

CANCER SURVIVAL IN QUEENSLAND 1982 to 1995

Peter Baade
Michael Coory
Ian Ring

Health Information Centre
Queensland Cancer Registry
Queensland Health
147-163 Charlotte Street
BRISBANE Q 4000

Postal Address
GPO Box 48
BRISBANE Q 4001

ISBN: 1-876532-80-7

Suggested citation:

Baade P, Coory M, Ring I. Cancer survival in Queensland 1982 to 1995. Brisbane, Health Information Centre, Queensland Health. 2000.

ACKNOWLEDGMENTS

Thanks to Rajah Supramaniam of the NSW Cancer Registry, David Lawrence from the Centre for Health Services Research, Department of Public Health at the University of Western Australia and Richard Hockey from the Mater Hospital in Brisbane for assistance in testing the relative survival macros.

Thanks to Dr David Roder for his comments on a previous version of the report.

Staff of the Queensland Cancer Registry have worked efficiently and to a consistently high standard to provide accurate and timely data for this report. Their work is acknowledged and greatly appreciated.

Related Publications

Baade P, Coory M, Ring I (2000). Cancer in Queensland: Trends in incidence and mortality for selected cancer sites, 1982 to 1996. Brisbane, Health Information Centre, Queensland Health.

Baade P, Coory M, Ring I. National Health Priority Cancers in Queensland 1982 to 1997. Brisbane, Health Information Centre, Queensland Health. 2000.

HIC & QCR (2000). Cancer in Queensland: Incidence and Mortality 1982-1997. Brisbane, Health Information Centre and Queensland Cancer Registry, Queensland Health.

Members of the Queensland Cancer Registry

Dr Ian Ring
Sandra Martyn
Judy Symmons

Director
Principal Collection Officer
Registrar

Norma Anderson
Julie Bourke
Mark Foley
Lyn Hunter
Anne Leong
Lachlan Manahan
Leisa Ward
Janice Reithmuller
Kathy Temperton
Cushla Wise
Trent Quinlan

Members of the Queensland Cancer Registry Advisory Committee

Dr. G. Wright (Chairman)
B.Sc., M.B., Ch.B., F.R.C.P.A.

Dr. J Collie
M.B.,B.S., M.H.P., F.R.A.C.M.A., F.A.F.P.H.M., A.F.C.H.S.E.

Mr. G. Brien
M.B.A.

Dr. R. MacLennan
M.B.,B.S., M.S., M.R.C.P., F.R.A.C.P.

Dr. W. McWhirter
M.D., B.A., M.B., Ch.B, D.Obst., F.R.C.P., F.R.C.P.Ed.

Dr. N.J. Nicolaidis
M.B.,B.S., F.R.A.C.P., F.R.C.P.A., F.C.A.P.

Dr. I. Ring
M.B.,B.S., M.P.H., M.Sc., F.A.F.P.H.M., D.L.S.H.T.M., F.A.C.R.R.M.

CONTENTS	PAGE
ACKNOWLEDGMENTS	i
Related publications	i
Members of the Queensland Cancer Registry	ii
Members of the Queensland Cancer Registry Advisory Committee	ii
SUMMARY	1
Purpose of the report	1
The role of population-based survival estimates	1
Type of cancer	1
Comparison with other states and internationally	1
Trends over time	2
Male-female comparisons	2
MATERIALS AND METHODS	7
RESULTS	10
APPENDICES	35
1 Site codes	
2 Sources of information for interstate and overseas comparisons	
3 Adjusted survival estimates	

SUMMARY

Purpose of the report

This report describes the survival of people with cancer in Queensland. The aims are to:

- provide an estimates of survival for the 25 most important cancers in Queensland,
- compare survival in Queensland with that in the other Australian states that have published survival analyses (New South Wales and South Australia), and internationally,
- examine trends in survival over time.

The role of population-based survival estimates

The report is based on data from the Queensland Cancer Registry. Only population-based cancer registries can measure cancer survival in a geographically-defined population, thereby allowing interstate or international comparisons. Differences in survival within or between countries might provide a starting point for further studies to identify reasons.

Type of cancer

(see pages 10 to 34)

As is the case in other states and overseas, the five-year, relative survival was extremely poor (less than 15%) for the following cancers: pancreas, liver, mesothelioma, lung.

Cancers for which the five-year survival was between 15% and 29% were oesophagus, stomach, brain and multiple myeloma.

Cancers for which the five-year survival was between 30% and 49% were adult leukaemia and cancer of the ovary.

Cancers for which the five-year survival was between 50% and 69% were floor of mouth, larynx, kidney, colorectal, non-Hodgkin's lymphoma and childhood leukaemia.

Cancers for which the five-year survival was good (70% to 89%) were prostate, bladder, Hodgkin's lymphoma, cervix, uterus and breast.

Cancers for which the five-year survival was very good (greater than 89%) were melanoma, testis and thyroid.

Comparison with other states and internationally

(see pages 10 to 34)

This report contains comparisons of population-based survival for the two states in Australia that had published survival analyses as at May 2000 (New South Wales and South Australia) and for the United States and Europe. The reports from New South Wales, South Australia and the United States cover a range of years, similar to those used in Queensland, and therefore provide reasonable benchmarks. Unfortunately, 1985 to 1989 is the most recent period for which population-based, survival information is available from Europe. It is likely that the survival percentages for the European countries would have been higher for a more recent period.

Broadly speaking, survival from cancer in Queensland was as good as that in New South Wales, South Australia, Europe and the United States.

For example, for breast cancer, the five-year relative survival in Queensland was 79.7%, which is similar to that in NSW (83.2), South Australia (78.8%), Sweden (81%), slightly lower than in the US (86.0%) and higher than England (67%). Survival from cervical cancer was in Queensland (74.1%) was also similar to that in NSW (74.5%), South Australia (74.0%), Sweden (68%) and the US (71.4%).

For colorectal cancer, survival in Queensland was 56.2%, similar to that in NSW (61.3%), South Australia (56.0%), Unites States (61.8%), and higher than that in Sweden (53.0%). Survival from lung cancer (11.6%) was lower than that in the United States (14.1%) but

similar to that in NSW (10.7%), South Australia (11.8%) and Sweden (10%) and better than England (7%) or Poland (7%).

Male-female comparisons

(see Appendix 3)

Differences in cancer survival for males and females were assessed using proportional hazards models. These models give estimates of the relative risk of dying from a particular cancer within five years after adjusting for age at diagnosis and period of diagnosis.

Males had significantly poorer survival than females for the following cancers: floor of mouth, oesophagus, colon & rectum, lung, melanoma, thyroid, non-Hodgkin's lymphoma, and mesothelioma.

Females had significantly poorer survival than males for cancers of the bladder and kidney.

Survival for males and females was about the same for the following cancers: stomach, liver, pancreas, larynx, brain, Hodgkin's lymphoma, multiple myeloma, adult leukaemia and childhood leukaemia.

Trends over time

(see Appendix 3)

Trends in survival over time were assessed using proportional hazards models. These models give estimates of the relative risk of dying from a particular cancer within five years after adjusting for age at diagnosis and sex (where appropriate).

There were no cancers for which there was a statistically significant decrease in survival (after adjusting for age at diagnosis and sex) between 1982-1986 and 1991-1995.

There was no statistically significant change in survival between 1982-1986 and 1991-1995 for the following cancers: floor of mouth, liver, cervix, uterus, bladder, brain, mesothelioma, multiple myeloma, and adult leukaemia.

Cancers for which there was a statistically significant improvement in survival, but for which the decrease in the relative risk of death was less than 15% (after adjusting for age at diagnosis and sex) were: cancers of the lung and pancreas.

Cancers for which there was a statistically significant improvement in survival, and for which the decrease in the relative risk of death was between 16% and 30% were cancers of the oesophagus, stomach, colon & rectum, larynx, female breast, ovary, kidney and melanoma.

Cancers for which there was a statistically significant improvement in survival, and for which the improvement was large were cancers of the prostate, testis, thyroid, Hodgkin's lymphoma, non-Hodgkin's lymphoma and childhood leukaemia. For these cancers, the reduction in the relative risk of death within five years (after adjusting for age at diagnosis and sex) was more than 30%.

Improvements in survival for the various cancers could be due to earlier diagnosis or more effective treatment.

