

# Cancer Survival Victoria 2007

Estimates of survival in 2004  
(and comparisons with earlier periods)

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# Acknowledgements

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This report has been made possible by the collaboration of numerous persons and institutions within Victoria and across Australia. Without the data supplied by each notifying body it would be impossible to describe the overall picture of cancer survival in Victorians. The regularity and completeness of the contributions of all Victorian hospitals and pathology laboratories is deeply appreciated. Thanks must also go to the Registrar of Births, Deaths and Marriages for their continued and valued assistance in supplying details of deaths.

Over the years, many people too numerous to mention individually have worked to develop the population registry database and the data it contains. I would like to express my warm appreciation to present and past registry staff for their sustained efforts to produce data of a high quality and completeness.

Thanks must also go to the Directors of the Integrated Cancer Service regions and to members of the Victorian Cooperative Oncology Group who assisted with the clinical interpretation of survival patterns for selected cancer sites. This task was not made easy by the current lack of population-based information on prognostic indicators and treatment. It is hoped that the variation in patterns of survival identified by this report will bolster support for the standardised collection of staging and other clinical data for all Victorians with cancer.



Graham G. Giles PhD, Director

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**Disclaimer:** Clinical interpretation of results was obtained from members of the Victorian Cooperative Oncology Group with experience in the relevant fields. These comments were sought to add interest and relevance to the figures but are the opinions of individual clinicians and do not necessarily reflect the opinions of The Cancer Council Victoria.

# Overview

This report aims to provide descriptive information regarding survival patterns for Victorians with cancer in 2004. Detailed figures for all cancer and for 34 common cancers are given in the body of the report. Some of the main findings of the report are discussed below - interpretation of these findings is often difficult in the absence of data on cancer staging and treatment.

## Cancer type

Cancers with highest 5-year survival were testis (99%), thyroid (93%), melanoma (90%), breast (87%), uterus (84%), prostate (84%) and Hodgkin lymphoma (82%).

Cancers with the lowest 5-year survival were pancreas (5%), mesothelioma (5%), liver (10%), lung (11%) and cancers of unknown primary site (11%).

## Sex

Generally survival was similar for men and women. Where significant differences occurred, it was women who tended to have the better prognosis with the exception of bladder cancer for which men had higher survival. 5-year survival was higher for women than men for the following cancers – all cancer, and cancers of the oral cavity, lung, salivary glands, thyroid and unknown primary and for melanoma and acute myeloid leukaemia.

## Age at diagnosis

Almost all cancers showed a decrease in 5-year survival proportions with increasing age though the steepness of the decline varied. For example, ovarian cancer survival decreased from 84% for women aged under 45 years to 16% for women aged over 75 years whereas breast cancer survival only decreased from 87% to 76% over the same age groups.

## Period of diagnosis

Most cancers showed improvements in survival over the 15-year period from 1990 to 2004. Cancers for which there was no evidence of improvement over this period were those of the salivary glands, pancreas, larynx, central nervous system and cervix and Hodgkin lymphoma and chronic lymphocytic leukaemia.

## Morphology of disease at diagnosis

For most cancers for which analysis was undertaken, differences were observed by tumour morphology. See pages for all cancer and cancers of the lung, breast, cervix, ovary, testis, bladder, kidney, renal pelvis, central nervous system, thyroid and unknown primary, and Non-Hodgkin lymphoma for details.

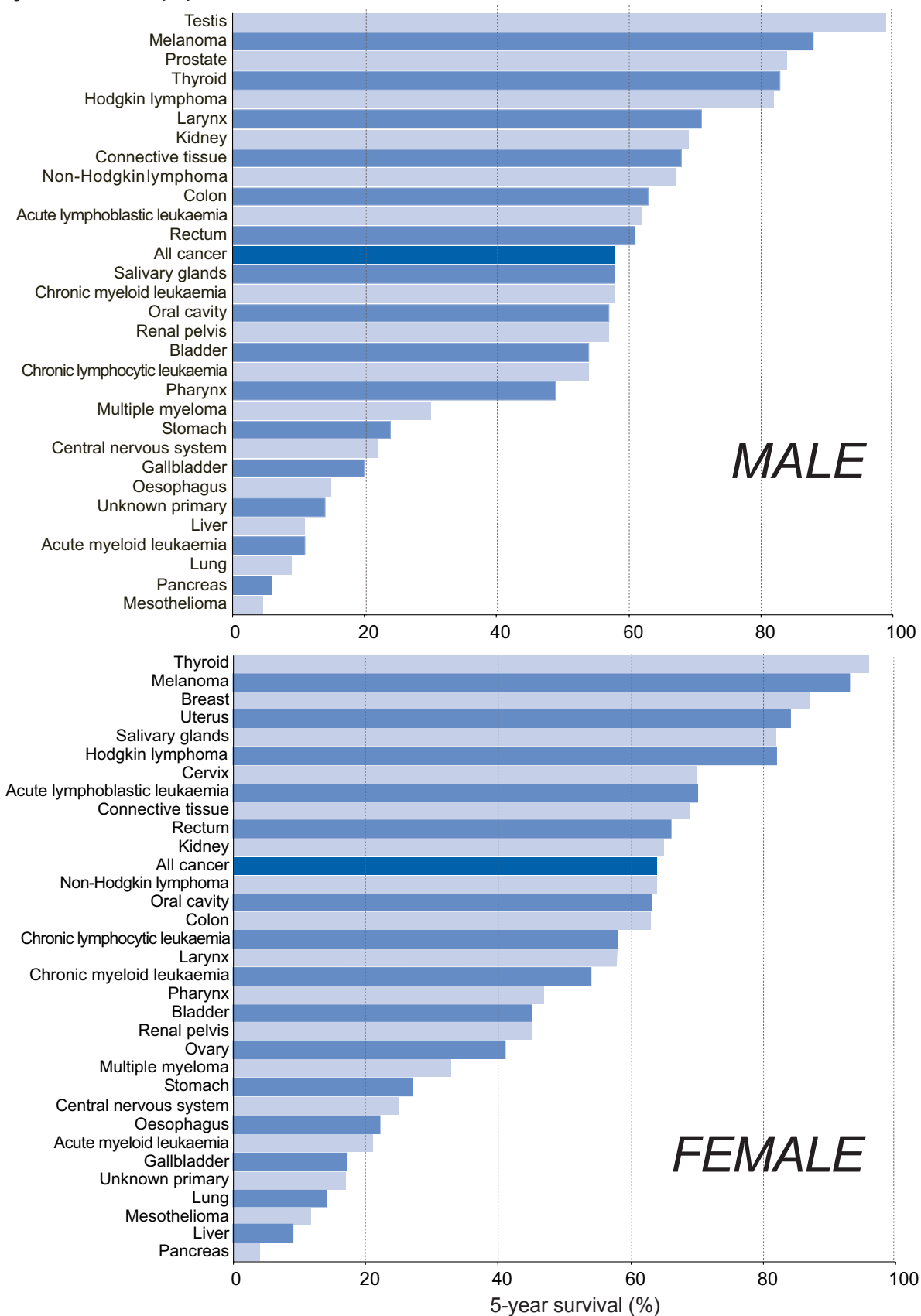
## Subsite of tumours

For cancers of the oral cavity, salivary glands and pharynx, analysis of survival by subsite was carried out. See the relevant pages for details.

## 5-year survival (%) by sex and cancer site

Cancer site	5-year survival		
	Male	Female	All
<b>All cancer</b>	<b>58</b>	<b>64</b>	<b>61</b>
Oral cavity	57	63	59
Salivary glands	58	82	69
Pharynx	49	47	49
Oesophagus	15	22	17
Stomach	24	27	25
Colon	63	63	63
Rectum	61	66	63
Liver	11	9	10
Gallbladder	20	17	18
Pancreas	6	4	5
Larynx	65	58	64
Lung	9	14	11
Mesothelioma	4	11	5
Connective tissue	68	69	68
Melanoma	88	93	90
Breast	-	87	-
Cervix	-	70	-
Uterus	-	84	-
Ovary	-	41	-
Prostate	84	-	-
Testis	99	-	-
Bladder	54	45	51
Kidney	69	65	68
Renal pelvis	57	45	52
Central nervous system	22	25	23
Thyroid	85	94	92
Unknown primary	14	17	11
Non-Hodgkin lymphoma	67	64	66
Hodgkin lymphoma	82	82	82
Multiple myeloma	30	33	32
Acute lymphoblastic leukaemia	62	70	66
Chronic lymphocytic leukaemia	54	58	56
Acute myeloid leukaemia	9	18	13
Chronic myeloid leukaemia	58	54	56

### 5-year survival (%) for all cancers in Victorian men and women



# Guide to this report

**T**his report has been produced to describe the survival of Victorians affected by cancer in 2004 and in comparison with earlier periods.

The type of survival analysis used for this report differs from that used for our previous report “Cancer Survival in Victoria: relative survival for selected cancers diagnosed from 1982 to 1997 with follow-up to 1999” (June 2003).

In this report we use “period” analysis. This uses only the most recent interval survival estimate of cases diagnosed in different calendar years (cross-sectional estimate of survival). The estimate of period 5-year survival for persons in 2004 uses the first year interval survival for patients diagnosed in 2004, the 2-year interval survival from patients diagnosed in 2003, 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 “period” method is described in more detail in Appendix II on pages 83–84.

Put simply, [the 5-year survival figures presented in the tables show the estimated proportion of Victorians with a particular cancer in 2004 who have survived at least 5 years from their diagnosis.](#)

The body of this report is based on analyses of the most common cancers in Victoria and of all cancers combined. Detailed descriptions of the methods and data set are given in the Appendices.

Each of the common cancers is presented in a two page section starting with all cancers and proceeding in the order of the International Classification of Diseases, Tenth Revision<sup>1</sup>.

Salient points of information from the analysis are noted in each section. Clinicians specialising in the relevant fields have been consulted for interpretation of the survival patterns for each cancer type.

Each section contains one table and up to four figures as follows:

## Table 1

- overall survival from one to five years after diagnosis for all Victorians with cancer in 2004,

Deaths in the following items refers to the number of deaths in the period 2000 to 2004 in patients with a particular cancer.

- deaths and 5-year survival by sex and age group for Victorians with cancer in 2004,

- deaths and 5-year survival by place of usual residence (metropolitan Melbourne or the rest of Victoria) for Victorians with cancer in 2004,
- for leading cancers, deaths and 5-year survival are presented for residents of the eight Victorian Integrated Cancer Services regions,
- for selected cancers, deaths and 5-year survival by tumour subsite or tumour morphology where such subgroups have clinical significance,
- deaths and 5-year survival for Victorians with cancer in 1990, 1995, 2000 and 2004,
- 5-year survival for each of the subgroups has been adjusted for age at diagnosis, year of diagnosis and sex.

## Figures

- Figure 1 shows survival by year from diagnosis to 10 years for all Victorians with cancer in the years 1990, 1995, 2000 and 2004.
- Figures 2 and 3 show survival by year from diagnosis to five years for all Victorians with cancer in 2004 by sex and age group.
- Figure 4 shows survival by year from diagnosis to five years for all Victorians with cancer in 2004 by tumour subsite or morphology group as shown in Table 1.

## Victorian cancer incidence and mortality 2004

A summary of new cases, incidence rates, deaths and mortality rates in Victoria in 2004 is given in Appendix VI (page 92) for the cancers described in this report. The rates are directly age-standardised to the World Standard Population as described in Cancer Incidence in Five Continents, Volume IV, 1982, IARC.

## International survival comparisons

A summary table is presented in Appendix VII (page 93) showing Victorian survival with survival estimates from the USA SEER registries for cancers diagnosed in 1973–1998. Though the time periods are different, these USA figures provide a useful benchmark for international comparison as they use the same period survival method used for the Victorian figures presented in this report.

# Regional analysis

## Metropolitan Melbourne and the rest of Victoria

In this report we present separate survival estimates for all cancers combined and for 35 different types of cancer diagnosed in residents of metropolitan Melbourne and in residents of the rest of Victoria. Generally, the survival from cancer for residents of metropolitan Melbourne is better than that for residents from the rest of Victoria; the few exceptions to this include cancer of the breast, cancer of the rectum and non-Hodgkin lymphoma.

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

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

## Integrated Cancer Services (ICS) regions

In response to requests from the Victorian oncology community we have included in this report, for the first time, survival estimates for all cancers combined, and for the 10 most common cancers, for residents of the Department of Human Services' Integrated Cancer Services regions. A description of each ICS demographics and health services is given in Appendix V (Delivery of cancer services in Victoria, pages 88 to 91). These survival estimates will serve as an historical baseline against which future improvement in outcomes for each ICS can be assessed.

Again, **these estimates are based on each person's region of usual residence at the time of their cancer diagnosis and this does not necessarily relate to the ICS region in which they received their treatment.** Thirty-seven percent of all Victorians diagnosed with cancer are admitted to at least one hospital outside their ICS region of usual residence during the 12 months following diagnosis.

This proportion varies considerably between types of cancer: varying from colon cancer, where 23% of patients are admitted to hospitals outside their ICS region of residence, to pharyngeal cancer and glioma, where the majority (59%) of patients are admitted to hospitals outside their ICS region of usual residence. This pattern depends upon the degree of specialisation required for management: colon cancer remaining within the compass of the general surgeon, with brain cancer requiring more specialised facilities.

Similar to the metropolitan and non-metropolitan regions, ICS residents do not necessarily receive all their cancer treatment within their ICS. For each ICS the proportion of cancer patients admitted to hospital outside their ICS of residence during the first 12 months from diagnosis in 2004 is given in Appendix V. The proportion ranges from 22% for the Grampians RICS to 56% for the Gippsland RICS.

When considering all cancers combined, variation in survival between residents of different ICS could be due to a variety of factors. ICS may differ in their demographic structure and in the mix of cancer types that are diagnosed. An ICS with more lung cancers, for example, is going to have a poorer overall outcome than an ICS that has a larger proportion of patients with less fatal cancers.

When considering individual types of cancer, variation in survival is going to be influenced largely by differences in the stage of cancers at diagnosis and their potential curability. Currently there is little information available on the distribution of cancers by stage in Victoria. However, there are some data collected by the cancer registry that can be examined for regional variation in some aspects of cancer diagnosis and presentation. For example, the cancer registry collects thickness of melanomas, the maximal diameter of breast cancers, the detection of breast cancer by BreastScreen, and Gleason score for prostate cancers. These data are summarised in tables 2 and 3 on page 8.

**Table 2: Some indicators of differences in cancer prognostic indicators by ICS region**

Indicator	Southern	Western & Central	North Eastern	Barwon SW	Grampians	Loddon - Mallee	Hume	Gippsland
% melanoma >1.5 mm thick	19	18	18	25	23	19	19	22
Median breast cancer diameter in mm	16	16	16	16	18	15	15	16
90 <sup>th</sup> percentile breast cancer diameter in mm	35	37	38	34	35	35	35	33
% breast cancers detected by BreastScreen	26	27	24	36	28	28	20	28
% prostate cancers Gleason score > 7	15	16	17	18	22	18	18	19

Table 3 contains the 5-year survival estimates (and 95% confidence intervals) for all cancers combined and for the 10 most common cancers individually by ICS of residence at diagnosis. The p value in the first column indicates whether there are statistically significant differences between the ICS values. With few exceptions, there are significant differences in survival between regions. The exceptions are the same as those observed between metropolitan and non-metropolitan parts of Victoria, there being little variation in survival from breast cancer, rectal cancer and non-Hodgkin lymphoma. Colon cancer and kidney cancer also have only marginal statistically significant differences in survival at this level of regional aggregation.

**Table 3: 5-year survival % estimates (and 95% confidence intervals) for persons living with cancer in 2004 by ICS region of residence at diagnosis with p-value for variation between regions**

CANCER p-value	Southern	Western & Central	North Eastern	Barwon South Western	Grampians	Lodden-Mallee	Hume	Gippsland
<b>All cancer</b> p<0.01	<b>62</b> (61-63)	<b>58</b> (57-60)	<b>64</b> (63-65)	<b>58</b> (56-60)	<b>59</b> (57-62)	<b>60</b> (58-62)	<b>59</b> (57-62)	<b>57</b> (55-60)
<b>Stomach</b> p<0.01	<b>26</b> (21-32)	<b>29</b> (22-37)	<b>26</b> (20-31)	<b>20</b> (11-29)	<b>26</b> (10-43)	<b>16</b> (6-25)	<b>25</b> (12-39)	<b>16</b> (6-27)
<b>Colon</b> p=0.04	<b>62</b> (59-66)	<b>63</b> (59-68)	<b>65</b> (61-69)	<b>61</b> (54-67)	<b>63</b> (54-71)	<b>58</b> (51-66)	<b>63</b> (56-71)	<b>63</b> (55-70)
<b>Rectum</b> p=0.64	<b>62</b> (57-67)	<b>62</b> (56-68)	<b>64</b> (59-69)	<b>65</b> (57-74)	<b>66</b> (55-77)	<b>61</b> (51-70)	<b>65</b> (55-75)	<b>61</b> (50-71)
<b>Pancreas</b> p<0.01	<b>5</b> (3-8)	<b>9</b> (4-13)	<b>6</b> (3-9)	<b>2</b> (0-4)	<b>2</b> (0-6)	<b>1</b> (0-3)	<b>7</b> (1-14)	<b>3</b> (0-7)
<b>Lung</b> p<0.01	<b>12</b> (10-14)	<b>10</b> (8-12)	<b>12</b> (10-14)	<b>10</b> (7-13)	<b>8</b> (4-12)	<b>8</b> (5-11)	<b>11</b> (7-15)	<b>8</b> (5-12)
<b>Melanoma</b> p<0.01	<b>90</b> (86-93)	<b>86</b> (81-91)	<b>94</b> (91-97)	<b>89</b> (83-95)	<b>81</b> (71-92)	<b>90</b> (84-95)	<b>86</b> (79-93)	<b>90</b> (84-95)
<b>Breast</b> p=0.13	<b>87</b> (85-90)	<b>85</b> (82-88)	<b>89</b> (86-91)	<b>88</b> (84-92)	<b>85</b> (80-91)	<b>90</b> (85-94)	<b>88</b> (83-93)	<b>86</b> (81-91)
<b>Prostate</b> p<0.01	<b>86</b> (83-89)	<b>83</b> (79-87)	<b>86</b> (83-89)	<b>70</b> (64-76)	<b>77</b> (70-85)	<b>89</b> (84-94)	<b>86</b> (79-92)	<b>74</b> (67-81)
<b>Kidney</b> p=0.02	<b>67</b> (63-71)	<b>71</b> (66-75)	<b>71</b> (67-75)	<b>55</b> (48-62)	<b>65</b> (55-73)	<b>74</b> (66-81)	<b>62</b> (53-70)	<b>63</b> (54-72)
<b>Non-Hodgkin lymphoma</b> p=0.75	<b>63</b> (58-68)	<b>66</b> (60-73)	<b>67</b> (62-72)	<b>72</b> (64-81)	<b>63</b> (49-76)	<b>71</b> (61-81)	<b>71</b> (60-81)	<b>60</b> (49-72)



Oropharynx Oesophagus Stomach Bowel Liver Gallbladder Pancreas  
Larynx Lung Pleura Connective Tissue Melanoma Breast Cervix  
Endometrium Ovary Prostate Testis Bladder Kidney Brain & CNS Thyroid  
Non-Hodgkin lymphoma Hodgkin lymphoma Lymphoid leukaemia Myeloid  
leukaemia Other Leukaemia Oropharynx Oesophagus Stomach Bowel Liver  
Gallbladder Pancreas Larynx Lung Pleura Connective Tissue Melanoma  
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Non-Hodgkin lymphoma Hodgkin lymphoma Lymphoid leukaemia Myeloid

# Survival estimates for selected cancers

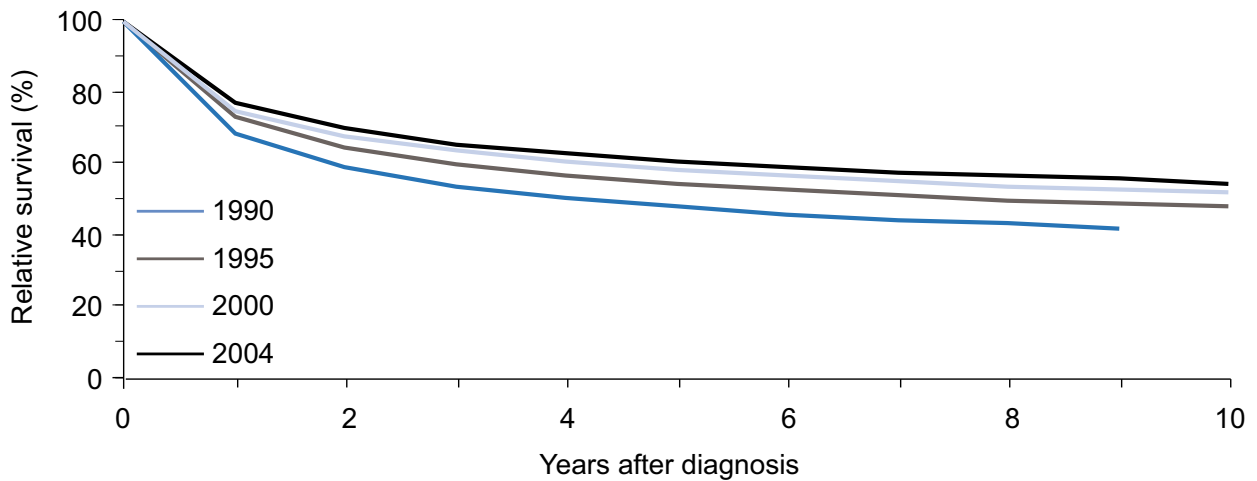
# ALL CANCER

**Table 1: Survival by years after diagnosis, sex, age group and tumour morphology for all Victorians with cancer in 2004 and for selected years from 1990.**

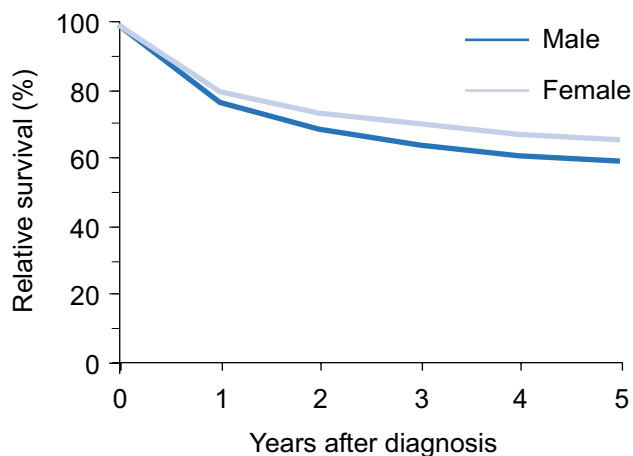
Years after diagnosis		Survival (%)	95% confidence interval	
1		77	(77-77)	
2		70	(69-70)	
3		66	(65-66)	
4		63	(62-63)	
5		61	(60-61)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	48,624	61	(60-61)	
<b>Sex</b>				<0.01
Male	28,199	58	(57-59)	
Female	20,425	64	(63-65)	
<b>Age at diagnosis</b>				<0.01
0-44	1,953	82	(81-83)	
45-54	3,603	74	(73-76)	
55-64	7,129	70	(69-71)	
65-74	13,715	59	(58-60)	
75+	22,224	43	(42-44)	
<b>Region of residence</b>				<0.01
Melbourne	32,950	62	(61-62)	
Rest of Victoria	15,638	59	(58-60)	
<b>Integrated Cancer Services Region</b>				<0.01
Southern	13,562	62	(61-63)	
Western & Central	8,198	58	(57-60)	
North Eastern	11,190	64	(63-65)	
Barwon South Western	4,175	58	(56-60)	
Grampians	2,403	59	(57-62)	
Loddon-Mallee	3,339	60	(58-62)	
Hume	2,721	59	(57-62)	
Gippsland	3,000	57	(55-60)	
<b>Tumour morphology group</b>				<0.01
Squamous and transitional cell	5,237	53	(51-55)	
Adenocarcinoma	22,162	70	(70-71)	
Other specific carcinoma	2,508	30	(27-33)	
Unspecified carcinoma	2,687	14	(12-16)	
Sarcomas and soft tissue tumour	520	67	(62-72)	
Kaposi sarcoma	25	87	(72-100)	
Mesothelioma	561	5	(3-8)	
Other specified types of cancer	4,166	75	(74-77)	
Leukaemia	1,730	42	(39-45)	
Lymphoma	2,145	68	(65-70)	
No histological confirmation	6,883	8	(7-9)	
<b>Selected years</b>				<0.01
1990		48	(47-48)	
1995		54	(54-55)	
2000		58	(58-59)	
2004		61	(60-61)	



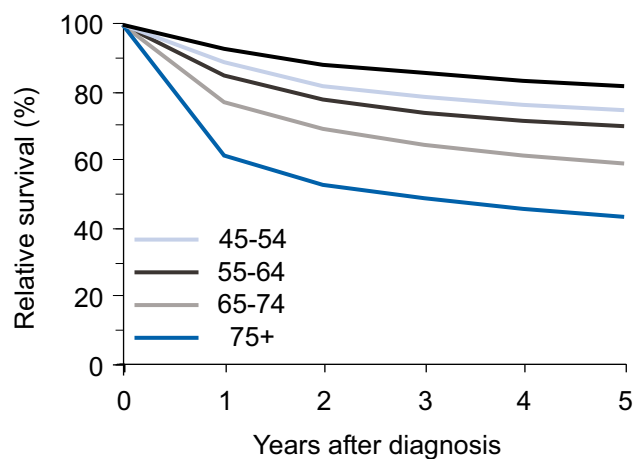
**Figure 1: Survival by year**



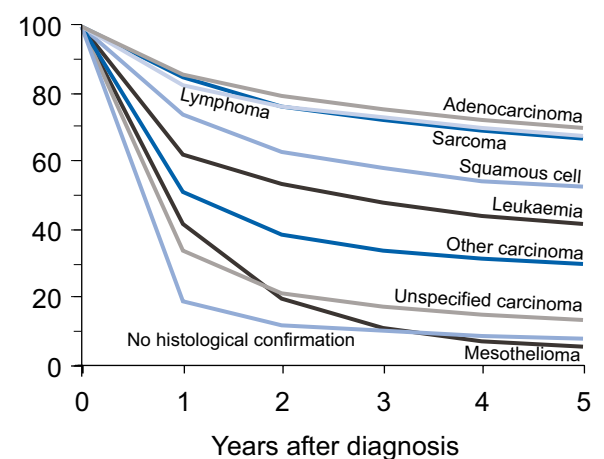
**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



**Figure 4: Survival by tumour morphology**



# ALL ORAL CAVITY

**The 5-year survival for people with oral cancer is 59%.**

**Sex** Survival was slightly higher for women than for men.

**Age at diagnosis** Older age at diagnosis was associated with worse survival with a range in 5-year survival from 80% for persons diagnosed under 45 years to 44% for those over 75 years.

**Subsite** There were slight differences in survival for different subsites within the oral cavity with tongue and gum cancers tending to have a poorer prognosis than those of the floor of mouth and palate.

**Regional comparisons** Survival did not differ between residents of Melbourne and the rest of Victoria.

**Time trends** Survival improved over the 15 years from 1990 from 50% to 59%.

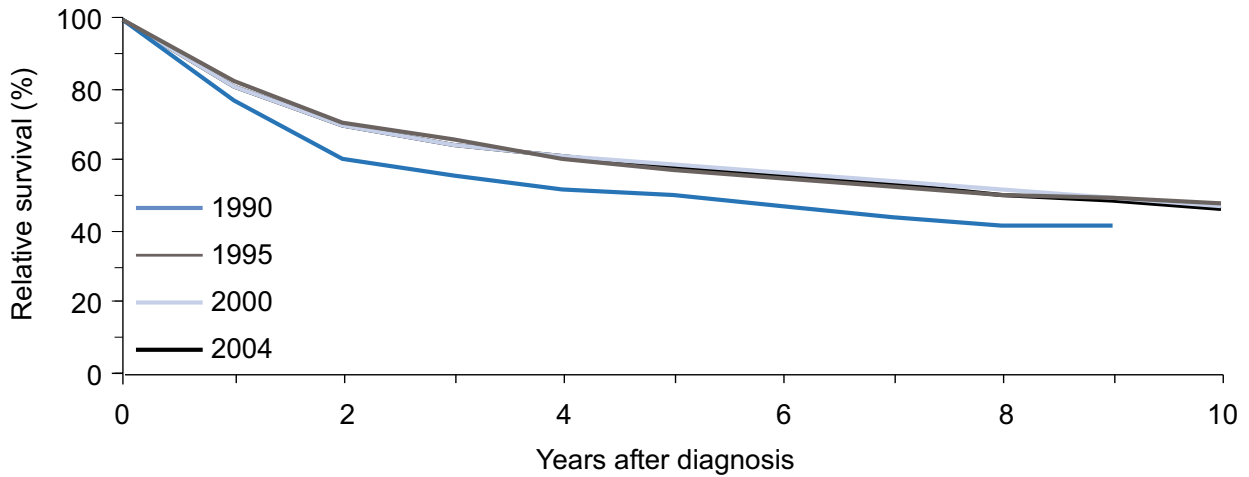
**A clinician's comment** "The improvement in survival from oral cancer is encouraging, presumably related to factors such as improved imaging (helical CT scans, MRI and PET) that have become increasingly available allowing better delineation and staging of disease which then impacts favourably on treatment decisions and outcomes."

**Table 1: Survival by years after diagnosis, sex, age group and tumour subsite for Victorians with cancer of the oral cavity in 2004 and selected years from 1990.**

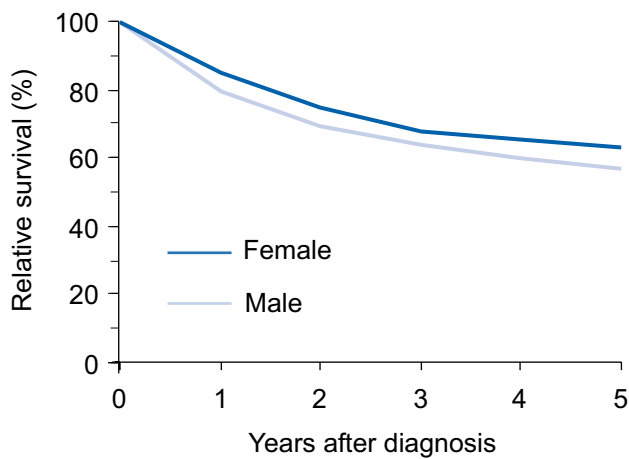
Years after diagnosis		Survival (%)	95% confidence interval	
1		81	(78-85)	
2		71	(67-76)	
3		65	(60-70)	
4		62	(57-67)	
5		59	(53-64)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	518	59	(53-64)	
<b>Sex</b>				0.01
Male	346	57	(50-64)	
Female	172	63	(54-72)	
<b>Age at diagnosis</b>				<0.01
0-44	27	80	(67-93)	
45-54	80	56	(44-69)	
55-64	112	68	(58-78)	
65-74	155	56	(45-67)	
75+	144	44	(30-59)	
<b>Region of residence</b>				0.07
Melbourne	335	59	(52-66)	
Rest of Victoria	183	58	(48-68)	
<b>Tumour subsite</b>				0.02
Tongue	266	53	(45-61)	
Gum	42	58	(38-77)	
Floor of mouth	89	69	(56-82)	
Palate	121	63	(53-74)	
<b>Selected years</b>				<0.01
1990		50	(44-57)	
1995		58	(52-64)	
2000		59	(54-65)	
2004		59	(53-64)	



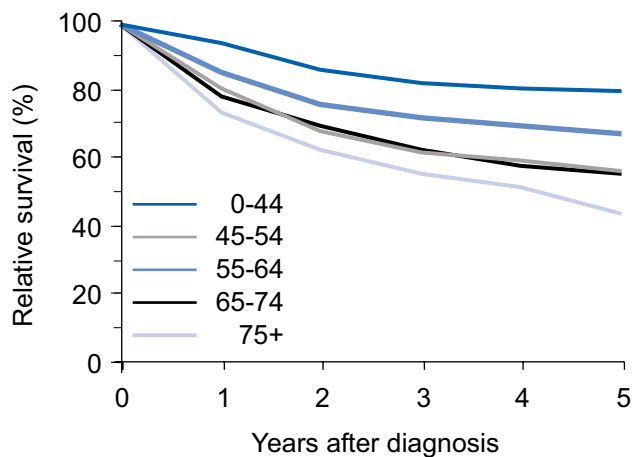
**Figure 1: Survival by year**



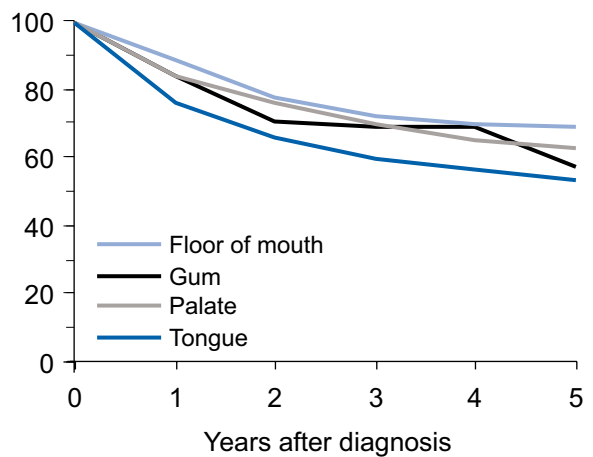
**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



**Figure 4: Survival by subsite**



# SALIVARY GLANDS

**The 5-year survival for people with salivary gland cancer is 69%.**

**Sex** Survival was higher for women (82%) than for men (58%).

**Tumour subsite** Survival for patients with tumours of the parotid gland was the same as for those with cancers of other salivary glands.

**Regional comparisons** Survival did not differ significantly between residents of Melbourne and the rest of Victoria.

**Time trends** Survival fluctuated over the period of this analysis.

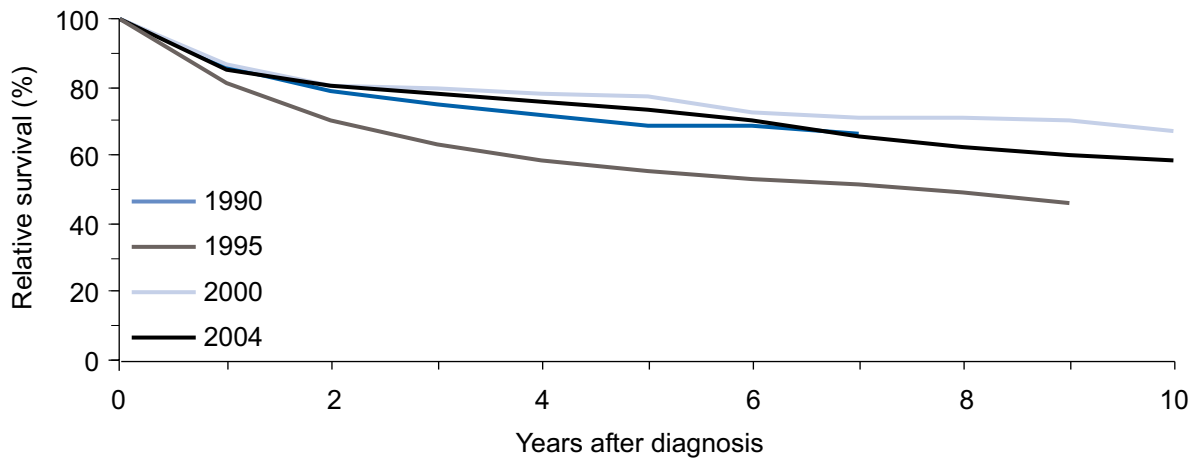
**Note** Analysis includes only primary parotid gland tumours and not the more common metastatic squamous cell carcinoma of skin origin.

