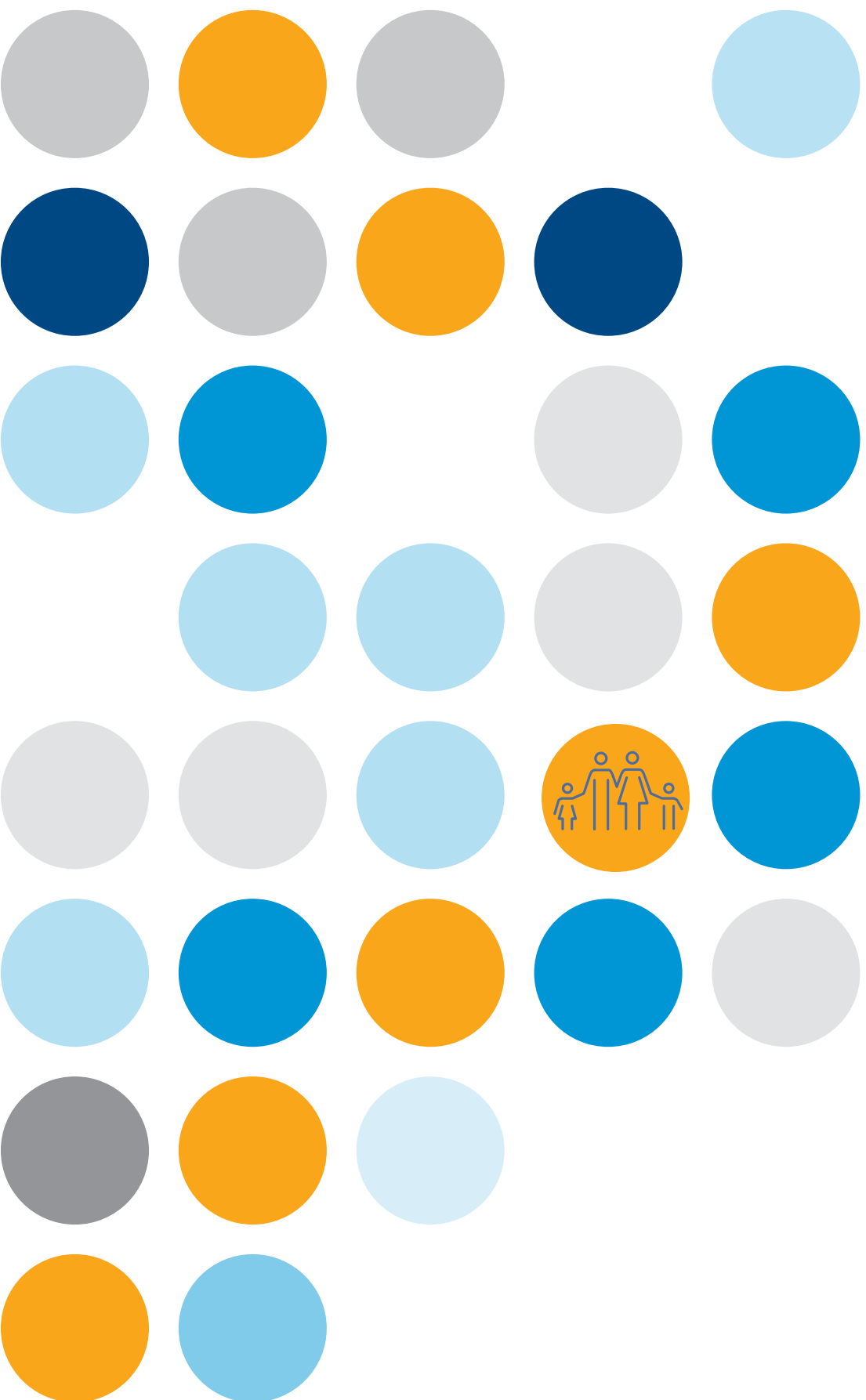


CANCER IN VICTORIA STATISTICS & TRENDS 2013



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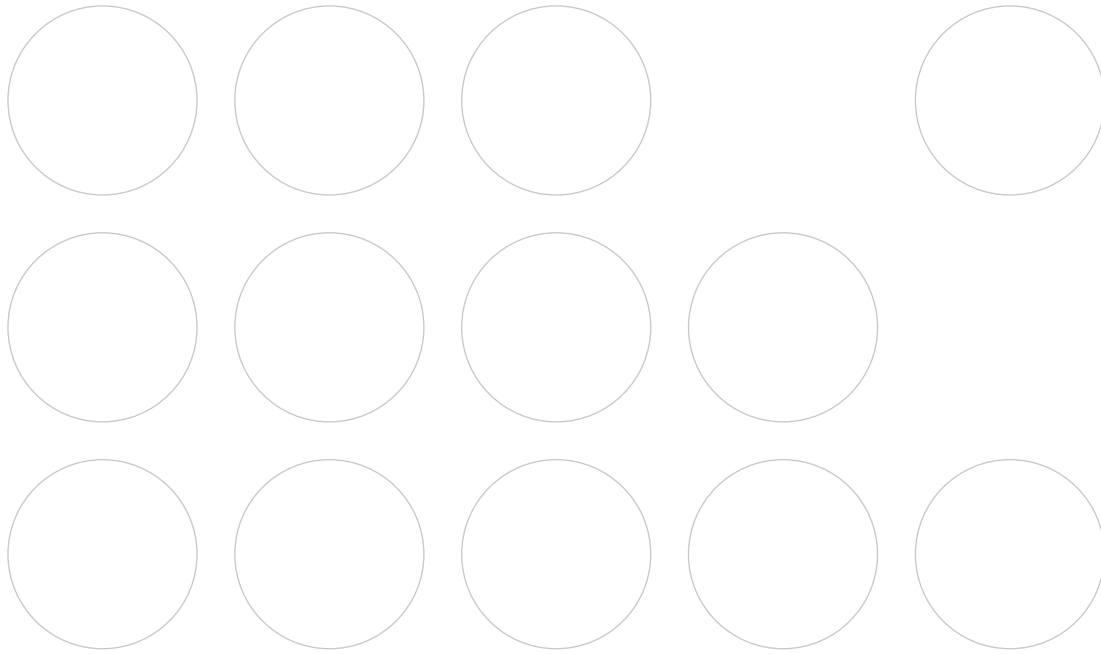
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Cancer in Victoria

Statistics & trends 2013

This report is a compilation of the latest available Victorian cancer statistics.

Included in the report are detailed tables on cancer incidence, mortality and survival, and projections of incidence and mortality to 2028.

The early pages of the report include a brief overview of cancer in Victoria in 2013, and a selection of easily interpretable graphs which may be copied into your own reports and presentations.

This information is published in electronic and hard copy form every 12 months.

The Victorian Cancer Registry (VCR) plays a vital role in providing cancer data, trends and analysis to stakeholders and the Victorian community.

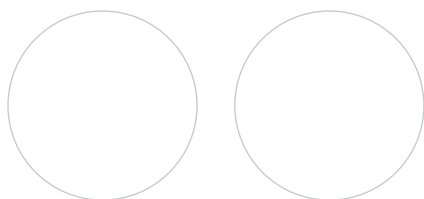


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Message from the Director



I am delighted to present [Cancer In Victoria: Statistics & trends 2013](#), a report of statewide cancer statistics for 2013, compiled by the Victorian Cancer Registry.

This report includes cancer incidence and mortality data for 1982- 2013, along with survival estimates for 2012 and projections to 2028. It also includes cancer statistics for Aboriginal and Torres Strait Islander Victorians for the five-year period 2009-2013, and a more detailed analysis of breast cancer including, for the first time, information on stage at diagnosis and tumours detected through the BreastScreen mammographic screening program.

Our ability to make available incidence and mortality statistics for a calendar year, within 12 months of its completion, makes our data among the most current in the world.

I would like to thank each notifying hospital, pathology laboratory and prescribed register for their contributions, without which the registry would not exist. I am also grateful to the Registrar of Births, Deaths and Marriages for continued and valuable assistance.

I would also like to acknowledge the additional contribution of pathology laboratories participating in the E-Path Reporter implementation project aimed to automate and streamline the cancer reporting process. This project is funded by the Victorian Department of Health and Cancer Council Victoria. E-Path Reporter accurately identifies eligible reports for cancer reporting and securely transmits these reports in electronic format to the Victorian Cancer Registry. E-Path Reporter will further increase operational efficiency within the registry and contribute to improving completeness, accuracy and timeliness of cancer notifications in Victoria.

Victorian Cancer Registry staff are also to be praised for their patience, hard work and diligence in ensuring the quality of the data, upon which these reports are based.

More than thirty years of cancer incidence and mortality data are held by the Victorian Cancer Registry. This is a valuable resource for cancer control activities. We aim to make these data and statistics accessible in a variety of formats to suit all of our audiences. In addition to our regular publications, data can be obtained from our online service or more detailed customised data are available on request. Each year, over 400 ad hoc requests for Victorian Cancer Registry data are serviced to facilitate research. I am happy to discuss your data requirements with you and encourage you to contact the registry with any questions or requests.

A handwritten signature in black ink that reads "Helen Farrugia".

Helen Farrugia
Director, Victorian Cancer Registry

Key Messages

Incidence

Cancer is a leading cause of disease burden in Victoria with an average of 81 new diagnoses every day. In 2013, 29,738 Victorians were diagnosed with cancer.

Since 1982, cancer incidence rates have steadily increased (annual increases of 0.8% for men and 0.6% for women), though falling prostate cancer rates have resulted in recent decreases in male incidence.

Mortality

There are 30 deaths from cancer in Victoria every day. In 2013, 11,009 people died from cancer.

Death rates have declined steadily since 1982 (falls of 1.4% per year for males and 1.1% for females). This reflects earlier detection of cancers through screening, falling tobacco use, especially by males, and improvements in treatment.

In 2013, cancer deaths in Victoria resulted in the premature loss of nearly 62,000 years of life. This is more than four times the loss resulting from other major causes of death.

Most common cancers

The five most common cancers in Victoria are prostate, breast, bowel, lung and melanoma, together accounting for almost 60% of all new cancers and half of all cancer deaths.

Survival

During the period 1988-2012, five-year survival increased from 48% to 67%. Between the last two five-year periods, survival improved from 62% to 67%.

Projections

It is estimated that by 2024-2028 the annual incidence of cancer will reach over 41,000, an increase of 43% from 2009-2013. During the same period, deaths from cancer will increase to over 14,000 per year. Although actual numbers of new cases and deaths are increasing rapidly, this is largely due to the growth and ageing of the Victorian population.

Specific findings:

Prostate cancer remains the most common new cancer for Victorian men with 4,257 new diagnoses in 2013 (27% of all cancers).

Prostate cancer incidence continues its rapid decline. Since the peak in 2009, the rate has decreased by 25%, and is falling in men across all ages. This trend reflects reductions in PSA screening.

Lung cancer in women Both incidence and mortality rates for lung cancer in Victorian women appear to have reached a plateau. After steady increases across several decades, rates have been stable since 2006. This suggests a similar pattern to trends in male lung cancer where rapid decreases in mortality rates followed a peak in the early 1980s, 40 years after smoking prevalence peaked.

We are yet to see female lung cancer rates declining but with the peak of smoking prevalence in the early 1980s, this may follow the observed plateau.

Uterus cancer rates are increasing by 1% per year. Though this cancer occurs predominantly in women aged over 50 (90% of diagnoses), incidence rates are increasing more steeply in younger women. The obesity epidemic is thought to be a major factor in this increase.

Cancer mortality in Victorian Aboriginal and Torres Strait Islander peoples

Mortality rates were significantly higher for Aboriginal than for non-Aboriginal Victorians for both men and women. The higher mortality rates may be associated with diagnoses occurring at more advanced disease stage, and may reflect problems around timely access to treatment and insufficient participation in cancer screening services.

Breast Cancer special feature

Breast cancer is the most common new cancer for Victorian women with almost 4,075 diagnoses in 2013 (almost 30% of all cancers).

The mortality rate for breast cancer in Victorian women decreased by 2.5% per year over the past twenty years, with falls being seen across all age groups. This trend reflects advances in treatment, the success of the BreastScreen mammographic screening program and increased awareness and surveillance for women at high risk due to genetic factors.

Staging data for 2006-2013 show that nearly 80% of women are diagnosed with early disease (44% Stage 1 and 34% Stage 2). Stage 4 disease makes up 4% of all tumours with 6% being unstaged (with the majority of these occurring in women aged over 80 years and having no surgical treatment).

Two thirds of in situ carcinoma and 45% of invasive breast cancers, diagnosed in women in the screening age group (50-69 years), are detected through the BreastScreen program. These tumours tend to be smaller, have less nodal disease and be of earlier stage than those detected outside the program.

Demography

This section describes the people of Victoria - where they live, where they were born, and selected vital statistics. This provides some background context to the information about the cancer experience of Victorians which is covered in the rest of this report.

Population

In 2013, the population of Victoria was 5,737,615 persons making it the second most populous state of Australia. One in four Australians live in Victoria, with nearly three-quarters of these resident in metropolitan Melbourne. Most of the remainder live in small provincial cities with only 0.1% in remote areas.

At the 2011 census, the number of Aboriginal and/or Torres Strait Islander Victorians was 37,990 persons, making up 0.7% of the Victorian population and 7% of the national Aboriginal and Torres Strait Islander population.

Victoria has an area of 227,420 km² and makes up less than 3% of the Australian continent (Figure 1). It is the most densely populated state with an average population density of 24 persons per km² (compared with the Australian density of 2.9 persons per km²).

Age and sex

The age-sex distribution of the Victorian population is illustrated in Figure 2. The state's population distribution is as expected for a community in late demographic transition, having a declining birth rate and a steadily ageing population.

In 2013, 18% of Victorians were aged under 15 years and 15% over 65 years. By 2021, these proportions are expected to be 16% aged less than 15 years and 19% over 65 years.

Ethnicity

At the 2011 census, 24% of the Victorian population (1,304,701 persons) was described as overseas born. Of these, 41% were from Asia (India 9%, China 7%, Vietnam 5%, Sri Lanka 3%, Malaysia 3%), 18% from Southern Europe (Italy 6%, Greece 4%), 17% from Great Britain, 10% from the rest of Europe and the former USSR, 7% from the Middle East and smaller proportions from South and North America, Africa and Oceania.

Vital statistics*

The birth rate has been steadily declining since the early 1970s. In 2012, the crude rate was 13.8 births per 1,000 persons, the highest rate in the last decade.

In 2012, life expectancy at birth was 80.5 years for males and 84.5 years for females. Over the last decade, life expectancy has increased by 3 years for males and 2 years for females.

There were 35,760 deaths of Victorian residents in 2012. The number of male deaths (18,117) were slightly greater than female deaths (17,643).

Between 2001 and 2012, the median age at death for Victorian males increased from 76.1 to 79.9 years, and for Victorian females from 82.1 to 85.3 years.

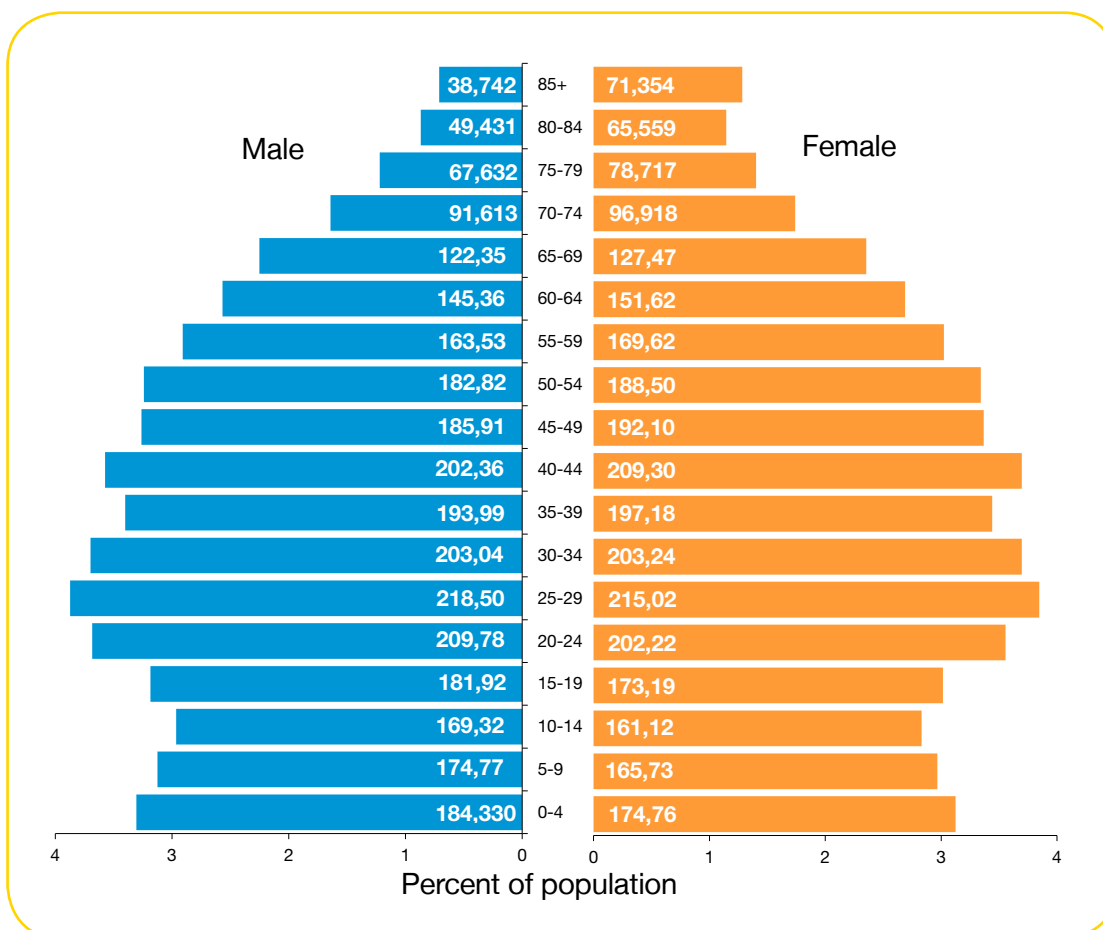
Cancer caused 29% of all deaths; ischaemic heart disease 13%, cerebrovascular disease 7%, chronic lower respiratory disease 3%, diabetes 3%, suicide 1% and transport accidents 1%.

*All figures from the Australian Bureau of Statistics. 2013 figures not available at time of publication.

Figure 1 Map of Victoria



Figure 2 Percent of population (and numbers of persons) by sex and age, Victoria 2013



Source: Australian Bureau of Statistics. Population by age and sex: Australian States and Territories. (Cat. No. 3201.0)

Incidence and mortality overview

In 2013, 29,738 Victorians were diagnosed with cancer, and 11,009 died from cancer.

Cancer statistics for Aboriginal and Torres Strait Islander Victorians are presented on pages 24-25.

During 2009-2013, an average of 106 Aboriginal and/or Torres Strait Islander Victorians were diagnosed with cancer, and 44 died from cancer each year.

Incidence

Each year, nearly 30,000 Victorians develop cancer¹, and there are over 11,000 cancer related deaths. In 2013, 15,946 men and 13,792 women were diagnosed with new cancers and 6,149 men and 4,860 women died from cancer.

The standardised incidence rates (per 100,000 persons) were 337.4 for males and 280.5 for females. The cumulative percentage rates, to 75 years of age, were 39.8% for males and 31.3% for females. At least one in three Victorians will develop a cancer by the age of 75, with risks of over 1 in 3 for men and 1 in 4 for women.

See Table 1 (pages 16-17) for summary incidence rates, and Appendix 7 (pages 45-56) for age-specific incidence rates, by sex and cancer type.

Age and sex

Cancer was strongly related to age, with less than 1% of tumours occurring before age 15 and 59% occurring in persons older than 65 years. More men than women developed cancer: 116 males for every 100 females. The predominance of males was associated with tobacco-related cancers and large numbers of prostate cancers.

Mortality

Age-standardised mortality rates for cancer were 110.9 per 100,000 males and 76.3 per 100,000 females. Cancer death rates for men and women continue to decrease by more than 1% per year. The years of potential life lost (YPLL) to age 75 were 32,318 for males and 29,284 for females.

A comparison of deaths caused by cancer, and the years of potential life lost (YPLL), with those of other leading causes is shown in Figure 3.

A summary of mortality rates by sex and cancer type is given in Table 2 (pages 18-19). In 2013, there were 18 deaths from the less common skin cancers, including Merkel cell tumours, dermatofibrosarcoma protuberans, malignant fibrous histiocytoma and skin appendage tumours (reported as "other skin" in Table 2). There were also 69 deaths (55 male and 14 female) from the common non-melanoma skin cancers (basal and squamous cell carcinomas) which are not included elsewhere in this report.

See Appendix 5 (page 43) regarding coding of cancer mortality.

Most common cancers

The most commonly occurring cancers in Victoria are shown in Figures 5 and 6 (pages 14 and 15).