Figure 1: Five-year relative survival from cancer for people in Queensland, 1991-1995

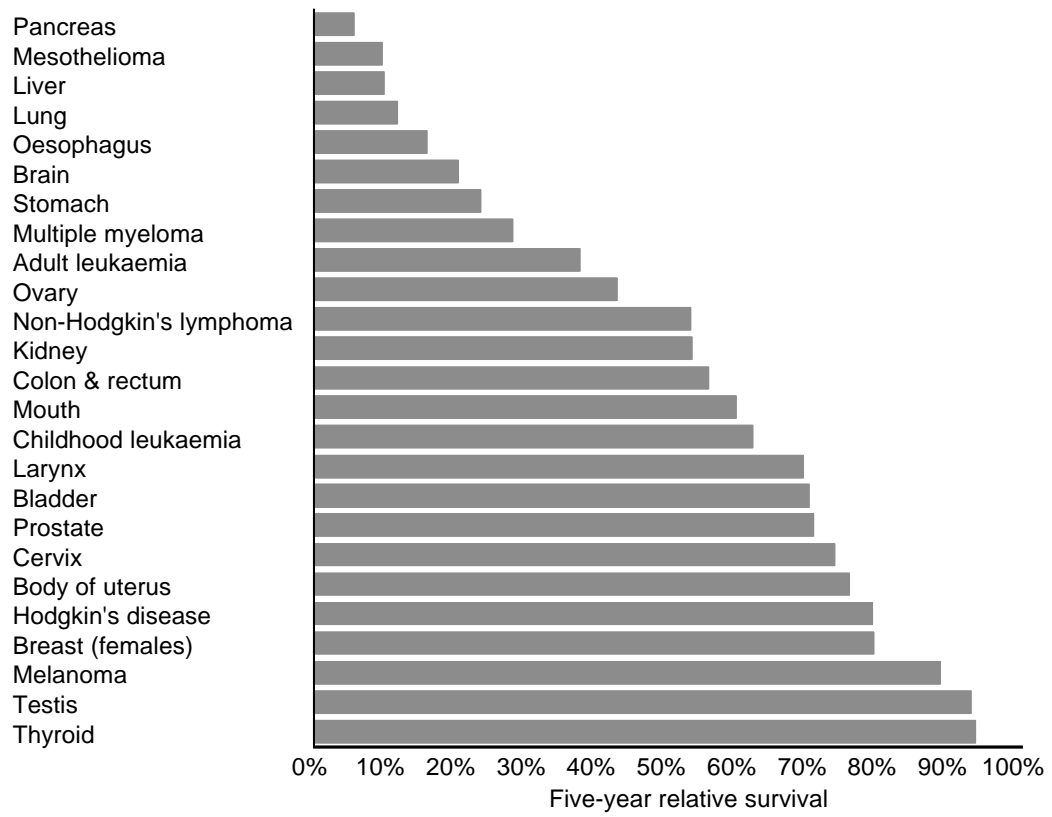


Figure 2: Relative Survival in Queensland (1982 to 1995)
Persons aged 15-89 (unless otherwise stated)

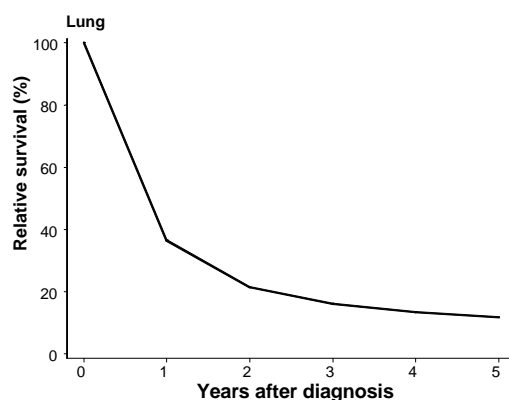
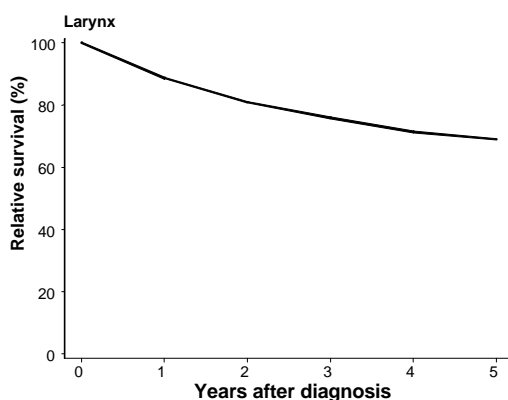
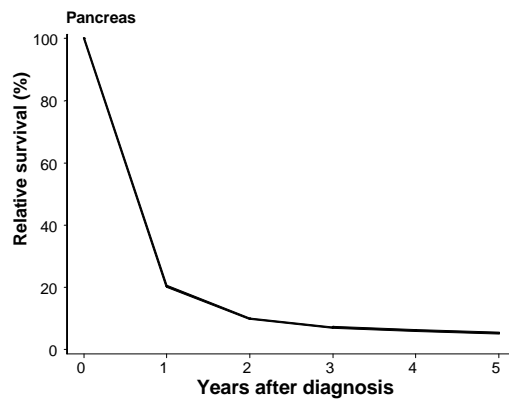
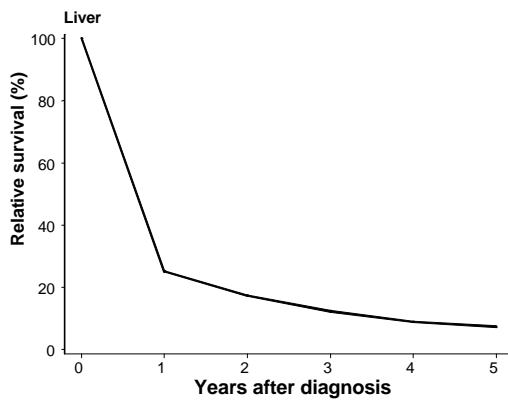
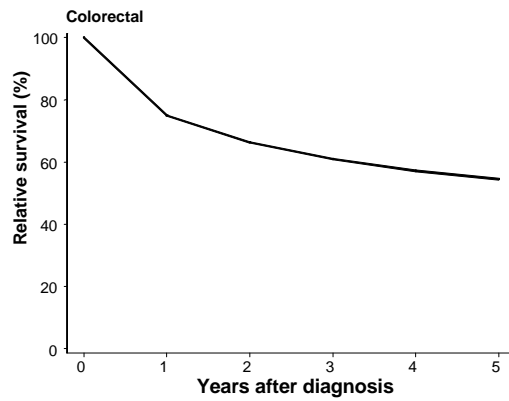
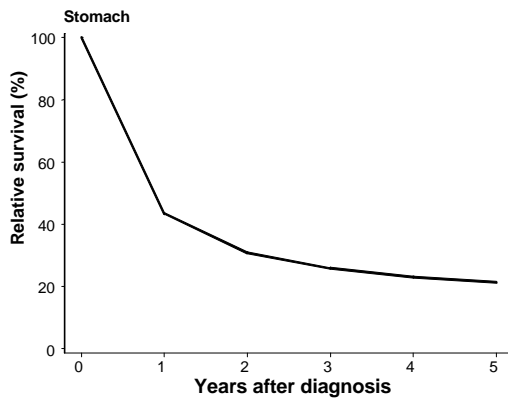
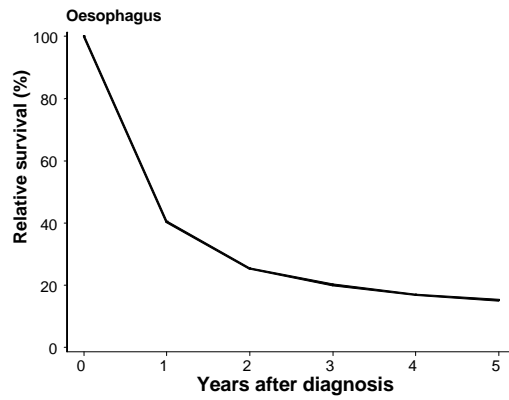
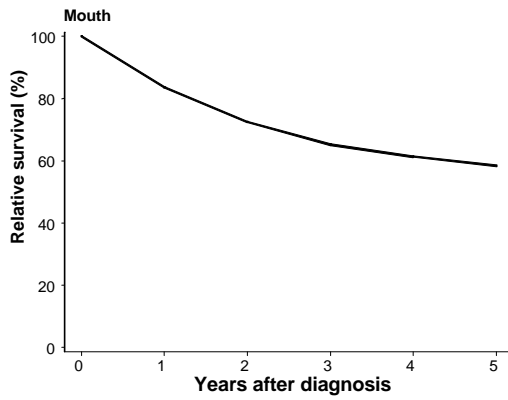


Figure 2: Relative Survival in Queensland (1982 to 1995)
Persons aged 15-89 (unless otherwise stated)

