CANCER SURVIVAL IN QUEENSLAND, 2002

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ISBN: 0-734529-71-6

Suggested citation:
Youlden D, Baade P, Coory M. *Cancer Survival in Queensland, 2002*. Brisbane, Queensland Health and Queensland Cancer Fund. 2005.

ACKNOWLEDGEMENTS

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, as this publication would not have been possible without their support and effort.

Thanks also to Dr Paul Dickman from the Department of Medical Epidemiology, Karolinska Institute, Stockholm, Sweden, for his willingness to provide technical support and make freely available the suite of SAS® programs that he developed to calculate relative survival estimates and excess mortality.

RELATED PUBLICATIONS

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

Queensland Cancer Registry. *Cancer in Queensland: Incidence and Mortality 1982-2002.* Brisbane, Queensland Cancer Registry, Queensland Cancer Fund and Queensland Health. 2004.

Hall L, Youlden D, Coory M. *Mortality and incidence trends for leading cancers in Queensland, 1982 to 2002.* Information Circular 68. Health Information Branch, Queensland Health. 2005.

Health Information Branch, Queensland Health. *Health Status Indicators for Queensland – Cancer Incidence and Mortality Data*. www.health.qld.gov.au/hic/QHID/can/introduction.asp

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INTRODUCTION

This report describes the survival of people with cancer in Queensland, and provides an update on similar information that was published in 2000. The work was performed jointly by Queensland Health and the Queensland Cancer Fund (QCF).

The aims of the report are to:

- provide an up-to-date estimate of survival for the most common cancers in Queensland;
- compare survival in Queensland with survival for all of Australia and internationally;
- investigate how survival varies by sex and age; and,
- examine trends in survival over time.

Cancer is one of the seven National Health Priority Areas (NHPAs) for Australia. Currently, about one out of every three people in Queensland will be diagnosed with cancer before the age of 75, and over 6,600 Queenslanders died from cancer in 2002.

The report is based on data from the Queensland Cancer Registry (QCR). A population-based cancer registry, such as the QCR, allows cancer survival to be measured in a geographically-defined population (eg. Queensland).

The report includes people diagnosed with cancer in the period from 1 January 1982 to 31 December 2000, with mortality followed-up to 31 December 2002. Results are presented for all cancers combined, as well as for the 24 most common types of cancer.

All results for Queensland shown in this report are for relative survival based on the cohort method. Relative survival analysis compares the survival of persons diagnosed with cancer against the survival of persons of the same age, sex and time period from the general population. This is the most commonly used approach for calculating cancer survival using data from a population-based cancer registry, and allows for reasonably consistent comparisons with data published nationally and internationally.

Five-year relative survival is the measure used for comparative purposes throughout this publication. It is considered that reporting five-year relative survival gives both an indication of the effectiveness of treatment immediately following the detection of the cancer in addition to being an indicator of the longer-term remission or cure for most forms of the disease.

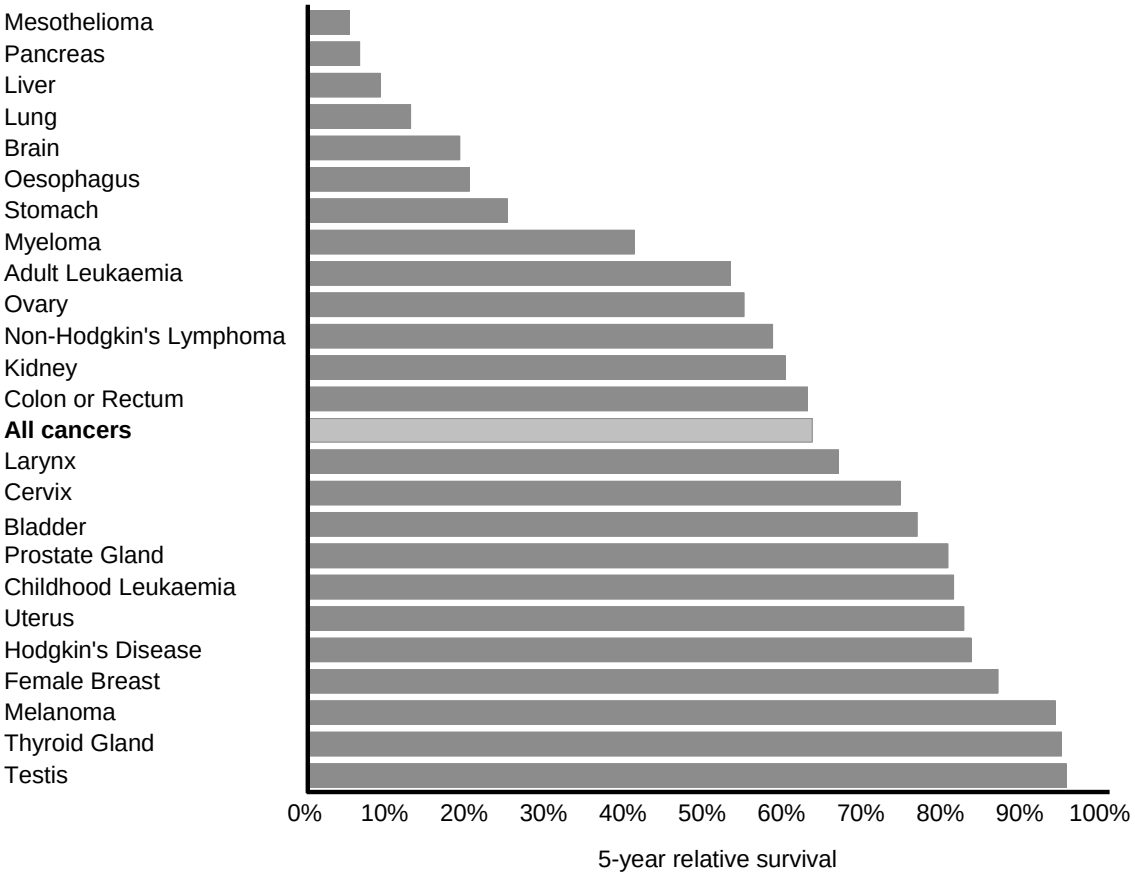
For further details on the data and methods used in this report, see Appendix 1 on page 55.

SUMMARY OF FINDINGS

Type of cancer

As shown in Figure 1 below, the five-year relative survival for all cancers diagnosed in Queensland between 1996 and 2000 was 63.5%.

Figure 1: Five-year relative survival by type of cancer, Queensland, 1996-2000



Five-year survival was highest (greater than 90%) for cancer of the testis, cancer of the thyroid gland and melanoma. Other types of cancer for which the five-year survival was relatively high (70% to 89%) included female breast, Hodgkin's disease, uterus, childhood leukaemia, prostate gland, bladder and cervix.

Cancers for which the five-year survival was between 50% to 69% were larynx, colon or rectum, kidney, non-Hodgkin's lymphoma, ovary and adult leukaemia. Myeloma was the only type of cancer included in the study that had five-year survival in the range of 30% to 49%

Cancers for which the five-year survival was relatively low (10% to 29%) included stomach, oesophagus, brain and lung. Five-year relative survival was lowest (less than 10%) for the following cancers: liver, pancreas and mesothelioma.

Comparisons by sex, age and time period

Differences in cancer survival by sex, age and time period are expressed in terms of excess mortality (or relative risk of death) within 5 years of diagnosis. Generalised linear models (Poisson) based on exact survival times were used to calculate the comparisons. The reference groups (i.e. where excess mortality = 1.00) were females, the youngest age group (usually 15-39 year olds) and persons diagnosed during 1996-2000 respectively.

For age group and sex, only those cancers diagnosed between 1996 and 2000 are included. For time period differences, cancers diagnosed between 1982 and 2000 are considered. Differences are adjusted for age group and sex, where applicable. See Appendix 1 on page 55 for further details of the methods used.

Comparisons by sex

Males were about one and a quarter times more likely to die within five years of diagnosis compared to females for all cancers combined, and had significantly poorer survival than females for the following types of cancer: oesophagus, stomach, lung, melanoma, mesothelioma, thyroid, and non-Hodgkin's lymphoma.

The only type of cancer for which females had significantly poorer survival than males was cancer of the bladder.

Survival for males and females was about the same for the following cancers: colon or rectum, liver, pancreas, larynx, kidney, brain, Hodgkin's disease, adult leukaemia, childhood leukaemia and myeloma.

Comparisons by age

For most types of cancer there was a significant decrease in the relative survival as age at diagnosis increased. For all cancers combined, persons aged 70-79 years were more than four and a half times more likely to die within five years of diagnosis compared to the 15-39 age group, while the excess mortality was over six times higher for persons aged 80-89 years.

The differences in excess mortality by age group were smallest for cancers of the oesophagus, stomach, colon or rectum, larynx and mesothelioma. On the other hand, excess mortality was greatest in the older age groups for the following types of cancer: cervix, ovary, testis, bladder, brain, thyroid, and Hodgkin's disease.

Comparisons by time period

Survival from cancer has generally increased over the last 20 years. Most of the cancers included in this report have shown a steady improvement in five-year relative survival over the time periods that were analysed. For all cancers combined, persons diagnosed in the period 1982-1985 were 55% more likely to die within five years of diagnosis compared to persons diagnosed between 1996-2000.

The greatest improvements in survival over time were found for the following cancers: melanoma, female breast, prostate gland, testis, thyroid gland and childhood leukaemia. For each of these cancers, the relative risk of dying within five years of diagnosis in 1982-1985 was more than 100% higher compared to those people diagnosed between 1996-2000.

Cancers for which the excess mortality was between 50% and 100% higher in 1982-1985 than in 1996-2000 included oesophagus, colon or rectum, liver, uterus, ovary, kidney, Hodgkin's disease and adult leukaemia. The excess mortality was less than 50% higher (but still statistically significant) in 1982-1985 compared to 1996-2000 for the following cancers: stomach, pancreas, lung, bladder, non-Hodgkin's lymphoma and myeloma.

There were four types of cancer (larynx, mesothelioma, cervix, and brain) for which there was no statistically significant change in survival over the time periods included in this report. None of the cancers in the study had a statistically significant decrease in survival between 1982-1985 and 1996-2000.

Similar gains in relative survival over time have also been reported at the national level by the Australian Institute of Health and Welfare (see reference in Appendix 3, page 61). Improvements in survival for the various cancers could be due to earlier diagnosis brought about by effective detection programs and/or advances in cancer treatment and management programs.

National and international comparisons

This report contains comparisons of population-based survival for Queensland, Australia, the United States and selected countries in Europe (England, Italy, the Netherlands and Sweden). Appendix 3 on page 61 contains references to the data sources used.

Note that any comparisons across different populations must be interpreted with due caution for a number of reasons. These include different methodologies used to calculate survival, varying definitions of particular types of cancers used by the registries, and differences in the age groups and time periods for

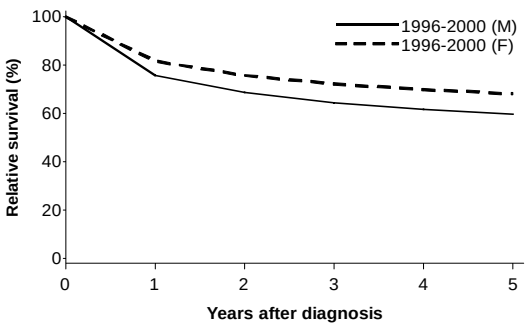
which survival estimates are available. For further information, see the section titled “Interpretation of national or international differences” in Appendix 1 (page 55) of this report.

Broadly speaking, five-year relative survival by type of cancer in Queensland was similar to the estimates reported for Australia and the United States, and generally higher than the European countries, particularly England. For example, five-year relative survival for cancer of the colon or rectum was 62.9% in Queensland, comparable to that in Australia (58.4%) and the United States (63.4%), but higher than Netherlands (54.1%), Sweden (53.9%), Italy (51.6%) and England (45.9%). Likewise, five-year relative survival for breast cancer in Queensland (86.9%) was similar to the United States (87.7%), Australia (84.0%) and Sweden (83.2%), and higher than Italy (81.2%), Netherlands (78.8%) and England (74.8%).

All cancers (ICD0-2: C00-C80)

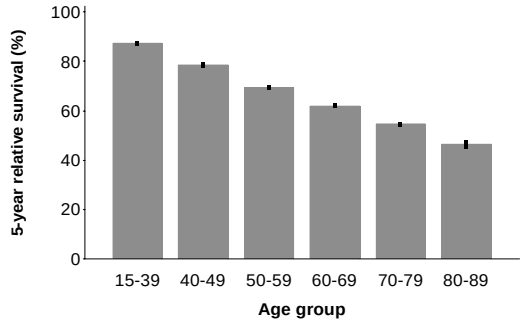
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	75.7 (75.3, 76.2)	81.6 (81.2, 82.0)
2	68.6 (68.2, 69.1)	75.7 (75.2, 76.1)
3	64.4 (63.9, 65.0)	72.1 (71.6, 72.7)
4	61.7 (61.2, 62.3)	69.9 (69.3, 70.4)
5	59.7 (59.1, 60.3)	68.1 (67.4, 68.7)



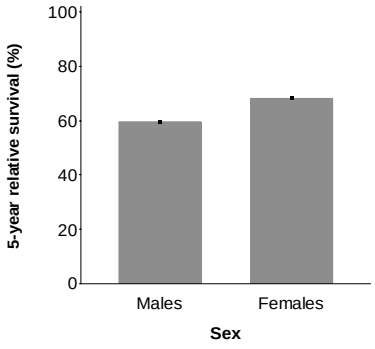
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-39	5832	87.3 (86.3, 88.2)	1.00
40-49	7605	78.6 (77.6, 79.6)	1.84 (1.67, 2.02)
50-59	13107	69.4 (68.5, 70.3)	2.71 (2.49, 2.95)
60-69	18131	62.0 (61.1, 62.8)	3.57 (3.29, 3.87)
70-79	20756	54.7 (53.8, 55.6)	4.57 (4.21, 4.95)
80-89	9594	46.4 (44.6, 48.2)	6.33 (5.81, 6.89)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	41397	59.7 (59.1, 60.3)	1.24 (1.20, 1.27)
Females	33628	68.1 (67.4, 68.7)	1.00



Comparisons of 5-Year Relative Survival

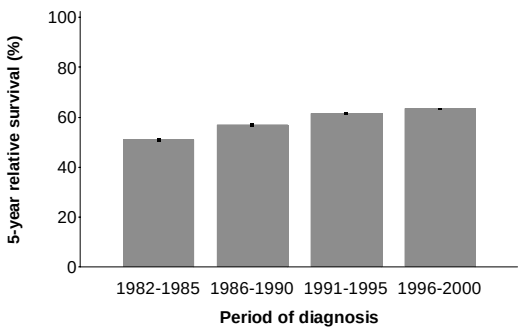
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	63.5
Australia	1992-1997	59.9
United States	1995-2000	64.1
England	1990-1994	42.7
Italy	1990-1994	47.3
Netherlands	1990-1994	50.0
Sweden	1990-1994	54.3

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

All cancers (ICD0-2: C00-C80) (continued)