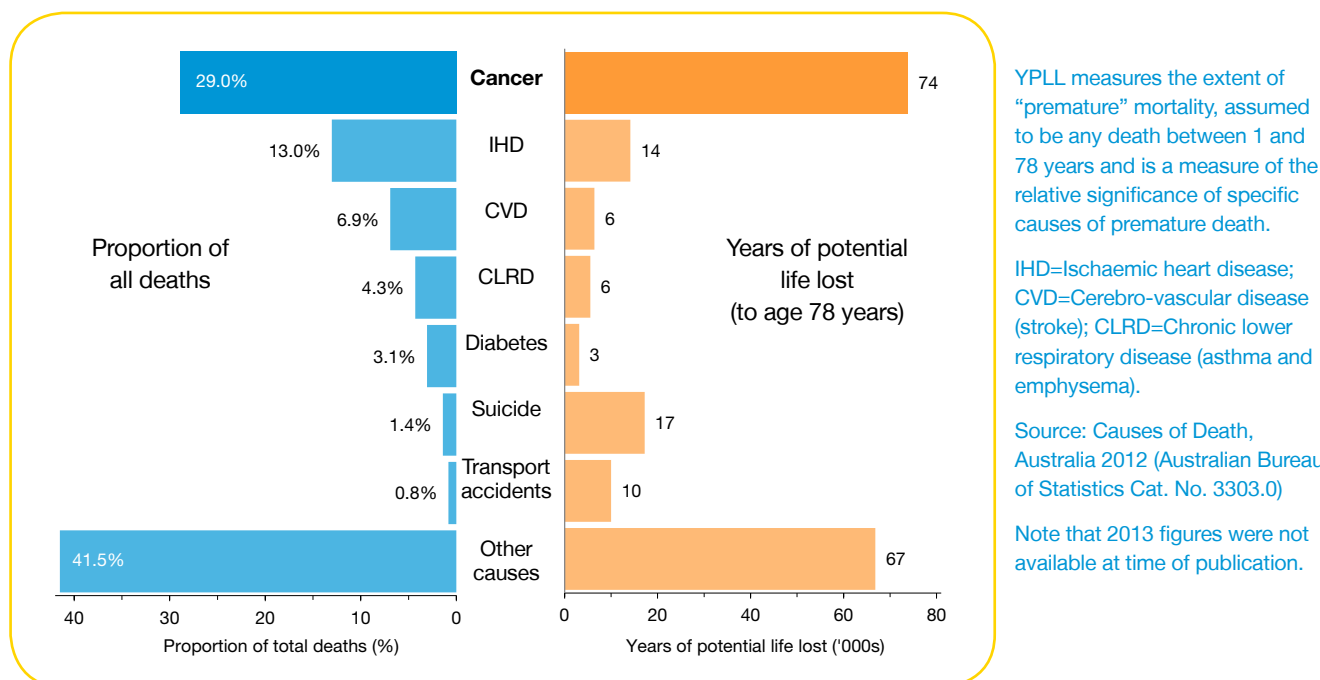
Prostate cancer remains the leading new cancer in Victoria (4,257 cases, 14% of all cancers and 27% of cancers for men). Incidence rates rose steeply between 1987 and 1995, largely due to the uptake of Prostate Specific Antigen (PSA) testing to detect early asymptomatic cancers. Rates increased rapidly again between 1999 and 2009, but have since shown a rapid decline. Prostate cancer was the third ranking cause of cancer death for men (729 deaths, 12% of total) in 2013.

Breast cancer overtook bowel cancer, in 2011, as the second most common new cancer, accounting for 14% (4,108) of new cases and 30% of all cancers for women. It was the fourth ranking cause of cancer death (699 deaths, 6.3% of total). Incidence rates continue to increase slowly, after a decade of more rapid increase, largely due to mammographic screening. Breast cancer mortality rates have shown a downward trend since 1994. See the special report "Breast cancer in Victorian women" on pages 22-23.

Bowel (colon and rectum) cancer was the third most common new cancer in Victoria in 2013, with 3,675 cases (12% of all cancers). It was the second ranking site of fatal cancer (1,407 deaths, 13% of total). Though rates have shown a small decline in recent years, it is too early to comment on whether this change is associated with the National Bowel Cancer Screening Program.

¹ "All malignant tumours" = all tumours with a behaviour code /3 in ICD-O-3^(Ref 1) EXCEPT the common non-melanoma skin cancers (NMSC): basal and squamous cell carcinomas. This INCLUDES Myelodysplastic syndromes (MDS) and Myeloproliferative disorders (MPD) that are classified as malignant neoplasms in ICD-O-3 (the classification used by IARC - International Association for Research on Cancer) but not in ICD-10-AM^(Ref 2) (as reported in Australian Bureau of Statistics publications).

Figure 3 Proportions of all deaths and years of potential life lost (YPLL) for each of the leading causes of death, Victoria 2012



Lung cancer was the fourth most common new cancer (2,657 new cases) in 2013, and remains the leading cause of cancer death (2,076 deaths, 19% of all cancer deaths). Incidence and mortality rates continue to decline for males, and rates for females appear to have reached a plateau.

Melanoma was the fifth ranking new cancer in Victoria (2,307 cases, 8% of total) and was the ninth cause of cancer death (374 deaths, 3% of total). Mortality rates are stable, while incidence continues to increase for older age groups but with decreases in rates for younger Victorians.

Cancers of unspecified primary site (CUP) form a substantial group of new cancers with 636 (2%) diagnoses in 2013. We do not include cancers of unknown primary site in our most common cancers figures as these are a very heterogeneous group. Numerically these cancers would appear in the top ten cancer sites for incidence and, because they are often advanced or widespread at the time of diagnosis, rank sixth for mortality with 503 deaths (5% of all cancer deaths).

There are estimated to be around 40,000 new diagnoses in Victoria each year of the common types of non-melanoma skin cancers (basal and squamous cell carcinomas). These skin cancers are not reported

to the the registry, and therefore are not included in this report. However, incidence of the less common non-melanoma skin cancers (including Merkel cell tumours, dermatofibrosarcoma protuberans and malignant fibrous histiocytoma) is reported as "other skin cancer".

The difference in order of ranking between incidence and mortality reflects the differing survivorship of patients with different cancers. For example, lung cancer is both common and quickly fatal and, therefore, ranks highly in both new cancers and cancer deaths. Pancreatic cancer is not common but is usually rapidly lethal, so its mortality ranking is higher than its incidence ranking.

Trends in cancer incidence and mortality

The trends in age-standardised rates of incidence and mortality for all cancers in Victoria by sex from 1982-2013 are shown in Figure 4 (page 14). Figures 7 and 8 (pages 20-21) show trends for selected cancer types.

Although cancer incidence rates increased annually, from 1982-2013, by 0.6% for women and 0.8% for men, rates in men have shown a marked decline since 2009 due to falling prostate cancer incidence. Death rates have declined steadily since 1982 with average decreases of 1.4% per year for males and 1.1% for females.

Note: The behaviour codes for some tumours changed between ICD-O editions 2 and 3 (in which the Victorian Cancer Registry has coded since 2003). These changes affect the range of tumours included in incidence reporting. In particular, ovarian tumours of borderline malignancy and superficial (non-invasive) transitional cell cancers of the bladder are no longer coded as malignant tumours and are therefore not included. Conversely, myelodysplastic syndromes and myeloproliferative disorders are now classified as malignant and are included in this report. Changes to reported rates prior to and after 2003 may reflect these coding changes.

Figure 4 Trends in cancer incidence and mortality rates by sex, Victoria 1982-2013

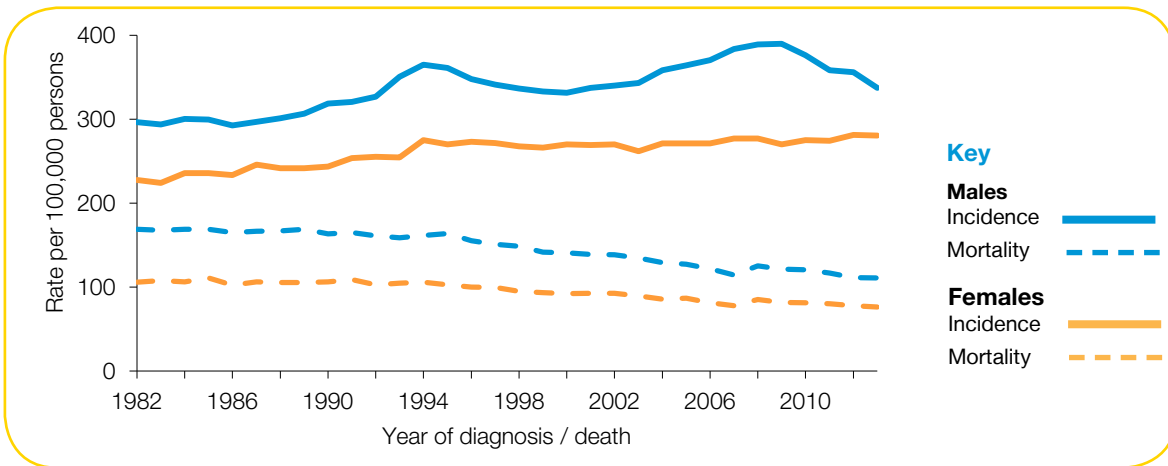


Figure 5 Leading cancer types by sex, Victoria 2013. Percent of total, and number, of new cases (incidence) and deaths (mortality) for the ten most common cancers by cancer type and sex

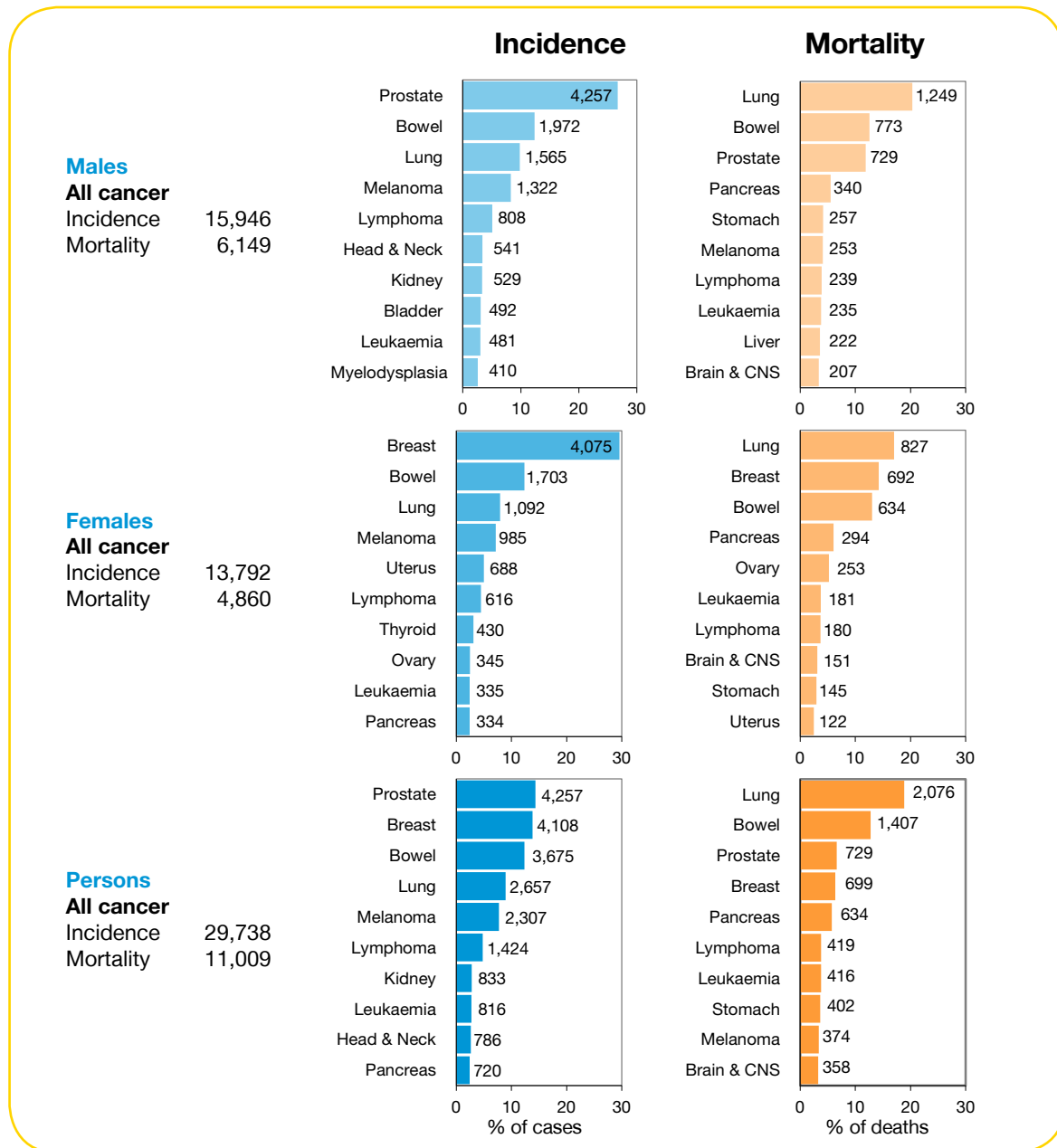
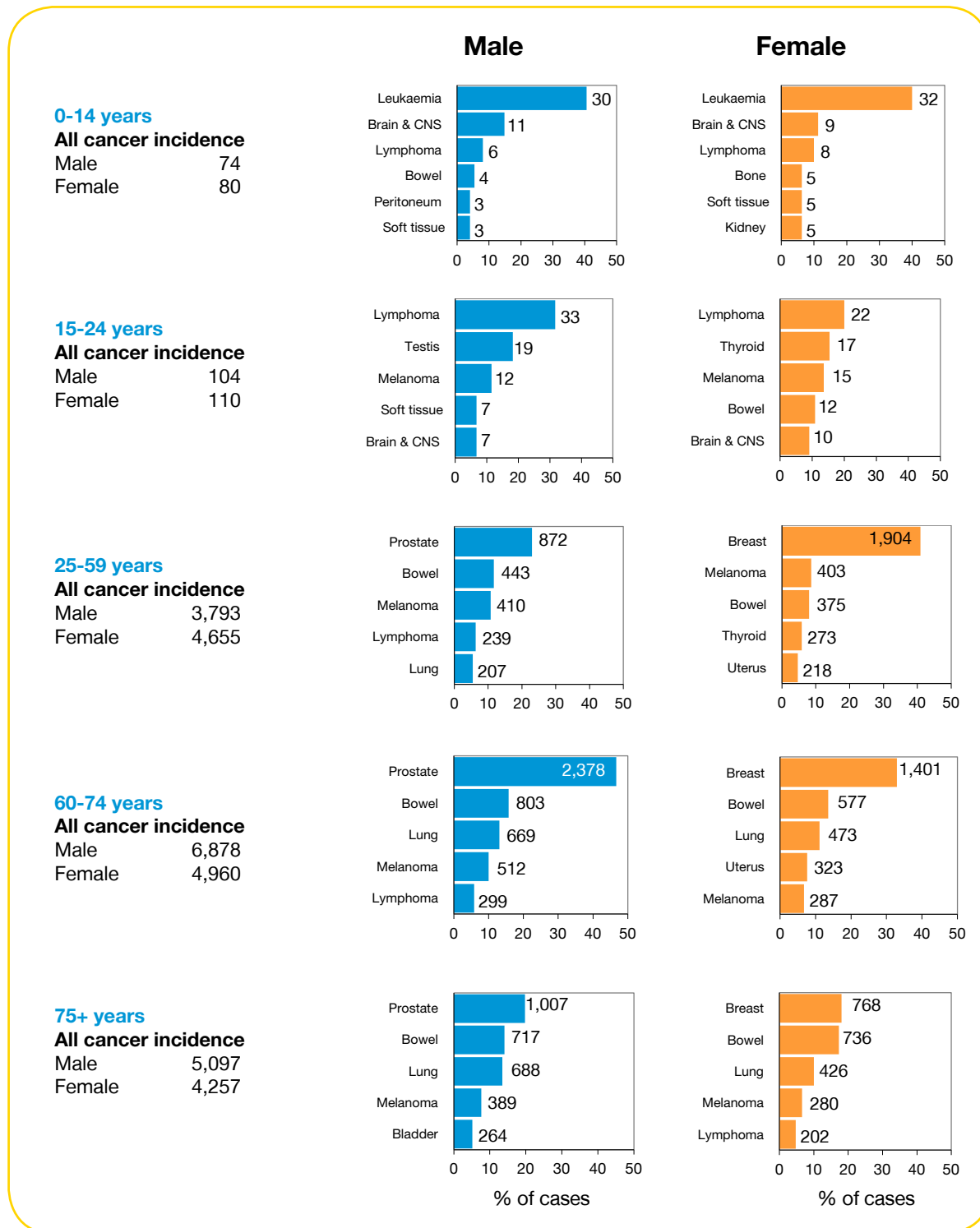


Figure 6 Leading types of new cancer by age group and sex, Victoria 2013. Percentage of new cancers and number of cases for most common cancers by sex and age

Note that for cancers occurring in children aged under 15 years, the International Classification of Childhood Cancer, Third Edition^(Ref 8) groups are used. All other age groups are grouped according to ICD10 codes as described in Appendix 3.



For the purpose of this report, **head and neck cancer** (See Figure 5 page 14) includes cancers of the oral cavity and pharynx (ICD10 C01-C14), nasal cavities, middle ear and accessory sinuses (C30,C31) and larynx (C32). Other cancer groupings are available on request.

Table 1 Cancer incidence, Victoria 2013

Number (N) of new cases, crude rates (CR), cumulative rate to age 75 years (CR%) and age-standardised rate (ASR) per 100,000 (standardised to World Standard Population) by cancer type (See Appendix 3) and sex

ICD-10	Site	Males				Female			
		N	CR	CR%	ASR	N	CR	CR%	ASR
C00	Lip	179	6.3	0.4	4.1	79	2.7	0.2	1.4
C01,C02	Tongue	137	4.8	0.4	3.2	58	2.0	0.1	1.2
C07,C08	Salivary glands	50	1.8	0.1	1.0	32	1.1	0.1	0.7
C03	Gum	13	0.5	0.0	0.3	17	0.6	0.0	0.3
C04	Floor of mouth	22	0.8	0.1	0.5	7	0.2	0.0	0.1
C05, C06	Other mouth	35	1.2	0.1	0.8	38	1.3	0.1	0.7
C01-C06	Oral cavity	207	7.3	0.6	4.7	120	4.1	0.3	2.3
C09, C10	Oropharynx	87	3.1	0.3	2.2	24	0.8	0.1	0.6
C11	Nasopharynx	25	0.9	0.1	0.6	8	0.3	0.0	0.2
C12, C13	Hypopharynx	21	0.7	0.1	0.5	10	0.3	0.0	0.2
C09-C13	Pharynx	133	4.7	0.4	3.2	42	1.4	0.1	0.9
C14	Other oral	13	0.5	0.0	0.3	4	0.1	0.0	0.1
C15	Oesophagus	248	8.7	0.6	5.1	125	4.3	0.2	1.8
C16	Stomach	391	13.8	0.9	7.7	188	6.5	0.3	3.3
C17	Small Intestine	77	2.7	0.2	1.6	60	2.1	0.1	1.2
C18	Colon	1,249	44.0	2.7	24.7	1,214	41.9	2.3	20.9
C19-C20	Rectum	723	25.5	1.9	15.6	489	16.9	1.1	9.3
C18-C20	Bowel	1,972	69.4	4.6	40.3	1,703	58.7	3.4	30.1
C21	Anus & anal canal	46	1.6	0.1	1.0	69	2.4	0.2	1.4
C22	Liver	336	11.8	0.8	7.3	138	4.8	0.3	2.3
C23, C24	Gallbladder	87	3.1	0.2	1.7	107	3.7	0.2	1.7
C25	Pancreas	386	13.6	0.9	7.4	334	11.5	0.6	5.3
C30, C31	Nasal Cavities	23	0.8	0.0	0.4	18	0.6	0.0	0.4
C32	Larynx	115	4.0	0.3	2.5	29	1.0	0.1	0.5
C33, C34	Lung	1,565	55.1	3.5	29.5	1,092	37.7	2.4	19.4
C37, C38	Thymus etc	12	0.4	0.0	0.3	5	0.2	0.0	0.1
C40, C41	Bone	26	0.9	0.1	0.7	22	0.8	0.1	0.7
C43	Melanoma	1,322	46.5	3.3	29.0	985	34.0	2.2	20.7
C44	Other skin	63	2.2	0.1	1.2	48	1.7	0.1	1.0
C45	Mesothelioma	97	3.4	0.2	1.6	34	1.2	0.1	0.5
C46	Kaposi Sarcoma	18	0.6	0.1	0.4	5	0.2	0.0	0.1
C48	Peritoneum	16	0.6	0.0	0.5	31	1.1	0.1	0.8
C47, C49	Connective Tissue	110	3.9	0.3	2.8	75	2.6	0.2	1.9
C50	Breast	33	1.2	0.1	0.7	4,075	140.6	10.4	91.2
C53	Cervix	-	-	-	-	168	5.8	0.4	4.3
C54, C55	Uterus	-	-	-	-	688	23.7	1.8	14.6
C56	Ovary	-	-	-	-	345	11.9	0.8	7.3
C58	Placenta	-	-	-	-	4	0.1	0.0	0.1
C51, C52, C57	Vulva etc	-	-	-	-	179	6.2	0.4	3.3
C61	Prostate	4,257	149.9	12.3	91.6	-	-	-	-
C62	Testis	165	5.8	0.4	5.2	-	-	-	-
C60, C63	Penis etc	39	1.4	0.1	0.7	-	-	-	-
C64	Kidney	529	18.6	1.4	12.0	304	10.5	0.8	6.5
C67	Bladder	492	17.3	0.9	8.7	143	4.9	0.2	2.1
C65, C66, C68	Renal pelvis etc	61	2.1	0.2	1.2	53	1.8	0.1	0.8

Table 1 Cancer incidence, Victoria 2013 - continued

ICD-10	Site	Males				Female			
		N	CR	CR%	ASR	N	CR	CR%	ASR
C69	Eye	47	1.7	0.1	1.2	33	1.1	0.1	0.7
C70	Meninges	3	0.1	0.0	0.1	6	0.2	0.0	0.1
C71	Brain	226	8.0	0.6	5.9	193	6.7	0.5	4.5
C72	Other CNS	6	0.2	0.0	0.2	6	0.2	0.0	0.2
C70-C72	Brain & CNS	235	8.3	0.6	6.2	205	7.1	0.5	4.9
C73	Thyroid	160	5.6	0.4	4.2	430	14.8	1.1	11.2
C74, C75	Other endocrine	17	0.6	0.1	0.5	15	0.5	0.0	0.4
C26, C39, C76-C79	Ill-defined site	66	2.3	0.1	1.2	31	1.1	0.0	0.5
C80	Unspecified site	342	12.0	0.6	6.1	294	10.1	0.4	4.2
C81	Hodgkin lymphoma	103	3.6	0.3	3.1	77	2.7	0.2	2.5
C82	Nodular NHL	179	6.3	0.5	4.0	185	6.4	0.5	4.0
C83	Diffuse NHL	389	13.7	0.9	8.3	245	8.5	0.5	4.6
C84	T-cell lymphoma	49	1.7	0.1	1.1	42	1.4	0.1	0.8
C85	Other NHL	88	3.1	0.2	1.9	67	2.3	0.1	1.0
C82-C85	Non-Hodgkin lymphoma	705	24.8	1.7	15.3	539	18.6	1.2	10.4
C88	Immunoproliferative	33	1.2	0.1	0.7	10	0.3	0.0	0.1
C90	Multiple myeloma	268	9.4	0.6	5.4	216	7.5	0.5	3.9
C91	Lymphoid leukaemia	246	8.7	0.6	6.3	173	6.0	0.4	4.6
C91.0	Acute lymphoblastic leukaemia	45	1.6	0.1	2.1	56	1.9	0.2	2.6
C91.1	Chronic lymphocytic leukaemia	176	6.2	0.4	3.6	101	3.5	0.2	1.7
C92	Myeloid leukaemia	214	7.5	0.5	4.4	142	4.9	0.3	2.5
C92.0	Acute myeloid leukaemia	115	4.0	0.3	2.4	61	2.1	0.1	1.0
C92.1	Chronic myeloid leukaemia	39	1.4	0.1	1.0	24	0.8	0.1	0.5
C93	Monocytic leukaemia	8	0.3	0.0	0.2	11	0.4	0.0	0.3
C94	Other leukaemia	8	0.3	0.0	0.2	3	0.1	0.0	0.1
C95	Unspecified Leukaemia	5	0.2	0.0	0.1	6	0.2	0.0	0.1
C91-C95	All leukaemia	481	16.9	1.1	11.3	335	11.6	0.7	7.6
D45-D47	Myeloproliferative	410	14.4	0.8	7.6	293	10.1	0.5	4.8
C96	Other haematopoietic	11	0.4	0.0	0.3	10	0.3	0.0	0.3
C00-C96, D45-D47	All malignant tumours	15,946	561.4	39.8	337.4	13,792	475.7	31.3	280.5