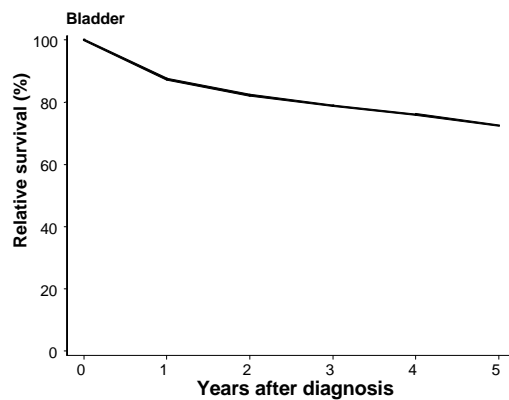
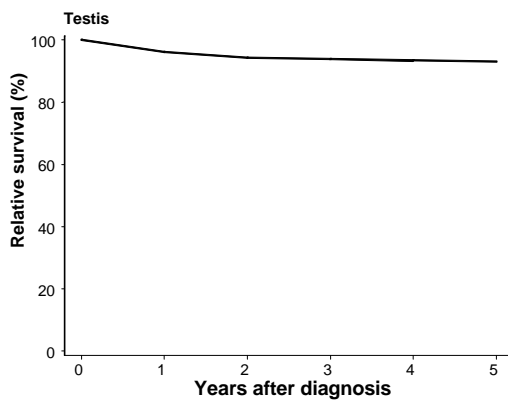
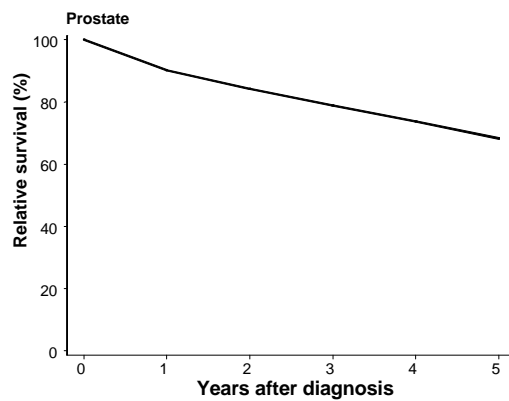
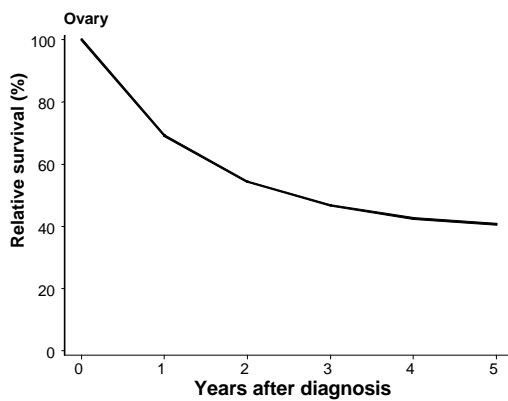
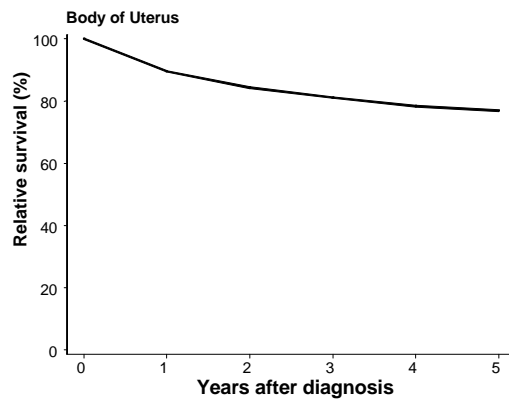
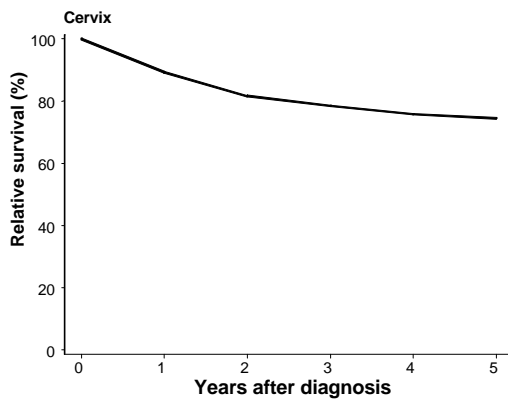
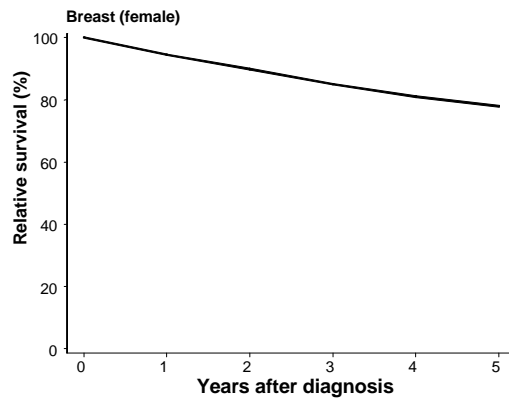
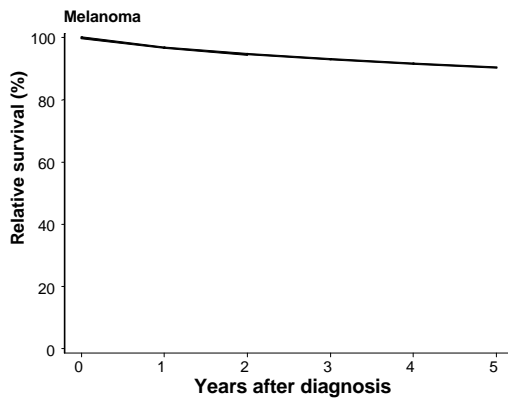
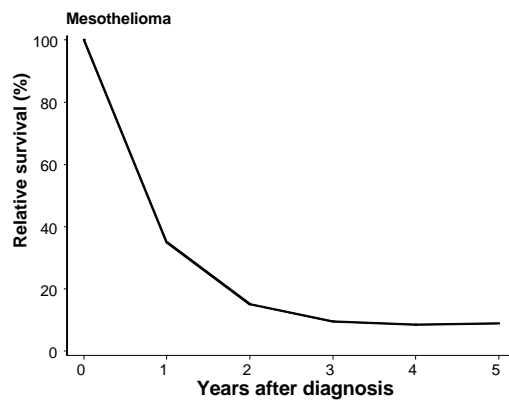
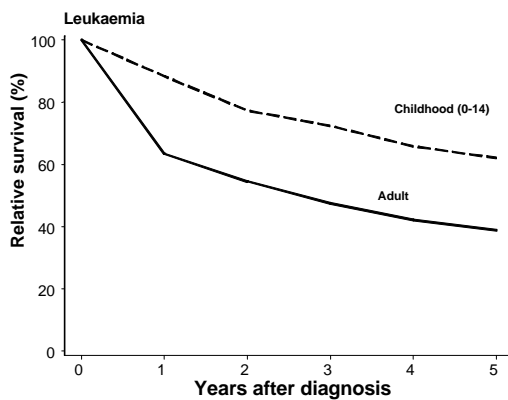
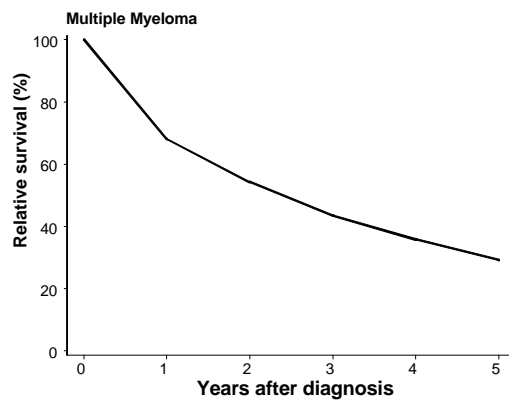
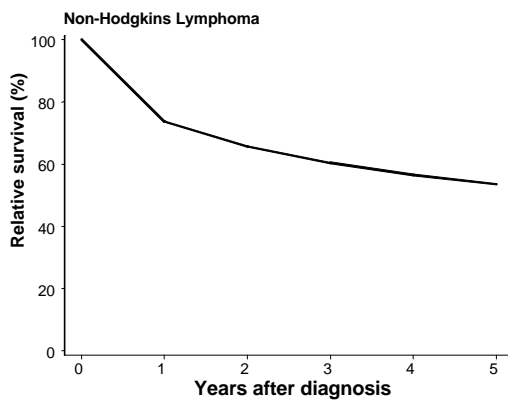
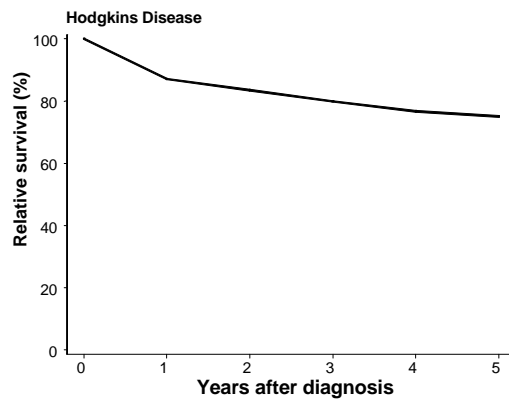
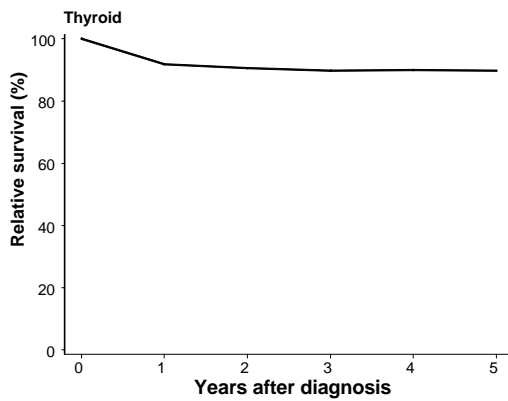
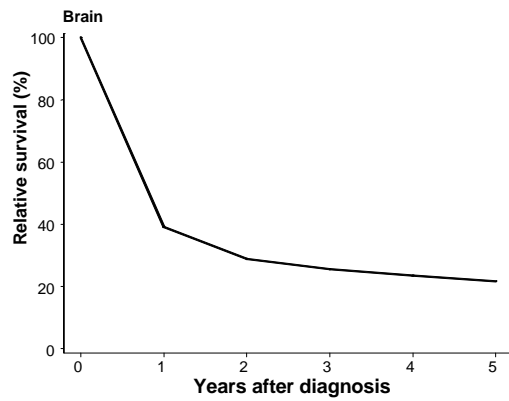
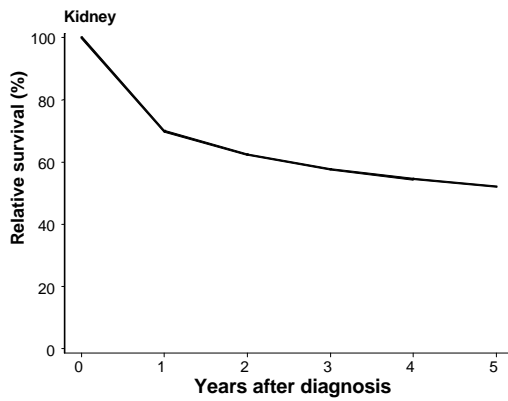


Figure 2: Relative Survival in Queensland (1982 to 1995)
Persons aged 15-89 (unless otherwise stated)



MATERIALS & METHODS

Sources of data

The data used in this report are from the Queensland Cancer Registry, which was established as a population-based registry in 1982. Notifications are received for all persons with cancer admitted to public and private hospitals and nursing homes. Queensland pathology laboratories provide copies of pathology reports for cancer specimens. More details on the Queensland Cancer Registry are given in other registry publications [for example, see Cancer in Queensland, Incidence and Mortality, 1982-1997].