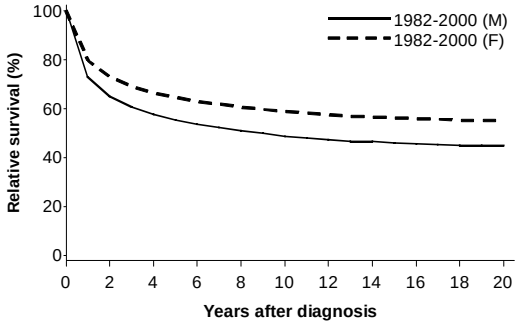
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	32477	50.9 (50.3, 51.6)	1.55 (1.51, 1.58)
1986-1990	47616	56.9 (56.4, 57.4)	1.29 (1.26, 1.31)
1991-1995	62642	61.6 (61.2, 62.1)	1.07 (1.05, 1.09)
1996-2000	75025	63.5 (63.0, 63.9)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	48.7 (48.3, 49.2)	58.9 (58.5, 59.4)
15	46.1 (45.5, 46.7)	56.2 (55.7, 56.8)
20	45.1 (43.9, 46.2)	55.1 (54.1, 56.1)

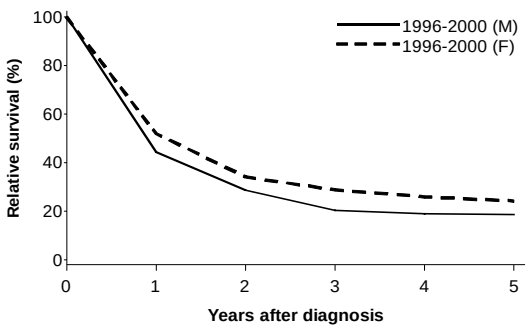


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Oesophagus (ICD0-2: C15)

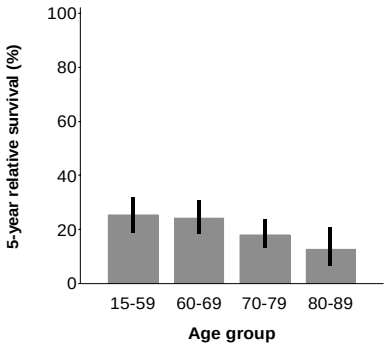
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	44.2 (40.2, 48.2)	52.0 (45.6, 58.0)
2	28.7 (25.1, 32.4)	34.1 (28.2, 40.0)
3	20.4 (17.1, 23.9)	28.8 (23.2, 34.6)
4	19.0 (15.7, 22.6)	25.8 (20.3, 31.8)
5	18.7 (15.3, 22.5)	24.2 (18.5, 30.4)



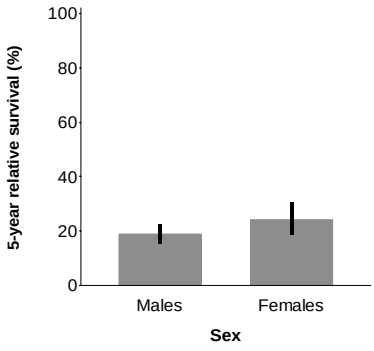
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-59	191	25.2 (18.8, 32.1)	1.00
60-69	245	24.2 (18.3, 30.6)	1.07 (0.85, 1.34)
70-79	291	18.1 (13.2, 23.7)	1.28 (1.03, 1.60)
80-89	164	12.8 (6.9, 21.1)	1.75 (1.36, 2.24)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	618	18.7 (15.3, 22.5)	1.30 (1.10, 1.55)
Females	273	24.2 (18.5, 30.4)	1.00



Comparisons of 5-Year Relative Survival

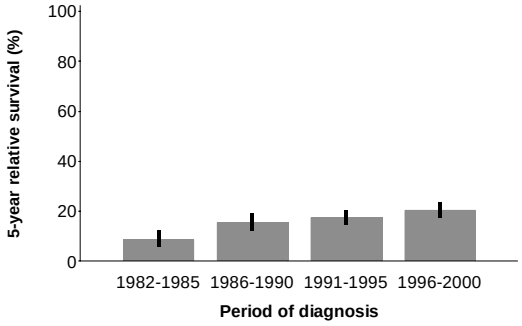
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	20.3
Australia	1992-1997	n.a.
United States	1995-2000	14.3
England	1990-1994	9.5
Italy	1990-1994	8.5
Netherlands	1990-1994	9.3
Sweden	1990-1994	9.3

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Oesophagus (ICD0-2: C15) (continued)

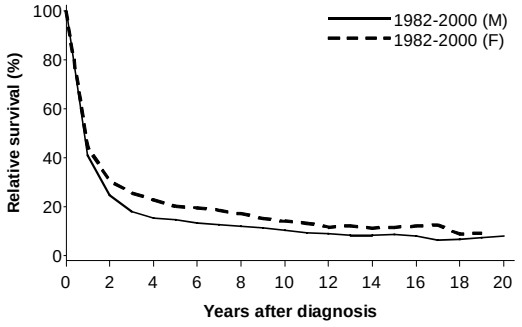
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	337	8.6 (5.8, 12.1)	1.59 (1.38, 1.83)
1986-1990	521	15.4 (12.2, 18.9)	1.21 (1.07, 1.37)
1991-1995	740	17.3 (14.5, 20.4)	1.10 (0.98, 1.23)
1996-2000	891	20.3 (17.3, 23.5)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	10.4 (8.3, 12.7)	14.0 (10.7, 17.7)
15	8.6 (5.9, 12.0)	11.6 (7.9, 16.3)
20	8.1 (3.6, 15.4)	n.a.



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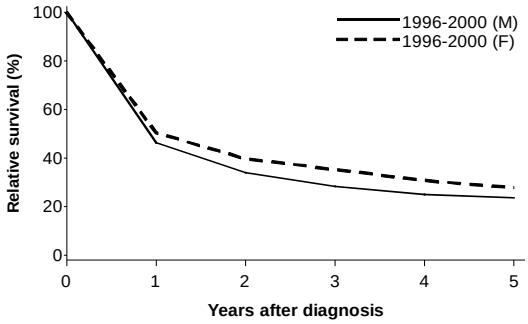
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Stomach (ICD0-2: C16)

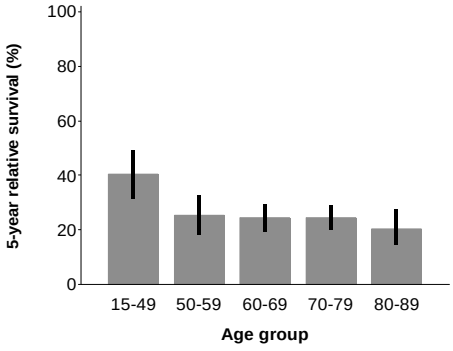
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	46.2 (43.2, 49.2)	50.4 (46.0, 54.6)
2	34.0 (31.1, 36.9)	39.7 (35.4, 43.9)
3	28.4 (25.5, 31.3)	35.3 (31.0, 39.6)
4	25.1 (22.2, 28.2)	30.7 (26.3, 35.2)
5	23.8 (20.6, 27.1)	27.9 (23.4, 32.6)



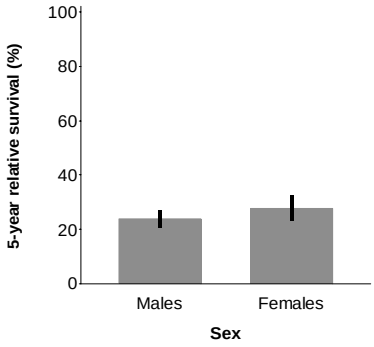
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-49	132	40.5 (31.4, 49.4)	1.00
50-59	201	25.3 (18.4, 32.7)	1.23 (0.93, 1.63)
60-69	380	24.4 (19.5, 29.6)	1.36 (1.05, 1.76)
70-79	505	24.4 (20.0, 29.1)	1.54 (1.20, 1.98)
80-89	332	20.3 (14.4, 27.4)	1.98 (1.52, 2.58)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	1035	23.8 (20.6, 27.1)	1.16 (1.01, 1.33)
Females	515	27.9 (23.4, 32.6)	1.00



Comparisons of 5-Year Relative Survival

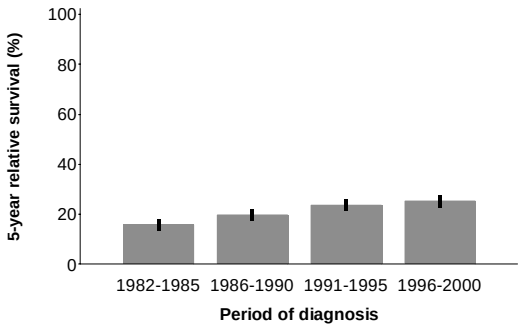
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	25.1
Australia	1992-1997	23.4
United States	1995-2000	23.3
England	1990-1994	13.8
Italy	1990-1994	27.0
Netherlands	1990-1994	20.9
Sweden	1990-1994	18.8

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Stomach (ICD0-2: C16) (continued)

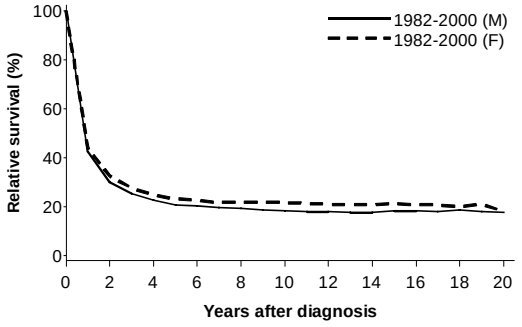
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	1032	15.8 (13.5, 18.2)	1.34 (1.22, 1.47)
1986-1990	1228	19.7 (17.4, 22.1)	1.22 (1.11, 1.33)
1991-1995	1398	23.6 (21.2, 26.0)	1.07 (0.98, 1.17)
1996-2000	1550	25.1 (22.5, 27.8)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	18.3 (16.5, 20.2)	21.6 (19.1, 24.2)
15	18.3 (16.0, 20.8)	21.2 (18.1, 24.6)
20	17.5 (13.1, 22.8)	18.1 (12.9, 24.3)

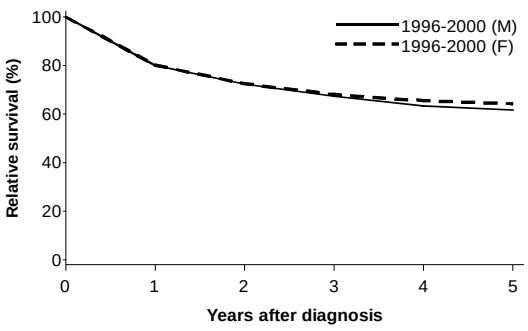


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Colon or Rectum (ICD0-2: C18-C20, C218)

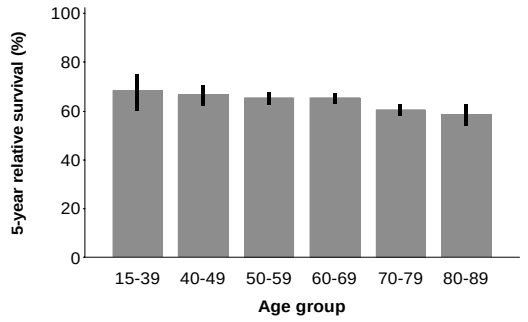
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	79.9 (78.8, 81.0)	80.2 (78.9, 81.4)
2	72.5 (71.2, 73.7)	72.5 (71.1, 73.9)
3	67.3 (65.8, 68.7)	68.0 (66.4, 69.5)
4	63.3 (61.7, 64.9)	65.5 (63.8, 67.1)
5	61.8 (60.1, 63.5)	64.2 (62.4, 66.0)



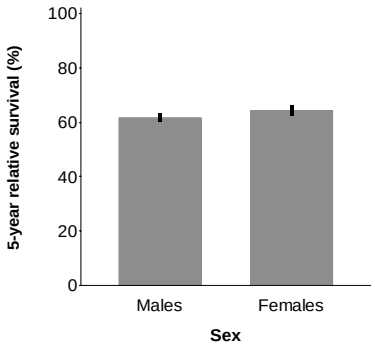
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-39	195	68.5 (60.3, 75.3)	1.00
40-49	631	66.7 (62.5, 70.6)	1.08 (0.80, 1.47)
50-59	1695	65.3 (62.6, 67.8)	1.11 (0.84, 1.47)
60-69	2804	65.4 (63.2, 67.5)	1.17 (0.89, 1.55)
70-79	3252	60.4 (58.0, 62.7)	1.42 (1.08, 1.87)
80-89	1543	58.4 (53.9, 62.9)	1.87 (1.41, 2.49)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	5614	61.8 (60.1, 63.5)	1.07 (1.00, 1.16)
Females	4506	64.2 (62.4, 66.0)	1.00



Comparisons of 5-Year Relative Survival

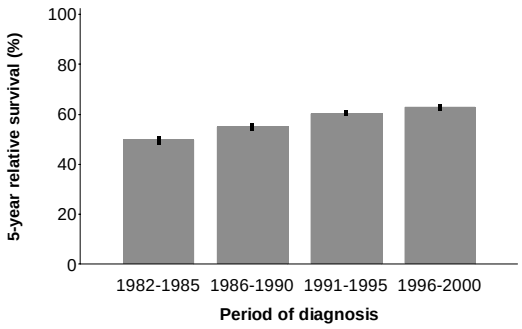
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	62.9
Australia (colon/rectum)	1992-1997	58.5/58.3
United States	1995-2000	63.4
England	1990-1994	45.9
Italy	1990-1994	51.6
Netherlands	1990-1994	54.1
Sweden	1990-1994	53.9

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Colon or Rectum (ICD0-2: C18-C20, C218) (continued)

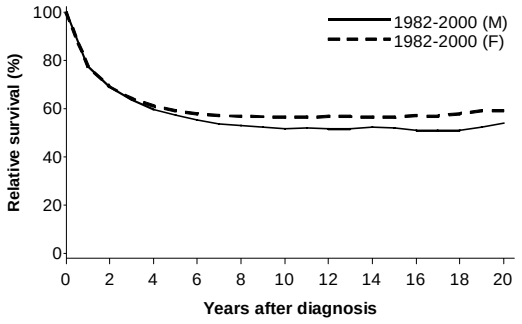
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	4544	49.7 (48.0, 51.4)	1.52 (1.43, 1.61)
1986-1990	6616	54.9 (53.5, 56.3)	1.30 (1.23, 1.38)
1991-1995	8410	60.3 (59.1, 61.6)	1.08 (1.03, 1.14)
1996-2000	10120	62.9 (61.6, 64.1)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	51.8 (50.5, 53.1)	56.6 (55.3, 57.8)
15	51.8 (49.9, 53.7)	56.4 (54.6, 58.3)
20	53.8 (50.2, 57.5)	59.2 (55.7, 62.7)