Haematological malignancies (See Appendix 3)

Group	Males				Female				
	N	CR	CR%	ASR	N	CR	CR%	ASR	
Lymphoid neoplasms									
Hodgkin lymphoma	103	3.6	0.3	3.1	77	2.7	0.2	2.5	
Mature B-cell:									
CLL/small lymphocytic lymphoma	213	7.5	0.5	4.4	120	4.1	0.3	2.1	
Diffuse large B-cell lymphoma	263	9.3	0.6	5.4	192	6.6	0.4	3.4	
Follicular lymphoma	122	4.3	0.3	2.8	134	4.6	0.4	2.9	
Plasma cell disorders	268	9.4	0.6	5.4	216	7.5	0.5	3.9	
Other	190	6.7	0.5	4.3	103	3.6	0.2	2.2	
Mature T-cell and NK--cell neoplasms	64	2.3	0.2	1.5	49	1.7	0.1	1.0	
Acute lymphoblastic leukaemia	22	0.8	0.1	0.8	19	0.7	0.0	0.8	
Myeloid neoplasms									
Acute Myeloid leukaemia	129	4.5	0.3	2.7	92	3.2	0.2	1.8	
Chronic Myeloid leukaemia	38	1.3	0.1	1.0	24	0.8	0.1	0.5	
Other chronic myeloproliferative diseases	141	5.0	0.4	3.1	118	4.1	0.2	2.2	
Myelodysplastic syndromes	237	8.3	0.4	3.9	140	4.8	0.2	2.0	
Myelodysplastic/myeloproliferative diseases	52	1.8	0.1	0.9	36	1.2	0.1	0.6	

Table 2 Cancer mortality, Victoria 2013

Number (N) of deaths, crude rate (CR), years of potential life lost to age 75 years (YPLL) and age-standardised rate (ASR) per 100,000 (standardised to World Standard Population) by cancer type and sex (See Appendix 3)

ICD-10	Site	Males				Female			
		N	CR	YPLL	ASR	N	CR	YPLL	ASR
C00	Lip	2	0.1	0	0.0	0	0.0	0	0.0
C01,C02	Tongue	30	1.1	255	0.7	11	0.4	81	0.2
C07,C08	Salivary glands	7	0.2	62	0.1	8	0.3	115	0.1
C03	Gum	5	0.2	113	0.1	6	0.2	19	0.1
C04	Floor of mouth	10	0.4	86	0.2	5	0.2	7	0.1
C05, C06	Other mouth	10	0.4	80	0.2	6	0.2	14	0.1
C01-C06	Oral cavity	55	1.9	534	1.2	28	1.0	121	0.4
C09, C10	Oropharynx	28	1.0	276	0.7	4	0.1	52	0.1
C11	Nasopharynx	12	0.4	152	0.3	5	0.2	21	0.1
C12, C13	Hypopharynx	11	0.4	84	0.2	8	0.3	74	0.1
C09-C13	Pharynx	51	1.8	513	1.2	17	0.6	147	0.3
C14	Other oral	10	0.4	75	0.2	1	0.0	0	0.0
C15	Oesophagus	177	6.2	1,193	3.5	95	3.3	277	1.2
C16	Stomach	257	9.0	1,561	4.9	145	5.0	948	2.2
C17	Small Intestine	22	0.8	107	0.4	23	0.8	45	0.3
C18	Colon	492	17.3	2,409	8.7	469	16.2	1,854	6.2
C19-C20	Rectum	281	9.9	1,841	5.5	165	5.7	702	2.3
C18-C20	Bowel	771	27.1	4,260	14.2	634	21.9	2,559	8.5
C21	Anus & anal canal	10	0.4	75	0.2	25	0.9	144	0.4
C22	Liver	222	7.8	1,668	4.5	99	3.4	408	1.5
C23, C24	Gallbladder	58	2.0	253	1.0	83	2.9	288	1.2
C25	Pancreas	340	12.0	1,669	6.3	294	10.1	1,317	4.5
C30, C31	Nasal Cavities	18	0.6	61	0.3	4	0.1	33	0.1
C32	Larynx	38	1.3	223	0.7	11	0.4	19	0.1
C33, C34	Lung	1,249	44.0	5,931	22.7	827	28.5	4,307	13.4
C37, C38	Thymus etc	9	0.3	90	0.2	1	0.0	16	0.0
C40, C41	Bone	8	0.3	183	0.2	6	0.2	103	0.2
C43	Melanoma	253	8.9	1,869	5.0	121	4.2	996	2.0
C44	Other skin	13	0.5	20	0.2	5	0.2	12	0.1
C45	Mesothelioma	111	3.9	362	1.8	28	1.0	155	0.5
C46	Kaposi Sarcoma	0	0.0	0	0.0	0	0.0	0	0.0
C48	Peritoneum	8	0.3	100	0.2	23	0.8	208	0.4
C47, C49	Connective Tissue	37	1.3	364	0.7	29	1.0	368	0.6
C50	Breast	7	0.2	32	0.1	692	23.9	6,360	12.8
C53	Cervix	-	-	-	-	43	1.5	726	1.0
C54, C55	Uterus	-	-	-	-	122	4.2	623	1.9
C56	Ovary	-	-	-	-	253	8.7	1,961	4.6
C58	Placenta	-	-	-	-	0	0.0	0	0.0
C51, C52, C57	Vulva etc	-	-	-	-	76	2.6	381	1.1
C61	Prostate	729	25.7	992	10.4	-	-	-	-
C62	Testis	4	0.1	126	0.1	-	-	-	-
C60, C63	Penis etc	10	0.4	12	0.2	-	-	-	-
C64	Kidney	163	5.7	903	3.0	84	2.9	407	1.3
C67	Bladder	205	7.2	537	3.2	63	2.2	284	0.8
C65, C66, C68	Renal pelvis etc	30	1.1	44	0.4	38	1.3	66	0.4

Table 2 Cancer mortality, Victoria 2013 – continued

ICD-10	Site	Males				Female			
		N	CR	YPLL	ASR	N	CR	YPLL	ASR
C69	Eye	4	0.1	11	0.1	3	0.1	19	0.1
C70	Meninges	6	0.2	39	0.1	1	0.0	0	0.0
C71	Brain	199	7.0	2,647	4.8	149	5.1	1,564	2.9
C72	Other CNS	2	0.1	37	0.1	1	0.0	0	0.0
C70-C72	Brain & CNS	207	7.3	2,723	4.9	151	5.2	1,564	2.9
C73	Thyroid	19	0.7	77	0.3	24	0.8	88	0.3
C74, C75	Other endocrine	7	0.2	105	0.2	7	0.2	132	0.2
C26, C39, C76-C79	Ill-defined site	37	1.3	136	0.6	30	1.0	270	0.5
C80	Unspecified site	334	11.8	1,161	5.6	271	9.3	791	3.4
C81	Hodgkin lymphoma	10	0.4	147	0.2	11	0.4	144	0.2
C82	Nodular NHL	21	0.7	89	0.4	18	0.6	38	0.2
C83	Diffuse NHL	148	5.2	818	2.7	112	3.9	349	1.6
C84	T-cell lymphoma	33	1.2	199	0.6	15	0.5	155	0.3
C85	Other NHL	27	1.0	137	0.4	24	0.8	114	0.3
C82-C85	Non-Hodgkin lymphoma	229	8.1	1,244	4.2	169	5.8	656	2.3
C88	Immunoproliferative	9	0.3	32	0.1	3	0.1	0	0.0
C90	Multiple myeloma	124	4.4	571	2.2	93	3.2	360	1.4
C91	Lymphoid leukaemia	65	2.3	248	1.1	44	1.5	333	0.7
C91.0	Acute lymphoblastic leukaemia	14	0.5	108	0.3	11	0.4	283	0.3
C91.1	Chronic lymphocytic leukaemia	48	1.7	130	0.8	33	1.1	50	0.4
C92	Myeloid leukaemia	154	5.4	760	2.8	118	4.1	593	1.7
C92.0	Acute myeloid leukaemia	127	4.5	624	2.3	86	3.0	385	1.2
C92.1	Chronic myeloid leukaemia	7	0.2	9	0.1	9	0.3	0	0.1
C93	Monocytic leukaemia	10	0.4	91	0.2	7	0.2	80	0.1
C94	Other leukaemia	2	0.1	18	0.1	1	0.0	0	0.0
C95	Unspecified leukaemia	4	0.1	0	0.0	11	0.4	40	0.1
C91-C95	All leukaemia	235	8.3	1,118	4.2	181	6.2	1,046	2.6
D45-D47	Myeloproliferative	57	2.0	68	0.8	39	1.3	111	0.4
C96	Other haematopoietic	1	0.0	7	0.0	0	0.0	0	0.0
C00-C96, D45-D47	All malignant tumours	6,149	216.5	32,318	110.9	4,860	167.6	29,284	76.3

Haematological malignancies (See Appendix 3)

Group	Males				Female				
	N	CR	YPLL	ASR	N	CR	YPLL	ASR	
Lymphoid neoplasms									
Hodgkin lymphoma	10	0.4	147	0.2	11	0.4	144	0.2	
Mature B-cell:									
CLL/small lymphocytic lymphoma	59	2.1	146	1.0	40	1.4	59	0.4	
Diffuse large B-cell lymphoma	100	3.5	591	1.8	87	3.0	332	1.3	
Follicular lymphoma	21	0.7	89	0.4	18	0.6	38	0.2	
Plasma cell disorders	123	4.3	571	2.2	93	3.2	360	1.4	
Other	42	1.5	174	0.8	18	0.6	14	0.2	
Mature T-cell and NK--cell neoplasms	37	1.3	224	0.7	15	0.5	155	0.3	
Acute lymphoblastic leukaemia	15	0.5	184	0.3	11	0.4	281	0.3	
Myeloid neoplasms									
Acute Myeloid leukaemia	137	4.8	742	2.6	99	3.4	577	1.5	
Chronic Myeloid leukaemia	7	0.2	9	0.1	9	0.3	0	0.1	
Other chronic myeloproliferative diseases	14	0.5	43	0.2	6	0.2	41	0.1	
Myelodysplastic syndromes	43	1.5	41	0.6	23	0.8	61	0.2	
Myelodysplastic/myeloproliferative diseases	13	0.5	95	0.2	12	0.4	96	0.2	

Figure 7 Trends in incidence and mortality (annual age-standardised rates per 100,000 persons) for the 5 most common cancers by sex, Victoria 1982-2013

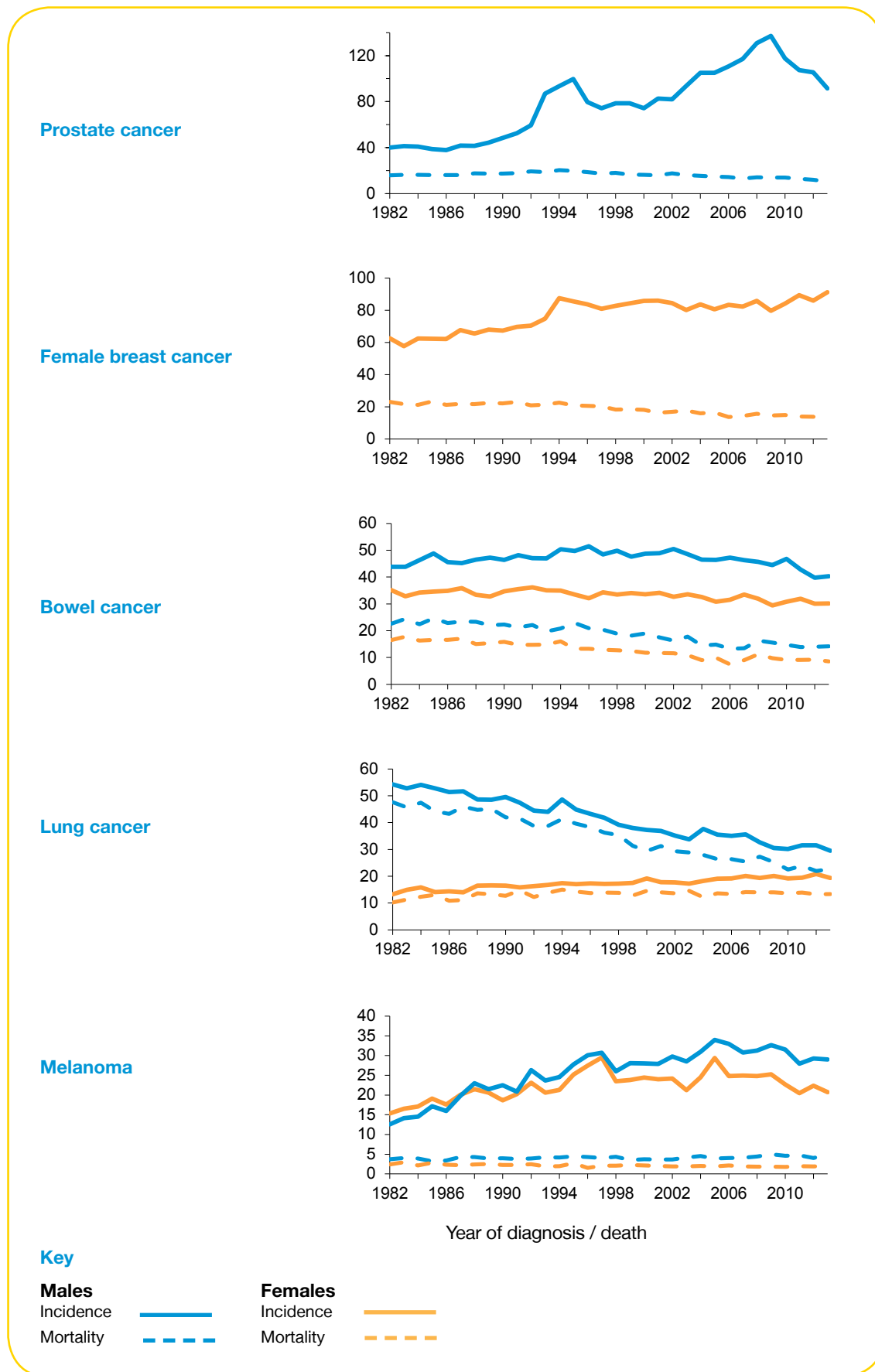
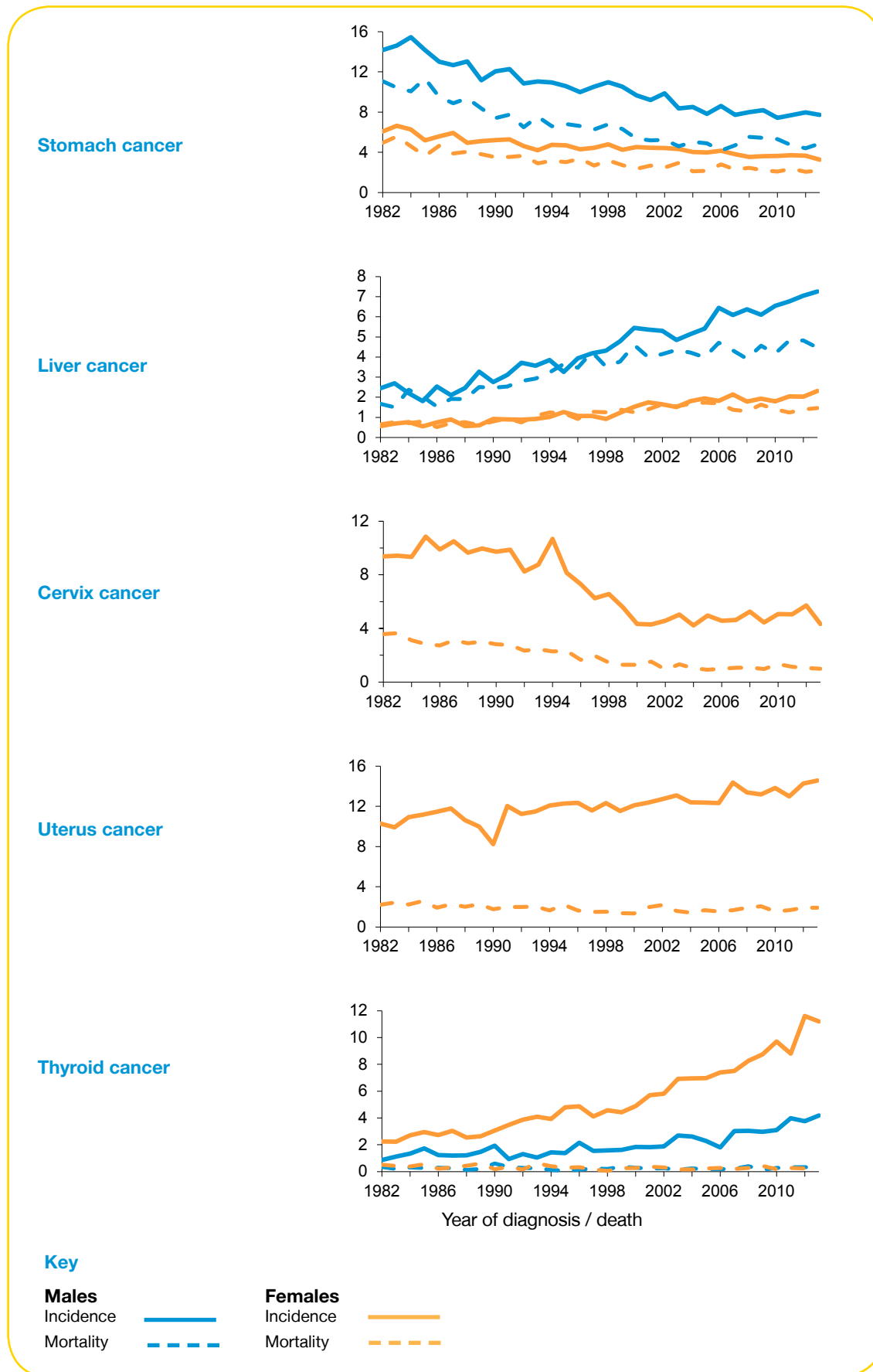


Figure 8 Trends in incidence and mortality (annual age-standardised rates per 100,000 persons) for other selected cancers by sex, Victoria 1982-2013



Breast cancer in Victorian women

Breast cancer overview

For Victorian women, 3 out of every 10 cancers occur in the breast, and with over 4,000 new diagnoses annually, it outnumbers the next three most common combined - bowel, lung and melanoma.

Breast cancer usually occurs after the menopause (51% of cancers occur in women aged 50-69 years and 27% in women aged over 70 years) though it is not uncommon in younger women. In 2013 16% (669) of breast cancers were diagnosed in those aged 40-49, 5% (186) in those aged 30-39 and <1% (22) in women aged less than 30 years.

Breast cancer incidence in Victoria compares to that of North America and Europe but is higher than that for less economically developed countries. Mortality varies much less internationally. The disparity in incidence between countries at different stages of economic development likely reflects the use of mammographic screening and differences in prevalence of risk factors including aspects of reproductive history, the use of oral contraceptives or hormone replacement therapy, obesity, inactivity and alcohol consumption.

In Victoria, in 2013, 4,075 women were newly diagnosed with invasive breast cancer, 576 with in situ carcinoma and 692 women died from the disease. Five-year relative survival¹ from breast cancer for women who were diagnosed in 2008-12 is 90% - an increase from 73% 20 years ago. Five-year relative survival for women diagnosed with stage 1 and 2 cancers is 100% and 94% respectively, but only 26% for the small proportion (4%) of women diagnosed with stage 4 cancer.

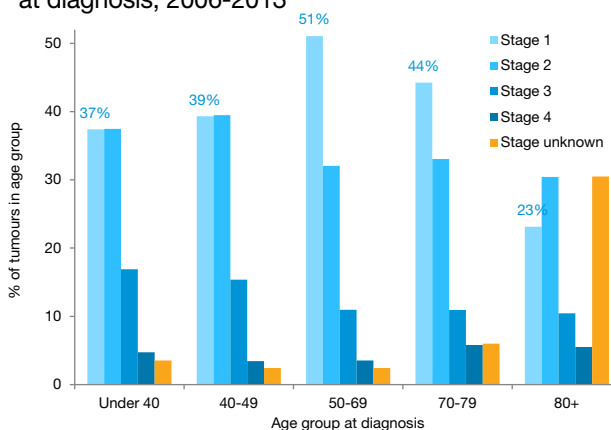
Breast cancer stage at diagnosis

TNM stage at diagnosis was available for the period 2006-13. Most breast cancers were diagnosed at an early stage, with 44% stage 1, 34% stage 2, 12% stage 3 and 4% stage 4. Stage was unknown for only 6%.

Figure 9 describes the distribution of stage categories 1 to 4 across five age-groups. About 60% of unknown stage was for women aged 80 years and older, managed without surgical intervention. Stage 1 tumours were most prominent in the 50-69 year age group that is targeted for screening. This group also had fewer advanced stage cancers. Stage 4 disease accounted for <6% of cancers at any age. The stage distribution changed very little during 2006-13.

¹ Five-year relative survival (see page 27) is adjusted for other causes of death so the estimate of 100% for stage 1 breast cancer means that these women are not at any extra risk of dying compared with women of the same age in the general population.

Figure 9 Distribution of breast cancer by stage and age at diagnosis, 2006-2013



BreastScreen mammographic screening program

BreastScreen, the national mammographic screening program, offered 2-yearly screening to all women aged 50-69 years from 1994-2013². Figure 10 shows the proportion of screen detected tumours (invasive and in situ) by age group for Victorian women in 2006-13. About 45% of all invasive breast cancer, and 67% of in situ carcinoma, diagnosed in Victorian women aged 50-69 years were detected by BreastScreen.