The deaths among people with cancer were identified by matching against records from the Office of the Queensland Registrar of Births, Deaths and Marriages. This identified deaths of people diagnosed with cancer in Queensland, who died in Queensland. People who were diagnosed with cancer in Queensland, but who died in another state or territory, were identified by matching to the National Death Index at the Australian Institute of Health and Welfare. Cancer registries in other states and territories also provided information on interstate deaths.

Time period

We estimated the five-year relative survival of people diagnosed with cancer in Queensland between 1982 to 1995 with follow up to 1997.

Date of diagnosis

The date of diagnosis was defined as the earlier of either the date of first admission to hospital for cancer or the date of diagnosis of invasive disease on a pathology report.

Age at diagnosis

This is the age in completed years at the time of first diagnosis of cancer.

Exclusions

For all cancers studied, except leukaemia, we excluded persons younger than 15 years. For leukaemia, we estimated the survival of both children (younger than 15 years) and adults (15 years or older) because there are important differences in the types of leukaemia diagnosed. People aged 90 years or older were excluded because follow-up to death is problematic in this group. The same strategy was used in a recent New South Wales report. We also excluded people who were reported to the cancer registry by death certificate only (DCO). The percentages of DCO cases for most sites were less than 1%.

Measures of survival

The two main methods of measuring cancer survival are relative survival and cause-specific survival. Both methods attempt to exclude the effect of causes-of-death other than the cancer under study.

Relative survival compares the survival of people, who have a particular cancer, with the contemporaneous survival of the general population, after adjusting for age, sex and year of diagnosis. The method does not require knowledge of the cause-of-death, only knowledge of whether the patient has died. Another characteristic is that it attempts to take into account causes-of-death such as cardiovascular disease and suicide to which the cancer might have contributed.

For cause-specific survival, each underlying cause-of-death is ascertained and only those due to the particular cancer of interest are counted. Deaths due to other causes are deemed to be censored.

Cancer registries have traditionally used relative survival, not cause-specific survival. This report also presents relative survival to allow interstate and overseas comparisons. Cause-specific survival depends on the quality of information on cause of death. Systematic national differences in the coding of causes-of-death make this method unsuited to international comparisons.

Relative survival can also be prone to bias. The example usually cited is that of lung and other smoking-related cancers. Smokers, whether or not they have cancer, have a survival that is different from non-smokers. Therefore, in calculating the relative survival from lung cancer, the effect of the cancer and the effect of smoking both put the patients at an excess risk of death compared with the general population because most patients with lung cancer have also smoked. That is, the relative survival underestimates the lung cancer survival rate by overestimating the effect of the cancer alone because some people with lung cancer will die from the other effects of smoking.

In this report, cause-specific survival was used to calculate point estimates and confidence intervals for the relative risk of dying within five years, adjusted for sex (where applicable), age at diagnosis and period of diagnosis. The calculations were performed using proportional hazards models. Because these calculations only have relevance for the Queensland data, cause-specific survival was considered appropriate.

In short, for this report we calculated relative survival to allow comparisons with other states and internationally. We calculated cause-specific survival to assess whether there were statistically significant differences in survival, based on the Queensland data, for males and females, for different age groups, and for earlier versus more recent time periods.

Software used to calculate survival

For relative survival, we used as our starting point a series of SAS macros developed at the Mayo Clinic [Therneau et al, 1994]. These were updated and improved to make them more user-friendly and to make use of the features in the latest version of SAS [Baade, 2000]. The macros are based on Hakulinen's cohort method [Hakulinen, 1982].

Queensland life tables, which were required to calculate the relative survival, were generated for each calendar year between 1982 and 1997, using standard methods. [Jain, 1994] The calculations were performed by running SAS macros [Baade, 2000] that used unit-record data from the Death Data Set compiled by the Australian Bureau of Statistics.

To calculate the adjusted relative risk of death, we used the proportional hazards procedure in SAS.

Interpretation of interstate or international differences

Although useful, the interpretation of survival differences within or between countries is not straightforward. There are several reasons for this.

First, some differences in survival can often be explained by random variation. That is, they are due to the play of chance and require no further investigation.

Second, the registration of some cancers varies among registries. Bladder cancer is the most striking example of this. Within Australia, the Queensland, Victorian and Tasmanian registries include papillomas with other invasive bladder tumours, while the other states do not. The inclusion of papillomas will tend to increase population-based survival.

Third, survival rates depend on the completeness of the death linkage. This may vary among countries.

Finally, levels of screening will also influence survival rates. Queensland and Australia currently have organised screening programs for breast and cervical cancer, but screening also occurs on an ad-hoc basis for prostate and colorectal cancer. As the proportion of cancers detected at screening increases, calculated patient survival will increase. This may not necessarily be associated with a decrease in mortality from that cancer.

The additional survival associated with the time between a cancer being diagnosed by screening and the time at which the cancer would have been diagnosed in the absence of screening has been called *lead-time*. Screening for breast cancer has been shown to increase survival by more than that due to *lead-time* alone. That is, breast-cancer screening leads to a real decrease in mortality. It is possible, although not certain, that if a coordinated

program for colorectal screening were implemented, survival for that cancer would also increase by more than *lead-time* alone. More work on the feasibility of population screening for colorectal cancer using faecal-occult blood testing is needed.

Whether screening for prostate cancer increases survival more than that due to *lead-time* is an open question and studies are continuing. What can be said with certainty now is that survival differences for prostate cancer among populations are at least partially due to differences in levels of screening. These differences in survival may not be related to differences in mortality.

One of the aims of screening for cervical cancer is to detect precancerous lesions and so Pap smears might not have an obvious effect on survival. Of course, Pap smears also detect invasive cervical cancer at an earlier stage and this would tend to improve survival. However the overall effect of Pap smears on survival from cervical cancer is difficult to predict. Nevertheless, experts believe that screening with Pap smears has contributed significantly to the reductions in mortality from cervical cancer that have occurred in Queensland, Australia, and other parts of the industrialised world.

In short, comparisons of population-based survival are best viewed as a way of summarising large amounts of routinely-collected registry data. They are not an end in themselves. If the differences are genuine, they could be due to delays in diagnosis, delays in starting treatment, or deficiencies in the quality of treatment. Special purpose studies or clinical audits would be needed to disentangle these putative explanations.

Information on survival for all cancers combined is not provided in this report because the results depend on the particular mix of cancer in a population. There are relatively more melanomas diagnosed in Queensland and, in general, survival from melanoma is extremely good. Consequently, in Queensland, survival for all cancers combined is slightly better than in the other states of Australia and in other developed countries because of the higher proportion of melanomas. For the purposes of benchmarking, it was *not* considered useful to compare survival for all cancers combined.

References

- 1 Baade P. *Relative survival analysis in SAS: An update on the Mayo Clinic Macros*. Health Information Centre, Queensland Health, Brisbane, 2000.
- 2 Hakulinen T. Cancer survival corrected for heterogeneity in patient withdrawal. *Biometrics* 1982;38:933-42.
- 3 Jain S. *Trends in mortality by causes of death in Australia, the states and territories during 1971-92 and in statistical divisions and subdivisions during 1991-92*. National Centre for Epidemiology and Population Health & Australian Bureau of Statistics. Cat No 3313.0, Canberra, ABS, 1994
- 4 Therneau T, Sick J, Bergstralh E, Offord J. *Expected survival based on hazard rates*. Technical Report #52. Mayo Foundation, 1994

FLOOR OF MOUTH

Total number of incident cancers: 1,030

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	83.6	[81.1, 86.0]
2	72.5	[69.5, 75.4]
3	65.2	[62.0, 68.4]
4	61.3	[57.9, 64.7]
5	58.4	[54.8, 62.0]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	682	55.0 [50.6, 59.4]
Females	348	65.1 [59.0, 71.2]
Age at diagnosis		
15-44	66	78.8 [68.5, 89.1]
45-54	190	62.6 [55.1, 70.0]
55-64	336	59.9 [54.0, 65.7]
65-74	294	51.1 [44.2, 58.0]
75-89	144	50.2 [37.5, 62.8]
Period of diagnosis		
1982-1986	274	53.6 [46.9, 60.3]
1987-1990	345	60.0 [54.0, 66.0]
1991-1995	411	60.1 [54.0, 66.3]

Comparisons

Queensland [1991-95]	60.1
NSW [1990-95]	55.2
United States, all races [1989-95]	51.3

Publications from other geographic areas did not report survival for the same ICD codes

OESOPHAGUS

Total number of incident cancers: 1,656

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	40.4	[37.9, 42.8]
2	25.4	[23.2, 27.6]
3	20.1	[18.0, 22.2]
4	16.9	[14.9, 19.0]
5	15.2	[13.2, 17.3]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	1096	13.2 [10.8, 15.5]
Females	560	19.4 [15.5, 23.2]
Age at diagnosis		
15-44	45	19.8 [7.2, 32.3]
45-54	162	23.9 [16.9, 30.9]
55-64	404	12.9 [9.4, 16.4]
65-74	583	16.0 [12.5, 19.4]
75-89	462	12.1 [8.0, 16.2]
Period of diagnosis		
1982-1986	349	11.0 [7.3, 14.7]
1987-1990	540	16.4 [12.9, 20.0]
1991-1995	767	16.1 [12.8, 19.3]