**Table 1: Survival by years after diagnosis, sex and tumour subsite for Victorians with salivary gland cancer in 2004 and for selected years from 1990.**

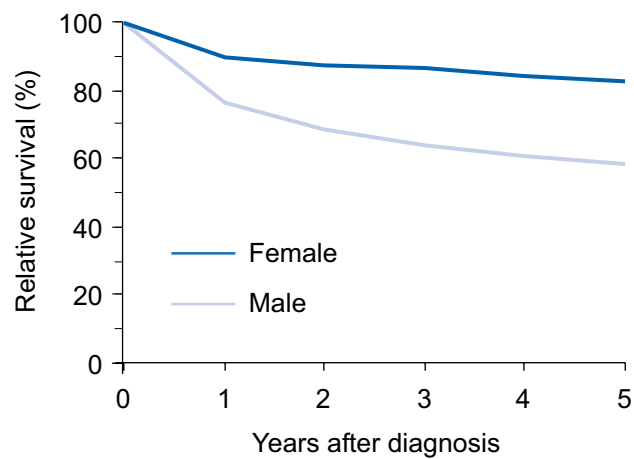
Years after diagnosis		Survival (%)	95% confidence interval	
1		83	(74-92)	
2		78	(67-88)	
3		75	(63-86)	
4		72	(60-84)	
5		69	(56-82)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	66	69	(56-82)	
<b>Sex</b>				0.01
Male	46	58	(39-78)	
Female	20	82	(67-98)	
<b>Region of residence</b>				0.14
Melbourne	38	73	(58-88)	
Rest of Victoria	28	61	(37-85)	
<b>Tumour subsite</b>				0.23
Parotid	48	69	(55-84)	
Other salivary gland	18	69	(41-98)	
<b>Selected years</b>				<0.01
1990		69	(55-82)	
1995		59	(46-73)	
2000		79	(68-90)	
2004		69	(56-82)	



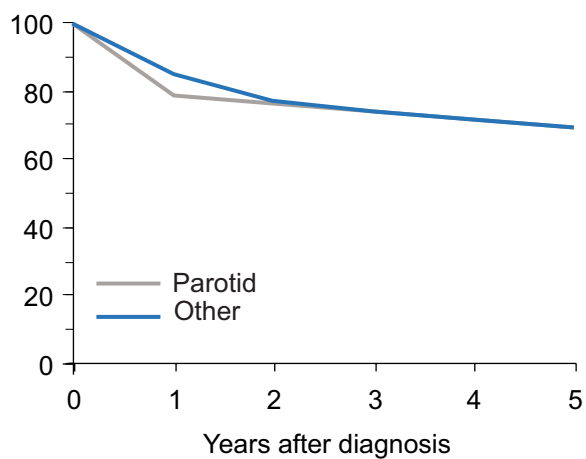
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 4: Survival by subsite**



# PHARYNX

## The 5-year survival for people with pharyngeal cancer is 49%.

**Sex** Survival was similar for women (47%) and for men (49%).

**Age at diagnosis** Older age at diagnosis was associated with worse survival, with survival ranging from 78% for persons diagnosed before the age of 45 to 27% for those over 75 years.

**Tumour subsite** There were differences in survival between tumour subsites, with the proportions highest in nasopharyngeal tumours (69%) and lowest for cancers of the hypopharynx (25%).

**Regional comparisons** Survival was higher for residents of Melbourne (52%) than the rest of Victoria (42%).

**Time trends** Survival improved over the 15 years from 1990 from 33% to 49%.

**A clinician's comment** "The group of tumours within the pharynx includes very different natural histories. Nasopharyngeal cancer is very responsive to radiotherapy and chemotherapy and is generally considered a different disease from other head and neck cancers. Oropharyngeal cancer has, stage for stage, a much better prognosis than hypopharyngeal cancer. Human papilloma virus (HPV) associated oropharyngeal cancer is becoming more prevalent, especially in younger non-smokers – this increase in cancers with a more favourable prognosis may be expected to affect the survival."

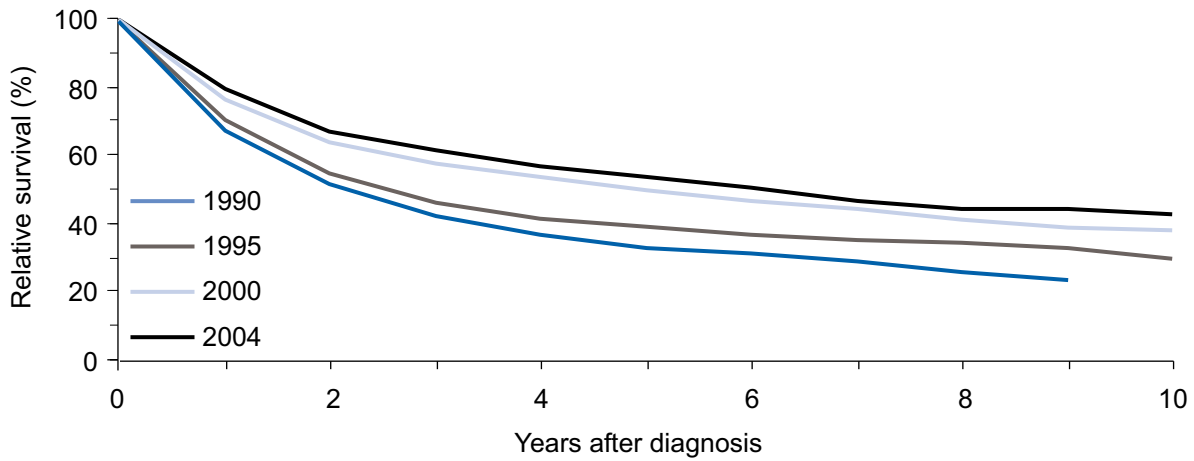
**Table 1: Survival by years after diagnosis, sex, age group and tumour subsite for Victorians with pharyngeal cancer in 2004 and for selected years from 1990.**

Years after diagnosis		Survival (%)	95% confidence interval	
1		76	(71-80)	
2		63	(57-69)	
3		57	(51-64)	
4		53	(46-59)	
5		49	(43-56)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	357	49	(43-56)	
<b>Sex</b>				0.17
Male	283	49	(42-57)	
Female	74	47	(33-61)	
<b>Age at diagnosis</b>				<0.01
0-44	18	78	(62-95)	
45-54	54	77	(66-88)	
55-64	95	47	(35-60)	
65+	190	27	(17-37)	
<b>Region of residence</b>				0.10
Melbourne	245	52	(44-60)	
Rest of Victoria	112	42	(30-55)	
<b>Tumour subsite</b>				<0.01
Oropharynx	168	54	(45-64)	
Nasopharynx	49	69	(55-82)	
Hypopharynx	140	25	(14-36)	
<b>Selected years</b>				<0.01
1990		33	(26-39)	
1995		39	(33-46)	
2000		53	(46-60)	
2004		49	(43-56)	

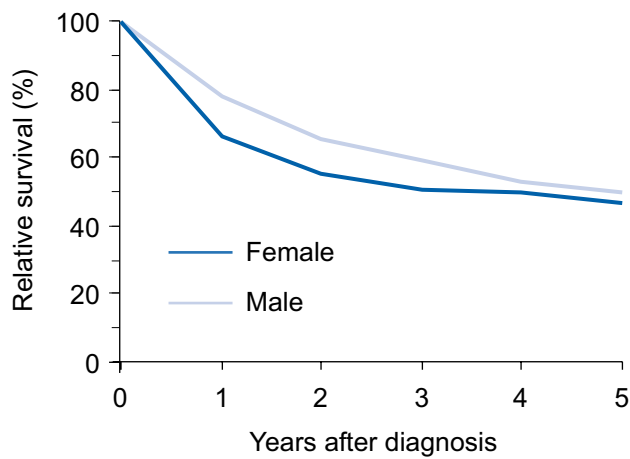




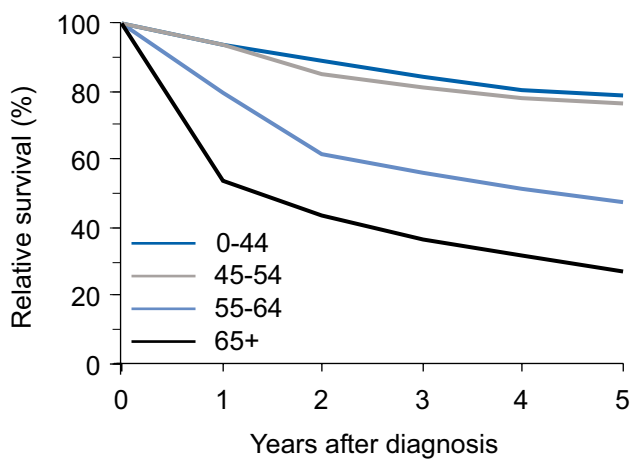
**Figure 1: Survival by year**



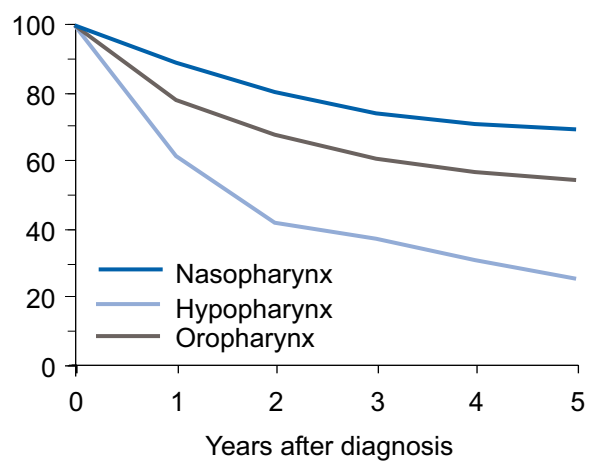
**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



**Figure 4: Survival by subsite**



# OESOPHAGUS

**The 5-year survival for people with oesophageal cancer is 17%.**

**Sex** Survival was slightly lower for men (15%) than women (22%).

**Age at diagnosis** Older age at diagnosis was associated with worse survival.

**Regional comparisons** Survival was higher for residents of Melbourne (21%) than the rest of Victoria (11%).

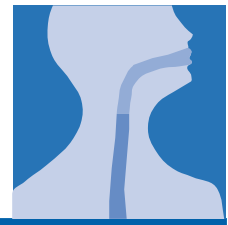
**Time trends** Survival improved over the 15 years from 1990 from 10% to 17%.

**A clinician's comment** "Interpretation of these figures needs to be related to the changing pattern of oesophageal cancer in our community as has previously been documented. There is a rising incidence of adenocarcinoma, particularly in males.

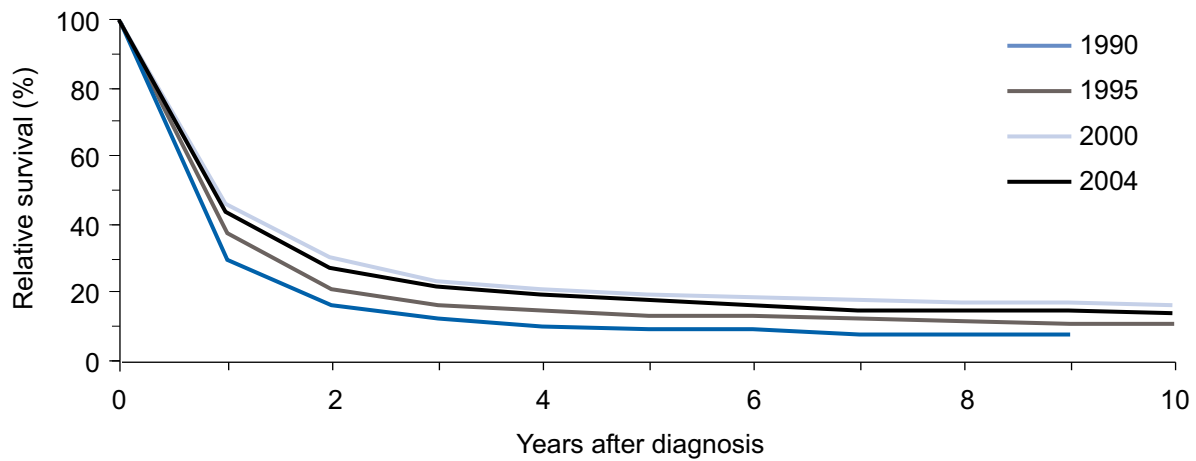
"The slight improvement in survival over the past 15 years does not reflect the increasing effort placed into the management of oesophageal cancer where multimodality therapy is now common. The management of oesophageal cancer remains very specialised. Further aggregation within dedicated units may be necessary in order to improve survival further. Some of the improvement which has occurred may relate to a better post-operative management with reduction in post-operative mortality."

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with oesophageal cancer in 2004 and for selected years from 1990.**

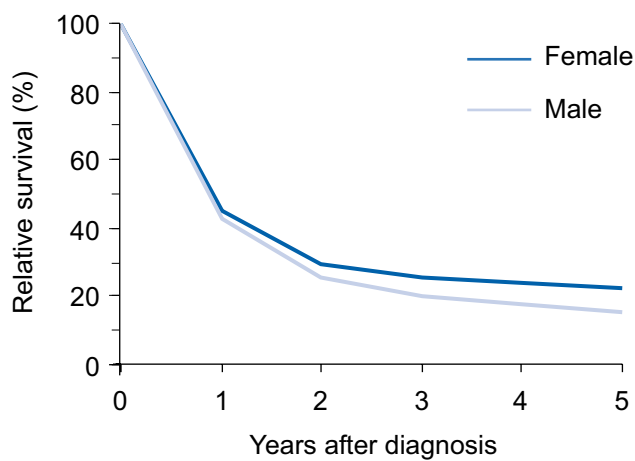
Years after diagnosis		Survival (%)	95% confidence interval	
1		43	(39-47)	
2		27	(23-31)	
3		21	(18-25)	
4		19	(16-23)	
5		17	(14-21)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	1,150	17	(14-21)	
<b>Sex</b>				0.30
Male	761	15	(11-19)	
Female	389	22	(16-29)	
<b>Age at diagnosis</b>				<0.01
0-54	117	22	(12-33)	
55-64	189	28	(18-37)	
65-74	298	19	(12-26)	
75+	546	10	(6-14)	
<b>Region of residence</b>				0.01
Melbourne	726	21	(16-26)	
Rest of Victoria	424	11	(7-16)	
<b>Selected years</b>				<0.01
1990		10	(7-13)	
1995		13	(10-17)	
2000		19	(15-22)	
2004		17	(14-21)	



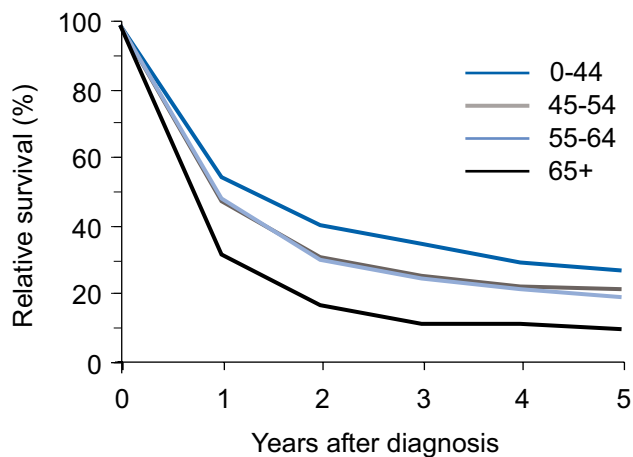
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# STOMACH

**The 5-year survival for people with stomach cancer is 25%.**

**Sex** 5-year survival was slightly better for women (27%) than for men (24%)

**Age at diagnosis** Older age at diagnosis was associated with worse survival, with proportions ranging from 35% for persons under 45 years and 15% for those aged over 75 years.

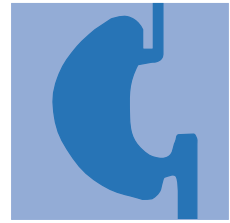
**Regional comparisons** Survival was higher for residents of Melbourne (27%) than the rest of Victoria (20%). Survival for the ICS regions varied between 16% and 29%, with proportions for Grampians and Hume being similar to those for metropolitan Melbourne and in other regional ICS regions being slightly lower.

**Time trends** Survival improved over the 15 years from 1990 from 18% to 25%.

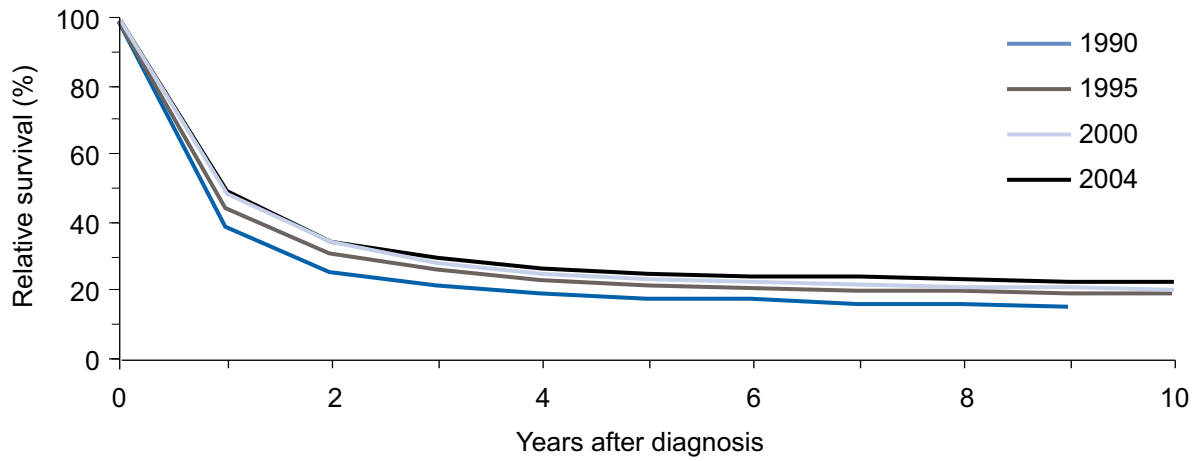
**A clinician's comment** "A modest improvement in survival is noted. There is a changing pattern and type of gastric cancer occurring with less intestinal cancer and more proximal diffuse cancer. This may impact on survival. A 5-year survival of 25% does indicate that a nihilistic approach to this disease is unreasonable and that a small group can achieve long-term survival and in fact cure of disease. Specialist unit activity is needed for management of gastric cancer."

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with stomach cancer in 2004 and for selected years from 1990.**

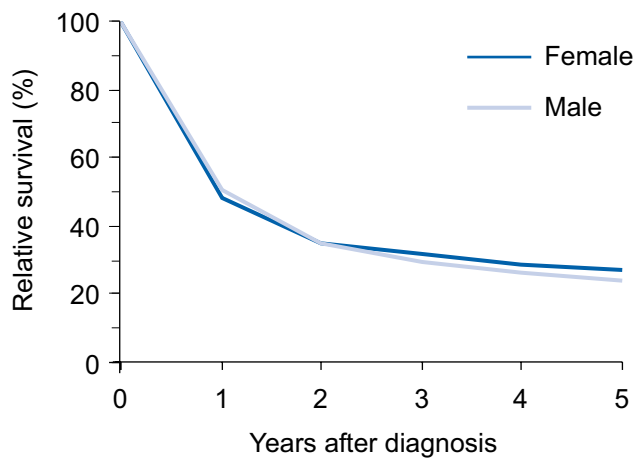
Years after diagnosis		Survival (%)	95% confidence interval	
1		50	(47-53)	
2		35	(32-38)	
3		30	(27-33)	
4		27	(24-30)	
5		25	(22-28)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	2,011	25	(22-28)	
<b>Sex</b>				0.93
Male	1,288	24	(20-27)	
Female	723	27	(22-32)	
<b>Age at diagnosis</b>				<0.01
0-44	86	35	(21-49)	
45-64	437	37	(30-43)	
65-74	623	26	(21-32)	
75+	865	15	(11-19)	
<b>Region of residence</b>				<0.01
Melbourne	1,401	27	(23-30)	
Rest of Victoria	610	20	(15-25)	
<b>Integrated Cancer Services Region</b>				<0.01
Southern	546	26	(21-32)	
Western & Central	360	29	(22-37)	
North Eastern	495	26	(20-31)	
Barwon South Western	181	20	(11-29)	
Grampians	79	26	(10-43)	
Loddon-Mallee	129	16	(6-25)	
Hume	107	25	(12-39)	
Gippsland	114	16	(6-27)	
<b>Selected years</b>				<0.01
1990		18	(15-21)	
1995		22	(19-25)	
2000		23	(21-26)	
2004		25	(22-28)	



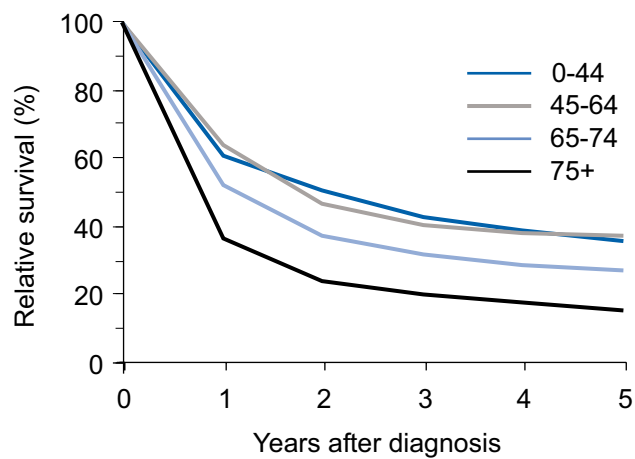
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# COLON

**The 5-year survival for people with colon cancer is 63%.**

**Sex** Survival was similar for men and women.

**Age at diagnosis** Older age at diagnosis was associated with worse survival.

**Regional comparisons** Survival did not differ between residents of Melbourne and the rest of Victoria and was similar across the ICS regions ranging from 58% (Loddon-Mallee) to 65% (North Eastern).

**Time trends** Survival improved over the 15 years from 1990 from 47% to 63%.

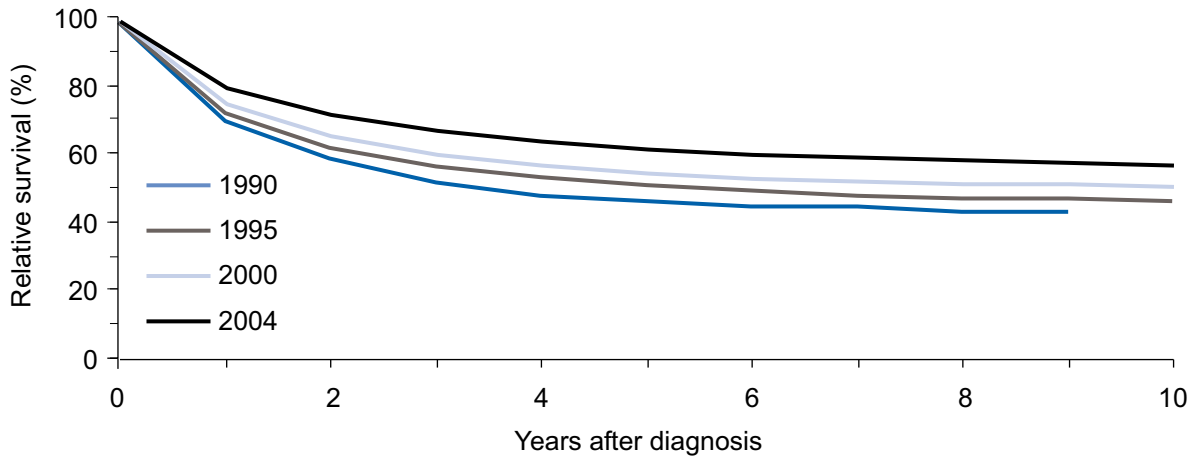
**A clinician's comment** "The improved survival is probably due to a combination of better treatment, including the use of multimodality and adjuvant therapy, and earlier detection of disease. The new National Bowel Cancer Screening Program should eventually result in further survival improvements."

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with colon cancer in 2004 and for selected years from 1990.**

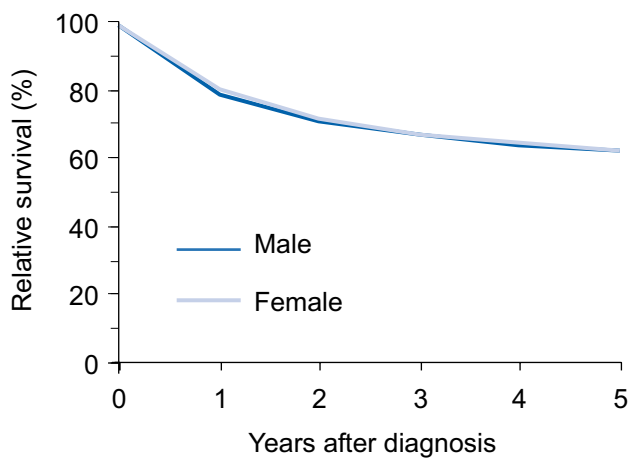
Years after diagnosis		Survival (%)	95% confidence interval	
1		81	(79-82)	
2		72	(71-74)	
3		68	(66-69)	
4		65	(63-67)	
5		63	(61-65)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	4,998	63	(61-65)	
<b>Sex</b>				0.83
Male	2,587	63	(60-65)	
Female	2,411	63	(60-65)	
<b>Age at diagnosis</b>				<0.01
0-44	129	65	(57-74)	
45-54	339	65	(59-70)	
55-64	633	71	(68-75)	
65-74	1,387	65	(62-68)	
75+	2,510	56	(53-60)	
<b>Region of residence</b>				<0.01
Melbourne	3,291	63	(61-66)	
Rest of Victoria	1,705	61	(58-65)	
<b>Integrated Cancer Services Region</b>				0.04
Southern	1,396	62	(59-66)	
Western & Central	726	63	(59-68)	
North Eastern	1,169	65	(61-69)	
Barwon	478	61	(54-67)	
Grampians	267	63	(54-71)	
Loddon-Mallee	362	58	(51-66)	
Hume	280	63	(56-71)	
Gippsland	318	63	(55-70)	
<b>Selected years</b>				<0.01
1990		47	(45-49)	
1995		52	(50-54)	
2000		56	(54-58)	
2004		63	(61-65)	



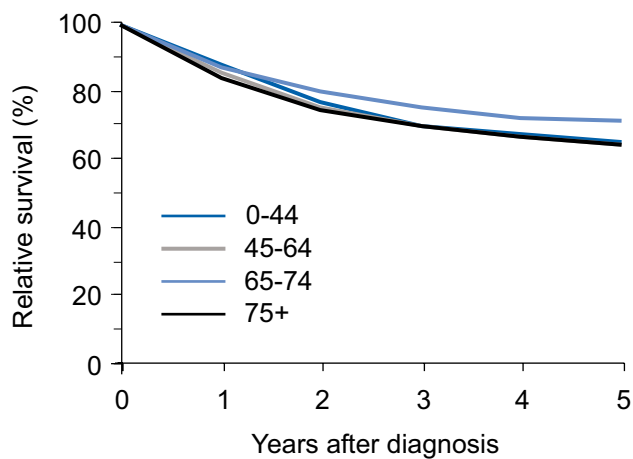
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# RECTUM

## The 5-year survival for people with rectal cancer is 63%.

**Sex** The 5-year survival rates were slightly lower for men (61%) than women (66%).

**Age at diagnosis** Older age at diagnosis was associated with worse survival, with rates ranging from 68% for persons aged less than 45 years at diagnosis to 53% for those aged over 75 years.

**Regional comparisons** Survival did not differ between residents of Melbourne and the rest of Victoria and was similar across the ICS regions ranging from 61% to 65%.

**Time trends** Survival improved over the 15 years from 1990 from 50% to 63%.

**A clinician's comment** "The improved survival is probably due to a combination of better treatment, including the use of multimodality and adjuvant therapy, and earlier detection of disease. The new National Bowel Cancer Screening Program should eventually result in further survival improvements."

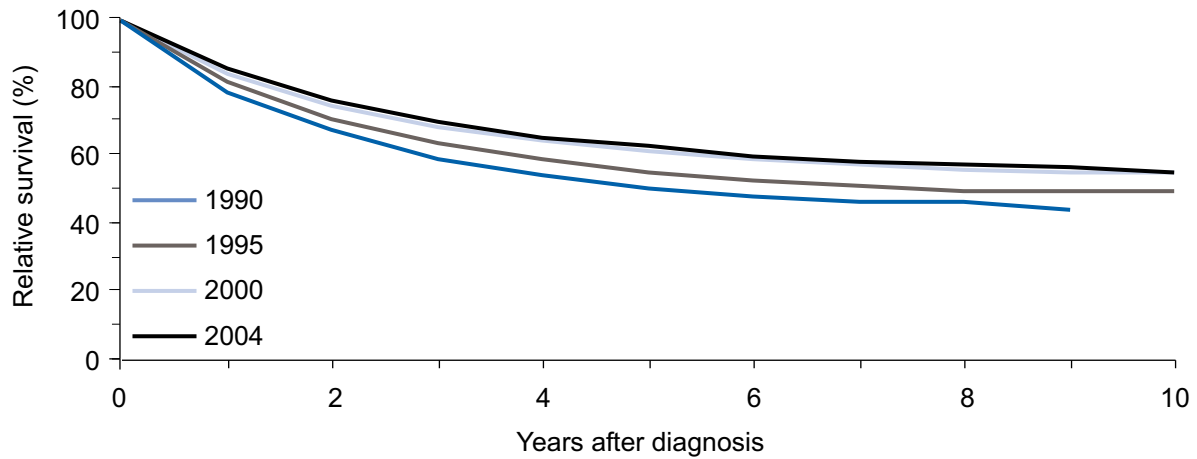
**Table 1: Survival by years after diagnosis, sex and age group for Victorians with rectal cancer in 2004 and for selected years from 1990.**

Years after diagnosis		Survival (%)	95% confidence interval	
1		86	(84-87)	
2		76	(74-78)	
3		70	(68-72)	
4		66	(63-68)	
5		63	(60-65)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	2,572	63	(60-65)	
<b>Sex</b>				0.13
Male	1,592	61	(58-64)	
Female	980	66	(62-70)	
<b>Age at diagnosis</b>				<0.01
0-44	84	68	(58-78)	
45-54	197	62	(55-68)	
55-64	401	74	(69-78)	
65-74	740	64	(59-68)	
75+	1,150	53	(48-58)	
<b>Region of residence</b>				0.24
Melbourne	1,737	63	(60-66)	
Rest of Victoria	833	63	(59-68)	
<b>Integrated Cancer Services Region</b>				0.64
Southern	679	62	(57-67)	
Western & Central	415	62	(56-68)	
North Eastern	643	64	(59-69)	
Barwon South Western	216	65	(57-74)	
Grampians	126	66	(55-77)	
Loddon-Mallee	179	61	(51-70)	
Hume	153	65	(55-75)	
Gippsland	159	61	(50-71)	
<b>Selected years</b>				<0.01
1990		50	(47-53)	
1995		56	(53-59)	
2000		61	(59-64)	
2004		63	(60-65)	

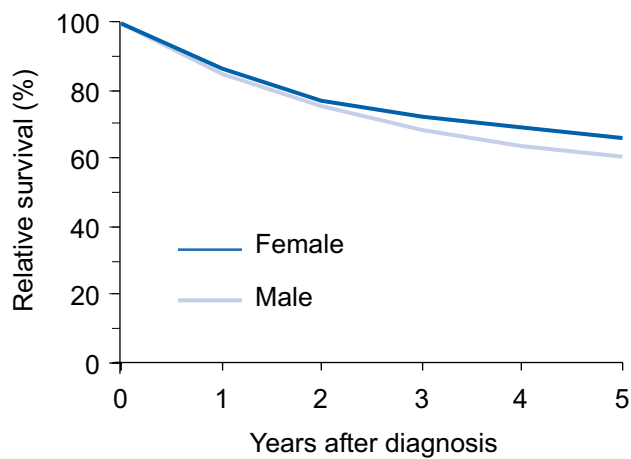




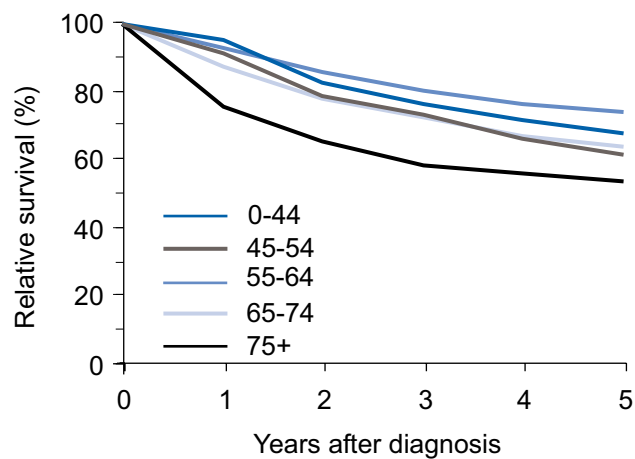
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# LIVER

**The 5-year survival for people with liver cancer is 10%**, amongst the lowest for all cancers.

**Age at diagnosis** Older age at diagnosis was strongly associated with worse survival, being 19% for persons aged under 55 years falling to only 4% for those aged over 75 years at diagnosis.

**Regional comparisons** Survival was higher for residents of Melbourne (12%) and the rest of Victoria (5%).

**Time trends** Survival improved from 5% to 10% over the 15 years.

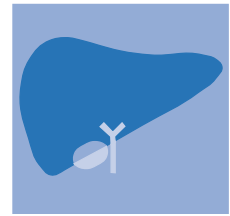
**A clinician's comment** "While the 5-year survival for people with liver cancer remains poor at 10%, there has been a slight improvement over the period. The reasons for this are unknown but may include an increase in the proportion of cancers diagnosed at an early stage, favourable changes in epidemiology and/or improvement in treatment modalities. Certainly, screening for liver cancer in at-risk subjects is more prevalent over the past decade and tumours detected this way are often at an earlier stage and therefore associated with longer survival than those that present with symptoms.

"The epidemiology of liver cancer has also changed. Hepatitis C viral infection is now a major risk factor for liver cancer and tumours related to this infection could have a better prognosis compared to those related to other factors such as hepatitis B.