Figure 11 compares prognostic features of breast cancers detected by BreastScreen in 2006-13 with those diagnosed outside BreastScreen. Differences comparing BreastScreen and non-BreastScreen detected cancers were all statistically significant ($p < 0.001$). BreastScreen detected cancers were likely to be smaller (61% vs 32% < 15 mm in diameter with median size 14mm and 20mm respectively), have lower tumour grade (23% vs 37% high grade) have less nodal disease (75% vs 51% node negative) and have lower overall stage (66% vs 38% stage 1).

Breast cancer trends over time

Overall trends in breast cancer incidence and mortality are given earlier in this report (Figure 7, Page 20). In the twenty years since 1994, the following trends were observed (expressed as an annual % change in the age-standardised rates): invasive breast cancer +0.1%, in situ carcinoma +1.4% and mortality -2.5%.

Figure 12 shows the trends for invasive breast cancer incidence and mortality for the same period by age group. Whilst mammographic screening may have contributed to the falls in mortality, there have been significant mortality falls across all age groups which suggest that improvements in treatment, increased surveillance of persons at high risk due to genetic factors and greater awareness of this cancer may also have contributed.

² From 2014 the target age range has been expanded to included women aged 70-74.

Figure 10 Annual diagnoses by age group and screen detected status for in situ and invasive carcinoma, Victoria 2006-2013

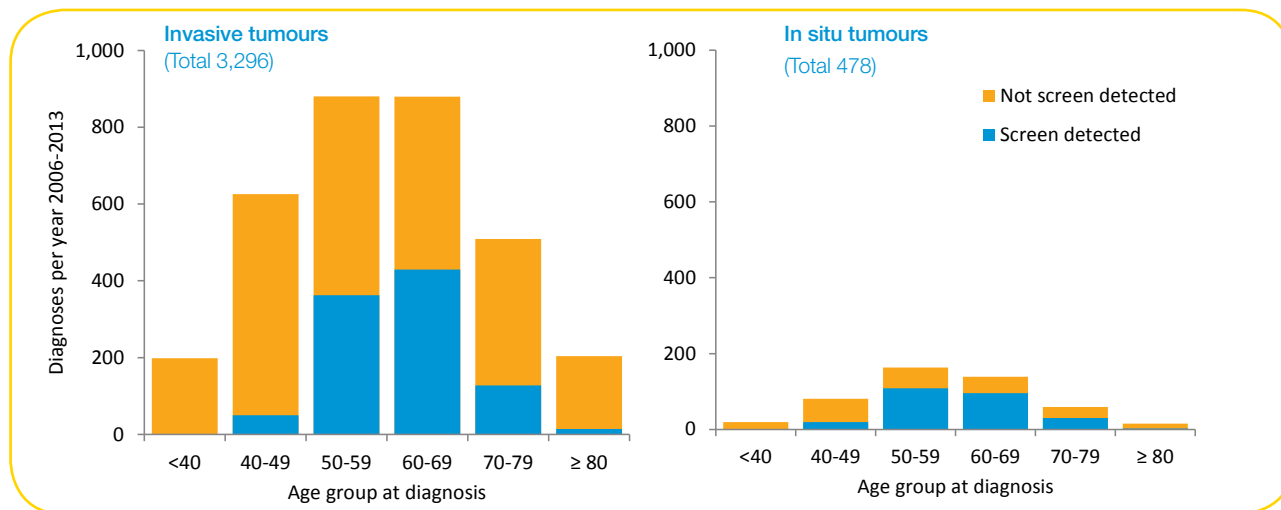


Figure 11 Distribution of tumours diagnosed in 2006-2013 by diagnostic characteristics and screen detected status for women in the BreastScreen screening age group, 50-69 years

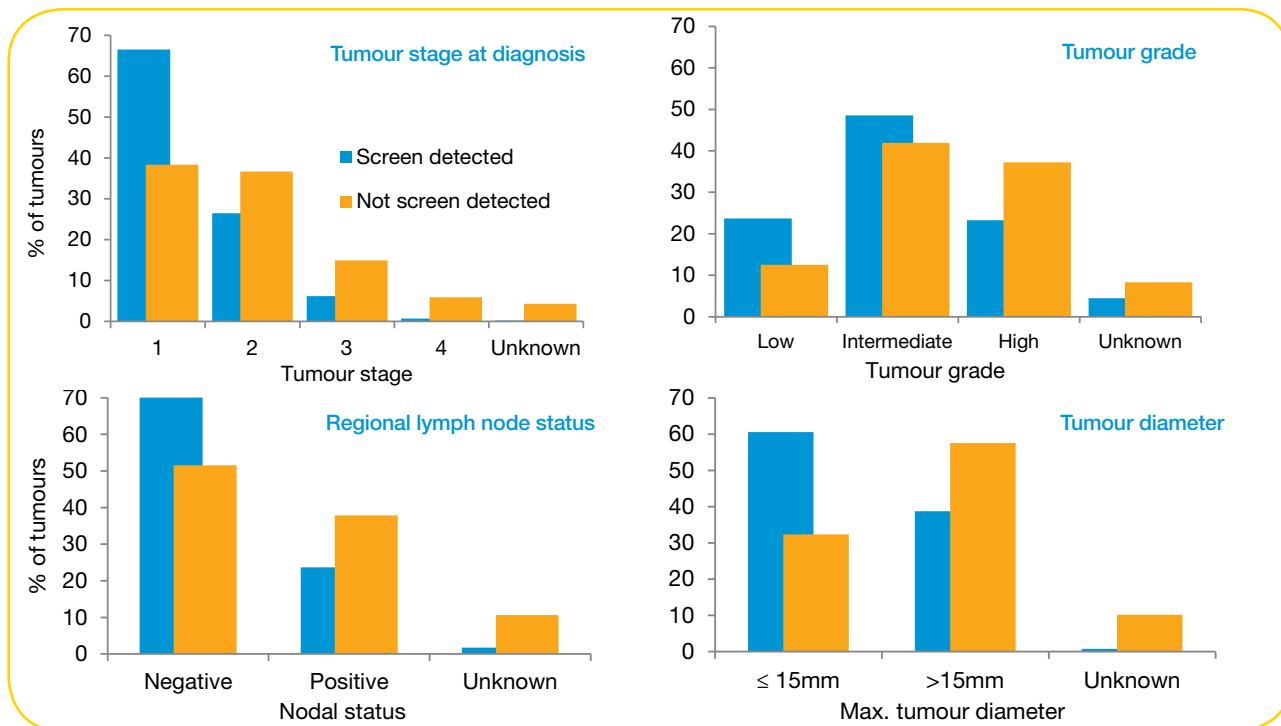
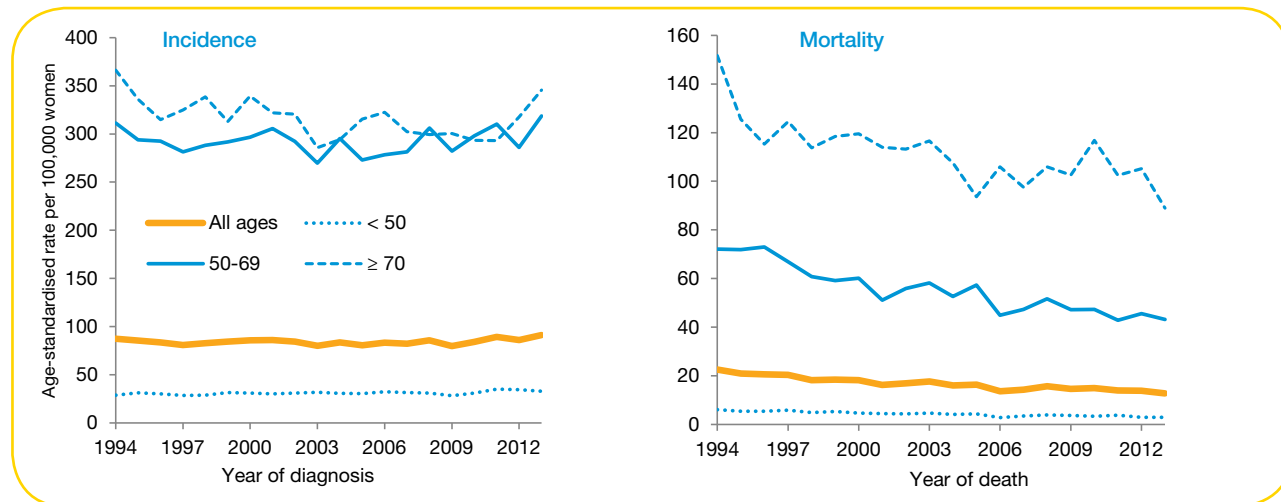


Figure 12 Twenty year trends in invasive breast cancer incidence and mortality by age group, Victoria 1994-2013



Cancer in Aboriginal and Torres Strait Islander Victorians

For Aboriginal and Torres Strait Islander Victorians:

- There are over 100 new diagnoses of cancer each year
- There are over 40 cancer related deaths each year
- Overall cancer incidence rates were higher than for non-Aboriginal women, but male rates did not differ significantly
- Mortality rates were significantly higher than for non-Aboriginal Victorians for both men and women

Note: throughout this section, we use the term Aboriginal Victorians to include also people of Torres Strait Island descent. Non-Aboriginal Victorians is used to describe all Victorians of other descent.

Incidence

There were 529 cancer diagnoses reported for Aboriginal Victorians in the five-year period 2008-2013 inclusive; this is an average of 106 new diagnoses each year.

Incidence was slightly higher for women (52%) than for men (48%).

Overall incidence rates were higher for Aboriginal women (322.4 new cases per 100,000 women) than for non-Aboriginal women (276.2 per 100,000 women), but there was no significant difference between the rates for Aboriginal men (366.7 new cases per 100,000) and non-Aboriginal men (362.9 new cases per 100,000).

The most common cancers for Aboriginal Victorians were lung, bowel, breast and prostate cancer, lymphoma, melanoma, head and neck and kidney cancer. Figure 13 shows the fifteen most common cancers for Aboriginal Victorians compared with Victorians of other descent as a percentage of total cancers.

Of the common cancers, rates were significantly higher for Aboriginal Victorians for cervical cancer and lung cancer (for women). Incidence rates were significantly lower for melanoma (women), leukaemia (men) and prostate cancer.

The cancers for which Aboriginal Victorians have relatively higher incidence rates, compared with non-Aboriginal Victorians, are associated with tobacco use, alcohol consumption, and infection with human papilloma virus (HPV).

It should be noted, when making comparisons using rates for Aboriginal Victorians, that these are based on small numbers of cases, even when aggregated across the five year period 2009-2013. Therefore, random fluctuations are to be expected across time periods.

Figure 14 shows age-specific incidence curves for Victorian Aboriginal and non-Aboriginal men and women for the five year period 2009-2013. Incidence rates for Aboriginal and non-Aboriginal men are similar until over 70 years of age, whereas for Aboriginal women, incidence rates start to exceed those of non-Aboriginal women from the 40-49 years age group and are consistently 20-30% higher for older age groups.

Mortality

There were 222 cancer deaths of Aboriginal Victorians in the five years 2008-2013 inclusive, an average of 44 deaths each year.

Mortality was slightly higher for women (51%) than for men (49%).

Overall mortality rates were significantly higher for both Aboriginal men and women (172.2 and 135.0 deaths per 100,000 respectively) than for non-Aboriginal men and women (115.9 and 79.2 deaths per 100,000 men and women respectively).

The greater mortality rates experienced by Aboriginal Victorians may be associated with diagnoses occurring at more advanced disease stage. This could reflect problems around timely access to treatment and insufficient participation in cancer screening services.

Figure 13 Most common types of cancer for Aboriginal and non-Aboriginal Victorians, 2009-2013

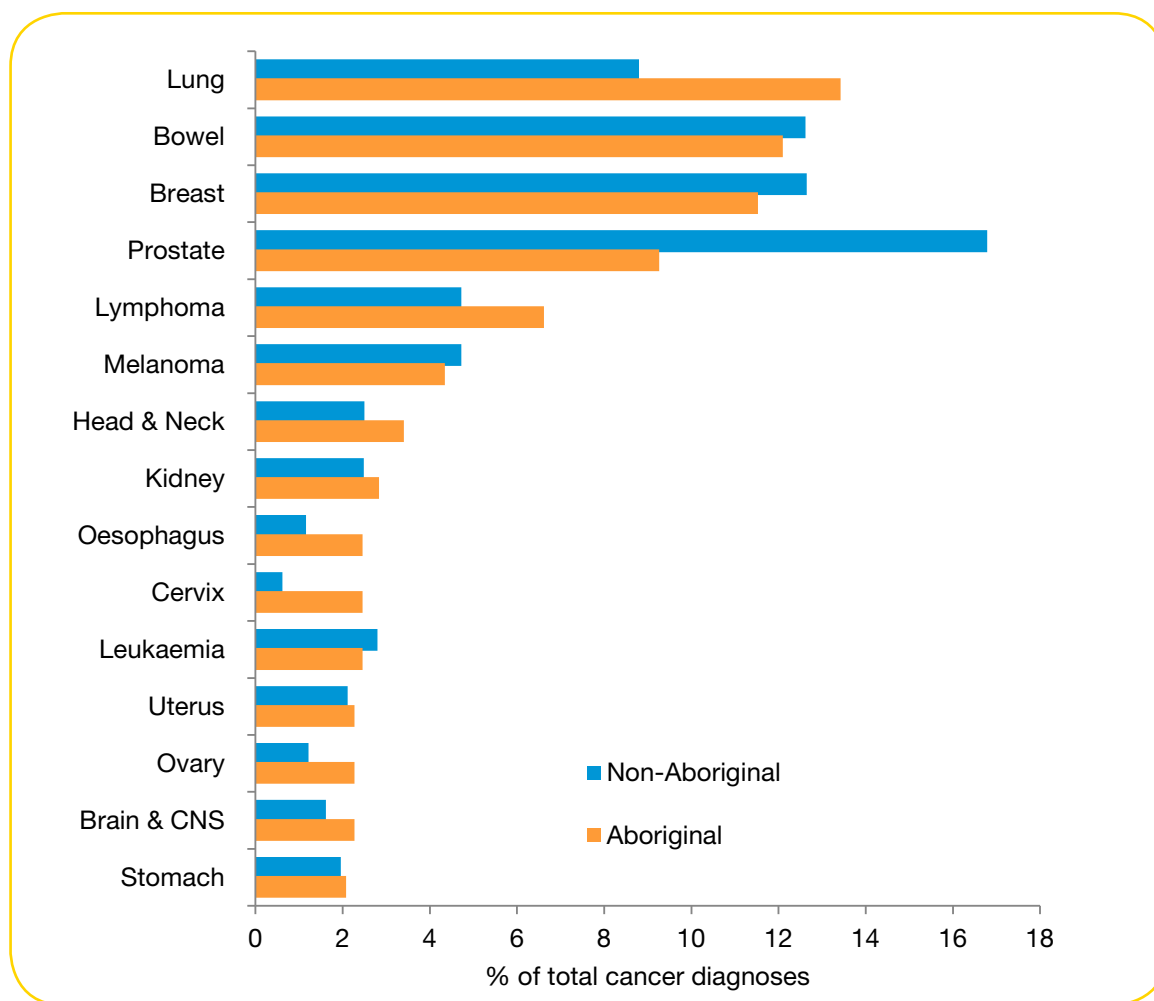
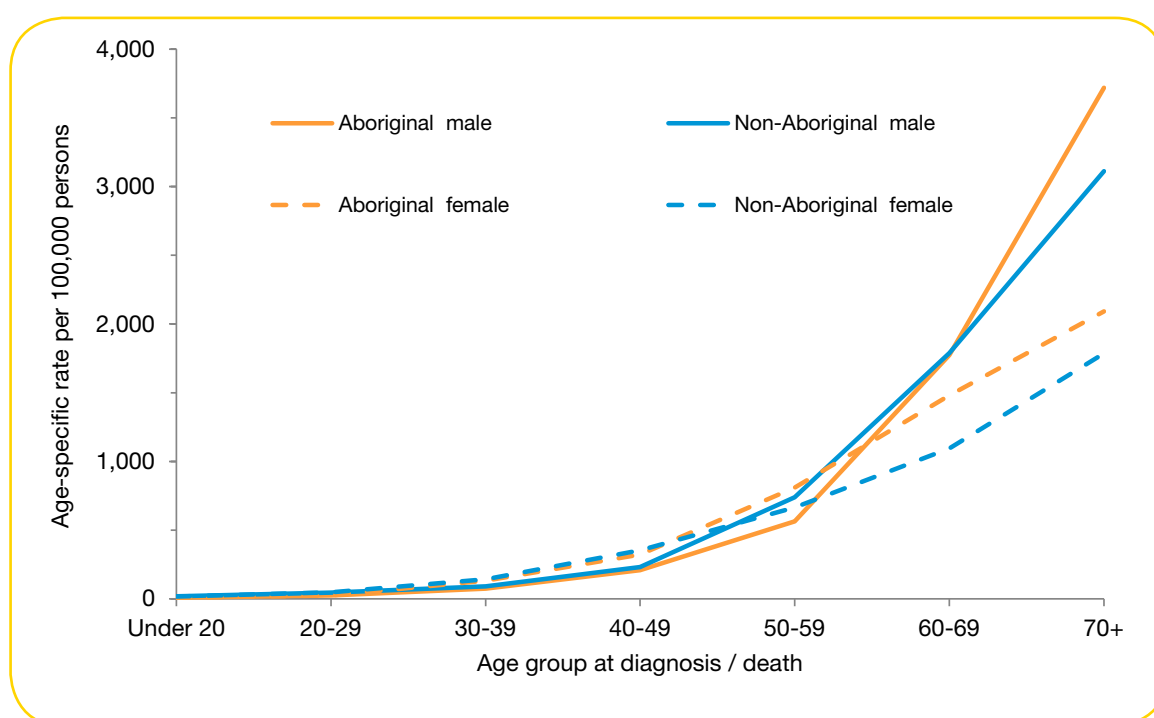


Figure 14 Age-specific cancer incidence rates by sex for Aboriginal and non-Aboriginal Victorians, 2009-2013



Cancer survival

Cancer survival is increasing in Victoria. In 2008-2012, 67% of Victorians with cancer survived 5 years after diagnosis. This has increased from 62% in 2003-2007.

Cancer survival has been included in our annual statistics update since 2009. A comprehensive report *Cancer Survival in Victoria 2013* (Appendix 9 - Ref 3) was published in August 2013 which included survival statistics for Victorians with cancer in 2006-2010 and comparisons with earlier years from 1986-1990. This chapter provides some updated statistics for the 2008-2012 analysis. More detailed tables are available from VCR on request.

The figures reported here show relative survival estimates five years after diagnosis. Relative survival is net survival from cancer – the percentage who would have survived if cancer was the only cause of death (see page 27 for detailed explanation).

Overall five-year cancer survival was 67%, an increase from 62% from 2003-2007. See Figure 18 (page 29).

Table 3 (pages 30-31) shows detailed survival by sex, age group, tumour morphology and region of usual residence for Victorians with all cancers in 2008-2012.

The following sections report on significant differences by sex, age group, and region of residence for individual cancer types.

Cancer type

Cancers with the highest five-year survival were testis (98%), thyroid (94%), prostate (93%), melanoma (89%), female breast (90%), follicular lymphoma (90%) and Hodgkin lymphoma (89%). Cancers with the lowest survival remain liver (15%), lung (14%), cancer of unknown primary (12%), mesothelioma (7%) and pancreas (6%).

Survival patterns vary considerably for the different types of cancer. Figure 15 (Page 28) shows the five-year survival by cancer site for males and females separately and Figure 16 (page 29) the survival curves from diagnosis to five years for all cancer and the leading sites of new cancer.

Sex

Overall, survival was similar for men (66%) and women (67%). There were some differences associated with type of cancer with women usually having the better prognosis for cancers of the thyroid gland and lung, melanoma and cancers of the central nervous system. Survival was higher for men only for bladder cancer and unknown primary cancers.

Age at diagnosis

Most cancers showed decreasing five-year survival proportions with increasing age. However, the magnitude of the decline varied between cancer types. For example, ovary cancer survival declined from 73% for women aged <45 to 17% for those aged >75, whereas breast cancer survival showed a markedly smaller decrease from 89% to 79% between the same ages.

Tumour morphology

For most cancers, there were differences in survival by tumour morphology. Table 3 (on page 30) shows survival by morphology for all cancers. Survival varied from 12% for tumours without histological confirmation and 7% for mesothelioma to 77% for other specified cancers (mostly melanoma), 76% for adenocarcinoma and 76% for lymphoma.

Regional variation

Generally, survival from cancer for residents of metropolitan Melbourne (68%) is better than that for residents from the rest of Victoria (64%).

The reasons for this difference is not clear, and we currently lack data on cancer staging and treatment to assist interpretation. It is possible that Victorians who reside outside of Melbourne have poorer access to cancer services than their metropolitan counterparts and, as a consequence, may delay seeking medical attention and present with more advanced cancers.

It must also be kept in mind that cancer services are provided to non-metropolitan residents by a combination of local services, visiting oncologists and by referrals to other (usually metropolitan) providers. It is therefore not possible to accurately attribute differences in survival by region of residence to regional differences in the totality of cancer services provided.

Trends in survival

Survival has increased significantly between 1988-1992 and 2008-2012 for almost all of the cancers in this report. The only cancers for which no gains have been made are cancers of the larynx, cervix and renal pelvis and mature T-cell and NK-cell non-Hodgkin lymphoma.

There have been a number of substantial gains for cancers having generally poor prognoses. For example, survival from oesophagus cancer increased from 10% to 19%, for gallbladder from 12% to 18%, for CML from 35% to 79%, for liver cancer from 5% to 15%, and for cancer of unknown primary from 5% to 12%. For the last two listed cancers, there were also significant survival gains between 2003-2007 and 2008-2012.

Significant increases have also been observed for overall cancer survival and for survival from the most common types of cancer - prostate, bowel, breast and lung. Survival improvements reflect advances in treatment as well as the successes of screening programs to increase earlier detection for cancers such as breast cancer.

Methods

As with our previous reports, the tables report “period” survival analysis. This uses only the most recent interval survival estimate for cases diagnosed in different calendar years (cross-sectional estimate of survival). The estimate of period 5-year survival for persons in 2008-2012 uses the 1-year interval survival for patients diagnosed in 2012, the 2-year interval survival from patients diagnosed in 2011, and so on. Because the

“period” method uses only the most recent survival experience, when there is an increasing trend in survival it provides a more up-to-date measure of recent survival.