Comparisons

Queensland [1991-1995]	16.1
NSW [1990-95]	13.7
South Australia [1986-94]	16.0
United States, whites [1989-95]	13.3
United States, blacks [1989-95]	8.9
Finland [1985-89]	8.0
England [1985-89]	8.5
Germany [1985-1989]	8.0
Poland [1985-89]	4.0

STOMACH

Total number of incident cancers: 3,733

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	43.4	[41.7, 45.0]
2	30.8	[29.3, 32.4]
3	25.9	[24.3, 27.4]
4	23.0	[21.5, 24.6]
5	21.3	[19.8, 22.9]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	2525	21.0 [19.1, 22.9]
Females	1208	22.1 [19.3, 24.9]
Age at diagnosis		
15-44	162	31.8 [24.4, 39.2]
45-54	303	34.7 [29.1, 40.3]
55-64	704	24.3 [20.9, 27.7]
65-74	1215	18.8 [16.3, 21.3]
75-89	1349	15.1 [12.4, 17.8]
Period of diagnosis		
1982-1986	1056	18.0 [15.3, 20.7]
1987-1990	1244	21.5 [18.9, 24.2]
1991-1995	1433	23.7 [20.9, 26.5]

Comparisons

Queensland [1991-1995]	23.7
NSW [1990-95]	24.9
South Australia [1987-1995]	21.3
United States, whites [1989-95]	19.3
United States, blacks [1989-95]	21.6
Sweden [1985-89]	18.0
England [1985-89]	12.0
Germany [1985-89]	26.0
Poland [1985-89]	9.0

COLON & RECTUM

Total number of incident cancers: 20,539

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	75.0	[74.4, 75.7]
2	66.3	[65.6, 67.0]
3	61.0	[60.2, 61.7]
4	57.2	[56.3, 58.0]
5	54.5	[53.7, 55.4]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	11050	53.5 [52.3, 54.7]
Females	9489	55.6 [54.4, 56.9]
Age at diagnosis		
15-44	936	62.7 [59.5, 65.9]
45-54	2404	57.4 [55.3, 59.5]
55-64	4974	56.8 [55.3, 58.3]
65-74	6526	53.4 [52.0, 54.9]
75-89	5699	49.3 [47.3, 51.3]
Period of diagnosis		
1982-1986	4747	50.5 [48.8, 52.2]
1987-1990	7051	54.2 [52.8, 55.6]
1991-1995	8741	56.2 [54.8, 57.7]

Comparisons

Queensland [1991-1995]	56.2
NSW [1990-95] - Colon	61.3
NSW [1990-95] - Rectum	61.3
South Australia [1987-1995] - Colon	56.2
South Australia [1987-1995] - Rectum	56.0
United States, whites [1989-95]	61.8
United States, blacks [1989-95]	51.7
Sweden [1985-89]	53.0
England [1985-89]	41.0
Germany [1985-89]	50.0
Poland [1985-89]	24.0

LIVER

Total number of incident cancers: 711

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	25.1	[21.8, 28.4]
2	17.4	[14.5, 20.3]
3	12.4	[9.8, 15.0]
4	8.9	[6.5, 11.2]
5	7.4	[5.1, 9.6]

By subgroup

	Number of incident cancers	5-year relative survival [%]	
Sex			
Males	510	7.2	[4.5, 9.8]
Females	201	7.7	[3.4, 12.0]
Age at diagnosis			
15-44	64	20.9	[10.1, 31.7]
45-54	87	13.4	[5.8, 20.9]
55-64	158	7.2	[2.6, 11.9]
65-74	251	3.6	[1.0, 6.3]
75-89	151	2.6	[0.0, 6.0]
Period of diagnosis			
1982-1986	134	6.2	[1.7, 10.6]
1987-1990	241	4.9	[1.9, 7.9]
1991-1995	336	10.0	[6.0, 14.1]

Comparisons

Queensland [1991-1995]	10.0
NSW [1990-95]	9.8
South Australia [1986-94]	9.0
United States, whites [1989-95]	6.0
United States, blacks [1989-95]	2.8
Sweden [1985-89]	4.0
England [1985-89]	3.0
Germany [1985-89]	6.0
Poland [1985-89]	2.5

PANCREAS

Total number of incident cancers: 2,659

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	20.3	[18.8, 21.9]
2	9.9	[8.7, 11.1]
3	7.2	[6.1, 8.2]
4	6.1	[5.1, 7.1]
5	5.3	[4.3, 6.3]

By subgroup

	Number of incident cancers	5-year relative survival [%]	
Sex			
Males	1491	4.7	[3.4, 5.9]
Females	1168	6.1	[4.6, 7.7]
Age at diagnosis			
15-44	83	20.6	[11.8, 29.4]
45-54	232	10.4	[6.2, 14.5]
55-64	557	5.3	[3.3, 7.3]
65-74	952	4	[2.6, 5.3]
75-89	835	3	[1.5, 4.5]
Period of diagnosis			
1982-1986	673	3.7	[2.1, 5.3]
1987-1990	892	5.9	[4.2, 7.6]
1991-1995	1094	5.7	[4.1, 7.4]

Comparisons

Queensland [1991-1995]	5.7
NSW [1990-95]	4.5
South Australia [1986-94]	3.7
United States, whites [1989-95]	4.1
United States, blacks [1989-95]	3.6
Sweden [1985-89]	3.0
England [1985-89]	3.0
Germany [1985-89]	2.0
Poland [1985-89]	2.5

LARYNX

Total number of incident cancers: 1,447

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	88.7	[86.8, 90.5]
2	80.9	[78.6, 83.3]
3	75.9	[73.3, 78.5]
4	71.4	[68.5, 74.2]
5	69.0	[65.9, 72.0]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	1303	69.8 [66.6, 73.0]
Females	144	62.1 [52.9, 71.4]
Age at diagnosis		
15-44	50	78.8 [67.1, 90.4]
45-54	208	73.1 [66.6, 79.7]
55-64	531	67.5 [62.9, 72.1]
65-74	464	67.8 [62.1, 73.4]
75-89	194	68.2 [56.5, 79.9]
Period of diagnosis		
1982-1986	369	66.8 [60.8, 72.7]
1987-1990	506	69.5 [64.5, 74.5]
1991-1995	572	69.7 [64.7, 74.7]

Comparisons

Queensland [1991-1995]	69.7
NSW [1990-95]	66.2
South Australia [1986-94]	64.0
United States, whites [1989-95]	66.1
United States, blacks [1989-95]	53.3

Survival rates for Europe were not available

LUNG

Total number of incident cancers: 15,420

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	36.4	[35.7, 37.2]
2	21.5	[20.9, 22.2]
3	16.2	[15.5, 16.8]
4	13.4	[12.8, 14.0]
5	11.8	[11.2, 12.3]

By subgroup

	Number of incident cancers	5-year relative survival [%]	
Sex			
Males	11825	11.1	[10.5, 11.8]
Females	3595	13.7	[12.4, 14.9]
Age at diagnosis			
15-44	399	23.5	[19.2, 27.7]
45-54	1565	16.6	[14.7, 18.5]
55-64	4122	13.4	[12.3, 14.6]
65-74	5948	9.8	[8.9, 10.6]
75-89	3386	7.7	[6.5, 8.9]
Period of diagnosis			
1982-1986	3972	10.9	[9.8, 12.0]
1987-1990	5295	12.0	[11.0, 12.9]
1991-1995	6153	11.9	[10.9, 12.9]

Comparisons

Queensland [1991-1995]	11.9
NSW [1990-95]	10.7
South Australia [1987-1995]	11.8
United States, whites [1989-95]	14.2
United States, blacks [1989-95]	11.3
Sweden [1985-89]	10.0
England [1985-89]	7.0
Germany [1985-89]	11.0
Poland [1985-89]	8.0

MELANOMA

Total number of incident cancers: 18,348

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	96.8	[96.5, 97.1]
2	94.7	[94.2, 95.1]
3	93.1	[92.6, 93.6]
4	91.7	[91.1, 92.2]
5	90.4	[89.7, 91.0]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	9981	87.3 [86.4, 88.3]
Females	8367	93.8 [93.0, 94.6]
Age at diagnosis		
15-44	6226	94.3 [93.7, 95.0]
45-54	3088	91.4 [90.3, 92.6]
55-64	3317	89.5 [88.1, 90.9]
65-74	3427	85.6 [83.7, 87.4]
75-89	2290	83.1 [79.7, 86.6]
Period of diagnosis		
1982-1986	3836	89.1 [87.7, 90.5]
1987-1990	6660	91.6 [90.6, 92.6]
1991-1995	7852	89.2 [88.0, 90.3]

Comparisons

Queensland [1991-1995]	89.2
NSW [1990-95]	92.8
South Australia [1987-95]	91.1
United States, whites [1989-95]	87.9
United States, blacks [1989-95]	67.6
Sweden [1985-89]	87.5
England [1985-89]	76.5
Germany [1985-89]	75.0
Poland [1985-89]	51.5

BREAST (FEMALES)

Total number of incident cancers: 16,415

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	94.5	[94.1, 94.9]
2	89.9	[89.3, 90.4]
3	85.0	[84.4, 85.7]
4	81.0	[80.3, 81.8]
5	77.9	[77.1, 78.7]

By subgroup

	Number of incident cancers	5-year relative survival [%]
--	----------------------------	------------------------------

Age at diagnosis

15-44	2780	75.8 [74.1, 77.5]
45-54	3740	80.7 [79.3, 82.1]
55-64	3489	78.0 [76.4, 79.6]
65-74	3619	80.2 [78.5, 81.9]
75-89	2787	72.0 [69.2, 74.9]