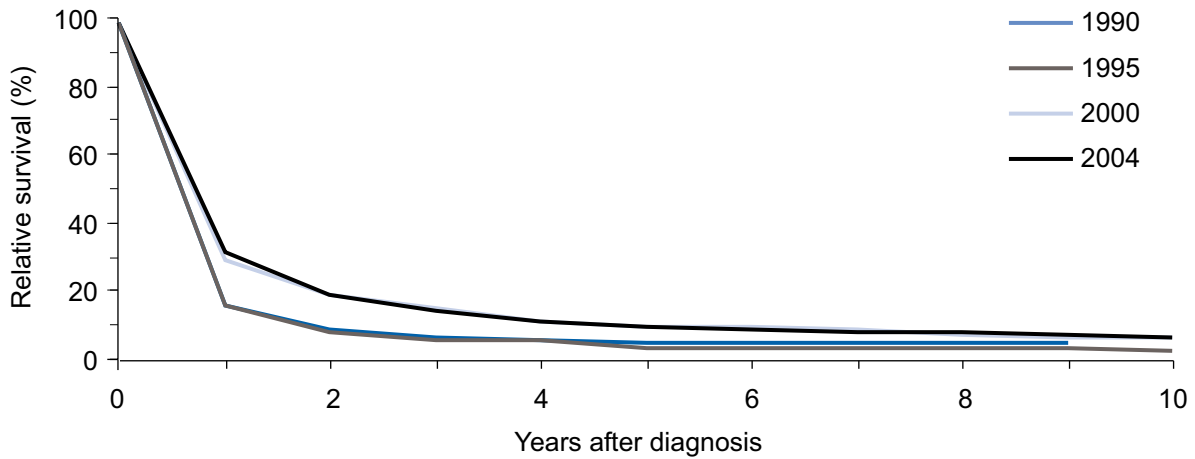
"In contrast, the past two decades have witnessed few major developments in the treatment of liver cancer, particularly for those with unresectable disease. Liver transplantation remains the gold standard for treatment but as access to this modality remains poor it is doubtful that this is the major reason for the observed improved survival."

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with liver cancer in 2004 and for selected years from 1990.**

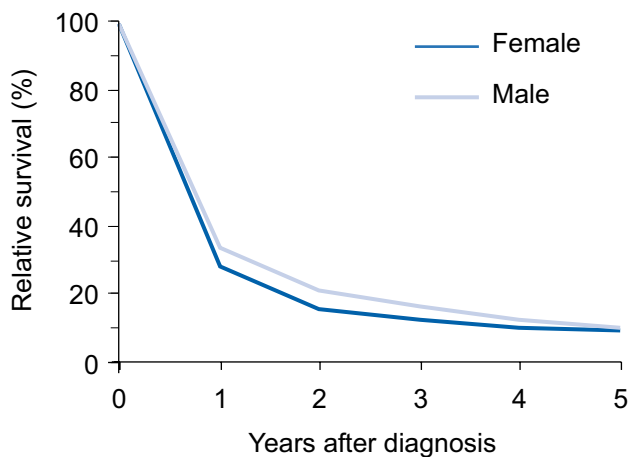
Years after diagnosis		Survival (%)	95% confidence interval	
1		32	(28-36)	
2		20	(16-23)	
3		15	(12-19)	
4		12	(9-15)	
5		10	(7-13)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	986	10	(7-13)	
<b>Sex</b>				0.50
Male	719	11	(7-14)	
Female	267	9	(4-14)	
<b>Age at diagnosis</b>				<0.01
0-54	150	19	(10-27)	
55-64	151	22	(12-31)	
65-74	313	7	(3-10)	
75+	372	4	(1-7)	
<b>Region of residence</b>				<0.01
Melbourne	743	12	(9-15)	
Rest of Victoria	242	5	(2-9)	
<b>Selected years</b>				<0.01
1990		5	(2-9)	
1995		4	(2-6)	
2000		11	(7-14)	
2004		10	(7-13)	



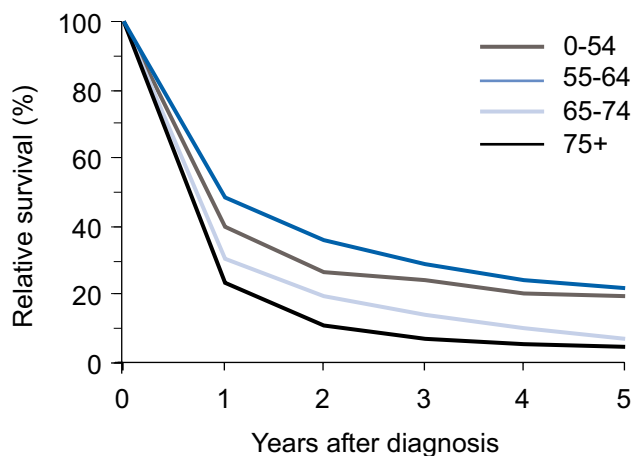
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# GALLBLADDER

**The 5-year survival for people with cancer of the gallbladder is 18%.**

**Sex** Survival was slightly better for men (20%) than women (17%).

**Age at diagnosis** Survival was similar for younger age groups (23-29%) but much lower for those aged over 75 years at diagnosis (8%).

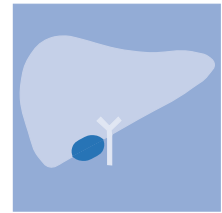
**Regional comparisons** Survival did not differ between residents of Melbourne and the rest of Victoria.

**Time trends** Survival improved slightly over the 15 years from 1990 from 14% to 18%.

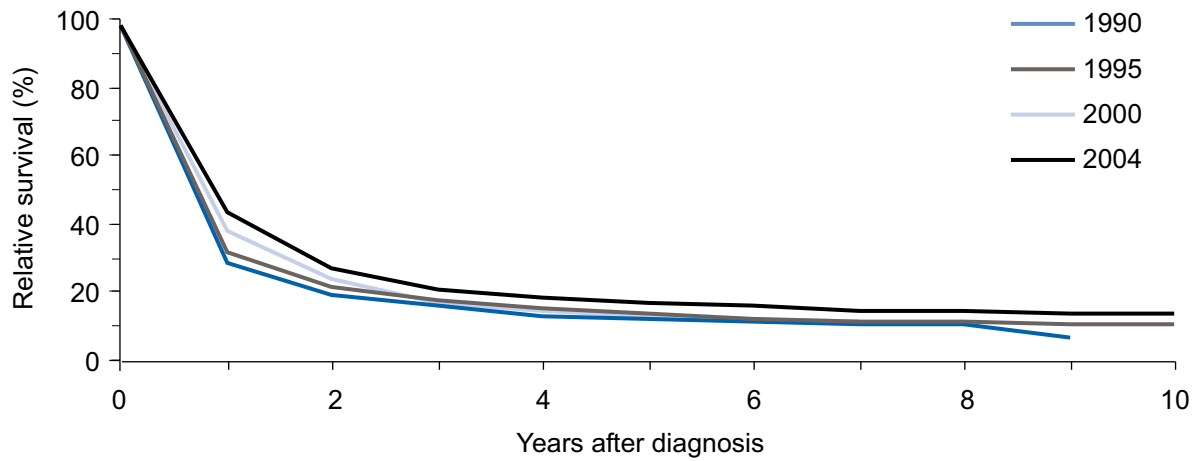
**A clinician's comment** "The changes in survival of gallbladder cancer over this period parallel those of liver cancer. 5-year survival has improved from 14% to 18%. The factors behind this trend are obscure. Nevertheless, improvements in the ability to diagnose, stage and treat this condition and related complications over the corresponding period are likely to have contributed to the improved patient outcomes."

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with gallbladder cancer in 2004 and for selected years from 1990.**

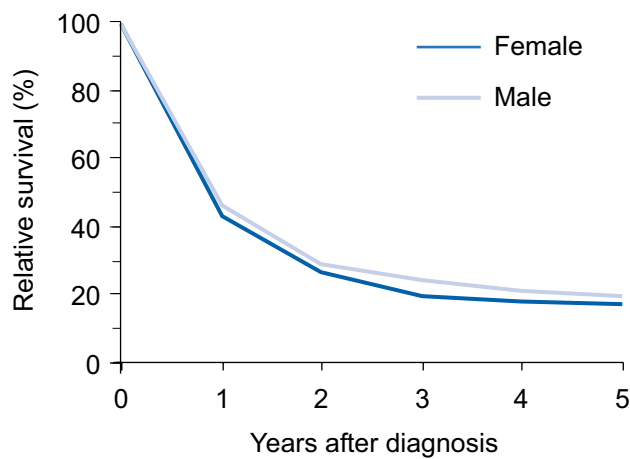
Years after diagnosis		Survival (%)	95% confidence interval	
1		45	(39-50)	
2		28	(22-33)	
3		22	(17-27)	
4		20	(15-24)	
5		18	(13-23)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	599	18	(13-23)	
<b>Sex</b>				0.26
Male	250	20	(12-27)	
Female	349	17	(11-23)	
<b>Age at diagnosis</b>				<0.01
0-54	59	26	(10-43)	
55-64	81	29	(16-42)	
65-74	179	23	(13-33)	
75+	280	8	(3-13)	
<b>Region of residence</b>				0.04
Melbourne	427	19	(13-24)	
Rest of Victoria	170	17	(8-26)	
<b>Selected years</b>				<0.01
1990		14	(9-18)	
1995		15	(11-19)	
2000		15	(11-19)	
2004		18	(13-23)	



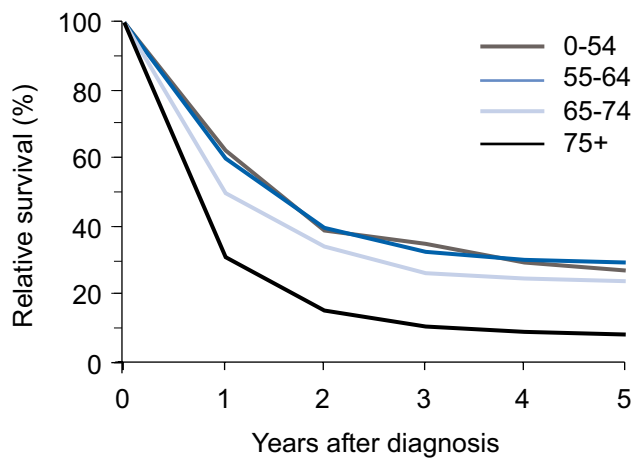
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# PANCREAS

**The 5-year survival for people with pancreatic cancer is 5%.**

**Sex** For both men and women this cancer has the poorest survival of all cancers.

**Age at diagnosis** Older age at diagnosis was associated with worse survival, patients under 55 years (14%) having slightly better prognosis than older patients (3-5%).

**Regional comparisons** Survival was similarly low for residents of Melbourne and the rest of Victoria. There was some variation in survival between ICS regions.

**Time trends** Small increases in survival have occurred over the 15 year period.

**A clinician's comment** "Poor outcomes are confirmed in patients with pancreatic cancer. The failure to show more improvement over time suggests that pancreatic cancer continues to present in a state too advanced for curative treatment. Earlier diagnosis and use of specialised treatment centres is necessary to improve survival figures."

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with pancreatic cancer in 2004 and for selected years from 1990.**

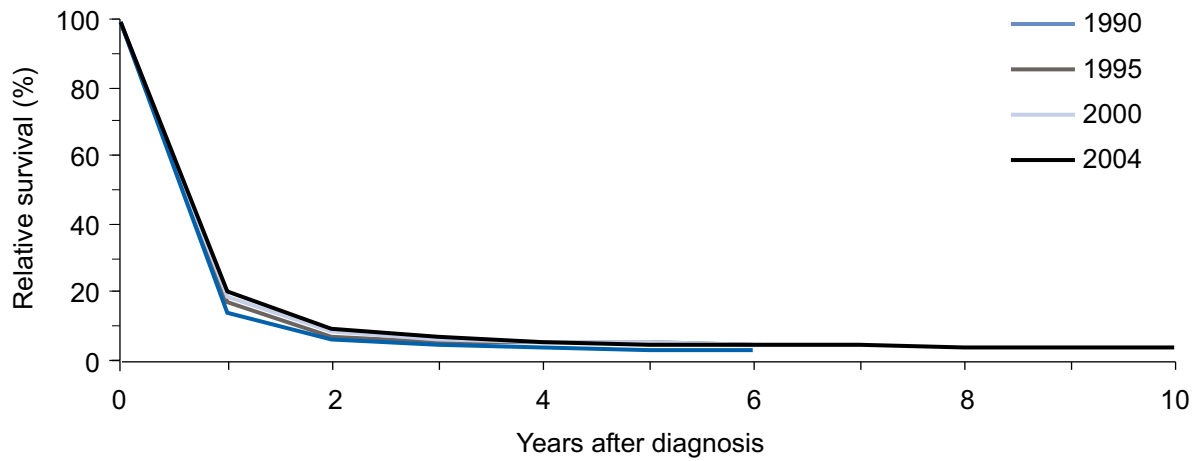
Years after diagnosis	Survival (%)	95% confidence interval	
1	21	(18-23)	
2	10	(8-12)	
3	7	(5-8)	
4	6	(4-7)	
5	5	(4-6)	

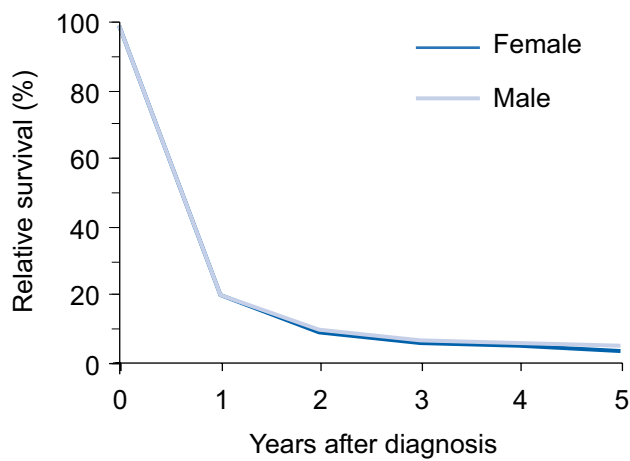
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	2,243	5	(4-6)	
<b>Sex</b>				0.34
Male	1,144	6	(4-8)	
Female	1,099	4	(3-6)	
<b>Age at diagnosis</b>				<0.01
0-54	219	14	(7-20)	
55-64	373	6	(3-9)	
65-74	642	5	(3-7)	
75+	1,009	3	(2-5)	
<b>Region of residence</b>				<0.01
Melbourne	1,542	6	(4-8)	
Rest of Victoria	700	3	(1-5)	
<b>Integrated Cancer Services Region</b>				<0.01
Southern	678	5	(3-8)	
Western & Central	348	9	(4-13)	
North Eastern	516	6	(3-9)	
Barwon South Western	180	2	(0-4)	
Grampians	103	2	(0-6)	
Loddon-Mallee	143	1	(0-3)	
Hume	131	7	(1-14)	
Gippsland	143	3	(0-7)	
<b>Selected years</b>				<0.01
1990		3	(2-5)	
1995		5	(4-6)	
2000		5	(4-7)	
2004		5	(4-6)	



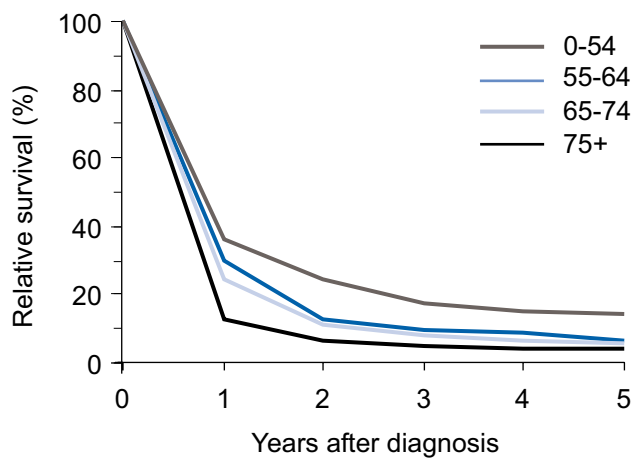
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# LARYNX

**The 5-year survival for people with cancer of the larynx is 64%.**

**Sex** Survival was slightly higher for men (65%) than women (58%).

**Age at diagnosis** Older age at diagnosis was associated with worse survival.

**Regional comparisons** Survival was slightly higher for residents of Melbourne than the rest of Victoria.

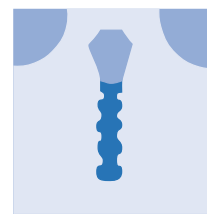
**Time trends** Survival only marginally improved over the 15 year period.

**A clinician's comment** "An interesting change has occurred, in most centres, in the management of more advanced staged larynx cancer from total laryngectomy and post-operative radiotherapy to use of larynx preservation protocols (concurrent chemotherapy and radiotherapy with surgery, total laryngectomy being reserved as salvage for those cases that fail chemoradiation). As one would have predicted from previously published randomised studies, there is no detriment in patients' survival with this change in management. What these figures can't show is the potential for improvement in patients' quality of life with an intact larynx."

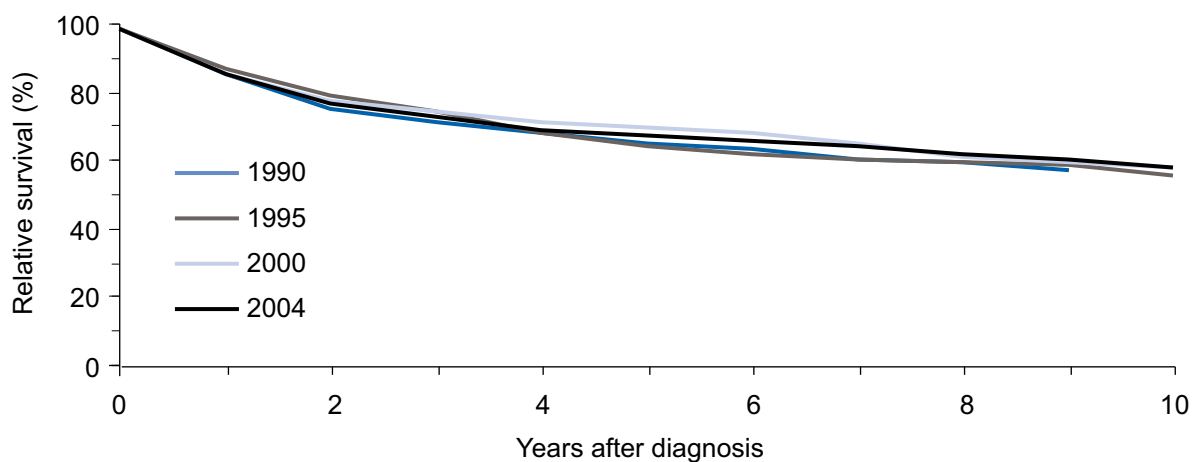
**Table 1: Survival by years after diagnosis, sex and age group for Victorians with laryngeal cancer in 2004 and for selected years from 1990.**

Years after diagnosis		Survival (%)	95% confidence interval	
1		85	(82-87)	
2		75	(72-78)	
3		70	(67-74)	
4		66	(63-70)	
5		64	(60-68)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	304	64	(60-68)	
<b>Sex</b>				0.25
Male	261	65	(61-69)	
Female	43	58	(47-67)	
<b>Age at diagnosis</b>				<0.01
0-54	28	73	(64-80)	
55-64	73	65	(58-71)	
65-74	107	65	(59-71)	
75+	96	59	(48-69)	
<b>Region of residence</b>				0.71
Melbourne	207	65	(61-70)	
Rest of Victoria	97	62	(55-69)	
<b>Selected years</b>				0.62
1990		66	(59-73)	
1995		66	(59-73)	
2000		70	(64-77)	
2004		64	(60-68)	

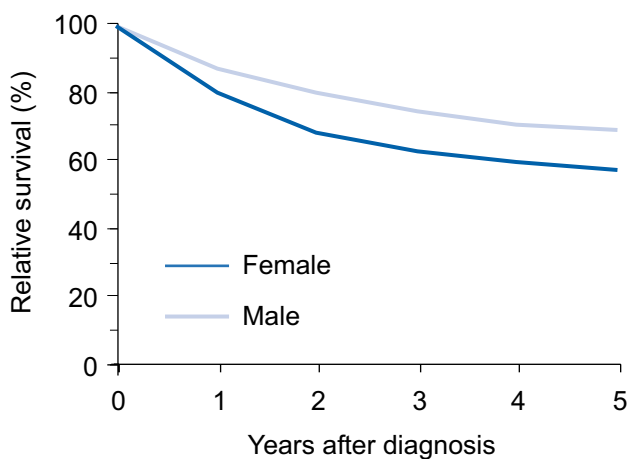




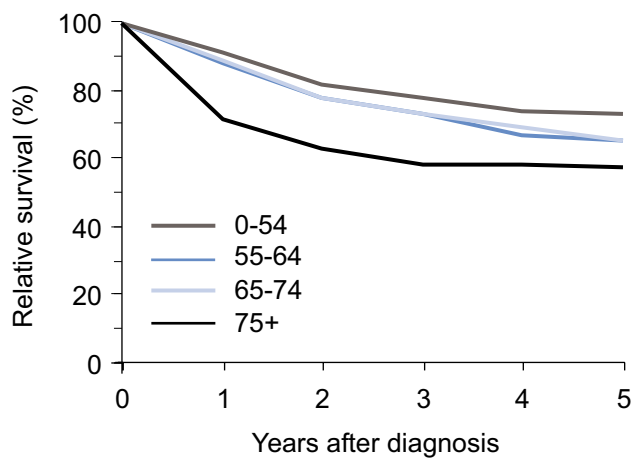
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# LUNG

**The 5-year survival for people with lung cancer is 11%** and is higher for women (14%) than for men (9%).

**Age at diagnosis** Increasing age at diagnosis is associated with worse survival, with proportions of 33% for persons under 45 years falling to 6% for persons over 75 years at diagnosis.

**Tumour morphology** Survival was higher for persons diagnosed with non-small cell carcinoma (15%) than with either small cell carcinoma (4%) or tumours without histological confirmation (2%).

**Regional comparisons** Survival was slightly higher for residents of Melbourne than the rest of Victoria and this was reflected in the proportions for individual ICS regions..

**Time trends** There have been modest increases in survival over the 15 years from 1990.

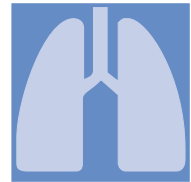
**A clinician's comment** "Survival remains poor reflecting the frequency of disease disseminated at diagnosis. Patients with no histological confirmation are likely to have widespread disease and significant co-morbidities making them unfit for diagnostic procedures or active treatment. The higher survival of patients with non-small cell lung cancer is due to a proportion having localised disease who can have a curative resection. The age-related decline in survival may be due to the fact that older patients may be less likely to be offered aggressive, potentially curative, treatments because of a lower level of fitness. The better survival for women may be due to the larger proportion of non-smokers who do not have smoking-related co-morbidities. The improvement of survival over time suggests that more widespread use of active treatments may be having a beneficial effect."

**Table 1: Survival by years after diagnosis, sex, age group and morphology for Victorians with lung cancer in 2004 and for selected years from 1990.**

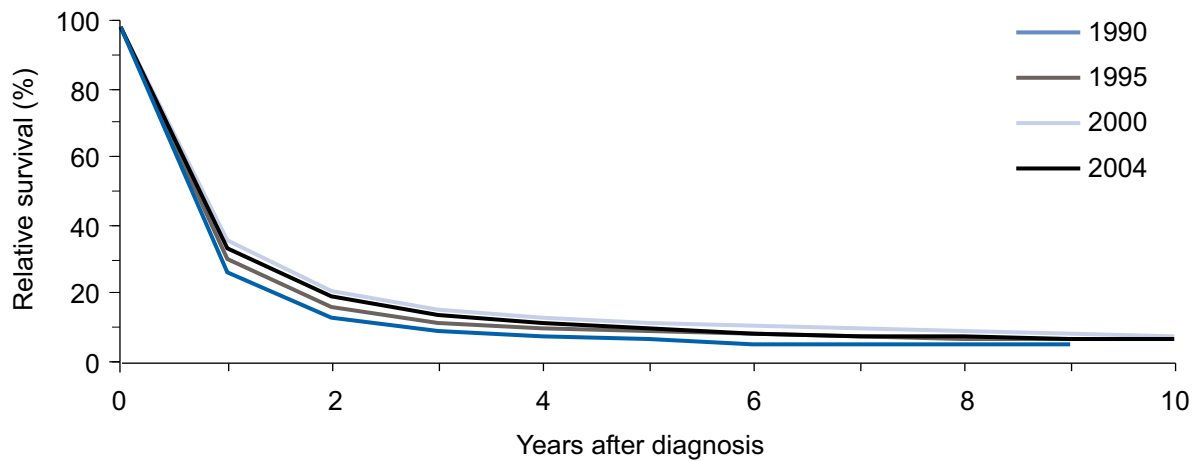
Years after diagnosis	Survival (%)	95% confidence interval
1	35	(33-36)
2	20	(19-21)
3	15	(14-16)
4	12	(11-13)
5	11	(10-12)

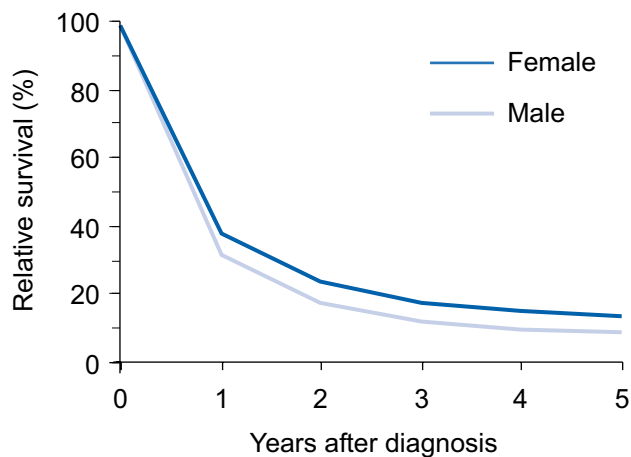
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	8,908	11	(10-12)	
<b>Sex</b>				
Male	5,769	9	(8-10)	<0.01
Female	3,139	14	(12-16)	
<b>Age at diagnosis</b>				<0.01
0-44	136	33	(22-44)	
45-54	559	17	(13-22)	
55-64	1,637	15	(13-18)	
65-74	3,052	11	(10-13)	
75+	3,524	6	(5-8)	
<b>Region of residence</b>				<0.01
Melbourne	6,032	12	(10-13)	
Rest of Victoria	2,870	9	(8-11)	
<b>Integrated Cancer Services Region</b>				<0.01
Southern	2,515	12	(10-14)	
Western & Central	1,649	10	(8-12)	
North Eastern	1,868	12	(10-14)	
Barwon South Western	731	10	(7-13)	
Grampians	429	8	(4-12)	
Loddon-Mallee	642	8	(5-11)	
Hume	504	11	(7-15)	
Gippsland	564	8	(5-12)	
<b>Tumour morphology group</b>				<0.01
Non-small cell carcinoma	5,842	15	(14-17)	
<i>Adenocarcinoma</i>	2,361	17	(15-19)	
Small cell carcinoma	1,388	4	(3-6)	
No histological confirmation	1,678	2	(1-3)	
<b>Selected years</b>				<0.01
1990		8	(7-8)	
1995		10	(9-11)	
2000		13	(12-14)	
2004		11	(10-12)	



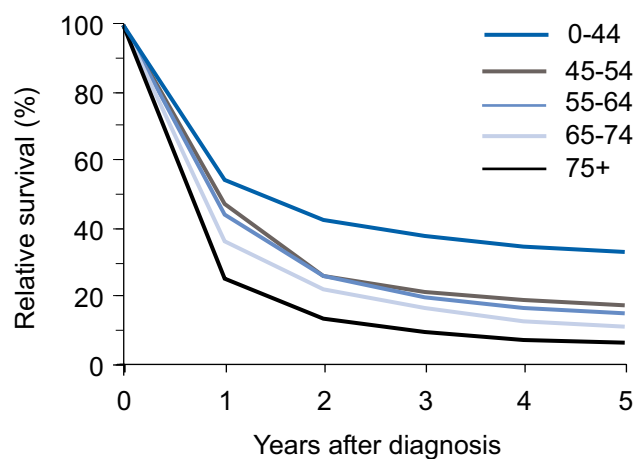
**Figure 1: Survival by year**



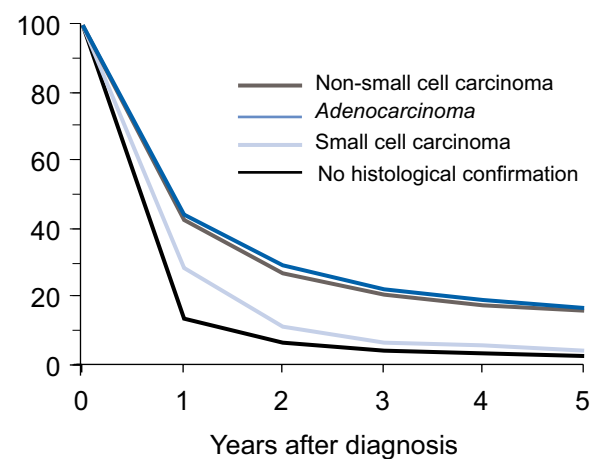
**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



**Figure 4: Survival by tumour morphology**



# MESOTHELIOMA

The 5-year survival for people with mesothelioma is 5%, one of the lowest cancer survival rates.

**Sex** Survival was 4% for men and 11% for women.

**Age at diagnosis** Older age at diagnosis was associated with worse survival, with rates falling from 23% in persons under 55 years to 3% for persons over 75 years at diagnosis.

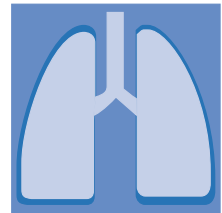
**Regional comparisons** Survival did not differ between residents of Melbourne and the rest of Victoria.

**Time trends** There was no improvement in survival over the 15 years from 1990.

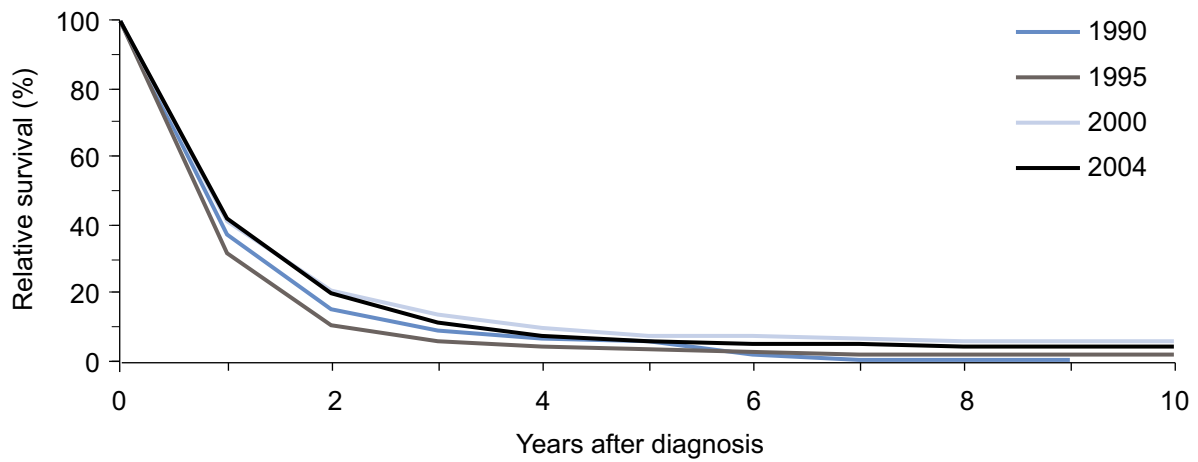
**A clinician's comment** "The low survival of patients with pleural mesothelioma reinforces the perception that this is a deadly disease for which there is no effective treatment."

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with mesothelioma in 2004 and for selected years from 1990.**

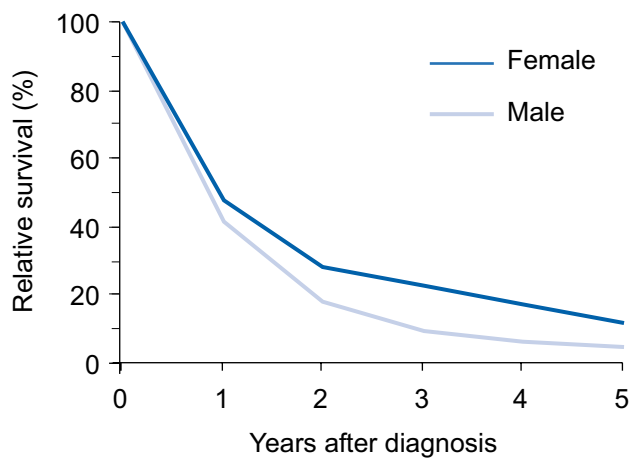
Years after diagnosis		Survival (%)	95% confidence interval	
1		42	(36-47)	
2		19	(14-24)	
3		11	(7-15)	
4		7	(4-10)	
5		5	(3-8)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	561	5	(3-8)	
<b>Sex</b>				0.24
Male	463	4	(2-7)	
Female	98	11	(1-21)	
<b>Age at diagnosis</b>				<0.01
0-54	48	23	(3-42)	
55-64	109	13	(3-23)	
65-74	191	2	(0-4)	
75+	213	3	(0-7)	
<b>Region of residence</b>				0.28
Melbourne metropolitan	388	4	(1-7)	
Rest of Victoria	173	9	(2-16)	
<b>Selected years</b>				0.48
1990		5	(1-9)	
1995		3	(1-5)	
2000		7	(3-11)	
2004		5	(3-8)	



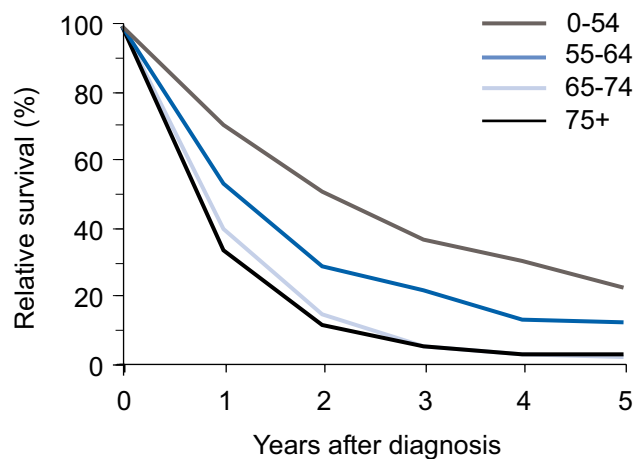
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# CONNECTIVE & SOFT TISSUE

Note: This tumour grouping does not include Kaposi sarcoma

**The 5-year survival for people with cancers of connective and other soft tissue is 68%.**

**Sex** Survival did not differ between men and women.

**Age at diagnosis** Older age at diagnosis was associated with worse survival, with proportions of 80% for persons under 45 years falling to 58% for persons over 75 years at diagnosis.

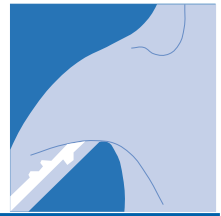
**Regional comparisons** Survival was slightly higher for residents of Melbourne than the rest of Victoria.