The figures shown are relative survival (RS) i.e. net survival from cancer or the proportion (%) who would have survived if cancer was the only cause of death.

$$RS = \frac{\text{Observed survival proportion in cancer cohort}}{\text{Expected survival in whole population}}$$

Therefore, 56% five-year survival does not mean that 56/100 cancer patients are alive 5 years later but 56% (about half) as many of this group would survive compared with a group the same age and sex without cancer. Thus the actual proportion surviving would differ between age groups even if relative survival were the same.

Example: Relative survival for two fictional groups of 100 cancer patients aged <30 and >85 years. In the whole (non-cancer) population we would expect to have 95 and 35 persons surviving after 5 years. If the relative survival was 56% for each group, the number of cancer patients who survived would be (56% of 95)=53 persons for the younger group and (56% of 35)=20 persons for the older group.

The same relative survival proportion does not mean the same proportion of deaths in the cancer group but means the same excess proportion of deaths.

Statistical analysis undertaken by Kara Martin of the Cancer Council Victoria's Cancer Epidemiology Centre

1988-2012 survival analysis

Survival statistics for Victorians with cancer from 1988-2012 are presented on the following pages though the rest of the publication includes statistics to 2013.

In order to present accurate survival statistics, it is necessary to identify deaths occurring in all Australian States and Territories for persons included in the incidence data. Many persons resident in Victoria at time of diagnosis subsequently move interstate. In particular, there is considerable retiree migration from Victoria to Queensland.

Notification of deaths occurring within Victoria are received monthly from the Victorian Registrar of Births, Deaths and Marriages but, for deaths in other States, it is necessary to link the annual incidence file to the National Death Index (at the Australian Institute of Health and Welfare). This linkage, and subsequent update of the registry database with interstate death details for survival analysis, was not achievable within the time frame of this report.

The first period included in survival analysis was chosen to be 1988-1992 because linkage of incidence data to death notifications was less complete prior to this period. The period 1988-2012 provides us with twenty-five years of cases, divided into five-year time intervals, for the comparison of time trends in survival.

Figure 15 Survival by cancer type for Victorian men and women with cancer in 2008-2012

Five-year relative survival (%) in descending order by cancer type.

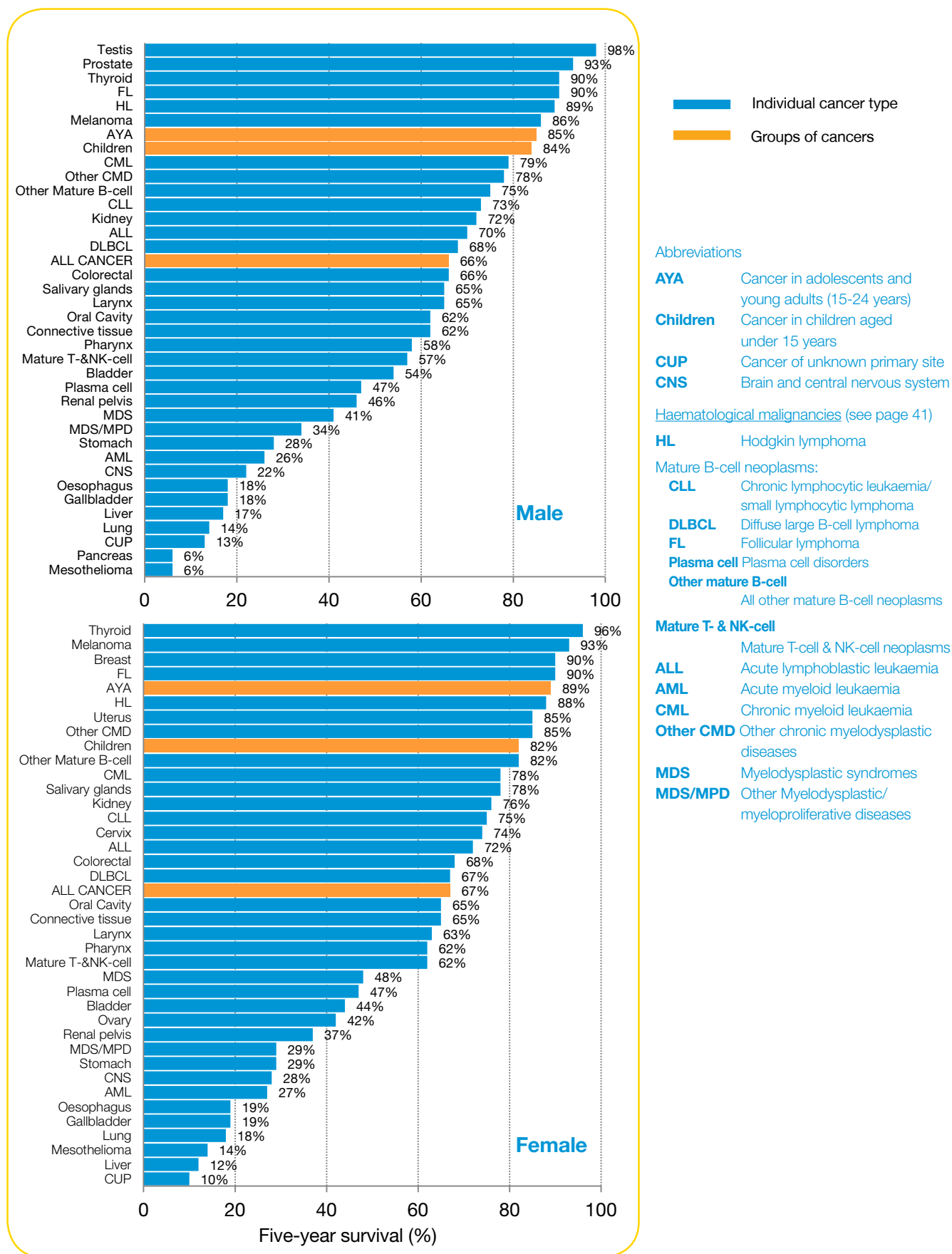


Figure 16 Survival in the five years following diagnosis for all cancers, and the most common cancers, Victoria 2008-2012.

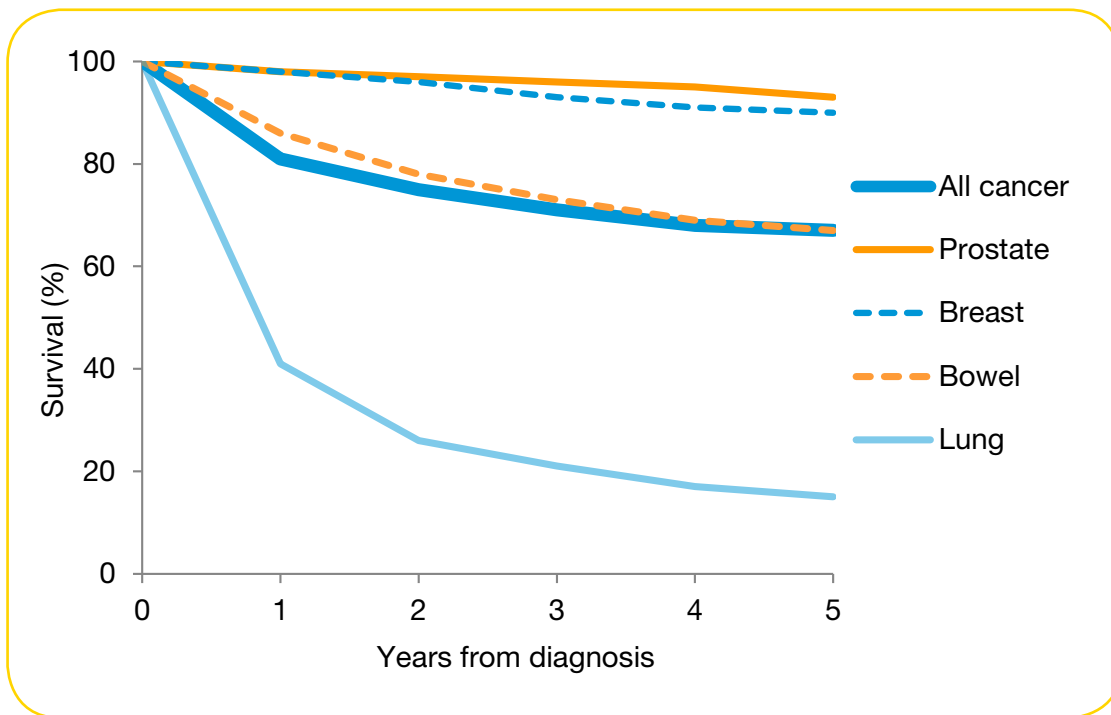


Figure 17 Trends in survival for all cancers, Victoria 1982-2012 - five-year relative survival for each of the five-year periods from 1988-1992 to 2008-2012

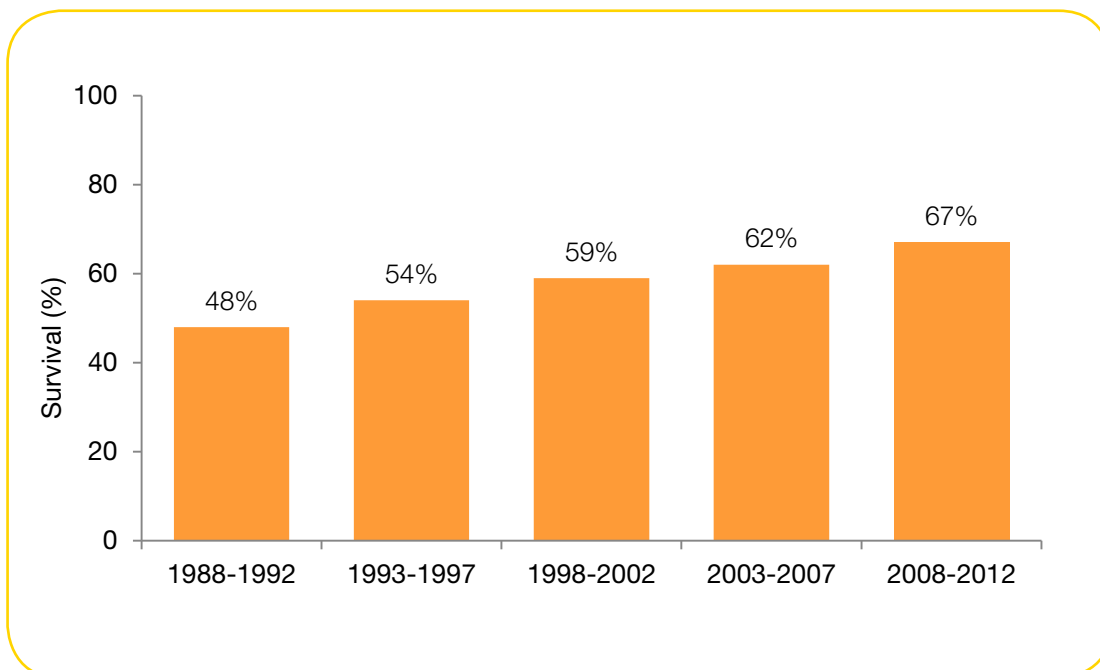


Table 3 Survival by sex, age group, tumour morphology and region of usual residence for Victorians with cancer in 2008-2012

Survival = five-year survival proportion (expressed as %) with 95% CI = 95% confidence interval for survival

p-value = statistical significance between groups. The first p-value tests for difference in survival for the two most recent periods (i.e. the period from 2003-2007 with the period from 2008-2012). The second p-value tests for the trend across all periods shown.

Years after diagnosis	Number of deaths	Survival (%)	95% confidence interval	
1	28,074	81	(81,82)	
2	11,047	75	(75,75)	
3	6,725	71	(71,71)	
4	5,037	68	(68,69)	
5	3,826	67	(66,67)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value ¹
All cases	54,709	67	(66,67)	
Sex				
Male	32,118	66	(66,66)	< 0.01
Female	22,591	67	(67,68)	
Age at diagnosis				
0-14	130	83	(80,85)	< 0.01
15-29	255	88	(87,90)	
30-44	1,332	85	(84,86)	
45-54	3,622	79	(78,79)	
55-64	8,324	75	(74,75)	
65-74	13,372	67	(67,68)	
75+	27,674	48	(47,48)	
Region of residence				
Melbourne	36,611	68	(67,68)	< 0.01
Rest of Victoria	18,069	64	(63,64)	
Integrated Cancer Services Region				
Southern	14,763	68	(68,69)	< 0.01
Western and Central	9,416	65	(64,65)	
North-Eastern	12,432	69	(68,70)	
Barwon	4,739	64	(63,65)	
Grampians	2,823	62	(61,63)	
Loddon-Mallee	3,932	65	(63,66)	
Hume	3,058	66	(65,68)	
Gippsland	3,517	61	(60,62)	
Tumour Morphology group				
Squamous and transitional cell	5,859	53	(52,54)	< 0.01
Adenocarcinoma	24,213	76	(76,76)	
Other specific carcinoma	4,040	35	(33,36)	
Unspecified carcinoma	1,837	19	(17,20)	
Sarcomas and soft tissue tumours	557	64	(61,67)	
Kaposi sarcoma	34	84	(72,93)	
Mesothelioma	660	7	(5,10)	
Other specified types of cancer	5,286	76	(76,77)	
Leukaemia	3,265	57	(56,58)	
Lymphoma	1,934	76	(75,78)	
No histological confirmation	7,024	12	(11,12)	

Table 3 Survival by sex, age group, tumour morphology and region of usual residence for Victorians with cancer in 2008-2012 - continued

By period	Number of deaths	5-year survival (%)	95% confidence Interval	p-value ²
1988-1992	43,143	48	(48,49)	< 0.01/< 0.01
1993-1997	47,954	54	(54,55)	
1998-2002	48,655	59	(58,59)	
2003-2007	51,149	62	(62,63)	
2008-2012	54,709	67	(66,67)	

1 The p-value tests for differences in survival between the categories for each attribute (i.e. between male and female or between persons by age group at diagnosis).

2 The first p-value test for differences between survival for the two most recent periods (i.e. the period from 2003-2007 with the period 2007 to 2012). The second p-value tests for a trend across all the periods shown.

Cancer projections

By 2024-2028 it is estimated that:

- nearly 42,000 Victorians will be diagnosed with cancer, and over 14,000 will die from cancer, each year
- incidence rates will increase to 553.8 per 100,000 men and 410.4 per 100,000 women
- Victorian men will have a 2% decrease, and women will have a 1% increase in incidence rates

Projections of cancer incidence and mortality indicate an increased burden of cancer in Victoria in 2024-2028. Much of this increase will be due to the growth and ageing of the Victorian population but historical trends in rates by cancer type, age group and sex are also used in estimating the projected numbers and rates.

These estimates should be used with due caution - they will be influenced by past fluctuations in specific cancer rates, most notably the rapid recent changes in prostate cancer incidence, and cannot anticipate fluctuations that may occur during the next 15 years. A brief summary of the method is given below.

The number of new diagnoses each year is predicted to increase 43% by 2024-2028 and deaths by 31%. This represents an additional 12,500 new diagnoses and over 3,300 deaths per year compared with 2009-2013.

Numbers of new cases are not predicted to fall for any of the cancers examined.

Figure 18 shows cancer incidence (new cases and age-standardised rates) from 1982-2013 with projections for 2014-2018, 2019-2023 and 2024-2028.

All cancer

By 2024-2028, the annual diagnoses of cancer are forecast to increase by 45% for males and by 40% for females. Over the same period, the number of deaths is predicted to increase by around 33% for males and 28% for females.

See Tables 4 & 5 (pages 34-35) for actual and projected incidence and mortality for selected common cancers to 2024-2028 by sex, Victoria

Estimates of new diagnoses and deaths provide useful figures for service planning as they predict increases in the burden of cancer that will result from population growth and ageing. However, projections of the rates of incidence and mortality show a different predicted pattern, with between 2009-2013 and 2024-2028:

- male cancer incidence rates decreasing by 2% and female rates increasing by 1%
- male cancer mortality rates decreasing by 15% and females by 12%.

Prostate cancer

Prostate cancer incidence rose steeply after the introduction of PSA testing in the early 1990s, peaking in 1995 and then decreasing from 1997 to 1999. This was followed by a period of overall increase, with some fluctuations, until a peak in 2009. Between 2009 and 2013 incidence rates have decreased by 25%. The volatility of the rates make it difficult to project prostate cancer incidence rates with any confidence.

Victorian prostate cancer incidence decreased from 5,673 new cases in 2009 to 4,257 in 2013 (a 25% reduction in diagnoses), with decreasing numbers across almost all age groups. This decline in incidence is likely to reflect trends in PSA testing but, without a more detailed analysis using the Medicare Benefits Schedule data for Victoria, the projections for prostate cancer incidence should be treated with some caution.

Breast cancer

A similar approach to that used for prostate cancer, was used in modelling female breast cancer incidence rates. From 2011-2013, a 21% increase is expected in incidence rate by 2026-2028 and a decline in mortality rate (about 11%) from 2009-2013 to 2024-2028). This increase in incidence rates, combined with population growth and ageing, will lead to an increase in actual numbers of diagnoses of almost 59%.

Methods

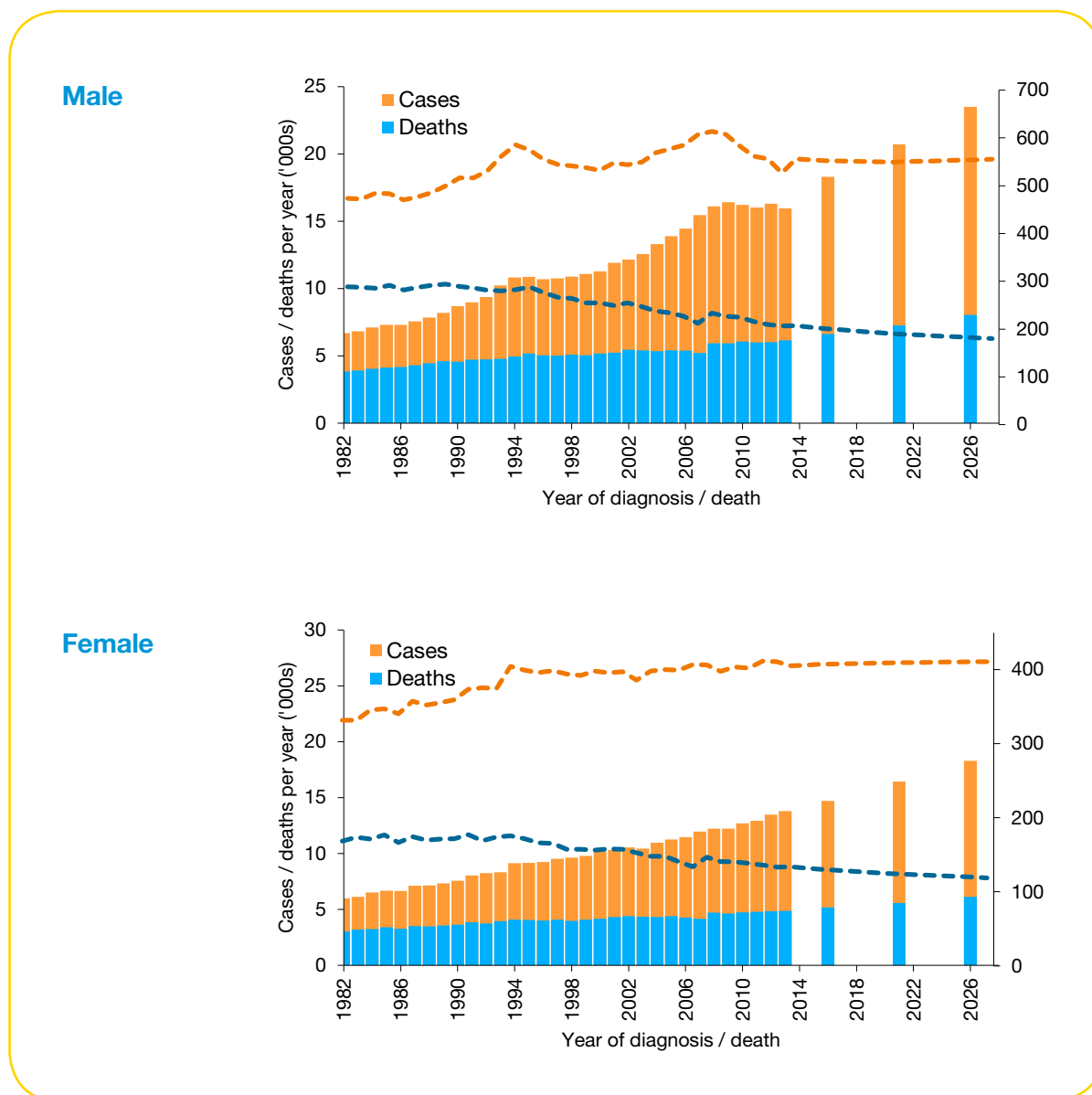
An age-period-cohort (APC) model with a power link function was used to project cancer incidence and mortality by sex for the next 15 years. Statistical analysis was performed using the Nordpred software package in R.

For incidence projection, incidence and population data were aggregated into 5-year age groups and 5-year periods from 1984-2013 for all cancers except bladder, female breast and prostate cancers. Projection was

Figure 18 All cancer incidence and mortality by sex, 1982-2013 with projections to 2024-2028, Victoria

Bars: Numbers of new cases and deaths

Lines: Age-standardised incidence (---) and mortality (- - -) rates per 100,000



based on the last 15, 20, 25 or 30 years depending on a goodness of fit test. For bladder, female breast and prostate cancers, incidence and population data were aggregated into 3-year age groups and 3-year periods from 1996 to 2013. Projection was based on the last 9, 12, 15 or 18 years depending on a goodness of fit test. This method was used to reduce the influence of mammographic screening and PSA testing for female breast and prostate cancer projections. Bladder cancer projections were based on the years 1996 onwards because the coding of bladder cancer changed in 1996.

Mortality projection was similar to incidence projection except female breast and prostate cancers were aggregated into 5-year age groups and 5-year periods instead.

Number of cases of bladder, female breast and prostate cancer and number of deaths of bladder cancer were projected for five 3-year periods, 2014-2016, 2017-2019, 2020-2022, 2023-2025 and 2026-2028. Cases and deaths of all other cancers were projected for three 5-year periods 2014-2018, 2019-2023 and 2024-2028. For both 3-year and 5-year periods, observed and projected incidence and mortality given are the average for that period.

Only age groups with at least 10 cases or deaths in total were used in the APC model for projections. Age groups with less than 10 cases or deaths were projected as the average from the last 10 years.