Period of diagnosis

1982-1986	3539	71.3 [69.5, 73.0]
1987-1990	5507	79.6 [78.3, 80.9]
1991-1995	7369	79.7 [78.4, 81.0]

Comparisons

Queensland [1991-1995]	79.7
NSW [1980-95]	83.2
South Australia [1987-1995]	78.8
United States, whites [1989-95]	86.0
United States, blacks [1989-95]	71.0
Sweden [1985-89]	81.0
England [1985-89]	67.0
Germany [1985-89]	72.0
Poland [1985-89]	59.0

CERVIX

Total number of incident cancers: 2,605

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	89.2	[88.0, 90.5]
2	81.6	[80.1, 83.2]
3	78.5	[76.8, 80.2]
4	75.8	[74.0, 77.6]
5	74.5	[72.6, 76.4]

By subgroup

	Number of incident cancers	5-year relative survival [%]
--	----------------------------	------------------------------

Age at diagnosis

15-44	1214	85.1 [83.1, 87.2]
45-54	431	75.1 [70.8, 79.4]
55-64	367	64.7 [59.4, 70.0]
65-74	361	62.9 [57.1, 68.8]
75-89	232	38.7 [30.3, 47.2]

Period of diagnosis

1982-1986	736	72.8 [69.3, 76.3]
1987-1990	898	75.7 [72.6, 78.8]
1991-1995	971	74.1 [70.8, 77.4]

Comparisons

Queensland [1991-1995]	74.1
NSW [1990-95]	74.5
South Australia [1986-94]	74.0
United States, whites [1989-95]	71.4
United States, blacks [1989-95]	58.8
Sweden [1985-89]	68.0
England [1985-89]	64.0
Germany [1985-89]	64.0
Poland [1985-89]	51.0

BODY OF UTERUS

Total number of incident cancers: 2,541

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	89.6	[88.3, 90.9]
2	84.3	[82.7, 85.9]
3	81.1	[79.3, 82.9]
4	78.4	[76.5, 80.3]
5	76.9	[74.9, 79.0]

By subgroup

	Number of incident cancers	5-year relative survival [%]
--	----------------------------	------------------------------

Age at diagnosis

15-44	166	91.7 [87.2, 96.2]
45-54	401	85.4 [81.6, 89.2]
55-64	752	81.4 [78.2, 84.6]
65-74	755	73.2 [69.2, 77.1]
75-89	467	56.9 [50.1, 63.7]

Period of diagnosis

1982-1986	622	75.9 [71.9, 80.0]
1987-1990	838	77.7 [74.2, 81.1]
1991-1995	1081	76.2 [72.7, 79.7]

Comparisons

Queensland [1991-1995]	76.2
NSW [1980-95]	81.8
South Australia [1987-1995]	81.1
United States, whites [1989-95]	85.5
United States, blacks [1989-95]	56.1
Sweden [1985-89]	82.0
England [1985-89]	73.0
Germany [1985-89]	73.0
Poland [1985-89]	66.0

OVARY

Total number of incident cancers: 2,285

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	69.3	[67.3, 71.2]
2	54.4	[52.2, 56.5]
3	46.8	[44.7, 49.0]
4	42.6	[40.4, 44.8]
5	40.7	[38.5, 43.0]

By subgroup

	Number of incident cancers	5-year relative survival [%]
--	----------------------------	------------------------------

Age at diagnosis

15-44	380	68.7 [63.9, 73.5]
45-54	412	49.8 [44.7, 55.0]
55-64	538	35.7 [31.5, 40.0]
65-74	567	28.1 [24.0, 32.2]
75-89	388	21.3 [15.9, 26.7]

Period of diagnosis

1982-1986	560	36.4 [32.1, 40.7]
1987-1990	746	39.7 [35.9, 43.5]
1991-1995	979	43.2 [39.5, 47.0]

Comparisons

Queensland [1991-1995]	43.2
NSW [1990-95]	39.9
South Australia [1986-94]	35.6
United States, whites [1989-95]	49.9
United States, blacks [1989-95]	47.2
Sweden [1985-89]	44.0
England [1985-89]	31.0
Germany [1985-89]	33.0
Poland [1985-89]	24.0

PROSTATE

Total number of incident cancers: 15,490

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	90.1	[89.5, 90.7]
2	84.2	[83.5, 85.0]
3	78.8	[77.9, 79.7]
4	73.7	[72.7, 74.7]
5	68.2	[67.1, 69.4]

By subgroup

	Number of incident cancers	5-year relative survival [%]
--	----------------------------	------------------------------

Age at diagnosis

15-44	21	86.5 [71.1, 101]
45-54	294	65.4 [58.9, 71.8]
55-64	2439	72.3 [70.1, 74.6]
65-74	6491	72.6 [71.0, 74.2]
75-89	6245	59.9 [57.7, 62.1]

Period of diagnosis

1982-1986	2843	61.3 [58.7, 63.9]
1987-1990	4414	65.4 [63.3, 67.4]
1991-1995	8233	71.1 [69.4, 72.9]

Comparisons

Queensland [1991-1995]	71.1
NSW [1990-95]	83.2
South Australia [1987-1995]	70.7
United States, whites [1989-95]	93.1
United States, blacks [1989-95]	83.6
Sweden [1985-89]	65.0
England [1985-89]	45.0
Germany [1985-89]	67.0
Estonia [1985-89]	39.0

TESTIS

Total number of incident cancers: 980

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	96.2	[94.9, 97.5]
2	94.3	[92.8, 95.9]
3	93.8	[92.2, 95.5]
4	93.4	[91.7, 95.2]
5	93.0	[91.1, 94.9]

By subgroup

	Number of incident cancers	5-year relative survival [%]
--	----------------------------	------------------------------

Age at diagnosis

15-44	799	94.9 [93.2, 96.6]
45-54	113	92.1 [86.2, 97.9]
55-64	35	78.4 [62.0, 94.8]
65-74	18	30.7 [4.2, 57.2]
75-89	15	93.7 [52.1, 135]

Period of diagnosis

1982-1986	222	88.3 [83.6, 93.0]
1987-1990	321	94.7 [91.9, 97.6]
1991-1995	437	93.5 [90.5, 96.5]

Comparisons

Queensland [1991-1995]	93.5
NSW [1990-95]	96.4
South Australia [1986-94]	95.2
United States, whites [1989-95]	93.1
United States, blacks [1989-95]	83.6
Sweden [1985-89]	91.0
England [1985-89]	90.0
Poland [1985-89]	79.0

BLADDER

Total number of incident cancers:6,104

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	87.4	[86.5, 88.4]
2	82.2	[81.1, 83.4]
3	78.9	[77.6, 80.2]
4	76.1	[74.6, 77.5]
5	72.5	[70.9, 74.2]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	4624	73.7 [71.8, 75.6]
Females	1480	69.2 [66.1, 72.3]
Age at diagnosis		
15-44	223	91.5 [87.6, 95.5]
45-54	498	84.8 [81.3, 88.3]
55-64	1377	78.5 [75.8, 81.1]
65-74	2160	71.4 [68.7, 74.0]
75-89	1846	59.0 [55.2, 62.8]
Period of diagnosis		
1982-1986	1486	71.3 [68.1, 74.4]
1987-1990	2048	74.5 [71.9, 77.2]
1991-1995	2570	70.5 [67.7, 73.3]

Comparisons

Queensland [1991-1995]	70.5
NSW [1990-95]	67.7
South Australia [1986-94]	58.9

The EurocareII study about cancer survival in European countries did not publish information on bladder cancer because of inconsistencies in registering this cancer. Data from the US are not presented for similar reasons. (see section: Interpretation of Interstate and International Differences)

KIDNEY

Total number of incident cancers: 3,626

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	69.9	[68.4, 71.5]
2	62.4	[60.7, 64.1]
3	57.7	[55.9, 59.5]
4	54.6	[52.7, 56.4]
5	52.1	[50.1, 54.1]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	2164	54.1 [51.4, 56.7]
Females	1462	49.3 [46.3, 52.3]
Age at diagnosis		
15-44	240	70.7 [64.7, 76.7]
45-54	505	64.7 [60.2, 69.2]
55-64	860	56.5 [52.8, 60.2]
65-74	1260	45.5 [42.2, 48.8]
75-89	761	38.0 [33.1, 43.0]
Period of diagnosis		
1982-1986	791	47.1 [43.1, 51.2]
1987-1990	1201	52.2 [48.9, 55.5]
1991-1995	1634	53.8 [50.6, 57.0]

Comparisons

Queensland [1991-1995]	53.8
NSW [1990-95]	59.3
South Australia [1986-94]	49.8
United States, whites [1989-95]	61.1
United States, blacks [1989-95]	57.7
Sweden [1985-89]	48.0
England [1985-89]	39.0
Germany [1985-89]	50.0
Poland [1985-89]	33.0

BRAIN

Total number of incident cancers: 2,092

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	39.2	[37.1, 41.3]
2	28.8	[26.9, 30.8]
3	25.6	[23.7, 27.6]
4	23.5	[21.6, 25.4]
5	21.7	[19.8, 23.7]

By subgroup

	Number of incident cancers	5-year relative survival [%]	
Sex			
Males	1185	21.4	[18.8, 24.0]
Females	907	22.2	[19.3, 25.1]
Age at diagnosis			
15-44	606	47.6	[43.4, 51.7]
45-54	350	17.3	[13.0, 21.7]
55-64	443	7.3	[4.7, 9.9]
65-74	473	7.5	[4.9, 10.1]
75-89	220	5.2	[1.4, 8.9]
Period of diagnosis			
1982-1986	491	19.7	[16.0, 23.5]
1987-1990	745	23.5	[20.3, 26.8]
1991-1995	856	20.6	[17.4, 23.9]

Comparisons

Queensland [1991-1995]	20.6
NSW [1990-95]	17.1
Sweden [1985-89]	19.5
England [1985-89]	16.5
Germany [1985-89]	23.0
Poland [1985-89]	13.0

Survival information is not presented for South Australia or the United States because their reports included data for children, whose survival is much better than for adults.

