but it is clear that elderly Indigenous women in particular are disadvantaged in terms of poor outcomes after diagnosis. In SA, Indigenous women who died of breast cancer had lived an average of just 1.3 years since diagnosis, whereas non-Indigenous women had lived an average of 6.7 years. In both instances there are clear target groups for preventive measures in the Indigenous population – overweight and obese females aged 0-30 in the case of uterine cancer, and women with potential cultural and access issues in the breast screening target age group for female breast cancer.

The data presented in the previous two sections, confirms a lower rate of cancer incidence for Indigenous persons for some of the major cancers in the non-Indigenous population. These cancers include prostate cancer, female breast cancer, colorectal cancer and melanoma. The differences between Indigenous and non-Indigenous incidence rates are large and consistent across all age groups for both melanoma and prostate cancer where non-zero numbers of cancers are recorded for non-Indigenous persons. It seems clear that these differences are real, and will be reduced only slightly by better screening for these cancers in Indigenous populations.

The situations with female breast cancer and colorectal cancer however, are less clear. For female breast cancer it is plausible that better and more accessible diagnostic and screening services for Indigenous women, may lead to an incidence rate in Indigenous women that is very close to that of non-Indigenous women. Certainly, mortality rates for this cancer are similar between the two populations. Colorectal cancer remains the most difficult of all cancers in which to determine the true Indigenous incidence and mortality rate. There are profound cultural reasons why the Indigenous incidence and mortality rates for this cancer will remain under-estimated.

In SA, where bowel cancer screening rates and community awareness of the cancer is high, the mortality rate from colorectal cancer for both populations was very similar. Rectal cancer may be relatively more important than colon cancer to Indigenous populations than non-Indigenous populations. Overall Indigenous and non-Indigenous rates of colorectal cancer incidence and mortality may be much closer than current figures suggest.

In summary, the task of comparing age-standardised and age-specific rates between Indigenous and non-Indigenous populations for all cancers and a range of specific types is complex. The lower age-standardised incidence rate for Indigenous persons for all cancers masks the fact that Indigenous persons die at a comparatively much younger age from cancer than non-Indigenous persons and as a result their age-standardised mortality rates are much higher. In fact a study of Indigenous and non-Indigenous incidence and mortality rates emphasises the importance of age-standardisation, because without this adjustment Indigenous rates would be proportionately much lower when compared with non-Indigenous rates.

As a result of being diagnosed with and dying from cancer at a younger age, the pattern of the age-specific graphs for Indigenous persons is very different to that for non-Indigenous persons. The bi-modal pattern shown for a number of cancer types for Indigenous persons,

most likely reflects high exposure to a range of risk factors, and emphasises the need for cancer prevention services.

The situation regarding Indigenous cancer mortality is one of late diagnosis, short survival times and early death. This means that Indigenous populations require much improved access to diagnosis, treatment and palliative care to ensure that their health outcomes in relation to cancer come to more closely mirror that of the non-Indigenous population.

5.4.2 References for section 5.4

1. Bradshaw PJ, Alfonso HS, Finn J et al. Measuring the gap: accuracy of the Western Australian hospital morbidity data in identification of adult urban Aboriginal and Torres Strait Islander people. *Aust NZ J Public Health* 2009; 33: 276-279
2. Epidemiology of Cancer in South Australia: Cancer series number nineteen. South Australian Cancer Registry Adelaide, July 1997
3. Zhang X, Condon J, Dempsey K et al. Cancer incidence and mortality, Northern Territory 1991-2005. Dept of Health and Families, Darwin 2008
4. Condon JR, Zhang X, Li SQ et al. Northern Territory cancer incidence and mortality by region, 1991-2003. Dept of Health and Community Services, Darwin 2007
5. Condon J, Armstrong BK, Barnes A et al. Cancer in Indigenous Australians: a review. *Cancer Causes Control* 2003; 14: 109-121
6. Turner NJ, Haward RA, Mulley GP et al. Cancer in old age – is it inadequately investigated and treated? *MJA* 1999; 319: 309-12

6. Projections of cancer incidence: 2011, 2016 and 2021

Introduction

The cancer-incidence projections presented here have been prepared by Melissa Goodwin, Brett Davis and Mark Short from the AIHW's Cancer and Screening Unit, using data supplied by the WA Cancer Registry. The work was commissioned by the Commonwealth Department of Health and Ageing (DOHA) and followed approvals from the various State and Territory cancer registries for the use of their data. This is a good example of the sorts of uses to which standardized, de-duplicated, high-quality cancer data can be put nation-wide; such uses are one of the principle interests of the Australasian Association of Cancer Registries.

Indications for use of radiotherapy in the treatment of cancer vary according to cancer type and primary site. Delaney et al. (2005) define indication for radiotherapy as the "clinical situation in which radiotherapy was recommended as the treatment of choice on the basis of published evidence that radiotherapy has a superior clinical outcome compared to alternative treatment modalities (including no treatment) and where the patient was suitable to undergo radiotherapy".

Cancers for which radiotherapy is most commonly utilised, are shown in Table 1 below.

This report presents crude incidence rate projections for the years 2011, 2016 and 2021 for these selected cancers by sex for each jurisdiction as well as age-standardised projections for Australia. It is important to note that the 95% confidence intervals included in the national projections are for the age-standardisation process only; they are not projection intervals.

As trends for individual cancers vary, the assumption of linearity used in the all-cancer projections may not be appropriate. While the most conservative approach in calculating projections is to assume a linear model for the incidence rate, taking the logistic transform of this rate before applying the linear model often gives a better descriptive fit and ensures projected rates are always positive. However, projections arsing from a logistic model assumes (approximate) exponential growth over a long period which may be unjustified. Conversely, applying a linear model (without this transform) to a decreasing trend can lead to a negative projected rate which cannot be possible. As a general rule, a linear model is preferred for increasing rates and a logistic model is preferred for decreasing rates.

In this report, each of the specified cancers was examined individually and a linear or logistic model applied as appropriate at the national level. Linear models were applied for prostate cancer, head and neck cancers, melanoma and bladder cancer. For all other cancers, a logistic model was applied. The significance of time as a predictor was determined at the 5% level by applying a two-tailed test to its coefficient. In age-sex categories where time was not significant the projection was based on the mean incidence rate over 1997–2006.

Age groups used for the age-period-interaction model were determined according to the age-sex specific incidence rate for each cancer to ensure sufficient cases in each group to provide reasonably accurate estimates. The age groups used to model each cancer are described in Table 1.

Table 1: Cancer specific age-period-interaction model age groups

Cancer	ICD-10 code(s)	Age groups (years)
Breast (females)	C50	0-29, 30-39, 40-49, 50-54, 55-59, 60-64, 65-69, 70+
Lung, bronchus and trachea	C33-C34	0-44, 45-54, 55-64, 65-74, 75+
Prostate	C61	0-44, 45-54, 55-64, 65-74, 75+
Head and neck	C01-C14, C30-C32	0-44, 45-54, 55-64, 65-74, 75+
Rectum	C19-C20	0-44, 45-54, 55-64, 65-74, 75+
Lymphoma	C81-C85, C96	0-44, 45-54, 55-64, 65-74, 75+
Melanoma	C43	0-24, 25-44, 45-54, 55-64, 65-74, 75+
Gynaecological	C51-C58	0-24, 25-44, 45-54, 55-64, 65-74, 75+
Central nervous system	C70-C72	0-44, 45-54, 55-64, 65-74, 75+
Bladder	C67	0-44, 45-54, 55-64, 65-74, 75+

Jurisdiction-specific incidence for each of the target years was calculated by applying the nationally predicted rate for each age-sex category to predicted populations for each jurisdiction. Where necessary, adjustments were then made by multiplying the predicted incidence by the standardised incidence ratio (SIR) for the jurisdiction calculated from the last 5 years of data to account for jurisdiction-specific trends. The SIR can be thought of as a comparison between the observed number of cases in the jurisdiction and the expected number of cases if the rates for the whole of Australia had applied to that jurisdiction. Final predicted incidence is then divided by the predicted population for each jurisdiction to derive a crude rate.

Parameter estimation was carried out, using either generalised least squares (GLS) or ordinary least squares (OLS) regression, in SAS using PROC REG. In the GLS case, the logistic link function was applied with a regression weight (approximately) equal to the cancer incidence count (r_i) which was specified by a WEIGHT statement in PROC REG.

Reference: Delaney G, Jacob S, Featherstone C & Barton M. (2005). The role of radiotherapy in cancer treatment. Cancer 104(6):1129–1137.

Table 2: Projected crude rates for top ten cancers treated by radiotherapy, 2011, 2016 and 2021: Western Australia

	2011			2016			2021		
Cancer	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
Breast (C50)	..	124.2	..	..	128.5	..	..	131.3	..
Lung (C33–C34)	56.4	36.9	46.7	57.8	42.3	50.1	59.3	48.8	54.1
Prostate (C61)	201.7	..	..	251.5	..	..	300.7	..	..
Head and Neck (C01–C14, C30–C32)	17.4	6.1	11.8	17.2	5.9	11.7	16.8	5.8	11.4
Rectum (C19–C20)	24.9	15.4	20.2	26.3	16.4	21.4	27.6	17.4	22.5
Lymphoma (C81–C85, C96)	24.6	19.1	21.9	26.8	20.3	23.6	29.0	21.5	25.3
Melanoma (C43)	59.6	40.9	50.3	67.4	44.0	55.8	75.9	47.5	61.9
Gynaecological (C51–C58)	..	40.8	..	..	42.4	..	..	43.7	..
Central nervous system (C70–C72)	8.4	6.4	7.4	8.8	6.7	7.8	9.1	7.1	8.1
Bladder (C67)	14.7	4.2	9.5	14.7	4.0	9.4	14.8	3.9	9.4

Note: Incidence rates are crude rates expressed per 100,000 persons.

Source: AIHW projections derived from the Australian Cancer Database and ABS population projections. Data presented here with the agreement of AIHW and DOHA.

LIST OF APPENDICES

Note *that Information for Appendices 1 and 2, listed here but not printed, is available on the Internet, as produced for the 2005 report, at* *http://www.health.wa.gov.au/wacr/datr05.html*

- Notes -

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

Appendix 3A. Cancer incidence, Western Australia, 2007

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		2	12	7	9	9	10	15	8	10	8	8	5		**104**	**6.9**	5.6-8.3	99.0	0.8	134	10.1 (8.2-12.1)
					1.3		2.7	14.8	8.8	11.5	12.5	15.3	28.5	20.5	34.5	34.8	53.1	52.0								
F						1			2	1	4	3	2	6	5	5	8	6		**43**	**2.3**	1.6-3.1	100.0	0.3	388	3.9 (2.7-5.0)
						1.4			2.6	1.3	5.6	4.7	4.0	15.6	16.3	19.1	39.6	30.5								
Tongue (C010-C029)																										
M									3	5	3	6	5	4	4	5	2			**37**	**2.4**	1.6-3.2	100.0	0.3	351	3.5 (2.4-4.7)
									3.8	6.4	4.2	9.2	9.5	10.3	13.8	21.7	13.3									
F									2		2	2	2		2		1	1		**12**	**0.8**	0.3-1.2	92.0	0.1	1049	1.1 (0.5-1.7)
									2.6		2.8	3.2	4.0		6.5		5.0	5.1								
Parotid gland (C070-C079)																										
M						1					1	2	2	1	1		1	1		**10**	**0.7**	0.2-1.1	100.0	0.1	1283	1 (0.4-1.6)
						1.4					1.4	3.1	3.8	2.6	3.4		6.6	10.4								
F						1			1		1	2	1	2						**8**	**0.6**	0.2-1.1	100.0	0.1	1382	0.7 (0.2-1.2)
						1.4			1.3		1.4	3.2	2.0	5.2												
Major salivary glands (not parotid) (C080-C089)																										
M															1		1	1		**3**	**0.2**	0 - 0.3	100.0	0.0	5801	0.4 (0 - 0.8)
															3.4		6.6	10.4								
F										1			1							**2**	**0.2**	0 - 0.4	100.0	0.0	6078	0.2 (0 - 0.4)
										1.3			2.0													
Pharynx (C090-C149) (not C11)																										
M									4	7	7	11	7	7	2	2	1			**48**	**3.3**	2.4-4.3	98.0	0.4	255	4.3 (3.1-5.5)
									5.0	9.0	9.7	16.8	13.3	18.0	6.9	8.7	6.6									
F										3	2	1		1		1	1			**9**	**0.6**	0.2-1.0	89.0	0.1	1842	0.8 (0.3-1.4)
										3.9	2.8	1.6		2.6		3.8	5.0									
Nasopharynx (C110-C119)																										
M				1				1	2	1				1						**6**	**0.5**	0.1-0.9	100.0	0.0	2249	0.6 (0.1-1.0)
				1.3				1.2	2.5	1.3				2.6												
F							1	1						1						**3**	**0.2**	0 - 0.5	100.0	0.0	3799	0.3 (0 - 0.6)
							1.4	1.3						2.6												
Oesophagus (C150-C159)																										
M									2	7	7	14	9	8	10	17	10	7		**91**	**5.5**	4.3-6.6	96.0	0.6	175	9.3 (7.3-11.2)
									2.5	9.0	9.7	21.4	17.1	20.5	34.5	73.9	66.4	72.9								
F											1		2	2	3	4	5	6		**23**	**1.0**	0.5-1.5	96.0	0.1	981	2 (1.2-2.8)
											1.4		4.0	5.2	9.8	15.3	24.8	30.5								
Stomach (C160-C169)																										
M								2	5	1	10	8	15	16	15	17	17	12		**118**	**7.1**	5.8-8.4	95.0	0.8	128	12.3 (10.0-14.5)
								2.5	6.3	1.3	13.9	12.2	28.5	41.0	51.7	73.9	112.8	124.9								
F						1	2		1	9	3	5	1	5	6	12	7	14		**66**	**3.4**	2.5-4.3	97.0	0.3	314	5.9 (4.5-7.3)
						1.4	2.8		1.3	11.6	4.2	7.9	2.0	13.0	19.6	45.9	34.7	71.1								
Small intestine (C170-C179)																										
M								2	1	2	2	2	3	3	4	1	1	1		**22**	**1.5**	0.9-2.1	100.0	0.2	510	2.1 (1.2-3.1)
								2.5	1.3	2.6	2.8	3.1	5.7	7.7	13.8	4.3	6.6	10.4								
F							1		1	1	2	3	1	1	2	2	1			**15**	**1.0**	0.5-1.5	100.0	0.1	883	1.4 (0.7-2.1)
							1.4		1.3	1.3	2.8	4.7	2.0	2.6	6.5	7.6	5.0									

Appendix 3A. Cancer incidence, Western Australia, 2007

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	5	6	10	17	50	81	88	105	78	88	75	50		**655**	**40.6**	37.4-43.8	97.0	4.7	22	66 (60.9-71.2)
						2.7	6.8	7.4	12.6	21.8	69.5	123.6	167.0	269.3	268.9	382.7	497.7	520.5								
F					5	4	5	10	6	23	34	49	56	68	68	79	54	70		**531**	**30.3**	27.5-33.0	96.0	3.5	29	48 (43.9-52.1)
					6.8	5.7	7.0	12.7	7.7	29.7	47.7	77.5	112.0	176.5	222.2	302.0	267.4	355.4							
Colon (C180-C189)																										
M						2	2	1	6	9	24	42	42	61	51	60	44	38		**382**	**23.3**	20.9-25.7	96.0	2.7	38	39.4 (35.4-43.5)
						2.7	2.7	1.2	7.6	11.5	33.3	64.1	79.7	156.5	175.8	261.0	292.0	395.5								
F					5	3	2	6	3	14	21	35	34	52	50	68	37	55		**385**	**21.5**	19.2-23.8	95.0	2.5	41	34.9 (31.4-38.4)
					6.8	4.3	2.8	7.6	3.9	18.1	29.5	55.4	68.0	135.0	163.4	260.0	183.2	279.2							
Rectosigmoid junction & rectum (C190-C209)																										
M							3	5	4	8	25	39	46	44	27	28	30	12		**271**	**17.2**	15.1-19.3	99.0	2.1	49	26.4 (23.2-29.6)
							4.1	6.1	5.0	10.2	34.7	59.5	87.3	112.9	93.1	121.8	199.1	124.9								
F						1	3	4	3	8	13	13	22	16	18	11	17	15		**144**	**8.7**	7.2-10.2	97.0	1.0	97	13 (10.8-15.1)
						1.4	4.2	5.1	3.9	10.3	18.3	20.6	44.0	41.5	58.8	42.1	84.2	76.2								
Anus (C210-C219)																										
M								1			2		2		1	1	3	1		**11**	**0.6**	0.2-1.0	91.0	0.1	1778	1.2 (0.5-1.8)
								1.2			2.8		3.8		3.4	4.3	19.9	10.4								
F										2		3	3	2	1		1	2		**14**	**0.9**	0.4-1.4	100.0	0.1	918	1.2 (0.6-1.8)
										2.6		4.7	6.0	5.2	3.3		5.0	10.2								
Liver & intrahepatic bile ducts (C220-C229)																										
M	3						1			5	11	8	5	13	9	10	6	6		**77**	**5.2**	3.9-6.4	52.0	0.6	177	7.8 (6.0-9.5)
	4.3						1.4			6.4	15.3	12.2	9.5	33.3	31.0	43.5	39.8	62.5								
F											1			5	6	4	5	5		**26**	**1.3**	0.7-1.8	50.0	0.2	589	2.4 (1.5-3.3)
											1.4			13.0	19.6	15.3	24.8	25.4								
Gallbladder & bile ducts (C230-C249)																										
M							1			3	3	4	3	4	2	8	3	4		**35**	**2.1**	1.4-2.8	83.0	0.2	522	3.6 (2.4-4.9)
							1.4			3.8	4.2	6.1	5.7	10.3	6.9	34.8	19.9	41.6								
F									1	1		3	5	3	3	6	4	5		**31**	**1.6**	1.0-2.3	71.0	0.2	573	2.8 (1.8-3.7)
									1.3	1.3		4.7	10.0	7.8	9.8	22.9	19.8	25.4								
Pancreas (C250-C259)																										
M							1			5	12	12	17	17	12	27	9	9		**121**	**7.4**	6.0-8.8	64.0	0.8	126	12.3 (10.1-14.5)
							1.4			6.4	16.7	18.3	32.3	43.6	41.4	117.4	59.7	93.7								
F								1	1	1	3	7	15	10	20	15	15	23		**111**	**5.7**	4.5-6.9	60.0	0.7	143	9.9 (8.0-11.7)
								1.3	1.3	1.3	4.2	11.1	30.0	26.0	65.4	57.4	74.3	116.8								
Nasal cavity/sinuses, middle & inner ear (C300-C319)																										
M									1	1	2	2	1	2	2	1				**12**	**0.8**	0.4-1.3	100.0	0.1	898	1.1 (0.5-1.8)
									1.3	1.3	2.8	3.1	1.9	5.1	6.9	4.3										
F								1					1	1			1	2		**6**	**0.3**	0.0-0.6	100.0	0.0	3408	0.5 (0.1-0.9)
								1.3					2.0	2.6			5.0	10.2								
Larynx (C320-C329)																										
M									3		4	3	4	11	7	7	3	1		**43**	**2.8**	1.9-3.6	100.0	0.4	271	4.3 (3.0-5.6)
									3.8		5.6	4.6	7.6	28.2	24.1	30.4	19.9	10.4								
F										1	1		1	2	1		1			**7**	**0.5**	0.1-0.8	100.0	0.1	1521	0.6 (0.2-1.1)
										1.3	1.4		2.0	5.2	3.3		5.0									

Appendix 3A. Cancer incidence, Western Australia, 2007

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							4	5	7	23	46	67	85	81	95	69	34		**517**	**31.2**	28.4-34.0	85.0	3.7	27	53.3 (48.6-57.9)
	1.4							4.9	6.3	9.0	32.0	70.2	127.1	218.0	279.3	413.2	457.9	353.9								
F				1	2		1	3	2	14	12	17	38	48	52	47	44	49		**330**	**18.1**	16.0-20.2	80.0	2.2	46	29.8 (26.5-33.0)
				1.4	2.7		1.4	3.8	2.6	18.1	16.8	26.9	76.0	124.6	169.9	179.7	217.9	248.8								
Thymus (C370-C379)																										
M																		1		**1**	**0.1**	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.4)
																		10.4								
F										1			1	1	1	1	1			**6**	**0.4**	0.1-0.7	83.0	0.0	2185	0.6 (0.1-1.0)
										1.3			2.0	2.6	3.3	3.8	5.0									
Pleura, heart & mediastinum (C380-C389)																										
M	1						1			1					2		1			**6**	**0.5**	0.1-1.0	83.0	0.1	1823	0.6 (0.1-1.1)
	1.4						1.4			1.3					6.9		6.6									
F																1				**1**	**0.0**	0 - 0.1	100.0	0.0	*	0.1 (0 - 0.3)
																3.8										
Bones, joints & articular cartilages (C400-C419)																										
M			1	1	2		1	1	1			1					1			**9**	**0.8**	0.2-1.3	100.0	0.1	1901	0.8 (0.3-1.4)
			1.3	1.3	2.5		1.4	1.2	1.3			1.5					6.6									
F	1	1			1	1		1						2		1				**8**	**0.8**	0.2-1.4	100.0	0.1	1628	0.8 (0.2-1.3)
	1.5	1.5			1.4	1.4		1.3						5.2		3.8										
Skin (melanoma only) (C440-C449; M-8720 - 8790)																										
M				1	9	10	19	25	26	47	53	70	65	62	60	51	32	22		**552**	**37.3**	34.1-40.5	99.0	4.2	24	53.6 (49.1-58.1)
				1.3	11.3	13.5	25.8	30.7	32.8	60.2	73.6	106.8	123.3	159.0	206.9	221.8	212.3	229.0								
F				2	6	8	29	25	28	34	32	30	48	41	30	28	25	17		**383**	**26.2**	23.5-28.9	100.0	2.8	36	35.5 (32.0-39.1)
				2.8	8.1	11.5	40.5	31.8	36.0	43.9	44.9	47.5	96.0	106.4	98.0	107.1	123.8	86.3								
Skin (not melanoma/SCC/BCC) (C440-C449)																										
M						1				2	3	6	5	5	6	5	6	9		**48**	**2.9**	2.1-3.7	96.0	0.3	333	5.1 (3.6-6.6)
						1.4				2.6	4.2	9.2	9.5	12.8	20.7	21.7	39.8	93.7								
F								1		2		1	4	2	2	5	2	6		**25**	**1.3**	0.7-1.9	100.0	0.1	795	2.2 (1.3-3.1)
								1.3		2.6		1.6	8.0	5.2	6.5	19.1	9.9	30.5								
Mesothelioma (M905; ICD10 C45)																										
M										2	4	2	6	18	11	15	6	3		**67**	**4.2**	3.1-5.2	97.0	0.5	188	6.9 (5.2-8.6)
										2.6	5.6	3.1	11.4	46.2	37.9	65.2	39.8	31.2								
F											1	2	1	2	3	4	1	1		**15**	**0.8**	0.4-1.3	93.0	0.1	928	1.4 (0.7-2.1)
											1.4	3.2	2.0	5.2	9.8	15.3	5.0	5.1								
Kaposi sarcoma (M914; ICD10 C46)																										
M					1															**1**	**0.1**	0 - 0.3	100.0	0.0	*	0.1 (0 - 0.3)
					1.3																					
F																				**0**						
Nervous system, peripheral/autonomic (C470-C479)																										
M																2				**2**	**0.1**	0 - 0.2	100.0	0.0	*	0.2 (0 - 0.6)
																8.7										
F							1			1										**2**	**0.2**	0 - 0.4	100.0	0.0	7443	0.2 (0 - 0.5)
							1.4			1.3																