**Time trends** Survival improved over the 15 years from 1990 from 56% to 68%.

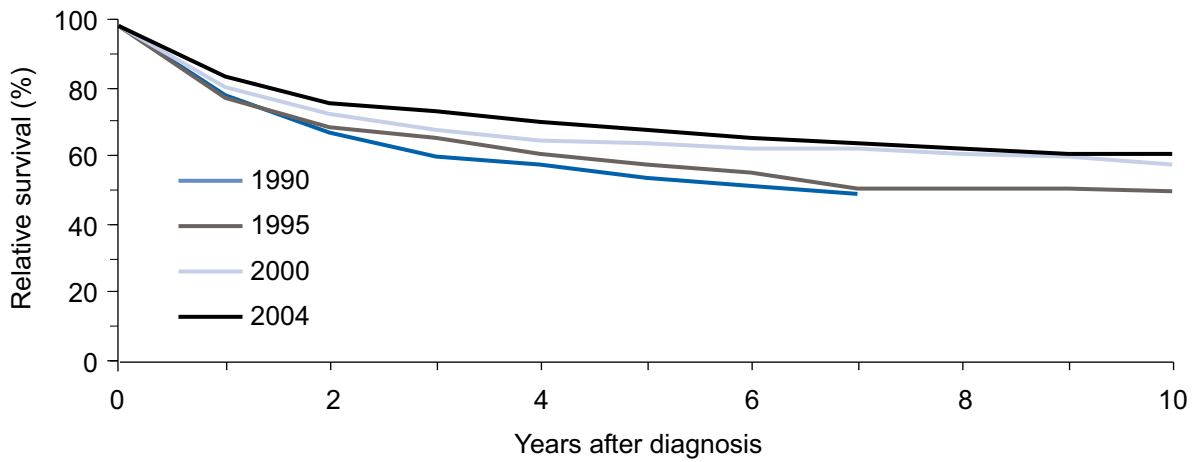
**A clinician's comment** "The improvement in survival is encouraging. It is important to note that, while there has been very little change in the modalities of treatment (radiotherapy, chemotherapy and surgery) over the 15-year period, there has been a major shift in the philosophy of overall management with a greater emphasis on the multi-disciplinary management of sarcomas. The commitment to multi-disciplinary care in Victoria may, in part, explain the observed improvement in survival."

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with connective tissue cancer in 2004 and for selected years from 1990.**

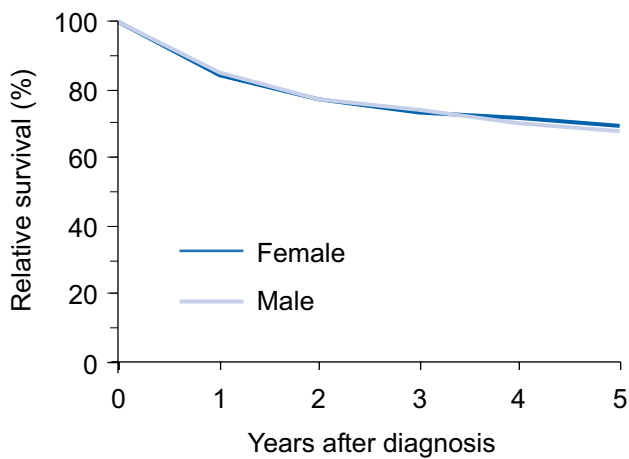
Years after diagnosis		Survival (%)	95% confidence interval	
1		85	(81- 89)	
2		77	(72- 82)	
3		74	(68- 80)	
4		71	(65- 77)	
5		68	(62- 75)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	306	68	(62-75)	
<b>Sex</b>				0.37
Male	170	68	(59-77)	
Female	136	69	(60-79)	
<b>Age at diagnosis</b>				<0.01
0-44	45	80	(71-90)	
45-54	32	66	(50-82)	
55-64	39	72	(57-87)	
65-74	70	60	(44-76)	
75+	120	58	(42-75)	
<b>Region of residence</b>				0.08
Melbourne	210	70	(62-78)	
Rest of Victoria	95	65	(52-78)	
<b>Selected years</b>				<0.01
1990		56	(47-64)	
1995		66	(59-74)	
2000		60	(53-67)	
2004		68	(62-75)	



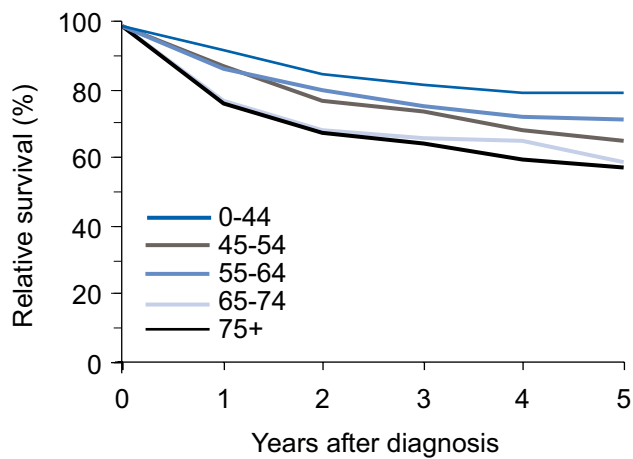
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# MELANOMA

Note: Analysis includes only invasive cutaneous melanomas (Clark's level 2 to 5).

**The 5-year survival for people with melanoma is 90%.** This is the highest survival of any cancer except testis for males and thyroid for females.

**Sex** Survival was 88% for men and slightly higher (93%) for women.

**Age at diagnosis** Older age at diagnosis was associated with worse survival.

**Regional comparisons** Survival was very similar for residents of Melbourne and the rest of Victoria, with slight variation between the ICS regions.

**Time trends** Survival improved over the 15 years from 1990 from 86% to 90%.

**A clinician's comment** "The excellent survival for melanoma is a reflection of the early diagnosis of this tumour in Australia, which is due to high levels of awareness of the disease. The thickness of the melanoma at diagnosis is a strong predictor of prognosis. The improvement in survival over time is most likely due to earlier detection over time and the sex and age differences are also partly attributable to thicker melanomas diagnosed for men and in the elderly. Survival by stage is not presented in this report and it should be noted that, though survival for early stage melanoma is very high, the median survival for patients with advanced disease is only six to seven months."

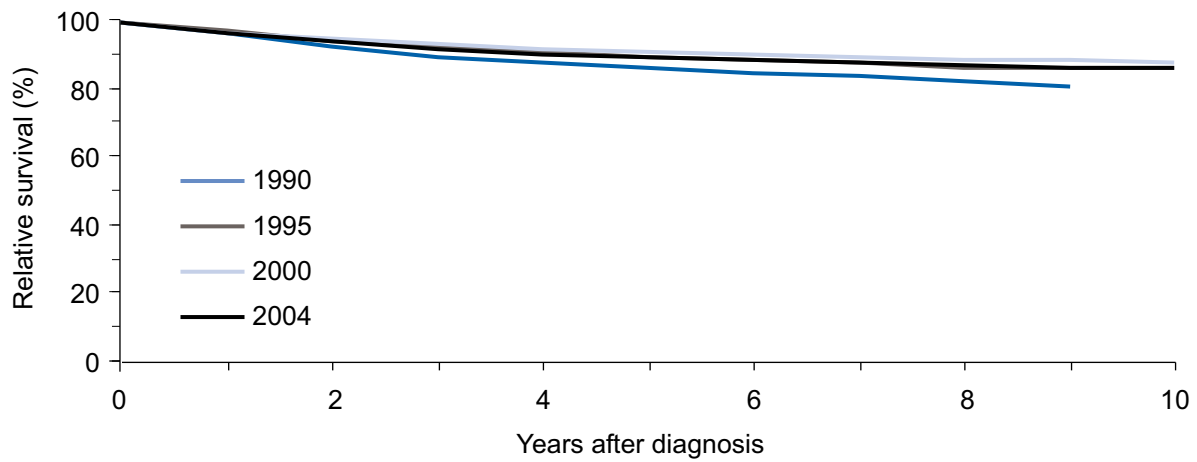
**Table 1: Survival by years after diagnosis, sex and age group for Victorians with malignant melanoma in 2004 and for selected years from 1990.**

Years after diagnosis		Survival (%)	95% confidence interval	
1		97	(97-98)	
2		94	(93-95)	
3		92	(91-94)	
4		91	(89-92)	
5		90	(88-92)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	1,558	90	(88-92)	
<b>Sex</b>				
Male	1,003	88	(85-90)	<0.01
Female	555	93	(91-95)	
<b>Age at diagnosis</b>				<0.01
0-44	125	94	(92-96)	
45-54	117	93	(91-96)	
55-64	181	92	(90-95)	
65-74	371	88	(84-91)	
75+	764	82	(76-89)	
<b>Region of residence</b>				<0.01
Melbourne	1,011	91	(89-93)	
Rest of Victoria	546	88	(86-91)	
<b>Integrated Cancer Services Region</b>				<0.01
Southern	459	90	(86-93)	
Western & Central	210	86	(81-91)	
North Eastern	342	94	(91-97)	
Barwon South Western	136	89	(83-95)	
Grampians	66	81	(71-92)	
Loddon-Mallee	125	90	(84-95)	
Hume	99	86	(79-93)	
Gippsland	120	90	(84-95)	
<b>Selected years</b>				<0.01
1990		86	(84-88)	
1995		90	(89-92)	
2000		92	(90-93)	
2004		90	(88-92)	

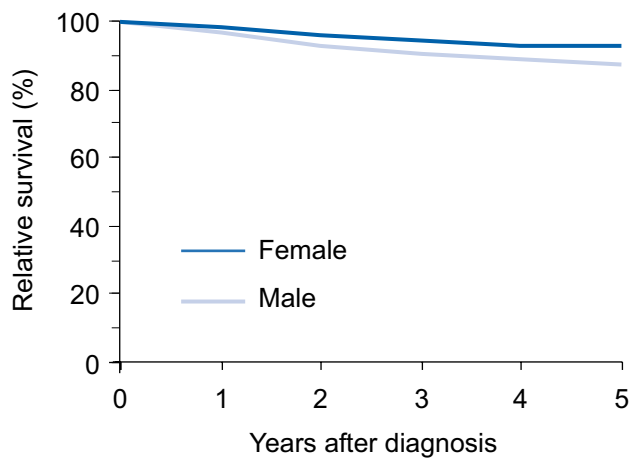




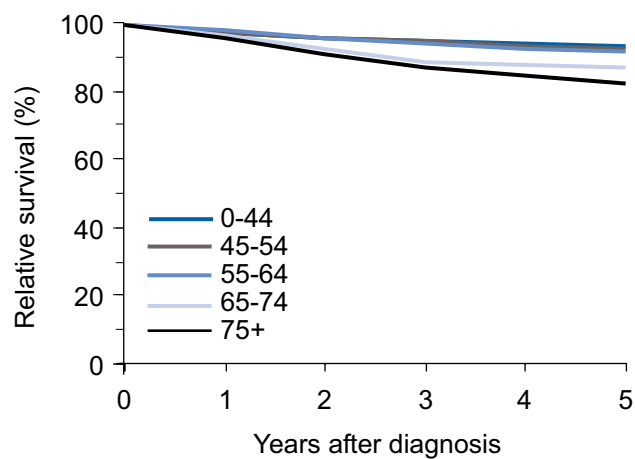
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# BREAST (female)

**The 5-year survival for women with breast cancer is 87%.**

**Age at diagnosis** There was little variation between younger age groups but women over 75 had significantly lower survival.

**Tumour morphology** Higher, and barely distinguishable, survival was seen for women with ductal and lobular carcinoma, Paget disease and other adenocarcinomas than in other types of carcinoma (47%), with the lowest survival being for tumours without histological confirmation (13%).

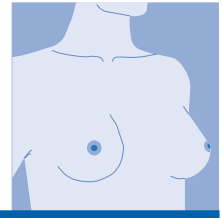
**Regional comparisons** Survival did not differ between residents of Melbourne and the rest of Victoria and there was little variation in proportions between women resident in the different ICS regions.

**Time trends** Survival improved over the 15 years from 1990 from 74% to 87%.

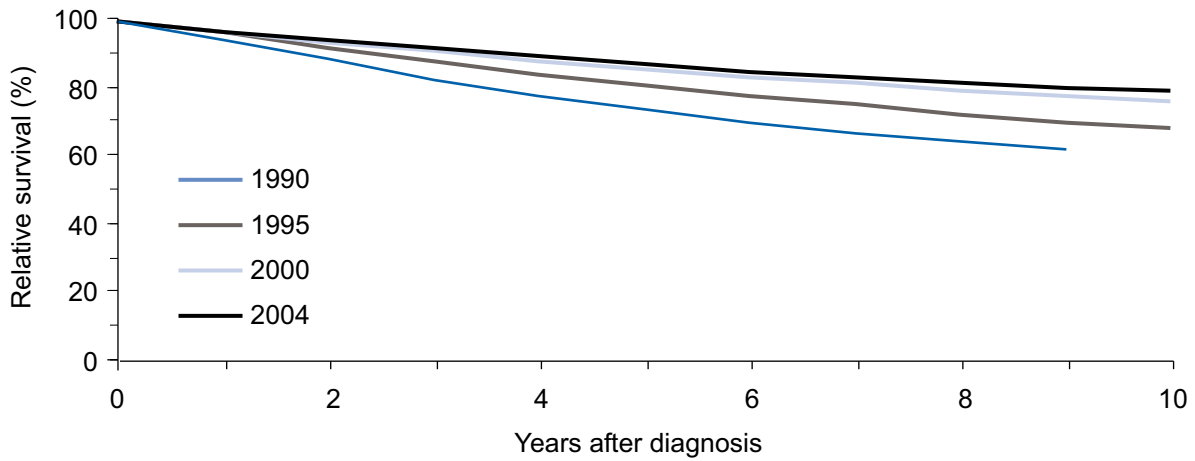
**A clinician's comment** "The 13% improvement in survival over 15 years is primarily the effect of better targeted adjuvant systemic treatments with tamoxifen and then with increasingly effective chemotherapy regimens. The screening program may be having a small impact in recent years and we could look forward to further improvement in the future. Age at diagnosis has little effect on survival, disproving the notion that cancers in older women are 'slower'. The worse survival of the unspecified and histology lacking group most likely represents larger, non-operable or untreated cancers."

**Table 1: Survival by years after diagnosis, age group and morphology for Victorian women with breast cancer in 2004 and for selected years from 1990.**

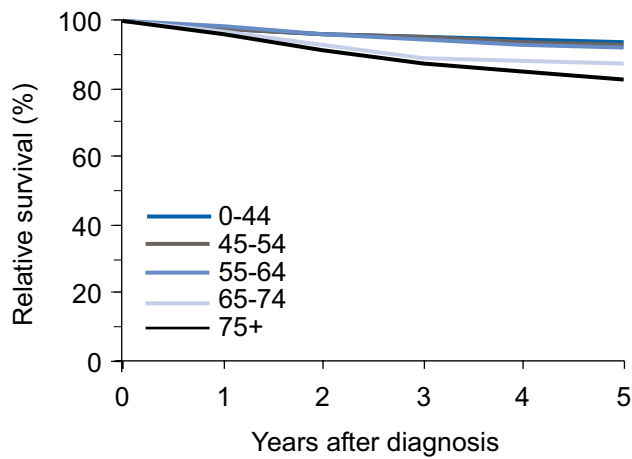
Years after diagnosis		Survival (%)	95% confidence interval	
1		97	(97-98)	
2		95	(94-95)	
3		92	(91-93)	
4		90	(89-91)	
5		87	(86-89)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>Female</b>	2,762	87	(86-89)	
<b>Age at diagnosis</b>				<0.01
0-44	300	87	(84-89)	
45-54	383	91	(90-93)	
55-64	415	91	(89-93)	
65-74	545	89	(86-91)	
75+	1,119	76	(71-80)	
<b>Region of residence</b>				0.62
Melbourne metropolitan	1,937	87	(86-89)	
Rest of Victoria	820	88	(85-90)	
<b>Integrated Cancer Services Region</b>				0.13
Southern	793	87	(85-90)	
Western & Central	456	85	(82-88)	
North Eastern	688	89	(86-91)	
Barwon	213	88	(84-92)	
Grampians	140	85	(80-91)	
Loddon-Mallee	169	90	(85-94)	
Hume	143	88	(83-93)	
Gippsland	155	86	(81-91)	
<b>Tumour morphology group</b>				<0.01
Ductal carcinoma	1,908	89	(88-90)	
Lobular carcinoma	261	89	(85-93)	
Paget disease	47	87	(78-97)	
Other adenocarcinoma	201	86	(82-91)	
Other & unspecified carcinoma	124	47	(34-60)	
No histological confirmation	196	13	(5-20)	
<b>Selected years</b>				<0.01
1990		74	(72-76)	
1995		81	(79-82)	
2000		86	(84-87)	
2004		87	(86-89)	



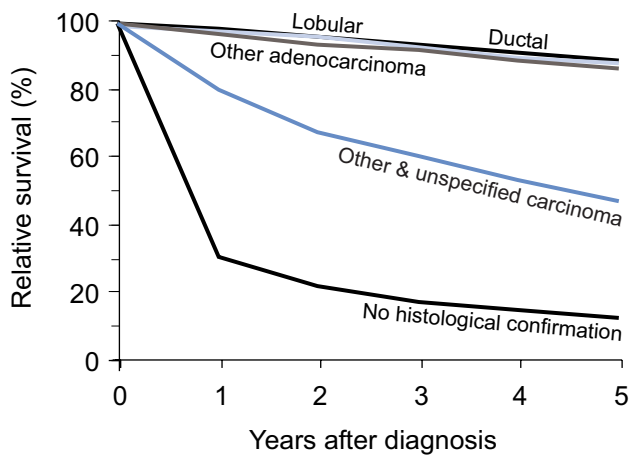
**Figure 1: Survival by year**



**Figure 3: Survival by age group**



**Figure 4: Survival by tumour morphology**



# CERVIX

## The 5-year survival for women with cervical cancer is 70%.

**Age at diagnosis** Older age at diagnosis was associated with worse survival, with estimates of 95% for women under 35 years falling to 35% for women over 75 years at diagnosis.

**Tumour morphology** Survival differed between tumours of different types with other and unspecified carcinomas having less favourable prognosis than squamous cell carcinomas or adenocarcinomas. As with other cancers, the poorest survival was observed for tumours without histological verification (11%).

**Regional comparisons** Survival was very similar for residents of Melbourne and the rest of Victoria.

**Time trends** Survival in 2004 was the same as in 1990 though there was some improvement in between these years.

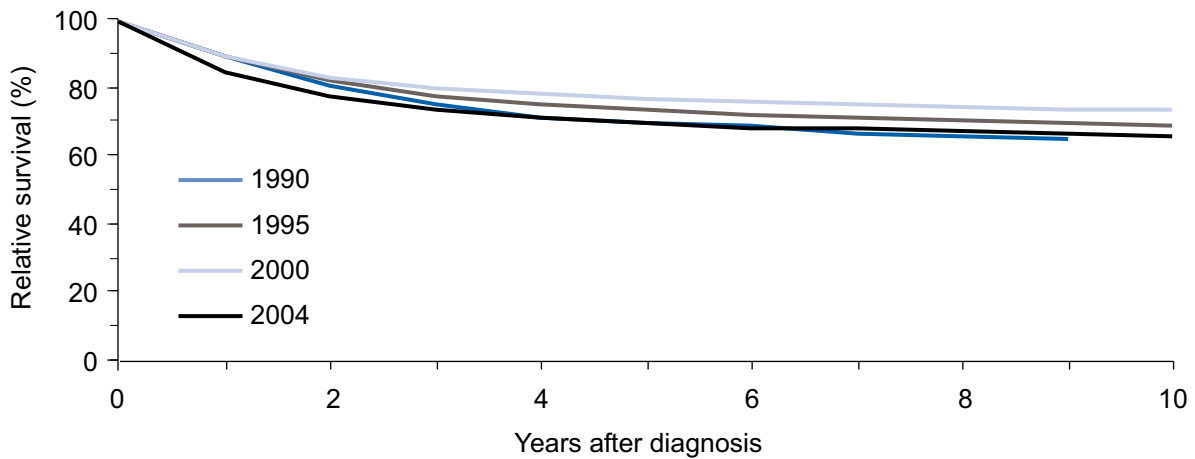
**A clinician's comment** "The introduction of an organised approach to Pap smear screening has seen a shift towards earlier stage disease and this, together with better centralisation of cases and improved treatment protocols, has resulted in a slow improvement in overall survival rates. The trend for reduced survival in older women will need further study. The comparable survival figures for squamous versus glandular lesions tends to be at odds with the rest of the world literature but may well reflect better delivery of radiation in the Australian context."

**Table 1: Survival by years after diagnosis, age group and morphology for Victorian women with cervical cancer in 2004 and for selected years from 1990.**

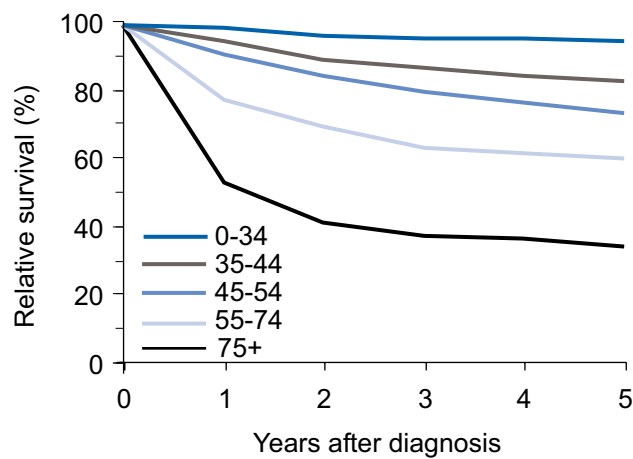
Years after diagnosis		Survival (%)	95% confidence interval	
1		85	(81-89)	
2		78	(73-83)	
3		74	(68-79)	
4		72	(66-78)	
5		70	(64-76)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>Female</b>	267	70	(64-76)	
<b>Age at diagnosis</b>				<0.01
<35	17	95	(90-100)	
35-44	23	84	(73-95)	
45-54	43	74	(63-86)	
55-74	90	61	(48-73)	
75+	94	35	(18-52)	
<b>Region of residence</b>				0.81
Melbourne	196	71	(64-77)	
Rest of Victoria	70	69	(57-81)	
<b>Tumour morphology group</b>				0.10
Adenocarcinoma	50	77	(65-88)	
Squamous cell carcinoma	179	73	(66-80)	
Other & unspecified carcinoma	19	58	(33-82)	
No histological confirmation	12	11	(0-38)	
<b>Selected years</b>				0.02
1990		70	(66-75)	
1995		73	(69-78)	
2000		77	(72-82)	
2004		70	(64-76)	



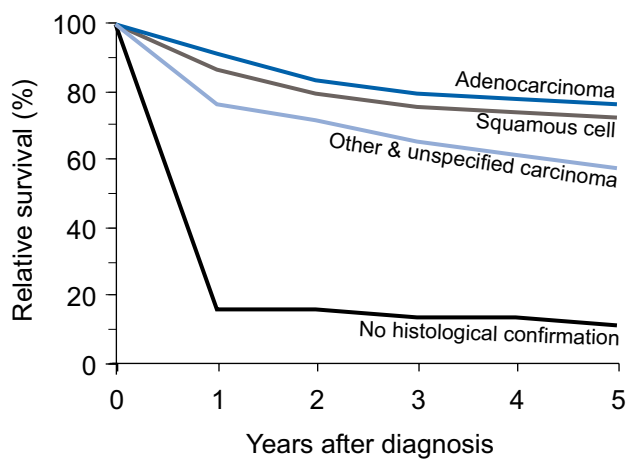
**Figure 1: Survival by year**



**Figure 3: Survival by age group**



**Figure 4: Survival by tumour morphology**



# UTERUS

The 5-year survival for women with uterine cancer is 84%.

**Age at diagnosis** Worse survival was seen for women aged over 65 years at diagnosis than for younger women.

**Regional comparisons** Survival was very similar for residents of Melbourne and the rest of Victoria.

**Time trends** Survival improved over the 15 years from 1990 from 75% to 84%.

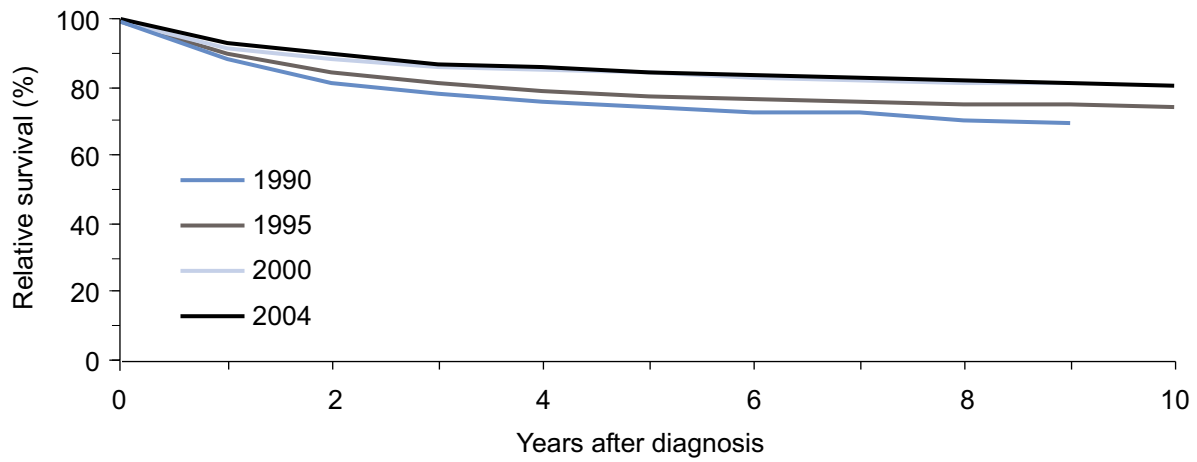
**A clinician's comment** "Survival for uterine cancer continues to improve with extraordinarily high 5-year survival rates noted in the last triennium. These may well reflect centralisation of care together with individualisation of treatment according to risk factors."

**Table 1: Survival by years after diagnosis and age group for Victorian women with uterine cancer in 2004 and for selected years from 1990.**

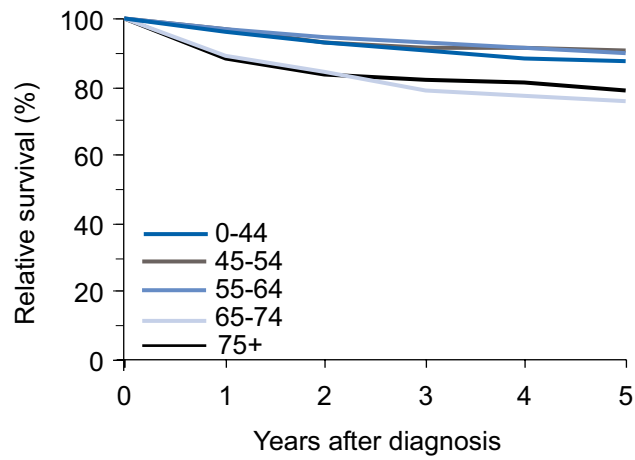
Years after diagnosis		Survival (%)	95% confidence interval	
1		93	(92-95)	
2		89	(87-91)	
3		87	(84-89)	
4		85	(83-88)	
5		84	(81-87)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>Female</b>	516	84	(81-87)	
<b>Age at diagnosis</b>				<0.01
0-44	18	87	(77-97)	
45-54	49	90	(85-95)	
55-64	88	90	(86-94)	
65-74	143	75	(68-83)	
75+	218	79	(70-88)	
<b>Region of residence</b>				0.05
Melbourne	349	83	(80-87)	
Rest of Victoria	167	85	(79-90)	
<b>Selected years</b>				<0.01
1990		75	(71-80)	
1995		78	(74-82)	
2000		85	(82-88)	
2004		84	(81-87)	



**Figure 1: Survival by year**



**Figure 3: Survival by age group**



# OVARY

Note: This analysis does not include ovarian cystadenomas of borderline malignancy.

## The 5-year survival for women with ovarian cancer is 41%.

**Age at diagnosis** Older age at diagnosis was strongly associated with worse survival, with rates of 74% for women under 45 years falling to 16% for women aged over 75 years at diagnosis.

**Tumour morphology** The highest survival was for endometrioid (86%), clear cell (67%) and mucinous adenocarcinomas (60%) and for tumours of 'other histology' (61%), a diverse group of non-epithelial tumours including germ cell tumours, granulosa cell tumours and other specialised gonadal tumours. Papillary and serous adenocarcinomas (36%) had less favourable prognosis than the other adenocarcinomas with other types of carcinoma/adenocarcinoma (28–30%) and unconfirmed tumours having the poorest survival (11%).

**Regional comparisons** Survival was slightly higher for residents of Melbourne than the rest of Victoria.

**Time trends** Survival improved over the 15 years from 1990 from 35% to 41%.

**A clinician's comment** "Overall survival continues to creep up. However, until a screening test is found which will enable earlier diagnosis to be made, it is unlikely that huge inroads in survival are going to occur.

"Survival figures for clear cell carcinoma are higher than expected whilst the profound influence of age on outcome has been noted previously."

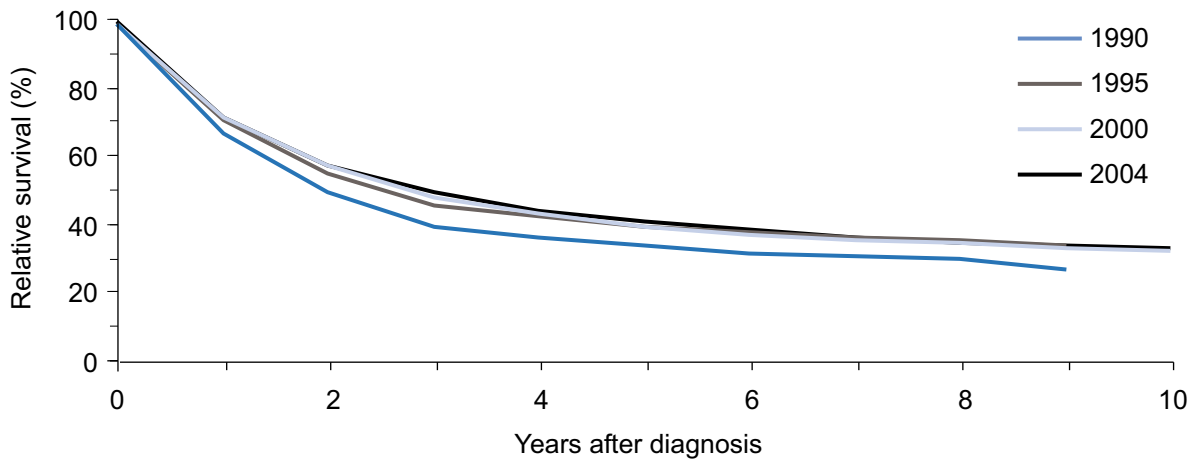
**Table 1: Survival by years after diagnosis, age group and tumour morphology for Victorian women with ovarian cancer in 2004 and for selected years from 1990.**

Years after diagnosis		Survival (%)	95% confidence interval	
1		72	(68-75)	
2		58	(54-62)	
3		50	(46-54)	
4		44	(40-48)	
5		41	(37-46)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>Female</b>	936	41	(37-46)	
<b>Age at diagnosis</b>				<0.01
0-44	42	74	(62-86)	
45-54	109	59	(48-70)	
55-64	167	50	(41-60)	
65-74	244	37	(28-46)	
75+	374	16	(10-22)	
<b>Region of residence</b>				0.41
Melbourne	665	43	(38-48)	
Rest of Victoria	271	37	(29-45)	
<b>Tumour morphology group</b>				<0.01
Papillary/serous adenocarcinoma	398	36	(29-42)	
Mucinous adenocarcinoma	41	60	(41-78)	
Endometrioid adenocarcinoma	30	86	(75-97)	
Clear cell adenocarcinoma	37	67	(50-85)	
Other & unspecified adenocarcinoma	213	30	(21-40)	
Other & unspecified carcinoma	37	28	(5-52)	
Other histology	46	61	(45-77)	
No histological confirmation	134	11	(3-19)	
<b>Selected years</b>				<0.01
1990		35	(31-40)	
1995		41	(36-45)	
2000		41	(37-46)	
2004		41	(37-46)	

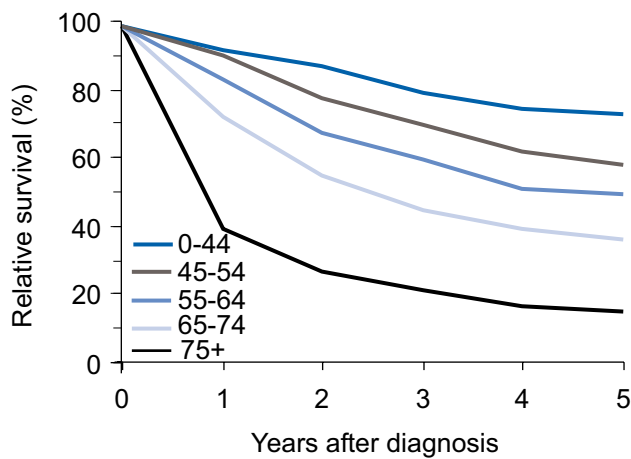




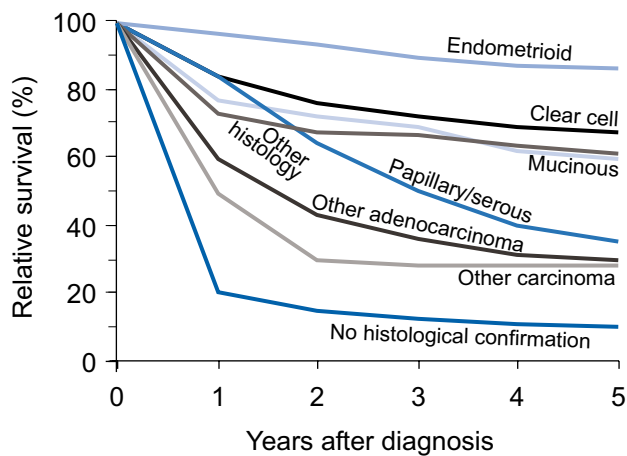
**Figure 1: Survival by year**



**Figure 3: Survival by age group**



**Figure 4: Survival by tumour morphology**



# PROSTATE

**The 5-year survival for men with prostate cancer is 84%.**

**Age at diagnosis** Older age at diagnosis was associated with worse survival, with estimates of 91% for men aged under 55 years falling to 69% for men over 75 years at diagnosis.

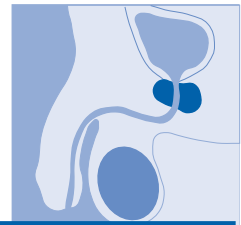
**Regional comparisons** Survival was slightly higher for residents of Melbourne than the rest of Victoria. There was some difference in survival between the ICS regions ranging from 70% in Barwon to 89% for the Loddon-Mallee region. Three of the five non-metropolitan regions had lower survival than the metropolitan ICS regions though the other two regions had higher survival.