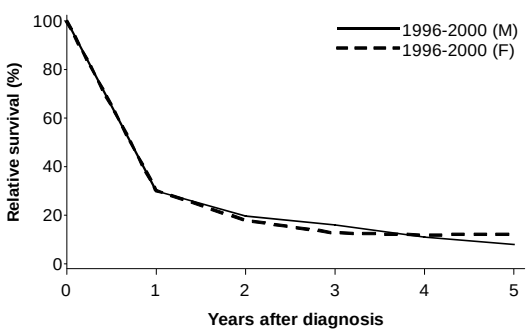


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Liver (ICD0-2: C22)

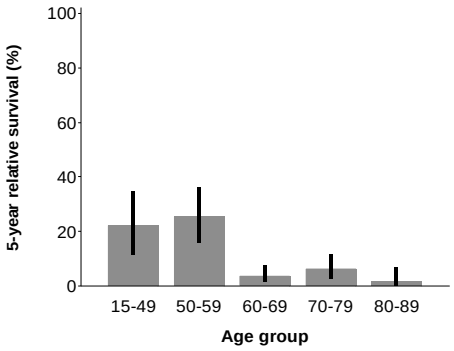
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	30.0 (25.7, 34.3)	30.2 (23.2, 37.5)
2	19.6 (15.9, 23.6)	17.8 (12.2, 24.3)
3	16.1 (12.6, 20.0)	12.7 (7.8, 18.7)
4	11.0 (7.9, 14.7)	11.9 (7.1, 18.1)
5	8.1 (5.3, 11.5)	12.1 (7.2, 18.5)



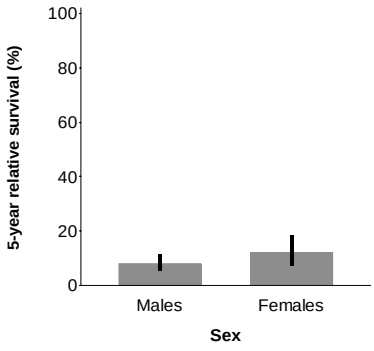
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-49	43	22.1 (11.6, 34.8)	1.00
50-59	75	25.4 (15.8, 36.3)	0.91 (0.58, 1.42)
60-69	132	3.6 (1.3, 7.8)	1.67 (1.12, 2.47)
70-79	150	6.1 (2.6, 11.7)	1.57 (1.06, 2.32)
80-89	57	1.3 (0.1, 6.6)	2.48 (1.58, 3.89)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	328	8.1 (5.3, 11.5)	1.07 (0.85, 1.34)
Females	129	12.1 (7.2, 18.5)	1.00



Comparisons of 5-Year Relative Survival

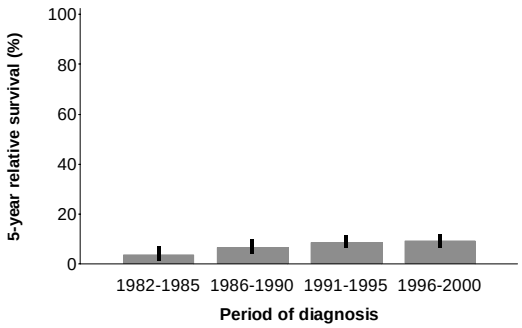
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	9.1
Australia	1992-1997	n.a.
United States	1995-2000	8.3
England	1990-1994	6.9
Italy	1990-1994	7.0
Netherlands	1990-1994	6.8
Sweden	1990-1994	2.8

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Liver (ICD0-2: C22) (continued)

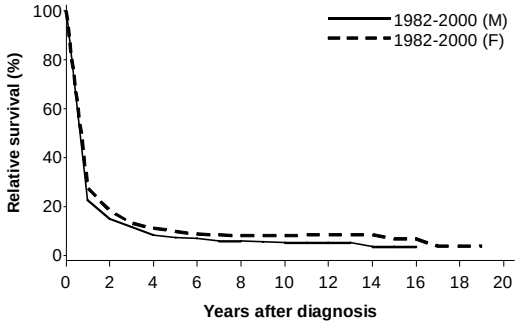
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	119	3.6 (1.5, 7.3)	1.60 (1.29, 1.99)
1986-1990	231	6.5 (4.0, 9.9)	1.26 (1.06, 1.50)
1991-1995	323	8.7 (6.3, 11.6)	1.25 (1.07, 1.46)
1996-2000	457	9.1 (6.6, 12.2)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	5.2 (3.6, 7.2)	8.2 (5.4, 11.8)
15	3.7 (1.4, 8.0)	6.8 (3.3, 11.9)
20	n.a.	n.a.

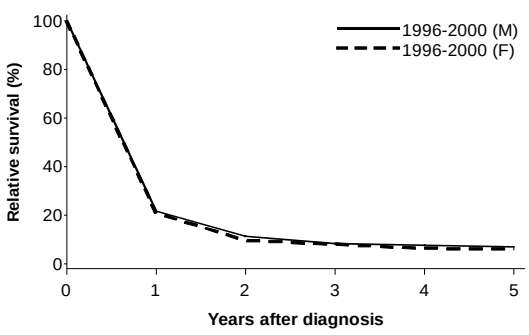


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Pancreas (ICD0-2: C25)

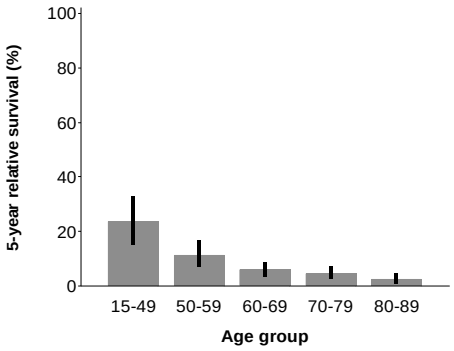
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	21.5 (18.7, 24.3)	20.9 (18.0, 23.8)
2	11.1 (9.1, 13.4)	9.6 (7.6, 11.8)
3	8.4 (6.6, 10.5)	8.0 (6.2, 10.2)
4	7.6 (5.8, 9.7)	6.3 (4.6, 8.4)
5	6.9 (5.1, 9.0)	6.1 (4.4, 8.2)



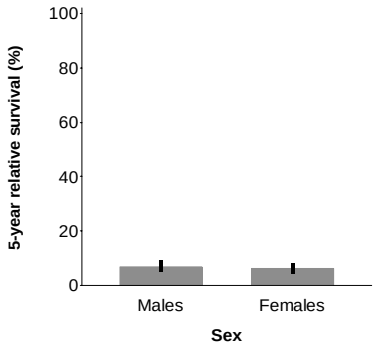
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-49	93	23.7 (15.4, 32.9)	1.00
50-59	191	11.3 (7.1, 16.7)	1.35 (1.02, 1.79)
60-69	348	5.8 (3.6, 8.7)	1.85 (1.43, 2.39)
70-79	493	4.4 (2.6, 7.0)	1.98 (1.54, 2.55)
80-89	284	2.3 (1.0, 4.6)	2.80 (2.14, 3.65)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	764	6.9 (5.1, 9.0)	1.05 (0.94, 1.18)
Females	645	6.1 (4.4, 8.2)	1.00



Comparisons of 5-Year Relative Survival

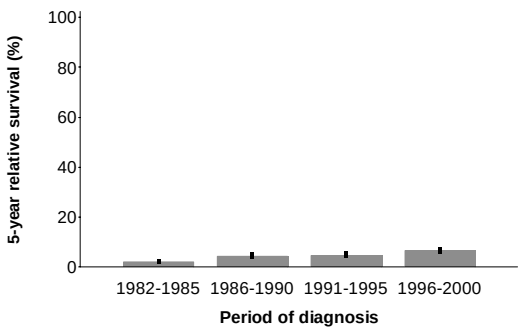
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	6.5
Australia	1992-1997	5.3
United States	1995-2000	4.4
England	1990-1994	4.3
Italy	1990-1994	4.6
Netherlands	1990-1994	3.1
Sweden	1990-1994	2.7

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Pancreas (ICD0-2: C25) (continued)

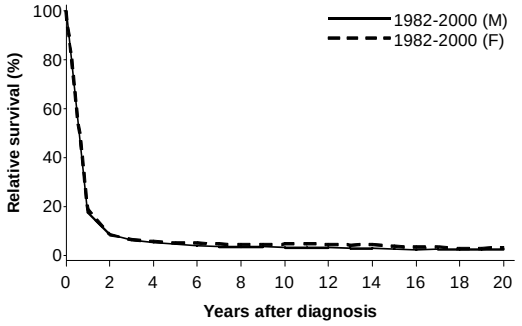
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	642	2.1 (1.3, 3.3)	1.36 (1.23, 1.50)
1986-1990	863	4.5 (3.3, 5.9)	1.17 (1.07, 1.28)
1991-1995	1062	4.8 (3.7, 6.2)	1.08 (0.99, 1.17)
1996-2000	1409	6.5 (5.3, 8.0)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	3.4 (2.5, 4.4)	4.6 (3.6, 5.8)
15	2.7 (1.6, 4.2)	3.7 (2.4, 5.6)
20	2.7 (1.4, 4.8)	3.1 (1.1, 7.4)

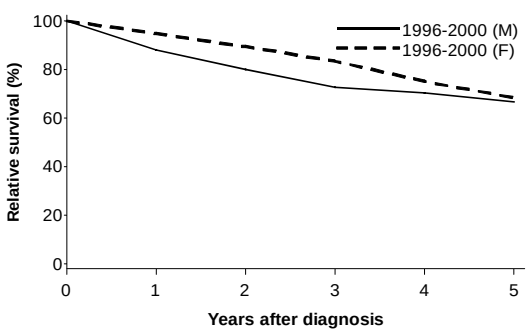


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Larynx (ICD0-2: C32)

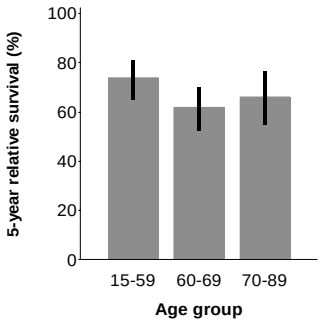
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	88.0 (84.4, 90.9)	94.8 (81.7, 99.4)
2	79.9 (75.6, 83.7)	89.4 (74.7, 96.9)
3	72.6 (67.8, 77.0)	83.3 (66.7, 93.5)
4	70.2 (64.9, 75.0)	75.1 (56.3, 88.1)
5	66.8 (60.9, 72.2)	68.2 (47.7, 83.7)



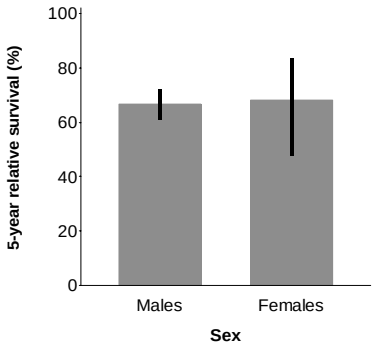
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-59	159	73.9 (65.0, 81.1)	1.00
60-69	182	61.7 (52.4, 70.1)	1.52 (0.98, 2.35)
70-89	177	66.0 (54.8, 76.4)	1.55 (0.97, 2.48)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	474	66.8 (60.9, 72.2)	1.34 (0.68, 2.66)
Females	44	68.2 (47.7, 83.7)	1.00



Comparisons of 5-Year Relative Survival

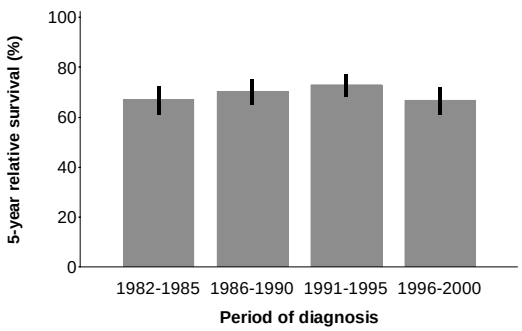
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	66.8
Australia	1992-1997	n.a.
United States	1995-2000	65.1
England	1990-1994	65.1
Italy	1990-1994	70.2
Netherlands	1990-1994	70.4
Sweden	1990-1994	69.8

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Larynx (ICD0-2: C32) (continued)

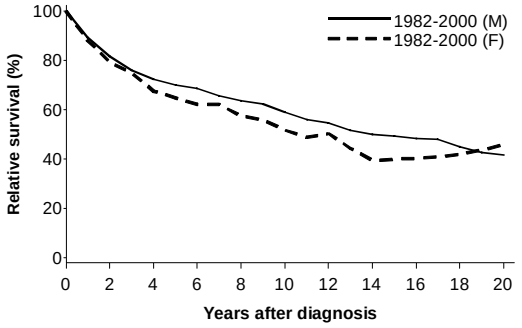
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	373	67.0 (61.0, 72.7)	1.04 (0.79, 1.37)
1986-1990	492	70.2 (65.0, 75.1)	0.91 (0.70, 1.19)
1991-1995	564	72.8 (68.1, 77.2)	0.82 (0.64, 1.07)
1996-2000	518	66.8 (61.3, 72.0)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	58.8 (55.2, 62.4)	51.8 (41.6, 61.7)
15	49.2 (44.3, 54.1)	39.9 (26.9, 54.0)
20	41.6 (33.8, 49.9)	45.6 (30.8, 61.7)

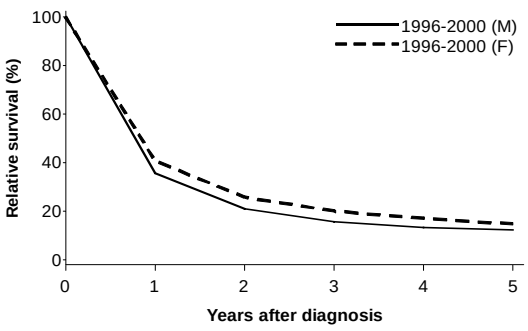


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Lung (ICD0-2: C33-C34)

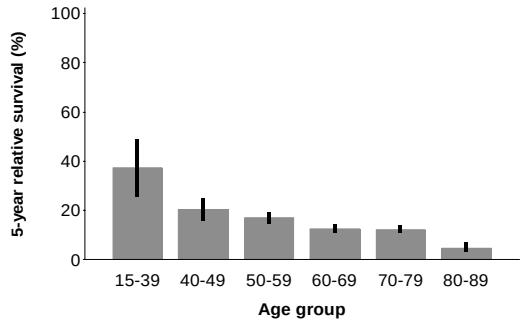
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	35.5 (34.2, 36.8)	40.7 (38.7, 42.8)
2	20.9 (19.8, 22.0)	25.7 (23.9, 27.6)
3	15.5 (14.5, 16.5)	20.0 (18.3, 21.7)
4	13.4 (12.4, 14.5)	17.0 (15.4, 18.8)
5	12.2 (11.1, 13.2)	14.6 (13.0, 16.4)