Statistical analysis undertaken by Kavitha Krishnan of the Cancer Council Victoria's Cancer Epidemiology Centre

Table 4 Actual and projected incidence and incidence rate (age-standardised rate per 100,000 males/females) for selected common cancers to 2024-2028 by sex, Victoria

Rate^{A2001} is standardised to Australian 2001 population to allow comparison with other Australian cancer projections
 Rate^{WSpop} is standardised to Segi World Standard population to allow comparison with other rates in this report.

Cancer	Year	Males			Females		
		Cases	Rate ^{A2001}	Rate ^{WSpop}	Cases	Rate ^{A2001}	Rate ^{WSpop}
All malignant tumours							
	2009-2013	16,179	564.5	362.8	13,027	404.4	276.3
	2014-2018	18,305	552.8	357.2	14,706	407.2	277.8
	2019-2023	20,702	549.6	355.8	16,433	409.2	279.3
	2024-2028	23,482	553.8	357.8	18,301	410.4	280.4
Head & neck							
	2009-2013	520	18.0	12.5	211	6.6	4.5
	2014-2018	570	17.4	12.2	237	6.6	4.7
	2019-2023	614	16.9	12	266	6.8	4.8
	2024-2028	662	16.7	11.9	300	7.0	5.0
Stomach							
	2009-2013	371	13.0	7.8	200	5.9	3.6
	2014-2018	392	11.9	7.1	214	5.6	3.4
	2019-2023	425	11.2	6.8	233	5.4	3.3
	2024-2028	472	11.0	6.7	265	5.5	3.4
Bowel							
	2009-2013	2,006	70.6	42.8	1,678	50	30.5
	2014-2018	2,213	67.5	41.8	1,844	48.3	29.4
	2019-2023	2,414	65.3	41.7	2,013	46.9	28.9
	2024-2028	2,652	65.1	43.4	2,220	46.2	28.8
Pancreas							
	2009-2013	370	13.1	7.7	350	10.1	5.8
	2014-2018	441	13.4	7.9	422	10.6	6.1
	2019-2023	513	13.6	8.1	496	11	6.4
	2024-2028	590	13.8	8.2	582	11.3	6.5
Lung							
	2009-2013	1521	53.7	30.6	1,053	31.8	19.8
	2014-2018	1,549	46.9	27	1,223	32.1	19.8
	2019-2023	1,601	42.1	24.8	1,375	31.8	19.5
	2024-2028	1,708	39.6	23.9	1,510	30.8	18.9
Melanoma							
	2009-2013	1,286	45.3	30	980	31.2	22.3
	2014-2018	1,376	42.4	27.3	958	27.1	19.0
	2019-2023	1,465	39.7	24.8	965	24.3	16.6
	2024-2028	1,566	37.2	22.7	1,008	22.4	14.8
Breast (Female)							
	2011-2013				3,847	121.1	-
	2014-2016				4,363	129.1	-
	2017-2019				4,858	135.9	-
	2020-2022				5,322	141.0	-
	2023-2025				5,707	143.8	-
	2026-2028				6,130	146.6	-

Table 4 Actual and projected incidence and incidence rate - continued

Cancer	Year	Males			Females		
		Cases	Rate ^{A2001}	Rate ^{WSpop}	Cases	Rate ^{A2001}	Rate ^{WSpop}
Uterus							
	2009-2013				618	19.3	13.8
	2014-2018				728	20.3	14.4
	2019-2023				845	21.4	15.2
	2024-2028				968	22.5	16.0
Ovary							
	2009-2013				355	11.1	7.7
	2014-2018				381	10.6	7.3
	2019-2023				404	10.2	7.1
	2024-2028				430	9.9	6.9
Prostate							
	2011-2013	4,603	152.1	-			
	2014-2016	4,002	120.8	-			
	2017-2019	3,700	104.1	-			
	2020-2022	3,698	98.1	-			
	2023-2025	3,989	100.9	-			
	2026-2028	4,375	106.1	-			
Kidney							
	2009-2013	462	16.1	11.1	265	8.3	5.8
	2014-2018	523	16.0	11.0	314	8.7	6.1
	2019-2023	589	16.1	11.0	367	9.1	6.3
	2024-2028	657	16.1	11.0	421	9.3	6.4
Bladder							
	2011-2013	490	17.0	-	141	4.0	-
	2014-2016	543	17.0	-	155	3.9	-
	2017-2019	611	17.5	-	164	3.9	-
	2020-2022	667	17.4	-	175	3.8	-
	2023-2025	726	17.2	-	187	3.7	-
	2026-2028	795	17.1	-	203	3.7	-
Thyroid							
	2009-2013	134	4.8	3.6	368	12.6	10.0
	2014-2018	202	6.5	5.0	526	16.7	13.3
	2019-2023	278	8.1	6.2	694	20.2	16.1
	2024-2028	349	9.4	7.1	849	22.8	18.0
Lymphoma							
	2009-2013	790	27.8	19.2	591	18.6	13.0
	2014-2018	919	28.6	19.6	639	17.9	12.4
	2019-2023	1,053	29.1	19.7	691	17.3	12.0
	2024-2028	1,183	29.2	19.6	744	16.8	11.5
Leukaemia							
	2009-2013	482	17.2	12.2	335	10.3	7.7
	2014-2018	579	18.1	12.9	369	10.2	7.6
	2019-2023	680	18.9	13.5	408	10.1	7.6
	2024-2028	780	19.3	13.9	450	9.9	7.5

Note: Rate^{WSpop} is not available for breast, prostate and bladders cancers, owing to the use of 3-year age groups in estimation for these cancers.

Table 5 Actual and projected mortality and mortality rate (age-standardised rate per 100,000 males/females) for selected common cancers to 2024-2028 by sex, Victoria

Rate^{A2001} is standardised to Australian 2001 population to allow comparison with other Australian cancer projections

Rate^{WSpop} is standardised to Segi World Standard population to allow comparison with other rates in this report.

Cancer	Year	Males			Females		
		Deaths	Rate ^{A2001}	Rate ^{WSpop}	Deaths	Rate ^{A2001}	Rate ^{WSpop}
All malignant tumours							
	2009-2013	6,033	215.1	116.0	4,769	137.2	79.4
	2014-2018	6,638	201.2	109.3	5,176	130.5	75.6
	2019-2023	7,258	190.2	104.1	5,583	124.8	72.4
	2024-2028	8,051	183.0	100.8	6,115	120.6	70.2
Head & neck							
	2009-2013	171	6.0	3.7	69	2.0	1.1
	2014-2018	171	5.1	3.2	70	1.8	1.1
	2019-2023	173	4.6	2.9	74	1.7	1.0
	2024-2028	179	4.3	2.7	78	1.6	1.0
Stomach							
	2009-2013	246	8.8	4.9	136	3.9	2.2
	2014-2018	293	8.9	5.1	143	3.6	2.1
	2019-2023	349	9.2	5.4	150	3.4	2.0
	2024-2028	414	9.6	5.7	164	3.4	2.0
Bowel							
	2009-2013	744	26.5	14.5	613	17.0	9.1
	2014-2018	784	23.8	13.2	619	15.2	8.4
	2019-2023	837	22.1	12.4	643	14.1	7.9
	2024-2028	915	21.2	12.1	692	13.5	7.8
Pancreas							
	2009-2013	324	11.5	6.5	304	8.7	4.8
	2014-2018	367	11.1	6.3	368	9.2	5.1
	2019-2023	413	10.8	6.2	439	9.6	5.4
	2024-2028	461	10.6	6.1	512	9.8	5.5
Lung							
	2009-2013	1,195	42.4	23.2	784	23.1	13.7
	2014-2018	1,205	36.4	20.3	876	22.6	13.2
	2019-2023	1,242	32.5	18.5	963	21.7	12.7
	2024-2028	1,325	30.4	17.8	1,054	20.7	12.1
Melanoma							
	2009-2013	224	7.9	4.7	104	3.0	1.9
	2014-2018	283	8.7	5.0	111	2.9	1.8
	2019-2023	339	9.0	5.1	118	2.8	1.8
	2024-2028	390	9.0	5.0	128	2.7	1.7
Breast (Female)							
	2009-2013				736	21.9	14.0
	2014-2018				775	20.6	13.3
	2019-2023				822	19.8	12.8
	2024-2028				895	19.5	12.7

Table 5 Actual and projected mortality and mortality rate - continued

Cancer	Year	Males			Females		
		Deaths	Rate ^{A2001}	Rate ^{WSpop}	Deaths	Rate ^{A2001}	Rate ^{WSpop}
Uterus							
	2009-2013				107	3.1	1.8
	2014-2018				129	3.3	2.0
	2019-2023				156	3.6	2.2
	2024-2028				183	3.8	2.4
Ovary							
	2009-2013				237	7.0	4.3
	2014-2018				250	6.5	4.0
	2019-2023				259	6.0	3.7
	2024-2028				274	5.7	3.5
Prostate							
	2009-2013	813	29.7	12.6			
	2014-2018	844	25.6	11.0			
	2019-2023	893	23.0	9.9			
	2024-2028	991	21.4	9.3			
Kidney							
	2009-2013	144	5.1	2.9	76	2.2	1.2
	2014-2018	162	4.9	2.9	81	2.0	1.1
	2019-2023	183	4.8	2.9	84	1.9	1.1
	2024-2028	208	4.9	2.9	93	1.8	1.0
Bladder							
	2011-2013	196	6.9	-	70	1.9	-
	2014-2016	208	6.6	-	80	1.9	-
	2017-2019	222	6.4	-	88	2.0	-
	2020-2022	241	6.4	-	86	1.9	-
	2023-2025	267	6.5	-	98	2.0	-
	2026-2028	278	6.2	-	108	2.0	-
Thyroid							
	2009-2013	14	0.5	0.3	20	0.6	0.3
	2014-2018	19	0.6	0.4	29	0.7	0.4
	2019-2023	24	0.7	0.4	34	0.7	0.4
	2024-2028	27	0.7	0.4	41	0.8	0.4
Lymphoma							
	2009-2013	223	8.0	4.3	166	4.7	2.4
	2014-2018	241	7.4	3.9	162	3.9	2.1
	2019-2023	261	6.9	3.6	156	3.3	1.7
	2024-2028	295	6.6	3.4	157	2.9	1.5
Leukaemia							
	2009-2013	243	8.7	4.8	183	5.1	2.8
	2014-2018	266	8.2	4.4	197	4.8	2.6
	2019-2023	295	7.8	4.1	215	4.6	2.5
	2024-2028	328	7.4	3.9	235	4.3	2.3

Note: Rate^{WSpop} is not available for bladder cancers, owing to the use of 3-year age groups in estimation for these cancers.

Appendix 1

The Victorian Cancer Registry

The Victorian Cancer Registry has been a population-based registry since 1982. Amendments to the Cancer Act, in 1981, made it mandatory for all hospitals and pathology laboratories to notify the cancer registry of the presence of cancer in patients or human tissues. The legislation, history, purpose and operation of the registry is described in more detail in the publication Canstat No 37 “A Guide to the Victorian Cancer Registry.”

All malignant neoplasms are registered, as are in situ carcinoma of breast and cervix, and Level 1 (in situ) melanoma. Basal cell carcinomas (BCC) and squamous cell carcinomas (SCC) of the skin are not registered (except for SCC of genital and perianal skin and the vermilion border of lip).

BCCs and SCCs of other skin sites are not registered by the Victorian Cancer Registry as many are treated in doctors' surgeries using destructive techniques which preclude histological confirmation.

All other non-melanoma skin cancers (NMSC), such as Merkel cell tumour, malignant fibrous histiocytoma (MFH), dermatofibrosarcoma protuberans (DFSP), sweat gland and skin appendage tumours are registered and reported as “other skin cancer”.

Currently, about 250 hospitals and 26 pathology laboratories notify cancer to the registry, increasingly in electronic format. In preparing the 2013 incidence data, over 103,000 notifications were processed. In addition, death certificates are obtained from the Registrar of Births, Deaths and Marriages in computerised format on a monthly basis.

The first task at the registry is to match incoming notifications against the register to see if the case has already been registered from another source. Demographic details and codes for tumour site and histology are entered on the system and data are checked for internal consistency and completeness. Further notifications for cancers already on the system are also processed, with any differences being resolved by follow-up, and a censoring date for survival analysis obtained.

Additional information is recorded for some cancer sites e.g. size, hormone receptor status and TNM stage for breast cancer, Clark's level and Breslow thickness for malignant melanoma. Specially trained staff interpret pathology reports to extract and code these data elements, assisted by a consultant pathologist.

The incidence tables in Appendix 7 (pages 45-56) give site, sex and age-specific numbers and rates for most 3-digit ICD-10 rubrics. Age standardised rates (ASR) with standard errors (SE) are given for each site. Confidence limits (95%) for each rate may be obtained by calculating $(ASR \pm 1.96 \times SE)$.

A brief explanation of the statistical methods used may be found In Appendix 4 (page 42).

The minimum data set for each cancer:

- Registry identification number
- Name(s)
- Residential address
- Date of birth
- Indigenous status
- Country of birth
- Sex
- Vital status
- Date of last contact
- Number of primary tumours
- Date of diagnosis
- Site of cancer
- Cancer histology
- Tumour grade
- Method of diagnosis

Appendix 2

Cancer incidence reporting

Incidence

Cancer incidence is defined as the occurrence of new cancers in a defined population in a specified time period. This report includes all cancers notified to the registry that were first diagnosed in Victorian residents between January 1st and December 31st 2013. Tumour morphology and topography are coded to the International Classification of Diseases for Oncology, Third Edition (ICD-O-3)^(Ref 1).

In this report, cancers are grouped by ICD-10^(Ref 2) as described in Appendix 3 (pages 40-41). Figures include chronic myeloproliferative disorders and myelodysplastic syndromes which are classified as malignant in ICD-O-3 (though these conditions have uncertain behaviour codes in ICD-10).

Multiple primary tumours

Incidence reflects the number of primary tumours rather than the number of individuals with cancer. The Victorian Cancer Registry database records multiple primary cancers in the same person, of which only some are counted for incidence purposes according to the rules of the International Agency for Research on Cancer (IARC) and the International Association of Cancer Registries (IACR)^(Ref 5).

The rules, in brief, state that:

1. The recognition of the existence of two or more primary cancers does not depend on time.
2. A primary cancer is one that originates in a primary site or tissue and is not an extension, nor a recurrence, nor a metastasis.
3. Only one tumour is recognised as arising in an organ or pair of organs or tissue. Some groups of codes are considered to be a single organ for the purposes of defining multiple tumours - in this report we use the ICD-O-3 groups defined by IARC^(Ref 5). Multifocal tumours - discrete masses apparently not in continuity with other primary cancers originating in the same primary site or

The incidence data in this report are the 1982-2013 statistics as they stood on 15th September 2014.

Future requests for data and publications may not exactly correspond to the figures in this report, as they will reflect subsequent additions to the dataset.

tissue, for example bladder tumours - are counted as a single cancer.

4. Rule 3 does not apply in two circumstances: Systemic (or multicentric) cancers potentially involving many different organs are only counted once in any individual. These are Kaposi sarcoma (group 15) and tumours of the haematopoietic system (groups 8-14 in IARC manual).

Neoplasms of different morphology should be regarded as multiple cancers (even if they are diagnosed simultaneously in the same site). If the morphological diagnoses fall into one category, and arise in the same primary site, they are considered to be the same morphology for the purpose of counting multiple primaries. If the morphological diagnoses fall into two or more of the categories, even if they concern the same site, the morphology is considered to be different, and two or more cases should be counted.

If, however, one morphology is not specific (i.e. falls in groups 5, 14 or 17) and a specific morphology is available, the case should be reported with the specific histology and the non-specific diagnosis ignored.

Publication of incidence reports

There is usually about twelve months from year of diagnosis to publication of incidence data. This is due to the time delay between the date of cancer diagnosis and receipt of all relevant notifications to the Victorian Cancer Registry, and to the considerable time spent on matching, classifying and checking of cases at the registry.

It should also be noted that despite intensive efforts to ensure the completeness of incidence data before publication, the incidence rates for a given time period change by a small percentage over time. The registry will continue to receive notifications for cases already counted in incidence, and the tumour morphology (based on microscopic diagnosis) or date of diagnosis may be amended as a result of this later notification. Reports for previously uncounted cases diagnosed in a particular year will continue to arrive at the registry for some years after the incidence for that period has been published.

The database is therefore continually being updated and the quality of data improved across the entire period of cancer reporting.

Appendix 3

Cancer types and groups used in report by ICD-10 codes^(Ref 2)

For the purpose of reporting by the Victorian Cancer Registry, “All malignant tumours” includes ICD-10 C00–C96 plus the chronic myeloproliferative disorders and myelodysplastic syndromes which are classified as malignant in ICD-O-3 (though these conditions have uncertain behaviour codes in ICD-10). Squamous and basal cell carcinomas of skin are not included.

ICD-10 description	ICD-10	Label in tables
Lip, oral cavity and pharynx (C00–C14)		
Lip	C00	Lip
Tongue	C01,C02	Tongue
Gum	C03	Gum
Floor of mouth	C04	Floor of mouth
Other and unspecified parts of mouth	C05,C06	Other mouth
Oral cavity	C01–C06	Oral Cavity
Major salivary glands	C07,C08	Salivary glands
Oropharynx	C09,C10	Oropharynx
Nasopharynx	C11	Nasopharynx
Hypopharynx including pyriform sinus	C12,C13	Hypopharynx
Pharynx	C09–C13	Pharynx
Other and unspecified sites of lip, oral cavity and pharynx	C14	Other oral
Digestive organs (C15–C26)		
Oesophagus	C15	Oesophagus
Stomach	C16	Stomach
Small intestine including duodenum	C17	Small intestine
Colon	C18	Colon
Rectum including rectosigmoid	C19–C20	Rectum
Bowel	C18–C20	Bowel
Anus and anal canal	C21	Anus
Liver and intrahepatic bile ducts	C22	Liver
Gallbladder and other biliary tract	C23,C24	Gallbladder
Pancreas	C25	Pancreas
Respiratory system and intrathoracic organs (C30–C39)		
Nose, nasal cavities, middle ear and accessory sinuses	C30,C31	Nasal cavities
Larynx	C32	Larynx
Trachea, bronchus and lung	C33,C34	Lung
Thymus, heart, mediastinum and pleura	C37,C38	Thymus etc
Bones, joints and articular cartilage (C40–C41)		
Bone and articular cartilage	C40,C41	Bone
Melanoma (C43)		
Melanoma of skin	C43	Melanoma
Other malignant neoplasms of skin (C44)		
Other skin cancer ²	C44	Other skin
Mesothelial and soft tissue (C45–C49)		
Mesothelioma	C45	Mesothelioma
Kaposi sarcoma	C46	Kaposi sarcoma
Retroperitoneum and peritoneum	C48	Peritoneum
Other connective tissue (incl. peripheral nerves etc)	C47,C49	Connective tissue
Breast (C50) and female genital organs (C51–C58)		
Breast	C50	Breast
Cervix uteri	C53	Cervix
Body of uterus	C54, C55	Uterus
Ovary	C56	Ovary
Placenta	C58	Placenta
Vulva and other/unspecified female genital organs	C51, C52, C57	Vulva etc
Male genital organs (C60–C63)		
Prostate	C61	Prostate
Testis	C62	Testis
Penis and other male genital organs	C60,C63	Penis etc

ICD-10 description	ICD-10	Label in tables
Urinary tract (C64–C68)		
Kidney, except renal pelvis	C64	Kidney
Bladder	C67	Bladder
Renal pelvis and other/unspecified urinary organs	C65,C66,C68	Renal pelvis etc
Eye, brain and other parts of central nervous system (C69–C72)		
Eye	C69	Eye
Meninges	C70	Meninges
Brain	C71	Brain
Cranial nerves, spinal cord and unspecified CNS	C72	Other CNS
Brain and CNS	C70–C72	Brain and CNS
Thyroid and other endocrine glands (C73–C75)		
Thyroid gland	C73	Thyroid
Other endocrine glands and related structures	C74,C75	Other endocrine
Unknown primary site (C26, C39, C76–C80)		
Other and ill-defined sites	C26, C39, C76–79	Ill-defined sites
Unspecified site	C80	Unspecified site
Malignant neoplasms of lymphoid, haematopoietic and related tissue (C81–96, D45–47)		
Hodgkin lymphoma	C81	Hodgkin lymphoma
Nodular non-Hodgkin lymphoma	C82	Nodular NHL
Diffuse non-Hodgkin lymphoma	C83	Diffuse NHL
Peripheral and cutaneous T-cell lymphoma	C84	T-cell lymphoma
Other/unspecified non-Hodgkin lymphoma	C85	Other NHL
Non-Hodgkin lymphoma	C82–85	All NHL
All lymphoma	C81–85	Lymphoma
Malignant immunoproliferative disease	C88	Immunoproliferative
Multiple myeloma and malignant plasma cell neoplasms	C90	Multiple myeloma
Lymphoid leukaemia	C91	Lymphoid leukaemia
Acute lymphoblastic leukaemia	C91.0	
Chronic lymphocytic leukaemia	C91.1	
Myeloid leukaemia	C92	Myeloid leukaemia
Acute myeloid leukaemia	C92.0	
Chronic myeloid leukaemia	C92.1	
Monocytic leukaemia	C93	Monocytic leukaemia
Other specified leukaemia	C94	Other leukaemia
Unspecified cell leukaemias	C95	Unspecified leukaemia
All leukaemia	C91–C95	All leukaemia
Other and unspecified haematopoietic neoplasms	C96	Other haematopoietic
Chronic myeloproliferative and myelodysplastic syndromes	D45–D47	Myeloproliferative
All malignant tumours	C00–C96, D45–D47	All malignant tumours

Haematological malignancy groups used in this report

We also include, for the first time, incidence, mortality and survival for the following major groups of haematopoietic neoplasms based on the WHO classification and endorsed by Australasian Association of Cancer Registries and Australian Blood Cancer Register in November 2007 ^(Ref 7)

Lymphoid neoplasms

- Hodgkin lymphoma
- Mature B-cell:
 - CLL/small lymphocytic lymphoma
 - Diffuse large B-cell lymphoma
 - Follicular lymphoma
 - Plasma cell disorders
 - Other
- Mature T- and NK--cell neoplasms
- Acute lymphoblastic leukaemia

Myeloid neoplasms

- Acute Myeloid leukaemias
- Chronic Myeloid leukaemia
- Other chronic myeloproliferative diseases
- Myelodysplastic syndromes
- Myelodysplastic/myeloproliferative diseases

The following in situ tumours are also reported:

In situ melanoma (D03) and carcinoma in situ of breast (D05) and cervix (D06)

Appendix 4

Statistical glossary

Incidence and mortality rates

Incidence and mortality rates were calculated using the estimated resident population for Victoria in 2013 (page 11) and expressed as diagnoses or deaths per 100,000 population per annum.