Appendix 3A. Cancer incidence, Western Australia, 2007

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	2	2	1					1		**7**	**0.5**	0.1-0.8	100.0	0.0	2221	0.7 (0.2-1.2)
										1.3	2.8	3.1	1.9					10.4								
F						1						2	1		1			2		**7**	**0.4**	0.1-0.8	86.0	0.0	2027	0.6 (0.1-1.0)
						1.4						3.2	2.0		3.3			10.2								
Connective, subcutaneous & other soft tissues (C490-C499)																										
M	2			1				1	1	1	3	2		2	2	2	1	3		**21**	**1.6**	0.8-2.3	100.0	0.1	736	2.2 (1.2-3.1)
	2.9			1.3				1.2	1.3	1.3	4.2	3.1		5.1	6.9	8.7	6.6	31.2								
F	1	1				1	1	1		2	1	3	1	3	2		2	2		**21**	**1.6**	0.8-2.3	100.0	0.2	622	1.9 (1.1-2.7)
	1.5	1.5				1.4	1.4	1.3		2.6	1.4	4.7	2.0	7.8	6.5		9.9	10.2								
Breast (C500-C509)																										
M											1	1	1			2	1			**6**	**0.3**	0.1-0.6	100.0	0.0	4156	0.6 (0.1-1.1)
											1.4	1.5	1.9			8.7	6.6									
F						7	22	33	95	143	155	133	135	120	71	79	71	55		**1119**	**73.8**	69.3-78.3	99.0	8.2	13	101.9 (95.9-108)
						10.0	30.7	42.0	122.0	184.7	217.6	210.4	269.9	311.6	232.0	302.0	351.6	279.2								
Vulva (C510-C519)																										
F							1		1	2	3	1	1	6	1	4	2	2		**24**	**1.5**	0.8-2.1	100.0	0.2	627	2.2 (1.3-3.1)
							1.4		1.3	2.6	4.2	1.6	2.0	15.6	3.3	15.3	9.9	10.2								
Vagina (C520-C529)																										
F												2		1		3	1	1		**8**	**0.4**	0.1-0.6	88.0	0.0	3472	0.7 (0.2-1.2)
												3.2		2.6		11.5	5.0	5.1								
Cervix uteri (C530-C539)																										
F					2	3	11	18	12	4	7	4	3	6	5		4	2		**81**	**6.0**	4.7-7.4	99.0	0.6	167	7.8 (6.1-9.4)
					2.7	4.3	15.4	22.9	15.4	5.2	9.8	6.3	6.0	15.6	16.3		19.8	10.2								
Corpus uteri (C540-C549)																										
F						2	1	2	5	11	15	23	16	23	18	12	9	11		**148**	**9.4**	7.8-11.0	99.0	1.2	85	13.4 (11.3-15.6)
						2.9	1.4	2.5	6.4	14.2	21.1	36.4	32.0	59.7	58.8	45.9	44.6	55.8								
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			2		2	2	2	2	5	7	13	13	10	13	10	10	9	10		**110**	**7.0**	5.6-8.4	91.0	0.8	130	10 (8.1-11.9)
			2.9		2.7	2.9	2.8	2.5	6.4	9.0	18.3	20.6	20.0	33.8	32.7	38.2	44.6	50.8								
Uterine adnexa & oth. fem gen. (C570-C579)																										
F								1			1	1		2	1	2				**8**	**0.5**	0.1-0.9	100.0	0.1	1573	0.8 (0.2-1.3)
								1.3			1.4	1.6		5.2	3.3	7.6										
Placenta (C580-C589)																										
F																				**0**						
Penis (C600-C609)																										
M								1		1				2	1					**5**	**0.4**	0.0-0.7	100.0	0.1	1804	0.5 (0.1-0.9)
								1.2		1.3				5.1	3.4											
Prostate gland (C610-C619)																										
M						1		1	8	32	116	227	311	360	275	223	152	75		**1781**	**114.1**	109-119	97.0	15.1	7	175 (167-183)
						1.4		1.2	10.1	41.0	161.1	346.4	590.1	923.4	948.2	969.9	1008.6	780.7								
Testis (C620-C629)																										
M	3		1	3	10	11	12	15	8	2	6	2	1	3						**77**	**6.9**	5.3-8.5	97.0	0.5	190	7.2 (5.6-8.9)
	4.3		1.3	3.9	12.6	14.9	16.3	18.4	10.1	2.6	8.3	3.1	1.9	7.7												

Appendix 3A. Cancer incidence, Western Australia, 2007

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		1							**3**	**0.2**	0 - 0.5	100.0	0.0	4400	0.3 (0 - 0.6)
									1.3		1.4		1.9													
Kidney (C640-C649)																										
M	1	2						6	6	14	19	14	20	16	11	17	12	7		**145**	**9.6**	8.0-11.2	96.0	1.0	100	14.2 (11.9-16.5)
	1.4	2.8						7.4	7.6	17.9	26.4	21.4	37.9	41.0	37.9	73.9	79.6	72.9								
F	1						1	1	9	6	4	8	8	10	11	8	6	4		**77**	**5.0**	3.8-6.2	86.0	0.6	168	7.1 (5.5-8.7)
	1.5						1.4	1.3	11.6	7.7	5.6	12.7	16.0	26.0	35.9	30.6	29.7	20.3								
Bladder & urinary tract (C650-C689)																										
M						1	1	1	2		4	11	9	23	28	34	24	17		**155**	**8.9**	7.4-10.4	97.0	1.0	100	16.8 (14.1-19.5)
						1.4	1.4	1.2	2.5		5.6	16.8	17.1	59.0	96.5	147.9	159.3	177.0								
F									2	1	1	3	6	5	6	11	6	15		**56**	**2.7**	1.9-3.5	96.0	0.3	367	4.9 (3.6-6.2)
									2.6	1.3	1.4	4.7	12.0	13.0	19.6	42.1	29.7	76.2								
Eye & lacrimal gland (C690-C699)																										
M	1							2	1		2	2		2	2	1	2	2		**17**	**1.2**	0.6-1.8	100.0	0.1	869	1.8 (0.9-2.6)
	1.4							2.5	1.3		2.8	3.1		5.1	6.9	4.3	13.3	20.8								
F	1										2							1		**4**	**0.3**	0 - 0.8	100.0	0.0	4619	0.4 (0.0-0.7)
	1.5										2.8							5.1								
Meninges (cerebral & spinal) (C700-C709)																										
M																	1			**1**	**0.0**	0 - 0.1	100.0	0.0	*	0.1 (0 - 0.3)
																	6.6									
F				1									1			1				**3**	**0.2**	0 - 0.5	100.0	0.0	5913	0.3 (0 - 0.6)
				1.4									2.0			3.8										
Brain (C710-C719)																										
M	1	3	1	1	1		5	3	4	5	14	16	8	11	6	12	2	8		**101**	**7.1**	5.6-8.5	82.0	0.7	144	9.9 (8.0-11.9)
	1.4	4.2	1.3	1.3	1.3		6.8	3.7	5.0	6.4	19.4	24.4	15.2	28.2	20.7	52.2	13.3	83.3								
F		2	2	1		3	1	2		5	5	4	4	4	2	7	7	3		**52**	**3.5**	2.5-4.6	75.0	0.3	332	4.8 (3.5-6.1)
		3.0	2.9	1.4		4.3	1.4	2.5		6.5	7.0	6.3	8.0	10.4	6.5	26.8	34.7	15.2								
Spinal cord & cranial nerves (C720-C729)																										
M	2									1										**3**	**0.4**	0 - 0.9	67.0	0.0	4805	0.3 (0 - 0.6)
	2.9									1.3																
F											1				1					**2**	**0.1**	0 - 0.3	100.0	0.0	4281	0.2 (0 - 0.5)
											1.4				3.3											
Thyroid gland (C730-C739)																										
M				1	3	1	5	3	3	5	1	4	3	3	5	3	2	3		**45**	**3.2**	2.3-4.2	100.0	0.3	307	4.5 (3.1-5.8)
				1.3	3.8	1.4	6.8	3.7	3.8	6.4	1.4	6.1	5.7	7.7	17.2	13.0	13.3	31.2								
F		1	1	3	1	8	10	12	14	16	12	12	10	8	13	5	2	2		**130**	**9.9**	8.2-11.7	99.0	1.0	97	12.4 (10.2-14.5)
		1.5	1.4	4.1	1.4	11.5	14.0	15.3	18.0	20.7	16.8	19.0	20.0	20.8	42.5	19.1	9.9	10.2								
Adrenal gland (C740-C749)																										
M	3								1			1								**5**	**0.7**	0.0-1.3	100.0	0.0	2814	0.5 (0.1-0.9)
	4.3								1.3			1.5														
F	2						1				1	1				1				**6**	**0.6**	0.1-1.2	100.0	0.0	2693	0.6 (0.1-1.1)
	3.0						1.4				1.4	1.6				3.8										
Endocrine glands (not adrenal) (C750-C759)																										
M					1				1											**2**	**0.2**	0 - 0.4	100.0	0.0	7940	0.2 (0 - 0.4)
					1.3				1.3																	
F											1									**1**	**0.1**	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.3)
											1.4															

Appendix 3A. Cancer incidence, Western Australia, 2007

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				**3**	**0.2**	0 - 0.4	67.0	0.0	4249	0.3 (0 - 0.7)
									1.3						3.4	4.3										
F																		1		**1**	**0.0**	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.2)
																		5								
Hodgkin lymphoma																										
M				1	1	1	3	2		4	2					2				**16**	**1.3**	0.6-1.9	100.0	0.1	1091	1.5 (0.8-2.3)
				1.3	1.3	1.4	4.1	2.5		5.1	2.8					8.7										
F				3	5	3	1	1	1	1		2	1	1	1			1		**21**	**2.0**	1.1-2.8	100.0	0.2	635	2 (1.1-2.8)
				4.1	6.8	4.3	1.4	1.3	1.3	1.3		3.2	2.0	2.6	3.3			5.1								
All NHL																										
M		2		4	1	2	3	3	3	7	10	12	21	24	12	25	10	6		**145**	**9.7**	8.1-11.4	100.0	1.0	97	14.3 (12.0-16.7)
		2.8		5.2	1.3	2.7	4.1	3.7	3.8	9.0	13.9	18.3	39.8	61.6	41.4	108.7	66.4	62.5								
F	1		1			2	1	3	2	10	15	13	15	20	22	26	13	13		**157**	**9.5**	7.9-11.1	96.0	1.1	91	14.5 (12.2-16.8)
	1.5		1.4			2.9	1.4	3.8	2.6	12.9	21.1	20.6	30.0	51.9	71.9	99.4	64.4	66.0								
NHL, mature B cell																										
M		2		3	1	2	2	2	3	3	8	7	15	19	9	19	5	3		**103**	**7.1**	5.6-8.5	100.0	0.8	131	10.1 (8.2-12.1)
		2.8		3.9	1.3	2.7	2.7	2.5	3.8	3.8	11.1	10.7	28.5	48.7	31.0	82.6	33.2	31.2								
F						1	1	2	2	9	13	7	11	13	15	22	10	8		**114**	**6.7**	5.4-8.0	99.0	0.8	131	10.6 (8.6-12.5)
						1.4	1.4	2.5	2.6	11.6	18.3	11.1	22.0	33.8	49.0	84.1	49.5	40.6								
NHL, mature T/NK cell																										
M								1		2	1		1	3		3	1			**12**	**0.8**	0.3-1.2	100.0	0.1	1354	1.2 (0.5-1.9)
								1.2		2.6	1.4		1.9	7.7		13.0	6.6									
F			1					1		1	1	5	1	2	2	1	1			**16**	**1.1**	0.5-1.7	94.0	0.1	740	1.5 (0.7-2.2)
			1.4					1.3		1.3	1.4	7.9	2.0	5.2	6.5	3.8	5.0									
NHL, precursor cell lymphoblastic																										
M				1								1								**2**	**0.2**	0 - 0.4	100.0	0.0	7082	0.2 (0 - 0.4)
				1.3								1.5														
F	1					1														**2**	**0.3**	0 - 0.7	100.0	0.0	6761	0.2 (0 - 0.5)
	1.5					1.4																				
NHL, other/unclassifiable																										
M							1			2	1	4	5	2	3	3	4	3		**28**	**1.7**	1.1-2.4	100.0	0.2	550	2.8 (1.8-3.9)
							1.4			2.6	1.4	6.1	9.5	5.1	10.3	13.0	26.5	31.2								
F											1	1	3	5	5	3	2	5		**25**	**1.4**	0.8-2.0	84.0	0.2	523	2.2 (1.4-3.1)
											1.4	1.6	6.0	13.0	16.3	11.5	9.9	25.4								
Lymphomas (all)																										
M		2		5	2	3	6	5	4	11	12	12	21	24	13	28	10	6		**164**	**11.2**	9.4-12.9	99.0	1.2	87	16.2 (13.7-18.7)
		2.8		6.5	2.5	4.1	8.1	6.1	5.0	14.1	16.7	18.3	39.8	61.6	44.8	121.8	66.4	62.5								
F	1		1	3	5	5	2	4	3	11	15	15	16	21	23	26	13	15		**179**	**11.5**	9.7-13.3	96.0	1.3	79	16.5 (14.1-19.0)
	1.5		1.4	4.1	6.8	7.2	2.8	5.1	3.9	14.2	21.1	23.7	32.0	54.5	75.2	99.4	64.4	76.2								
MYELOMA																										
Myeloma/plasma cell tumours																										
M							1		1		3	5	13	10	10	5	10	3		**61**	**3.8**	2.8-4.8	85.0	0.5	202	6.1 (4.5-7.6)
							1.4		1.3		4.2	7.6	24.7	25.6	34.5	21.7	66.4	31.2								
F									2	1	1	5	3	3	5	10	9	4		**43**	**2.1**	1.4-2.8	91.0	0.2	462	3.9 (2.7-5.1)
									2.6	1.3	1.4	7.9	6.0	7.8	16.3	38.2	44.6	20.3								

Appendix 3A. Cancer incidence, Western Australia, 2007

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	4		**6**	**0.3**	0.1-0.6	83.0	0.0	*	0.8 (0.1-1.4)
													1.9				6.6	41.6								
F										1.0								2.0		**3**	**0.1**	0 - 0.3	100.0	0.0	*	0.2 (0 - 0.5)
										1.3								10.2								
Leukaemias, lymphoid, all																										
M	5	1	3	2		2	1		1	3	4	6	6	6	12	12	11	3		**78**	**5.6**	4.2-7.0	96.0	0.5	187	8 (6.2-9.8)
	7.2	1.4	4.0	2.6		2.7	1.4		1.3	3.8	5.6	9.2	11.4	15.4	41.4	52.2	73.0	31.2								
F	8	3								3	5	5	6	6	6	10	4	4		**60**	**4.7**	3.3-6.1	98.0	0.4	242	5.6 (4.2-7.0)
	12.2	4.5								3.9	7.0	7.9	12.0	15.6	19.6	38.2	19.8	20.3								
Leukaemias, lymphoid, acute																										
M	5	1	2	2		2	1			1							1			**15**	**1.9**	0.9-2.9	93.0	0.1	1041	1.4 (0.7-2.2)
	7.2	1.4	2.7	2.6		2.7	1.4			1.3							6.6									
F	8	3								1			1							**13**	**2.1**	0.9-3.2	100.0	0.1	1001	1.3 (0.6-2.0)
	12.2	4.5								1.3			2.0													
Leukaemias, lymphoid, chronic																										
M										2	4	4	6	6	11	12	9	3		**57**	**3.3**	2.4-4.2	96.0	0.4	254	6 (4.4-7.5)
										2.6	5.6	6.1	11.4	15.4	37.9	52.2	59.7	31.2								
F										1	5	5	5	6	6	10	4	4		**46**	**2.6**	1.8-3.4	98.0	0.3	326	4.2 (3.0-5.5)
										1.3	7.0	7.9	10.0	15.6	19.6	38.2	19.8	20.3								
Leukaemias, lymphoid, other/NOS																										
M			1						1			2			1		1			6	**0.4**	0.1-0.8	100.0	0.0	2200	0.6 (0.1-1.0)
			1.3						1.3			3.1			3.4		6.6									
F										1										**1**	**0.1**	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.3)
										1.3																
Leukaemias, myeloid, all																										
M				1	1	1	3	1		6	1	3	6	5	6	6	7	2		**49**	**3.2**	2.3-4.1	96.0	0.3	296	4.9 (3.5-6.3)
				1.3	1.3	1.4	4.1	1.2		7.7	1.4	4.6	11.4	12.8	20.7	26.1	46.4	20.8								
F			2		1	1	3	1	3	2	5	4	1	1	7	6	3	3		**43**	**2.8**	1.9-3.7	98.0	0.3	343	4.1 (2.9-5.3)
			2.9		1.4	1.4	4.2	1.3	3.9	2.6	7.0	6.3	2.0	2.6	22.9	22.9	14.9	15.2								
Leukaemias, myeloid, acute																										
M				1		1	2	1		3	1	3	5	4	4	5	3	1		**34**	**2.3**	1.5-3.1	100.0	0.2	401	3.4 (2.2-4.5)
				1.3		1.4	2.7	1.2		3.8	1.4	4.6	9.5	10.3	13.8	21.7	19.9	10.4								
F			2		1	1	1		2	2	5	4	1	1	5	2	3	2		**32**	**2.2**	1.4-3.0	97.0	0.2	431	3 (1.9-4.0)
			2.9		1.4	1.4	1.4		2.6	2.6	7.0	6.3	2.0	2.6	16.3	7.6	14.9	10.2								
Leukaemias, myeloid, chronic																										
M					1		1			3				1	1		2	1		**10**	**0.7**	0.2-1.1	100.0	0.1	1604	1 (0.4-1.7)
					1.3		1.4			3.8				2.6	3.4		13.3	10.4								
F							2	1	1						1					**5**	**0.4**	0.0-0.7	100.0	0.0	2321	0.5 (0.1-1.0)
							2.8	1.3	1.3						3.3											
Leukaemias, myeloid, other/NOS																										
M													1		1	1	2			**5**	**0.3**	0.0-0.5	60.0	0.0	3742	0.5 (0.1-1.0)
													1.9		3.4	4.3	13.3									
F															1	4		1		**6**	**0.2**	0.0-0.4	100.0	0.0	6121	0.6 (0.1-1.1)
															3.3	15.3		5.1								

Appendix 3A. Cancer incidence, Western Australia, 2007

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	5	1	3	3	1	3	4	1	1	9	5	9	13	11	18	18	19	9		**133**	**9.2**	7.5-10.9	95.0	0.9	114	13.7 (11.3-16.0)
	7.2	1.4	4.0	3.9	1.3	4.1	5.4	1.2	1.3	11.5	6.9	13.7	24.7	28.2	62.1	78.3	126.1	93.7								
F	8	3	2		1	1	3	1	3	6	10	9	7	7	13	16	7	9		**106**	**7.7**	6.0-9.3	98.0	0.7	141	9.9 (8.0-11.8)
	12.2	4.5	2.9		1.4	1.4	4.2	1.3	3.9	7.7	14.0	14.2	14.0	18.2	42.5	61.2	34.7	45.7								
MYELODYSPLASTIC DISEASES																										
Refractory anaemias/cytopaenias																										
M													1	2	2	2	6			**13**	**0.7**	0.3-1.0	85.0	0.1	1437	1.4 (0.6-2.2)
													1.9	5.1	6.9	8.7	39.8									
F					1					1		1		2	2	1	2	3		**13**	**0.7**	0.3-1.1	92.0	0.1	1254	1.1 (0.5-1.8)
					1.4					1.3		1.6		5.2	6.5	3.8	9.9	15.2								
Myelodysplastic syndromes																										
M						1					2		1	2	5	8	6	8		**33**	**1.8**	1.1-2.4	70.0	0.1	705	3.9 (2.5-5.2)
						1.4					2.8		1.9	5.1	17.2	34.8	39.8	83.3								
F													1	2	2	2	3	3		**13**	**0.6**	0.2-1.0	77.0	0.1	1457	1.1 (0.5-1.8)
													2.0	5.2	6.5	7.6	14.9	15.2								
Myelodysplastic diseases, all																										
M						1					2		2	4	7	10	12	8		**46**	**2.4**	1.7-3.2	74.0	0.2	473	5.3 (3.7-6.8)
						1.4					2.8		3.8	10.3	24.1	43.5	79.6	83.3								
F					1					1		1	1	4	4	3	5	6		**26**	**1.3**	0.7-1.9	85.0	0.1	674	2.3 (1.4-3.2)
					1.4					1.3		1.6	2.0	10.4	13.1	11.5	24.8	30.5								
CHRONIC MYELOPROLIFERATIVE DISEASES																										
Chronic myeloproliferative disorder, NOS																										
M										1.0										**1**	**0.1**	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.3)
										1																
F																	1.0			**1**	**0.0**	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.2)
																	5									
Polycythaemia rubra vera																										
M									1.0											**1**	**0.1**	0 - 0.2	100.0	0.0	*	0.1 (0 - 0.3)
									1																	
F																	1			**1**	**0.0**	0 - 0.1	100.0	0.0	*	0.1 (0 - 0.2)
																	5.0									
Myelofibrosis/sclerosis																										
M												1	1		3		1	1		**7**	**0.4**	0.1-0.8	71.0	0.1	1453	0.8 (0.2-1.3)
												1.5	1.9		10.3		6.6	10.4								
F									1					1	1			2		**5**	**0.3**	0.0-0.5	60.0	0.0	2798	0.4 (0.0-0.8)
									1.3					2.6	3.3			10.2								
Other chronic myeloproliferative d/o																										
M											1	1		1		1		1		**5**	**0.3**	0.0-0.6	100.0	0.0	3650	0.5 (0.1-1.0)
											1.4	1.5		2.6		4.3		10.4								
F										1		2			1		1			**5**	**0.3**	0.0-0.6	100.0	0.0	2590	0.4 (0.1-0.8)
										1.3		3.2			3.3		5.0									