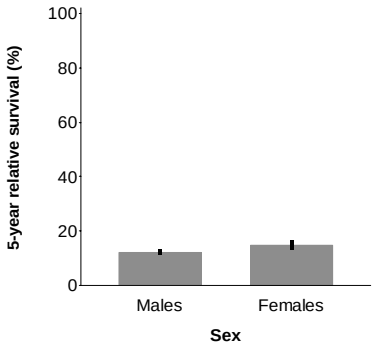
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-39	66	37.3 (25.6, 49.1)	1.00
40-49	345	20.2 (15.9, 24.9)	1.46 (1.05, 2.03)
50-59	1123	17.0 (14.7, 19.4)	1.65 (1.20, 2.26)
60-69	2062	12.5 (10.9, 14.1)	1.87 (1.37, 2.55)
70-79	2521	12.2 (10.7, 13.9)	1.96 (1.44, 2.67)
80-89	895	4.8 (3.1, 7.1)	2.68 (1.95, 3.68)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	4905	12.2 (11.1, 13.2)	1.13 (1.07, 1.20)
Females	2107	14.6 (13.0, 16.4)	1.00



Comparisons of 5-Year Relative Survival

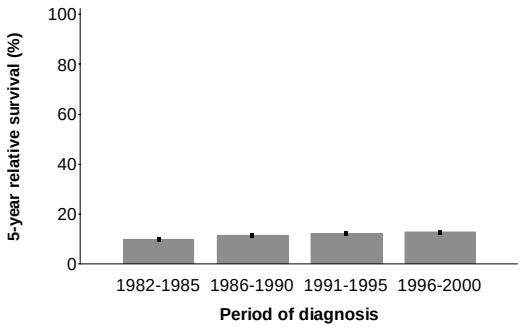
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	12.9
Australia	1992-1997	12.0
United States	1995-2000	15.2
England	1990-1994	7.5
Italy	1990-1994	10.8
Netherlands	1990-1994	12.8
Sweden	1990-1994	10.4

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Lung (ICD0-2: C33-C34) (continued)

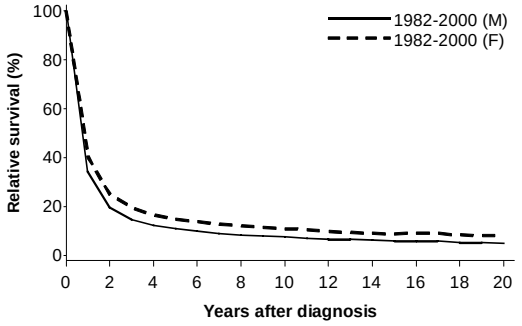
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	3842	10.0 (9.0, 11.0)	1.16 (1.11, 1.21)
1986-1990	5121	11.5 (10.6, 12.4)	1.07 (1.03, 1.12)
1991-1995	5932	12.2 (11.4, 13.1)	1.01 (0.98, 1.05)
1996-2000	7012	12.9 (12.0, 13.8)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	7.5 (7.0, 8.0)	10.9 (9.9, 11.9)
15	6.0 (5.4, 6.7)	8.8 (7.7, 10.1)
20	4.9 (4.0, 6.1)	8.2 (6.6, 10.2)

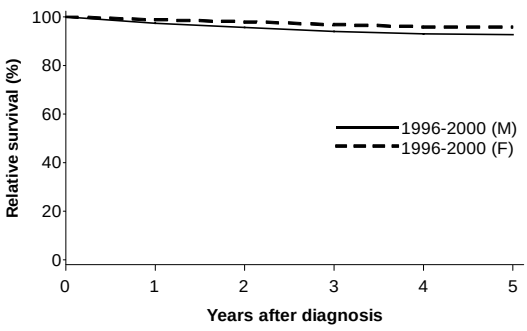


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Melanoma (ICD0-2: C44, M872 - M879)

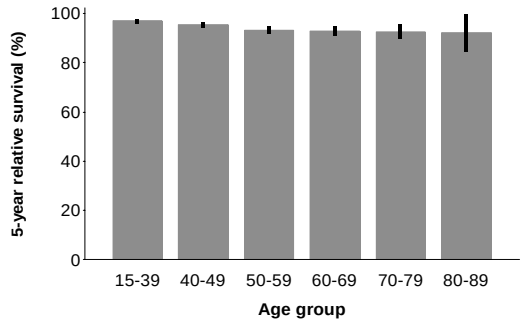
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	97.5 (96.9, 98.0)	98.8 (98.3, 99.2)
2	95.8 (95.1, 96.5)	98.0 (97.3, 98.6)
3	94.1 (93.2, 95.0)	96.8 (96.0, 97.6)
4	93.1 (92.0, 94.1)	96.0 (95.0, 96.9)
5	92.8 (91.5, 93.9)	95.8 (94.7, 96.8)



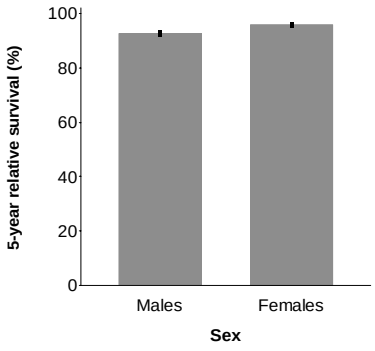
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-39	2120	96.9 (95.9, 97.7)	1.00
40-49	1790	95.3 (94.0, 96.4)	1.51 (1.03, 2.22)
50-59	2065	93.3 (91.7, 94.7)	2.07 (1.45, 2.96)
60-69	1818	92.8 (90.7, 94.6)	2.43 (1.67, 3.54)
70-79	1819	92.6 (89.6, 95.4)	2.52 (1.65, 3.87)
80-89	732	92.1 (84.2, 99.6)	3.68 (1.97, 6.88)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	5940	92.8 (91.5, 93.9)	1.89 (1.47, 2.44)
Females	4404	95.8 (94.7, 96.8)	1.00



Comparisons of 5-Year Relative Survival

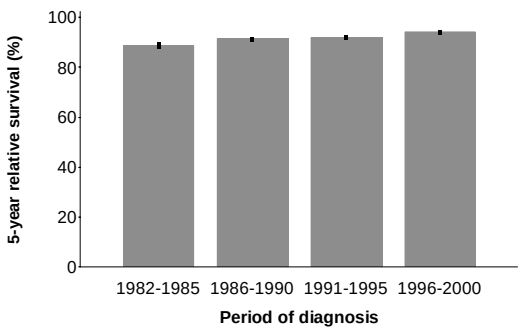
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	94.1
Australia	1992-1997	92.1
United States	1995-2000	90.5
England	1990-1994	81.5
Italy	1990-1994	78.5
Netherlands	1990-1994	85.8
Sweden	1990-1994	88.1

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Melanoma (ICD0-2: C44, M872 - M879) (continued)

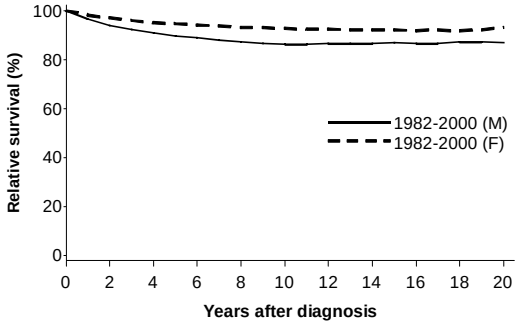
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	3863	88.6 (87.2, 89.9)	2.20 (1.87, 2.58)
1986-1990	6668	91.4 (90.4, 92.3)	1.47 (1.26, 1.73)
1991-1995	7792	92.0 (91.1, 92.9)	1.37 (1.18, 1.59)
1996-2000	10344	94.1 (93.2, 94.9)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	86.3 (85.2, 87.4)	92.7 (91.8, 93.6)
15	86.9 (85.3, 88.5)	92.1 (90.8, 93.3)
20	86.9 (83.7, 90.1)	93.0 (90.9, 95.1)

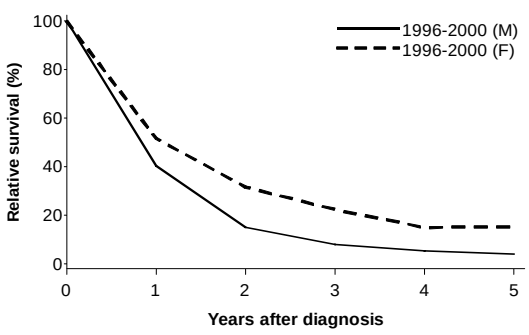


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Mesothelioma (ICD0-2: M905)

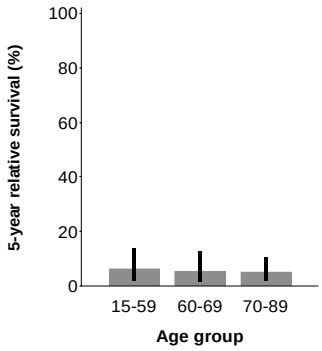
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	40.2 (34.8, 45.6)	51.6 (36.5, 64.9)
2	14.9 (11.3, 18.9)	31.5 (18.6, 45.5)
3	7.9 (5.3, 11.2)	22.3 (11.0, 36.2)
4	5.4 (3.1, 8.6)	14.9 (5.1, 30.0)
5	3.9 (1.8, 7.3)	15.1 (5.2, 30.4)



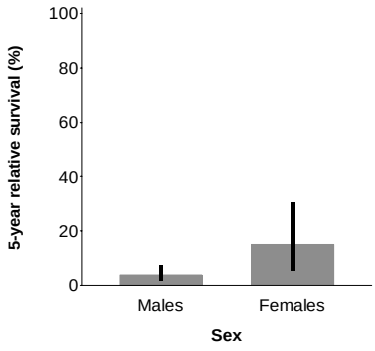
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-59	93	6.1 (2.0, 13.8)	1.00
60-69	117	5.3 (1.6, 12.6)	0.93 (0.70, 1.25)
70-89	177	5.0 (1.9, 10.5)	1.35 (1.03, 1.77)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	340	3.9 (1.8, 7.3)	1.75 (1.22, 2.51)
Females	47	15.1 (5.2, 30.4)	1.00



Comparisons of 5-Year Relative Survival

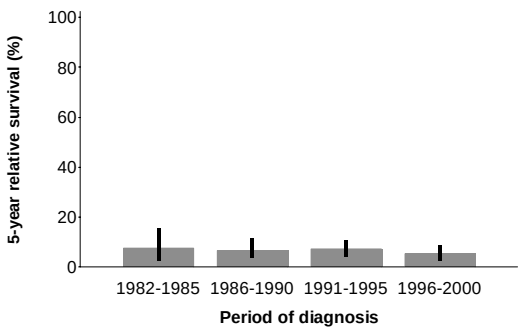
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	5.2
Australia	1992-1997	n.a.
United States	1995-2000	n.a.
England	1990-1994	n.a.
Italy	1990-1994	n.a.
Netherlands	1990-1994	n.a.
Sweden	1990-1994	n.a.

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Mesothelioma (ICD0-2: M905) (continued)

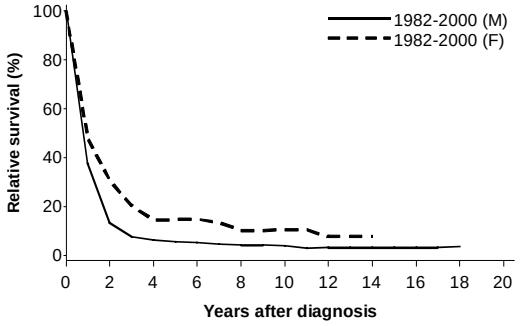
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	78	7.6 (2.8, 15.8)	1.12 (0.86, 1.46)
1986-1990	176	6.8 (3.6, 11.4)	1.18 (0.97, 1.44)
1991-1995	266	7.2 (4.4, 11.0)	1.11 (0.94, 1.31)
1996-2000	387	5.2 (2.8, 8.8)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	3.9 (2.4, 6.1)	10.4 (4.8, 18.6)
15	3.3 (1.7, 5.8)	n.a.
20	n.a.	n.a.

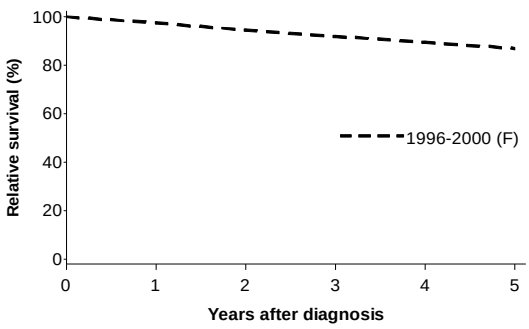


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Female Breast (ICD0-2: C50)

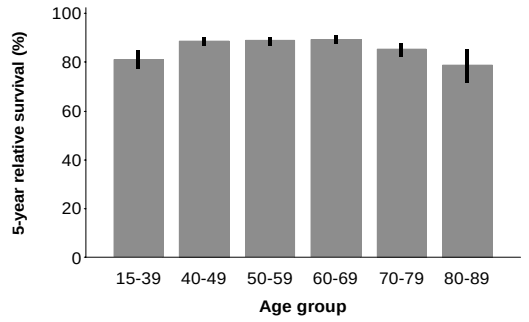
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Females – Relative Survival (%)*
1	97.4 (97.0, 97.8)
2	94.6 (94.0, 95.1)
3	91.9 (91.2, 92.6)
4	89.5 (88.6, 90.3)
5	86.9 (85.9, 87.9)



5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-39	618	81.1 (77.1, 84.6)	1.00
40-49	1811	88.5 (86.6, 90.2)	0.61 (0.47, 0.79)
50-59	2402	88.8 (87.1, 90.4)	0.59 (0.46, 0.77)
60-69	2030	89.2 (87.1, 91.0)	0.61 (0.46, 0.80)
70-79	1666	85.3 (82.3, 88.1)	0.89 (0.67, 1.18)
80-89	771	78.7 (71.7, 85.4)	1.29 (0.89, 1.87)



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Comparisons of 5-Year Relative Survival

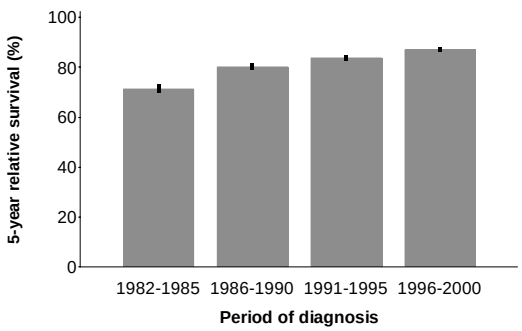
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	86.9
Australia	1992-1997	84.0
United States	1995-2000	87.7
England	1990-1994	74.8
Italy	1990-1994	81.2
Netherlands	1990-1994	78.8
Sweden	1990-1994	83.2

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Female Breast (ICD0-2: C50) (continued)

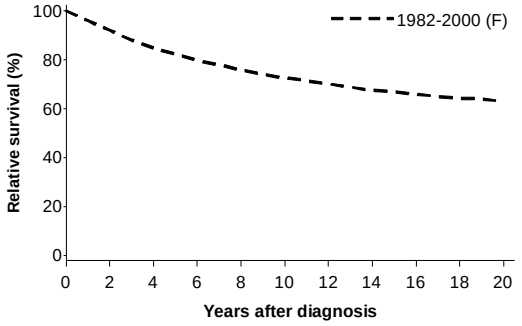
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	3484	71.4 (69.6, 73.1)	2.56 (2.31, 2.84)
1986-1990	5433	80.1 (78.8, 81.4)	1.73 (1.56, 1.92)
1991-1995	7327	83.6 (82.5, 84.6)	1.36 (1.23, 1.51)
1996-2000	9298	86.9 (85.9, 87.9)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Females – Relative Survival (%)*
10	72.5 (71.6, 73.4)
15	66.9 (65.6, 68.2)
20	62.9 (60.5, 65.4)