Crude rates

The crude rate is defined as the number of new cases (or deaths) divided by the whole population at risk in the specified time period, expressed as an annual rate per 100,000 population.

Age-specific rates

Age-specific rates are calculated in the same way as the crude rate by dividing the number of cases in each five-year age and sex stratum by the population estimate for that stratum and multiplying by 100,000 (to give rates per 100,000).

Age-standardised rates

Rates are adjusted to enable comparisons between populations having different age structures. The Victorian age-standardised rates (ASR) in this publication were based on the World Standard Population (Cancer Incidence in Five Continents, Volume IV, 1982, IARC). These rates are calculated using the direct method by summation of the weighted age-specific rates. The standard error (SE) of each ASR is given in the tables; a 95% confidence interval for the rate can be estimated by (rate \pm 1.96 SE).

Cumulative rates (to age 75 years)

Five-year age–sex specific rates per person are multiplied by five and summed over age groups from 0–4 to 70–74. This rate is then expressed as a percentage. The rate is a good estimator of lifetime risk.

Risk to age 75 years

This risk is a measure of the risk of contracting a particular cancer by the age of 75 years if the risks at the time of calculation continued throughout life. It is calculated from the cumulative rate using the following formula and expressed as a “1 in x” proportion.

Risk to age 75 = 1/cumulative risk

where

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

Years of Potential Life Lost (to age 75 years)

Years of potential life lost (YPLL) is a measure of the number of years of life lost per year due to premature death from a particular cause given population life expectancy. All deaths in age groups from 0–4 to 70–74 were used in calculations, as deaths before the age of 75 years are considered premature.

Appendix 5

Mortality coding

VCR staff coded cause of death for all Victorians dying in 2013 who ever had a diagnosis of cancer. World Health Organisation (WHO) rules^(Ref 6) are used to determine the underlying cause of death from information supplied by the certifying doctor on the death certificate. Deaths are coded to the 4-digit ICD10 code if cancer was the underlying cause, otherwise they are recorded as non-cancer deaths.

Since 2007 we have presented our own cancer mortality figures, having previously reported coded causes of death from the Australian Bureau of Statistics (ABS).

The reasons for this change include:

Data quality and specificity

The registry has additional information, not available to the ABS, regarding each person's cancer diagnosis/diagnoses, including recent hospital admissions for recurrent or metastatic disease. This information may assist in deciding whether cancer was the underlying cause of death and in determining the most accurate cancer cause of death code.

Haematological malignancies

There is rarely sufficient information on a death certificate to allow the detailed coding of haematological malignancies. Tumour morphology is required to classify accurately into ICD-10 4-digit rubrics or the WHO haematological groups which we use in reporting. By matching the cause of death to existing registry tumour records we can allocate a more precise code.

Inevitably, there were some small changes in reported cancer mortality resulting from this change of coding practice. The overall number of cancer deaths coded by VCR in 2010 was about 2% lower than was reported by ABS. Generally we code slightly more deaths to specific cancers and fewer to ill-defined and unknown sites than the ABS. When comparing trends over time, these changes should be taken into account.

Appendix 6

In situ cancers 2013

Incidence rates are reported for in situ melanomas and carcinoma in situ of female breast and cervix. In situ cancers are localised lesions that have not invaded beyond the epithelial layer. If untreated, some in situ neoplasms may progress to become invasive cancer and metastasise to other body sites through the lymphatics or bloodstream.

The reporting of in situ incidence of these cancers will be of interest in monitoring the effects of interventions such as screening programs. In Victoria, women have access to regular screening for breast and cervix cancers through BreastScreen and PapScreen Victoria. We would expect to see in situ incidence increasing as cancers are detected earlier. This early detection would be expected to be accompanied eventually by decreasing numbers of invasive cancers.

Note: For the purposes of this report, carcinoma in situ of the cervix includes CIN II-III lesions as well as CIN III lesions.

Age group	Cervix Female		Breast Female		Melanoma			
	Cases	Rate	Cases	Rate	Male Cases	Male Rate	Female Cases	Female Rate
0- 4	0	0.0	0	0.0	0	0.0	0	0.0
5- 9	0	0.0	0	0.0	0	0.0	0	0.0
10-14	0	0.0	0	0.0	0	0.0	0	0.0
15-19	20	11.6	0	0.0	1	0.6	1	0.6
20-24	318	155.8	0	0.0	4	1.9	11	5.4
25-29	660	299.0	1	0.5	4	1.8	8	3.6
30-34	559	263.5	8	3.8	18	8.5	25	11.8
35-39	311	157.5	15	7.6	17	8.7	27	13.7
40-44	230	108.5	44	20.8	35	17.1	44	20.8
45-49	115	59.5	51	26.4	59	31.5	82	42.4
50-54	83	43.3	99	51.6	87	46.8	86	44.8
55-59	55	31.7	95	54.8	129	77.3	98	56.5
60-64	32	20.7	92	59.6	175	118.7	126	81.7
65-69	21	15.6	83	61.5	201	155.5	131	97.0
70-74	7	7.0	43	43.1	168	178.3	111	111.2
75-79	2	2.5	25	31.1	142	202.6	91	113.1
80-84	0	0.0	13	19.8	92	184.2	64	97.4
85+	1	1.4	7	9.5	80	195.9	63	85.6
Total cases	2,414		576		1,212		968	
Cumulative rate (%)		5.9		1.7		3.2		2.5
Lifetime risk (to age 75)		1 in 18		1 in 61		1 in 31		1 in 41
Age-standardised rate		77.7		13.9		26.6		21.0

Appendix 7

Detailed tables of cancer incidence 2013 by age, sex and cancer type (ICD10), Victoria

Appendix 7: Detailed tables of cancer incidence 2013 by age, sex and cancer type

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	CR	ASR	SE	
C00 Lip																							
Male	0	0	0	0	0	0	3	1	8	12	15	13	20	23	15	15	16	17	179				
Female	0.0	0.0	0.0	0.0	0.0	1.4	0.5	4.1	5.9	8.0	7.0	12.0	15.6	16.3	15.9	21.4	32.0	41.6	6.3	4.1	0.3		
C01, C02 Tongue																							
Male	0	0	0	0	0	1	2	1	3	11	19	17	17	20	19	14	8	5	137				
Female	0	0	0	0	0	1	1	1	3	3	5	9	10	3	7	6	4	5	58	4.8	3.2	0.2	
C07, C08 Salivary glands																							
Male	0	0	1	0	0	0	0	1	3	1	1	5	6	3	6	7	6	10	50				
Female	0	0	0	0	0	0	0	0	1.5	0.5	0.5	3.0	4.1	2.3	6.4	10.0	12.0	24.5	1.8	1.0	0.1		
C03 Gum																							
Male	0	0	0	0	1	1	0	0	0	0	2	2	2	0	1	0	3	0	13				
Female	0	0	0	0	0	0	0	0	0	0	1	1	3	1	3	2	2	3	17	0.5	0.3	0.1	
C04 Floor of mouth																							
Male	0	0	0	0	0	0	0	0	0	0	4	2	3	3	3	4	2	1	22				
Female	0	0	0	0	0	0	0	0	0	0	2.2	1.2	2.0	2.3	3.2	5.7	4.0	2.5	0.8	0.5	0.1		
C05, C06 Other mouth																							
Male	0	0	0	0	0	0	0	0	2	1	2	4	4	4	13	3	2	2	35				
Female	0	0	0	0	0	1	1	0	2	2	4	1	2	2	6	7	7	3	38	1.2	0.8	0.1	

Appendix 7 Numbers (Blue) and age-specific rates (Black)
 – CR crude incidence rate – ASR Age-standardised rate (Age-standardised to World Standard Population) – SE Standard error of ASR – All rates are per 100,000

Appendix 7: Detailed tables of cancer incidence 2013 by age, sex and cancer type

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	CR	ASR	SE	
C01-C06 Oral cavity																							
Male	0	0	0	0	1	2	2	1	5	13	27	25	26	36	25	21	15	8	207				
	0.0	0.0	0.0	0.0	0.5	0.9	0.9	0.5	2.4	6.9	14.5	15.0	17.6	27.9	26.5	30.0	30.0	19.6		7.3	4.7	0.3	
Female	0	0	0	0	0	2	2	1	6	6	10	11	16	7	18	16	14	11	120				
	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.5	2.8	3.1	5.2	6.3	10.4	5.2	18.0	19.9	21.3	14.9		4.1	2.3	0.2	
C09, C10 Oropharynx																							
Male	0	0	0	0	0	0	0	0	2	6	16	22	16	12	9	0	3	1	87				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	3.2	8.6	13.2	10.9	9.3	9.6	0.0	6.0	2.5		3.1	2.2	0.2	
Female	0	0	0	0	0	0	0	2	1	4	2	2	5	4	1	2	1	0	24				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5	2.1	1.0	1.2	3.2	3.0	1.0	2.5	1.5	0.0		0.8	0.6	0.1	
C11 Nasopharynx																							
Male	0	0	0	1	0	0	0	1	1	4	3	5	0	3	2	2	2	1	25				
	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.5	0.5	2.1	1.6	3.0	0.0	2.3	2.1	2.9	4.0	2.5		0.9	0.6	0.1	
Female	0	0	0	0	0	0	0	0	1	1	2	0	0	3	1	0	0	0	8				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	1.0	0.0	0.0	2.2	1.0	0.0	0.0	0.0		0.3	0.2	0.1	
C12, C13 Hypopharynx																							
Male	0	0	0	0	0	0	0	0	0	1	3	4	2	3	2	5	0	1	21				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.6	2.4	1.4	2.3	2.1	7.1	0.0	2.5		0.7	0.5	0.1	
Female	0	0	0	0	0	0	0	0	0	0	0	3	0	0	2	1	2	2	10				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	2.0	1.2	3.0	2.7		0.3	0.2	0.0	
C09-C13 Pharynx																							
Male	0	0	0	1	0	0	0	1	3	11	22	31	18	18	13	7	5	3	133				
	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.5	1.5	5.9	11.8	18.6	12.2	13.9	13.8	10.0	10.0	7.4		4.7	3.2	0.3	
Female	0	0	0	0	0	0	0	2	2	5	4	5	5	7	4	3	3	2	42				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.9	2.6	2.1	2.9	3.2	5.2	4.0	3.7	4.6	2.7		1.5	0.9	0.1	
C14 Other oral																							
Male	0	0	0	0	0	0	0	0	0	0	1	0	3	4	1	2	1	1	13				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	2.0	3.1	1.1	2.9	2.0	2.5		0.5	0.3	0.1	
Female	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	4				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.5	1.0	0.0	0.0	0.0		0.1	0.1	0.0	

Appendix 7 Numbers (Blue) and age-specific rates (Black)

- CR crude incidence rate - ASR Age-standardised rate (Age-standardised to World Standard Population) - SE Standard error of ASR - All rates are per 100,000

Appendix 7: Detailed tables of cancer incidence 2013 by age, sex and cancer type

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	CR	ASR	SE
C15 Oesophagus																						
Male	0	0	0	0	0	0	0	0	4	7	18	26	32	39	41	36	25	20	248			
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	3.7	9.7	15.6	21.7	30.2	43.5	51.4	50.1	49.0		8.7	5.1	0.3
Female	0	0	0	0	0	0	0	0	0	1	5	5	11	14	15	16	22	36	125			
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.6	2.9	7.1	10.4	15.0	19.9	33.5	48.9		4.3	1.8	0.1
C16 Stomach																						
Male	0	0	0	0	0	0	5	2	8	13	18	31	43	58	59	59	52	43	391			
	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.0	3.9	6.9	9.7	18.6	29.2	44.9	62.6	84.2	104.1	105.3		13.8	7.7	0.4
Female	0	0	0	0	0	1	1	5	9	9	11	8	15	22	21	24	30	32	188			
	0.0	0.0	0.0	0.0	0.0	0.5	0.5	2.5	4.2	4.7	5.7	4.6	9.7	16.3	21.0	29.8	45.7	43.5		6.5	3.3	0.2
C17 Small Intestine																						
Male	0	0	0	0	0	0	0	0	4	2	4	4	8	17	16	5	9	8	77			
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.1	2.2	2.4	5.4	13.2	17.0	7.1	18.0	19.6		2.7	1.6	0.2
Female	0	0	0	0	0	1	0	1	2	5	4	4	14	3	5	10	7	4	60			
	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.9	2.6	2.1	2.3	9.1	2.2	5.0	12.4	10.7	5.4		2.1	1.2	0.1
C18 Colon																						
Male	0	3	1	0	4	5	13	14	25	46	66	80	129	180	164	183	182	154	1,249			
	0.0	1.7	0.6	0.0	1.9	2.3	6.1	7.2	12.2	24.6	35.5	47.9	87.5	139.3	174.0	261.1	364.3	377.2		44.0	24.7	0.7
Female	0	0	3	3	8	5	9	19	24	38	57	81	104	137	166	173	187	200	1,214			
	0.0	0.0	1.9	1.7	3.9	2.3	4.2	9.6	11.3	19.7	29.7	46.7	67.4	101.5	166.3	215.1	284.6	271.6		41.9	20.9	0.6
C19-C21 Rectum																						
Male	0	0	0	0	1	7	7	12	22	20	54	72	103	120	107	84	65	49	723			
	0.0	0.0	0.0	0.0	0.5	3.2	3.3	6.2	10.7	10.7	29.0	43.1	69.9	92.8	113.5	119.8	130.1	120.0		25.5	15.6	0.6
Female	0	0	0	0	1	0	3	6	23	30	37	43	55	60	55	59	49	68	489			
	0.0	0.0	0.0	0.0	0.5	0.0	1.4	3.0	10.9	15.5	19.3	24.8	35.7	44.4	55.1	73.3	74.6	92.4		16.9	9.3	0.4
C18-C20 Bowel																						
Male	0	3	1	0	5	12	20	26	47	66	120	152	232	300	271	267	247	203	1,972			
	0.0	1.7	0.6	0.0	2.4	5.4	9.4	13.3	22.9	35.3	64.5	91.1	157.4	232.1	287.5	380.9	494.5	497.2		69.4	40.3	0.9
Female	0	0	3	3	9	5	12	25	47	68	94	124	159	197	221	232	236	268	1,703			
	0.0	0.0	1.9	1.7	4.4	2.3	5.7	12.7	22.2	35.2	49.0	71.5	103.1	145.9	221.5	288.4	359.2	364.0		58.7	30.1	0.7

Appendix 7 Numbers (Blue) and age-specific rates (Black)

- CR crude incidence rate - ASR Age-standardised rate (Age-standardised to World Standard Population) - SE Standard error of ASR - All rates are per 100,000

Appendix 7: Detailed tables of cancer incidence 2013 by age, sex and cancer type

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	CR	ASR	SE	
C21 Anus & anal canal																							
Male	0	0	0	0	0	1	0	1	4	8	2	4	7	5	6	6	4	3	46				
Female	0	0	0	0	0	0	0	0	0.5	2.1	4.3	1.2	2.7	5.4	5.3	8.6	8.0	7.4	69	1.6	1.0	0.1	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2.1	5.2	8.6	3.9	4.4	6.0	7.5	4.6	10.9		2.4	1.4	0.2	
C22 Liver																							
Male	1	0	1	0	1	0	2	1	10	20	36	52	30	41	43	37	37	24	336				
Female	0.5	0.0	0.6	0.0	0.5	0.0	0.9	0.5	4.9	10.7	19.4	31.2	20.4	31.7	45.6	52.8	74.1	58.8	138	11.8	7.3	0.4	
	0.6	0.6	0.0	0.0	0.0	0.0	0.5	0.0	0.5	1.0	5.2	6.3	6.5	11.9	17.0	24.9	36.5	32.6		4.8	2.3	0.2	
C23, C24 Gallbladder																							
Male	0	0	0	0	0	0	0	0	2	1	2	6	6	17	16	19	10	8	87				
Female	0	0	0	0	0	0	0	0	1.0	0.5	1.1	3.6	4.1	13.2	17.0	27.1	20.0	19.6	107	3.1	1.7	0.2	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.5	2.1	2.9	7.1	5.9	20.0	14.9	27.4	32.6		3.7	1.7	0.1	
C25 Pancreas																							
Male	0	1	0	0	0	0	1	1	8	5	18	25	40	54	70	61	51	51	386				
Female	0	0	0	0	0	0	0	0.5	3.9	2.7	9.7	15.0	27.1	41.8	74.3	87.0	102.1	124.9	13.6	13.6	7.4	0.4	
	0.0	0.0	0.6	0.0	0.0	0.0	0.5	1.0	0.9	3.1	7.8	10.4	21.4	31.8	41.1	58.4	63.9	112.7		11.5	5.3	0.3	
C30 C31 Nasal Cavities																							
Male	0	0	0	0	0	0	0	0	0	2	2	1	2	2	2	3	5	4	23				
Female	0	0	0	0	0	0	0	0	0.0	1.1	1.1	0.6	1.4	1.6	2.1	4.3	10.0	9.8	18	0.8	0.4	0.1	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.6	1.3	1.5	4.0	2.5	1.5	1.4		0.6	0.4	0.1	
C32 Larynx																							
Male	0	0	0	0	0	0	0	0	0	7	8	9	16	22	23	14	11	5	115				
Female	0	0	0	0	0	0	0	0	0.0	3.7	4.3	5.4	10.9	17.0	24.4	20.0	22.0	12.3	29	4.1	2.5	0.2	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.7	1.9	3.0	5.0	2.5	7.6	5.4		1.0	0.5	0.1	

Appendix 7 Numbers (Blue) and age-specific rates (Black)

- CR crude incidence rate - ASR Age-standardised rate (Age-standardised to World Standard Population) - SE Standard error of ASR - All rates are per 100,000

Appendix 7: Detailed tables of cancer incidence 2013 by age, sex and cancer type

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	CR	ASR	SE
C33, C34 Lung																						
Male	0	0	0	0	1	2	2	9	7	28	57	102	159	253	257	242	252	194	1,565			
	0.0	0.0	0.0	0.0	0.5	0.9	0.9	4.6	3.4	15.0	30.6	61.1	107.9	195.7	272.7	345.2	504.5	475.2		55.1	29.5	0.7
Female	0	0	0	0	1	0	2	2	18	27	45	98	104	208	161	162	135	129	1,092			
	0.0	0.0	0.0	0.0	0.5	0.0	0.9	1.0	8.5	14.0	23.5	56.5	67.4	154.0	161.3	201.4	205.5	175.2		37.7	19.4	0.6
C37, C38 Thymus etc																						
Male	1	0	0	1	2	0	0	0	0	1	0	1	0	1	2	2	1	0	12			
	0.5	0.0	0.0	0.6	1.0	0.0	0.0	0.0	0.0	0.5	0.0	0.6	0.0	0.8	2.1	2.9	2.0	0.0		0.4	0.4	0.1
Female	0	0	0	0	0	1	0	0	0	0	0	0	2	1	0	1	0	0	5			
	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.7	0.0	1.2	0.0	0.0		0.2	0.1	0.0
C40, C41 Bone																						
Male	0	1	0	1	0	1	1	1	2	2	2	2	4	3	3	1	2	0	26			
	0.0	0.6	0.0	0.6	0.0	0.5	0.5	1.0	1.0	1.1	1.1	1.2	2.7	2.3	3.2	1.4	4.0	0.0		0.9	0.7	0.1
Female	1	3	1	1	0	1	3	0	1	1	1	0	0	5	1	1	1	1	22			
	0.6	1.8	0.6	0.6	0.0	0.5	1.4	0.0	0.5	0.5	0.5	0.0	0.0	3.7	1.0	1.2	1.5	1.4		0.8	0.7	0.1
C43 Melanoma																						
Male	0	0	0	2	10	15	22	33	47	82	105	106	162	189	161	145	122	121	1,322			
	0.0	0.0	0.0	1.1	4.7	6.8	10.4	16.9	22.9	43.8	56.4	63.5	109.9	146.2	170.8	206.8	244.2	296.4		46.5	29.0	0.8
Female	0	0	0	4	11	18	34	43	55	71	81	101	88	111	88	89	88	103	985			
	0.0	0.0	0.0	2.3	5.4	8.2	16.0	21.8	25.9	36.7	42.2	58.2	57.0	82.2	88.2	110.6	133.9	139.9		34.0	20.8	0.6
C44 Other skin																						
Male	0	1	0	0	0	2	0	0	1	1	4	1	6	9	7	7	14	10	63			
	0.0	0.6	0.0	0.0	0.0	0.9	0.0	0.0	0.5	0.5	2.2	0.6	4.1	7.0	7.4	10.0	28.0	24.5		2.2	1.2	0.1
Female	0	0	0	0	0	5	1	0	1	4	2	3	6	5	5	2	6	8	48			
	0.0	0.0	0.0	0.0	0.0	2.3	0.5	0.0	0.5	2.1	1.0	1.7	3.9	3.7	5.0	2.5	9.1	10.9		1.7	1.0	0.1
C45 Mesothelioma																						
Male	0	0	0	0	0	0	0	0	2	0	1	3	6	17	9	25	18	16	97			
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.5	1.8	4.1	13.2	9.6	35.7	36.0	39.2		3.4	1.6	0.2
Female	0	0	0	0	0	1	0	0	0	1	1	1	3	6	2	4	8	7	34			
	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.5	0.6	1.9	4.4	2.0	5.0	12.2	9.5		1.2	0.5	0.1

Appendix 7 Numbers (Blue) and age-specific rates (Black)

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Appendix 7: Detailed tables of cancer incidence 2013 by age, sex and cancer type