THYROID

Total number of incident cancers: 1,252

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	91.8	[90.2, 93.4]
2	90.6	[88.8, 92.4]
3	89.7	[87.8, 91.7]
4	90.0	[88.0, 92.1]
5	89.8	[87.6, 92.0]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	329	77.3 [71.5, 83.1]
Females	923	94.0 [91.9, 96.0]
Age at diagnosis		
15-44	605	98.6 [97.4, 99.7]
45-54	216	92.8 [88.7, 96.8]
55-64	182	83.9 [77.5, 90.3]
65-74	146	69.8 [60.5, 79.2]
75-89	103	53.0 [37.9, 68.2]
Period of diagnosis		
1982-1986	248	82.8 [77.2, 88.5]
1987-1990	387	87.6 [83.6, 91.7]
1991-1995	617	94.2 [91.5, 97.0]

Comparisons

Queensland [1991-1995]	94.2
NSW [1990-95]	96.6
South Australia [1986-94]	84.8
United States, whites [1989-95]	95.1
United States, blacks [1989-95]	88.7
Sweden [1985-89]	79.0
England [1985-89]	69.0
Germany [1985-89]	69.5
Poland [1985-89]	65.0

HODGKIN'S DISEASE

Total number of incident cancers: 716

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	87.0	[84.5, 89.6]
2	83.5	[80.6, 86.4]
3	79.8	[76.6, 83.1]
4	76.7	[73.2, 80.2]
5	75.1	[71.4, 78.8]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	418	74.1 [69.1, 79.1]
Females	298	76.3 [70.8, 81.8]
Age at diagnosis		
15-44	428	90.2 [87.2, 93.2]
45-54	56	73.8 [61.3, 86.3]
55-64	65	54.3 [40.8, 67.8]
65-74	96	43.9 [32.1, 55.8]
75-89	71	15.3 [3.2, 27.4]
Period of diagnosis		
1982-1986	177	68.5 [60.9, 76.1]
1987-1990	267	74.7 [68.7, 80.6]
1991-1995	272	79.5 [73.4, 85.6]

Comparisons

Queensland [1991-1995]	79.5
NSW [1990-95]	80.4
South Australia [1986-94]	80.0
United States, whites [1989-95]	82.9
United States, blacks [1989-95]	76.2
Sweden [1985-89]	72.0
England [1985-89]	72.0
Germany [1985-89]	73.0
Poland [1985-89]	66.0

NON-HODGKIN'S LYMPHOMA

Total number of incident cancers: 4,968

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	73.7	[72.4, 75.0]
2	65.6	[64.2, 67.1]
3	60.4	[58.9, 62.0]
4	56.5	[54.9, 58.1]
5	53.6	[51.9, 55.3]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	2709	51.5 [49.2, 53.8]
Females	2259	55.9 [53.5, 58.4]
Age at diagnosis		
15-44	741	68.3 [64.8, 71.8]
45-54	673	64.4 [60.5, 68.4]
55-64	1062	57.5 [54.2, 60.8]
65-74	1339	48.2 [44.9, 51.4]
75-89	1153	32.3 [28.4, 36.1]
Period of diagnosis		
1982-1986	1082	51.0 [47.5, 54.4]
1987-1990	1673	54.5 [51.7, 57.3]
1991-1995	2213	53.6 [50.9, 56.4]

Comparisons

Queensland [1991-1995]	53.6
NSW [1990-95]	51.9
United States, whites [1989-95]	57.3
United States, blacks [1989-95]	47.6
Sweden [1985-89]	49.0
England [1985-89]	45.0
Germany [1985-89]	47.0
Poland [1985-89]	32.0

The South Australian reports did not present information on Non Hodgkin's lymphoma

MULTIPLE MYELOMA

Total number of incident cancers: 1,463

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	68.1	[65.5, 70.6]
2	54.3	[51.5, 57.1]
3	43.5	[40.7, 46.4]
4	35.8	[33.0, 38.6]
5	29.2	[26.4, 32.0]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	834	30.6 [26.8, 34.5]
Females	629	27.4 [23.4, 31.5]
Age at diagnosis		
15-44	52	61.8 [47.8, 75.7]
45-54	157	34.1 [25.9, 42.3]
55-64	294	34.3 [28.4, 40.2]
65-74	482	28.1 [23.5, 32.8]
75-89	478	18.0 [13.2, 22.8]
Period of diagnosis		
1982-1986	375	30.5 [25.1, 35.9]
1987-1990	499	28.5 [24.0, 33.1]
1991-1995	589	28.3 [23.5, 33.2]

Comparisons

Queensland [1991-1995]	28.3
NSW [1990-95]	31.6
South Australia [1986-94]	30.9
United States, whites [1989-95]	28.0
United States, blacks [1989-95]	30.6
Sweden [1985-89]	36.0
England [1985-89]	20.0
Germany [1985-89]	28.0
Estonia [1985-89]	18.0

ADULT LEUKAEMIA

Total number of incident cancers: 3,998

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	63.4	[61.9, 65.0]
2	54.5	[52.9, 56.2]
3	47.5	[45.8, 49.2]
4	42.2	[40.4, 44.0]
5	38.9	[37.1, 40.7]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	2336	38.1 [35.7, 40.6]
Females	1662	39.9 [37.1, 42.7]
Age at diagnosis		
15-44	579	38.7 [34.5, 42.9]
45-54	365	48.4 [42.9, 53.9]
55-64	738	48.8 [44.8, 52.8]
65-74	1140	36.5 [33.2, 39.9]
75-89	1176	28.3 [24.6, 31.9]
Period of diagnosis		
1982-1986	943	38.4 [34.7, 42.0]
1987-1990	1351	39.2 [36.2, 42.3]
1991-1995	1704	37.9 [34.9, 41.0]

Comparisons

Queensland [1991-1995]	37.9
NSW [1990-95]	38.5

Comparable information was not available in the reports for the other areas.

CHILDHOOD LEUKAEMIA

Total number of incident cancers: 445

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	87.9	[84.9, 90.9]
2	76.9	[73.0, 80.8]
3	71.5	[67.3, 75.7]
4	65.0	[60.4, 69.5]
5	61.3	[56.6, 66.0]

By subgroup

	Number of incident cancers	5-year relative survival [%]
Sex		
Males	259	59.5 [53.3, 65.7]
Females	186	63.8 [56.6, 71.0]
Age at diagnosis		
0-4	252	65.9 [59.9, 72.0]
5-9	109	63.2 [53.6, 72.8]
10-14	84	45.4 [34.5, 56.2]
Period of diagnosis		
1982-1986	105	44.8 [35.3, 54.4]
1987-1990	164	69.6 [62.6, 76.7]
1991-1995	176	62.5 [54.2, 70.8]

Comparisons

Queensland [1991-1995]	62.5
NSW [1990-95]	74.5
United States [whites]	78.0
United States [blacks]	64.0

Comparable information was not available from the reports for other areas

MESOTHELIOMA

Total number of incident cancers: 344

Years after diagnosis	Relative survival [%]	95% Confidence interval
1	35.0	[29.8, 40.2]
2	15.0	[11.1, 19.0]
3	9.5	[6.2, 12.9]
4	8.5	[5.3, 11.8]
5	8.9	[5.5, 12.3]

By subgroup

	Number of incident cancers	5-year relative survival [%]	
Sex			
Males	310	7.2	[3.9, 10.5]
Females	34	23	[7.8, 38.1]
Age at diagnosis			
15-44	13	23.2	[0.2, 46.3]
45-54	29	17.8	[3.6, 32.0]
55-64	99	7.1	[1.7, 12.5]
65-74	117	9.9	[3.8, 16.1]
75-89	86	1.9	[0.0, 5.6]
Period of diagnosis			
1982-1986	65	7.4	[0.4, 14.4]
1987-1990	125	8.9	[3.3, 14.4]
1991-1995	154	9.7	[4.4, 15.0]

Comparisons

Queensland [1991-1995]	9.7
NSW [1990-95]	6.2

Besides NSW, the other registries did not report on survival from mesothelioma

APPENDIX 1: SITE CODES

Site codes used in this report

ICD-9 code	Cancer
143-5	Floor of mouth
150	Oesophagus
151	Stomach
153-4	Colon & rectum
155	Liver
157	Pancreas
161	Larynx
162	Lung
172	Melanoma of skin
174	Breast (female)
180	Cervix
182	Body of uterus
183	Ovary
185	Prostate
186	Testis
188	Bladder
189	Kidney
191	Brain
193	Thyroid
200, 202	Non Hodgkin's lymphoma
201	Hodgkin's disease
203	Multiple myeloma
204-208	Leukaemia

Mesotheliomas were identified by the morphology codes M9050/3, M9051/3, M9052/3, M9053/3.

APPENDIX 2: SOURCES OF INFORMATION FOR INTERSTATE AND OVERSEAS COMPARISONS

New South Wales

Supramaniam R, Smith DP, Coates MS, Armstrong BK. Survival from Cancer in New South Wales in 1980 to 1995. Sydney, NSW Cancer Council, 1998.