Appendix 3A. Cancer incidence, Western Australia, 2007

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	2	1	1	3	1	1	2		**14**	**0.9**	0.4-1.4	86.0	0.1	918	1.5 (0.7-2.2)
									1.3	1.3	1.4	3.1	1.9	2.6	10.3	4.3	6.6	20.8								
F									1	1		2		1	2		3	2		**12**	**0.6**	0.2-1.0	75.0	0.1	1345	1.1 (0.5-1.6)
									1.3	1.3		3.2		2.6	6.5		14.9	10.2								
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					**2**	**0.1**	0 - 0.3	100.0	0.0	3742	0.2 (0 - 0.5)
													1.9		3.4											
F																				**0**						
Other chronic immunoproliferative d/o, all																										
M													1		1					**2**	**0.1**	0 - 0.3	100.0	0.0	3742	0.2 (0 - 0.5)
													1.9		3.4											
F																				**0**						
Unknown primary site (C26, C39, C76, C80; Behaviour 6/9)																										
M						1	1	2	5	7	10	14	15	19	26	20	25	12		**157**	**9.5**	8.0-11.1	76.0	1.1	90	16.3 (13.7-18.8)
						1.4	1.4	2.5	6.3	9.0	13.9	21.4	28.5	48.7	89.6	87.0	165.9	124.9								
F					1	1	1		4	4	5	4	8	10	18	20	22	30		**128**	**6.2**	5.0-7.4	69.0	0.6	156	11.4 (9.4-13.3)
					1.4	1.4	1.4		5.1	5.2	7.0	6.3	16.0	26.0	58.8	76.5	108.9	152.3								
All cancers																										
M	23	8	6	17	31	36	66	95	118	212	407	612	740	861	726	736	528	323		**5545**	**356.9**	347-367	94.0	42.0	3	554.2 (540-569)
	33.1	11.3	8.0	22.1	39.0	48.6	89.5	116.8	148.7	271.6	565.4	933.9	1404.0	2208	2503	3201	3504	3362								
F	15	8	8	11	27	50	97	120	201	315	353	373	414	452	412	433	355	383		**4027**	**250.9**	243-259	93.0	27.8	4	367.2 (356-379)
	22.8	12.1	11.5	15.2	36.6	71.8	135.4	152.8	258.1	406.8	495.6	590.1	827.7	1174	1346	1656	1758	1945								

Appendix 3A. Cancer incidence, Western Australia, 2007

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
Summary of most common cancer types 2007																										
Prostate gland (C610-C619)																										
M						1		1	8	32	116	227	311	360	275	223	152	75		**1781**	**114.1**	109-119	97.0	15.1	7	175 (167-183)
						1.4		1.2	10.1	41.0	161.1	346.4	590.1	923.4	948.2	969.9	1008.6	780.7								
Breast (C500-C509)																										
M											1	1	1			2	1			**6**	**0.3**	0.1-0.6	100.0	0.0	4156	0.6 (0.1-1.1)
											1.4	1.5	1.9			8.7	6.6									
F						7	22	33	95	143	155	133	135	120	71	79	71	55		**1119**	**73.8**	69.3-78.3	99.0	8.2	13	101.9 (95.9-108)
						10.0	30.7	42.0	122.0	184.7	217.6	210.4	269.9	311.6	232.0	302.0	351.6	279.2								
Colorectal cancer (C18-C20, C218)																										
M						2	5	6	10	17	50	81	88	105	78	88	75	50		**655**	**40.6**	37.4-43.8	97.0	4.7	22	66 (60.9-71.2)
						2.7	6.8	7.4	12.6	21.8	69.5	123.6	167.0	269.3	268.9	382.7	497.7	520.5								
F					5	4	5	10	6	23	34	49	56	68	68	79	54	70		**531**	**30.3**	27.5-33.0	96.0	3.5	29	48 (43.9-52.1)
					6.8	5.7	7.0	12.7	7.7	29.7	47.7	77.5	112.0	176.5	222.2	302.0	267.4	355.4								
Skin (melanoma only) (C440-C449; M-8720 - 8774)																										
M				1	9	10	19	25	26	47	53	70	65	62	60	51	32	22		**552**	**37.3**	34.1-40.5	99.0	4.2	24	53.6 (49.1-58.1)
				1.3	11.3	13.5	25.8	30.7	32.8	60.2	73.6	106.8	123.3	159.0	206.9	221.8	212.3	229.0								
F				2	6	8	29	25	28	34	32	30	48	41	30	28	25	17		**383**	**26.2**	23.5-28.9	100.0	2.8	36	35.5 (32.0-39.1)
				2.8	8.1	11.5	40.5	31.8	36.0	43.9	44.9	47.5	96.0	106.4	98.0	107.1	123.8	86.3								
Lung, bronchus & trachea (C330-C349)																										
M	1							4	5	7	23	46	67	85	81	95	69	34		**517**	**31.2**	28.4-34.0	85.0	3.7	27	53.3 (48.6-57.9)
	1.4							4.9	6.3	9.0	32.0	70.2	127.1	218.0	279.3	413.2	457.9	353.9								
F				1	2		1	3	2	14	12	17	38	48	52	47	44	49		**330**	**18.1**	16.0-20.2	80.0	2.2	46	29.8 (26.5-33.0)
				1.4	2.7		1.4	3.8	2.6	18.1	16.8	26.9	76.0	124.6	169.9	179.7	217.9	248.8								
Lymphomas (all)																										
M		2		5	2	3	6	5	4	11	12	12	21	24	13	28	10	6		**164**	**11.2**	9.4-12.9	99.0	1.2	87	16.2 (13.7-18.7)
		2.8		6.5	2.5	4.1	8.1	6.1	5.0	14.1	16.7	18.3	39.8	61.6	44.8	121.8	66.4	62.5								
F	1		1	3	5	5	2	4	3	11	15	15	16	21	23	26	13	15		**179**	**11.5**	9.7-13.3	96.0	1.3	79	16.5 (14.1-19.0)
	1.5		1.4	4.1	6.8	7.2	2.8	5.1	3.9	14.2	21.1	23.7	32.0	54.5	75.2	99.4	64.4	76.2								
Unknown primary site (C26, C39, C76, C80; Behaviour 6/9)																										
M						1	1	2	5	7	10	14	15	19	26	20	25	12		**157**	**9.5**	8.0-11.1	76.0	1.1	90	16.3 (13.7-18.8)
						1.4	1.4	2.5	6.3	9.0	13.9	21.4	28.5	48.7	89.6	87.0	165.9	124.9								
F					1	1	1		4	4	5	4	8	10	18	20	22	30		**128**	**6.2**	5.0-7.4	69.0	0.6	156	11.4 (9.4-13.3)
					1.4	1.4	1.4		5.1	5.2	7.0	6.3	16.0	26.0	58.8	76.5	108.9	152.3								
All cancers																										
M	23	8	6	17	31	36	66	95	118	212	407	612	740	861	726	736	528	323		**5545**	**356.9**	347-367	94.0	42.0	3	554.2 (540-569)
	33.1	11.3	8.0	22.1	39.0	48.6	89.5	116.8	148.7	271.6	565.4	933.9	1404.0	2208	2503	3201	3504	3362								
F	15	8	8	11	27	50	97	120	201	315	353	373	414	452	412	433	355	383		**4027**	**250.9**	243-259	93.0	27.8	4	367.2 (356-379)
	22.8	12.1	11.5	15.2	36.6	71.8	135.4	152.8	258.1	406.8	495.6	590.1	827.7	1174	1346	1656	1758	1945								

Appendix 3B. Cancer mortality, Western Australia, 2007

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	2	2	1	4		2	3	1	**16**	**1.0**	0.5-1.4	137.4	0.1	1038	1.6 (0.8-2.4)
										1.3	2.8	3.1	1.9	10.3		8.7	19.9	10.4							
F												1		1		1	3	2	**8**	**0.3**	0.1-0.5	23.7	0.0	4787	0.7 (0.2-1.1)
												1.6		2.6		3.8	14.9	10.2							
Tongue (C010-C029)																									
M											1	4		2	2	4		1	**14**	**0.8**	0.4-1.3	103.2	0.1	1025	1.4 (0.7-2.2)
											1.4	6.1		5.1	6.9	17.4		10.4							
F										1		1		2			1	2	**7**	**0.4**	0.1-0.7	56.7	0.0	2480	0.6 (0.1-1.0)
										1.3		1.6		5.2			5.0	10.2							
Parotid gland (C070-C079)																									
M											1	1	1						**3**	**0.2**	0 - 0.4	48.0	0.0	4156	0.3 (0 - 0.5)
											1.4	1.5	1.9												
F																		1	**1**	**0.0**	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.2)
																		5.1							
Major salivary glands (not parotid) (C080-C089)																									
M														1				1	**2**	**0.1**	0 - 0.3	6.9	0.0	7798	0.2 (0 - 0.6)
														2.6				10.4							
F												1					1		**2**	**0.1**	0 - 0.2	16.5	0.0	*	0.2 (0 - 0.4)
												1.6					5.0								
Pharynx (C090-C149) (not C11)																									
M										3	1	4	3	5	3	4			**23**	**1.5**	0.9-2.2	236.2	0.2	498	2.2 (1.3-3.1)
										3.8	1.4	6.1	5.7	12.8	10.3	17.4									
F													2				2	2	**6**	**0.3**	0.0-0.5	23.7	0.0	5002	0.5 (0.1-0.9)
													4.0				9.9	10.2							
Nasopharynx (C110-C119)																									
M								1							1				**2**	**0.1**	0 - 0.3	37.0	0.0	4276	0.2 (0 - 0.5)
								1.2							3.4										
F																			**0**					-	
Oesophagus (C150-C159)																									
M									2	2	6	6	10	2	11	8	4	10	**61**	**3.8**	2.8-4.7	484.3	0.4	237	6.4 (4.8-8.1)
									2.5	2.6	8.3	9.2	19.0	5.1	37.9	34.8	26.5	104.1							
F											1	1	2		4	3	3	7	**21**	**0.9**	0.5-1.4	71.1	0.1	998	1.8 (1.0-2.6)
											1.4	1.6	4.0		13.1	11.5	14.9	35.5							
Stomach (C160-C169)																									
M									4	2	6	7	14	9	11	17	11	10	**91**	**5.4**	4.3-6.6	654.7	0.6	176	9.5 (7.5-11.5)
									5.0	2.6	8.3	10.7	26.6	23.1	37.9	73.9	73.0	104.1							
F							1		2	2	2	4	1	4	2	8	7	8	**41**	**2.0**	1.3-2.7	308.0	0.2	578	3.6 (2.5-4.7)
							1.4		2.6	2.6	2.8	6.3	2.0	10.4	6.5	30.6	34.7	40.6							
Small intestine (C170-C179)																									
M							1			1	1		1	2			1		**7**	**0.5**	0.1-0.9	110.5	0.1	1810	0.7 (0.2-1.1)
							1.4			1.3	1.4		1.9	5.1			6.6								
F												1		1	1	1	1	1	**6**	**0.3**	0.0-0.6	26.1	0.0	2686	0.5 (0.1-1.0)
												1.6		2.6	3.3	3.8	5.0	5.1							

Appendix 3B. Cancer mortality, Western Australia, 2007

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						3	1	1	7	3	11	13	26	28	29	38	39	38	**237**	**13.8**	12.0-15.7	1491.0	1.4	73	25.6 (22.3-28.9)
						4.1	1.4	1.2	8.8	3.8	15.3	19.8	49.3	71.8	100.0	165.3	258.8	395.5							
F					1		2	3	4	4	4	12	11	19	25	19	30	47	**181**	**8.8**	7.4-10.2	1077.0	1.0	103	15.8 (13.5-18.1)
					1.4		2.8	3.8	5.1	5.2	5.6	19.0	22.0	49.3	81.7	72.6	148.6	238.6							
Colon (C180-C189)																									
M						3			2	2	6	12	13	12	19	22	22	24	**137**	**7.9**	6.6-9.3	836.9	0.8	128	14.9 (12.4-17.4)
						4.1			2.5	2.6	8.3	18.3	24.7	30.8	65.5	95.7	146.0	249.8							
F					1		2	1	2	3		10	8	13	20	15	23	34	**132**	**6.3**	5.1-7.5	708.7	0.7	141	11.5 (9.5-13.5)
					1.4		2.8	1.3	2.6	3.9		15.8	16.0	33.8	65.4	57.4	113.9	172.6							
Rectosigmoid junction & rectum (C190-C209)																									
M							1	1	5	1	5	1	13	16	10	16	17	14	**100**	**5.9**	4.7-7.1	651.6	0.6	169	10.7 (8.6-12.8)
							1.4	1.2	6.3	1.3	6.9	1.5	24.7	41.0	34.5	69.6	112.8	145.7							
F								2	2	1	4	2	3	6	5	4	7	13	**49**	**2.5**	1.7-3.2	367.3	0.3	377	4.3 (3.1-5.5)
								2.5	2.6	1.3	5.6	3.2	6.0	15.6	16.3	15.3	34.7	66.0							
Anus (C210-C219)																									
M													1	1			1	1	**4**	**0.2**	0 - 0.5	18.4	0.0	4483	0.4 (0 - 0.9)
													1.9	2.6			6.6	10.4							
F									1			1		1			1	1	**5**	**0.3**	0.0-0.5	54.4	0.0	3662	0.4 (0.1-0.8)
									1.3			1.6		2.6			5.0	5.1							
Liver & intrahepatic bile ducts (C220-C229)																									
M										2	9	6	6	4	11	9	6	3	**56**	**3.4**	2.5-4.3	454.3	0.4	239	5.7 (4.2-7.3)
										2.6	12.5	9.2	11.4	10.3	37.9	39.1	39.8	31.2							
F						1				2		4		5	2	2	4	4	**24**	**1.3**	0.7-1.9	204.2	0.1	670	2.1 (1.3-3.0)
						1.4				2.6		6.3		13.0	6.5	7.6	19.8	20.3							
Gallbladder & bile ducts (C230-C249)																									
M										1	1	1	2	1	3	7	1	3	**20**	**1.1**	0.6-1.7	98.7	0.1	957	2.2 (1.2-3.2)
										1.3	1.4	1.5	3.8	2.6	10.3	30.4	6.6	31.2							
F									1			3	3	3	8	4	5	7	**34**	**1.7**	1.1-2.3	156.6	0.2	436	3 (2.0-4.1)
									1.3			4.7	6.0	7.8	26.1	15.3	24.8	35.5							
Pancreas (C250-C259)																									
M							1	1	2	3	11	10	15	16	11	19	6	11	**106**	**6.6**	5.3-7.9	905.8	0.7	137	10.8 (8.7-12.9)
							1.4	1.2	2.5	3.8	15.3	15.3	28.5	41.0	37.9	82.6	39.8	114.5							
F								1		2	5	2	9	6	21	11	15	25	**97**	**4.7**	3.7-5.7	427.1	0.6	173	8.6 (6.9-10.3)
								1.3		2.6	7.0	3.2	18.0	15.6	68.6	42.1	74.3	126.9							
Nasal cavity/sinuses, middle & inner ear (C300-C319)																									
M			1									1	1	1	1	2	1	1	**9**	**0.6**	0.2-1.0	95.3	0.1	1857	0.9 (0.3-1.6)
			1.3									1.5	1.9	2.6	3.4	8.7	6.6	10.4							
F										1		1		1		1	1		**5**	**0.3**	0.0-0.5	49.6	0.0	3657	0.5 (0.1-0.8)
										1.3		1.6		2.6		3.8	5.0								
Larynx (C320-C329)																									
M											2	1	3	3	3	2	3	1	**18**	**1.1**	0.6-1.6	119.4	0.1	714	1.8 (1.0-2.7)
											2.8	1.5	5.7	7.7	10.3	8.7	19.9	10.4							
F									1										**1**	**0.1**	0 - 0.2	30.8	0.0	*	0.1 (0 - 0.3)
									1.3																

Appendix 3B. Cancer mortality, Western Australia, 2007

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	1			5	5	20	28	44	75	79	79	67	41	**445**	**26.4**	23.9-29.0	2458.6	3.2	32	47 (42.6-51.5)
					1.3	1.4			6.3	6.4	27.8	42.7	83.5	192.4	272.4	343.6	444.6	426.8							
F				1				2	2	8	11	20	34	28	44	47	47	50	**294**	**15.1**	13.2-17.0	1675.1	1.7	58	26.3 (23.3-29.3)
				1.4				2.5	2.6	10.3	15.4	31.6	68.0	72.7	143.8	179.7	232.7	253.8							
Thymus (C370-C379)																									
M													1	1					**2**	**0.2**	0 - 0.4	18.4	0.0	4483	0.2 (0 - 0.4)
													1.9	2.6											
F																1			**1**	**0.0**	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.3)
																3.8									
Pleura, heart & mediastinum (C380-C389)																									
M																			**0**					-	
F				1															**1**	**0.1**	0 - 0.4	55.0	0.0	*	0.1 (0 - 0.3)
				1.4																					
Bones, joints & articular cartilages (C400-C419)																									
M																2			**2**	**0.1**	0 - 0.2	0.0	0.0	*	0.2 (0 - 0.6)
																8.7									
F					1									1	3				**5**	**0.4**	0.0-0.7	64.9	0.1	1454	0.5 (0.1-0.9)
					1.4									2.6	9.8										
Skin (melanoma only) (C430-C439)																									
M							1	1	1	3	10	9	6	12	13	17	6	13	**92**	**5.6**	4.4-6.8	712.7	0.6	164	9.7 (7.7-11.8)
							1.4	1.2	1.3	3.8	13.9	13.7	11.4	30.8	44.8	73.9	39.8	135.3							
F					1			2	2	1	4	2	5	1	4	4	6	5	**37**	**2.1**	1.3-2.8	403.5	0.2	474	3.3 (2.2-4.4)
					1.4			2.5	2.6	1.3	5.6	3.2	10.0	2.6	13.1	15.3	29.7	25.4							
Skin (non-melanoma; includes SCC-BCC) (C440-C449)																									
M									1		2	4	3	7	6	10	5	11	**49**	**2.8**	2.0-3.6	232.2	0.3	368	5.4 (3.9-7.0)
									1.3		2.8	6.1	5.7	18.0	20.7	43.5	33.2	114.5							
F								1				1	2				1	14	**19**	**0.7**	0.3-1.0	75.9	0.0	2918	1.4 (0.8-2.0)
								1.3				1.6	4.0				5.0	71.1							
Mesothelioma (M905; ICD10 C45)																									
M										1	7	5	9	16	4	14	12	3	**71**	**4.2**	3.2-5.2	473.0	0.5	221	7.2 (5.5-8.9)
										1.3	9.7	7.6	17.1	41.0	13.8	60.9	79.6	31.2							
F												1	2	1	4		2	2	**12**	**0.7**	0.3-1.1	57.0	0.1	942	1.1 (0.5-1.7)
												1.6	4.0	2.6	13.1		9.9	10.2							
Kaposi sarcoma (M914; ICD10 C46)																									
M																			**0**					-	
F																		1	**1**	**0.0**	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.2)
																		5.1							
Nervous system, peripheral/autonomic (C470-C479)																									
M																			**0**					-	
F													1						**1**	**0.1**	0 - 0.2	11.8	0.0	*	0.1 (0 - 0.3)
													2.0												

Appendix 3B. Cancer mortality, Western Australia, 2007

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				1	**3**	**0.2**	0 - 0.4	22.9	0.0	4889	0.3 (0 - 0.7)
												1.5		2.6				10.4							
F						1						3	1		3		2	1	**11**	**0.7**	0.2-1.1	114.3	0.1	1113	1 (0.4-1.6)
						1.4						4.7	2.0		9.8		9.9	5.1							
Connective, subcutaneous & other soft tissues (C490-C499)																									
M			1		1			2		2			1	1	1	3	1	1	**14**	**1.0**	0.4-1.5	247.9	0.1	1289	1.4 (0.7-2.2)
			1.3		1.3			2.5		2.6			1.9	2.6	3.4	13.0	6.6	10.4							
F										1		2				1		1	**5**	**0.3**	0.0-0.5	59.1	0.0	4489	0.4 (0.0-0.8)
										1.3		3.2				3.8		5.1							
Breast (C500-C509)																									
M																			**0**					-	
F						1	1	8	6	14	20	38	28	26	25	20	23	46	**256**	**14.6**	12.7-16.5	2562.1	1.7	61	22.5 (19.7-25.2)
						1.4	1.4	10.2	7.7	18.1	28.1	60.1	56.0	67.5	81.7	76.5	113.9	233.5							
Vulva (C510-C519)																									
F											1				1	1	1	3	**7**	**0.3**	0.0-0.5	23.6	0.0	4281	0.6 (0.1-1.0)
											1.4				3.3	3.8	5.0	15.2							
Vagina (C520-C529)																									
F													1	1			1		**3**	**0.2**	0 - 0.4	18.9	0.0	4353	0.3 (0 - 0.6)
													2.0	2.6			5.0								
Cervix uteri (C530-C539)																									
F							1	3	3	1	4	3	1	1	1	2	2	2	**24**	**1.5**	0.9-2.1	422.0	0.1	700	2.2 (1.3-3.1)
							1.4	3.8	3.9	1.3	5.6	4.7	2.0	2.6	3.3	7.6	9.9	10.2							
Corpus uteri (C540-C549)																									
F										1	1	3	1	3	7	5	4	7	**32**	**1.6**	1.0-2.2	146.9	0.2	499	2.9 (1.9-3.9)
										1.3	1.4	4.7	2.0	7.8	22.9	19.1	19.8	35.5							
Uterus, nos (C550-C559)																									
F																			**0**					-	
Ovary (C560-C569)																									
F				2		1		1		3	2	15	9	9	8	17	9	12	**88**	**4.9**	3.8-6.0	750.7	0.5	194	7.9 (6.2-9.5)
				2.8		1.4		1.3		3.9	2.8	23.7	18.0	23.4	26.1	65.0	44.6	60.9							
Uterine adnexa & oth. fem gen. (C570-C579)																									
F											1					1			**2**	**0.1**	0 - 0.3	21.2	0.0	*	0.2 (0 - 0.5)
											1.4					3.8									
Placenta (C580-C589)																									
F																			**0**					-	
Penis (C600-C609)																									
M																	1		**1**	**0.0**	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.3)
																	6.6								
Prostate gland (C610-C619)																									
M											3	5	10	19	35	50	45	51	**218**	**11.5**	9.9-13.1	472.3	1.0	100	25.3 (21.9-28.7)
											4.2	7.6	19.0	48.7	120.7	217.5	298.6	530.9							
Testis (C620-C629)																									
M				1					1					1		1			**4**	**0.3**	0 - 0.6	90.3	0.0	3905	0.4 (0.0-0.8)
				1.3					1.3					2.6		4.3									