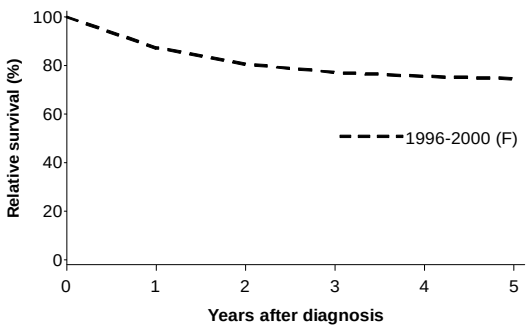


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Cervix (ICD0-2: C53)

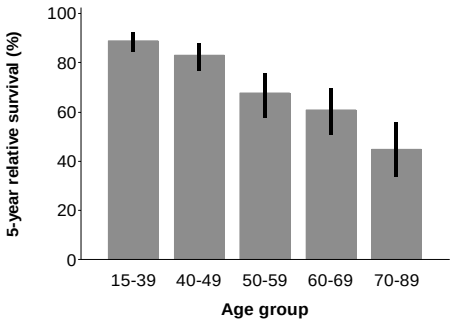
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Females – Relative Survival (%)*
1	87.3 (84.8, 89.4)
2	80.5 (77.6, 83.1)
3	77.1 (74.0, 79.9)
4	75.5 (72.2, 78.5)
5	74.6 (71.1, 77.7)



5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-39	298	88.9 (84.2, 92.2)	1.00
40-49	190	83.2 (76.7, 88.0)	1.76 (1.05, 2.95)
50-59	123	67.8 (58.0, 76.0)	3.75 (2.29, 6.13)
60-69	121	60.8 (50.7, 69.7)	4.75 (2.95, 7.66)
70-89	130	44.8 (33.7, 56.0)	7.38 (4.66, 11.7)



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Comparisons of 5-Year Relative Survival

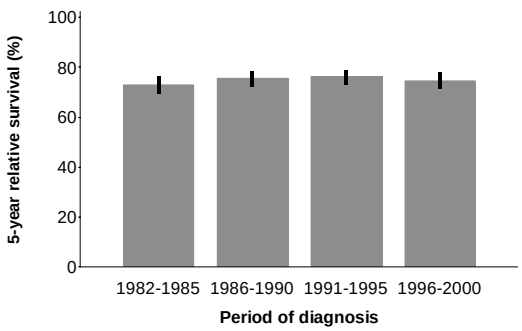
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	74.6
Australia	1992-1997	74.6
United States	1995-2000	72.7
England	1990-1994	66.5
Italy	1990-1994	64.1
Netherlands	1990-1994	73.1
Sweden	1990-1994	70.1

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Cervix (ICD0-2: C53) (continued)

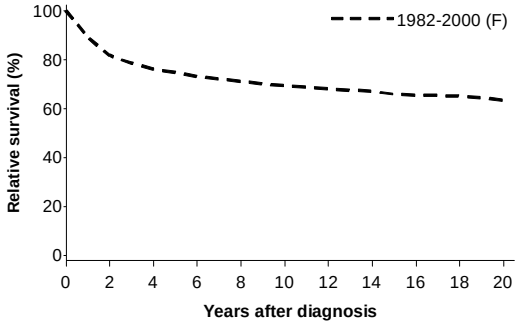
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	747	73.0 (69.4, 76.2)	1.07 (0.88, 1.32)
1986-1990	895	75.4 (72.2, 78.3)	0.93 (0.76, 1.13)
1991-1995	960	76.1 (73.0, 78.9)	0.86 (0.71, 1.05)
1996-2000	862	74.6 (71.1, 77.7)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Females – Relative Survival (%)*
10	69.5 (67.6, 71.3)
15	65.9 (63.6, 68.1)
20	63.6 (60.4, 66.7)

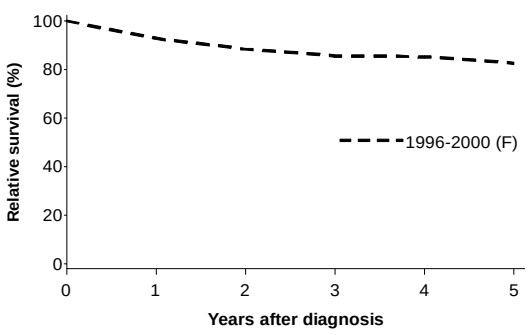


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Uterus (ICD0-2: C54)

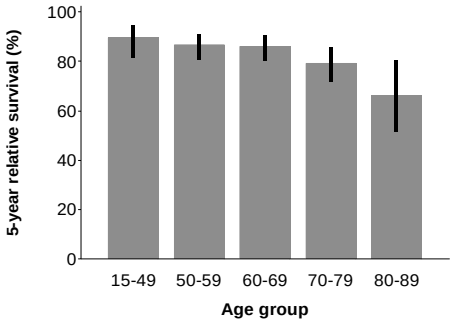
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Females – Relative Survival (%)*
1	92.8 (91.0, 94.3)
2	88.3 (86.1, 90.3)
3	85.6 (83.2, 87.9)
4	85.3 (82.6, 87.7)
5	82.6 (79.4, 85.5)



5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-49	135	89.5 (81.2, 94.5)	1.00
50-59	314	86.5 (80.8, 90.8)	1.28 (0.63, 2.60)
60-69	327	85.8 (80.1, 90.4)	1.41 (0.69, 2.87)
70-79	309	79.1 (71.7, 85.5)	2.73 (1.40, 5.36)
80-89	140	66.2 (51.6, 80.4)	5.84 (2.91, 11.7)



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Comparisons of 5-Year Relative Survival

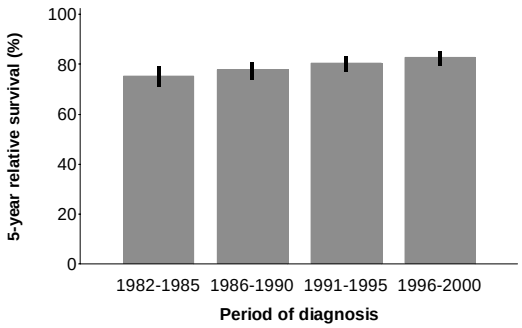
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	82.6
Australia	1992-1997	81.4
United States	1995-2000	85.3
England	1990-1994	74.7
Italy	1990-1994	77.7
Netherlands	1990-1994	80.5
Sweden	1990-1994	81.2

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Uterus (ICD0-2: C54) (continued)

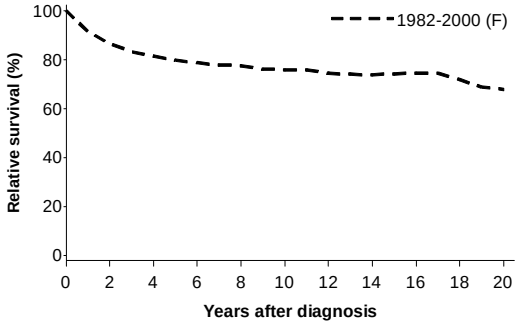
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	574	75.3 (71.0, 79.2)	1.64 (1.28, 2.11)
1986-1990	778	77.7 (74.0, 81.0)	1.38 (1.09, 1.76)
1991-1995	1001	80.4 (77.2, 83.3)	1.18 (0.94, 1.49)
1996-2000	1225	82.6 (79.4, 85.5)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Females – Relative Survival (%)*
10	75.9 (73.6, 78.1)
15	74.3 (71.1, 77.4)
20	68.0 (61.7, 74.2)

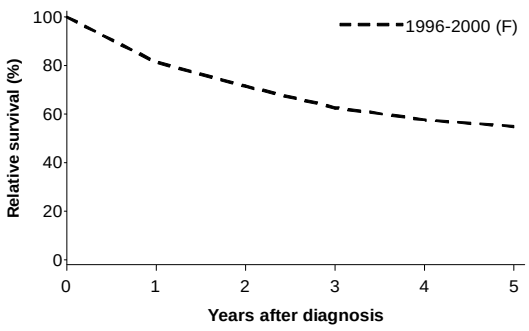


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Ovary (ICD0-2: C56)

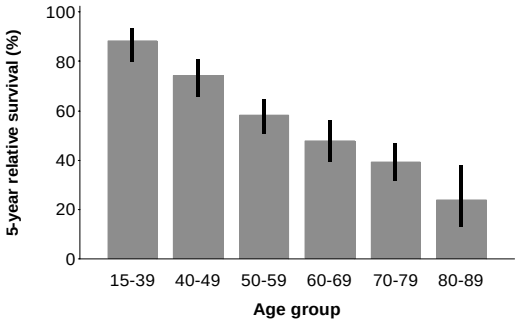
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Females – Relative Survival (%)*
1	81.3 (78.8, 83.6)
2	71.4 (68.5, 74.1)
3	62.6 (59.5, 65.6)
4	57.6 (54.3, 60.9)
5	54.9 (51.3, 58.4)



5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-39	126	88.2 (79.9, 93.2)	1.00
40-49	155	74.1 (65.5, 80.9)	2.38 (1.25, 4.55)
50-59	245	58.1 (50.8, 64.8)	4.36 (2.41, 7.88)
60-69	209	47.9 (39.4, 55.9)	5.32 (2.94, 9.63)
70-79	243	39.4 (31.8, 47.0)	7.89 (4.40, 14.2)
80-89	103	24.0 (13.1, 38.1)	16.09 (8.75, 29.6)



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Comparisons of 5-Year Relative Survival

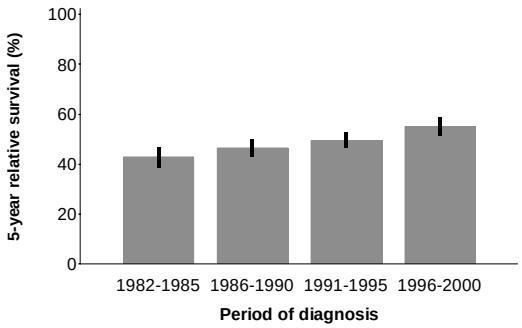
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	54.9
Australia	1992-1997	42.0
United States	1995-2000	44.0
England	1990-1994	32.0
Italy	1990-1994	38.4
Netherlands	1990-1994	39.1
Sweden	1990-1994	42.5

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Ovary (ICD0-2: C56) (continued)

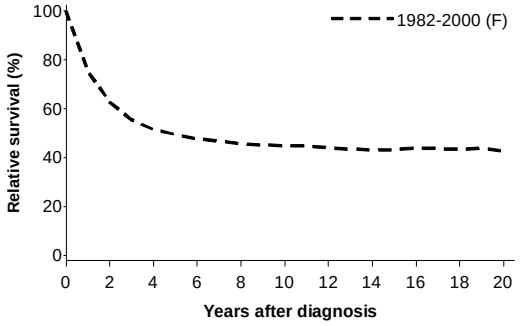
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	618	42.9 (38.8, 47.0)	1.64 (1.41, 1.90)
1986-1990	828	46.4 (42.8, 49.9)	1.49 (1.29, 1.71)
1991-1995	1038	49.5 (46.3, 52.7)	1.29 (1.13, 1.48)
1996-2000	1081	54.9 (51.3, 58.4)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Females – Relative Survival (%)*
10	44.8 (42.8, 46.8)
15	43.3 (41.0, 45.7)
20	42.8 (38.9, 46.8)

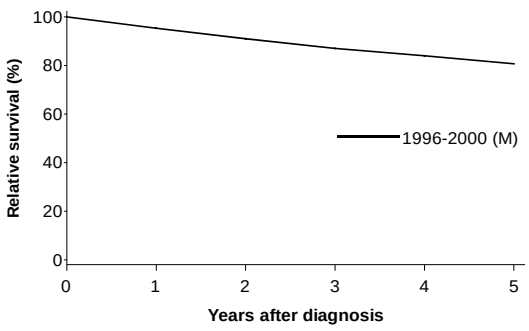


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Prostate Gland (ICD0-2: C61)

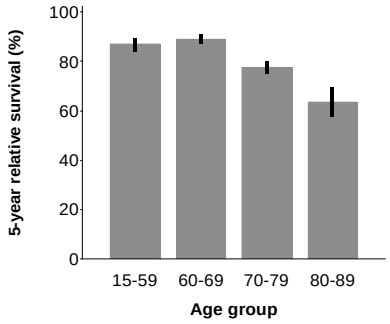
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*
1	95.2 (94.6, 95.8)
2	91.0 (90.1, 91.9)
3	87.1 (86.0, 88.1)
4	83.9 (82.6, 85.1)
5	80.6 (79.1, 82.1)



5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-59	948	87.0 (83.9, 89.6)	1.00
60-69	2513	88.9 (86.9, 90.8)	0.82 (0.62, 1.08)
70-79	3293	77.5 (75.0, 80.0)	1.77 (1.38, 2.27)
80-89	1377	63.4 (57.6, 69.2)	3.30 (2.51, 4.32)



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Comparisons of 5-Year Relative Survival

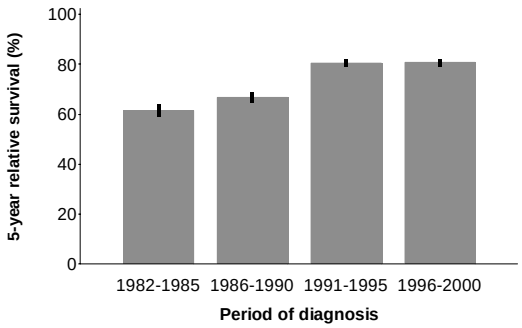
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	80.6
Australia	1992-1997	82.7
United States	1995-2000	99.3
England	1990-1994	54.5
Italy	1990-1994	66.0
Netherlands	1990-1994	69.7
Sweden	1990-1994	68.3

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Prostate Gland (ICD0-2: C61) (continued)

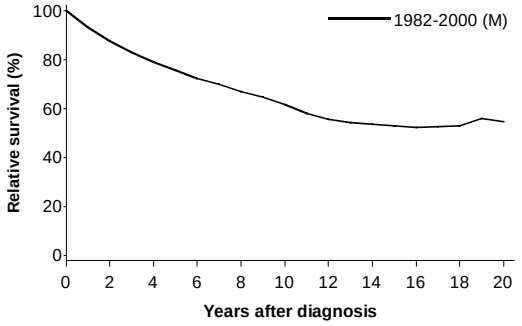
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	2757	61.4 (58.9, 64.0)	2.49 (2.22, 2.79)
1986-1990	4319	66.9 (64.8, 68.9)	1.95 (1.75, 2.17)
1991-1995	8158	80.5 (79.2, 81.9)	1.08 (0.97, 1.21)
1996-2000	8131	80.6 (79.1, 82.1)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*
10	61.5 (60.1, 63.0)
15	53.0 (50.3, 55.7)
20	54.6 (47.8, 61.9)