South Australia

South Australian Cancer Registry. Epidemiology of Cancer in South Australia, Incidence, Mortality and Survival 1977 to 1995. Adelaide, South Australian Health Commission. 1996.

South Australian Cancer Registry. Epidemiology of Cancer in South Australia, Incidence, Mortality and Survival 1977 to 1996. Adelaide, South Australian Health Commission. 1997.

United States

Ries LAG, Kosary CL, Hankey BF, Miller BA, Clegg L, Edwards BK (eds). SEER Cancer Statistics Review, 1973-1996, National Cancer Institute. Bethesda, 1999.

Ries LAG, Smith MA, Gurney JG, Linet M, Tamra T, Young JL, Bunin GR (eds). Cancer Incidence and Survival among Children and Adolescents: United States SEER Program 1975-1995, National Cancer Institute. Bethesda, 1999.

Europe

Berrino F, Sant M, Verdecchia A, Capocaccia R, Hakulinen T, Esteve J. Survival of cancer patients in Europe: during 1985-1989. EURO CARE II. IARC Scientific Publications No. 151. Lyon, International Agency for Research on Cancer, 1999.

**APPENDIX 3:
RELATIVE RISK OF DYING WITHIN FIVE YEARS OF DIAGNOSIS ^{1,2}**

Cancer	Relative risk (Males: Females)	
	Estimate	95% CI
Floor of Mouth	1.78	[1.23-2.58]
Oesophagus	1.25	[1.11-1.41]
Stomach	1.04	[0.96-1.13]
Colon & Rectum	1.09	[1.04-1.13]
Liver	1.17	[0.97-1.40]
Pancreas	1.07	[0.98-1.16]
Larynx	0.77	[0.56-1.04]
Lung	1.13	[1.08-1.18]
Melanoma	1.86	[1.69-2.05]
Breast (Females)		Not applicable
Cervix		Not applicable
Body of Uterus		Not applicable
Ovary		Not applicable
Prostate		Not applicable
Testis		Not applicable
Bladder	0.85	[0.76-0.95]
Kidney	0.90	[0.81-0.99]
Brain	1.05	[0.95-1.15]
Thyroid	2.47	[1.73-3.53]
Hodgkin's Disease	1.05	[0.75-1.46]
Non-Hodgkin's Lymphoma	1.19	[1.09-1.30]
Mesothelioma	1.58	[1.05-2.38]
Multiple Myeloma	0.98	[0.87-1.12]
Adult Leukaemia	1.06	[0.98-1.15]
Childhood Leukaemia	1.15	[0.85-1.56]

1. Adjusted for age at diagnosis and period of diagnosis
2. Cause-specific survival

APPENDIX 3: (continued)
RELATIVE RISK OF DYING WITHIN FIVE YEARS OF DIAGNOSIS ^{1,2}

Cancer	15-44: 75-89 years		45-54: 75-89 years		55-64: 75-89 years		65-74: 75-89 years	
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
Floor of Mouth	0.39	[0.16-0.94]	0.50	[0.27-0.93]	0.72	[0.42-1.23]	1.05	[0.62-1.77]
Oesophagus	0.61	[0.43-0.86]	0.58	[0.47-0.71]	0.75	[0.64-0.87]	0.76	[0.66-0.87]
Stomach	0.55	[0.45-0.67]	0.54	[0.46-0.63]	0.69	[0.62-0.76]	0.84	[0.76-0.91]
Colon & Rectum	0.54	[0.48-0.60]	0.63	[0.58-0.67]	0.66	[0.62-0.70]	0.73	[0.69-0.77]
Liver	0.43	[0.31-0.61]	0.54	[0.40-0.72]	0.72	[0.56-0.92]	0.78	[0.62-0.98]
Pancreas	0.52	[0.40-0.66]	0.64	[0.55-0.75]	0.78	[0.70-0.88]	0.85	[0.77-0.94]
Larynx	0.51	[0.27-0.95]	0.53	[0.36-0.78]	0.79	[0.59-1.07]	0.77	[0.57-1.05]
Lung	0.55	[0.49-0.62]	0.66	[0.62-0.71]	0.73	[0.69-0.76]	0.82	[0.79-0.86]
Melanoma	0.33	[0.29-0.38]	0.46	[0.40-0.54]	0.57	[0.50-0.66]	0.71	[0.61-0.81]
Breast (Females)	0.75	[0.68-0.82]	0.62	[0.57-0.68]	0.71	[0.64-0.77]	0.70	[0.63-0.76]
Cervix	0.18	[0.14-0.23]	0.33	[0.25-0.44]	0.47	[0.36-0.60]	0.60	[0.47-0.77]
Body of Uterus	0.16	[0.09-0.27]	0.26	[0.18-0.35]	0.36	[0.29-0.46]	0.54	[0.43-0.67]
Ovary	0.21	[0.17-0.26]	0.36	[0.30-0.43]	0.53	[0.45-0.62]	0.69	[0.60-0.81]
Prostate	0.24	[0.08-0.74]	0.74	[0.60-0.91]	0.61	[0.56-0.67]	0.66	[0.62-0.70]
Testis	0.14	[0.06-0.36]	0.24	[0.08-0.70]	0.54	[0.16-1.79]	1.55	[0.49-4.93]
Bladder	0.16	[0.10-0.25]	0.27	[0.21-0.34]	0.40	[0.35-0.47]	0.58	[0.51-0.65]
Kidney	0.34	[0.27-0.44]	0.47	[0.39-0.56]	0.55	[0.48-0.64]	0.74	[0.65-0.84]
Brain	0.17	[0.14-0.20]	0.35	[0.29-0.42]	0.59	[0.50-0.70]	0.72	[0.61-0.86]
Thyroid	0.02	[0.01-0.04]	0.09	[0.05-0.17]	0.14	[0.08-0.24]	0.44	[0.28-0.68]
Hodgkin's Disease	0.07	[0.04-0.11]	0.13	[0.07-0.26]	0.30	[0.17-0.51]	0.43	[0.27-0.68]
Non-Hodgkin's Lymphoma	0.30	[0.26-0.35]	0.34	[0.29-0.40]	0.43	[0.38-0.49]	0.59	[0.52-0.66]
Mesothelioma	0.38	[0.19-0.76]	0.28	[0.17-0.46]	0.51	[0.37-0.70]	0.55	[0.40-0.74]
Multiple Myeloma	0.33	[0.22-0.48]	0.58	[0.46-0.73]	0.59	[0.49-0.71]	0.71	[0.61-0.83]
Adult Leukaemia	0.64	[0.56-0.73]	0.49	[0.42-0.58]	0.53	[0.46-0.60]	0.67	[0.60-0.74]
Cancer	0-4: 10-14 years		5-9: 10-14 years					
	Estimate	95% CI	Estimate	95% CI				
Childhood Leukaemia	0.57	[0.40-0.82]	0.58	[0.38-0.89]				

1. Adjusted for sex (where appropriate) and period of diagnosis

2. Cause-specific survival

APPENDIX 3: (continued)
RELATIVE RISK OF DYING WITHIN FIVE YEARS OF DIAGNOSIS^{1,2}

Cancer	1987-1990 : 1982-1986		1991-1995: 1982:1986	
	Estimate	95% CI	Estimate	95% CI
Floor of Mouth	0.95	[0.64-1.39]	0.96	[0.65-1.43]
Oesophagus	0.81	[0.70-0.94]	0.73	[0.64-0.84]
Stomach	0.92	[0.84-1.01]	0.83	[0.76-0.91]
Colon & Rectum	0.92	[0.87-0.96]	0.81	[0.77-0.86]
Liver	0.94	[0.74-1.19]	0.88	[0.70-1.10]
Pancreas	0.91	[0.82-1.01]	0.88	[0.79-0.97]
Larynx	0.85	[0.67-1.08]	0.75	[0.58-0.97]
Lung	0.96	[0.92-1.00]	0.90	[0.86-0.94]
Melanoma	0.81	[0.72-0.90]	0.83	[0.74-0.94]
Breast (Females)	0.77	[0.72-0.83]	0.75	[0.69-0.81]
Cervix	0.92	[0.76-1.11]	0.87	[0.72-1.06]
Body of Uterus	0.88	[0.70-1.10]	0.89	[0.72-1.11]
Ovary	0.91	[0.80-1.05]	0.75	[0.66-0.86]
Prostate	0.92	[0.85-0.99]	0.69	[0.64-0.75]
Testis	0.51	[0.29-0.89]	0.39	[0.22-0.70]
Bladder	0.92	[0.81-1.04]	0.92	[0.81-1.05]
Kidney	0.87	[0.76-0.99]	0.75	[0.66-0.85]
Brain	0.98	[0.87-1.12]	1.02	[0.90-1.16]
Thyroid	1.20	[0.77-1.87]	0.53	[0.33-0.85]
Hodgkin's Disease	0.67	[0.47-0.96]	0.31	[0.19-0.49]
Non-Hodgkin's Lymphoma	0.94	[0.85-1.05]	0.60	[0.53-0.67]
Mesothelioma	0.97	[0.70-1.34]	0.87	[0.63-1.19]
Multiple Myeloma	1.05	[0.89-1.23]	1.07	[0.90-1.26]
Adult Leukaemia	1.07	[0.96-1.19]	1.05	[0.95-1.18]
Childhood Leukaemia	0.52	[0.36-0.75]	0.65	[0.45-0.95]

1. Adjusted for age at diagnosis and sex (where applicable)
2. Cause-specific survival