**Time trends** Survival improved over the 15 years from 1990 from 60% to 84%.

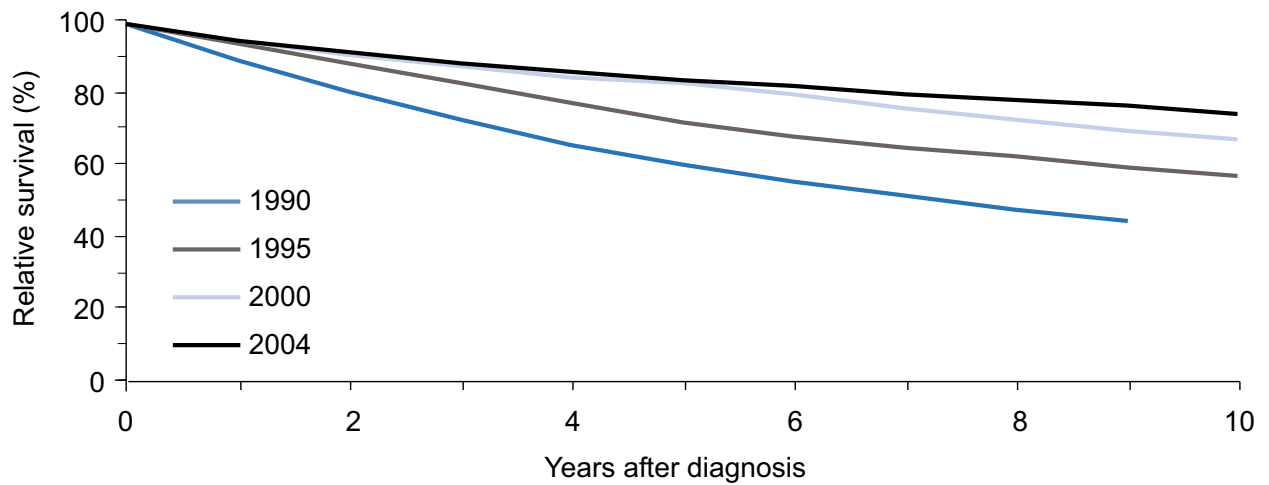
**Comment** “The interpretation of survival trends for prostate cancer is complex as it is difficult to disentangle possible effects of widespread PSA testing that commenced in the early 1990s from improved hormonal treatments for advanced disease that were introduced at around the same time. Between 1984 and 2004 in Victoria the age standardised incidence rates for prostate cancer increased from 41 to 102 per 100,000 men, while the mortality rate changed from 16 to 15 per 100,000. Much of the increase in incidence was due to the diagnosis of large numbers of small slow-growing tumours that previously might never have come to light in a man’s lifetime nor affected his life expectancy.”

**Table 1: Survival by years after diagnosis and age group for Victorian men with prostate cancer in 2004 and for selected years from 1990.**

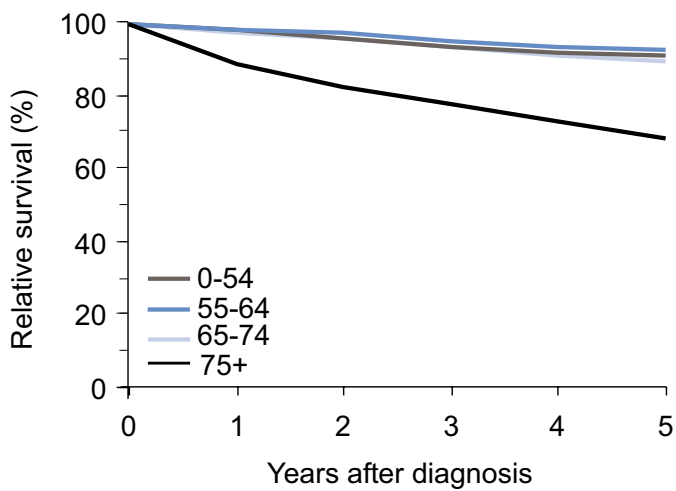
Years after diagnosis		Survival (%)	95% confidence interval	
1		95	(95-96)	
2		92	(91-93)	
3		89	(88-90)	
4		86	(85-88)	
5		84	(82-85)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>Male</b>	4,407	84	(82-85)	
<b>Age at diagnosis</b>				<0.01
0-54	67	91	(87-95)	
55-64	358	93	(91-95)	
65-74	1,202	90	(87-92)	
75+	2,780	69	(65-72)	
<b>Region of residence</b>				<0.01
Melbourne	2,855	86	(84-87)	
Rest of Victoria	1,549	80	(77-83)	
<b>Integrated Cancer Services Region</b>				<0.01
Southern	1,246	86	(83-89)	
Western & Central	638	83	(79-87)	
North Eastern	971	86	(83-89)	
Barwon South Western	432	70	(64-76)	
Grampians	250	77	(70-85)	
Loddon-Mallee	328	89	(84-94)	
Hume	255	86	(79-92)	
Gippsland	284	74	(67-81)	
<b>Selected years</b>				<0.01
1990		60	(57-64)	
1995		73	(71-75)	
2000		82	(80-84)	
2004		84	(82-85)	



**Figure 1: Survival by year**



**Figure 3: Survival by age group**



# TESTIS

The 5-year survival for men with testicular cancer is 99%, the highest survival rate of any cancer.

**Age at diagnosis** There were too few testicular cancers to examine survival by age.

**Regional comparisons** Survival was similar for residents of Melbourne and the rest of Victoria.

**Time trends** Survival improved over the 15 years from 1990 from 93% to 99%.

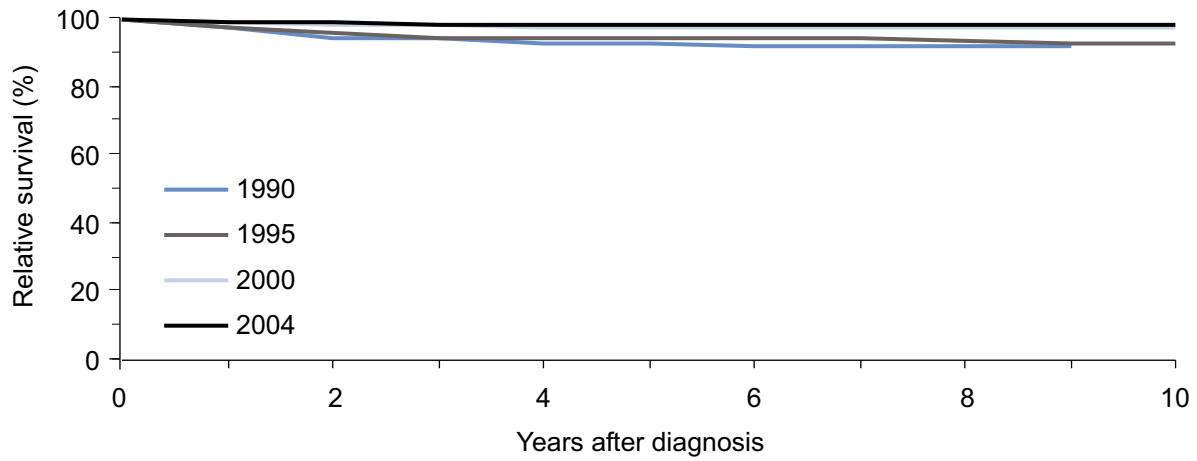
**A clinician's comment** "The excellent survival for testis cancer is a reflection of the marked sensitivity of this cancer to treatment including surgery, radiation and chemotherapy. The improvement in survival since the 1980s is likely to be due to several factors, particularly the identification of highly effective chemotherapy in the late 1970s and early 1980s, and increased awareness of the condition resulting in diagnosis and treatment at an earlier stage."

**Table 1: Survival by years after diagnosis for Victorian men with testicular cancer in 2004 and for selected years from 1990.**

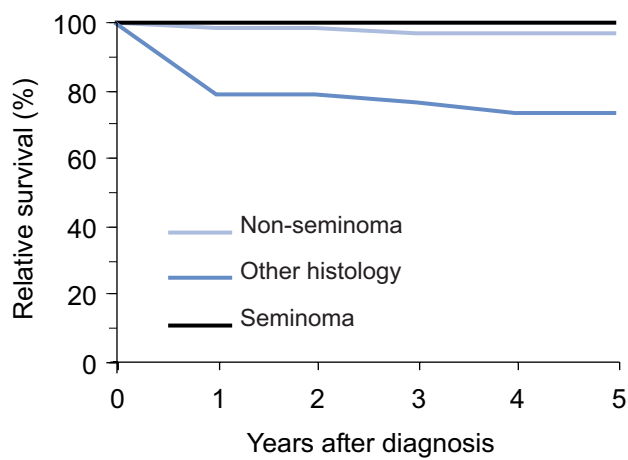
Years after diagnosis		Survival (%)	95% confidence interval	
1		99	(98-100)	
2		99	(98-100)	
3		99	(97-100)	
4		99	(97-100)	
5		99	(97-100)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>Male</b>	29	99	(97-100)	
<b>Region of residence</b>				0.87
Melbourne	19	99	(98-100)	
Rest of Victoria	10	96	(90-100)	
<b>Selected years</b>				<0.01
1990		93	(88-97)	
1995		94	(91-98)	
2000		98	(95-100)	
2004		99	(97-100)	



**Figure 1: Survival by year**



**Figure 4: Survival by tumour morphology**



# BLADDER

**Note:** In previous reports superficial (non-invasive) papillary transitional cell carcinomas were included. In the latest version of the International Classification of Diseases for Oncology (ICDO-3) these tumours are now regarded as in situ disease. These tumours are, therefore, no longer included in our figures for incidence of malignant bladder cancer. The removal of these tumours, which have a favourable prognosis, from the analysis, has resulted in an apparent reduction of survival since our previous report.

**The 5-year survival for people with bladder cancer is 51%.**

**Sex** Survival was higher for men (54%) than women (45%).

**Age at diagnosis** Older age at diagnosis was associated with worse survival with estimates of 72% for persons aged under 45 years falling to 43% for persons aged over 75 years.

**Tumour morphology** Survival was higher for patients with muscle-invasive papillary transitional cell carcinoma (65%) than with transitional cell (43%) and squamous cell carcinoma (41%). The high survival for non-histologically confirmed cancers (64%) suggests that these may not be muscle-invasive tumours.

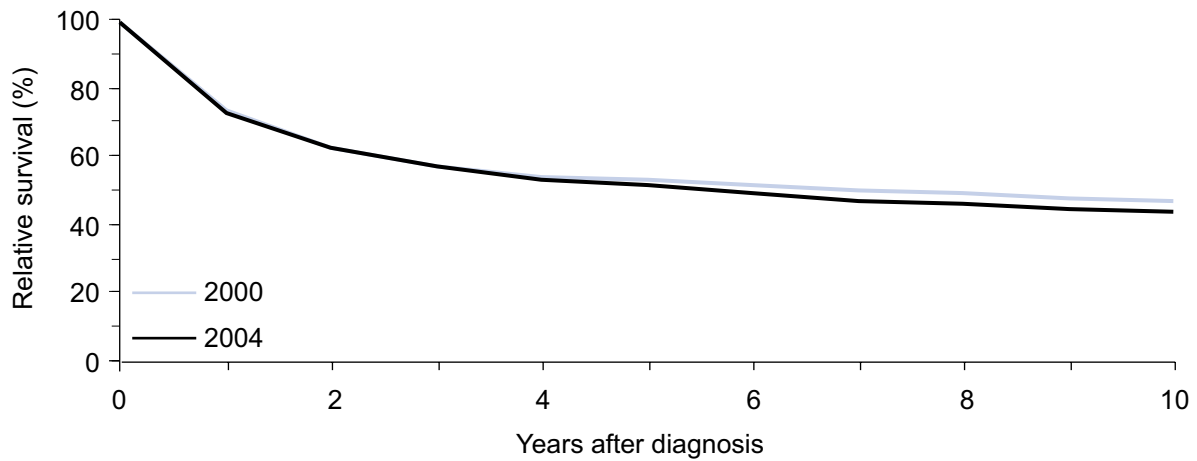
**Regional comparisons** Survival did not differ between residents of Melbourne and the rest of Victoria.

**Table 1: Survival by years after diagnosis, sex, age group and tumour morphology for Victorians with bladder cancer in 2004 and for selected years from 2000.**

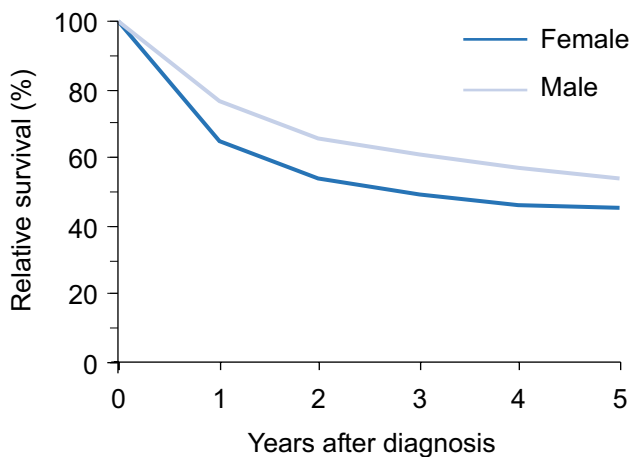
Years after diagnosis		Survival (%)	95% confidence interval	
1		73	(70-77)	
2		62	(58-66)	
3		57	(53-62)	
4		53	(49-58)	
5		51	(47-56)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	1,061	51	(47-56)	
<b>Sex</b>				<0.01
Male	747	54	(48-59)	
Female	314	45	(36-53)	
<b>Age at diagnosis</b>				<0.01
0-54	43	72	(58-85)	
55-64	105	67	(57-77)	
65-74	280	52	(43-60)	
75+	633	43	(36-50)	
<b>Region of residence</b>				0.74
Melbourne	748	52	(46-58)	
Rest of Victoria	312	49	(41-58)	
<b>Tumour morphology group</b>				<0.01
Transitional cell carcinoma	713	43	(37-49)	
Papillary transitional cell	184	65	(55-74)	
Squamous cell carcinoma	35	41	(16-67)	
Other & unspecified carcinoma	55	12	(0-25)	
No histological confirmation	69	64	(47-81)	
<b>Selected years</b>				<0.01
2000		54	(49-58)	
2004		51	(47-56)	



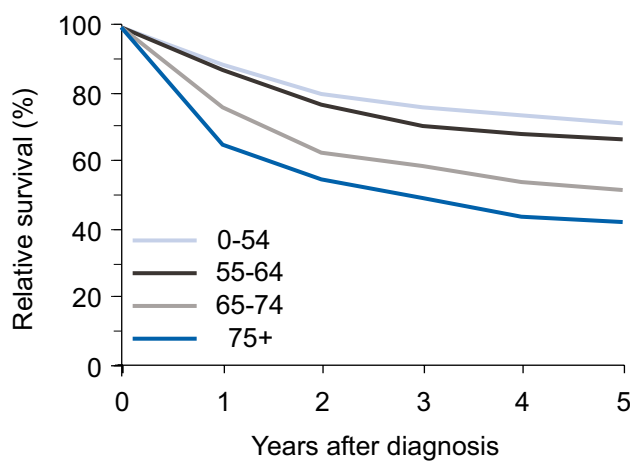
**Figure 1: Survival by year**



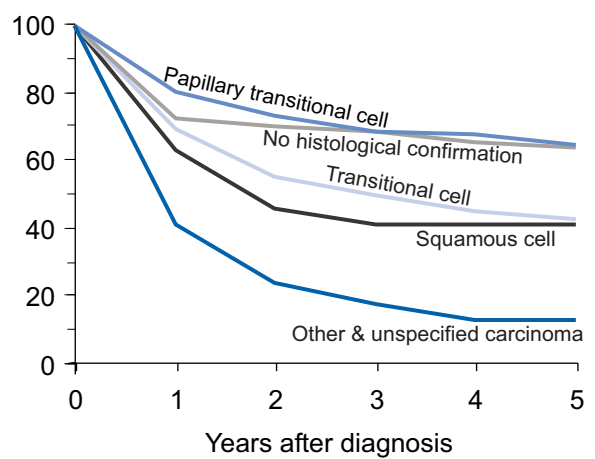
**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



**Figure 4: Survival by tumour morphology**



# KIDNEY

**The 5-year survival for people with kidney cancer is 68%** and is similar for men (69%) and women (65%).

**Age at diagnosis** Survival was similar for age groups under 65 but was poorer for older patients.

**Tumour morphology** The highest survival estimates were seen for patients with Wilms' tumour (96%), renal cell carcinoma (78%) and other adenocarcinomas (77%). Lower survival was seen for other carcinomas (11%) and tumours not histologically confirmed (13%).

**Regional comparisons** Survival ranged from 57% for Barwon to 75% for Grampians regions and was overall slightly higher for residents of Melbourne than the rest of Victoria.

**Time trends** Survival improved over the 15 years from 1990 from 51% to 68%.

**A clinician's comment** "Up to two-thirds of renal cancers are now found incidentally, on ultrasound scanning of the abdomen, for symptoms unrelated to the urinary tract. The overall 5-year survival is satisfactory. Good adjuvant therapy, for renal cell carcinoma after nephrectomy, has not yet been found, and may lead to improved quality, but not quantity of life at this stage. Newer drugs are showing promising results and may impact on survival in the coming years."

**Table 1: Survival by years after diagnosis, sex, age group and tumour morphology for Victorians with kidney cancer in 2004 and for selected years from 1990.**

Years after diagnosis	Survival (%)	95% confidence interval
1	81	(79-84)
2	76	(73-79)
3	73	(69-76)
4	70	(67-74)
5	68	(64-71)

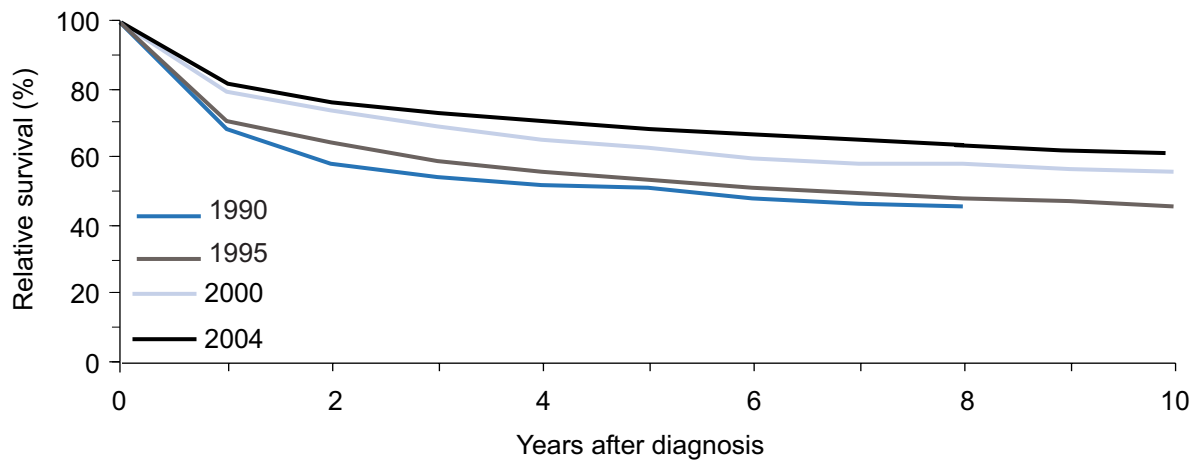
  

By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	968	68	(64-71)	
<b>Sex</b>				0.18
Male	621	69	(65-74)	
Female	347	65	(60-71)	
<b>Age at diagnosis</b>				<0.01
0-44	40	80	(70-89)	
45-54	104	79	(72-86)	
55-64	150	82	(76-87)	
65-74	268	65	(58-72)	
75+	406	47	(39-55)	
<b>Region of residence</b>				0.01
Melbourne	644	69	(65-73)	
Rest of Victoria	322	65	(59-72)	
<b>Integrated Cancer Services Region</b>				0.02
Southern	273	67	(63-71)	
Western & Central	156	71	(66-75)	
North Eastern	215	71	(67-75)	
Barwon South Western	99	55	(48-62)	
Grampians	49	65	(55-73)	
Loddon-Mallee	58	74	(66-81)	
Hume	63	62	(53-70)	
Gippsland	53	63	(54-72)	
<b>Tumour morphology group</b>				<0.01
Renal cell carcinoma	604	77	(73-80)	
Other adenocarcinoma	37	78	(64-92)	
Other & unspecified carcinoma	17	11	(0-31)	
Wilms' tumour	5	96	(86-100)	
No histological confirmation	291	13	(7-20)	
<b>Selected years</b>				<0.01
1990		51	(46-56)	
1995		54	(50-58)	
2000		64	(60-67)	
2004		68	(64-71)	

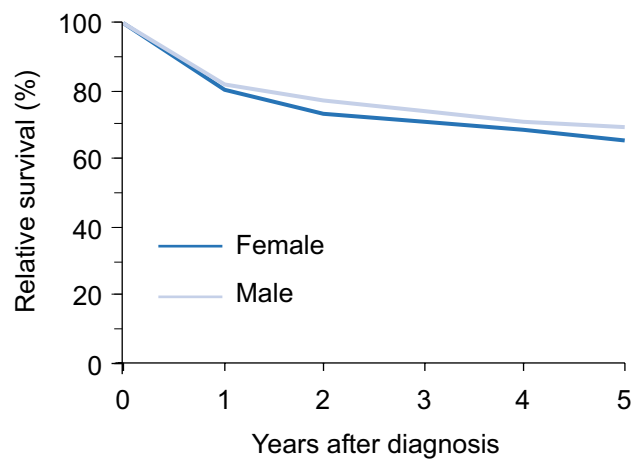




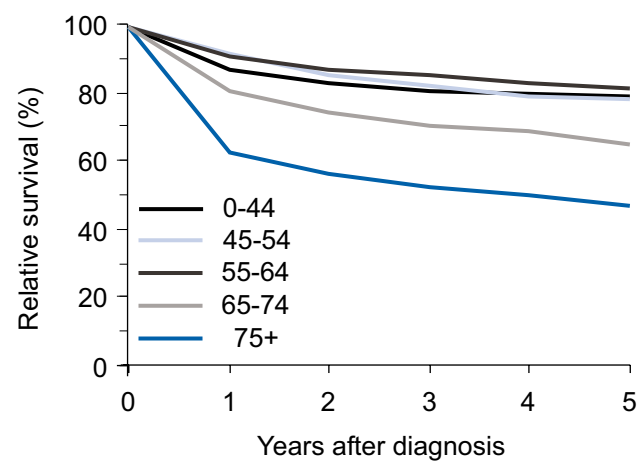
**Figure 1: Survival by year**



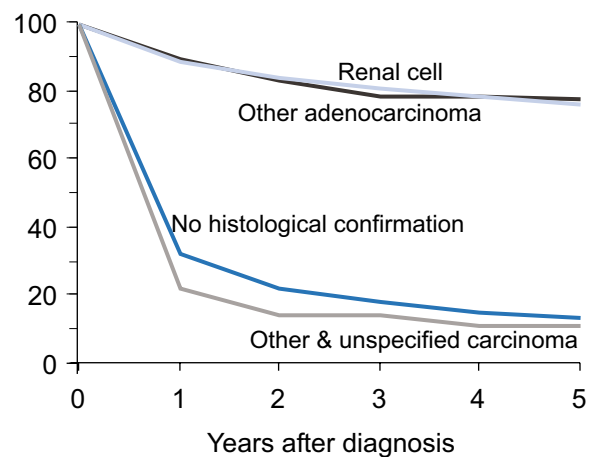
**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



**Figure 4: Survival by tumour morphology**



# RENAL PELVIS

Note: Analysis includes cancers of the urethra, ureter and other/unspecified urinary organs.

**Note:** In previous reports superficial (non-invasive) papillary transitional cell carcinomas were included. In the latest version of the International Classification of Diseases for Oncology (ICDO-3) these tumours are now regarded as in situ disease. These tumours are, therefore, no longer included in our figures for incidence of malignant bladder cancer. The removal of these tumours, which have a favourable prognosis, from the analysis has resulted in an apparent reduction of survival since our previous report.

**The 5-year survival for people with cancer of the renal pelvis is 52%.**

**Sex** Survival was higher for men (57%) than for women (45%).

**Age at diagnosis** Older age at diagnosis was associated with worse survival with estimates of 85% for persons aged under 55 years falling to 33% for persons aged over 75 years at diagnosis.

**Regional comparisons** Survival was lower for residents of Melbourne than the rest of Victoria.

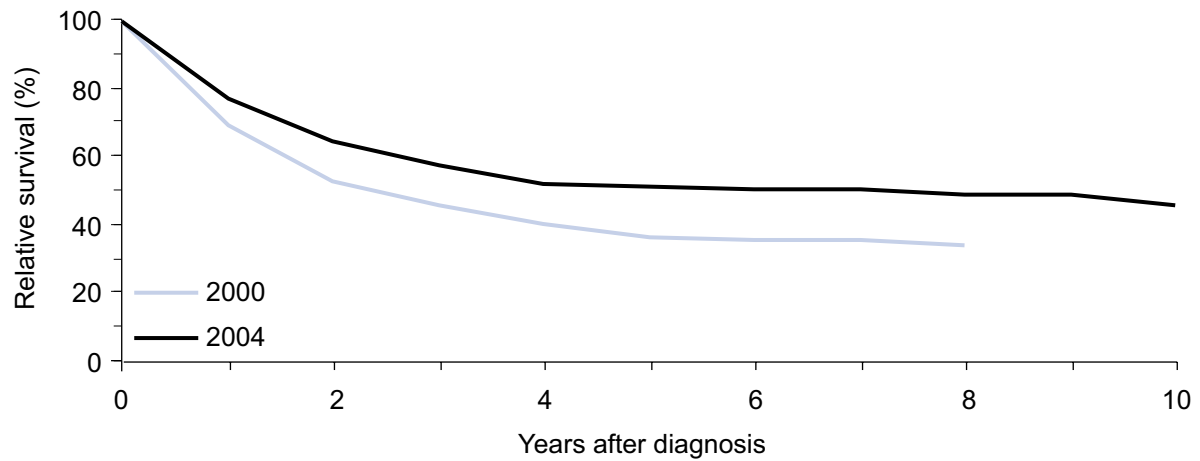
**Time trends** Survival has improved from 37% to 52% in the last five years.

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with renal pelvis cancer in 2004 and for selected years from 1990.**

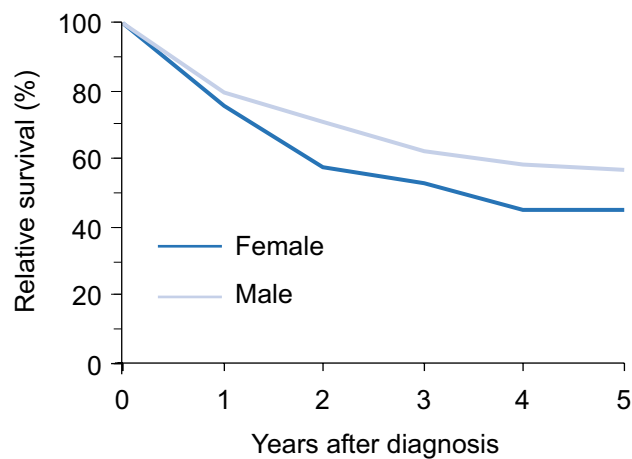
Years after diagnosis		Survival (%)	95% confidence interval	
1		78	(71-84)	
2		65	(57-74)	
3		58	(49-67)	
4		53	(43-63)	
5		52	(41-62)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	
<b>All cases</b>	202	52	(41-62)	
<b>Sex</b>				0.25
Male	121	57	(44-70)	
Female	81	45	(29-60)	
<b>Age at diagnosis</b>				<0.01
0-54	12	85	(65-100)	
55-64	18	67	(41-93)	
65-74	64	61	(44-78)	
75+	108	33	(18-48)	
<b>Region of residence</b>				0.88
Melbourne	140	46	(34-58)	
Rest of Victoria	62	62	(45-79)	
<b>Selected years</b>				0.02
2000		37	(27-47)	
2004		52	(41-62)	



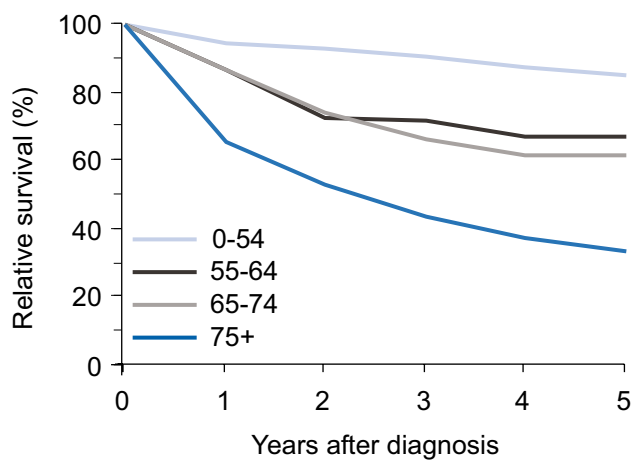
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# CENTRAL NERVOUS SYSTEM

Note: Includes all malignant tumours of brain, spinal cord, cranial nerves and other central nervous system.

**The 5-year survival for people with central nervous system cancers is 23%.**

**Sex** Survival was similar for men and women.

**Age at diagnosis** Older age at diagnosis was strongly associated with worse survival, with estimates of 54% for persons aged under 45 years falling to only 4% for persons aged over 75 years. This may, in part, reflect the different types of tumours occurring in persons at different times of life.

**Tumour morphology** Survival was higher for astrocytomas (40%) and other gliomas (61%) than for tumours without histological confirmation (27%). Glioblastomas had the poorest survival (4%).

**Regional comparisons** Survival did not differ between residents of Melbourne and the rest of Victoria.

**Time trends** Survival has changed very little over the 15 years from 1990.

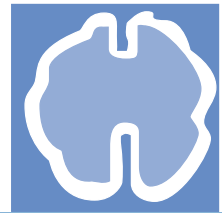
**A clinician's comment** "The survival proportions reflect the nature of these tumour types. There are no surprises regarding gender, age and survival outcomes. The tumour types broadly separate into childhood and adult tumours. The adult tumours are predominantly high-grade gliomas that have a uniformly poor prognosis. In particular, the survival outcomes for those aged over 65 years are particularly poor. The lack of substantive new treatment options is reflected in the constant survival figures over the time period."

**Table 1: Survival by years after diagnosis, sex, age group and tumour morphology for Victorians with brain and central nervous system cancer in 2004 and for selected years from 1990.**

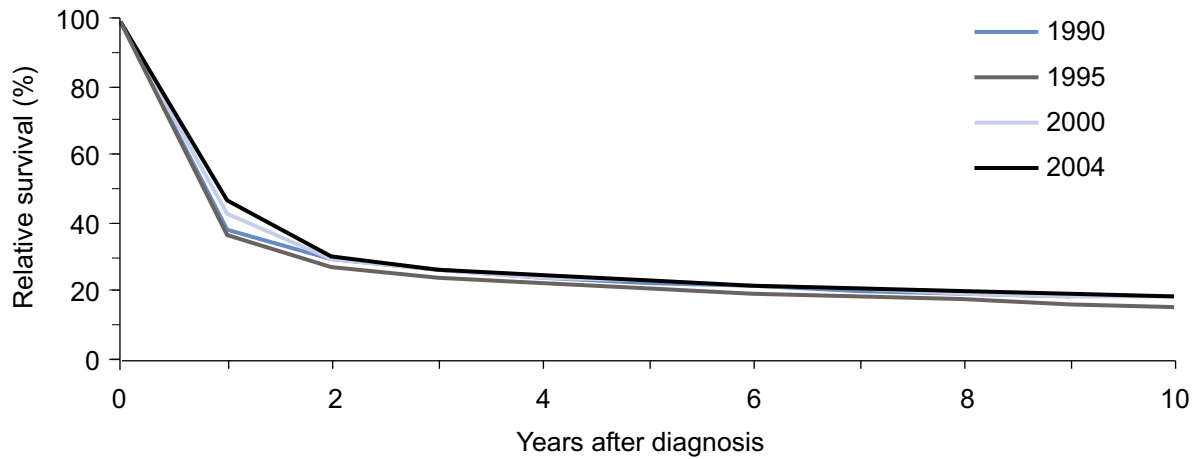
Years after diagnosis		Survival (%)	95% confidence interval	
1		47	(43-50)	
2		30	(27-33)	
3		26	(23-30)	
4		25	(21-28)	
5		23	(20-26)	

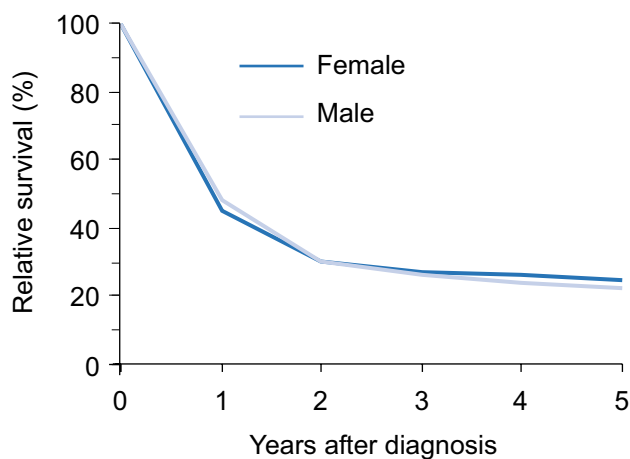
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	1,412	23	(20-26)	
<b>Sex</b>				0.43
Male	814	22	(18-26)	
Female	598	25	(20-30)	
<b>Age at diagnosis</b>				<0.01
0-44	198	54	(46-62)	
45-54	211	27	(18-36)	
55-64	290	11	(6-16)	
65-74	353	6	(2-10)	
75+	360	4	(1-7)	
<b>Region of residence</b>				0.01
Melbourne	972	23	(19-27)	
Rest of Victoria	437	24	(18-30)	
<b>Tumour morphology group</b>				<0.01
Glioblastoma	930	4	(2-5)	
Astrocytoma	168	40	(31-50)	
Other glioma	92	61	(51-71)	
Meningioma	8	46	(7-85)	
No histological confirmation	206	27	(17-36)	
<b>Selected years</b>				0.22
1990		23	(20-27)	
1995		21	(18-25)	
2000		24	(20-27)	
2004		23	(20-26)	



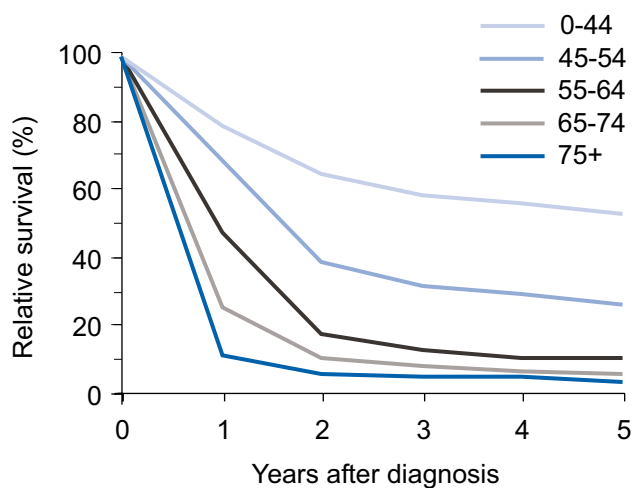
**Figure 1: Survival by year**



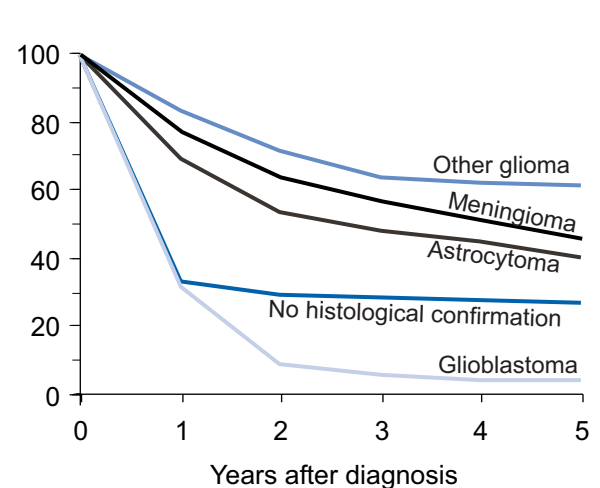
**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



**Figure 4: Survival by tumour morphology**



# THYROID

**The 5-year survival for people with thyroid cancer is 93%.**

**Sex** Survival was lower for men (85%) than women (94%, the highest of any cancer).

**Age at diagnosis** Older age at diagnosis was associated with slightly worse survival, falling from 98% for persons aged under 54 years to 67% for persons aged over 75 years at diagnosis.