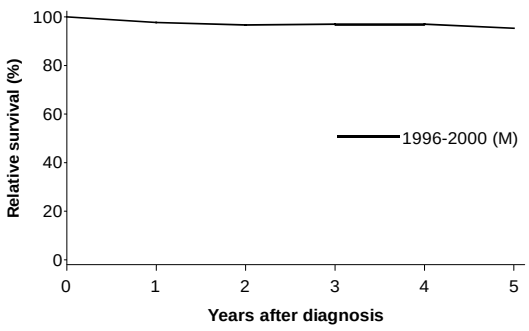


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Testis (ICD0-2: C62)

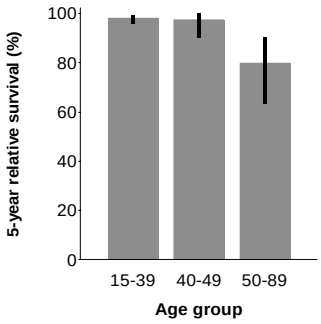
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*
1	97.6 (95.7, 98.7)
2	96.6 (94.4, 98.0)
3	96.9 (94.7, 98.3)
4	96.9 (94.6, 98.4)
5	95.5 (92.4, 97.5)



5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-39	336	98.2 (95.7, 99.4)	1.00
40-49	79	97.4 (89.9, 100.0)	1.95 (0.40, 9.56)
50-89	63	79.7 (63.4, 90.7)	10.97 (3.67, 32.8)



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Comparisons of 5-Year Relative Survival

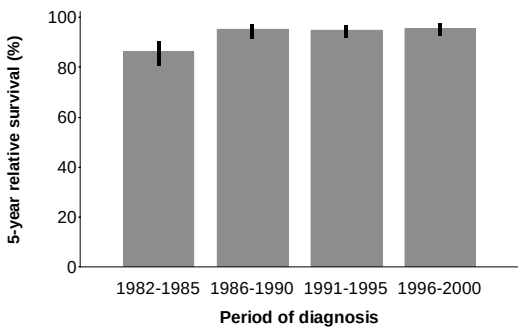
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	95.5
Australia	1992-1997	95.4
United States	1995-2000	95.9
England	1990-1994	93.9
Italy	1990-1994	93.4
Netherlands	1990-1994	95.1
Sweden	1990-1994	95.6

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Testis (ICD0-2: C62) (continued)

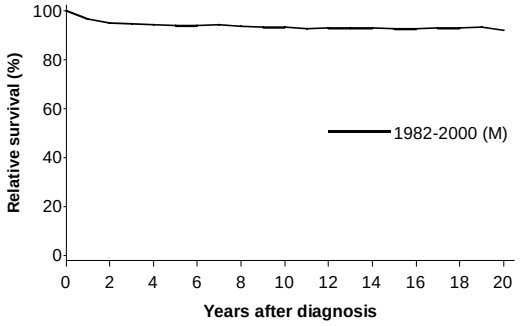
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	215	86.4 (80.7, 90.7)	3.76 (1.98, 7.15)
1986-1990	309	95.0 (91.5, 97.4)	1.40 (0.67, 2.94)
1991-1995	430	94.7 (91.8, 96.7)	1.31 (0.65, 2.63)
1996-2000	478	95.5 (92.4, 97.5)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*
10	93.4 (91.5, 95.0)
15	92.8 (90.2, 94.9)
20	92.0 (87.2, 95.8)

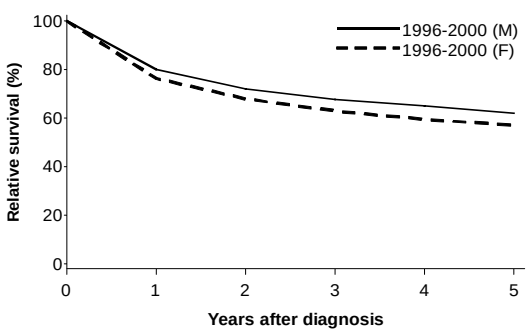


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Kidney (ICD0-2: C64-C66, C68)

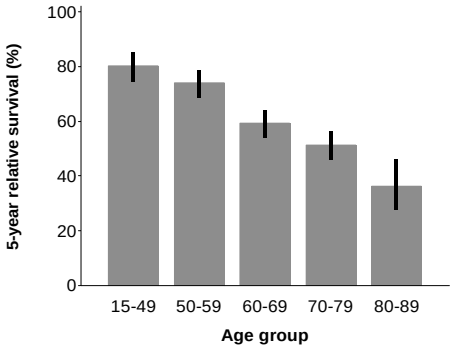
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	79.9 (77.5, 82.1)	76.3 (73.1, 79.2)
2	72.0 (69.2, 74.5)	67.9 (64.3, 71.2)
3	67.7 (64.7, 70.5)	62.9 (59.1, 66.5)
4	64.9 (61.7, 67.9)	59.4 (55.4, 63.2)
5	62.0 (58.5, 65.4)	57.1 (52.7, 61.3)



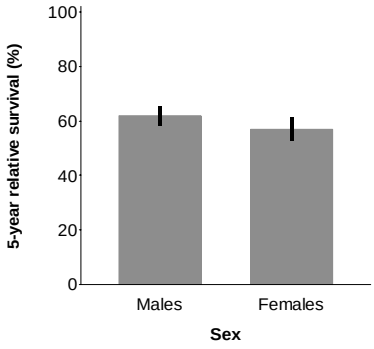
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-49	255	80.2 (74.3, 85.0)	1.00
50-59	392	74.0 (68.6, 78.6)	1.35 (0.94, 1.93)
60-69	546	59.2 (53.9, 64.2)	2.27 (1.63, 3.14)
70-79	637	51.4 (46.0, 56.7)	2.81 (2.04, 3.88)
80-89	256	36.4 (27.7, 45.9)	4.89 (3.46, 6.93)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	1297	62.0 (58.5, 65.4)	0.93 (0.79, 1.09)
Females	789	57.1 (52.7, 61.3)	1.00



Comparisons of 5-Year Relative Survival

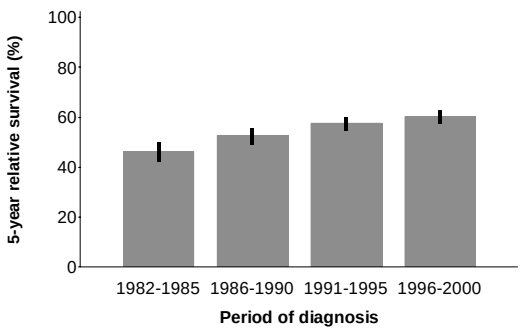
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	60.1
Australia	1992-1997	58.9
United States	1995-2000	63.9
England	1990-1994	42.7
Italy	1990-1994	60.2
Netherlands	1990-1994	53.8
Sweden	1990-1994	52.1

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Kidney (ICD0-2: C64-C66, C68) (continued)

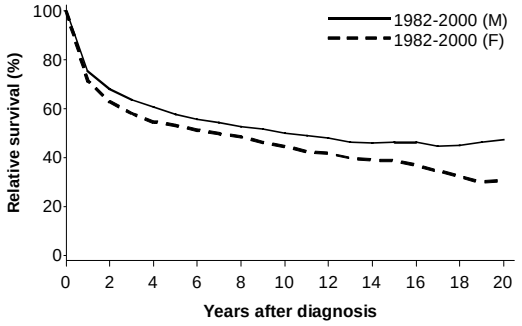
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	748	46.1 (42.1, 50.1)	1.71 (1.50, 1.95)
1986-1990	1145	52.5 (49.2, 55.7)	1.41 (1.25, 1.59)
1991-1995	1614	57.5 (54.7, 60.2)	1.13 (1.01, 1.27)
1996-2000	2086	60.1 (57.4, 62.8)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	49.8 (47.2, 52.5)	44.4 (41.5, 47.4)
15	46.3 (42.6, 50.1)	38.8 (34.9, 42.7)
20	47.3 (41.1, 53.8)	30.8 (24.1, 38.2)

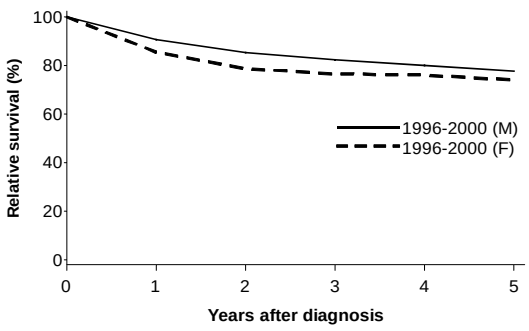


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Bladder (ICD0-2: C67)

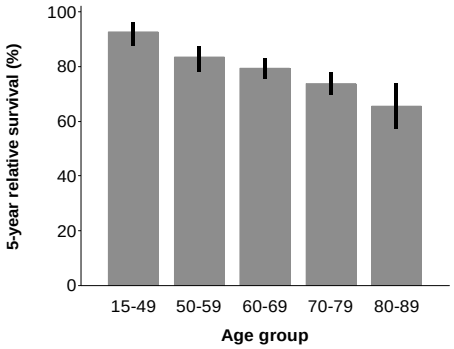
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	90.7 (89.2, 92.0)	85.5 (82.6, 88.1)
2	85.3 (83.4, 87.0)	78.7 (75.2, 81.8)
3	82.2 (80.0, 84.2)	76.6 (72.8, 80.0)
4	79.9 (77.5, 82.2)	76.0 (71.9, 79.8)
5	77.6 (74.8, 80.2)	74.1 (69.4, 78.4)



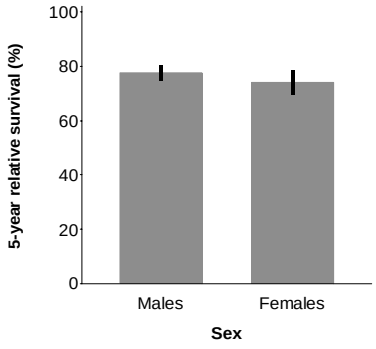
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-49	210	92.8 (87.5, 96.0)	1.00
50-59	369	83.4 (78.3, 87.5)	2.60 (1.33, 5.06)
60-69	772	79.5 (75.4, 83.2)	3.49 (1.87, 6.53)
70-79	1142	73.8 (69.6, 77.8)	4.50 (2.43, 8.35)
80-89	587	65.5 (57.1, 73.8)	6.63 (3.52, 12.5)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	2325	77.6 (74.8, 80.2)	0.75 (0.61, 0.91)
Females	755	74.1 (69.4, 78.4)	1.00



Comparisons of 5-Year Relative Survival

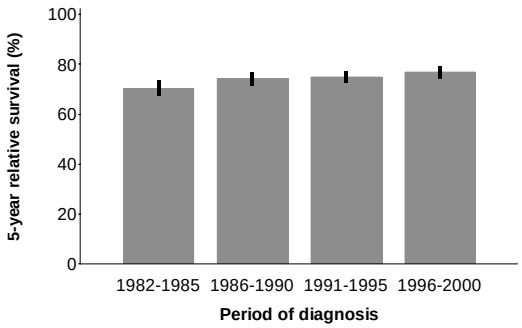
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	76.7
Australia	1992-1997	69.3
United States	1995-2000	81.7
England	1990-1994	68.6
Italy	1990-1994	73.3
Netherlands	1990-1994	74.4
Sweden	1990-1994	72.8

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Bladder (ICD0-2: C67) (continued)

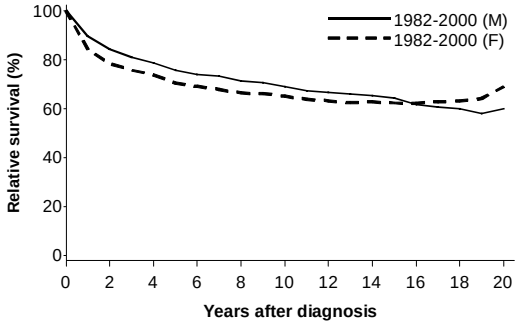
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	1482	70.4 (67.2, 73.5)	1.36 (1.16, 1.58)
1986-1990	2041	74.3 (71.6, 76.9)	1.18 (1.02, 1.36)
1991-1995	2544	74.9 (72.5, 77.2)	1.10 (0.96, 1.26)
1996-2000	3080	76.7 (74.3, 79.0)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	68.9 (66.7, 71.1)	65.1 (61.8, 68.4)
15	64.3 (60.9, 67.7)	62.3 (57.6, 67.1)
20	60.1 (54.0, 66.4)	69.0 (61.0, 77.1)

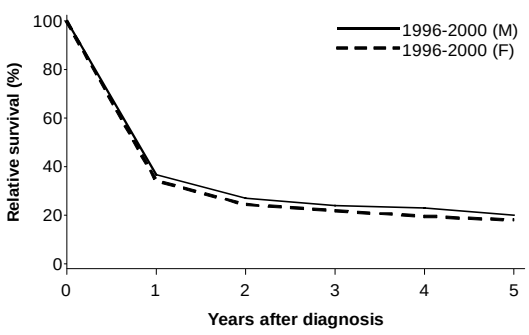


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Brain (ICD0-2: C70)

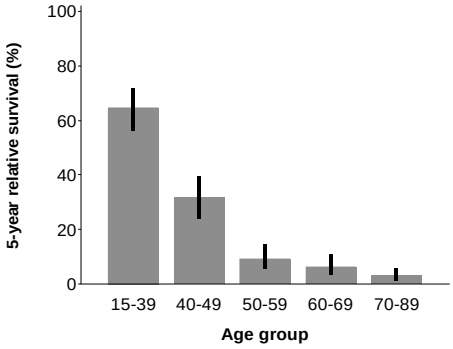
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	36.7 (33.0, 40.4)	34.3 (30.2, 38.4)
2	26.9 (23.5, 30.4)	24.4 (20.8, 28.1)
3	24.0 (20.7, 27.4)	21.7 (18.2, 25.4)
4	22.9 (19.7, 26.4)	19.5 (16.1, 23.2)
5	20.0 (16.7, 23.6)	18.0 (14.5, 21.7)



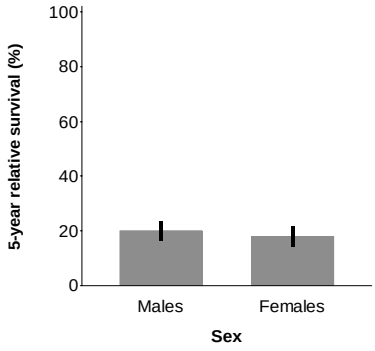
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-39	195	64.5 (56.1, 71.8)	1.00
40-49	147	31.5 (23.8, 39.5)	2.96 (2.14, 4.11)
50-59	228	9.2 (5.3, 14.4)	5.38 (4.00, 7.24)
60-69	205	6.2 (3.1, 10.8)	8.47 (6.28, 11.4)
70-89	322	2.9 (1.3, 5.7)	13.76 (10.3, 18.3)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	632	20.0 (16.7, 23.6)	0.98 (0.86, 1.13)
Females	465	18.0 (14.5, 21.7)	1.00