Appendix 3B. Cancer mortality, Western Australia, 2007

Age	0- 4	5- 9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85 +	**Total**	**ASR**	95% c.i.	PYLL	CumInc	Risk	ASR2
Other male genital (C630-C639)																									
M																			**0**					-	
Kidney (C640-C649)																									
M									1	1	3	4	3	5	1	5	5	4	**32**	**1.9**	1.2-2.6	252.1	0.2	576	3.3 (2.1-4.5)
									1.3	1.3	4.2	6.1	5.7	12.8	3.4	21.7	33.2	41.6							
F									1			1	5	2	2	3	1	4	**19**	**1.1**	0.5-1.6	125.6	0.1	814	1.7 (0.9-2.4)
									1.3			1.6	10.0	5.2	6.5	11.5	5.0	20.3							
Bladder & urinary tract (C650-C689)																									
M									1	1		1	4	5	4	13	19	18	**66**	**3.3**	2.5-4.1	161.0	0.2	523	7.7 (5.8-9.6)
									1.3	1.3		1.5	7.6	12.8	13.8	56.5	126.1	187.4							
F											2		1	2	6	7	8	9	**35**	**1.5**	0.9-2.0	83.0	0.1	676	3.1 (2.1-4.2)
											2.8		2.0	5.2	19.6	26.8	39.6	45.7							
Eye & lacrimal gland (C690-C699)																									
M																			**0**					-	
F												1			1				**2**	**0.1**	0 - 0.3	18.9	0.0	4124	0.2 (0 - 0.5)
												1.6			3.3										
Meninges (cerebral & spinal) (C700-C709)																									
M																			**0**					-	
F				1								1				1	1		**4**	**0.3**	0 - 0.5	71.6	0.0	6745	0.4 (0.0-0.7)
				1.4								1.6				3.8	5.0								
Brain (C710-C719)																									
M		1					1	4	2	4	4	9	6	8	9	9	6	6	**69**	**4.4**	3.3-5.5	774.7	0.5	206	7 (5.3-8.7)
		1.4					1.4	4.9	2.5	5.1	5.6	13.7	11.4	20.5	31.0	39.1	39.8	62.5							
F		2	1	1		1	1	1	1	7	3	7	7	3	8	7	8	5	**63**	**4.0**	2.9-5.1	884.4	0.4	240	5.8 (4.3-7.2)
		3.0	1.4	1.4		1.4	1.4	1.3	1.3	9.0	4.2	11.1	14.0	7.8	26.1	26.8	39.6	25.4							
Spinal cord & cranial nerves (C720-C729)																									
M																			**0**					-	
F												1							**1**	**0.1**	0 - 0.2	16.5	0.0	*	0.1 (0 - 0.2)
												1.6													
Thyroid gland (C730-C739)																									
M											1					1			**2**	**0.1**	0 - 0.3	20.6	0.0	*	0.2 (0 - 0.5)
											1.4					4.3									
F									1						2			3	**6**	**0.3**	0.0-0.5	35.6	0.0	2558	0.5 (0.1-0.9)
									1.3						6.5			15.2							
Adrenal gland (C740-C749)																									
M		1							1			1							**3**	**0.3**	0 - 0.6	109.8	0.0	4760	0.3 (0 - 0.6)
		1.4							1.3			1.5													
F																			**0**					-	
Endocrine glands (not adrenal) (C750-C759)																									
M																			**0**					-	
F																			**0**					-	

Appendix 3B. Cancer mortality, Western Australia, 2007

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**	**0.1**	0 - 0.2	0.0	0.0	*	0.2 (0 - 0.5)
																4.3	6.6								
F																1			**1**	**0.0**	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.3)
																3.8									
Hodgkin lymphoma																									
M									1							1			**2**	**0.1**	0 - 0.3	29.8	0.0	*	0.2 (0 - 0.5)
									1.3							4.3									
F							1											1	**2**	**0.1**	0 - 0.3	40.6	0.0	*	0.2 (0 - 0.4)
							1.4											5.1							
All NHL																									
M									1		3	9	6	7	10	9	4	10	**59**	**3.6**	2.6-4.5	376.9	0.4	242	6.3 (4.6-7.9)
									1.3		4.2	13.7	11.4	18.0	34.5	39.1	26.5	104.1							
F								1		3	2	4	2	7	7	10	12	12	**60**	**2.8**	2.1-3.6	312.7	0.3	338	5.3 (4.0-6.7)
								1.3		3.9	2.8	6.3	4.0	18.2	22.9	38.2	59.4	60.9							
NHL, mature B cell																									
M									1		2	8	5	6	7	6	4	6	**45**	**2.7**	1.9-3.6	314.7	0.3	307	4.7 (3.3-6.0)
									1.3		2.8	12.2	9.5	15.4	24.1	26.1	26.5	62.5							
F								1		3	2	3	1	6	5	10	10	8	**49**	**2.3**	1.6-3.1	272.3	0.2	430	4.4 (3.2-5.6)
								1.3		3.9	2.8	4.7	2.0	15.6	16.3	38.2	49.5	40.6							
NHL, mature T/NK cell																									
M											1		1		1				**3**	**0.2**	0 - 0.5	34.4	0.0	2970	0.3 (0 - 0.6)
											1.4		1.9		3.4										
F																			**0**					-	
NHL, precursor cell lymphoblastic																									
M																			**0**					-	
F												1						1	**2**	**0.1**	0 - 0.2	16.5	0.0	*	0.2 (0 - 0.4)
												1.6						5.1							
NHL, other/unclassifiable																									
M												1		1	2	3		4	**11**	**0.6**	0.2-1.0	27.7	0.1	1821	1.3 (0.5-2.1)
												1.5		2.6	6.9	13.0		41.6							
F													1	1	2		2	3	**9**	**0.4**	0.1-0.7	23.8	0.1	1797	0.8 (0.3-1.3)
													2.0	2.6	6.5		9.9	15.2							
Lymphomas (all)																									
M									2		3	9	6	7	10	11	5	10	**63**	**3.8**	2.8-4.7	406.8	0.4	238	6.7 (5.0-8.4)
									2.5		4.2	13.7	11.4	18.0	34.5	47.8	33.2	104.1							
F							1	1		3	2	4	2	7	7	11	12	13	**63**	**3.0**	2.2-3.8	353.4	0.3	330	5.6 (4.2-7.0)
							1.4	1.3		3.9	2.8	6.3	4.0	18.2	22.9	42.1	59.4	66.0							
MYELOMA																									
Myeloma/plasma cell tumours																									
M										1	2	1	7	6	8	7	11	6	**49**	**2.8**	2.0-3.6	223.1	0.3	324	5.3 (3.8-6.8)
										1.3	2.8	1.5	13.3	15.4	27.6	30.4	73.0	62.5							
F											1	1	1	2	2	4	5	6	**22**	**0.9**	0.5-1.4	68.7	0.1	1197	1.9 (1.1-2.7)
											1.4	1.6	2.0	5.2	6.5	15.3	24.8	30.5							

Appendix 3B. Cancer mortality, Western Australia, 2007

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	4	**5**	**0.2**	0.0-0.5	0.0	0.0	*	0.7 (0.1-1.3)
																	6.6	41.6							
F										1								3	**4**	**0.2**	0 - 0.3	26.0	0.0	*	0.3 (0.0-0.6)
										1.3								15.2							
Leukaemias, lymphoid, all																									
M	1	1		3	1		1				1	3	1	1	4	5	3	5	**30**	**2.1**	1.3-2.9	480.0	0.2	596	3.2 (2.1-4.4)
	1.4	1.4		3.9	1.3		1.4				1.4	4.6	1.9	2.6	13.8	21.7	19.9	52.0							
F	1				1						2		1	2	1	2	3	2	**15**	**0.9**	0.4-1.5	193.7	0.1	1239	1.4 (0.7-2.0)
	1.5				1.4						2.8		2.0	5.2	3.3	7.6	14.9	10.2							
Leukaemias, lymphoid, acute																									
M	1	1		3	1		1					3					1		**11**	**1.1**	0.4-1.7	431.5	0.1	1435	1 (0.4-1.6)
	1.4	1.4		3.9	1.3		1.4					4.6					6.6								
F	1				1						1			1				1	**5**	**0.5**	0 - 0.9	151.1	0.0	2908	0.4 (0.1-0.8)
	1.5				1.4						1.4			2.6				5.1							
Leukaemias, lymphoid, chronic																									
M											1		1	1	4	5	1	5	**18**	**1.0**	0.5-1.5	48.5	0.1	1019	2.1 (1.1-3.1)
											1.4		1.9	2.6	13.8	21.7	6.6	52.0							
F											1		1	1	1	2	3	1	**10**	**0.5**	0.1-0.8	42.6	0.0	2159	0.9 (0.3-1.5)
											1.4		2.0	2.6	3.3	7.6	14.9	5.1							
Leukaemias, lymphoid, other/NOS																									
M																	1		1	**0.0**	0 - 0.1	0.0	0.0	*	0.1 (0 - 0.3)
																	6.6								
F																			**0**					-	
Leukaemias, myeloid, all																									
M					1	1	1			2	1	1	8	6	3	4	5	1	**34**	**2.2**	1.5-3.0	360.1	0.3	398	3.3 (2.2-4.5)
					1.3	1.4	1.4			2.6	1.4	1.5	15.2	15.4	10.3	17.4	33.2	10.4							
F					1		2				3	2	1	2	6	4	4	2	**27**	**1.5**	0.9-2.2	269.1	0.2	522	2.5 (1.6-3.5)
					1.4		2.8				4.2	3.2	2.0	5.2	19.6	15.3	19.8	10.2							
Leukaemias, myeloid, acute																									
M					1	1	1			2	1		5	6	2	2	3	1	**25**	**1.7**	1.0-2.4	307.4	0.2	504	2.4 (1.5-3.4)
					1.3	1.4	1.4			2.6	1.4		9.5	15.4	6.9	8.7	19.9	10.4							
F					1		2				3	2	1	1	5		4	1	**20**	**1.2**	0.6-1.8	259.6	0.2	617	1.9 (1.0-2.7)
					1.4		2.8				4.2	3.2	2.0	2.6	16.3		19.8	5.1							
Leukaemias, myeloid, chronic																									
M													1						**1**	**0.1**	0 - 0.2	11.4	0.0	*	0.1 (0 - 0.2)
													1.9												
F														1		1		1	**3**	**0.1**	0 - 0.3	7.1	0.0	7704	0.3 (0 - 0.6)
														2.6		3.8		5.1							
Leukaemias, myeloid, other/NOS																									
M												1	2		1	2	2		**8**	**0.4**	0.1-0.8	41.3	0.0	2281	0.8 (0.2-1.4)
												1.5	3.8		3.4	8.7	13.3								
F															1	3			**4**	**0.2**	0 - 0.4	2.4	0.0	6121	0.4 (0.0-0.8)
															3.3	11.5									

Appendix 3B. Cancer mortality, Western Australia, 2007

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	1	1		3	2	1	2			2	2	4	9	7	7	9	9	10	**69**	**4.6**	3.4-5.8	840.5	0.4	239	7.3 (5.5-9.0)
	1.4	1.4		3.9	2.5	1.4	2.7			2.6	2.8	6.1	17.1	18.0	24.1	39.1	59.7	104.1							
F	1				2		2			1	5	2	2	4	7	6	7	7	**46**	**2.6**	1.8-3.5	488.9	0.3	359	4.2 (3.0-5.4)
	1.5				2.7		2.8			1.3	7.0	3.2	4.0	10.4	22.9	22.9	34.7	35.5							
MYELODYSPLASTIC DISEASES																									
Refractory anaemias/cytopaenias																									
M											1		1	2	2	1	2	1	**10**	**0.6**	0.2-1.0	50.6	0.1	1307	1.1 (0.4-1.7)
											1.4		1.9	5.1	6.9	4.3	13.3	10.4							
F																	3	2	**5**	**0.1**	0.0-0.2	0.0	0.0	*	0.4 (0.0-0.7)
																	14.9	10.2							
Myelodysplastic syndromes																									
M						1									3	2	7	4	**17**	**0.8**	0.4-1.3	51.5	0.1	1711	2 (1.1-3.0)
						1.4									10.3	8.7	46.4	41.6							
F												1	1	1	3	1	3	6	**16**	**0.7**	0.3-1.1	42.7	0.1	1252	1.4 (0.7-2.0)
												1.6	2.0	2.6	9.8	3.8	14.9	30.5							
Myelodysplastic diseases, all																									
M						1					1		1	2	5	3	9	5	**27**	**1.4**	0.9-2.0	102.1	0.1	741	3.1 (1.9-4.3)
						1.4					1.4		1.9	5.1	17.2	13.0	59.7	52.0							
F												1	1	1	3	1	6	8	**21**	**0.8**	0.4-1.2	42.7	0.1	1252	1.7 (1.0-2.5)
												1.6	2.0	2.6	9.8	3.8	29.7	40.6							
CHRONIC MYELOPROLIFERATIVE DISEASES																									
Chronic myeloproliferative disorder, NOS																									
M													1				1		**2**	**0.1**	0 - 0.3	11.4	0.0	*	0.2 (0 - 0.5)
													1.9				6.6								
F																	2		**2**	**0.0**	0 - 0.1	0.0	0.0	*	0.2 (0 - 0.4)
																	9.9								
Polycythaemia rubra vera																									
M																			**0**					-	
F																	3	2	**5**	**0.1**	0.0-0.2	0.0	0.0	*	0.4 (0.0-0.7)
																	14.9	10.2							
Myelofibrosis/sclerosis																									
M										1			2	1	1	1	2		**8**	**0.5**	0.1-0.8	57.3	0.1	1804	0.8 (0.2-1.4)
										1.3			3.8	2.6	3.4	4.3	13.3								
F													1		2	1			**4**	**0.2**	0 - 0.5	16.6	0.0	2344	0.4 (0.0-0.8)
													2.0		6.5	3.8									
Other chronic myeloproliferative d/o																									
M														2					**2**	**0.2**	0 - 0.4	13.9	0.0	3899	0.2 (0 - 0.4)
														5.1											
F														1		1		1	**3**	**0.1**	0 - 0.3	7.1	0.0	7704	0.3 (0 - 0.6)
														2.6		3.8		5.1							

Appendix 3B. Cancer mortality, Western Australia, 2007

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			3	3	1	1	3		**12**	**0.7**	0.3-1.2	82.7	0.1	1105	1.2 (0.5-1.8)
										1.3			5.7	7.7	3.4	4.3	19.9								
F													1	1	2	2	5	3	**14**	**0.6**	0.2-0.9	23.8	0.1	1797	1.2 (0.6-1.9)
													2.0	2.6	6.5	7.6	24.8	15.2							
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	**2**	**0.1**	0 - 0.2	0.0	0.0	*	0.3 (0 - 0.6)
																	6.6	10.4							
F																			**0**					-	
Other chronic immunoproliferative d/o, all																									
M																	1	1	**2**	**0.1**	0 - 0.2	0.0	0.0	*	0.3 (0 - 0.6)
																	6.6	10.4							
F																			**0**					-	
Unknown primary site (C80 or Behaviour 6/9)																									
M						1			1	3	3	3	9	14	19	14	21	12	**100**	**5.8**	4.6-7.0	505.2	0.7	150	10.8 (8.7-13.0)
						1.4			1.3	3.8	4.2	4.6	17.1	35.9	65.5	60.9	139.3	124.9							
F				1		1			2	3	1	2	11	6	10	20	14	28	**99**	**4.6**	3.6-5.7	491.8	0.4	238	8.6 (6.9-10.4)
				1.4		1.4			2.6	3.9	1.4	3.2	22.0	15.6	32.7	76.5	69.3	142.2							
Total deaths due to cancer																									
M	1	3	2	4	4	7	7	10	31	42	113	140	206	269	288	361	302	274	**2064**	**121.9**	116-127	13610.1	12.9	8	220.5 (211-230)
	1.4	4.2	2.7	5.2	5.0	9.5	9.5	12.3	39.1	53.8	157.0	213.6	391	690	993	1570	2004	2852							
F	1	2	1	7	5	6	9	23	27	55	70	141	144	142	213	211	239	337	**1633**	**84.4**	79.9-88.9	11942.8	9.3	11	144.3 (137-151)
	1.5	3.0	1.4	9.7	6.8	8.6	12.6	29.3	34.7	71.0	98.3	223.1	287.9	369	696	807	1184	1711							

Appendix 3B. Cancer mortality, Western Australia, 2007

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, 2007																									
Deaths due to benign tumours in CR cases																									
M													1.0						**1.0**	**0.1**	0 - 0.2	11	0.0	*	0.1 (0 - 0.2)
													1.9												
F										1				1			2	3	**7**	**0.3**	0.0-0.5	33	0.0	5145	0.6 (0.1-1.0)
										1.3				2.6			9.9	15.2							
Deaths due to lymphohaematopoietic tumours of uncertain malignant potential																									
M	1																	1	**2**	**0.2**	0 - 0.6	71	0.0	*	0.2 (0 - 0.6)
	1.4																	10.4							
F															1				**1**	**0.1**	0 - 0.2	2	0.0	6121	0.1 (0 - 0.3)
															3.3										
Deaths due to non-lymphohaematopoietic tumours of uncertain/unspecified nature																									
M																			**0**					-	
F		1															1		**2**	**0.2**	0 - 0.5	66	0.0	*	0.2 (0 - 0.5)
		1.5															5.0								
Non-cancer deaths in CR cases																									
M						1	1	3	1	3	9	15	29	44	82	176	246	351	**961**	**47.6**	44.5-50.7	1559	2.5	41	116.6 (109-124)
						1.4	1.4	3.7	1.3	3.8	12.5	22.9	55.0	112.9	282.7	765.5	1632.4	3653.6							
F					1	2	2	2	5	3	4	10	14	21	38	89	140	368	**699**	**23.6**	21.7-25.6	1186	1.2	81	56.3 (52.1-60.5)
					1.4	2.9	2.8	2.5	6.4	3.9	5.6	15.8	28.0	54.5	124.2	340.3	693.3	1868.3							
Deaths of undetermined cause in CR cases																									
M													1	1	2	5	2	4	**15**	**0.8**	0.4-1.2	23	0.1	1761	1.8 (0.9-2.7)
													1.9	2.6	6.9	21.7	13.3	41.6							
F					1	1			1	1	1		1	1			2	7	**16**	**0.8**	0.4-1.3	193	0.1	1760	1.3 (0.7-2.0)
					1.4	1.4			1.3	1.3	1.4		2.0	2.6			9.9	35.5							
Total deaths **(cancer and non-cancer)** of Cancer Registry cases																									
M	2	3	2	4	4	8	8	13	32	45	122	155	236	313	370	537	548	627	**3029**	**169.8**	164-176	15381	15.4	7	337.6 (326-350)
	2.9	4.2	2.7	5.2	5.0	10.8	10.8	16.0	40.3	57.6	169.5	236.5	447.8	802.8	1275.8	2335.6	3636.4	6526.5							
F	1	3	1	7	6	8	11	25	32	59	74	151	158	164	252	300	382	711	**2345**	**108.7**	104-114	13293	10.5	10	201.6 (193-210)
	1.5	4.5	1.4	9.7	8.1	11.5	15.4	31.8	41.1	76.2	103.9	238.9	315.9	425.8	823.5	1147.0	1891.7	3609.7							

Appendix 3C.Childhood cancer, Western Australia, 2007 (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	5 9.0	1 1.4	3 4.0		**9**	**4.4**	1.5-7.3	100	2 15.1	6 11.4	3 4.5	2 2.9	**13**	**7.0**	3.2-10.8	100	2 7.4	11 10.2	4 2.9	5 3.5	**22**	**5.7**	3.3-8.1	100
Lymphoid leukaemia	5 9.0	1 1.4	3 4.0		**9**	**4.4**	1.5-7.3	100	2 15.1	6 11.4	3 4.5		**11**	**6.2**	2.5-9.8	100	2 7.4	11 10.2	4 2.9	3 2.1	**20**	**5.3**	2.9-7.6	100
Acute myeloid leukaemia					**0**							2 2.9	**2**	**0.8**	0 - 2.0	100				2 1.4	**2**	**0.4**	0 - 1.0	100
Chronic MPDs					**0**								**0**								**0**			
MDS & other MPDs					**0**								**0**								**0**			
Unspecified/other leukaemia					**0**								**0**								**0**			
II. LYMPHOMAS																								
All			2 2.8		**2**	**0.9**	0 - 2.2	100		1 1.9		1 1.4	**2**	**1.0**	0 - 2.4	100		1 0.9	2 1.5	1 0.7	**4**	**1.0**	0.0-1.9	100
Hodgkin lymphoma					**0**								**0**								**0**			
Non-Hodgkin lymphoma exc Burki					**0**					1 1.9		1 1.4	**2**	**1.0**	0 - 2.4	100		1 0.9		1 0.7	**2**	**0.5**	0 - 1.2	100
Burkitt lymphoma			2 2.8		**2**	**0.9**	0 - 2.2	100					**0**						2 1.5		**2**	**0.5**	0 - 1.1	100
Misc. lymphoreticular neoplasms					**0**								**0**								**0**			
Unspecified lymphoma					**0**								**0**								**0**			
III. CNS AND INTRACRANIAL/SPINAL																								
All	3 5.4	4 5.7	1 1.3		**8**	**3.9**	1.2-6.6	75		1 1.9	2 3.0	2 2.9	**5**	**2.4**	0.3-4.5	80		4 3.7	6 4.4	3 2.1	**13**	**3.2**	1.4-4.9	77
Ependymoma/choroid plexus					**0**								**0**								**0**			
Astrocytoma	2 3.6	2 2.8			**4**	**2.0**	0.0-4.0	50		1 1.9	2 3.0	2 2.9	**5**	**2.4**	0.3-4.5	80		3 2.8	4 2.9	2 1.4	**9**	**2.2**	0.8-3.7	67
Embryonal tumours	1 1.8	2 2.8	1 1.3		**4**	**1.9**	0.0-3.7	100					**0**					1 0.9	2 1.5	1 0.7	**4**	**1.0**	0.0-1.9	100
Other gliomas					**0**								**0**								**0**			
Other intracranial/spinal					**0**								**0**								**0**			
Unspecified					**0**								**0**								**0**			