**Tumour morphology** Survival was higher for patients with follicular (96%), papillary (97%) or medullary adenocarcinoma (90%) than for those with other tumours (55%).

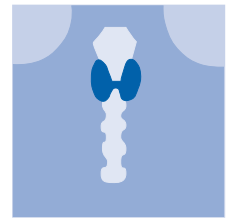
**Regional comparisons** Survival did not differ between residents of Melbourne and the rest of Victoria.

**Time trends** Survival improved over the 15 years from 1990 from 84% to 92%.

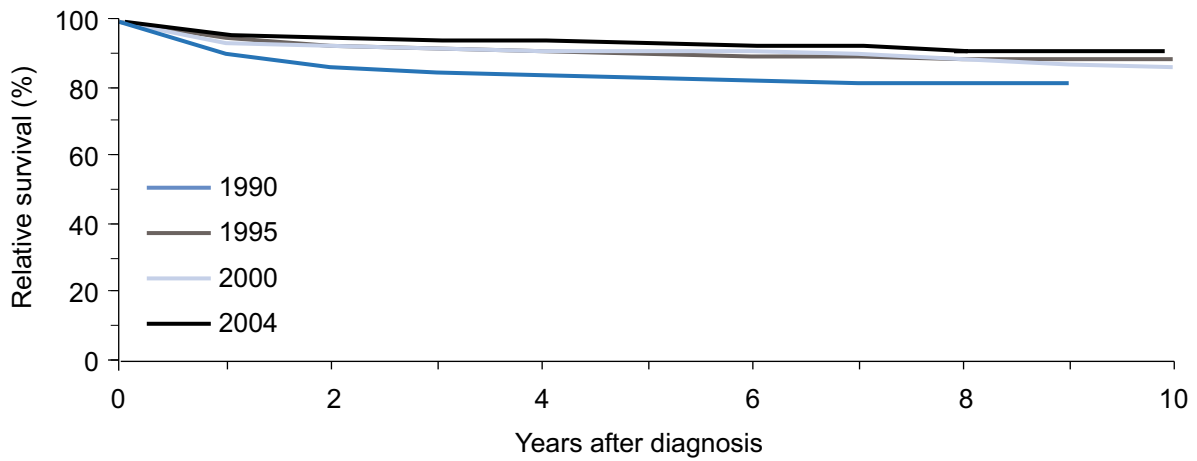
**A clinician's comment** "It is difficult to explain the improvement in survival over time except as possibly related to earlier diagnosis and to better surgery. It would be useful to examine the proportion of different morphological types over time. This proportion may influence the overall survival figures."

**Table 1: Survival by years after diagnosis, sex, age group and tumour morphology for Victorians with thyroid cancer in 2004 and for selected years from 1990.**

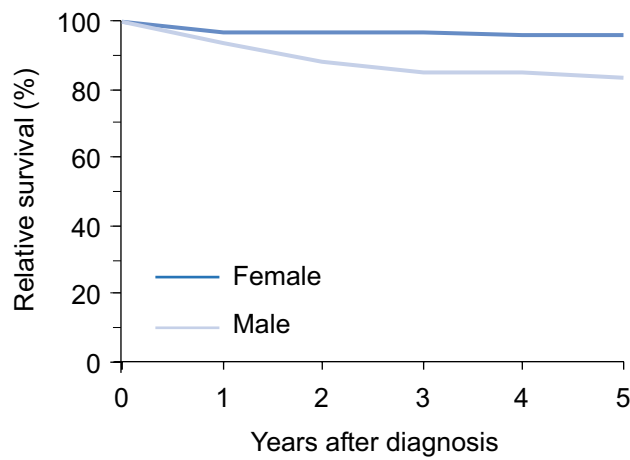
Years after diagnosis		Survival (%)	95% confidence interval	
1		96	(94-97)	
2		94	(92-95)	
3		93	(92-95)	
4		93	(91-95)	
5		92	(90-94)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	117	92	(90-94)	
<b>Sex</b>				<0.01
Male	53	85	(80-89)	
Female	64	94	(92-96)	
<b>Age at diagnosis</b>				<0.01
0-54	20	98	(96-99)	
55-74	52	84	(79-89)	
75+	45	67	(52-80)	
<b>Region of residence</b>				0.93
Melbourne	86	92	(90-94)	
Rest of Victoria	31	92	(88-96)	
<b>Tumour morphology group</b>				<0.01
Follicular adenocarcinoma	27	96	(93-98)	
Papillary adenocarcinoma	27	97	(95-99)	
Medullary adenocarcinoma	6	90	(76-98)	
Other histology	57	55	(45-64)	
<b>Selected years</b>				<0.01
1990		84	(77-90)	
1995		92	(87-96)	
2000		92	(89-96)	
2004		92	(90-94)	



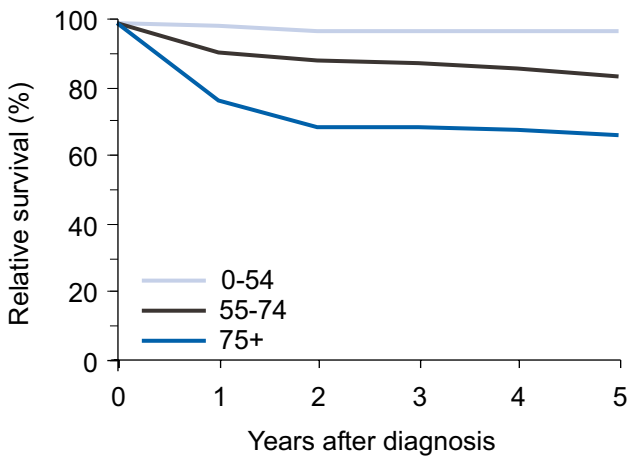
**Figure 1: Survival by year**



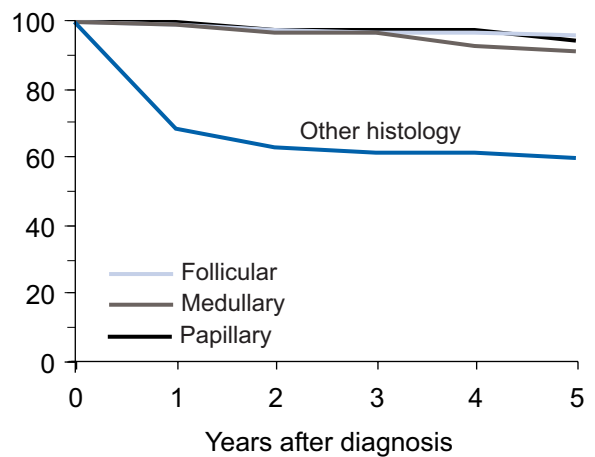
**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



**Figure 4: Survival by tumour morphology**



# UNKNOWN PRIMARY

**The 5-year survival for people with cancers of unknown primary site was 11%.**

**Sex** Survival was 14% for men and 7% for women.

**Age at diagnosis** Survival was poor for all age groups but decreased with increasing age at diagnosis from 29% for patients aged under 45 to 5% for those aged over 75 years at diagnosis.

**Tumour morphology** Survival differed between tumours of different morphology, with the highest being for squamous and transitional cell carcinomas (43%) and other (14%) and unspecified carcinomas (15%) with lower survival for adenocarcinomas (8%). The poorest survival was seen for tumours without histological confirmation (2%).

**Regional comparisons** Survival did not differ between residents of Melbourne and the rest of Victoria.

**Time trends** Survival improved slightly over the 15 years from 1990 from 6% to 11%.

**Time trends** "This group is likely to become smaller, possibly with poor survival, as improved diagnostic techniques assist in identifying the possible primary site (and hence cases will get classified elsewhere)."

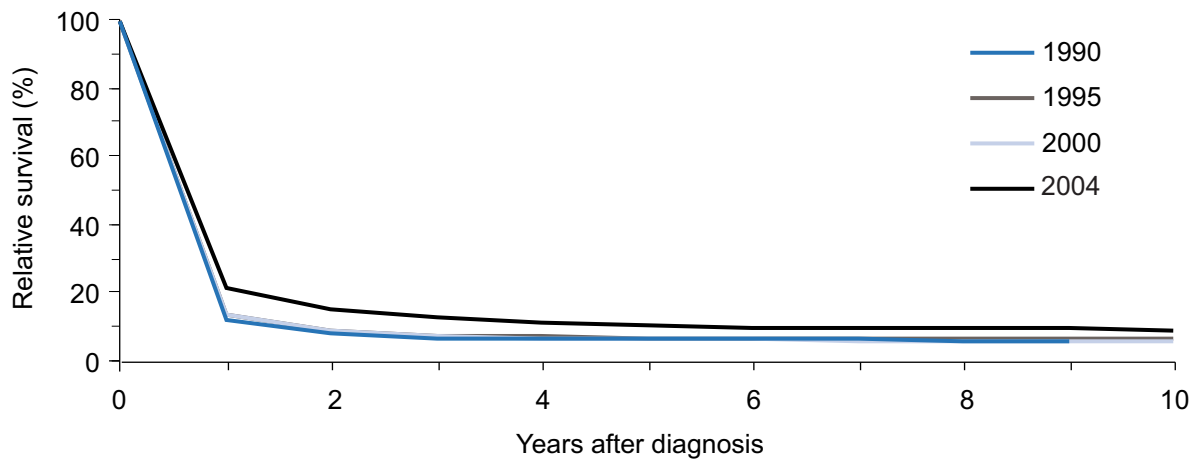
**Table 1: Survival by years after diagnosis, sex, age group and tumour morphology for Victorians with cancers of unknown primary site in 2004 and for selected years from 1990.**

Years after diagnosis		Survival (%)	95% confidence interval	
1		21	(19-24)	
2		15	(13-17)	
3		13	(11-15)	
4		11	(9-13)	
5		11	(9-12)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	2,669	11	(9-12)	
<b>Sex</b>				
Male	1,327	14	(11-17)	<0.01
Female	1,342	7	(5-9)	
<b>Age at diagnosis</b>				<0.01
0-44	87	29	(15-43)	
45-54	171	23	(14-32)	
55-64	341	18	(12-23)	
65-74	686	13	(9-16)	
75+	1,384	5	(3-6)	
<b>Region of residence</b>				0.60
Melbourne	1,816	11	(9-13)	
Rest of Victoria	852	10	(7-13)	
<b>Tumour morphology group</b>				<0.01
Squamous/transitional cell	133	43	(31-56)	
Adenocarcinoma	1,121	8	(6-11)	
Other specific carcinoma	191	14	(7-22)	
Unspecified carcinoma	348	15	(9-21)	
No histological confirmation	862	2	(1-3)	
<b>Selected years</b>				<0.01
1990		6	(5-7)	
1995		7	(5-8)	
2000		6	(5-7)	
2004		11	(9-12)	

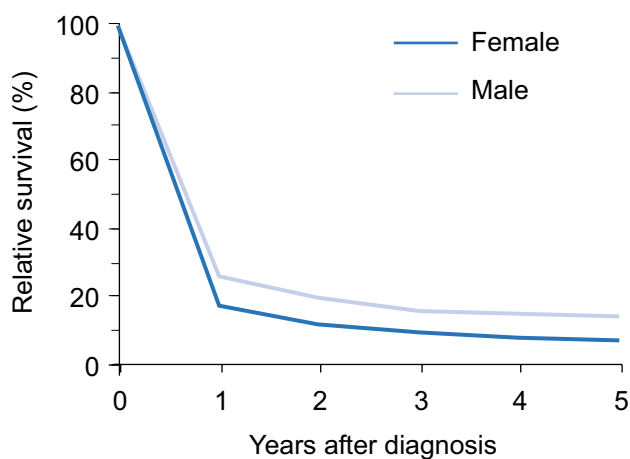




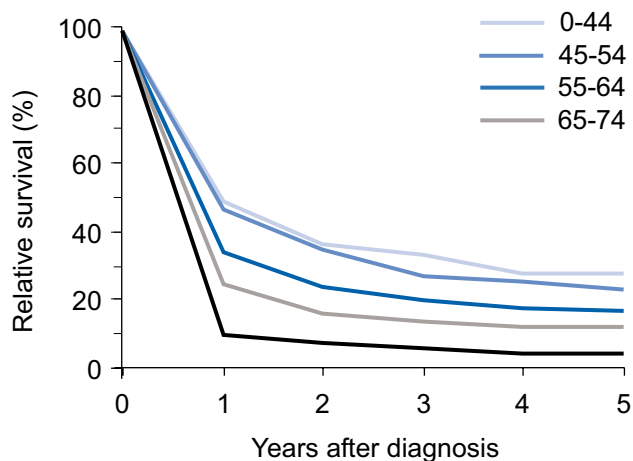
**Figure 1: Survival by year**



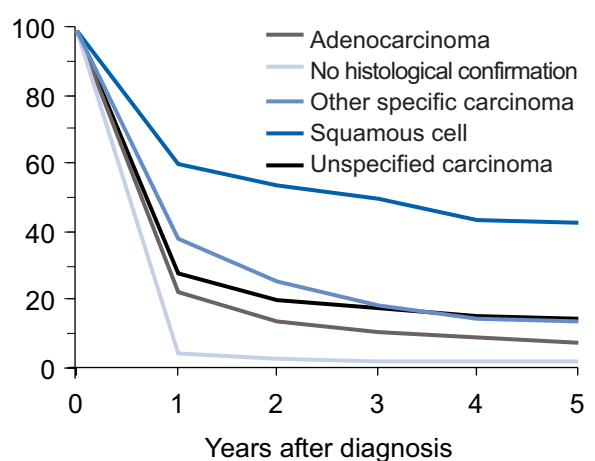
**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



**Figure 4: Survival by tumour morphology**



# NON-HODGKIN LYMPHOMA

**The 5-year survival for people with Non-Hodgkin lymphoma (NHL) is 66%.**

**Sex** Survival is similar for men (67%) and women (64%).

**Age at diagnosis** Older age at diagnosis was associated with worse survival, with estimates of 84% for persons aged under 45 years falling to 44% for persons over 75 years at diagnosis.

**Tumour morphology** Follicular NHL had better survival (80%) than diffuse or unspecified NHL (60%).

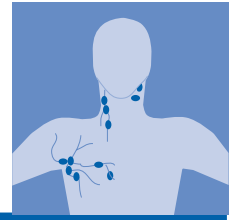
**Regional comparisons** Survival did not differ between residents of Melbourne and the rest of Victoria. Survival in the ICS regions varied between 60% for Gippsland and 72% for Barwon.

**Time trends** Survival improved over the 15 years from 1990 from 49% to 66%.

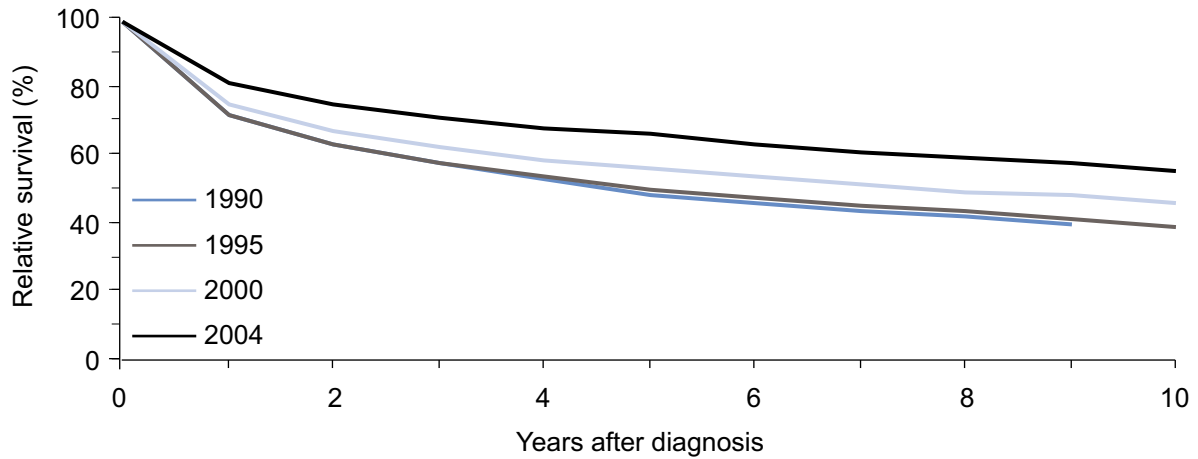
**A clinician's comment** "The improvement in survival over time is expected as there have been significant changes in radiotherapy and drug therapy for this group of diseases. This includes the use of limited field radiotherapy and new antibody therapies."

**Table 1: Survival by years after diagnosis, sex, age group and tumour morphology for Victorians with Non-Hodgkin lymphoma in 2004 and for selected years from 1990.**

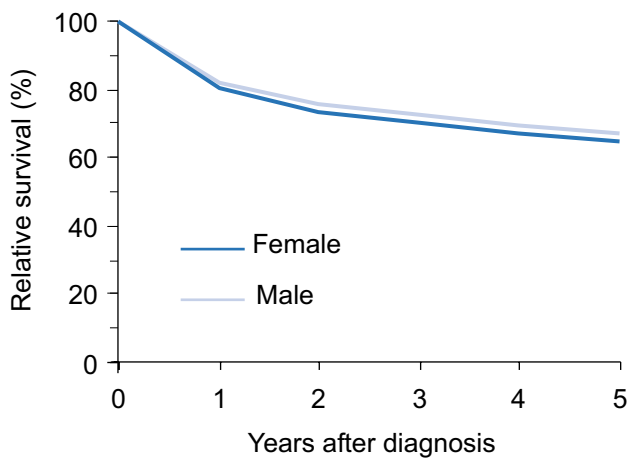
Years after diagnosis		Survival (%)	95% confidence interval	
1		81	(79-83)	
2		75	(73-77)	
3		71	(69-74)	
4		68	(66-71)	
5		66	(63-69)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	2,042	66	(63-69)	
<b>Sex</b>				0.99
Male	1,115	67	(64-71)	
Female	927	64	(61-68)	
<b>Age at diagnosis</b>				<0.01
0-44	105	84	(79-89)	
45-54	148	84	(79-89)	
55-64	273	71	(66-76)	
65-74	516	67	(62-72)	
75+	1,000	44	(39-50)	
<b>Region of residence</b>				0.25
Melbourne	1,443	65	(62-68)	
Rest of Victoria	596	68	(63-73)	
<b>Integrated Cancer Services Region</b>				0.75
Southern	574	63	(58-68)	
Western & Central	337	66	(60-73)	
North Eastern	532	67	(62-72)	
Barwon South Western	170	72	(64-81)	
Grampians	85	63	(49-76)	
Loddon-Mallee	126	71	(61-81)	
Hume	99	71	(60-81)	
Gippsland	116	60	(49-72)	
<b>Tumour morphology group</b>				<0.01
Diffuse NHL	1,297	60	(56-63)	
Follicular NHL	239	84	(80-89)	
Other & unspecified NHL	506	60	(54-66)	
<b>Selected years</b>				<0.01
1990		49	(45-52)	
1995		50	(47-53)	
2000		57	(55-60)	
2004		66	(63-69)	



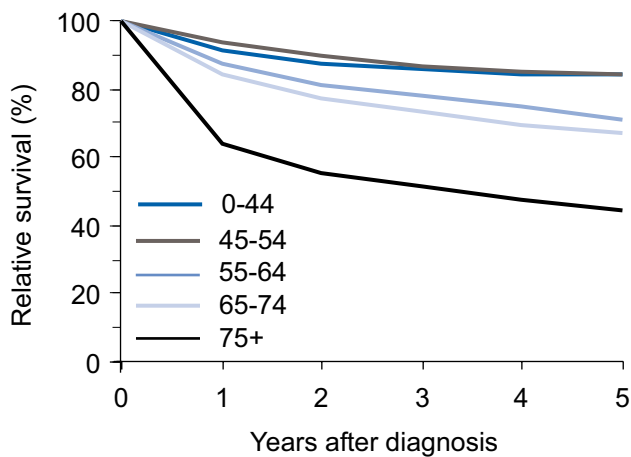
**Figure 1: Survival by year**



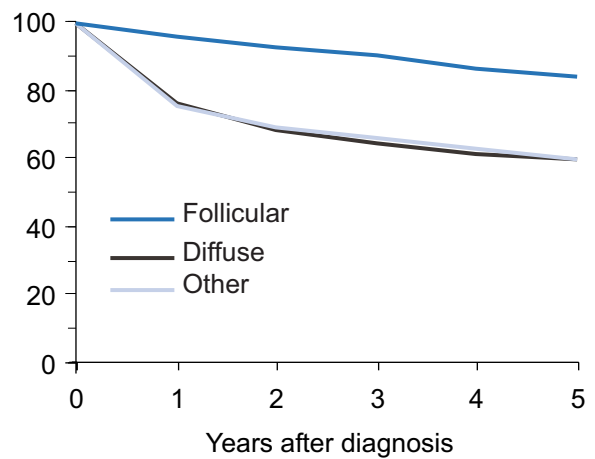
**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



**Figure 4: Survival by tumour morphology**



# HODGKIN LYMPHOMA

**The 5-year survival for people with Hodgkin lymphoma is 82%.**

**Sex** Survival was the same for men and women.

**Age at diagnosis** Survival was very good for younger age groups but declined after the age of 50.

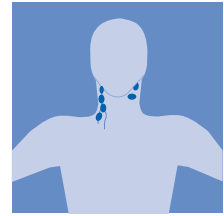
**Regional comparisons** Survival was higher for residents of Melbourne than the rest of Victoria.

**Time trends** Survival has remained fairly constant over the 15 years from 1990.

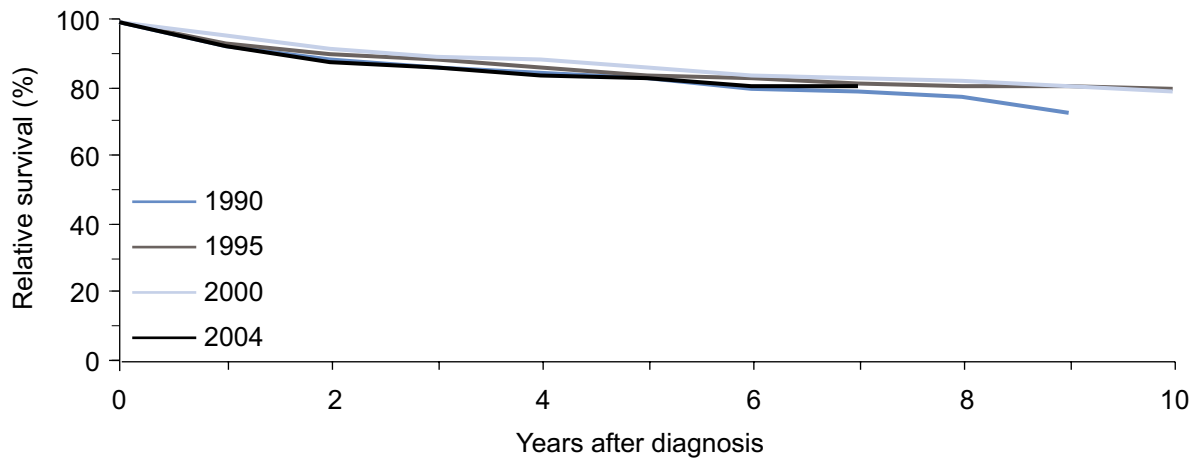
**A clinician's comment** "The major survival gains in Hodgkin lymphoma were made just before the period of this analysis when there were significant changes in radiotherapy and drug therapy for this group of diseases. This includes the use of limited field radiotherapy combined with chemotherapy."

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with Hodgkin lymphoma in 2004 and for selected years from 1990.**

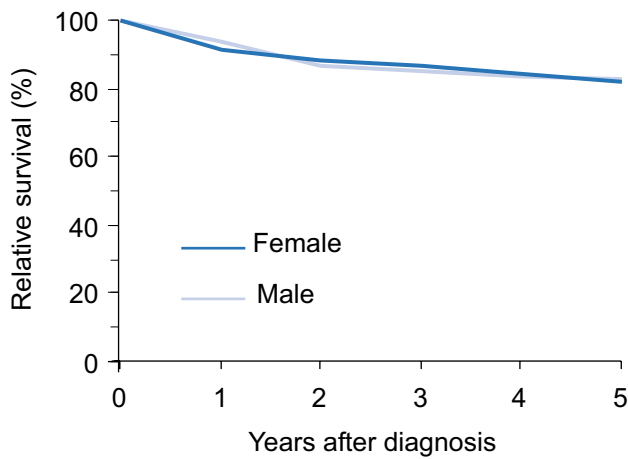
Years after diagnosis		Survival (%)	95% confidence interval	
1		93	(89-96)	
2		88	(83-92)	
3		86	(81-91)	
4		84	(78-89)	
5		82	(76-88)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	103	82	(76-88)	
<b>Sex</b>				
Male	57	82	(74-90)	1.00
Female	46	82	(74-91)	
<b>Age at diagnosis</b>				<0.01
<50	21	92	(92-99)	
50+	82	49	(35-63)	
<b>Region of residence</b>				0.04
Melbourne	67	86	(79-92)	
Rest of Victoria	36	73	(60-86)	
<b>Selected years</b>				<0.01
1990		83	(77-89)	
1995		84	(78-90)	
2000		86	(81-92)	
2004		82	(76-88)	



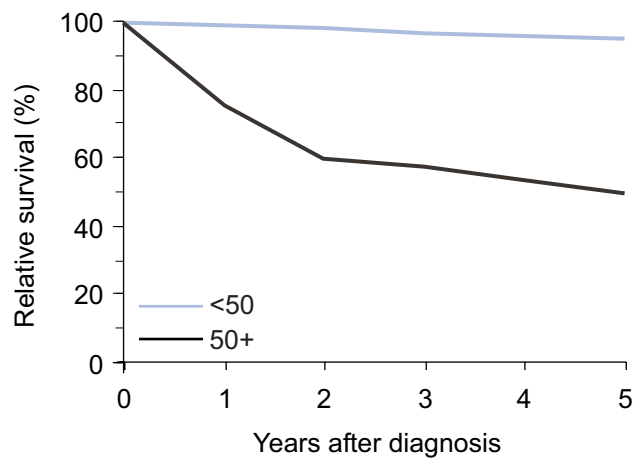
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# MULTIPLE MYELOMA

**The 5-year survival for people with multiple myeloma is 32%.**

**Sex** Survival was similar for men (30%) and women (33%).

**Age at diagnosis** Older age at diagnosis was associated with worse survival, with estimates of 78% for persons aged under 55 years falling to 17% for persons aged over 75 years at diagnosis.

**Regional comparisons** Survival was slightly higher for residents of Melbourne than for the rest of Victoria.

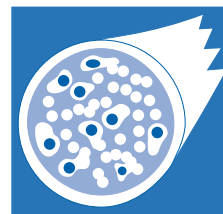
**Time trends** Survival improved over the 15 years from 1990 from 29% to 32%.

**A clinician's comment** "The better survival in younger patients may represent the use of high dose chemotherapy and marrow or stem cell transplant.

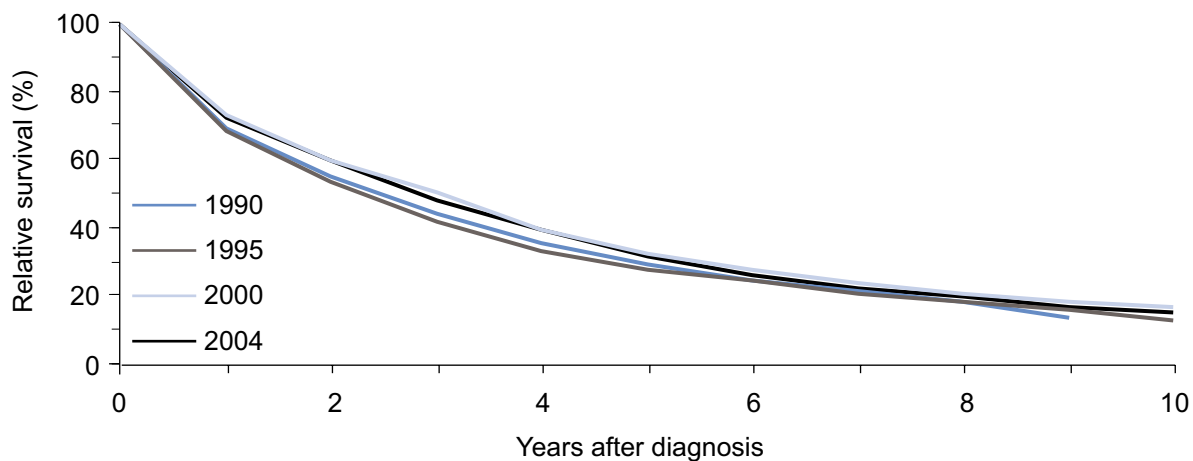
"As this is a group of diseases more common in the elderly, more clinical research is required into better therapies in older patients who often have other concurrent illnesses."

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with multiple myeloma in 2004 and for selected years from 1990.**

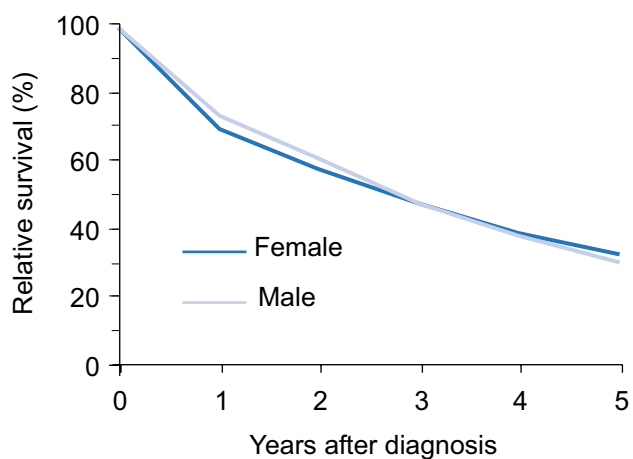
Years after diagnosis		Survival (%)	95% confidence interval	
1		72	(69-76)	
2		60	(56-64)	
3		48	(43-52)	
4		39	(34-43)	
5		32	(27-36)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	1,003	32	(27-36)	
<b>Sex</b>				0.66
Male	565	30	(25-36)	
Female	438	33	(26-40)	
<b>Age at diagnosis</b>				<0.01
0-54	64	78	(68-89)	
55-64	140	44	(34-55)	
65-74	289	27	(19-34)	
75+	510	17	(11-22)	
<b>Region of residence</b>				0.13
Melbourne	682	33	(27-38)	
Rest of Victoria	320	29	(21-37)	
<b>Selected years</b>				<0.01
1990		29	(24-35)	
1995		27	(22-32)	
2000		32	(27-37)	
2004		32	(27-36)	



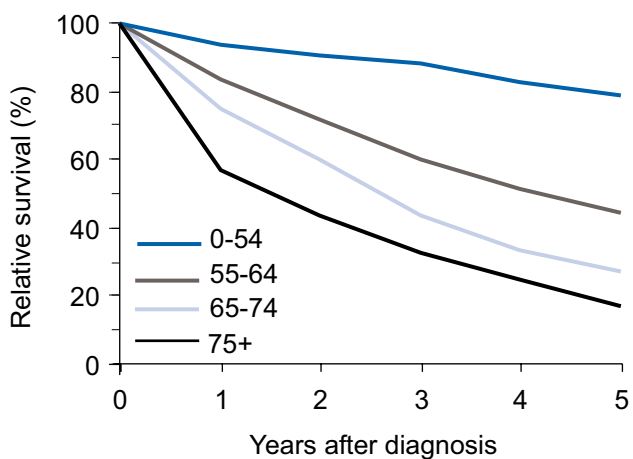
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# ACUTE LYMPHOBLASTIC LEUKAEMIA

**The 5-year survival for people with acute lymphoblastic leukaemia (ALL) is 66%.**

**Sex** Survival was slightly lower for men (62%) than women (70%).

**Age at diagnosis** Survival was highest for children between 5 and 15 years (92%) and decreased with age to 21% for persons aged over 30 years.

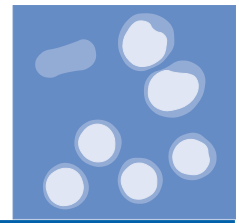
**Regional comparisons** Survival was very similar for residents of Melbourne and the rest of Victoria.