Comparisons of 5-Year Relative Survival

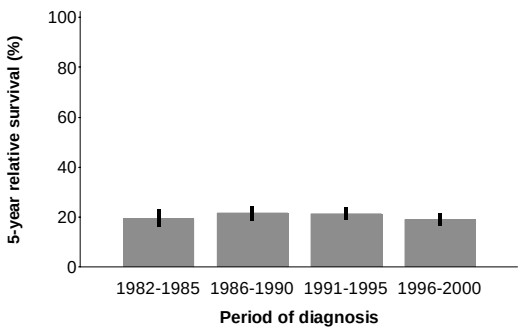
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	19.1
Australia	1992-1997	23.8
United States	1995-2000	33.0
England	1990-1994	16.9
Italy	1990-1994	15.7
Netherlands	1990-1994	19.9
Sweden	1990-1994	24.9

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Brain (ICD0-2: C70) (continued)

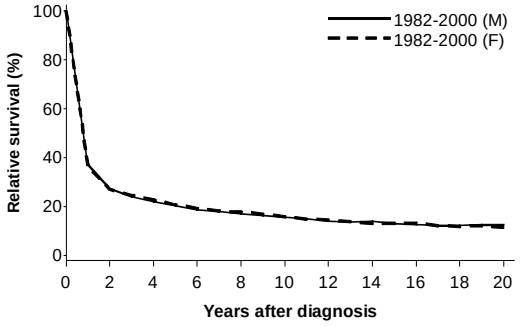
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	481	19.3 (16.0, 22.8)	1.03 (0.91, 1.17)
1986-1990	735	21.6 (18.8, 24.5)	1.03 (0.92, 1.15)
1991-1995	876	21.4 (18.8, 24.0)	1.01 (0.91, 1.11)
1996-2000	1097	19.1 (16.7, 21.7)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	15.7 (13.9, 17.6)	15.9 (13.9, 18.1)
15	13.1 (11.1, 15.2)	13.2 (11.0, 15.5)
20	12.6 (10.4, 15.1)	11.4 (8.2, 15.2)

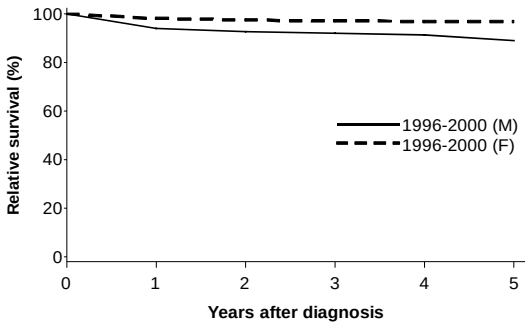


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Thyroid Gland (ICD0-2: C73)

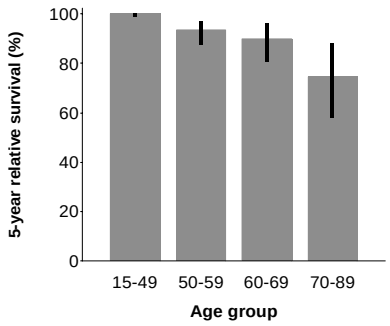
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	93.9 (89.9, 96.6)	98.1 (96.7, 99.0)
2	92.7 (88.1, 95.9)	97.4 (95.8, 98.6)
3	92.1 (87.1, 95.6)	97.0 (95.2, 98.4)
4	91.4 (86.0, 95.4)	97.0 (94.9, 98.5)
5	88.9 (82.2, 94.0)	96.9 (94.6, 98.6)



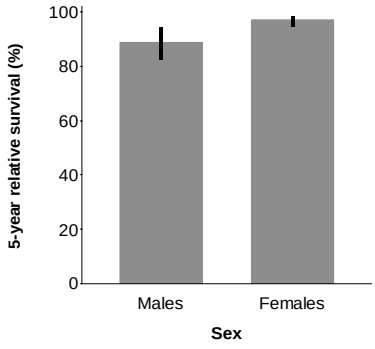
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-49	561	99.9 (98.7, 100.0)	1.00
50-59	184	93.5 (87.5, 97.1)	11.07 (2.55, 48.1)
60-69	125	89.9 (80.3, 96.2)	14.44 (3.07, 67.9)
70-89	105	74.4 (58.1, 88.4)	36.49 (8.49, 156.9)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	247	88.9 (82.2, 94.0)	2.45 (1.20, 5.03)
Females	728	96.9 (94.6, 98.6)	1.00



Comparisons of 5-Year Relative Survival

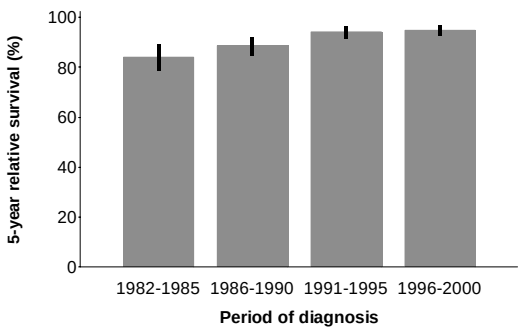
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	94.9
Australia	1992-1997	93.7
United States	1995-2000	96.5
England	1990-1994	78.1
Italy	1990-1994	84.8
Netherlands	1990-1994	81.0
Sweden	1990-1994	83.2

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Cancer of the Thyroid Gland (ICD0-2: C73) (continued)

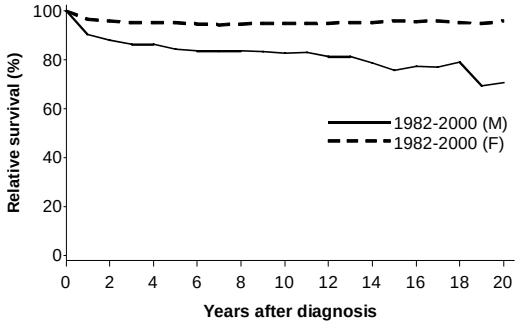
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	243	84.2 (78.3, 88.9)	3.70 (2.25, 6.09)
1986-1990	378	88.6 (84.4, 91.9)	2.61 (1.59, 4.27)
1991-1995	608	94.1 (91.4, 96.3)	1.35 (0.81, 2.23)
1996-2000	975	94.9 (92.6, 96.8)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	82.6 (76.9, 87.6)	94.9 (92.8, 96.7)
15	75.8 (66.7, 84.1)	95.9 (92.9, 98.4)
20	70.7 (53.5, 86.5)	95.8 (90.6, 100.0)

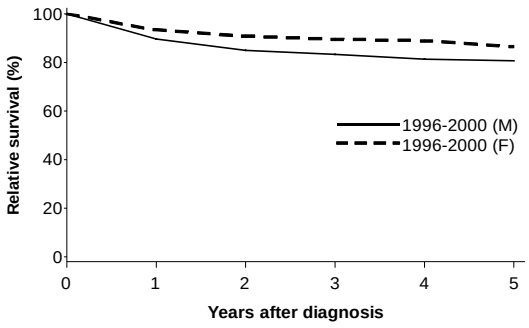


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Hodgkin's Disease (ICD0-2: M965-M966)

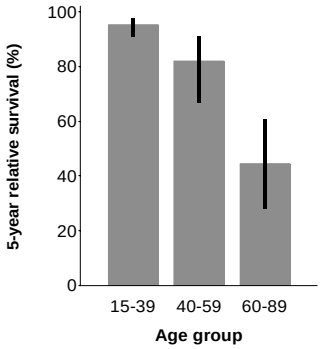
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	89.7 (83.5, 93.8)	93.4 (87.7, 96.6)
2	85.0 (78.0, 90.1)	90.9 (84.6, 94.8)
3	83.4 (76.1, 88.9)	89.6 (83.0, 93.9)
4	81.3 (73.4, 87.3)	88.9 (82.0, 93.5)
5	80.7 (72.4, 87.1)	86.3 (78.2, 91.9)



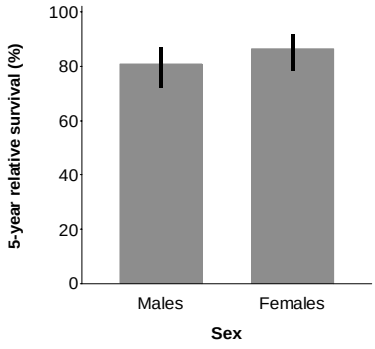
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-39	186	95.3 (90.8, 97.8)	1.00
40-59	50	82.1 (67.0, 91.1)	3.92 (1.43, 10.7)
60-89	58	44.4 (27.9, 60.9)	15.69 (6.89, 35.7)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	153	80.7 (72.4, 87.1)	1.20 (0.61, 2.38)
Females	141	86.3 (78.2, 91.9)	1.00



Comparisons of 5-Year Relative Survival

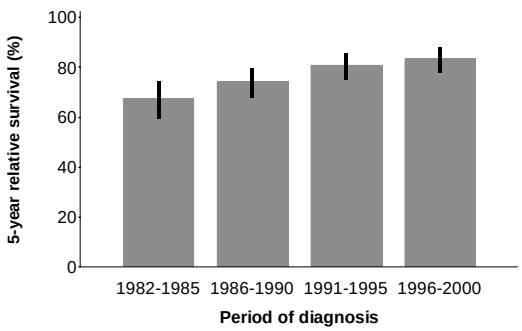
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	83.5
Australia	1992-1997	83.5
United States	1995-2000	85.2
England	1990-1994	77.9
Italy	1990-1994	79.1
Netherlands	1990-1994	80.9
Sweden	1990-1994	78.4

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Hodgkin's Disease (ICD0-2: M965-M966) (continued)

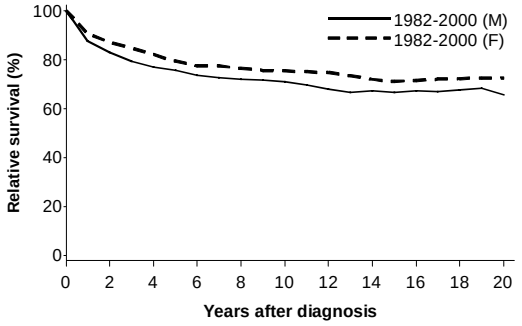
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	168	67.5 (59.5, 74.5)	1.86 (1.22, 2.83)
1986-1990	254	74.2 (67.9, 79.6)	1.37 (0.91, 2.04)
1991-1995	259	80.9 (75.0, 85.7)	0.94 (0.61, 1.44)
1996-2000	294	83.5 (77.9, 87.9)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	70.9 (66.0, 75.4)	75.4 (70.2, 79.9)
15	66.5 (60.5, 72.0)	71.2 (64.6, 77.0)
20	65.6 (55.5, 74.9)	72.6 (65.9, 78.5)

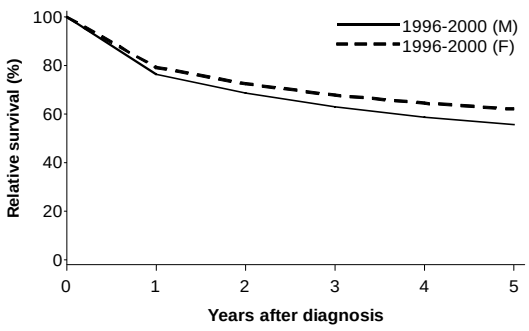


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Non-Hodgkin's Lymphoma (ICD0-2: M959, M967-M971)

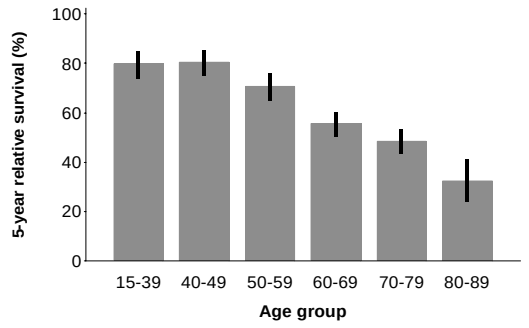
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	76.3 (73.8, 78.5)	79.2 (76.7, 81.5)
2	68.7 (66.0, 71.2)	72.4 (69.6, 75.1)
3	63.1 (60.2, 65.9)	67.8 (64.7, 70.6)
4	58.7 (55.6, 61.8)	64.4 (61.1, 67.5)
5	55.6 (52.2, 58.9)	62.0 (58.4, 65.5)



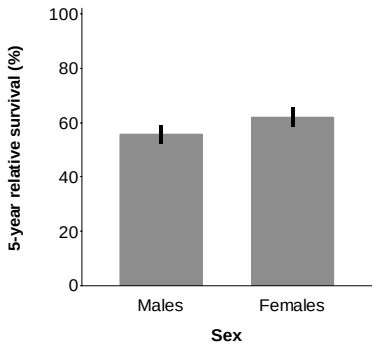
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-39	217	79.7 (73.7, 84.6)	1.00
40-49	272	80.6 (74.7, 85.3)	0.89 (0.58, 1.34)
50-59	426	70.6 (64.9, 75.7)	1.20 (0.84, 1.72)
60-69	583	55.5 (50.5, 60.2)	2.26 (1.63, 3.15)
70-79	711	48.4 (43.5, 53.3)	2.94 (2.13, 4.06)
80-89	348	32.3 (24.3, 41.1)	4.68 (3.33, 6.57)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	1412	55.6 (52.2, 58.9)	1.25 (1.09, 1.44)
Females	1145	62.0 (58.4, 65.5)	1.00



Comparisons of 5-Year Relative Survival

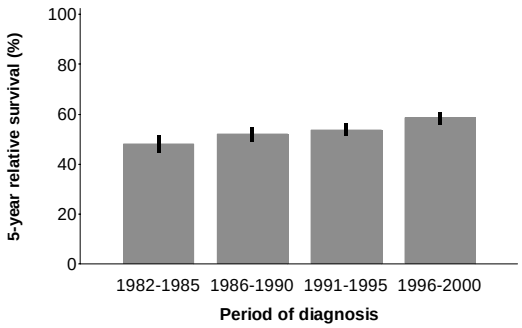
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	58.5
Australia	1992-1997	55.1
United States	1995-2000	59.1
England	1990-1994	49.6
Italy	1990-1994	53.9
Netherlands	1990-1994	50.7
Sweden	1990-1994	54.4

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Non-Hodgkin's Lymphoma (ICD0-2: M959, M967-M971) (continued)

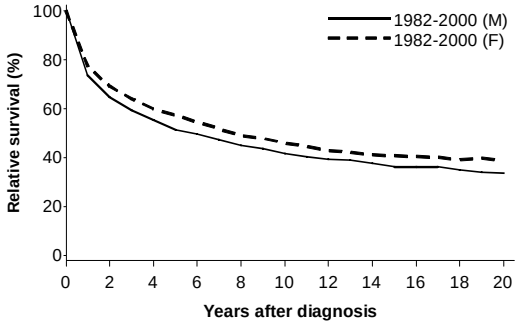
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	982	48.1 (44.6, 51.5)	1.47 (1.31, 1.66)
1986-1990	1482	52.1 (49.2, 54.9)	1.30 (1.17, 1.44)
1991-1995	2000	53.8 (51.3, 56.2)	1.19 (1.08, 1.31)
1996-2000	2557	58.5 (56.1, 60.9)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	41.6 (39.4, 44.0)	46.0 (43.6, 48.4)
15	36.4 (33.3, 39.5)	40.8 (37.7, 43.9)
20	33.7 (28.8, 38.9)	38.8 (34.0, 43.9)