Appendix 3C.Childhood cancer, Western Australia, 2007 (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	3			**5**	**2.8**	0.3-5.2	100	1	1	1		**3**	**1.7**	0 - 3.5	100	3	4	1		**8**	**2.2**	0.7-3.8	100
	14.4	5.4							7.6	1.9	1.5						11.1	3.7	0.7					
Neuroblastoma/ganglioneurobl.	2	3			**5**	**2.8**	0.3-5.2	100	1	1	1		**3**	**1.7**	0 - 3.5	100	3	4	1		**8**	**2.2**	0.7-3.8	100
	14.4	5.4							7.6	1.9	1.5						11.1	3.7	0.7					
Other					**0**								**0**								**0**			
V. RETINOBLASTOMA																								
All		1			**1**	**0.6**	0 - 1.7	100		1			**1**	**0.6**	0 - 1.7	100		2			**2**	**0.6**	0 - 1.4	100
		1.8								1.9								1.9						
VI. RENAL TUMOURS																								
All	1		2		**3**	**1.5**	0 - 3.1	100		1			**1**	**0.6**	0 - 1.7	100	1	1	2		**4**	**1.0**	0.0-2.1	100
	7.2		2.8							1.9							3.7	0.9	1.5					
Nephroblastoma/oth non-epithel.	1		2		**3**	**1.5**	0 - 3.1	100		1			**1**	**0.6**	0 - 1.7	100	1	1	2		**4**	**1.0**	0.0-2.1	100
	7.2		2.8							1.9							3.7	0.9	1.5					
Renal carcinoma					**0**								**0**								**0**			
Unspecified					**0**								**0**								**0**			
VII. HEPATIC TUMOURS																								
All	2				**2**	**1.1**	0 - 2.7	50					**0**				2				**2**	**0.6**	0 - 1.4	50
	14.4																7.4							
Hepatoblastoma	2				**2**	**1.1**	0 - 2.7	50					**0**				2				**2**	**0.6**	0 - 1.4	50
	14.4																7.4							
Hepatic carcinoma					**0**								**0**								**0**			
Unspecified					**0**								**0**								**0**			
VIII. BONE																								
All				1	**1**	**0.4**	0 - 1.1	100	1		1		**2**	**1.1**	0 - 2.6	100	1		1	1	**3**	**0.7**	0 - 1.5	100
				1.3					7.6		1.5						3.7		0.7	0.7				
Osteosarcoma					**0**								**0**								**0**			
Chondrosarcoma					**0**				1				**1**	**0.6**	0 - 1.7	100	1				**1**	**0.3**	0 - 0.8	100
									7.6								3.7							
Ewing & related sarcoma				1	**1**	**0.4**	0 - 1.1	100			1		**1**	**0.5**	0 - 1.4	100			1	1	**2**	**0.4**	0 - 1.0	100
				1.3							1.5								0.7	0.7				
Other specified					**0**								**0**								**0**			
Unspecified					**0**								**0**								**0**			

Appendix 3C.Childhood cancer, Western Australia, 2007 (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 7.2	2 3.6		1 1.3	**4**	**2.1**	0.0-4.1	100		1 1.9	1 1.5		**2**	**1.1**	0 - 2.6	100	1 3.7	3 2.8	1 0.7	1 0.7	**6**	**1.6**	0.3-2.9	100
Rhabdomyosarcoma		2 3.6		1 1.3	**3**	**1.5**	0 - 3.2	100		1 1.9			**1**	**0.6**	0 - 1.7	100		3 2.8		1 0.7	**4**	**1.1**	0.0-2.1	100
Fibrosarcoma/Neurofibrosarc.					**0**								**0**								**0**			
Kaposi sarcoma					**0**								**0**								**0**			
Other specified	1 7.2				**1**	**0.6**	0 - 1.6	100			1 1.5		**1**	**0.5**	0 - 1.4	100	1 3.7		1 0.7		**2**	**0.5**	0 - 1.2	100
Unspecified					**0**								**0**								**0**			
X. GONADAL AND GERM CELL																								
All		2 3.6			**2**	**1.1**	0 - 2.7	100				2 2.9	**2**	**0.8**	0 - 2.0	100		2 1.9		2 1.4	**4**	**1.0**	0.0-1.9	100
Intracranial/spinal					**0**								**0**								**0**			
Other/unspecified non-gonadal					**0**								**0**								**0**			
Gonadal germ cell		2 3.6			**2**	**1.1**	0 - 2.7	100				2 2.9	**2**	**0.8**	0 - 2.0	100		2 1.9		2 1.4	**4**	**1.0**	0.0-1.9	100
Gonadal carcinoma					**0**								**0**								**0**			
Other and unspecified					**0**								**0**								**0**			
XI. OTHER EPITHELIAL / MELANOMA																								
All					**0**						1 1.5	1 1.4	**2**	**0.9**	0 - 2.2	100			1 0.7	1 0.7	**2**	**0.4**	0 - 1.0	100
Adrenocortical carcinoma					**0**								**0**								**0**			
Thyroid carcinoma					**0**						1 1.5	1 1.4	**2**	**0.9**	0 - 2.2	100			1 0.7	1 0.7	**2**	**0.4**	0 - 1.0	100
Nasopharyngeal carcinoma					**0**								**0**								**0**			
Malignant melanoma					**0**								**0**								**0**			
Skin carcinomas					**0**								**0**								**0**			
Other/unspecified carcinoma					**0**								**0**								**0**			

Appendix 3C.Childhood cancer, Western Australia, 2007 (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**	**0.6**	0 - 1.7	100					**0**					1			**1**	**0.3**	0 - 0.8	100
		1.8																0.9						
Other specified malignancy		1			**1**	**0.6**	0 - 1.7	100					**0**					1			**1**	**0.3**	0 - 0.8	100
		1.8																0.9						
Other unspecified malignancy					**0**								**0**								**0**			
Total																								
	6	17	9	6	**38**	**19.3**	13.1-25.4	92	4	12	9	8	**33**	**17.1**	11.2-23.1	97	10	29	18	14	**71**	**18.2**	14.0-22.5	94
	43.2	30.6	12.7	8.0					30.2	22.9	13.6	11.5					36.9	26.9	13.1	9.7				

Appendix 3D. Cancer incidence, Western Australia, 2007: Leading types by sex and geographic area

CHS Kimberley Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**8**	14.3	**53.8**	15.8-91.9	14
Colorectal	**6**	10.7	**37.5**	6.5-68.4	16
Colon	**3**	5.4	**21.5**	0 - 46.4	21
Rectum	**3**	5.4	**16.0**	0 - 34.4	54
Lung	**5**	8.9	**36.0**	4.0-68.0	17
Melanoma (skin)	**5**	8.9	**21.8**	2.7-40.9	48
Unknown primary	**5**	8.9	**28.7**	2.6-54.9	30
Pharynx	**4**	7.1	**18.8**	0.4-37.2	50
Lymphoma	**4**	7.1	**24.1**	0 - 48.7	50
Lymphoma NOS	**1**	1.8	**8.1**	0 - 24.0	*
Hodgkin lymphoma	**0**				
NHL	**3**	5.4	**16.0**	0 - 34.7	50
Lip, gum & mouth	**3**	5.4	**17.3**	0 - 37.8	36
Tongue	**3**	5.4	**14.4**	0 - 30.6	63
Pancreas	**3**	5.4	**21.0**	0 - 44.8	35
Oesophagus	**2**	3.6	**13.2**	0 - 32.1	41
Stomach	**2**	3.6	**15.2**	0 - 36.1	*
All cancers	**56**	100.0	**334.5**	245-424	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**10**	30.3	**73.0**	25.3-121	13
Cervix	**4**	12.1	**19.7**	0.4-39.0	66
Melanoma (skin)	**2**	6.1	**13.6**	0 - 32.6	183
Unknown primary	**2**	6.1	**13.7**	0 - 33.4	67
Lymphoma	**2**	6.1	**23.8**	0 - 56.6	21
Lymphoma NOS	**0**				
Hodgkin lymphoma	**0**				
NHL	**2**	6.1	**23.8**	0 - 56.6	21
Leukaemia	**2**	6.1	**18.0**	0 - 44.1	27
Leukaemia NOS	**0**				
Lymphoid leukaemia	**1**	3.0	**11.8**	0 - 34.8	35
Myeloid leukaemia	**1**	3.0	**6.3**	0 - 18.5	129
Leukaemia, other	**0**				
Colorectal	**1**	3.0	**5.2**	0 - 15.5	306
Colon	**1**	3.0	**5.2**	0 - 15.5	306
Rectum	**0**				
Tongue	**1**	3.0	**5.1**	0 - 15.0	238
All cancers	**33**	100.0	**221.2**	141-301	4

CHS Pilbara Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**12**	21.8	**60.3**	22.1-98.6	13
Melanoma (skin)	**10**	18.2	**45.0**	8.9-81.0	15
Lung	**6**	10.9	**45.6**	6.4-84.9	20
Bladder & urinary tract	**4**	7.3	**27.1**	0 - 58.0	45
Oesophagus	**3**	5.5	**11.4**	0 - 25.1	74
Testis	**3**	5.5	**10.8**	0 - 23.9	141
Colorectal	**2**	3.6	**5.6**	0 - 13.3	179
Colon	**1**	1.8	**2.8**	0 - 8.3	358
Rectum	**1**	1.8	**2.8**	0 - 8.3	358
Connective/ soft tissues	**2**	3.6	**12.9**	0 - 33.4	53
Lymphoma	**2**	3.6	**8.4**	0 - 20.7	102
Lymphoma NOS	**0**				
Hodgkin lymphoma	**1**	1.8	**2.8**	0 - 8.3	358
NHL	**1**	1.8	**5.6**	0 - 16.7	143
Lip, gum & mouth	**1**	1.8	**2.4**	0 - 7.0	505
Tongue	**1**	1.8	**3.0**	0 - 8.9	267
Stomach	**1**	1.8	**5.6**	0 - 16.7	143
All cancers	**55**	100.0	**280.9**	195-367	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**14**	33.3	**88.1**	35.8-140	10
Melanoma (skin)	**6**	14.3	**24.7**	4.4-44.9	45
Lung	**4**	9.5	**49.4**	0 - 103	11
Cervix	**4**	9.5	**42.1**	0 - 91.7	13
Colorectal	**3**	7.1	**31.0**	0 - 66.0	26
Colon	**1**	2.4	**10.3**	0 - 30.6	78
Rectum	**2**	4.8	**20.7**	0 - 49.2	39
Lip, gum & mouth	**2**	4.8	**18.2**	0 - 47.3	37
Lymphoma	**2**	4.8	**7.5**	0 - 18.1	144
Lymphoma NOS	**0**				
Hodgkin lymphoma	**0**				
NHL	**2**	4.8	**7.5**	0 - 18.1	144
Stomach	**1**	2.4	**2.8**	0 - 8.4	422
Connective/ soft tissues	**1**	2.4	**4.2**	0 - 12.5	378
Vulva	**1**	2.4	**4.2**	0 - 12.5	285
Uterus	**1**	2.4	**3.8**	0 - 11.1	320
Ovary	**1**	2.4	**4.2**	0 - 12.5	285
All cancers	**42**	100.0	**288.9**	184-394	3

CHS Midwest Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**55**	33.7	**110.7**	81.1-140	7
Lung	**25**	15.3	**49.1**	29.5-68.7	14
Colorectal	**20**	12.3	**41.0**	22.7-59.2	25
Colon	**13**	8.0	**27.0**	12.1-42.0	38
Rectum	**7**	4.3	**13.9**	3.4-24.4	67
Melanoma (skin)	**10**	6.1	**19.8**	7.4-32.2	32
Pancreas	**6**	3.7	**11.4**	2.0-20.8	109
Pharynx	**5**	3.1	**11.6**	1.4-21.9	70
Oesophagus	**5**	3.1	**9.0**	0.8-17.2	124
Kidney	**4**	2.5	**8.4**	0 - 16.9	125
Brain	**4**	2.5	**8.8**	0.2-17.5	107
Lymphoma	**4**	2.5	**9.3**	0.1-18.5	89
Lymphoma NOS	**0**				
Hodgkin lymphoma	**0**				
NHL	**4**	2.5	**9.3**	0.1-18.5	89
Leukaemia	**4**	2.5	**6.7**	0 - 13.5	173
Leukaemia NOS	**0**				
All cancers	**163**	100.0	**331.4**	280-383	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**21**	24.7	**53.0**	30.1-75.8	18
Colorectal	**14**	16.5	**28.7**	13.0-44.3	37
Colon	**8**	9.4	**16.4**	4.5-28.3	79
Rectum	**5**	5.9	**10.0**	0.8-19.1	87
Melanoma (skin)	**9**	10.6	**22.2**	7.4-37.0	39
Lung	**8**	9.4	**17.0**	4.8-29.2	42
Unknown primary	**7**	8.2	**14.8**	3.3-26.3	65
Pancreas	**2**	2.4	**3.5**	0 - 8.6	175
Lymphoma	**2**	2.4	**5.0**	0 - 11.9	161
Lymphoma NOS	**0**				
Hodgkin lymphoma	**1**	1.2	**2.3**	0 - 6.7	353
NHL	**1**	1.2	**2.7**	0 - 8.0	297
Leukaemia	**2**	2.4	**6.7**	0 - 16.3	119
Leukaemia NOS	**0**				
Lymphoid leukaemia	**1**	1.2	**2.3**	0 - 6.8	175
Myeloid leukaemia	**1**	1.2	**4.4**	0 - 12.9	367
Leukaemia, other	**0**				
All cancers	**85**	100.0	**197.7**	154-241	5

Appendix 3D. Cancer incidence, Western Australia, 2007: Leading types by sex and geographic area

CHS Wheatbelt Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**65**	25.9	**90.7**	68.3-113	10
Melanoma (skin)	**32**	12.7	**55.0**	34.5-75.5	18
Colorectal	**31**	12.4	**44.5**	28.4-60.7	18
Colon	**17**	6.8	**24.1**	12.4-35.7	29
Rectum	**14**	5.6	**20.5**	9.3-31.7	49
Lung	**26**	10.4	**35.8**	21.8-49.9	24
Unknown primary	**16**	6.4	**23.7**	11.9-35.5	33
Lip, gum & mouth	**11**	4.4	**15.8**	6.3-25.3	50
Kidney	**9**	3.6	**12.1**	4.0-20.2	76
Pancreas	**8**	3.2	**11.2**	3.3-19.2	84
Lymphoma	**8**	3.2	**12.7**	3.8-21.6	64
Lymphoma NOS	**0**				
Hodgkin lymphoma	**1**	0.4	**1.9**	0 - 5.7	623
NHL	**7**	2.8	**10.8**	2.7-18.9	72
Brain	**7**	2.8	**10.9**	2.7-19.0	71
Oesophagus	**6**	2.4	**7.2**	1.3-13.0	114
Skin (NMSC exc. SCC/BCC)	**4**	1.6	**6.4**	0.1-12.6	109
All cancers	**251**	100.0	**364.7**	318-411	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**34**	23.6	**53.9**	35.1-72.8	16
Colorectal	**23**	16.0	**31.5**	17.9-45.1	31
Colon	**13**	9.0	**18.7**	8.0-29.4	46
Rectum	**10**	6.9	**12.8**	4.3-21.2	91
Melanoma (skin)	**14**	9.7	**31.9**	13.6-50.3	36
Lung	**12**	8.3	**13.9**	5.4-22.4	101
Lymphoma	**7**	4.9	**10.6**	2.4-18.7	78
Lymphoma NOS	**0**				
Hodgkin lymphoma	**0**				
NHL	**7**	4.9	**10.6**	2.4-18.7	78
Unknown primary	**6**	4.2	**8.0**	1.2-14.9	118
Pancreas	**5**	3.5	**6.9**	0.4-13.4	112
Uterus	**5**	3.5	**8.2**	0.9-15.4	81
Thyroid gland	**4**	2.8	**8.3**	0.1-16.4	120
Leukaemia	**4**	2.8	**6.3**	0.0-12.7	165
Leukaemia NOS	**0**				
Lymphoid leukaemia	**4**	2.8	**6.3**	0.0-12.7	165
All cancers	**144**	100.0	**226.6**	187-266	4

CHS Goldfields Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**16**	18.6	**49.3**	24.7-73.9	18
Melanoma (skin)	**12**	14.0	**38.5**	16.4-60.5	22
Colorectal	**11**	12.8	**35.4**	14.2-56.5	20
Colon	**7**	8.1	**22.2**	5.6-38.9	35
Rectum	**4**	4.7	**13.1**	0.1-26.2	47
Lung	**8**	9.3	**22.4**	6.7-38.0	49
Kidney	**4**	4.7	**11.9**	0.0-23.7	217
Lymphoma	**3**	3.5	**8.4**	0 - 18.0	102
Lymphoma NOS	**0**				
Hodgkin lymphoma	**0**				
NHL	**3**	3.5	**8.4**	0 - 18.0	102
Leukaemia	**3**	3.5	**10.4**	0 - 22.5	190
Leukaemia NOS	**1**	1.2	**3.9**	0 - 11.6	*
Lymphoid leukaemia	**2**	2.3	**6.5**	0 - 15.8	190
Myeloid leukaemia	**0**				
Leukaemia, other	**0**				
Lip, gum & mouth	**2**	2.3	**5.1**	0 - 12.1	192
All cancers	**86**	100.0	**268.8**	211-326	4

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**25**	31.6	**83.3**	50.0-117	12
Colorectal	**11**	13.9	**38.8**	15.3-62.4	31
Colon	**8**	10.1	**30.6**	9.0-52.2	34
Rectum	**3**	3.8	**8.2**	0 - 17.7	368
Melanoma (skin)	**7**	8.9	**23.2**	5.6-40.7	46
Lung	**6**	7.6	**24.1**	4.7-43.5	27
Uterus	**4**	5.1	**11.0**	0.1-22.0	195
Lymphoma	**4**	5.1	**16.2**	0.1-32.3	34
Lymphoma NOS	**0**				
Hodgkin lymphoma	**0**				
NHL	**4**	5.1	**16.2**	0.1-32.3	34
Pancreas	**3**	3.8	**6.1**	0 - 13.1	*
Kidney	**3**	3.8	**9.5**	0 - 20.9	175
Unknown primary	**3**	3.8	**12.5**	0 - 26.8	56
Leukaemia	**3**	3.8	**11.8**	0 - 25.5	60
Leukaemia NOS	**0**				
Lymphoid leukaemia	**1**	1.3	**4.6**	0 - 13.5	175
All cancers	**79**	100.0	**268.9**	208-330	4

CHS Great Southern Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**48**	28.2	**98.4**	70.2-127	8
Colorectal	**21**	12.4	**38.6**	21.5-55.8	21
Colon	**17**	10.0	**31.1**	15.8-46.4	28
Rectum	**4**	2.4	**7.5**	0 - 15.3	80
Lung	**18**	10.6	**27.8**	14.0-41.7	36
Melanoma (skin)	**14**	8.2	**31.6**	14.4-48.9	31
Bladder & urinary tract	**11**	6.5	**20.6**	8.0-33.1	36
Unknown primary	**6**	3.5	**10.5**	1.5-19.4	91
Leukaemia	**6**	3.5	**9.8**	1.5-18.1	78
Leukaemia NOS	**0**				
Lymphoid leukaemia	**3**	1.8	**4.9**	0 - 10.9	326
Myeloid leukaemia	**3**	1.8	**4.9**	0 - 10.6	103
Leukaemia, other	**0**				
Myeloma	**6**	3.5	**10.9**	1.8-20.1	78
Stomach	**5**	2.9	**11.0**	1.3-20.7	58
Kidney	**5**	2.9	**12.3**	0.2-24.4	67
Brain	**4**	2.4	**6.4**	0 - 12.9	135
All cancers	**170**	100.0	**332.6**	280-385	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**24**	18.3	**53.0**	31.0-74.9	16
Colorectal	**17**	13.0	**28.9**	14.0-43.8	30
Colon	**13**	9.9	**20.6**	8.5-32.8	43
Rectum	**4**	3.1	**8.2**	0 - 16.8	102
Melanoma (skin)	**15**	11.5	**36.1**	17.2-55.1	23
Lymphoma	**13**	9.9	**23.7**	9.8-37.5	35
Lymphoma NOS	**0**				
Hodgkin lymphoma	**0**				
NHL	**13**	9.9	**23.7**	9.8-37.5	35
Lung	**10**	7.6	**19.0**	6.6-31.5	35
Thyroid gland	**10**	7.6	**26.4**	8.1-44.7	38
Uterus	**7**	5.3	**13.2**	2.9-23.5	52
Leukaemia	**7**	5.3	**13.7**	2.2-25.2	76
Leukaemia NOS	**0**				
Lymphoid leukaemia	**3**	2.3	**4.2**	0 - 9.5	355
Myeloid leukaemia	**4**	3.1	**9.5**	0 - 19.7	96
Leukaemia, other	**0**				
All cancers	**131**	100.0	**267.8**	219-317	4

Appendix 3D. Cancer incidence, Western Australia, 2007: Leading types by sex and geographic area