**Time trends** Survival improved over the 15 years from 1990 from 53% to 66%.

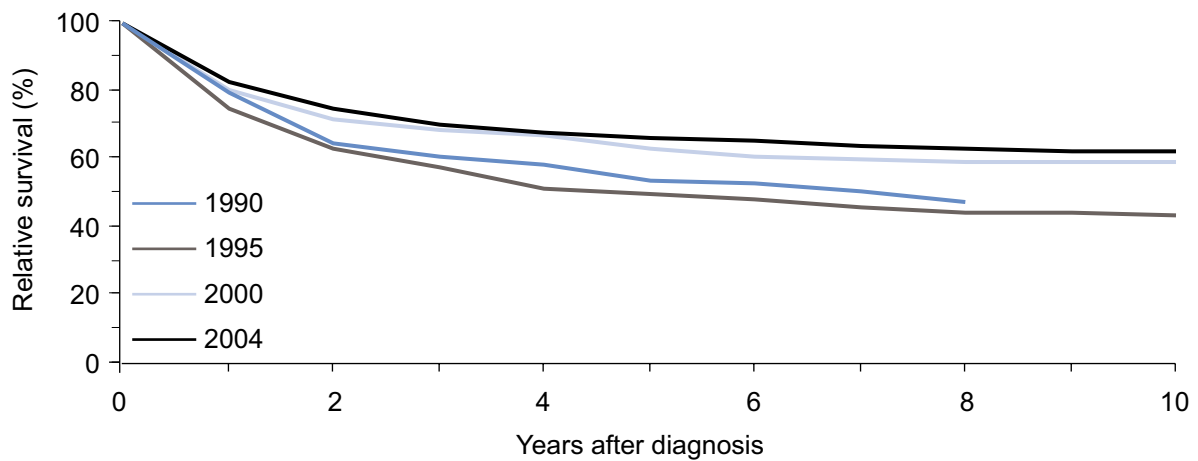
**Table 1: Survival by years after diagnosis, sex and age group for Victorians with acute lymphoblastic leukaemia in 2004 and for selected years from 1990.**

Years after diagnosis		Survival (%)	95% confidence interval	
1		83	(78-88)	
2		75	(68-82)	
3		70	(62-78)	
4		68	(60-76)	
5		66	(58-74)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	137	66	(58-74)	
<b>Sex</b>				0.56
Male	77	62	(50-74)	
Female	60	70	(59-82)	
<b>Age at diagnosis</b>				<0.01
0-4	14	83	(70-96)	
5-14	13	92	(84-100)	
15-19	10	68	(35-100)	
20-29	10	47	(9-84)	
30+	90	21	(8-33)	
<b>Region of residence</b>				0.98
Melbourne	96	65	(56-75)	
Rest of Victoria	41	68	(53-84)	
<b>Selected years</b>				<0.01
1990		53	(43-63)	
1995		48	(39-58)	
2000		63	(55-71)	
2004		66	(58-74)	

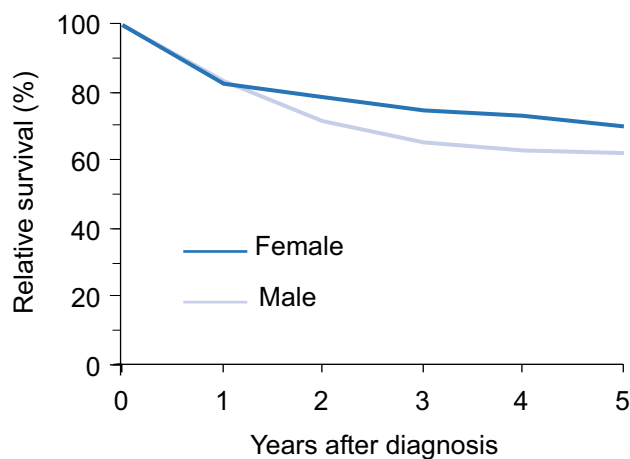




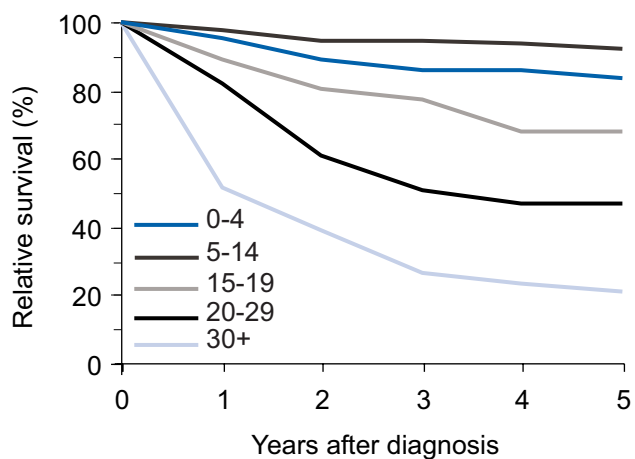
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# CHRONIC LYMPHOCYtic LEUKAEMIA

**The 5-year survival for people with chronic lymphocytic leukaemia (CLL) is 56%.**

**Sex** Survival was similar for men (58%) and women (54%).

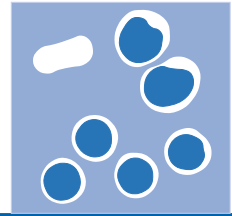
**Age at diagnosis** Older age at diagnosis was associated with much worse survival, with estimates of 80–81% for persons aged under 65 years falling to 36% for persons aged over 75 years at diagnosis.

**Regional comparisons** Survival was slightly lower for residents of Melbourne than for the rest of Victoria.

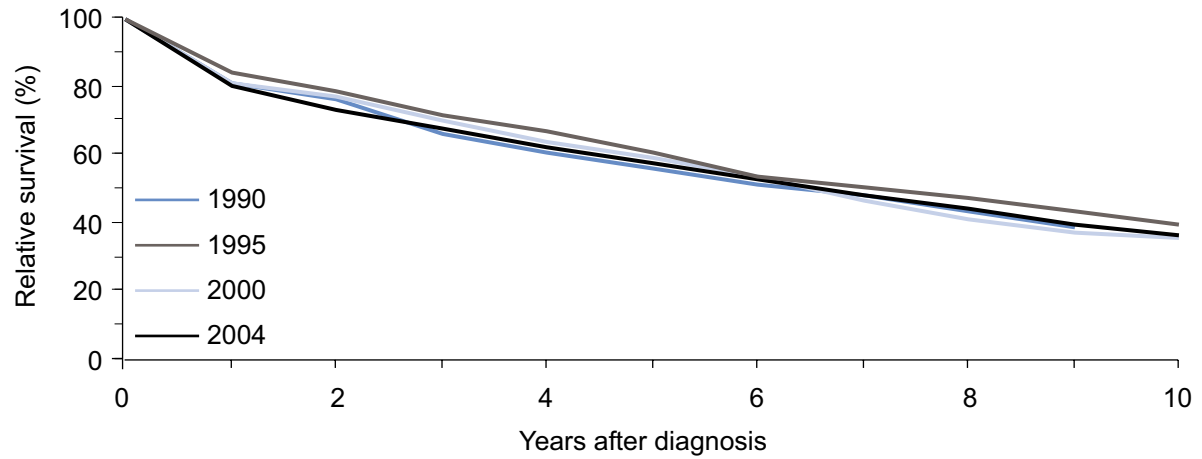
**Time trends** Survival has remained fairly constant over the 15 years from 1990.

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with chronic lymphocytic leukaemia in 2004 and for selected years from 1990.**

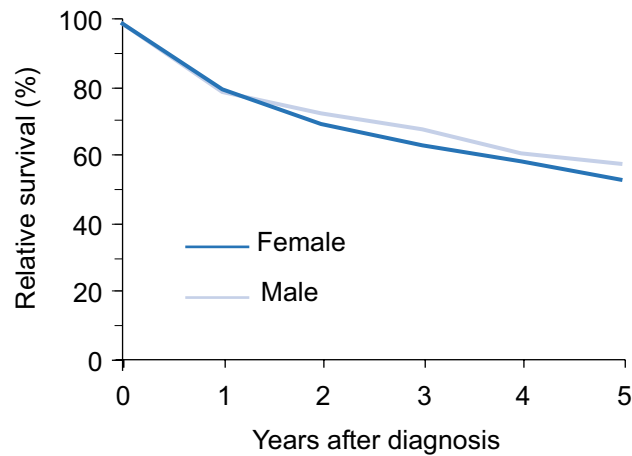
Years after diagnosis		Survival (%)	95% confidence interval	
1		80	(75-84)	
2		72	(66-78)	
3		67	(60-73)	
4		61	(53-68)	
5		56	(49-64)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	350	56	(49-64)	
<b>Sex</b>				0.97
Male	205	58	(48-68)	
Female	145	54	(42-66)	
<b>Age at diagnosis</b>				<0.01
<54	11	80	(62-98)	
55-64	34	81	(69-94)	
65-74	81	61	(47-75)	
75+	223	36	(25-47)	
<b>Region of residence</b>				0.71
Melbourne	236	52	(43-62)	
Rest of Victoria	114	64	(51-77)	
<b>Selected years</b>				<0.01
1990		56	(48-64)	
1995		62	(54-69)	
2000		58	(51-66)	
2004		56	(49-64)	



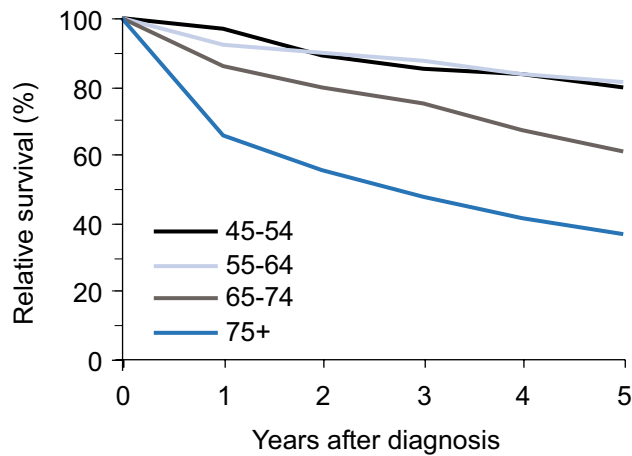
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# ACUTE MYELOID LEUKAEMIA

**The 5-year survival for people with acute myeloid leukaemia is 15%.**

**Sex** Survival was lower for men (11%) than women (21%).

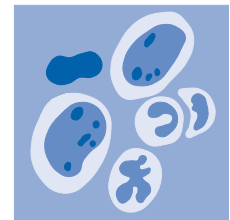
**Age at diagnosis** Older age at diagnosis was associated with worse survival with 5-year proportions decreasing rapidly after the age of 55.

**Regional comparisons** Survival did not differ between residents of Melbourne and the rest of Victoria.

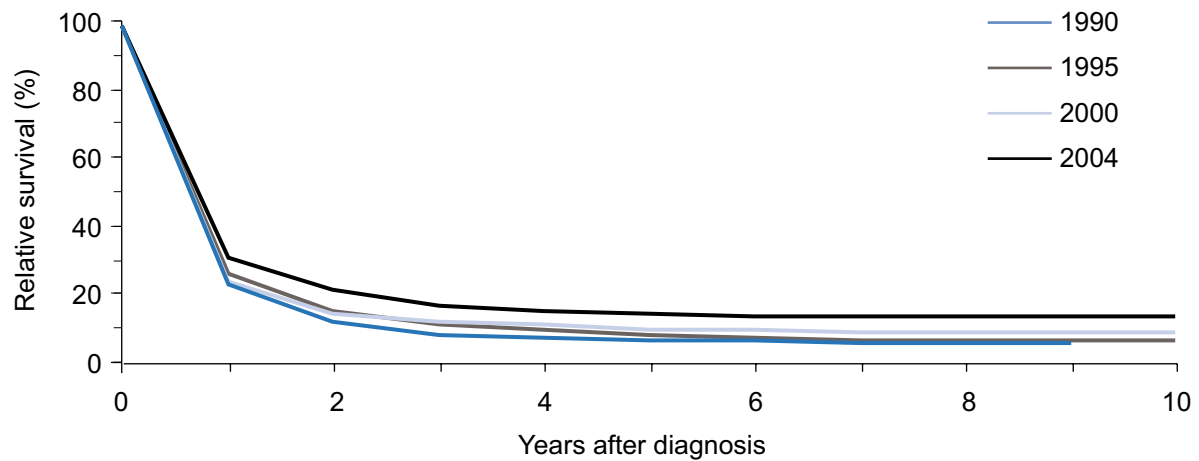
**Time trends** Survival remains very poor but improved from 7% to 15% over the 15 years from 1990.

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with acute myeloid leukaemia in 2004 and for selected years from 1990.**

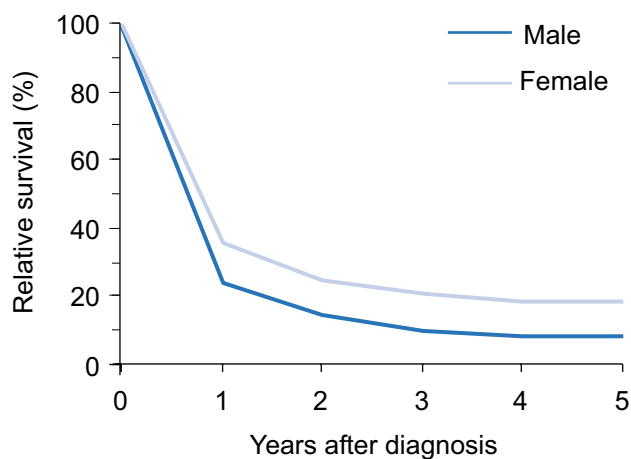
Years after diagnosis		Survival (%)	95% confidence interval	
1		28	(26-31)	
2		19	(16-21)	
3		15	(13-17)	
4		13	(11-15)	
5		13	(11-15)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	690	13	(11-15)	
<b>Sex</b>				<0.01
Male	410	9	(7-11)	
Female	280	18	(14-21)	
<b>Age at diagnosis</b>				<0.01
0-54	94	49	(42-56)	
55-64	91	14	(9-21)	
65-74	192	5	(3-8)	
75+	313	0		
<b>Region of residence</b>				0.03
Melbourne	462	17	(12-22)	
Rest of Victoria	228	12	(5-18)	
<b>Selected years</b>				0.07
1990		7	(4-10)	
1995		9	(5-12)	
2000		10	(7-13)	
2004		13	(11-15)	



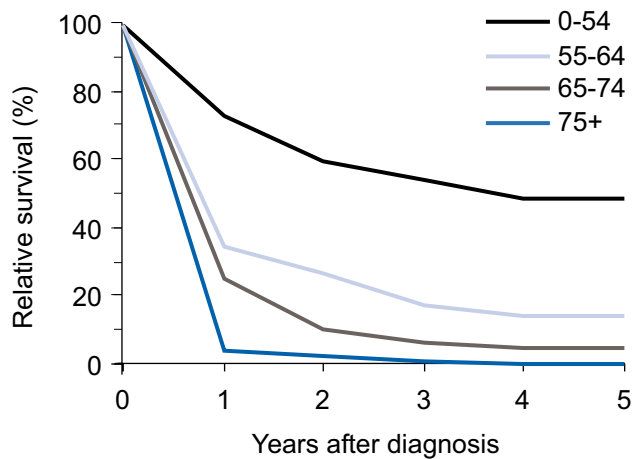
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# CHRONIC MYELOID LEUKAEMIA

**The 5-year survival for people with chronic myeloid leukaemia is 56%.**

**Sex** Survival was similar for men (58%) and women (54%).

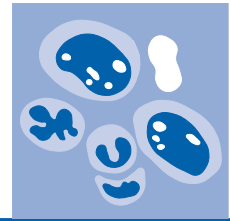
**Age at diagnosis** Older age at diagnosis was associated with worse survival, with estimates of 84% for persons aged under 45 years decreasing rapidly with age to 15% for persons aged over 75 years at diagnosis.

**Regional comparisons** Survival was higher for residents of Melbourne than the rest of Victoria.

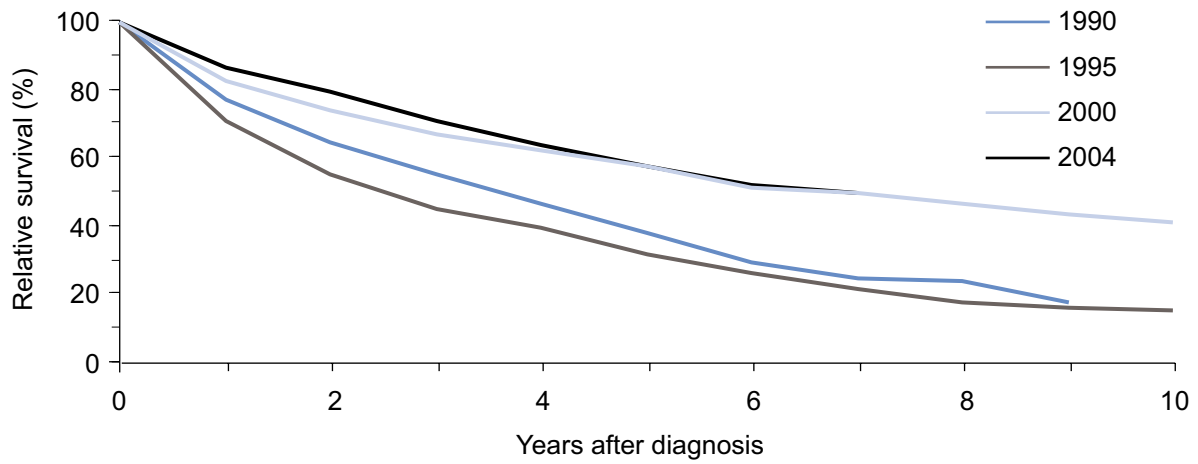
**Time trends** Survival improved over the 15 years from 1990 from 39% to 56%.

**Table 1: Survival by years after diagnosis, sex and age group for Victorians with chronic myeloid leukaemia in 2004 and for selected years from 1990.**

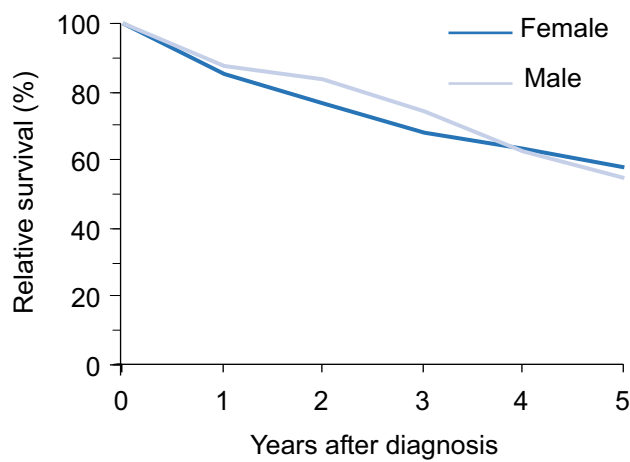
Years after diagnosis		Survival (%)	95% confidence interval	
1		86	(80-92)	
2		79	(71-87)	
3		70	(61-79)	
4		63	(52-73)	
5		56	(45-68)	
By subgroup	Number of deaths	5-year survival (%)	95% confidence interval	p-value
<b>All cases</b>	122	56	(45-68)	
<b>Sex</b>				0.89
Male	73	58	(43-72)	
Female	49	54	(36-72)	
<b>Age at diagnosis</b>				<0.01
0-44	12	84	(68-99)	
45-54	6	86	(67-100)	
55-64	19	57	(32-83)	
65-74	29	33	(8-59)	
75+	56	15	(0-32)	
<b>Region of residence</b>				0.15
Melbourne	80	62	(48-75)	
Rest of Victoria	42	44	(23-65)	
<b>Selected years</b>				<0.01
1990		39	(28-49)	
1995		32	(22-42)	
2000		56	(44-67)	
2004		56	(45-68)	



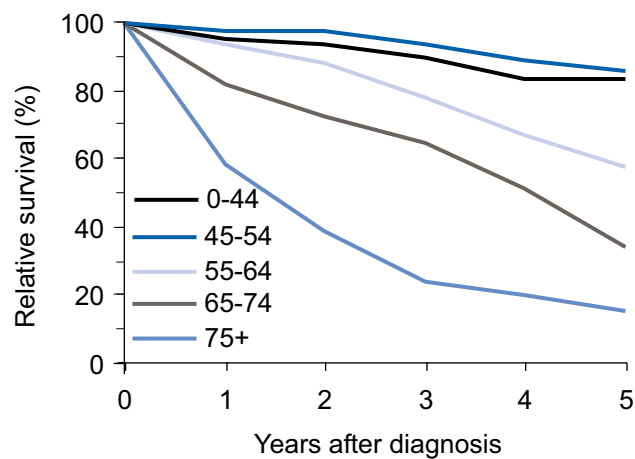
**Figure 1: Survival by year**



**Figure 2: Survival by sex**



**Figure 3: Survival by age group**



# Appendix I: Topography and morphology codes

**Table A1: Details of cancer sites and groups used in this report by ICD-10<sup>1</sup> codes**

ICD-10 description	ICD-10	Included in report
<b>ALL MALIGNANT TUMOURS</b>	<b>C00–C96</b>	<b>Yes</b>
<b>LIP, ORAL CAVITY &amp; PHARYNX (C00–C14)</b>		
Lip	C00	No
Tongue	C01, C02	No
Major salivary glands	C07, C08	Yes
Gum	C03	No
Floor of mouth	C04	No
Other & unspecified parts of mouth	C05, C06	No
<b>Oral cavity</b>	<b>C01–C06</b>	<b>Yes</b>
Oropharynx	C09, C10	No
Nasopharynx	C11	No
Hypopharynx including pyriform sinus	C12, C13	No
<b>Pharynx</b>	<b>C09–C13</b>	<b>Yes</b>
Other & unspecified sites of lip, oral cavity & pharynx	C14	No
<b>DIGESTIVE ORGANS (C15–C26)</b>		
Oesophagus	C15	Yes
Stomach	C16	Yes
Small intestine including duodenum	C17	No
Colon	C18	Yes
Rectum including rectosigmoid, anal canal and anus	C19–C21	Yes
Liver & intrahepatic bile ducts	C22	Yes
Gallbladder & other biliary tract	C23, C24	Yes
Pancreas	C25	Yes
<b>RESPIRATORY SYSTEM &amp; INTRATHORACIC ORGANS (C30–C39)</b>		
Nose, nasal cavities, middle ear & accessory sinuses	C30, C31	No
Larynx	C32	Yes
Trachea, bronchus & lung	C33, C34	Yes
Thymus, heart, mediastinum & pleura	C37, C38	No
<b>BONES, JOINTS &amp; ARTICULAR CARTILAGE (C40–C41)</b>		
	C40, C41	No
<b>MELANOMA (C43)</b>		
	C43	Yes
<b>MESOTHELIAL &amp; SOFT TISSUE (C45–C49)</b>		
Mesothelioma	C45	Yes
Kaposi sarcoma	C46	No
Retroperitoneum & peritoneum	C48	No
Other connective tissue (incl. peripheral nerves etc)	C47, C49	Yes
<b>BREAST (C50) and FEMALE GENITAL ORGANS (C51–C58)</b>		
Breast	C50	Yes
Cervix uteri	C53	Yes
Body of uterus	C54, C55	Yes
Ovary	C56	Yes
Placenta	C58	No
Vulva & other/unspecified female genital organs	C51, C52, C57	No



**Table A1 (continued)**

ICD-10 description	ICD-10	Included in report
<b>MALE GENITAL ORGANS (C60–C63)</b>		
Prostate	C61	Yes
Testis	C62	Yes
Penis & other male genital organs	C60, C63	No
<b>URINARY TRACT (C64–C68)</b>		
Kidney, except renal pelvis	C64	Yes
Bladder	C67	Yes
Renal pelvis & other/unspecified urinary organs	C65, C66, C68	Yes
<b>EYE, BRAIN &amp; OTHER PARTS OF CENTRAL NERVOUS SYSTEM (C69–C72)</b>		
Eye	C69	No
Meninges	C70	No
Brain	C71	No
Cranial nerves, spinal cord & unspecified CNS	C72	No
<b>Central nervous system</b>	<b>C70–2</b>	<b>Yes</b>
<b>THYROID &amp; OTHER ENDOCRINE GLANDS (C73–C75)</b>		
Thyroid gland	C73	Yes
Other endocrine glands and related structures	C74, C75	No
<b>III–DEFINED &amp; UNKNOWN PRIMARY SITE (C76–C80)</b>		<b>Yes</b>
<b>MALIGNANT NEOPLASMS OF LYMPHOID, HAEMATOPOIETIC AND RELATED TISSUE (C81–C96)</b>		
Hodgkin lymphoma	C81	Yes
<b>Non-Hodgkin lymphoma</b>	<b>C82–85</b>	<b>Yes</b>
Malignant immunoproliferative disease	C88	No
Multiple myeloma and malignant plasma cell neoplasms	C90	Yes
Acute lymphoid leukaemia	C91.0	Yes
Chronic lymphoid leukaemia	C91.1	Yes
Acute myeloid leukaemia	C92.0	Yes
Chronic myeloid leukaemia	C92.1	Yes
Monocytic leukaemia	C93	No
Other specified leukaemia	C94	No
Unspecified cell leukaemia	C95	No
Other & unspecified haematopoietic neoplasms	C96	No

**Table A2: Details of morphology groups used in this report by ICDO-3<sup>2</sup> codes**

**Groups of malignant tumours considered to be histologically 'different' (adapted from JW Berg<sup>3</sup>)**

These definitions are used unless otherwise specified

Group	Range of ICDO-3 morphology codes
Squamous and transitional cell carcinoma	805–808, 812–13
Adenocarcinoma	814, 816, 819–22, 826–33, 835–55, 857, 894
Other specific carcinoma	803–4, 815, 817–8, 823, 824, 825, 834, 856, 858–67
Unspecified carcinoma	801–2
Sarcomas and soft tissue tumour	868–71, 880–92, 899, 904, 912–3, 915–25, 937, 954–8
Kaposi sarcoma	914
Mesothelioma	905
Other specified types of cancer	872–9, 893, 895–8, 900–3, 906–11, 926–36, 938–53, 973–5, 976
Leukaemia	980–94, 995, 996, 998
Lymphoma	959–72
No histological confirmation	999, 0, 800

Groups were defined by ICDO-3 morphology codes for selected cancers. Results are presented in the tables only for the major morphology groups for a given cancer (hence deaths in morphology groups shown may not add to total deaths). Listed below are the morphology subgroups, with definitions where these are subsets of groups defined above, for which separate survival estimates are included in the body of the report.

**Morphology subgroups used in analyses by cancer site**

**All cancer** – All morphology groups as above

**Lung cancer** – Small cell carcinoma (804); non-small cell carcinoma (all other carcinoma) including separate figures for adenocarcinoma; no histological confirmation

**Female breast cancer**

Ductal carcinoma	8500, 8501, 8503, 8504, 8480, 8201, 8211
Lobular carcinoma	8520
Paget disease	8540–3
Other adenocarcinoma	all adenocarcinomas except those already specified
Other & unspecified carcinoma	801–802
No histological confirmation	999, 0, 800

**Cervical cancer** – Squamous cell carcinoma, adenocarcinoma; other & unspecified carcinoma

**Ovarian cancer**

Papillary/serous adenocarcinoma	826, 844–6
Mucinous adenocarcinoma	847–8
Endometrioid adenocarcinoma	838
Clear cell adenocarcinoma	831
Other & unspecified adenocarcinoma	814, 820–, 827–30, 832–37
Other & unspecified epithelial tumours	801–802
Other histology	All other morphology

**Testicular cancer** – Seminoma (906), Non-seminoma (907–10)

**Bladder cancer** – Transitional cell carcinoma (812), Papillary transitional cell carcinoma (813), Squamous cell carcinoma, Other & unspecified carcinoma

**Kidney cancer** – Renal cell carcinoma (831), Other adenocarcinoma (all except 831), Wilms' tumour (896), Other and unspecified carcinoma

**Renal pelvis cancer** – Transitional cell carcinoma (812), Other & unspecified carcinoma

**Brain & central nervous system tumours**

Glioblastoma	9440–2
Astrocytoma	9384, 9400–21, 9430, 9424
Other gliomas	9470–3, 9450–60, 9391–4, 9380–3, 9390–4, 9480
No histological confirmation	as above

**Thyroid cancer** – Follicular adenocarcinoma (833, 834), Papillary adenocarcinoma (826, 805), Medullary adenocarcinoma (851), Other & unspecified carcinoma

**Tumours of unknown primary site**

Adenocarcinoma, squamous and transitional cell carcinoma, Other carcinoma, Unspecified carcinoma

**Non-Hodgkin lymphoma (NHL)**

Diffuse NHL	9593, 9595, 9600–40, 9670–89, 9750
Follicular NHL	9690–9
Other & unspecified type NHL	all other morphology

# Appendix II:

## Data, definitions and methods

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### Data

The Victorian Cancer Registry (VCR) became population based in 1982. Its detailed operations have been described elsewhere<sup>4</sup>. Briefly, notification of cancer in Victoria is a legal requirement of all hospitals and pathology laboratories, and all death certificates are notified to it by an administrative arrangement. The VCR has a policy of recording all primary cancers (i.e. those that are neither an extension, nor a recurrence, nor a metastasis of a preexisting tumour), and all suspected further primaries are rigorously followed up with the hospital notifiers and with relevant clinicians and pathologists. If there is any doubt as to its validity, the notification is not coded as a primary cancer.

The study population included all persons with a first diagnosis of cancer between 1982 and 2004. This cohort was followed until the end of 2005. Follow-up was extended beyond the geographic boundaries of Victoria by matching against the National Death Index to identify deaths for persons who may have migrated elsewhere in Australia.

### Definition of terms used in report

**Cancer incidence** is defined as the occurrence of new cancers in a defined population during a specified time period. Cancer incidence reports on the first primary tumour of a particular site according to the rules of the International Agency for Research on Cancer and the International Association of Cancer Registries. Incidence reflects the number of primary tumours rather than the number of individuals with cancer and a person may appear more than once on the incidence file in the presence of multiple primary tumours. The proportion is small, such that the effect of non-independence between patients has a negligible effect on survival estimates. Further, tumours were examined separately so it is even less likely that a person will appear twice for the same tumour. All usual Victorian residents who presented with one or more primary tumours between 1982 and 2004 were included in this study.

**Cancer mortality** – all persons in the incidence file were matched to death records from the Victorian Registrar of Births, Deaths and Marriages and also to the National Death Index to identify deaths occurring outside Victoria. People still alive on 31 December 2005 were censored at this date. People notified to the Victorian Cancer Registry by death certificate only were excluded from all analyses. People notified by death certificate notification were included in analyses.

**Date of diagnosis** was defined as the date of definitive diagnosis of invasive disease from a pathology report, where available. For cancers that were not histologically confirmed the date of clinical diagnosis or admission to hospital was used.

**Age at diagnosis** – the following age groups were used for the majority of cancer sites: <45, 45–54, 55–64, 65–74, 75+. Where the group size was too small (<100) or where the distribution of cases by age was different from that of most tumours (e.g. in tumours common in young persons such as acute lymphoblastic leukaemia) alternative age breakdowns were chosen.

**Selected years** – survival estimates for the years 1990, 1995, 2000 and 2004 are given. All other estimates relate to all Victorians with a particular cancer in 2004, i.e. prevalent cases in 2004, to provide survival estimates that reflect the most recent patterns.

**Morphology** – for selected tumour sites, subgroups were obtained by grouping cases according to tumour morphology. See Appendix I for a detailed description of groups according to ICDO-3 morphology code. Patients who did not fall into one of the tabulated categories of morphology were not included when estimating survival by tumour morphology i.e. the groups are not exhaustive and some cases have been omitted from the tables.

**Subsite** – for some sites, subsites were created according to the 3rd or 4th digit of the ICD-10 topography code. See Appendix I for details. Cancers which did not fall into one of the tabulated categories of subsite were not included when estimating survival by subsite.

**Geographical regions** – in this report we have included, for the first time, survival estimates for Victoria by two sets of geographical regions as defined below.

**Integrated Cancer Services (ICS) regions** – The Department of Human Services' Cancer Services Framework for Victoria divides the state into eight regions for the provision of cancer services. These Integrated Cancer Services (ICS) regions include three metropolitan regions – Southern, Western & Central and Northern-Eastern Metropolitan Integrated Cancer Services (MICS) regions and five rural regions – Barwon, Grampians, Loddon-Mallee, Hume and Gippsland Rural Integrated Cancer Services (RICS) regions. Estimates of survival are presented for these regions in the tables for the leading incident cancers.

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**Metropolitan Melbourne, rest of Victoria** – metropolitan is defined as the three metropolitan ICS regions with “rest of Victoria” including the five rural ICS regions. The metropolitan region includes the major urban area of Victoria comprising about three-quarters of the state’s total population.

**Survival time** was calculated from the date of diagnosis to the date of death or end of follow-up on 31 December 2005. People whose death was the same as their date of diagnosis were excluded from analyses. Most of these cases were death certificate only notifications.

## Survival

Relative survival is a measure of net survival that is usually interpreted as the proportion of patients who would have survived to a certain time (usually five years for cancer) if the cancer they had was the only cause of death in the patient population. It is defined as the ratio of observed survivors in a cohort of cancer patients to the proportion of expected survivors in a comparable group of cancer-free individuals.

Population life tables stratified by age, sex and calendar year are generally used to calculate expected survival. Unlike cause-specific survival, which depends on accurate coding of cause of death, survival measures the excess mortality experienced by cancer patients irrespective of whether their deaths are “attributed” to their cancers or not. It does require that the excess mortality is due to the cancer, and not to some other factor (e.g. smoking) that may be related to the onset of cancer and to excess mortality from other causes.

Cancer registries have traditionally used a method called complete survival to calculate survival. The method entails calculating survival for patients diagnosed in a particular calendar period. This was the method used in our 2003 report, which focused on patients diagnosed with cancer from 1990 to 1997 and followed until the end of 1999. The disadvantage of this method is that the estimates of survival are not up-to-date. For example, the survival one year after diagnosis was based upon data from all patients diagnosed between 1990 and 1997. In 1996, Brenner and Gefeller<sup>5</sup> introduced a new method of calculating survival, which they called “period survival”. Period survival is based upon the survival experience of patients in a specified calendar period and is more contemporary than complete survival. For this monograph, we have used period survival.

Period estimates of survival are less precise than cohort estimates. To provide more precise estimates,

we used a model-based approach, which gives estimates that are both contemporary and precise<sup>6</sup>. The primary focus of this monograph is on estimates of patient survival in 2004, which are based upon survival experience in the 5-year period 2000 to 2004. Estimates of 5-year survival are also provided for 2000, 1995 and 1990, which are derived from survival experience in the 5-year periods 1996-2000, 1991-1995 and 1986-1990 respectively.

All statistical analyses were performed using Stata<sup>7</sup>. Period survival was first calculated separately for each calendar year in the specified calendar period using Stata code written by Paul Dickman and Enzo Coviello<sup>8</sup>. For this analysis, the expected numbers of deaths were derived from age-, sex- and calendar period-specific Victorian life tables according to the Ederer II method<sup>9</sup>. Next, the output from these preliminary analyses was used to model survival probabilities for each combination of calendar year and year of follow-up within that period using a Poisson regression model with a user-defined link function<sup>10</sup>. Year of follow-up was included as a categorical variable and calendar year as a numerical variable. Survival estimates for the last calendar year of each period were derived from the regression coefficients by use of the Stata procedure nlcom, which uses the delta method to obtain 95% confidence intervals.

## Ad hoc requests for additional analyses

This reports includes survival analyses for the most common cancers in Victoria and some of their major morphological subsets. The authors would be happy to provide additional ad hoc analyses on request to clinicians or researchers requiring survival for less common cancers or additional subgroups by tumour subsite or morphology.

# Appendix III:

## References

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7. Stata versions 9.2. Stata Corporation, College Station TX, USA.
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9. Ederer F, Heise H. Instructions to IBM 650 programmers in processing survival computations. Methodological note No. 10, End Results Evaluation Section, Bethesda MD: National Cancer Institute, 1959.
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# Appendix IV: Geography & demography of Victoria

## Location

Victoria is illustrated in the map. It lies between latitude 35°S and 39°S and longitude 141°E and 150°E. It is bounded to the north by New South Wales (NSW) and to the west by South Australia.

## Area

Victoria has a land area of 227,600 km<sup>2</sup>. It is slightly smaller than Great Britain and is the smallest of the mainland states of Australia with just under 3% of the total area.

## Relief and physical geography

Most of the state is below 200 m in altitude but a hilly backbone extends east-west across the state. This belt of high country separates the riverine plains of the Murray and the sand plains of the Mallee and Wimmera to the north from the plains and uplands of the coastal area to the south. The highest point is Mt. Bogong with a height of 1,986 m. The eastern uplands are heavily forested and receive more rainfall than the west. The western uplands are lower in relief and are a mixture of woodlands and cleared cropland.

## Geology

Victoria has a complex geology and a rich variety of minerals. It has enormous reserves of oil, natural gas and brown coal. The gold rushes of the 1850s played a role in the development of the state and gold is still being mined, as are copper, zinc and silver.

## Climate

Because of the uplands running east-west and the prevailing south-east to south-west winds, the south of the state receives more rain than the north. The moderating effect of the sea (no point in Victoria is more than 380 kms from the ocean) means that snow is rarely seen below 600 m and there are no permanent snowfields. Summer temperatures, especially when air is advected from the Australian land mass to the north, may exceed 35°C.



## Population numbers

The estimated population in 2004 comprised 4,962,970 persons, making Victoria the second most populous state after New South Wales. One in four Australians lives in Victoria.

The Aboriginal population was 25,078 (0.5% of Victorian total and 6% of national indigenous population) at the 2001 census.