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	CR	ASR	SE	
C46 Kaposi Sarcoma																							
Male	0	0	0	0	0	0	0	1	0	2	3	1	2	1	4	1	1	2	18				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.1	1.6	0.6	1.4	0.8	4.2	1.4	2.0	4.9	0.6	0.6	0.4	0.1	
Female	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	2	5				
	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.0	0.0	0.0	2.7	0.2	0.2	0.1	0.0	
C48 Peritoneum																							
Male	3	0	0	1	0	0	0	0	0	2	2	1	1	1	3	0	1	1	16				
	1.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	1.1	1.1	0.6	0.7	0.8	3.2	0.0	2.0	2.5	0.6	0.6	0.5	0.1	
Female	1	1	0	0	0	0	1	1	0	3	5	4	3	6	1	3	2	0	31				
	0.6	0.6	0.0	0.0	0.0	0.0	0.5	0.5	0.0	1.6	2.6	2.3	1.9	4.4	1.0	3.7	3.0	0.0	1.1	1.1	0.8	0.1	
C47, C49 Connective Tissue																							
Male	1	1	1	2	5	4	2	7	7	13	2	11	7	5	15	7	8	12	110				
	0.5	0.6	0.6	1.1	2.4	1.8	0.9	3.6	3.4	6.9	1.1	6.6	4.8	3.9	15.9	10.0	16.0	29.4	3.9	3.9	2.8	0.2	
Female	2	1	2	1	1	2	4	4	4	3	5	7	10	11	3	4	2	9	75				
	1.1	0.6	1.2	0.6	0.5	0.9	1.9	2.0	1.9	1.6	2.6	4.0	6.5	8.2	3.0	5.0	3.0	12.2	2.6	2.6	1.9	0.2	
C50 Breast																							
Male	0	0	0	1	0	0	0	0	1	0	2	4	4	7	5	4	3	2	33				
	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.5	0.0	1.1	2.4	2.7	5.4	5.3	5.7	6.0	4.9	1.2	1.2	0.7	0.1	
Female	0	0	0	0	2	20	62	124	268	401	547	482	525	540	336	297	239	232	4,075				
	0.0	0.0	0.0	0.0	1.0	9.1	29.2	62.8	126.4	207.5	285.2	277.8	340.3	399.9	336.7	369.2	363.8	315.1	140.6	140.6	91.2	1.4	
C53 Cervix																							
Female	0	0	0	0	1	15	23	18	23	15	14	13	8	12	7	6	5	8	168				
	0.0	0.0	0.0	0.0	0.5	6.8	10.8	9.1	10.9	7.8	7.3	7.5	5.2	8.9	7.0	7.5	7.6	10.9	5.8	5.8	4.3	0.3	
C54, C55 Uterus																							
Female	0	0	0	0	1	4	6	14	23	26	59	86	127	115	81	52	63	31	688				
	0.0	0.0	0.0	0.0	0.5	1.8	2.8	7.1	10.9	13.5	30.8	49.6	82.3	85.2	81.2	64.6	95.9	42.1	23.7	23.7	14.6	0.5	
C56 Ovary																							
Female	0	0	0	2	2	6	5	6	6	9	29	37	38	35	44	30	30	35	345				
	0.0	0.0	1.2	1.2	2.9	2.3	2.8	3.0	4.2	15.0	16.2	21.3	24.6	25.9	44.1	37.3	45.7	47.5	11.9	11.9	7.3	0.4	

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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	CR	ASR	SE	
C51, C52, C57 Vulva etc																							
Female	0	0	0	0	0	0	1	1	3	11	13	15	15	25	33	16	20	26	179				
	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	1.4	5.7	6.8	8.6	9.7	18.5	33.1	19.9	30.4	35.3		6.2	3.3	0.2	
C61 Prostate																							
Male	0	0	0	0	0	0	0	5	25	82	256	504	702	991	685	434	310	263	4,257				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	12.2	43.8	137.6	302.0	476.2	766.7	726.8	619.1	620.6	644.2	149.9	91.6	91.6	1.4	1.4
C62 Testis																							
Male	0	0	0	4	15	31	25	31	17	11	15	4	6	2	1	1	1	1	165				
	0.0	0.0	0.0	2.2	7.1	13.9	11.8	15.9	8.3	5.9	8.1	2.4	4.1	1.6	1.1	1.4	2.0	2.5		5.8	5.2	0.4	0.4
C60, C63 Penis etc																							
Male	0	0	0	0	0	0	0	1	0	1	1	4	1	6	7	6	3	9	39				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.5	2.4	0.7	4.6	7.4	8.6	6.0	22.0		1.4	0.7	0.1	0.1
C64 Kidney																							
Male	3	0	0	0	1	1	5	9	27	30	44	59	77	83	67	62	35	26	529				
	1.6	0.0	0.0	0.0	0.5	0.5	2.4	4.6	13.2	16.0	23.7	35.4	52.2	64.2	71.1	88.4	70.1	63.7		18.6	12.0	0.5	0.5
Female	3	2	0	0	1	4	3	5	8	21	26	34	40	35	44	26	24	28	304				
	1.7	1.2	0.0	0.0	0.5	1.8	1.4	2.5	3.8	10.9	13.6	19.6	25.9	25.9	44.1	32.3	36.5	38.0	10.5	6.5	6.5	0.4	0.4
C67 Bladder																							
Male	0	0	0	0	0	0	1	1	5	12	13	29	31	63	73	74	88	102	492				
	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	2.4	6.4	7.0	17.4	21.0	48.7	77.5	105.6	176.2	249.8	17.3	8.7	8.7	0.4	0.4
Female	0	0	0	0	1	0	0	2	0	0	7	13	7	11	20	22	26	34	143				
	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.0	0.0	0.0	3.7	7.5	4.5	8.2	20.0	27.4	39.6	46.2	4.9	2.1	2.1	0.2	0.2
C65, C66, C68 Renal pelvis etc																							
Male	0	0	0	0	0	0	0	0	1	1	2	5	4	13	14	7	5	9	61				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	1.1	3.0	2.7	10.1	14.9	10.0	10.0	22.0	2.2	1.2	1.2	0.1	0.1
Female	0	0	0	0	0	0	0	1	0	0	1	3	5	5	7	10	4	17	53				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	1.7	3.2	3.7	7.0	12.4	6.1	23.1	1.8	0.8	0.8	0.1	0.1

Appendix 7 Numbers (Blue) and age-specific rates (Black)

– CR crude incidence rate – ASR Age-standardised rate (Age-standardised to World Standard Population) – SE Standard error of ASR – All rates are per 100,000

Appendix 7: Detailed tables of cancer incidence 2013 by age, sex and cancer type

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	CR	ASR	SE
C69 Eye																						
Male	2	0	1	1	0	1	0	1	1	3	5	1	11	3	5	0	5	7	47			
	1.1	0.0	0.6	0.0	0.0	0.5	0.0	0.5	0.5	1.6	2.7	0.6	7.5	2.3	5.3	0.0	10.0	17.2		1.7	1.2	0.2
Female	0	0	0	0	1	1	1	0	0	2	6	4	3	2	4	4	1	4	33			
	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	1.0	3.1	2.3	1.9	1.5	4.0	5.0	1.5	5.4		1.1	0.7	0.1
C70 Meninges																						
Male	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	3			
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.0	0.0	0.0	2.5		0.1	0.1	0.0
Female	0	0	0	0	1	0	0	0	1	0	0	2	0	1	0	1	0	0	6			
	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.5	0.0	0.0	1.2	0.0	0.7	0.0	1.2	0.0	0.0		0.2	0.2	0.0
C71 Brain																						
Male	5	3	2	0	7	15	7	11	16	13	20	20	22	23	23	20	12	7	226			
	2.6	1.7	1.2	0.0	3.3	6.8	3.3	5.6	7.8	6.9	10.8	12.0	14.9	17.8	24.4	28.5	24.0	17.2		8.0	5.9	0.4
Female	3	2	2	3	6	4	3	7	8	13	13	16	24	22	17	18	13	19	193			
	1.7	1.2	1.2	1.7	2.9	1.8	1.4	3.6	3.8	6.7	6.8	9.2	15.6	16.3	17.0	22.4	19.8	25.8		6.7	4.5	0.3
C72 Other CNS																						
Male	0	1	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	0	6			
	0.0	0.6	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	2.0	0.0		0.2	0.2	0.1
Female	0	2	0	1	0	0	0	0	0	1	1	0	0	1	0	0	0	0	6			
	0.0	1.2	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.7	0.0	0.0	0.0	0.0		0.2	0.3	0.1
C70-C72 Brain & CNS																						
Male	5	4	2	0	7	15	7	13	16	13	22	20	23	24	23	20	13	8	235			
	2.6	2.2	1.2	0.0	3.3	6.8	3.3	6.7	7.8	6.9	11.8	12.0	15.6	18.6	24.4	28.5	26.0	19.6		8.3	6.2	0.4
Female	3	4	2	4	6	5	3	7	9	14	14	18	24	24	17	19	13	19	205			
	1.7	2.4	1.2	2.3	2.9	2.3	1.4	3.6	4.2	7.2	7.3	10.4	15.6	17.8	17.0	23.6	19.8	25.8		7.1	4.9	0.3
C73 Thyroid																						
Male	0	0	0	0	2	5	9	11	18	18	21	23	12	18	9	9	3	2	160			
	0.0	0.0	0.0	0.0	1.0	2.3	4.2	5.6	8.8	9.6	11.3	13.8	8.1	13.9	9.6	12.8	6.0	4.9		5.6	4.2	0.3
Female	0	0	2	4	13	17	29	34	54	55	39	45	47	29	18	15	19	10	430			
	0.0	0.0	1.2	2.3	6.4	7.7	13.7	17.2	25.5	28.5	20.3	25.9	30.5	21.5	18.0	18.7	28.9	13.6		14.8	11.2	0.5

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Appendix 7: Detailed tables of cancer incidence 2013 by age, sex and cancer type

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	CR	ASR	SE
C74, C75 Other endocrine																						
Male	1	1	0	2	0	0	0	2	1	1	1	1	1	2	3	1	0	0	17			
	0.5	0.6	0.0	1.1	0.0	0.0	0.0	1.0	0.5	0.5	0.5	0.6	0.7	1.6	3.2	1.4	0.0	0.0		0.6	0.5	0.1
Female	1	0	0	1	3	0	1	0	0	1	0	0	1	2	2	0	2	1	15			
	0.6	0.0	0.0	0.6	1.5	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.7	1.5	2.0	0.0	3.0	1.4		0.5	0.4	0.1
C26, C39, C76-C79 Ill-defined sites																						
Male	0	0	0	0	0	0	1	0	1	1	3	6	2	11	7	7	17	10	66			
	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.5	1.6	3.6	1.4	8.5	7.4	10.0	34.0	24.5		2.3	1.2	0.1
Female	1	0	0	0	0	0	1	0	0	1	1	2	2	5	1	5	4	8	31			
	0.6	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.5	1.2	1.3	3.7	1.0	6.2	6.1	10.9		1.1	0.5	0.1
C80 Unspecified site																						
Male	0	0	0	0	0	0	2	7	7	5	11	23	28	39	42	54	54	77	342			
	0.0	0.0	0.0	0.0	0.0	0.0	1.0	3.4	3.4	2.7	5.9	13.8	19.0	30.2	44.6	77.0	108.1	188.6		12.0	6.1	0.3
Female	0	0	0	0	0	1	0	2	3	8	13	13	20	29	26	42	53	84	294			
	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.0	1.4	4.1	6.8	7.5	13.0	21.5	26.1	52.2	80.7	114.1		10.1	4.3	0.2
C81 Hodgkin's disease																						
Male	0	2	0	8	13	8	11	8	4	4	5	10	5	7	7	7	2	2	103			
	0.0	1.1	0.0	4.4	6.2	3.6	5.2	4.1	2.0	2.1	2.7	6.0	3.4	5.4	7.4	10.0	4.0	4.9		3.6	3.1	0.3
Female	1	0	4	13	6	5	3	9	8	4	7	2	1	1	2	2	5	4	77			
	0.6	0.0	2.5	7.5	2.9	2.3	1.4	4.6	3.8	2.1	3.7	1.2	0.7	0.7	2.0	2.5	7.6	5.4		2.7	2.5	0.3
C82 Nodular NHL																						
Male	0	0	0	0	1	0	4	5	6	10	19	16	24	31	22	15	13	13	179			
	0.0	0.0	0.0	0.0	0.5	0.0	1.9	2.6	2.9	5.3	10.2	9.6	16.3	24.0	23.3	21.4	26.0	31.8		6.3	4.0	0.3
Female	0	0	0	0	0	1	2	4	11	13	17	17	23	34	23	21	8	11	185			
	0.0	0.0	0.0	0.0	0.0	0.5	0.9	2.0	5.2	6.7	8.9	9.8	14.9	25.2	23.1	26.1	12.2	14.9		6.4	4.0	0.3
C83 Diffuse NHL																						
Male	1	1	1	3	4	4	7	7	10	13	22	31	41	49	60	54	40	41	389			
	0.5	0.6	0.6	1.6	1.9	1.8	3.3	3.6	4.9	6.9	11.8	18.6	27.8	37.9	63.7	77.0	80.1	100.4		13.7	8.3	0.4
Female	0	1	1	1	2	3	0	2	4	7	11	18	21	41	39	44	23	27	245			
	0.0	0.6	0.6	0.6	1.0	1.4	0.0	1.0	1.9	3.6	5.7	10.4	13.6	30.4	39.1	54.7	35.0	36.7		8.5	4.6	0.3

Appendix 7 Numbers (Blue) and age-specific rates (Black)

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Appendix 7: Detailed tables of cancer incidence 2013 by age, sex and cancer type

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	CR	ASR	SE	
C84 T-cell lymphoma																							
Male	0	0	0	0	1	3	1	1	0	2	4	5	7	7	6	4	6	2	49				
	0.0	0.0	0.0	0.0	0.5	1.4	0.5	0.5	0.0	1.1	2.2	3.0	4.8	5.4	6.4	5.7	12.0	4.9	1.7	1.1	0.1		
Female	0	0	1	0	0	0	3	2	0	2	3	4	6	3	1	3	5	9	42				
	0.0	0.0	0.6	0.0	0.0	0.0	1.4	1.0	0.0	1.0	1.6	2.3	3.9	2.2	1.0	3.7	7.6	12.2	1.5	0.8	0.1		
C85 Other NHL																							
Male	0	1	0	1	2	1	1	3	2	1	3	8	14	10	9	6	12	14	88				
	0.0	0.6	0.0	0.6	1.0	0.5	0.5	1.5	1.0	0.5	1.6	4.8	9.5	7.7	9.6	8.6	24.0	34.3	3.1	1.9	0.2		
Female	0	0	0	0	0	2	0	0	1	4	3	4	3	4	6	14	9	17	67				
	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.5	2.1	1.6	2.3	1.9	3.0	6.0	17.4	13.7	23.1	2.3	1.0	0.1		
C82-C85 Non-Hodgkin's lymphoma																							
Male	1	2	1	4	8	8	13	16	18	26	48	60	86	97	97	79	71	70	705				
	0.5	1.1	0.6	2.2	3.8	3.6	6.1	8.2	8.8	13.9	25.8	36.0	58.3	75.1	102.9	112.7	142.1	171.5	24.8	15.3	0.6		
Female	0	1	2	1	2	6	5	8	16	26	34	43	53	82	69	82	45	64	539				
	0.0	0.6	1.2	0.6	1.0	2.7	2.4	4.1	7.5	13.5	17.7	24.8	34.4	60.7	69.1	101.9	68.5	86.9	18.6	10.4	0.4		
C88 Immunoproliferative																							
Male	0	0	0	0	0	0	0	1	0	0	3	1	6	8	2	3	6	3	33				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.6	0.6	4.1	6.2	2.1	4.3	12.0	7.4	1.2	0.7	0.1		
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	2	1	10				
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	2.5	3.0	1.4	0.3	0.2	0.0		
C90 Multiple myeloma																							
Male	0	0	0	0	0	0	1	4	3	9	13	26	33	43	38	39	35	24	268				
	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.1	1.5	4.8	7.0	15.6	22.4	33.3	40.3	55.6	70.1	58.8	9.4	5.4	0.3		
Female	0	0	0	0	0	0	1	2	7	8	16	16	23	27	32	28	22	34	216				
	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.0	3.3	4.1	8.3	9.2	14.9	20.0	32.1	34.8	33.5	46.2	7.5	3.9	0.3		
C91 Lymphoid leukaemia																							
Male	16	5	6	1	1	2	1	4	6	7	17	23	37	30	24	23	25	18	246				
	8.4	2.8	3.5	0.6	0.5	0.9	0.5	2.1	2.9	3.7	9.1	13.8	25.1	23.2	25.5	32.8	50.1	44.1	8.7	6.3	0.4		
Female	19	8	3	3	2	1	1	2	3	8	11	10	12	15	18	13	21	23	173				
	10.6	4.7	1.9	1.7	1.0	0.5	0.5	1.0	1.4	4.1	5.7	5.8	7.8	11.1	18.0	16.2	32.0	31.2	6.0	4.6	0.3		

Appendix 7 Numbers (Blue) and age-specific rates (Black)

- CR crude incidence rate - ASR Age-standardised rate (Age-standardised to World Standard Population) - SE Standard error of ASR - All rates are per 100,000

Appendix 7: Detailed tables of cancer incidence 2013 by age, sex and cancer type

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	CR	ASR	SE
C92 Myeloid leukaemia																						
Male	1	1	0	0	3	3	2	3	13	9	8	14	15	27	32	27	22	34	214			
	0.5	0.6	0.0	0.0	1.4	1.4	0.9	1.5	6.3	4.8	4.3	8.4	10.2	20.9	34.0	38.5	44.0	83.3		7.5	4.4	0.3
Female	1	1	0	0	1	2	3	3	3	5	10	12	10	12	18	18	17	29	142			
	0.6	0.6	0.0	0.0	0.5	0.9	1.5	1.5	1.4	2.6	5.2	6.9	6.5	8.9	18.0	22.4	25.9	39.4		4.9	2.5	0.2
C93 Monocytic leukaemia																						
Male	0	0	0	0	0	0	0	0	1	0	1	1	1	2	0	1	1	0	8			
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.6	0.7	1.6	0.0	1.4	2.0	0.0		0.3	0.2	0.0
Female	0	0	0	0	1	0	0	0	1	4	0	0	1	2	0	1	1	0	11			
	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	2.1	0.0	0.0	0.7	1.5	0.0	1.2	1.5	0.0		0.4	0.3	0.1
C94 Other leukaemia																						
Male	0	1	0	0	0	0	0	2	1	0	0	2	0	1	1	0	0	0	8			
	0.0	0.6	0.0	0.0	0.0	0.0	0.0	1.0	0.5	0.0	0.0	1.2	0.0	0.8	1.1	0.0	0.0	0.0		0.3	0.2	0.1
Female	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	3			
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.6	0.7	0.0	0.0	0.0	0.0	0.0		0.1	0.1	0.0
C91-C95 All leukaemia																						
Male	17	7	6	1	4	5	3	9	21	16	26	40	53	60	57	52	50	54	481			
	9.0	3.9	3.5	0.6	1.9	2.3	1.4	4.6	10.2	8.6	14.0	24.0	36.0	46.4	60.5	74.2	100.1	132.3		16.9	11.3	0.5
Female	20	9	3	3	2	3	3	6	7	17	21	23	25	29	37	32	40	55	335			
	11.2	5.3	1.9	1.7	1.0	1.4	1.4	3.0	3.3	8.8	11.0	13.3	16.2	21.5	37.1	39.8	60.9	74.7		11.6	7.6	0.4
D45-D47 Myeloproliferative & myelodysplastic																						
Male	1	1	0	0	2	1	1	8	7	9	16	12	36	59	56	62	72	68	410			
	0.5	0.6	0.0	0.0	0.9	0.9	0.5	4.1	3.4	4.8	8.6	7.2	24.4	45.7	59.4	88.4	144.1	166.6		14.4	7.7	0.4
Female	0	0	0	2	2	1	5	3	12	8	16	23	15	26	29	41	49	61	293			
	0.0	0.0	0.0	1.2	1.0	0.5	2.4	1.5	5.7	4.1	8.3	13.3	9.7	19.3	29.1	51.0	74.6	82.9		10.1	4.8	0.3
C00-C96, D45-D47 All malignant tumours																						
Male	36	24	14	29	75	118	137	217	348	540	983	1,450	1,959	2,654	2,265	1,910	1,686	1,501	15,946			
	19.0	13.4	8.2	15.9	35.5	53.1	64.5	111.2	169.7	288.4	528.3	868.7	1329.0	2053.3	2403.2	2724.6	3375.1	3676.4		561.4	337.4	2.7
Female	36	22	22	39	71	127	222	339	608	873	1,180	1,306	1,492	1,731	1,467	1,401	1,327	1,529	13,792			
	20.1	12.9	13.5	22.5	34.8	57.5	104.6	171.7	286.7	451.7	615.2	752.7	967.1	1281.9	1470.0	1741.6	2019.8	2076.6		475.7	280.5	2.4

Appendix 7 Numbers (Blue) and age-specific rates (Black)

– CR crude incidence rate – ASR Age-standardised rate (Age-standardised to World Standard Population) – SE Standard error of ASR – All rates are per 100,000

Appendix 8

Indices of data quality

Three indices of data quality are shown in the following table. These indices, as defined in Cancer Incidence in Five Continents Vol. VI^(Ref 6), are:

Histological verification (HV%)

The proportion of cases registered which had histological verification of diagnosis. A low HV% suggests incomplete registration of pathology reports and consequently poorer verification of diagnoses and incomplete registration of cancers for which this is often the only source of notification, such as melanoma. The higher the HV% for cancers of less accessible sites, like brain and pancreas, the more confident one can be that the neoplasm existed and that it was primary rather than metastatic.

Mortality to incidence ratio (M/I%)

The M/I% is the ratio of the number of deaths attributed to a specific cancer with the number of new cases of the same cancer diagnosed during the

same period in the same population. If registration is complete and the incidence of the cancer is not changing rapidly, the mortality to incidence ratio should reflect long-term survival. If survival rates are comparable in two populations, a more complete case ascertainment is suggested by a lower M/I%.

Death certificate only (DCO%)

The DCO% is the proportion of cases registered for which no information was available other than a statement on the death certificate that the deceased died from or with cancer. A high DCO% suggests incomplete incidence notification, and such diagnoses may be less accurate. Registry staff seek additional information for cancers first notified by death certificate to identify possible missed registrations. If no further information is available, the cancer is registered as DCO on the basis of information provided on the death certificate. For DCO cases, the date of diagnosis is taken as the date of death.

Site	DCO%	HV%	M/I%
All malignant tumours	1.7	93	37
Head & neck	1.3	96	32
Oesophagus	2.1	92	73
Stomach	1.6	94	69
Bowel	1.6	95	38
Liver	4.9	48	68
Gallbladder	1.0	84	73
Pancreas	4.7	68	88
Lung	2.9	87	78
Melanoma	0.3	99	16
Breast	0.5	99	17
Cervix	1.2	99	26
Uterus	0.3	99	18
Ovary	4.1	91	73
Prostate	1.4	96	17
Testis	0.6	97	2
Kidney	1.3	90	30
Bladder	1.4	93	42
Brain & CNS	3.2	86	81
Thyroid	1.0	98	7
Unspecified site	7.9	62	79
Lymphoma	0.6	99	29
Multiple myeloma	1.7	98	45
Leukaemia	3.6	92	51

Appendix 9

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