CHS South West Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**152**	35.5	**127.9**	107-149	6
Melanoma (skin)	**54**	12.6	**48.7**	35.4-62.0	17
Colorectal	**43**	10.0	**34.7**	23.9-45.4	24
Colon	**27**	6.3	**20.7**	12.6-28.8	44
Rectum	**16**	3.7	**14.0**	6.9-21.0	54
Lung	**35**	8.2	**27.0**	17.7-36.4	34
Kidney	**13**	3.0	**11.3**	5.0-17.7	83
Unknown primary	**13**	3.0	**10.1**	4.5-15.8	73
Leukaemia	**12**	2.8	**11.7**	4.2-19.2	88
Leukaemia NOS	**0**				
Lymphoid leukaemia	**9**	2.1	**8.3**	1.9-14.8	123
Myeloid leukaemia	**3**	0.7	**3.4**	0 - 7.2	312
Leukaemia, other	**0**				
Bladder & urinary tract	**11**	2.6	**8.8**	3.3-14.3	108
Lymphoma	**11**	2.6	**9.9**	3.9-15.8	96
Lymphoma NOS	**0**				
Hodgkin lymphoma	**2**	0.5	**2.0**	0 - 4.8	548
NHL	**9**	2.1	**7.9**	2.6-13.1	117
Lip, gum & mouth	**10**	2.3	**10.3**	3.5-17.1	95
Pancreas	**8**	1.9	**6.2**	1.8-10.6	164
Brain	**8**	1.9	**8.2**	1.7-14.8	125
Skin (NMSC exc. SCC/BCC)	**7**	1.6	**6.5**	1.2-11.7	197
Mesothelioma	**5**	1.2	**4.4**	0.4-8.4	234
Pharynx	**4**	0.9	**4.0**	0.1-7.8	234
Oesophagus	**4**	0.9	**2.8**	0 - 5.7	517
Stomach	**4**	0.9	**3.6**	0.0-7.2	192
Larynx	**4**	0.9	**3.5**	0 - 7.0	178
Myelodysplastic diseases	**4**	0.9	**2.4**	0 - 5.0	438
Liver	**3**	0.7	**3.4**	0 - 8.4	979
Gallbladder / bile ducts	**3**	0.7	**2.0**	0 - 4.4	1092
All cancers	**428**	100.0	**365.6**	330-402	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**94**	34.4	**84.0**	66.4-102	11
Colorectal	**32**	11.7	**25.0**	15.8-34.2	34
Colon	**21**	7.7	**15.8**	8.6-23.1	59
Rectum	**10**	3.7	**8.1**	2.8-13.4	86
Melanoma (skin)	**25**	9.2	**24.1**	14.0-34.3	40
Lung	**19**	7.0	**17.3**	9.3-25.3	37
Uterus	**14**	5.1	**12.3**	5.1-19.4	71
Lymphoma	**14**	5.1	**9.2**	4.0-14.4	142
Lymphoma NOS	**0**				
Hodgkin lymphoma	**1**	0.4	**1.1**	0 - 3.2	742
NHL	**13**	4.8	**8.1**	3.4-12.9	176
Pancreas	**12**	4.4	**8.0**	3.1-12.8	121
Ovary	**10**	3.7	**9.4**	3.5-15.3	76
Thyroid gland	**7**	2.6	**7.9**	1.7-14.2	104
Unknown primary	**6**	2.2	**5.0**	0.8-9.3	194
Lip, gum & mouth	**4**	1.5	**3.9**	0.1-7.8	156
Stomach	**4**	1.5	**2.6**	0 - 5.5	923
Cervix	**4**	1.5	**4.8**	0.1-9.4	253
Bladder & urinary tract	**4**	1.5	**2.8**	0 - 5.8	253
Leukaemia	**4**	1.5	**4.0**	0 - 8.7	436
Leukaemia NOS	**0**				
Lymphoid leukaemia	**2**	0.7	**0.9**	0 - 2.1	*
Myeloid leukaemia	**2**	0.7	**3.1**	0 - 7.6	436
Leukaemia, other	**0**				
Anus	**3**	1.1	**2.5**	0 - 5.4	388
Oesophagus	**2**	0.7	**1.4**	0 - 3.6	585
Liver	**2**	0.7	**1.3**	0 - 3.1	445
Skin (NMSC exc. SCC/BCC)	**2**	0.7	**2.1**	0 - 5.1	566
Connective/ soft tissues	**2**	0.7	**2.1**	0 - 4.9	293
Tongue	**1**	0.4	**1.0**	0 - 2.9	1022
All cancers	**273**	100.0	**237.1**	207-267	4

WA Country - all

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**356**	29.4	**100.7**	90.1-111	8
Melanoma (skin)	**137**	11.3	**41.2**	34.1-48.2	21
Colorectal	**134**	11.1	**37.3**	30.9-43.8	22
Colon	**85**	7.0	**23.6**	18.5-28.7	35
Rectum	**49**	4.1	**13.7**	9.8-17.7	59
Lung	**123**	10.2	**32.7**	26.8-38.6	26
Unknown primary	**45**	3.7	**12.4**	8.7-16.1	67
Kidney	**38**	3.1	**10.7**	7.2-14.2	92
Bladder & urinary tract	**35**	2.9	**9.4**	6.2-12.5	102
Lymphoma	**33**	2.7	**9.6**	6.3-12.9	94
Lymphoma NOS	**1**	0.1	**0.2**	0 - 0.6	*
Hodgkin lymphoma	**4**	0.3	**1.2**	0.0-2.4	919
NHL	**28**	2.3	**8.2**	5.1-11.3	104
Lip, gum & mouth	**31**	2.6	**9.1**	5.8-12.4	101
Pancreas	**31**	2.6	**8.5**	5.4-11.5	111
Leukaemia	**30**	2.5	**9.5**	5.8-13.2	116
Leukaemia NOS	**2**	0.2	**0.5**	0 - 1.3	*
Lymphoid leukaemia	**19**	1.6	**6.2**	3.1-9.3	181
Myeloid leukaemia	**9**	0.7	**2.7**	0.9-4.6	323
Leukaemia, other	**0**				
Brain	**26**	2.2	**7.7**	4.6-10.9	114
Oesophagus	**25**	2.1	**6.6**	4.0-9.3	144
Pharynx	**17**	1.4	**5.1**	2.7-7.6	161
Stomach	**17**	1.4	**4.8**	2.5-7.2	158
Skin (NMSC exc. SCC/BCC)	**17**	1.4	**5.0**	2.5-7.4	219
Liver	**12**	1.0	**3.7**	1.5-6.0	360
Testis	**12**	1.0	**4.6**	1.9-7.3	296
Myelodysplastic diseases	**12**	1.0	**3.3**	1.3-5.2	442
Mesothelioma	**10**	0.8	**3.1**	1.1-5.0	262
Myeloma	**10**	0.8	**2.8**	1.0-4.5	286
All cancers	**1209**	100.0	**345.0**	325-365	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**222**	28.2	**69.7**	60.3-79.1	13
Colorectal	**101**	12.8	**29.0**	23.0-34.9	33
Colon	**65**	8.3	**19.0**	14.1-23.9	52
Rectum	**34**	4.3	**9.3**	6.0-12.6	94
Melanoma (skin)	**78**	9.9	**26.1**	20.1-32.1	37
Lung	**60**	7.6	**18.5**	13.6-23.3	39
Lymphoma	**44**	5.6	**12.5**	8.7-16.3	68
Lymphoma NOS	**0**				
Hodgkin lymphoma	**2**	0.3	**0.7**	0 - 1.6	1176
NHL	**42**	5.3	**11.8**	8.1-15.5	72
Uterus	**33**	4.2	**10.0**	6.4-13.5	83
Unknown primary	**28**	3.6	**8.0**	4.9-11.2	111
Pancreas	**26**	3.3	**6.2**	3.6-8.7	147
Thyroid gland	**24**	3.0	**8.7**	5.1-12.3	107
Leukaemia	**23**	2.9	**7.1**	4.0-10.2	130
Leukaemia NOS	**0**				
Lymphoid leukaemia	**12**	1.5	**3.3**	1.3-5.2	271
Myeloid leukaemia	**11**	1.4	**3.9**	1.4-6.3	249
Leukaemia, other	**0**				
Cervix	**20**	2.5	**7.0**	3.9-10.1	135
Ovary	**20**	2.5	**6.2**	3.4-8.9	126
Stomach	**12**	1.5	**3.8**	1.5-6.1	299
Kidney	**10**	1.3	**2.9**	1.0-4.7	412
Lip, gum & mouth	**8**	1.0	**2.5**	0.7-4.2	312
Bladder & urinary tract	**7**	0.9	**1.9**	0.4-3.3	520
Brain	**7**	0.9	**2.1**	0.5-3.7	451
Gallbladder / bile ducts	**6**	0.8	**1.7**	0.3-3.2	434
Skin (NMSC exc. SCC/BCC)	**6**	0.8	**1.9**	0.3-3.5	514
Vulva	**6**	0.8	**1.9**	0.3-3.5	452
Anus	**5**	0.6	**1.5**	0.1-2.8	602
All cancers	**787**	100.0	**241.7**	224-259	4

Appendix 3D. Cancer incidence, Western Australia, 2007: Leading types by sex and geographic area

North Metro AHS

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**744**	33.5	**119.9**	111-129	7
Colorectal	**270**	12.2	**41.3**	36.3-46.4	21
Colon	**163**	7.3	**24.6**	20.7-28.5	36
Rectum	**107**	4.8	**16.7**	13.5-20.0	50
Melanoma (skin)	**199**	9.0	**33.1**	28.4-37.8	28
Lung	**198**	8.9	**30.4**	26.0-34.8	28
Lymphoma	**69**	3.1	**11.9**	8.9-14.8	90
Lymphoma NOS	**1**	0.0	**0.2**	0 - 0.5	2267
Hodgkin lymphoma	**8**	0.4	**1.3**	0.4-2.3	1070
NHL	**60**	2.7	**10.3**	7.6-13.1	102
Unknown primary	**68**	3.1	**9.8**	7.4-12.2	105
Bladder & urinary tract	**59**	2.7	**8.6**	6.3-10.9	107
Kidney	**54**	2.4	**8.8**	6.4-11.2	114
Leukaemia	**49**	2.2	**8.7**	6.1-11.4	119
Leukaemia NOS	**0**				
Lymphoid leukaemia	**33**	1.5	**6.0**	3.8-8.3	173
Myeloid leukaemia	**16**	0.7	**2.7**	1.3-4.1	378
Leukaemia, other	**0**				
Stomach	**47**	2.1	**6.8**	4.7-8.8	144
Liver	**40**	1.8	**6.5**	4.4-8.7	124
Pancreas	**40**	1.8	**5.8**	4.0-7.7	158
Brain	**40**	1.8	**6.7**	4.5-8.9	184
Testis	**39**	1.8	**8.3**	5.6-11.0	155
Oesophagus	**34**	1.5	**5.2**	3.4-7.0	161
Lip, gum & mouth	**33**	1.5	**5.4**	3.5-7.3	169
Mesothelioma	**29**	1.3	**4.5**	2.8-6.1	167
Myeloma	**26**	1.2	**3.8**	2.3-5.3	232
Larynx	**23**	1.0	**3.9**	2.3-5.5	185
Myelodysplastic diseases	**21**	0.9	**2.5**	1.4-3.6	751
Tongue	**16**	0.7	**2.4**	1.2-3.7	382
All cancers	**2219**	100.0	**355.4**	340-371	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**460**	27.4	**72.4**	65.5-79.2	13
Colorectal	**217**	12.9	**29.4**	25.2-33.6	29
Colon	**164**	9.8	**21.6**	18.0-25.2	40
Rectum	**53**	3.2	**7.8**	5.6-10.0	102
Melanoma (skin)	**173**	10.3	**28.9**	24.4-33.3	32
Lung	**128**	7.6	**16.2**	13.1-19.3	54
Lymphoma	**62**	3.7	**9.8**	7.1-12.5	97
Lymphoma NOS	**0**				
Hodgkin lymphoma	**7**	0.4	**1.4**	0.3-2.5	739
NHL	**55**	3.3	**8.4**	6.0-10.9	111
Uterus	**61**	3.6	**9.1**	6.7-11.5	89
Unknown primary	**53**	3.2	**5.6**	3.9-7.4	176
Leukaemia	**53**	3.2	**9.5**	6.5-12.5	115
Leukaemia NOS	**2**	0.1	**0.1**	0 - 0.3	*
Lymphoid leukaemia	**32**	1.9	**6.5**	3.8-9.2	188
Myeloid leukaemia	**19**	1.1	**2.9**	1.5-4.3	298
Leukaemia, other	**0**				
Ovary	**52**	3.1	**8.3**	5.9-10.7	122
Thyroid gland	**51**	3.0	**9.4**	6.8-12.1	106
Kidney	**37**	2.2	**5.2**	3.4-6.9	163
Pancreas	**33**	2.0	**4.1**	2.6-5.6	217
Cervix	**32**	1.9	**5.6**	3.6-7.7	199
Stomach	**24**	1.4	**2.8**	1.6-4.0	401
Bladder & urinary tract	**24**	1.4	**3.1**	1.7-4.4	308
Myeloma	**23**	1.4	**2.6**	1.4-3.7	390
Brain	**21**	1.3	**4.0**	2.1-5.9	293
Lip, gum & mouth	**15**	0.9	**2.1**	0.9-3.3	433
Gallbladder / bile ducts	**14**	0.8	**1.7**	0.7-2.8	561
Liver	**13**	0.8	**1.3**	0.5-2.1	660
Myelodysplastic diseases	**13**	0.8	**1.7**	0.7-2.7	495
All cancers	**1678**	100.0	**250.5**	238-263	4

South Metro AHS

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**681**	32.2	**115.7**	107-125	7
Colorectal	**250**	11.8	**41.8**	36.4-47.2	21
Colon	**134**	6.3	**21.8**	18.0-25.7	42
Rectum	**114**	5.4	**19.7**	16.0-23.4	43
Melanoma (skin)	**216**	10.2	**39.5**	34.1-44.9	23
Lung	**196**	9.3	**31.3**	26.8-35.9	27
Lymphoma	**62**	2.9	**11.1**	8.2-14.0	83
Lymphoma NOS	**1**	0.0	**0.2**	0 - 0.7	5440
Hodgkin lymphoma	**4**	0.2	**1.1**	0.0-2.2	1391
NHL	**57**	2.7	**9.8**	7.1-12.4	90
Bladder & urinary tract	**61**	2.9	**8.9**	6.6-11.2	93
Stomach	**54**	2.6	**8.9**	6.4-11.3	103
Leukaemia	**54**	2.6	**9.4**	6.7-12.1	107
Leukaemia NOS	**4**	0.2	**0.6**	0 - 1.1	3851
Lymphoid leukaemia	**26**	1.2	**4.8**	2.7-6.9	209
Myeloid leukaemia	**24**	1.1	**4.0**	2.3-5.7	230
Leukaemia, other	**0**				
Kidney	**53**	2.5	**9.8**	7.0-12.6	93
Pancreas	**50**	2.4	**8.6**	6.1-11.0	108
Unknown primary	**44**	2.1	**7.4**	5.1-9.7	99
Lip, gum & mouth	**40**	1.9	**7.4**	5.0-9.7	129
Brain	**35**	1.7	**7.0**	4.6-9.4	135
Oesophagus	**32**	1.5	**5.0**	3.2-6.9	224
Mesothelioma	**28**	1.3	**4.5**	2.8-6.2	181
Testis	**26**	1.2	**6.4**	3.9-9.0	202
Thyroid gland	**26**	1.2	**5.0**	3.0-7.0	193
Liver	**25**	1.2	**4.7**	2.7-6.6	203
Myeloma	**25**	1.2	**4.5**	2.7-6.4	153
Gallbladder / bile ducts	**20**	0.9	**3.4**	1.9-4.9	288
Pharynx	**17**	0.8	**3.1**	1.6-4.6	282
All cancers	**2116**	100.0	**365.3**	349-381	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**437**	28.0	**78.1**	70.5-85.8	12
Colorectal	**213**	13.6	**32.0**	27.3-36.6	27
Colon	**156**	10.0	**22.5**	18.7-26.4	38
Rectum	**57**	3.6	**9.4**	6.8-12.1	92
Lung	**142**	9.1	**20.0**	16.4-23.6	42
Melanoma (skin)	**132**	8.5	**23.3**	19.1-27.5	39
Lymphoma	**73**	4.7	**12.9**	9.7-16.0	71
Lymphoma NOS	**1**	0.1	**0.1**	0 - 0.2	*
Hodgkin lymphoma	**12**	0.8	**3.3**	1.4-5.1	447
NHL	**60**	3.8	**9.5**	7.0-12.1	85
Thyroid gland	**55**	3.5	**11.3**	8.2-14.4	85
Uterus	**54**	3.5	**9.6**	7.0-12.2	82
Pancreas	**52**	3.3	**7.3**	5.1-9.4	103
Unknown primary	**47**	3.0	**5.7**	3.8-7.5	175
Ovary	**38**	2.4	**6.0**	4.0-8.1	143
Stomach	**30**	1.9	**3.9**	2.3-5.4	262
Kidney	**30**	1.9	**6.0**	3.8-8.3	129
Leukaemia	**30**	1.9	**6.4**	3.7-9.1	188
Leukaemia NOS	**1**	0.1	**0.2**	0 - 0.6	5521
Lymphoid leukaemia	**16**	1.0	**4.0**	1.6-6.3	312
Myeloid leukaemia	**13**	0.8	**2.2**	0.9-3.6	516
Leukaemia, other	**0**				
Cervix	**29**	1.9	**5.8**	3.7-8.0	161
Bladder & urinary tract	**25**	1.6	**2.7**	1.5-3.9	388
Brain	**24**	1.5	**3.9**	2.1-5.7	330
Lip, gum & mouth	**20**	1.3	**2.4**	1.2-3.6	403
Myeloma	**15**	1.0	**1.9**	0.8-2.9	584
Gallbladder / bile ducts	**11**	0.7	**1.4**	0.5-2.4	707
Oesophagus	**10**	0.6	**1.1**	0.4-1.9	1144
Vulva	**10**	0.6	**1.5**	0.5-2.5	555
All cancers	**1562**	100.0	**257.4**	244-271	4

Appendix 3D. Cancer incidence, Western Australia, 2007: Leading types by sex and geographic area

WA Metro - all

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**1425**	32.9	**118.1**	112-124	7
Colorectal	**520**	12.0	**41.5**	37.8-45.2	21
Colon	**297**	6.9	**23.2**	20.5-25.9	39
Rectum	**221**	5.1	**18.2**	15.7-20.6	47
Melanoma (skin)	**415**	9.6	**36.1**	32.6-39.7	25
Lung	**394**	9.1	**30.8**	27.6-33.9	28
Lymphoma	**131**	3.0	**11.5**	9.5-13.6	86
Lymphoma NOS	**2**	0.0	**0.2**	0 - 0.5	3274
Hodgkin lymphoma	**12**	0.3	**1.2**	0.5-2.0	1185
NHL	**117**	2.7	**10.1**	8.2-12.0	95
Bladder & urinary tract	**120**	2.8	**8.8**	7.1-10.4	99
Unknown primary	**112**	2.6	**8.6**	7.0-10.3	101
Kidney	**107**	2.5	**9.3**	7.5-11.1	103
Leukaemia	**103**	2.4	**9.1**	7.2-11.0	113
Leukaemia NOS	**4**	0.1	**0.3**	0 - 0.5	8092
Lymphoid leukaemia	**59**	1.4	**5.5**	3.9-7.0	189
Myeloid leukaemia	**40**	0.9	**3.3**	2.3-4.4	288
Leukaemia, other	**0**				
Stomach	**101**	2.3	**7.8**	6.2-9.3	121
Pancreas	**90**	2.1	**7.1**	5.6-8.6	130
Brain	**75**	1.7	**6.8**	5.2-8.5	156
Lip, gum & mouth	**73**	1.7	**6.3**	4.8-7.8	147
Oesophagus	**66**	1.5	**5.1**	3.8-6.4	187
Liver	**65**	1.5	**5.6**	4.2-7.1	154
Testis	**65**	1.5	**7.5**	5.6-9.3	173
Mesothelioma	**57**	1.3	**4.4**	3.3-5.6	174
Myeloma	**51**	1.2	**4.1**	3.0-5.3	186
Thyroid gland	**40**	0.9	**3.8**	2.6-5.0	255
Larynx	**36**	0.8	**3.0**	2.0-4.0	250
Myelodysplastic diseases	**34**	0.8	**2.2**	1.4-3.0	479
All cancers	**4335**	100.0	**360.1**	349-371	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**897**	27.7	**75.0**	69.9-80.1	13
Colorectal	**430**	13.3	**30.6**	27.5-33.8	28
Colon	**320**	9.9	**22.1**	19.5-24.7	39
Rectum	**110**	3.4	**8.6**	6.9-10.3	97
Melanoma (skin)	**305**	9.4	**26.3**	23.2-29.3	35
Lung	**270**	8.3	**18.0**	15.7-20.4	47
Lymphoma	**135**	4.2	**11.3**	9.2-13.3	83
Lymphoma NOS	**1**	0.0	**0.0**	0 - 0.1	*
Hodgkin lymphoma	**19**	0.6	**2.3**	1.2-3.3	572
NHL	**115**	3.5	**9.0**	7.2-10.8	97
Uterus	**115**	3.5	**9.3**	7.5-11.1	86
Thyroid gland	**106**	3.3	**10.3**	8.3-12.3	94
Unknown primary	**100**	3.1	**5.6**	4.4-6.9	176
Ovary	**90**	2.8	**7.2**	5.6-8.9	130
Pancreas	**85**	2.6	**5.6**	4.3-6.9	141
Leukaemia	**83**	2.6	**8.0**	6.0-10.1	142
Leukaemia NOS	**3**	0.1	**0.2**	0 - 0.4	*
Lymphoid leukaemia	**48**	1.5	**5.3**	3.5-7.1	231
Myeloid leukaemia	**32**	1.0	**2.6**	1.6-3.5	377
Leukaemia, other	**0**				
Kidney	**67**	2.1	**5.6**	4.1-7.0	145
Cervix	**61**	1.9	**5.8**	4.3-7.2	178
Stomach	**54**	1.7	**3.3**	2.3-4.2	320
Bladder & urinary tract	**49**	1.5	**2.9**	2.0-3.8	340
Brain	**45**	1.4	**4.0**	2.7-5.3	309
Myeloma	**38**	1.2	**2.2**	1.4-3.0	465
Lip, gum & mouth	**35**	1.1	**2.3**	1.4-3.1	415
Gallbladder / bile ducts	**25**	0.8	**1.6**	0.9-2.3	622
Myelodysplastic diseases	**23**	0.7	**1.4**	0.8-2.1	589
Liver	**21**	0.6	**1.3**	0.7-1.9	545
All cancers	**3240**	100.0	**253.8**	244-263	4

All Western Australia

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**1781**	32.1	**114.1**	109-119	7
Colorectal	**655**	11.8	**40.6**	37.4-43.8	22
Colon	**382**	6.9	**23.3**	20.9-25.7	38
Rectum	**271**	4.9	**17.2**	15.1-19.3	49
Melanoma (skin)	**552**	10.0	**37.3**	34.1-40.5	24
Lung	**517**	9.3	**31.2**	28.4-34.0	27
Lymphoma	**164**	3.0	**11.2**	9.4-12.9	87
Lymphoma NOS	**3**	0.1	**0.2**	0 - 0.4	4249
Hodgkin lymphoma	**16**	0.3	**1.3**	0.6-1.9	1091
NHL	**145**	2.6	**9.7**	8.1-11.4	97
Unknown primary	**157**	2.8	**9.5**	8.0-11.1	90
Bladder & urinary tract	**155**	2.8	**8.9**	7.4-10.4	100
Kidney	**145**	2.6	**9.6**	8.0-11.2	100
Leukaemia	**133**	2.4	**9.2**	7.5-10.9	114
Leukaemia NOS	**6**	0.1	**0.3**	0.1-0.6	*
Lymphoid leukaemia	**78**	1.4	**5.6**	4.2-7.0	187
Myeloid leukaemia	**49**	0.9	**3.2**	2.3-4.1	296
Leukaemia, other	**0**				
Pancreas	**121**	2.2	**7.4**	6.0-8.8	126
Stomach	**118**	2.1	**7.1**	5.8-8.4	128
Lip, gum & mouth	**104**	1.9	**6.9**	5.6-8.3	134
Brain	**101**	1.8	**7.1**	5.6-8.5	144
Oesophagus	**91**	1.6	**5.5**	4.3-6.6	175
Liver	**77**	1.4	**5.2**	3.9-6.4	177
Testis	**77**	1.4	**6.9**	5.3-8.5	190
Mesothelioma	**67**	1.2	**4.2**	3.1-5.2	188
Myeloma	**61**	1.1	**3.8**	2.8-4.8	202
Pharynx	**48**	0.9	**3.3**	2.4-4.3	255
Skin (NMSC exc. SCC/BCC)	**48**	0.9	**2.9**	2.1-3.7	333
Myelodysplastic diseases	**46**	0.8	**2.4**	1.7-3.2	473
All cancers	**5545**	100.0	**356.9**	347-367	3