## Population distribution

Almost three-quarters of the population live in the Melbourne Metropolitan Area and most of the remainder live in small provincial cities with 0.1% living in remote areas. The average Victorian population density is 22 persons per km<sup>2</sup> (Australia 2.5 persons per km<sup>2</sup>) ranging from less than 2 in the Wimmera to 462 in Melbourne Statistical Division.

## Age and sex

The age-sex distribution is shown in the population pyramid. Although the shape of its pyramid has been modified by its immigrant history, Victoria has the type of population distribution expected in a country of late demographic transition. With a declining birth rate, a steady ageing of the population can be expected and the pyramid will become increasingly rectangular as more people survive to older ages and the younger strata are not replaced.

## Ethnicity

At the 2001 census, 23% of the population was described as overseas born. Of these 1,025,106 persons, 22% were from Southern Europe (Italy 9%, former Yugoslavia 6%, Greece 6%), 21% from Great Britain, 20% from the Middle East, 12% from Asia (Vietnam 5%, China 5%, India 3%, Sri Lanka 2%), 7% from the rest of Europe and USSR, and smaller numbers from North and South America, Africa and Oceania.

## Employment

The employed population numbered 2,303,100 persons (2001 census), with an unemployment rate of 6.2% of the labour force. Of those employed, 8.6% were managers and administrators, 20.1% were professionals, 11.5% were associate professionals, 12.9% were tradespersons, 30.2% were clerical, sales and service workers, 8.9% were production and transport workers and 7.8% were labourers and related workers.

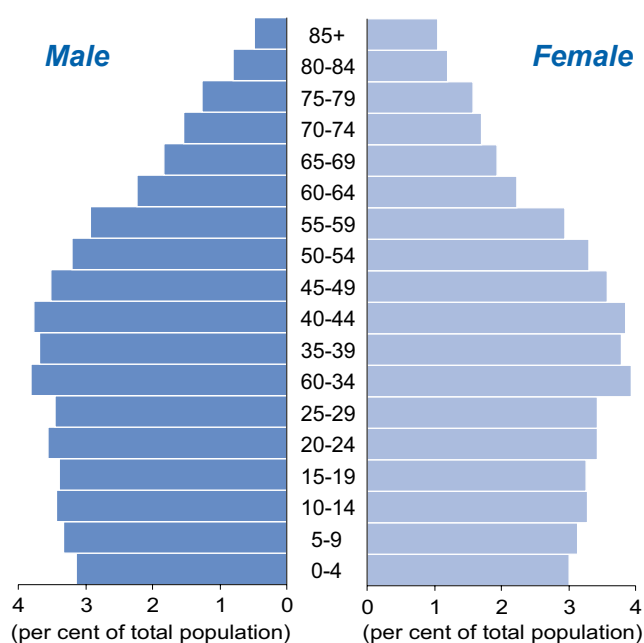
## Vital statistics

The birth rate has been steadily declining since the early 1970s. In 2003 the Victorian crude birth rate was 12.4 per 1,000 population.

Life expectancy at birth was, in 1999–2003, 77.0 years for males and 82.4 for females. Since 1982 this has increased by sex and four years in males and females respectively.

There were 32,522 deaths registered in 2004 of which cancers accounted for 29%, ischaemic heart disease for 18%, cerebrovascular disease 9%, motor vehicle accidents 1% and diabetes 3%. The crude death rate was 6.5 per 1,000. The masculinity of deaths was 102 males per 100 females.

Population pyramid, Victoria 2004



Estimated Resident Population, Victoria 2004

Age	Males	Females	Persons
0–4	156,071	149,625	305,696
5-9	164,596	155,508	320,104
10-14	170,634	162,626	333,260
15-19	168,297	161,632	329,929
20-24	176,556	170,633	347,189
25-29	171,790	170,552	342,342
30-34	189,287	195,732	385,019
35-39	182,873	187,763	370,636
40-44	187,444	191,233	378,677
45-49	174,164	177,760	351,924
50-54	158,572	163,673	322,245
55-59	145,292	146,503	291,795
60-64	110,483	110,498	220,981
65-69	90,711	95,697	186,408
70-74	76,119	84,161	160,280
75-79	62,845	78,395	141,240
80-84	39,299	59,764	99,063
85+	23,888	52,294	76,182
<b>Total</b>	<b>2,448,921</b>	<b>2,514,049</b>	<b>4,962,970</b>

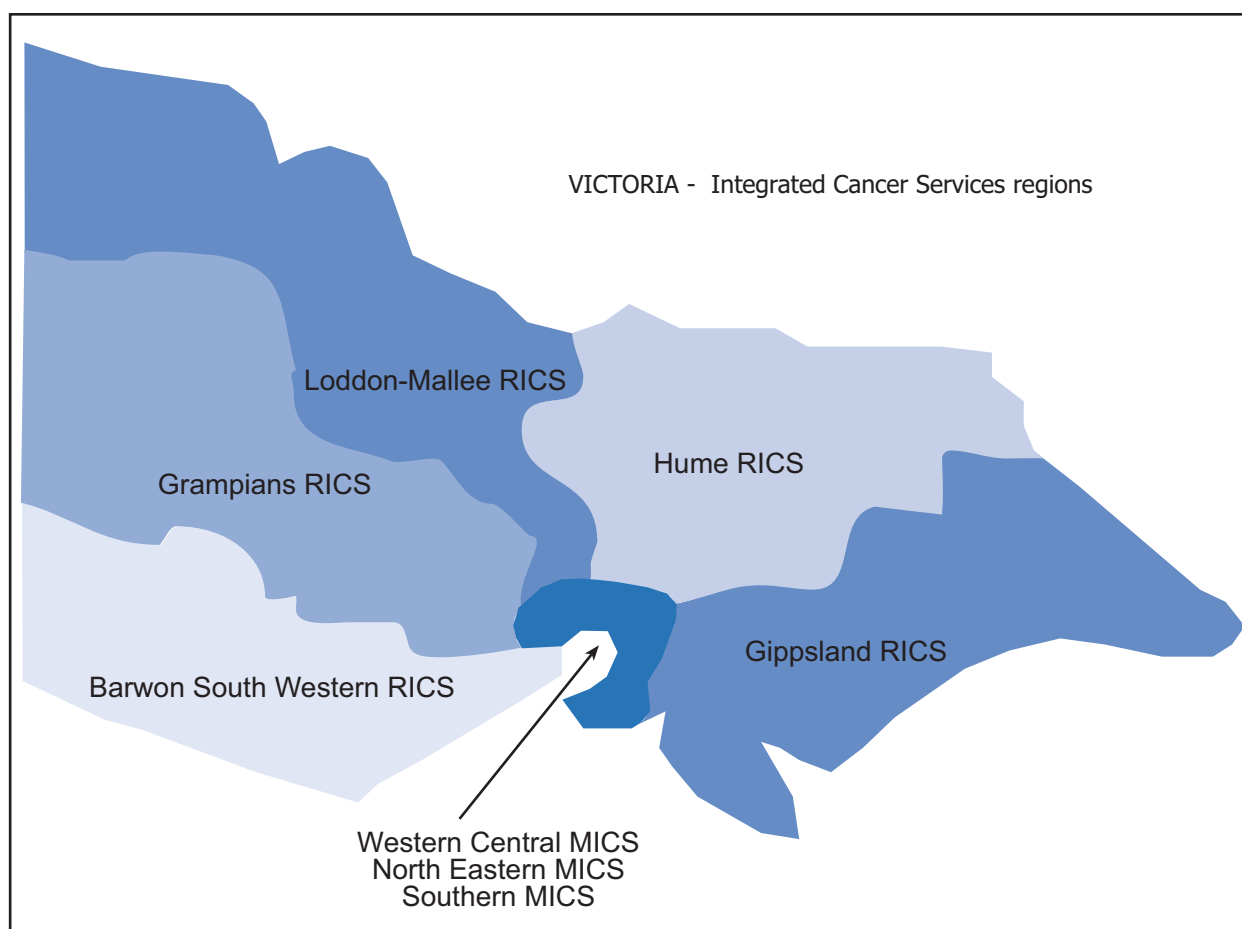
Source: Australian Bureau of Statistics. Estimated resident population by sex and age: states and territories of Australia. (Cat. No. 3201.0)

# Appendix V: The delivery of cancer services in Victoria

Following a review of cancer services in 2002<sup>1</sup>, Victoria was divided into eight “Integrated Cancer Services” regions. These Integrated Cancer Services (ICS) regions include three metropolitan regions - Southern, Western & Central and North Eastern Metropolitan Integrated Cancer Services (MICS) regions and five rural regions - Barwon South Western, Grampians, Loddon-Mallee, Hume and Gippsland Regional Integrated Cancer Services (RICS) regions – brief details of the demography and provision of cancer services in each ICS region are given below.

The ICS are broadly consortia of public health services. Many private hospitals also provide cancer services and some ICS are actively working with private providers. The data presented in this report relate to cancers treated in both public and private facilities and are divided into regions according to the patient’s residential address rather than by the hospitals at which they were treated. In addition to the eight ICS regions there is a statewide paediatric ICS comprising the Royal Children’s Hospital, Monash Medical Centre and Peter MacCallum Cancer Centre. For the purposes of this report paediatric cancers are included under their relevant ICS region based on place of usual residence.

1. *A Cancer Services Framework for Victoria and future directions for the Peter MacCallum Cancer Institute.* Barton M, Frommer M, Olver I, Cox C, Crowe P et al for The Collaboration for Cancer Outcomes Research and Evaluation. July 2003.



## Southern MICS

**Population** This region contained 1,334,007 residents in 2004 – it is the most populous of the ICS regions and includes 27% of all Victorians. Of these, 25% were aged under 20 years and 14% were aged 65 years and over.

**Cancers** In 2004, a total of 6,429 residents were newly diagnosed with an invasive cancer and 2,631 residents died from cancer. Of the residents newly diagnosed with cancer, 33% were admitted to at least one hospital outside the region during their first 12 months of treatment.



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**Hospitals** Bayside Health, Southern Health, and Peninsula Health.

**Radiotherapy services** Public – The Alfred (Prahran), Peter MacCallum Cancer Centre at Monash Medical Centre (Moorabbin). Private – Radiation Oncology Victoria at Frankston

**Palliative Care** Community – Peninsula Hospice Service, South East Palliative Care, Calvary Health Care Bethlehem.

Hospitals with specialist palliative care beds – Calvary Health Care Bethlehem, Monash Medical Centre Clayton, Casey Hospital, Peninsula Health.

## Western & Central MICS

**Population** This region contained 1,023,519 residents in 2004 (21% of the Victorian population). Of these 26% were aged under 20 years and 11% were aged 65 years and over.

**Cancers** In 2004, a total of 3,935 residents were newly diagnosed with an invasive cancer and 1,618 residents died from cancer. Of the residents newly diagnosed with cancer, 23% were admitted to at least one hospital outside the region during their first 12 months of treatment.

**Hospitals** Melbourne Health, Royal Women's Hospital, Western Health, Peter MacCallum Cancer Centre, Mercy Werribee Hospital and St Vincent's Health.

**Radiotherapy services** Public – Peter MacCallum Cancer Centre at Peter MacCallum Cancer Centre (East Melbourne). Private – Epworth Hospital (Richmond), Radiation Oncology Victoria at Freemasons Private Hospital (East Melbourne), Western Private Hospital (Footscray).

**Palliative Care** Community – Mercy Western Palliative Care, Melbourne City Mission Palliative Care.

Hospitals with specialist palliative care beds – Mercy Werribee Hospital, St Vincent's Health Service and Western Health.

## North Eastern MICS

**Population** This region contained 1,243,124 residents in 2004 (25% of the Victorian population). Of these 26% were aged under 20 years and 13% were aged 65 years and over.

**Cancers** In 2004, a total of 5,951 residents were newly diagnosed with an invasive cancer and 2,207 residents died from cancer. Of the residents newly diagnosed with cancer, 47% were admitted to at least one hospital outside the region during their first 12 months of treatment.

**Hospitals** Austin Health, Northern Health, Eastern Health and Mercy Hospital for Women.

**Radiotherapy services** Public – Austin Health (Heidelberg) and Peter MacCallum Cancer Centre at Epworth Eastern (Box Hill). Private – Radiation Oncology Victoria at Ringwood Private Hospital.

**Palliative Care** Community – Eastern Palliative Care, Banksia Palliative Care.

Hospitals with specialist palliative care beds – Austin Health, Northern Health, Eastern Health (beds due to open 2008).

## Barwon South Western RICS

**Population** This region contained 350,801 residents in 2004 (7% of the Victorian population). Of these 27% were aged under 20 years and 16% were aged 65 years and over.

**Cancers** In 2004, a total of 1,874 residents were newly diagnosed with an invasive cancer and 801 residents died from cancer. Of the residents newly diagnosed with cancer, 24% were admitted to at least one hospital outside the region during their first 12 months of treatment.

**Hospitals** Barwon Health, Casterton Memorial Hospital, Colac Area Health, Hesse Rural Health Service,

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Heywood Rural Health, Lorne Community Hospital, Moyne Health Service, Otway Health & Community Services, Portland District health, South West Healthcare, Terang & Mortlake Health Service, Timboon & District Health Service, Western District Health Service.

**Radiotherapy services** Public – Geelong Hospital

**Palliative Care** Community – Barwon Health, Bellarine Peninsula Community Health Service, Colac Area Health, Portland and District Hospital, Southwest Healthcare, Western District Health Service.

Hospitals with specialist palliative care beds – Barwon Health (McKellar Centre), Colac Area Health, South West Health Care, Portland and Western District Health Service.

## Grampians RICS

**Population** This region contained 213,316 residents in 2004 (4% of the Victorian population and, in terms of population, the smallest of the ICS regions). Of these 28% were aged under 20 years and 15% were 65 years and over.

**Cancers** In 2004, a total of 1,069 residents were newly diagnosed with an invasive cancer and 432 residents died from cancer. Of the residents newly diagnosed with cancer, 22% were admitted to at least one hospital outside the region during their first 12 months of treatment.

**Hospitals** Ballarat Health Services, Beaufort & Skipton Health Services, Djerrivah Health Services, Dunmunkle Health Services, East Grampians Health Services, East Wimmera Health Services, Edenhope & District Hospital, Hepburn Health Service, Rural Northwest Health, Stawell Regional Health, West Wimmera Health Service, Wimmera Health Care Group.

**Radiotherapy services** Public – Austin Health at St John of God Private Hospital (Ballarat).

**Palliative Care** Community – Central Grampians Palliative Care, Wimmera Hospice Service, Djerrivarrh Health Service, Ballarat Hospice Care.

Hospitals with specialist palliative care beds – Ballarat Health Service, Djerrivarrh Health Service, Central Grampians Health Service, Wimmera Health Care Group.

## Loddon Mallee RICS

**Population** This region contained 302,043 residents in 2004 (6% of the Victorian population). Of these 28% were aged under 20 years and 15% were aged 65 years and over.

**Cancers** In 2004, a total of 1,706 residents were newly diagnosed with an invasive cancer and 692 residents died from cancer. Of the residents newly diagnosed with cancer, 45% were admitted to at least one hospital outside the region during their first 12 months of treatment.

**Hospitals** Bendigo Health Care Group, Boort District Hospital, Cohuna District Hospital, Echuca Regional Health, Inglewood & District Health Service, Kerang District Health, Kyabram District Health Service, Kyneton District Health Service, Maldon Hospital, Mallee Track Health & Community Service, Manangatang & District Hospital, Maryborough District Hospital, Mclvor Health & Community Services, Mt Alexander Hospital, Mildura Base Hospital, Robinvale District Health Service, Rochester & Elmore District Health, Swan Hill District Hospital.

**Radiotherapy services** Public – Peter MacCallum Cancer Centre at Bendigo Health.

**Palliative Care** Community – Bendigo Community Palliative Care, Castlemaine Palliative Care Service, Central Goldfields (Maryborough) Community Palliative Care, Echuca Regional Health Community Palliative Care, Macedon Ranges Community Palliative Care Service (Kyneton), Sunraysia Community Health Services (Mildura) Palliative Care Service, Swan Hill Community Palliative Care.

Hospitals with specialist palliative care beds – Bendigo Health, Mildura Base Hospital.

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## Hume RICS

**Population** This region contained 259,586 residents in 2004 (5% of the Victorian population). Of these 28% were aged under 20 years and 14% were aged 65 years and over.

**Cancers** In 2004, a total of 1,418 residents were newly diagnosed with an invasive cancer and 593 residents died from cancer. Of the residents newly diagnosed with cancer, 43% were admitted to at least one hospital outside the region during their first 12 months of treatment.

**Hospitals** Alexandra District Hospital, Alpine Health, Beechworth Health Service, Benalla & District Memorial Hospital, Cobram District Hospital, Goulburn Valley Health, Kilmore & District Hospital, Mansfield District Hospital, Yarrawonga District Health Service, Nathalia District Hospital, Northeast Health Wangaratta, Numurkah District Health Service, Seymour District Memorial Hospital, Tallangatta Health Service, Upper Murray Health & Community Service, Wodonga Regional Health Service, Yea & District Memorial Hospital.

**Radiotherapy services** Private – Radiation Oncology Victoria at Murray Valley Private Hospital (Wodonga).

**Palliative Care** Community – Benalla and District Memorial Hospital, Goulburn Valley Hospice, Lower Hume/Seymour Memorial Hospital, North Eastern Health Wangaratta, Numurkah District Health Service, Wodonga Regional Health Service.

Hospitals with specialist palliative care beds – Goulburn Valley Health, Seymour District Memorial Hospital, Wangaratta District Base Hospital, Wodonga Regional Health Service.

## Gippsland RICS

**Population** This region contained 246,383 residents in 2004 (5% of the Victorian population). Of these 27% were aged under 20 years and 16% were aged 65 years and over.

**Cancers** In 2004, a total of 1,422 residents were newly diagnosed with an invasive cancer and 568 residents died from cancer. Of the residents newly diagnosed with cancer, 56% were admitted to at least one hospital outside the region during their first 12 months of treatment.

**Hospitals** Bass Coast Regional Health, Bairnsdale District Health Service, Central Gippsland Health Service, Gippsland Southern Health Service, Kooweerup Regional Health Service, Latrobe Regional Hospital, Omeo District Hospital, Orbost Regional Health, South Gippsland Hospital, West Gippsland Healthcare Group, Yarram & District Health Service.

**Radiotherapy services** Public – The Alfred at Gippsland Cancer Treatment Centre, Latrobe Regional Hospital, Traralgon.

**Palliative Care** Community – Bairnsdale Regional Health Service, Gippsland Lakes Community Health, Bass Coast Regional Health Service, Bass Coast Community Health Service, Central Gippsland Health Service, Yarram & District Health Service, Latrobe Community Health Service, West Gippsland Healthcare Group, Gippsland Southern Health Services.

Hospitals with specialist palliative care beds – Bairnsdale Regional Health Service, Central Gippsland Health Service, Gippsland Southern Health Service, Latrobe Regional Hospital, West Gippsland Health Care Group, Wonthaggi & District Hospital.

# Appendix VI: Cancer incidence and mortality in Victoria 2004

	Incidence				Mortality			
	Male		Female		Male		Female	
	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate
<b>All cancer</b>	<b>13,019</b>	<b>346.1</b>	<b>10,791</b>	<b>264.9</b>	<b>5,283</b>	<b>125.8</b>	<b>4,266</b>	<b>83.5</b>
Oral cavity	139	4.0	96	2.3	43	1.3	17	0.3
Salivary glands	19	0.6	16	0.4	12	0.3	5	0.1
Pharynx	119	3.6	31	0.9	28	0.7	18	0.4
Oesophagus	211	5.3	120	2.1	190	4.6	87	1.6
Stomach	340	8.4	193	4.0	200	4.8	115	2.0
Colon	1,071	26.6	1,090	22.0	365	8.8	342	5.8
Rectum	779	20.6	484	11.1	220	5.3	160	3.1
Liver	179	4.7	81	1.7	163	4.2	94	1.7
Gallbladder	68	1.8	106	2.1	26	0.6	44	0.9
Pancreas	253	6.3	301	6.0	252	6.4	249	4.7
Larynx	132	3.6	13	0.3	39	1.0	7	0.1
Lung	1,472	36.5	837	17.8	1,163	27.9	614	11.9
Mesothelioma	111	2.8	26	0.6	104	2.4	19	0.4
Connective tissue	84	2.4	53	1.5	26	0.6	16	0.4
Melanoma	1,090	30.5	869	24.1	176	4.5	85	1.9
Breast	23	0.6	3,047	82.8	2	0.0	685	15.5
Cervix			142	4.1			47	1.0
Uterus			472	12.3			74	1.5
Ovary			324	8.1			232	5.0
Prostate	3,838	101.8			730	14.9		
Testis	194	7.4			2	0.1		
Bladder	204	4.7	93	1.7	118	2.5	66	1.1
Kidney	359	10.1	240	6.3	115	2.8	88	1.6
Renal pelvis	49	1.1	27	0.5	12	0.3	3	0.1
Central nervous system	199	6.1	196	5.7	146	4.4	112	3.1
Thyroid	80	2.6	225	7.0	8	0.2	11	0.2
Unknown primary	338	8.1	354	6.3	369	8.7	333	5.9
Non-Hodgkin lymphoma	570	15.3	424	10.4	187	4.3	190	3.5
Hodgkin lymphoma	73	2.7	76	2.7	10	0.3	8	0.2
Multiple myeloma	166	4.1	136	2.8	106	2.5	97	1.6
Acute lymphoblastic leukaemia	41	2.3	38	2.2	17	0.7	11	0.3
Chronic lymphocytic leukaemia	82	2.0	86	1.7	45	1.0	23	0.3
Acute myeloid leukaemia	77	2.1	65	1.5	87	2.2	83	1.7
Chronic myeloid leukaemia	33	1.0	26	0.6	18	0.4	17	0.4

Rate=Age-standardised rate per 100,000 persons (standardised to World Standard Population)

Source: Thursfield V, Farrugia H and Giles G. Cancer in Victoria 2004. Canstat No. 42, The Cancer Council Victoria, Melbourne, Nov 2006.

# Appendix VII: Comparison of Victorian and USA cancer survival

## 5-year survival

Cancer	Victoria	SEER	Comments
Oral cavity	59	36	Oral cavity & pharynx
Pharynx	49		
Oesophagus	17	14.2	
Stomach	25	23.8	
Colon	63	61.7	
Rectum	63	62.6	
Liver	10	7.5	
Pancreas	5	4.0	
Larynx	64	68.8	
Lung	11	15.0	
Melanoma	90	89.0	
Breast	87	86.4	
Cervix	70	70.5	
Ovary	41	55.0	
Prostate	84	98.8	
Testis	99	94.7	
Bladder	51	82.1	
Kidney	68	61.8	Kidney & renal pelvis
Renal pelvis	52		
Central nervous system	23	32.0	
Thyroid	92	96.0	
Non-Hodgkin lymphoma	66	57.8	
Hodgkin lymphoma	82	85.1	
Multiple myeloma	32	29.5	
Acute lymphoblastic leukaemia	66	42.5	All leukaemias
Chronic lymphocytic leukaemia	56		
Acute myeloid leukaemia	13		
Chronic myeloid leukaemia	56		

USA survival rates 5-year survival were estimated using period analysis for patients from the US National Cancer Institute Surveillance, Epidemiology, and End Results (SEER) database for 1973–1998.

Comments:

(1) Differences in bladder, ovary and central nervous system tumours may reflect differences in definitions and inclusion or not of borderline, benign or superficial tumours.

(2) The difference in prostate survival may reflect the high prevalence of PSA testing in the United States with active treatment consequently undertaken on numbers of patients who would have survived in any case without intervention.

Source: Brenner H. Long-term survival rates of cancer patients achieved by the end of the 20th century: a period analysis. *Lancet*. 2002 Oct 12;360(9340):1131–5.

# Appendix VIII: Life tables for Victoria 2002-2004

Age	Males				Females			
	lx	qx	Lx	e <sup>o</sup> x	lx	qx	Lx	e <sup>o</sup> x
0	100000	0.00547	99521	78.5	100000	0.00438	99612	83.3
1	99453	0.00034	99434	78.0	99562	0.00034	99544	82.6
2	99420	0.00024	99406	77.0	99528	0.00017	99518	81.7
3	99395	0.00021	99385	76.0	99511	0.00014	99504	80.7
4	99375	0.00018	99365	75.0	99497	0.00011	99492	79.7
5	99357	0.00015	99349	74.0	99486	0.00010	99481	78.7
6	99341	0.00014	99335	73.0	99477	0.00009	99472	77.7
7	99328	0.00012	99322	72.1	99468	0.00008	99464	76.7
8	99316	0.00011	99311	71.1	99460	0.00007	99457	75.7
9	99305	0.00010	99300	70.1	99453	0.00007	99449	74.7
10	99295	0.00010	99290	69.1	99446	0.00008	99442	73.7
11	99286	0.00010	99281	68.1	99438	0.00008	99434	72.7
12	99276	0.00010	99271	67.1	99430	0.00009	99425	71.8
13	99266	0.00012	99260	66.1	99420	0.00011	99415	70.8
14	99254	0.00015	99247	65.1	99409	0.00015	99402	69.8
15	99239	0.00023	99228	64.1	99394	0.00019	99385	68.8
16	99216	0.00035	99200	63.1	99375	0.00023	99364	67.8
17	99181	0.00050	99158	62.2	99352	0.00027	99339	66.8
18	99131	0.00065	99100	61.2	99325	0.00030	99311	65.8
19	99067	0.00074	99030	60.2	99296	0.00030	99281	64.8
20	98993	0.00076	98956	59.3	99266	0.00030	99251	63.9
21	98918	0.00077	98880	58.3	99236	0.00029	99221	62.9
22	98842	0.00078	98803	57.4	99207	0.00028	99193	61.9
23	98765	0.00078	98726	56.4	99179	0.00028	99165	60.9
24	98687	0.00079	98648	55.4	99152	0.00028	99138	59.9
25	98609	0.00082	98569	54.5	99124	0.00030	99110	59.0
26	98529	0.00084	98488	53.5	99095	0.00032	99080	58.0
27	98446	0.00087	98403	52.6	99064	0.00033	99048	57.0
28	98360	0.00089	98317	51.6	99032	0.00035	99015	56.0
29	98273	0.00090	98229	50.7	98997	0.00037	98979	55.0
30	98184	0.00092	98139	49.7	98961	0.00039	98942	54.0
31	98093	0.00095	98047	48.8	98923	0.00041	98903	53.1
32	98000	0.00097	97953	47.8	98883	0.00043	98862	52.1
33	97905	0.00099	97857	46.9	98840	0.00046	98818	51.1
34	97808	0.00102	97758	45.9	98795	0.00050	98771	50.1
35	97708	0.00105	97658	44.9	98746	0.00054	98720	49.2
36	97606	0.00109	97553	44.0	98693	0.00058	98664	48.2
37	97500	0.00112	97446	43.0	98635	0.00063	98605	47.2
38	97391	0.00118	97333	42.1	98573	0.00068	98541	46.2
39	97275	0.00125	97215	41.1	98507	0.00075	98470	45.3
40	97154	0.00133	97090	40.2	98433	0.00081	98394	44.3
41	97025	0.00142	96957	39.2	98354	0.00088	98311	43.3
42	96887	0.00155	96813	38.3	98267	0.00096	98221	42.4
43	96737	0.00168	96657	37.4	98173	0.00105	98122	41.4
44	96575	0.00184	96487	36.4	98070	0.00114	98015	40.5
45	96397	0.00202	96301	35.5	97958	0.00124	97898	39.5
46	96202	0.00219	96098	34.6	97836	0.00135	97771	38.6
47	95992	0.00234	95881	33.6	97704	0.00146	97634	37.6
48	95768	0.00249	95649	32.7	97562	0.00158	97485	36.7
49	95529	0.00265	95403	31.8	97407	0.00170	97325	35.7

lx = number of persons at exact age x. qx = proportion dying between exact age x and exact age x+1.

Lx = number of person years lived within the age interval x to x+1. e<sup>o</sup>x = expectation of life at exact age

Source: Australian Bureau of Statistics Catalogue number 3302.2.55.001. Life tables Victoria 2002–2004

Age	Males				Females			
	lx	qx	Lx	e <sup>o</sup> x	lx	qx	Lx	e <sup>o</sup> x
50	95276	0.00284	95142	30.9	97242	0.00183	97154	34.8
51	95005	0.00305	94862	30.0	97063	0.00197	96969	33.8
52	94716	0.00330	94561	29.0	96872	0.00212	96771	32.9
53	94403	0.00359	94236	28.1	96667	0.00229	96558	32.0
54	94063	0.00395	93880	27.2	96446	0.00250	96327	31.0
55	93692	0.00438	93490	26.3	96205	0.00274	96075	30.1
56	93281	0.00489	93057	25.5	95941	0.00302	95799	29.2
57	92825	0.00547	92576	24.6	95651	0.00335	95494	28.3
58	92318	0.00608	92042	23.7	95331	0.00372	95157	27.4
59	91756	0.00674	91452	22.9	94977	0.00413	94784	26.5
60	91138	0.00746	90803	22.0	94585	0.00457	94372	25.6
61	90458	0.00824	90091	21.2	94153	0.00505	93919	24.7
62	89713	0.00911	89310	20.3	93678	0.00556	93422	23.8
63	88895	0.01008	88454	19.5	93158	0.00609	92878	23.0
64	87999	0.01119	87514	18.7	92590	0.00666	92285	22.1
65	87014	0.01242	86483	17.9	91973	0.00725	91644	21.2
66	85934	0.01381	85350	17.1	91306	0.00790	90950	20.4
67	84747	0.01539	84105	16.4	90584	0.00864	90198	19.6
68	83443	0.01714	82739	15.6	89801	0.00949	89381	18.7
69	82013	0.01911	81241	14.9	88949	0.01049	88489	17.9
70	80446	0.02130	79602	14.2	88016	0.01166	87511	17.1
71	78732	0.02373	77811	13.5	86989	0.01304	86432	16.3
72	76864	0.02642	75863	12.8	85855	0.01465	85237	15.5
73	74833	0.02941	73748	12.1	84597	0.01652	83910	14.7
74	72633	0.03273	71459	11.5	83199	0.01869	82435	13.9
75	70255	0.03643	68991	10.8	81644	0.02117	80795	13.2
76	67696	0.04055	66339	10.2	79916	0.02400	78973	12.5
77	64951	0.04511	63502	9.6	77998	0.02721	76955	11.8
78	62021	0.05017	60481	9.1	75876	0.03080	74726	11.1
79	58910	0.05573	57282	8.5	73539	0.03484	72277	10.4
80	55627	0.06189	53918	8.0	70977	0.03943	69597	9.8
81	52184	0.06880	50401	7.5	68178	0.04466	66677	9.2
82	48594	0.07667	46742	7.0	65133	0.05065	63505	8.6
83	44868	0.08567	42955	6.5	61834	0.05750	60078	8.0
84	41024	0.09592	39063	6.1	58279	0.06532	56395	7.5
85	37089	0.10728	35101	5.7	54472	0.07418	52470	6.9
86	33110	0.11956	31126	5.3	50431	0.08419	48323	6.5
87	29152	0.13257	27208	5.0	46185	0.09539	43993	6.0
88	25287	0.14613	23422	4.7	41779	0.10787	39531	5.6
89	21592	0.16005	19842	4.4	37273	0.12162	35005	5.2
90	18136	0.17418	16530	4.1	32739	0.13640	30497	4.8
91	14977	0.18834	13537	3.9	28274	0.15177	26109	4.5
92	12157	0.20188	10899	3.7	23983	0.16728	21950	4.2
93	9702	0.21547	8627	3.5	19971	0.18257	18114	4.0
94	7612	0.22900	6712	3.3	16325	0.19669	14681	3.8
95	5869	0.24247	5132	3.1	13114	0.20926	11703	3.6
96	4446	0.25587	3855	3.0	10370	0.22103	9188	3.4
97	3308	0.26920	2844	2.8	8078	0.23313	7104	3.3
98	2418	0.28245	2061	2.7	6194	0.24591	5405	3.1
99	1735	0.29561	1466	2.6	4671	0.25880	4043	2.9
100	1222	0.30884	(a)3025	2.5	3462	0.27188	9726 <sup>a</sup>	2.8

(a) At age 100, L100+ is shown.

# Appendix IX: Victorian mortality, 2004

## Deaths by age group and sex

Age group	All deaths			Cancer deaths		
	Male	Female	Total	Male	Female	Total
0-4	179	142	321	4	2	6
5-9	17	10	27	8	3	11
10-14	19	15	34	4	6	10
15-19	74	44	118	3	6	9
20-24	143	48	191	10	4	14
25-29	136	52	188	8	12	20
30-34	200	89	289	27	25	52
35-39	182	97	279	32	34	66
40-44	282	169	451	63	74	137
45-49	370	234	604	114	132	246
50-54	519	338	857	218	207	425
55-59	745	465	1,210	316	288	604
60-64	930	543	1,473	453	311	764
65-69	1,285	816	2,101	601	420	1,021
70-74	1,919	1,135	3,054	846	497	1,343
75-79	2,811	2,090	4,901	1,034	675	1,709
80-84	2,925	3,064	5,989	832	751	1,583
85+	3,702	6,733	10,435	710	819	1,529
<b>Total</b>	<b>16,438</b>	<b>16,084</b>	<b>32,522</b>	<b>5,283</b>	<b>4,260</b>	<b>9,549</b>

## Death rates (per 100,000 persons) by age group and sex

Age group	All deaths			Cancer deaths		
	Male	Female	Total	Male	Female	Total
0-4	114.7	94.9	105.0	2.6	1.3	2.0
5-9	10.3	6.4	8.4	4.9	1.9	3.4
10-14	11.1	9.2	10.2	2.3	3.7	3.0
15-19	44.0	27.2	35.8	1.8	3.7	2.7
20-24	81.0	28.1	55.0	5.7	2.3	4.0
25-29	79.2	30.5	54.9	4.7	7.0	5.8
30-34	105.7	45.5	75.1	14.3	12.8	13.5
35-39	99.5	51.7	75.3	17.5	18.1	17.8
40-44	150.4	88.4	119.1	33.6	38.7	36.2
45-49	212.4	131.6	171.6	65.5	74.3	69.9
50-54	327.3	206.5	265.9	137.5	126.5	131.9
55-59	512.8	317.4	414.7	217.5	196.6	207.0
60-64	841.8	491.4	666.6	410.0	281.5	345.7
65-69	1,416.6	852.7	1,127.1	662.5	438.9	547.7
70-74	2,521.1	1,348.6	1,905.4	1,111.4	590.5	837.9
75-79	4,472.9	2,666.0	3,470.0	1,645.3	861.0	1,210.0
80-84	7,442.9	5,126.8	6,045.6	2,117.1	1,256.6	1,598.0
85+	15,497.3	12,875.3	13,697.5	2,972.2	1,566.1	20,007.0
<i>Crude rate</i>	<i>671.2</i>	<i>639.8</i>	<i>655.3</i>	<i>215.7</i>	<i>169.7</i>	<i>192.4</i>
<b>ASR</b>	<b>389.5</b>	<b>250.9</b>	<b>314.7</b>	<b>125.8</b>	<b>83.5</b>	<b>102.1</b>
	(384-396)	(247-255)	(311-318)	(123-129)	(81-86)	(100-104)

ASR=Age-standardised rate per 100,000 persons (World Standard Population) with 95% confidence interval