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**1119**	27.8	**73.8**	69.3-78.3	13
Colorectal	**531**	13.2	**30.3**	27.5-33.0	29
Colon	**385**	9.6	**21.5**	19.2-23.8	41
Rectum	**144**	3.6	**8.7**	7.2-10.2	97
Melanoma (skin)	**383**	9.5	**26.2**	23.5-28.9	36
Lung	**330**	8.2	**18.1**	16.0-20.2	46
Lymphoma	**179**	4.4	**11.5**	9.7-13.3	79
Lymphoma NOS	**1**	0.0	**0.0**	0 - 0.1	*
Hodgkin lymphoma	**21**	0.5	**2.0**	1.1-2.8	635
NHL	**157**	3.9	**9.5**	7.9-11.1	91
Uterus	**148**	3.7	**9.4**	7.8-11.0	85
Thyroid gland	**130**	3.2	**9.9**	8.2-11.7	97
Unknown primary	**128**	3.2	**6.2**	5.0-7.4	156
Pancreas	**111**	2.8	**5.7**	4.5-6.9	143
Ovary	**110**	2.7	**7.0**	5.6-8.4	130
Leukaemia	**106**	2.6	**7.7**	6.0-9.3	141
Leukaemia NOS	**3**	0.1	**0.1**	0 - 0.3	*
Lymphoid leukaemia	**60**	1.5	**4.7**	3.3-6.1	242
Myeloid leukaemia	**43**	1.1	**2.8**	1.9-3.7	343
Leukaemia, other	**0**				
Cervix	**81**	2.0	**6.0**	4.7-7.4	167
Kidney	**77**	1.9	**5.0**	3.8-6.2	168
Stomach	**66**	1.6	**3.4**	2.5-4.3	314
Bladder & urinary tract	**56**	1.4	**2.7**	1.9-3.5	367
Brain	**52**	1.3	**3.5**	2.5-4.6	332
Lip, gum & mouth	**43**	1.1	**2.3**	1.6-3.1	388
Myeloma	**43**	1.1	**2.1**	1.4-2.8	462
Gallbladder / bile ducts	**31**	0.8	**1.6**	1.0-2.3	573
Liver	**26**	0.6	**1.3**	0.7-1.8	589
Myelodysplastic diseases	**26**	0.6	**1.3**	0.7-1.9	674
All cancers	**4027**	100.0	**250.9**	243-259	4

Appendix 3E. Cancer mortality, Western Australia, 2007: Leading types by sex and geographic area

CHS Kimberley Region

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**6**	25.0	**46.1**	9.2-83.0	16
Pharynx	**3**	12.5	**19.7**	0 - 42.3	70
Pancreas	**3**	12.5	**16.3**	0 - 35.0	50
Unknown primary	**3**	12.5	**19.9**	0 - 43.0	41
Tongue	**2**	8.3	**12.9**	0 - 31.3	169
Larynx	**2**	8.3	**9.2**	0 - 21.9	97
Oesophagus	**1**	4.2	**8.1**	0 - 24.0	*
Mesothelioma	**1**	4.2	**4.9**	0 - 14.4	248
Prostate	**1**	4.2	**4.4**	0 - 13.1	226
Lymphoma	**1**	4.2	**8.1**	0 - 24.0	*
Lymphoma NOS	**1**	4.2	**8.1**	0 - 24.0	*
Hodgkin lymphoma	**0**				-
NHL	**0**				-
Leukaemia	**1**	4.2	**7.9**	0 - 23.3	229
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**1**	4.2	**7.9**	0 - 23.3	229
Myeloid leukaemia	**0**				-
All cancer deaths	**24**	100.0	**157.5**	93.4-222	7

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**3**	25.0	**23.7**	0 - 52.3	31
Unknown primary	**2**	16.7	**13.7**	0 - 33.4	67
Tongue	**1**	8.3	**5.6**	0 - 16.5	216
Pancreas	**1**	8.3	**8.7**	0 - 25.7	93
Nasal cavity & sinuses	**1**	8.3	**6.3**	0 - 18.5	129
Lung	**1**	8.3	**5.5**	0 - 16.3	183
Cervix	**1**	8.3	**5.1**	0 - 15.0	238
Lymphoma	**1**	8.3	**11.8**	0 - 34.8	35
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**1**	8.3	**11.8**	0 - 34.8	35
Leukaemia	**1**	8.3	**12.0**	0 - 35.5	51
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**0**				-
Myeloid leukaemia	**1**	8.3	**12.0**	0 - 35.5	51
Leukaemia, other	**0**				-
Colorectal	**0**				-
All cancer deaths	**12**	100.0	**92.3**	37.1-148	8

CHS Pilbara Region

Males

	Cases	%	ASR	95%c.i.	Risk
Colorectal	**2**	15.4	**28.6**	0 - 68.5	*
Colon	**1**	7.7	**11.4**	0 - 33.5	*
Rectum	**1**	7.7	**17.2**	0 - 50.4	*
Lung	**2**	15.4	**8.4**	0 - 20.7	102
Tongue	**1**	7.7	**11.4**	0 - 33.5	*
Stomach	**1**	7.7	**17.2**	0 - 50.4	*
Liver	**1**	7.7	**2.8**	0 - 8.3	428
Pancreas	**1**	7.7	**2.8**	0 - 8.3	358
Nasal cavity & sinuses	**1**	7.7	**11.6**	0 - 34.2	*
Connective/ soft tissues	**1**	7.7	**2.8**	0 - 8.3	428
Brain	**1**	7.7	**2.7**	0 - 8.0	447
Unknown primary	**1**	7.7	**10.1**	0 - 29.9	60
Leukaemia	**1**	7.7	**2.8**	0 - 8.3	428
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**0**				-
Myeloid leukaemia	**1**	7.7	**2.8**	0 - 8.3	428
Leukaemia, other	**0**				-
All cancer deaths	**13**	100.0	**101.3**	35.8-167	26

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**2**	40.0	**8.9**	0 - 21.5	105
Cervix	**1**	20.0	**5.2**	0 - 15.3	155
Ovary	**1**	20.0	**7.5**	0 - 22.1	241
Leukaemia	**1**	20.0	**4.4**	0 - 13.1	227
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**0**				-
Myeloid leukaemia	**1**	20.0	**4.4**	0 - 13.1	227
Leukaemia, other	**0**				-
Colorectal	**0**				-
Colon	**0**				-
Rectum	**0**				-
Lip, gum & mouth	**0**				-
Tongue	**0**				-
Parotid gland	**0**				-
Major salivary glands	**0**				-
Pharynx	**0**				-
Nasopharynx	**0**				-
All cancer deaths	**5**	100.0	**26.0**	2.6-49.5	41

CHS Midwest Region

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**29**	34.1	**54.3**	34.0-74.5	15
Colorectal	**11**	12.9	**22.3**	8.9-35.8	43
Colon	**4**	4.7	**8.2**	0.0-16.3	333
Rectum	**7**	8.2	**14.2**	3.5-24.8	49
Prostate	**6**	7.1	**10.2**	1.9-18.6	100
Oesophagus	**5**	5.9	**10.3**	1.1-19.6	68
Melanoma (skin)	**4**	4.7	**8.7**	0.1-17.2	111
Skin (NMSC inc. SCC/BCC)	**4**	4.7	**6.0**	0.0-12.0	199
Mesothelioma	**3**	3.5	**4.5**	0 - 9.9	275
Brain	**3**	3.5	**6.5**	0 - 13.8	127
Pharynx	**2**	2.4	**4.3**	0 - 10.3	173
Stomach	**2**	2.4	**3.9**	0 - 9.3	136
Liver	**2**	2.4	**3.9**	0 - 9.3	136
Gallbladder / bile ducts	**2**	2.4	**3.7**	0 - 9.1	333
Pancreas	**2**	2.4	**4.0**	0 - 10.0	427
Lymphoma	**2**	2.4	**4.3**	0 - 10.3	187
Lymphoma NOS	**0**				-
All cancer deaths	**85**	100.0	**160.4**	126-195	6

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**13**	28.9	**27.4**	11.9-42.8	32
Colorectal	**5**	11.1	**10.3**	0.8-19.8	67
Colon	**4**	8.9	**9.1**	0 - 18.3	67
Rectum	**1**	2.2	**1.2**	0 - 3.5	*
Breast	**5**	11.1	**11.8**	1.4-22.2	49
Unknown primary	**5**	11.1	**8.9**	0.6-17.2	97
Pancreas	**3**	6.7	**5.0**	0 - 10.8	175
Ovary	**3**	6.7	**7.4**	0 - 16.9	367
Liver	**2**	4.4	**3.5**	0 - 8.6	353
Gallbladder / bile ducts	**1**	2.2	**2.3**	0 - 6.8	175
Bone	**1**	2.2	**2.8**	0 - 8.2	218
Mesothelioma	**1**	2.2	**2.7**	0 - 8.0	297
Peritoneum/retro-p.	**1**	2.2	**1.2**	0 - 3.5	*
Bladder & urinary tract	**1**	2.2	**1.5**	0 - 4.4	*
Brain	**1**	2.2	**2.7**	0 - 8.0	297
Lymphoma	**1**	2.2	**2.7**	0 - 8.0	445
Lymphoma NOS	**0**				-
All cancer deaths	**45**	100.0	**92.6**	64.1-121	10

Appendix 3E. Cancer mortality, Western Australia, 2007: Leading types by sex and geographic area

CHS Wheatbelt Region

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**25**	29.8	**32.8**	19.8-45.9	26
Unknown primary	**11**	13.1	**18.3**	6.2-30.3	48
Colorectal	**7**	8.3	**10.5**	2.6-18.4	81
Colon	**4**	4.8	**5.6**	0.0-11.2	123
Rectum	**3**	3.6	**4.9**	0 - 10.5	235
Pancreas	**4**	4.8	**5.9**	0.1-11.6	234
Prostate	**4**	4.8	**6.0**	0.1-11.8	129
Brain	**4**	4.8	**5.4**	0.0-10.7	127
Skin (NMSC inc. SCC/BCC)	**3**	3.6	**4.0**	0 - 8.6	593
Mesothelioma	**3**	3.6	**4.1**	0 - 8.9	217
Lymphoma	**3**	3.6	**4.5**	0 - 9.6	217
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**3**	3.6	**4.5**	0 - 9.6	217
Myelodysplastic diseases	**3**	3.6	**4.4**	0 - 9.3	179
Lip, gum & mouth	**2**	2.4	**2.6**	0 - 6.4	593
Oesophagus	**2**	2.4	**3.1**	0 - 7.4	191
All cancer deaths	**84**	100.0	**119.1**	92.8-145	8

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**11**	14.9	**13.6**	5.0-22.1	73
Breast	**9**	12.2	**17.2**	4.4-29.9	59
Colorectal	**7**	9.5	**7.0**	1.5-12.6	434
Colon	**4**	5.4	**4.5**	0 - 9.2	434
Rectum	**3**	4.1	**2.6**	0 - 5.6	*
Pancreas	**6**	8.1	**7.9**	1.2-14.6	91
Unknown primary	**6**	8.1	**7.8**	1.2-14.5	165
Lymphoma	**4**	5.4	**4.7**	0 - 9.5	230
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**4**	5.4	**4.7**	0 - 9.5	230
Cervix	**3**	4.1	**5.0**	0 - 11.1	233
Ovary	**3**	4.1	**3.7**	0 - 8.1	434
Brain	**3**	4.1	**3.3**	0 - 7.5	542
Leukaemia	**3**	4.1	**4.1**	0 - 8.8	542
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**2**	2.7	**3.0**	0 - 7.2	542
All cancer deaths	**74**	100.0	**100.5**	75.4-126	11

CHS Goldfields Region

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**8**	22.2	**24.8**	7.4-42.1	39
Colorectal	**5**	13.9	**16.4**	1.9-30.9	45
Colon	**2**	5.6	**5.5**	0 - 13.2	383
Rectum	**3**	8.3	**10.9**	0 - 23.3	50
Prostate	**4**	11.1	**13.7**	0.2-27.2	102
Pancreas	**3**	8.3	**10.5**	0 - 22.5	62
Liver	**2**	5.6	**5.3**	0 - 12.6	207
Pharynx	**1**	2.8	**2.4**	0 - 7.1	335
Oesophagus	**1**	2.8	**3.4**	0 - 10.1	236
Larynx	**1**	2.8	**3.6**	0 - 10.6	169
Melanoma (skin)	**1**	2.8	**3.9**	0 - 11.6	102
Skin (NMSC inc. SCC/BCC)	**1**	2.8	**2.9**	0 - 8.6	*
Testis	**1**	2.8	**4.5**	0 - 13.4	397
Bladder & urinary tract	**1**	2.8	**3.9**	0 - 11.6	*
Brain	**1**	2.8	**2.7**	0 - 7.9	450
Adrenal gland	**1**	2.8	**2.4**	0 - 7.1	335
Unknown primary	**1**	2.8	**2.7**	0 - 7.9	450
All cancer deaths	**36**	100.0	**116.1**	77.7-154	9

Females

	Cases	%	ASR	95%c.i.	Risk
Colorectal	**3**	10.7	**11.1**	0 - 23.8	80
Colon	**3**	10.7	**11.1**	0 - 23.8	80
Rectum	**0**				-
Pancreas	**3**	10.7	**6.1**	0 - 13.1	*
Lung	**3**	10.7	**12.1**	0 - 25.8	41
Melanoma (skin)	**3**	10.7	**10.6**	0 - 22.9	89
Ovary	**3**	10.7	**10.0**	0 - 21.8	85
Unknown primary	**3**	10.7	**12.5**	0 - 26.8	56
Stomach	**2**	7.1	**6.1**	0 - 14.6	246
Breast	**2**	7.1	**6.1**	0 - 14.5	156
Kidney	**2**	7.1	**5.0**	0 - 11.9	*
Leukaemia	**2**	7.1	**7.3**	0 - 17.6	91
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**0**				-
Myeloid leukaemia	**2**	7.1	**7.3**	0 - 17.6	91
Leukaemia, other	**0**				-
Skin (NMSC inc. SCC/BCC)	**1**	3.6	**3.3**	0 - 9.7	246
All cancer deaths	**28**	100.0	**92.2**	56.9-127	10

CHS Great Southern Region

Males

	Cases	%	ASR	95%c.i.	Risk
Prostate	**18**	20.9	**29.4**	15.0-43.8	35
Lung	**14**	16.3	**25.3**	11.5-39.0	28
Colorectal	**10**	11.6	**17.2**	6.3-28.1	60
Colon	**8**	9.3	**12.4**	3.7-21.1	103
Rectum	**2**	2.3	**4.8**	0 - 11.4	145
Stomach	**5**	5.8	**9.1**	0.8-17.5	98
Melanoma (skin)	**5**	5.8	**10.6**	1.1-20.2	87
Unknown primary	**5**	5.8	**6.6**	0.6-12.6	205
Connective/ soft tissues	**3**	3.5	**8.7**	0 - 19.2	206
Bladder & urinary tract	**3**	3.5	**4.9**	0 - 10.9	326
Brain	**3**	3.5	**6.4**	0 - 14.1	194
Leukaemia	**3**	3.5	**4.8**	0 - 10.5	259
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**2**	2.3	**2.5**	0 - 6.0	*
Myeloid leukaemia	**1**	1.2	**2.3**	0 - 6.9	259
Leukaemia, other	**0**				-
Lip, gum & mouth	**2**	2.3	**4.0**	0 - 9.9	434
All cancer deaths	**86**	100.0	**156.3**	122-191	7

Females

	Cases	%	ASR	95%c.i.	Risk
Breast	**8**	14.0	**11.5**	2.4-20.6	90
Lung	**7**	12.3	**13.7**	3.0-24.5	59
Unknown primary	**5**	8.8	**6.7**	0.4-13.0	101
Gallbladder / bile ducts	**4**	7.0	**7.8**	0 - 15.9	82
Cervix	**4**	7.0	**9.0**	0 - 18.8	91
Colorectal	**3**	5.3	**5.6**	0 - 12.3	128
Colon	**2**	3.5	**4.7**	0 - 11.3	128
Rectum	**1**	1.8	**0.8**	0 - 2.5	*
Melanoma (skin)	**3**	5.3	**6.4**	0 - 14.3	174
Uterus	**3**	5.3	**4.7**	0 - 10.4	101
Ovary	**3**	5.3	**4.2**	0 - 9.5	355
Bladder & urinary tract	**3**	5.3	**3.6**	0 - 8.1	202
Lymphoma	**3**	5.3	**5.1**	0 - 11.3	113
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**3**	5.3	**5.1**	0 - 11.3	113
Leukaemia	**3**	5.3	**6.7**	0 - 15.5	122
All cancer deaths	**57**	100.0	**99.2**	70.1-128	9

Appendix 3E. Cancer mortality, Western Australia, 2007: Leading types by sex and geographic area

CHS South West Region

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**36**	21.3	**26.8**	17.7-35.9	33
Prostate	**29**	17.2	**18.8**	11.7-25.8	77
Colorectal	**18**	10.7	**15.6**	7.6-23.6	58
Colon	**10**	5.9	**9.8**	3.0-16.6	101
Rectum	**8**	4.7	**5.8**	1.5-10.0	137
Skin (NMSC inc. SCC/BCC)	**8**	4.7	**5.8**	1.6-10.0	170
Pancreas	**7**	4.1	**5.8**	1.4-10.2	212
Melanoma (skin)	**7**	4.1	**6.3**	1.6-10.9	97
Brain	**7**	4.1	**6.1**	1.4-10.8	134
Lymphoma	**7**	4.1	**6.0**	1.5-10.5	143
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**7**	4.1	**6.0**	1.5-10.5	143
Stomach	**6**	3.6	**5.3**	1.0-9.7	126
Unknown primary	**6**	3.6	**4.6**	0.8-8.4	172
Leukaemia	**6**	3.6	**4.9**	0.9-9.0	142
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**3**	1.8	**2.0**	0 - 4.4	438
Myeloid leukaemia	**3**	1.8	**2.9**	0 - 6.2	210
Leukaemia, other	**0**				-
Oesophagus	**5**	3.0	**3.6**	0.3-6.9	436
Bladder & urinary tract	**5**	3.0	**3.0**	0.3-5.8	438
Myeloma	**5**	3.0	**4.8**	0.5-9.0	183
Larynx	**3**	1.8	**2.5**	0 - 5.4	253
Myelodysplastic diseases	**3**	1.8	**2.3**	0 - 5.1	253
Small intestine	**2**	1.2	**2.0**	0 - 4.7	556
Liver	**2**	1.2	**1.4**	0 - 3.5	806
Pharynx	**1**	0.6	**1.1**	0 - 3.1	1133
Anus	**1**	0.6	**0.7**	0 - 2.0	*
Gallbladder / bile ducts	**1**	0.6	**1.0**	0 - 2.9	806
All cancer deaths	**169**	100.0	**131.4**	111-152	8

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**21**	19.1	**17.7**	9.8-25.6	43
Breast	**19**	17.3	**15.0**	7.8-22.2	56
Colorectal	**14**	12.7	**9.9**	4.4-15.5	96
Colon	**11**	10.0	**6.9**	2.5-11.3	131
Rectum	**3**	2.7	**3.0**	0 - 6.5	351
Pancreas	**9**	8.2	**5.0**	1.5-8.4	296
Stomach	**4**	3.6	**2.6**	0 - 5.5	923
Ovary	**4**	3.6	**3.9**	0.1-7.7	176
Leukaemia	**4**	3.6	**4.5**	0 - 9.6	275
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**1**	0.9	**0.4**	0 - 1.0	*
Myeloid leukaemia	**3**	2.7	**4.2**	0 - 9.2	275
Leukaemia, other	**0**				-
Liver	**3**	2.7	**3.4**	0 - 7.9	280
Brain	**3**	2.7	**2.2**	0 - 4.8	296
Unknown primary	**3**	2.7	**2.6**	0 - 5.7	385
Lymphoma	**3**	2.7	**1.3**	0 - 2.7	*
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**3**	2.7	**1.3**	0 - 2.7	*
Myeloma	**3**	2.7	**1.4**	0 - 3.0	*
Myelodysplastic diseases	**3**	2.7	**1.6**	0 - 3.6	445
Oesophagus	**2**	1.8	**1.4**	0 - 3.7	742
Gallbladder / bile ducts	**2**	1.8	**1.3**	0 - 3.2	445
Melanoma (skin)	**2**	1.8	**2.1**	0 - 4.9	430
Vagina	**2**	1.8	**1.4**	0 - 3.5	585
Bladder & urinary tract	**2**	1.8	**1.4**	0 - 3.5	445
Tongue	**1**	0.9	**0.9**	0 - 2.7	885
Skin (NMSC inc. SCC/BCC)	**1**	0.9	**0.4**	0 - 1.2	*
Peritoneum/retro-p.	**1**	0.9	**0.9**	0 - 2.7	445
All cancer deaths	**110**	100.0	**82.8**	65.8-99.8	11

WA Country - all

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**120**	24.1	**31.8**	26.0-37.6	26
Prostate	**62**	12.5	**15.5**	11.5-19.4	79
Colorectal	**53**	10.7	**14.9**	10.8-19.0	63
Colon	**29**	5.8	**8.1**	5.0-11.1	142
Rectum	**24**	4.8	**6.8**	4.0-9.6	113
Unknown primary	**28**	5.6	**7.9**	4.9-11.0	108
Pancreas	**22**	4.4	**6.3**	3.6-9.0	163
Brain	**19**	3.8	**5.4**	2.9-7.8	161
Melanoma (skin)	**18**	3.6	**5.2**	2.8-7.7	135
Skin (NMSC inc. SCC/BCC)	**17**	3.4	**4.1**	2.1-6.1	340
Stomach	**16**	3.2	**4.4**	2.2-6.5	185
Lymphoma	**16**	3.2	**4.5**	2.3-6.8	186
Lymphoma NOS	**1**	0.2	**0.2**	0 - 0.6	*
Hodgkin lymphoma	**0**				-
NHL	**15**	3.0	**4.3**	2.1-6.5	186
Leukaemia	**15**	3.0	**4.3**	2.0-6.6	249
Leukaemia NOS	**2**	0.4	**0.5**	0 - 1.3	*
Lymphoid leukaemia	**7**	1.4	**1.9**	0.3-3.4	934
Myeloid leukaemia	**6**	1.2	**1.9**	0.4-3.5	340
Leukaemia, other	**0**				-
Oesophagus	**14**	2.8	**3.9**	1.8-6.0	232
Myeloma	**11**	2.2	**3.1**	1.2-4.9	286
Liver	**10**	2.0	**2.9**	1.1-4.7	320
Bladder & urinary tract	**10**	2.0	**2.4**	0.9-3.9	850
Mesothelioma	**9**	1.8	**2.3**	0.8-3.9	432
Pharynx	**8**	1.6	**2.3**	0.7-3.9	372
Larynx	**8**	1.6	**2.2**	0.6-3.7	364
Myelodysplastic diseases	**8**	1.6	**2.4**	0.7-4.2	356
Connective/ soft tissues	**6**	1.2	**1.8**	0.3-3.3	1266
Lip, gum & mouth	**5**	1.0	**1.3**	0.1-2.5	914
All cancer deaths	**497**	100.0	**135.1**	123-147	7

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**56**	16.9	**16.2**	11.7-20.6	50
Breast	**48**	14.5	**13.9**	9.8-18.1	61
Colorectal	**32**	9.7	**8.2**	5.2-11.3	116
Colon	**24**	7.3	**6.4**	3.7-9.2	130
Rectum	**8**	2.4	**1.8**	0.5-3.1	1068
Pancreas	**24**	7.3	**5.2**	3.0-7.4	215
Unknown primary	**24**	7.3	**6.6**	3.8-9.4	134
Ovary	**17**	5.1	**5.1**	2.5-7.8	220
Leukaemia	**14**	4.2	**4.3**	1.9-6.7	226
Leukaemia NOS	**0**				-
Lymphoid leukaemia	**4**	1.2	**0.8**	0 - 1.7	3088
Myeloid leukaemia	**10**	3.0	**3.5**	1.2-5.7	244
Leukaemia, other	**0**				-
Lymphoma	**12**	3.6	**2.9**	1.2-4.7	293
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**0**				-
NHL	**12**	3.6	**2.9**	1.2-4.7	293
Gallbladder / bile ducts	**9**	2.7	**2.4**	0.7-4.1	278
Cervix	**9**	2.7	**2.7**	0.9-4.5	339
Bladder & urinary tract	**9**	2.7	**2.1**	0.6-3.6	466
Stomach	**8**	2.4	**2.1**	0.6-3.6	766
Liver	**8**	2.4	**2.4**	0.6-4.2	405
Melanoma (skin)	**8**	2.4	**2.6**	0.8-4.5	379
Brain	**8**	2.4	**2.3**	0.6-4.1	434
Uterus	**5**	1.5	**1.3**	0.1-2.4	488
Myeloma	**5**	1.5	**1.3**	0.1-2.4	688
Myelodysplastic diseases	**5**	1.5	**0.9**	0.0-1.8	1195
Oesophagus	**4**	1.2	**1.0**	0 - 2.1	764
Kidney	**4**	1.2	**1.0**	0 - 2.1	1005
Myeloprolif. d/o (chronic)	**4**	1.2	**0.8**	0 - 1.7	1195
All cancer deaths	**331**	100.0	**89.9**	79.6-100	11

Appendix 3E. Cancer mortality, Western Australia, 2007: Leading types by sex and geographic area

North Metro AHS

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**151**	19.8	**22.1**	18.5-25.8	40
Colorectal	**89**	11.6	**12.7**	9.9-15.4	81
Colon	**52**	6.8	**7.4**	5.3-9.5	124
Rectum	**37**	4.8	**5.2**	3.5-7.0	229
Prostate	**61**	8.0	**8.0**	5.9-10.1	123
Unknown primary	**44**	5.8	**5.9**	4.1-7.7	183
Melanoma (skin)	**42**	5.5	**6.5**	4.5-8.5	140
Pancreas	**39**	5.1	**5.8**	3.9-7.6	155
Stomach	**35**	4.6	**4.9**	3.2-6.6	223
Liver	**29**	3.8	**4.2**	2.6-5.7	228
Mesothelioma	**28**	3.7	**4.0**	2.5-5.6	260
Bladder & urinary tract	**28**	3.7	**3.8**	2.3-5.2	357
Leukaemia	**27**	3.5	**4.1**	2.5-5.7	234
Leukaemia NOS	**1**	0.1	**0.1**	0 - 0.4	*
Lymphoid leukaemia	**14**	1.8	**2.1**	1.0-3.2	381
Myeloid leukaemia	**12**	1.6	**1.8**	0.7-3.0	604
Leukaemia, other	**0**				-
Lymphoma	**24**	3.1	**3.2**	1.9-4.5	452
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**1**	0.1	**0.1**	0 - 0.3	*
NHL	**23**	3.0	**3.1**	1.8-4.4	452
Brain	**22**	2.9	**3.4**	1.9-4.9	299
Myeloma	**21**	2.7	**3.0**	1.7-4.4	256
Skin (NMSC inc. SCC/BCC)	**20**	2.6	**3.0**	1.7-4.4	341
Oesophagus	**19**	2.5	**2.9**	1.6-4.2	376
Kidney	**17**	2.2	**2.3**	1.2-3.5	578
Myelodysplastic diseases	**11**	1.4	**1.2**	0.5-1.9	1134
Gallbladder / bile ducts	**8**	1.0	**1.0**	0.3-1.7	1588
Myeloprolif. d/o (chronic)	**8**	1.0	**1.3**	0.4-2.3	621
Pharynx	**7**	0.9	**1.1**	0.3-2.0	658
All cancer deaths	**764**	100.0	**110.1**	102-118	9

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**117**	18.3	**14.0**	11.2-16.8	66
Breast	**103**	16.1	**14.2**	11.2-17.1	59
Colorectal	**64**	10.0	**7.1**	5.1-9.0	137
Colon	**43**	6.7	**4.5**	3.0-6.1	232
Rectum	**21**	3.3	**2.5**	1.3-3.7	337
Pancreas	**41**	6.4	**5.0**	3.3-6.7	158
Ovary	**38**	5.9	**5.2**	3.4-7.0	175
Unknown primary	**36**	5.6	**3.4**	2.1-4.7	440
Lymphoma	**29**	4.5	**3.5**	2.1-4.9	267
Lymphoma NOS	**1**	0.2	**0.1**	0 - 0.3	*
Hodgkin lymphoma	**1**	0.2	**0.2**	0 - 0.6	6105
NHL	**27**	4.2	**3.2**	1.8-4.5	279
Brain	**24**	3.8	**3.7**	2.1-5.3	253
Leukaemia	**19**	3.0	**2.6**	1.2-4.1	350
Leukaemia NOS	**3**	0.5	**0.2**	0 - 0.4	*
Lymphoid leukaemia	**8**	1.3	**1.6**	0.3-2.8	678
Myeloid leukaemia	**8**	1.3	**0.9**	0.2-1.6	724
Leukaemia, other	**0**				-
Stomach	**14**	2.2	**1.5**	0.7-2.4	707
Melanoma (skin)	**14**	2.2	**1.6**	0.7-2.6	720
Liver	**13**	2.0	**1.4**	0.6-2.3	697
Myeloma	**12**	1.9	**1.3**	0.5-2.1	761
Gallbladder / bile ducts	**11**	1.7	**1.2**	0.4-2.0	756
Myelodysplastic diseases	**11**	1.7	**1.1**	0.4-1.8	872
Kidney	**10**	1.6	**1.2**	0.4-2.1	700
Uterus	**9**	1.4	**1.0**	0.3-1.7	1129
Cervix	**8**	1.3	**1.2**	0.3-2.1	902
Bladder & urinary tract	**8**	1.3	**0.7**	0.2-1.3	2052
Oesophagus	**6**	0.9	**0.7**	0.1-1.4	964
Skin (NMSC inc. SCC/BCC)	**6**	0.9	**0.6**	0.0-1.2	2073
All cancer deaths	**640**	100.0	**78.5**	71.7-85.2	12

South Metro AHS

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**173**	21.6	**27.7**	23.4-32.0	30
Colorectal	**95**	11.9	**14.5**	11.5-17.6	72
Colon	**56**	7.0	**8.5**	6.2-10.8	124
Rectum	**39**	4.9	**6.0**	4.0-8.0	173
Prostate	**95**	11.9	**12.9**	10.2-15.6	98
Pancreas	**45**	5.6	**7.8**	5.5-10.2	111
Stomach	**39**	4.9	**6.5**	4.4-8.7	139
Mesothelioma	**34**	4.2	**5.5**	3.6-7.5	152
Melanoma (skin)	**32**	4.0	**4.7**	3.0-6.4	244
Oesophagus	**28**	3.5	**4.6**	2.9-6.4	173
Bladder & urinary tract	**28**	3.5	**3.3**	2.0-4.6	704
Brain	**28**	3.5	**4.8**	3.0-6.7	178
Unknown primary	**28**	3.5	**4.5**	2.8-6.2	158
Leukaemia	**27**	3.4	**5.4**	3.1-7.7	235
Leukaemia NOS	**2**	0.2	**0.2**	0 - 0.5	*
Lymphoid leukaemia	**9**	1.1	**2.4**	0.7-4.2	888
Myeloid leukaemia	**16**	2.0	**2.8**	1.3-4.2	319
Leukaemia, other	**0**				-
Lymphoma	**23**	2.9	**3.8**	2.2-5.5	182
Lymphoma NOS	**1**	0.1	**0.1**	0 - 0.2	*
Hodgkin lymphoma	**1**	0.1	**0.2**	0 - 0.7	5440
NHL	**21**	2.6	**3.5**	2.0-5.1	188
Liver	**17**	2.1	**2.9**	1.5-4.4	219
Myeloma	**17**	2.1	**2.4**	1.2-3.6	508
Kidney	**13**	1.6	**2.3**	1.0-3.6	396
Skin (NMSC inc. SCC/BCC)	**12**	1.5	**1.8**	0.8-2.9	427
Tongue	**8**	1.0	**1.3**	0.4-2.2	707
Pharynx	**8**	1.0	**1.5**	0.4-2.5	481
Myelodysplastic diseases	**8**	1.0	**1.1**	0.3-2.0	1012
Gallbladder / bile ducts	**7**	0.9	**1.1**	0.3-2.0	853
All cancer deaths	**801**	100.0	**126.7**	118-136	8

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**121**	18.3	**15.6**	12.5-18.7	56
Breast	**105**	15.9	**15.4**	12.2-18.6	61
Colorectal	**85**	12.8	**10.9**	8.3-13.5	77
Colon	**65**	9.8	**8.1**	5.9-10.3	103
Rectum	**20**	3.0	**2.8**	1.4-4.1	311
Unknown primary	**39**	5.9	**4.9**	3.1-6.6	224
Ovary	**33**	5.0	**4.4**	2.8-6.0	206
Pancreas	**32**	4.8	**4.2**	2.6-5.9	172
Brain	**31**	4.7	**5.3**	3.2-7.5	184
Lymphoma	**22**	3.3	**2.6**	1.4-3.8	468
Lymphoma NOS	**0**				-
Hodgkin lymphoma	**1**	0.2	**0.1**	0 - 0.2	*
NHL	**21**	3.2	**2.5**	1.3-3.7	468
Stomach	**19**	2.9	**2.5**	1.2-3.7	434
Uterus	**18**	2.7	**2.4**	1.2-3.6	312
Bladder & urinary tract	**18**	2.7	**1.9**	0.9-2.9	458
Melanoma (skin)	**15**	2.3	**2.2**	1.0-3.4	396
Gallbladder / bile ducts	**14**	2.1	**1.9**	0.8-3.0	376
Leukaemia	**13**	2.0	**1.8**	0.7-2.9	533
Leukaemia NOS	**1**	0.2	**0.2**	0 - 0.6	5521
Lymphoid leukaemia	**3**	0.5	**0.3**	0 - 0.8	2959
Myeloid leukaemia	**9**	1.4	**1.3**	0.3-2.2	737
Leukaemia, other	**0**				-
Oesophagus	**11**	1.7	**1.1**	0.4-1.8	1219
Skin (NMSC inc. SCC/BCC)	**10**	1.5	**0.8**	0.2-1.4	5469
Cervix	**7**	1.1	**1.2**	0.2-2.1	1037
Mesothelioma	**6**	0.9	**0.9**	0.1-1.6	698
Myeloprolif. d/o (chronic)	**6**	0.9	**0.7**	0.1-1.3	1468
Small intestine	**5**	0.8	**0.7**	0.0-1.3	1036
Kidney	**5**	0.8	**0.9**	0.1-1.7	878
All cancer deaths	**662**	100.0	**88.2**	80.7-95.7	11

Appendix 3E. Cancer mortality, Western Australia, 2007: Leading types by sex and geographic area

WA Metro - all

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**324**	20.7	**24.8**	22.0-27.6	35
Colorectal	**184**	11.8	**13.6**	11.5-15.6	76
Colon	**108**	6.9	**7.9**	6.4-9.5	124
Rectum	**76**	4.9	**5.6**	4.3-7.0	198
Prostate	**156**	10.0	**10.4**	8.7-12.1	109
Pancreas	**84**	5.4	**6.7**	5.2-8.2	131
Stomach	**74**	4.7	**5.7**	4.3-7.0	173
Melanoma (skin)	**74**	4.7	**5.6**	4.3-7.0	176
Unknown primary	**72**	4.6	**5.2**	4.0-6.5	169
Mesothelioma	**62**	4.0	**4.8**	3.5-6.0	193
Bladder & urinary tract	**56**	3.6	**3.6**	2.6-4.6	467
Leukaemia	**54**	3.5	**4.7**	3.3-6.0	235
Leukaemia NOS	**3**	0.2	**0.2**	0 - 0.4	*
Lymphoid leukaemia	**23**	1.5	**2.2**	1.2-3.2	534
Myeloid leukaemia	**28**	1.8	**2.3**	1.4-3.2	420
Leukaemia, other	**0**				-
Brain	**50**	3.2	**4.1**	2.9-5.3	225
Oesophagus	**47**	3.0	**3.7**	2.6-4.8	238
Lymphoma	**47**	3.0	**3.5**	2.5-4.5	261
Lymphoma NOS	**1**	0.1	**0.0**	0 - 0.1	*
Hodgkin lymphoma	**2**	0.1	**0.2**	0 - 0.4	*
NHL	**44**	2.8	**3.3**	2.3-4.3	266
Liver	**46**	2.9	**3.6**	2.5-4.6	223
Myeloma	**38**	2.4	**2.7**	1.8-3.6	338
Skin (NMSC inc. SCC/BCC)	**32**	2.0	**2.5**	1.6-3.3	377
Kidney	**30**	1.9	**2.3**	1.4-3.1	475
Myelodysplastic diseases	**19**	1.2	**1.2**	0.6-1.7	1080
Pharynx	**15**	1.0	**1.3**	0.6-2.0	561
Gallbladder / bile ducts	**15**	1.0	**1.1**	0.5-1.6	1126
Lip, gum & mouth	**11**	0.7	**0.9**	0.3-1.4	1090
All cancer deaths	**1565**	100.0	**118.0**	112-124	9

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**238**	18.3	**14.8**	12.7-16.8	61
Breast	**208**	16.0	**14.7**	12.6-16.9	60
Colorectal	**149**	11.4	**9.0**	7.3-10.6	100
Colon	**108**	8.3	**6.3**	5.0-7.6	144
Rectum	**41**	3.1	**2.7**	1.8-3.6	324
Unknown primary	**75**	5.8	**4.1**	3.0-5.2	300
Pancreas	**73**	5.6	**4.6**	3.5-5.8	164
Ovary	**71**	5.5	**4.8**	3.6-6.1	188
Brain	**55**	4.2	**4.5**	3.2-5.8	215
Lymphoma	**51**	3.9	**3.0**	2.1-4.0	337
Lymphoma NOS	**1**	0.1	**0.0**	0 - 0.1	*
Hodgkin lymphoma	**2**	0.2	**0.1**	0 - 0.4	*
NHL	**48**	3.7	**2.9**	2.0-3.7	348
Stomach	**33**	2.5	**2.0**	1.2-2.7	547
Leukaemia	**32**	2.5	**2.2**	1.3-3.1	422
Leukaemia NOS	**4**	0.3	**0.2**	0 - 0.4	*
Lymphoid leukaemia	**11**	0.8	**1.0**	0.3-1.7	1073
Myeloid leukaemia	**17**	1.3	**1.1**	0.5-1.6	738
Leukaemia, other	**0**				-
Melanoma (skin)	**29**	2.2	**1.9**	1.1-2.6	516
Uterus	**27**	2.1	**1.7**	1.0-2.3	499
Bladder & urinary tract	**26**	2.0	**1.3**	0.7-1.9	758
Gallbladder / bile ducts	**25**	1.9	**1.6**	0.9-2.2	506
Oesophagus	**17**	1.3	**0.9**	0.4-1.4	1081
Myeloma	**17**	1.3	**0.8**	0.4-1.3	1463
Liver	**16**	1.2	**1.0**	0.5-1.6	804
Skin (NMSC inc. SCC/BCC)	**16**	1.2	**0.7**	0.3-1.1	2978
Myelodysplastic diseases	**16**	1.2	**0.8**	0.3-1.2	1255
Cervix	**15**	1.2	**1.2**	0.6-1.8	966
Kidney	**15**	1.2	**1.1**	0.5-1.7	777
All cancer deaths	**1302**	100.0	**83.1**	78.1-88.1	12

All Western Australia

Males

	Cases	%	ASR	95%c.i.	Risk
Lung	**445**	21.6	**26.4**	23.9-29.0	32
Colorectal	**237**	11.5	**13.8**	12.0-15.7	73
Colon	**137**	6.6	**7.9**	6.6-9.3	128
Rectum	**100**	4.8	**5.9**	4.7-7.1	169
Prostate	**218**	10.6	**11.5**	9.9-13.1	100
Pancreas	**106**	5.1	**6.6**	5.3-7.9	137
Unknown primary	**100**	4.8	**5.8**	4.6-7.0	150
Melanoma (skin)	**92**	4.5	**5.6**	4.4-6.8	164
Stomach	**91**	4.4	**5.4**	4.3-6.6	176
Mesothelioma	**71**	3.4	**4.2**	3.2-5.2	221
Brain	**69**	3.3	**4.4**	3.3-5.5	206
Leukaemia	**69**	3.3	**4.6**	3.4-5.8	239
Leukaemia NOS	**5**	0.2	**0.2**	0.0-0.5	*
Lymphoid leukaemia	**30**	1.5	**2.1**	1.3-2.9	596
Myeloid leukaemia	**34**	1.6	**2.2**	1.5-3.0	398
Leukaemia, other	**0**				-
Bladder & urinary tract	**66**	3.2	**3.3**	2.5-4.1	523
Lymphoma	**63**	3.1	**3.8**	2.8-4.7	238
Lymphoma NOS	**2**	0.1	**0.1**	0 - 0.2	*
Hodgkin lymphoma	**2**	0.1	**0.1**	0 - 0.3	*
NHL	**59**	2.9	**3.6**	2.6-4.5	242
Oesophagus	**61**	3.0	**3.8**	2.8-4.7	237
Liver	**56**	2.7	**3.4**	2.5-4.3	239
Skin (NMSC inc. SCC/BCC)	**49**	2.4	**2.8**	2.0-3.6	368
Myeloma	**49**	2.4	**2.8**	2.0-3.6	324
Kidney	**32**	1.6	**1.9**	1.2-2.6	576
Myelodysplastic diseases	**27**	1.3	**1.4**	0.9-2.0	741
Pharynx	**23**	1.1	**1.5**	0.9-2.2	498
Gallbladder / bile ducts	**20**	1.0	**1.1**	0.6-1.7	957
Larynx	**18**	0.9	**1.1**	0.6-1.6	714
All cancer deaths	**2064**	100.0	**121.9**	116-127	8

Females

	Cases	%	ASR	95%c.i.	Risk
Lung	**294**	18.0	**15.1**	13.2-17.0	58
Breast	**256**	15.7	**14.6**	12.7-16.5	61
Colorectal	**181**	11.1	**8.8**	7.4-10.2	103
Colon	**132**	8.1	**6.3**	5.1-7.5	141
Rectum	**49**	3.0	**2.5**	1.7-3.2	377
Unknown primary	**99**	6.1	**4.6**	3.6-5.7	238
Pancreas	**97**	5.9	**4.7**	3.7-5.7	173
Ovary	**88**	5.4	**4.9**	3.8-6.0	194
Brain	**63**	3.9	**4.0**	2.9-5.1	240
Lymphoma	**63**	3.9	**3.0**	2.2-3.8	330
Lymphoma NOS	**1**	0.1	**0.0**	0 - 0.1	*
Hodgkin lymphoma	**2**	0.1	**0.1**	0 - 0.3	*
NHL	**60**	3.7	**2.8**	2.1-3.6	338
Leukaemia	**46**	2.8	**2.6**	1.8-3.5	359
Leukaemia NOS	**4**	0.2	**0.2**	0 - 0.3	*
Lymphoid leukaemia	**15**	0.9	**0.9**	0.4-1.5	1239
Myeloid leukaemia	**27**	1.7	**1.5**	0.9-2.2	522
Leukaemia, other	**0**				-
Stomach	**41**	2.5	**2.0**	1.3-2.7	578
Melanoma (skin)	**37**	2.3	**2.1**	1.3-2.8	474
Bladder & urinary tract	**35**	2.1	**1.5**	0.9-2.0	676
Gallbladder / bile ducts	**34**	2.1	**1.7**	1.1-2.3	436
Uterus	**32**	2.0	**1.6**	1.0-2.2	499
Liver	**24**	1.5	**1.3**	0.7-1.9	670
Cervix	**24**	1.5	**1.5**	0.9-2.1	700
Myeloma	**22**	1.3	**0.9**	0.5-1.4	1197
Oesophagus	**21**	1.3	**0.9**	0.5-1.4	998
Myelodysplastic diseases	**21**	1.3	**0.8**	0.4-1.2	1252
Skin (NMSC inc. SCC/BCC)	**19**	1.2	**0.7**	0.3-1.0	2918
Kidney	**19**	1.2	**1.1**	0.5-1.6	814
All cancer deaths	**1633**	100.0	**84.4**	79.9-88.9	11

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