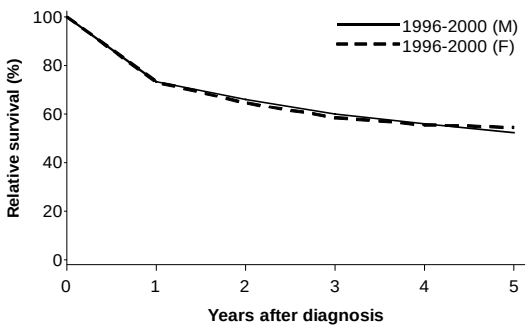


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Adult Leukaemia (ICD0-2: M980-M994)

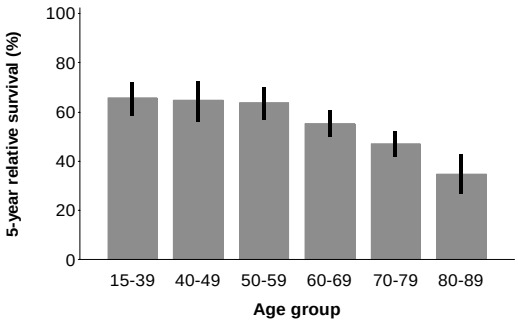
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	73.4 (70.8, 75.8)	73.3 (70.1, 76.2)
2	66.0 (63.2, 68.8)	64.6 (61.1, 67.9)
3	60.0 (57.0, 63.0)	58.6 (54.9, 62.1)
4	55.9 (52.6, 59.1)	55.6 (51.7, 59.4)
5	52.5 (48.9, 56.0)	54.4 (50.2, 58.4)



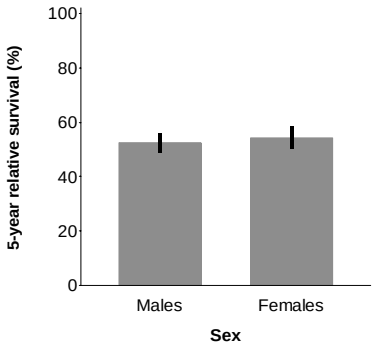
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-39	207	65.6 (58.3, 72.0)	1.00
40-49	170	64.9 (56.1, 72.4)	0.98 (0.68, 1.41)
50-59	312	63.8 (57.0, 69.8)	0.99 (0.72, 1.35)
60-69	454	55.1 (49.6, 60.4)	1.34 (1.01, 1.79)
70-79	598	47.2 (41.9, 52.5)	1.77 (1.35, 2.33)
80-89	336	34.5 (26.8, 43.0)	2.83 (2.12, 3.78)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	1260	52.5 (48.9, 56.0)	1.04 (0.90, 1.20)
Females	817	54.4 (50.2, 58.4)	1.00



Comparisons of 5-Year Relative Survival

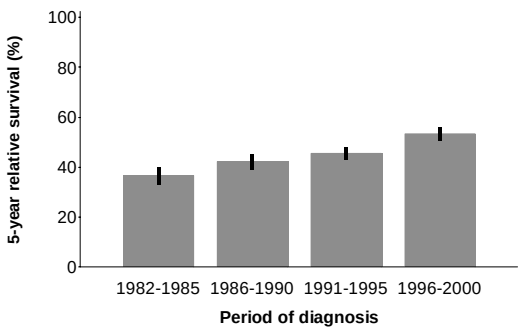
State/Country	Period	5-year Relative Survival (%)	
Queensland	1996-2000	53.2	
Australia	1992-1997	42.1	(includes all age groups)
United States	1995-2000	46.4	(includes all age groups)
England	1990-1994	37.0	
Italy	1990-1994	32.6	
Netherlands	1990-1994	37.0	
Sweden	1990-1994	40.5	

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Adult Leukaemia (ICD0-2: M980-M994) (continued)

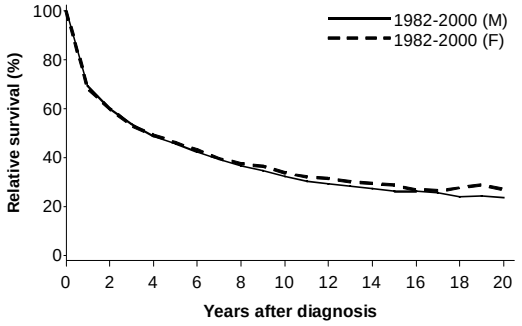
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	916	36.5 (33.1, 40.0)	1.61 (1.44, 1.80)
1986-1990	1233	42.2 (39.1, 45.3)	1.40 (1.26, 1.56)
1991-1995	1715	45.5 (42.9, 48.2)	1.23 (1.11, 1.36)
1996-2000	2077	53.2 (50.5, 55.9)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	32.3 (30.0, 34.7)	33.8 (31.1, 36.5)
15	26.4 (23.5, 29.5)	28.7 (25.2, 32.4)
20	23.5 (18.9, 28.7)	27.0 (20.8, 33.9)

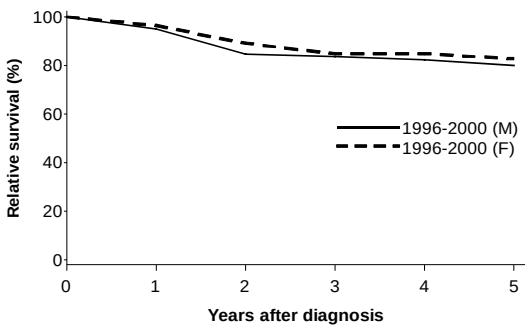


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Childhood Leukaemia 0-14 Years (ICD0-2: M980-M994)

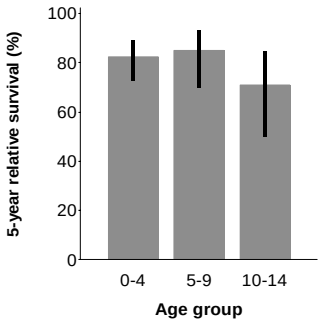
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	95.0 (88.2, 98.0)	96.4 (89.0, 98.9)
2	84.7 (75.8, 90.6)	89.0 (79.9, 94.2)
3	83.6 (74.5, 89.7)	84.9 (74.7, 91.2)
4	82.2 (72.7, 88.7)	84.9 (74.8, 91.3)
5	80.1 (69.6, 87.3)	82.7 (71.5, 89.8)



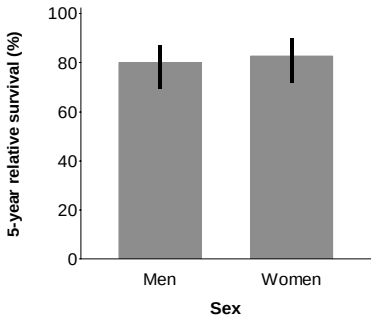
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
0-4	107	82.5 (72.7, 89.1)	1.00
5-9	42	85.1 (69.7, 93.1)	0.89 (0.35, 2.28)
10-14	29	71.0 (49.6, 84.6)	1.87 (0.80, 4.39)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	97	80.1 (69.6, 87.3)	1.13 (0.55, 2.34)
Females	81	82.7 (71.5, 89.8)	1.00



Comparisons of 5-Year Relative Survival

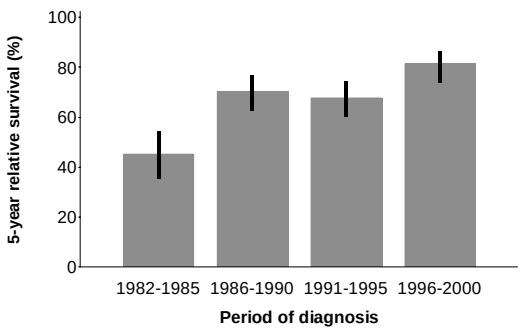
State/Country	Period	5-year Relative Survival (%)	
Queensland	1996-2000	81.3	
Australia	1992-1997	67.1	(weighted average 0-19 yrs)
United States	1995-2000	79.3	(weighted average 0-14 yrs)
England and Wales	1990-1994	74.0	(observed survival)
Italy	1990-1994	76.4	(observed survival)
Netherlands	1990-1994	76.1	(observed survival)
Sweden	1990-1994	n.a.	

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Childhood Leukaemia 0-14 Years (ICD0-2: M980-M994) (continued)

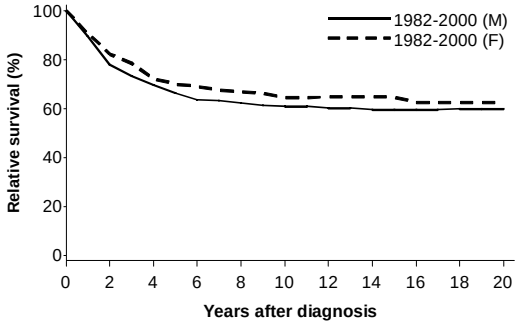
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	102	45.1 (35.3, 54.4)	3.63 (2.33, 5.66)
1986-1990	160	70.2 (62.5, 76.7)	1.54 (0.97, 2.44)
1991-1995	170	67.8 (60.2, 74.2)	1.90 (1.21, 2.96)
1996-2000	178	81.3 (74.0, 86.7)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	60.9 (55.1, 66.2)	64.6 (58.0, 70.5)
15	59.6 (53.5, 65.2)	64.7 (58.1, 70.6)
20	59.9 (53.8, 65.6)	62.6 (54.5, 69.6)

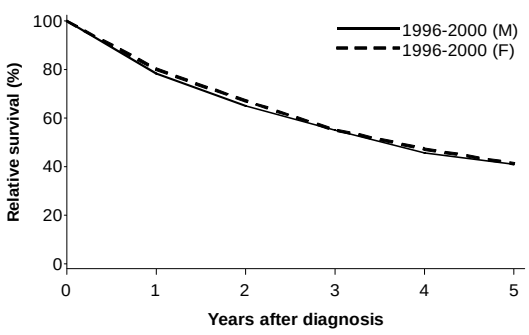


*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Myeloma (ICD0-2: M973)

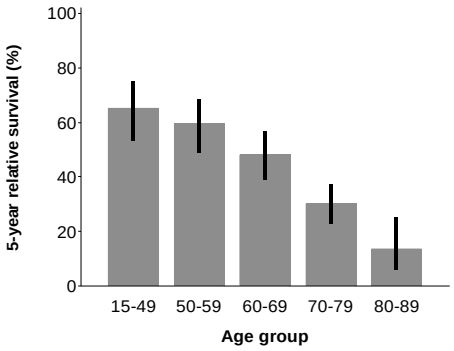
Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1996-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
1	78.2 (74.2, 81.8)	80.1 (75.5, 84.0)
2	64.9 (60.2, 69.3)	67.0 (61.7, 71.8)
3	54.8 (49.9, 59.6)	55.1 (49.4, 60.4)
4	45.7 (40.4, 50.9)	47.3 (41.2, 53.1)
5	41.1 (35.5, 46.7)	41.1 (34.5, 47.7)



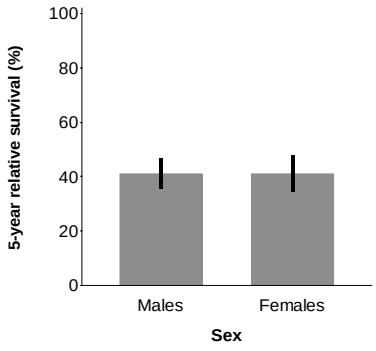
5-Year Relative Survival by Age Group at Diagnosis *(cancers diagnosed between 1996-2000)*

Age Group	Count	5-year Relative Survival (%)*	Excess Mortality*
15-49	86	65.1 (53.0, 74.9)	1.00
50-59	145	59.5 (49.1, 68.6)	1.09 (0.68, 1.74)
60-69	226	48.0 (39.1, 56.5)	1.37 (0.89, 2.11)
70-79	271	30.0 (23.1, 37.3)	2.50 (1.67, 3.76)
80-89	164	13.6 (6.0, 25.2)	3.94 (2.57, 6.04)



5-Year Relative Survival by Sex *(cancers diagnosed between 1996-2000)*

Sex	Count	5-year Relative Survival (%)*	Excess Mortality*
Males	516	41.1 (35.5, 46.7)	1.06 (0.86, 1.30)
Females	376	41.1 (34.5, 47.7)	1.00



Comparisons of 5-Year Relative Survival

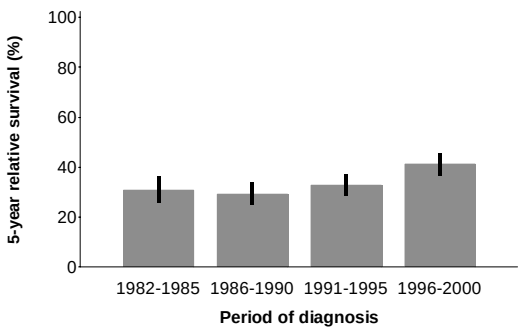
State/Country	Period	5-year Relative Survival (%)
Queensland	1996-2000	41.1
Australia	1992-1997	n.a.
United States	1995-2000	32.1
England	1990-1994	24.3
Italy	1990-1994	35.7
Netherlands	1990-1994	30.1
Sweden	1990-1994	32.0

*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

Myeloma (ICD0-2: M973) (continued)

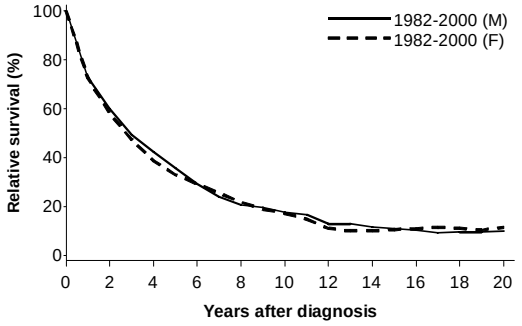
5-Year Relative Survival by Period of Diagnosis *(cancers diagnosed between 1982-2000)*

Period of Diagnosis	Count	5-year Relative Survival (%)*	Excess Mortality*
1982-1985	372	30.9 (25.8, 36.2)	1.44 (1.22, 1.70)
1986-1990	482	29.3 (24.9, 33.9)	1.51 (1.30, 1.76)
1991-1995	586	32.6 (28.4, 36.9)	1.28 (1.11, 1.49)
1996-2000	892	41.1 (36.8, 45.4)	1.00



Longer-term Relative Survival by Years after Diagnosis and Sex *(cancers diagnosed between 1982-2000)*

Years After Diagnosis	Males – Relative Survival (%)*	Females – Relative Survival (%)*
10	17.5 (14.4, 20.9)	17.2 (13.8, 21.0)
15	11.0 (7.5, 15.3)	10.6 (7.1, 15.1)
20	10.0 (6.0, 15.7)	11.6 (6.4, 19.1)



*Note: Figures shown in brackets refer to 95% confidence intervals. n.a. = not available.
Excess mortality was adjusted for age at diagnosis and sex (where applicable).
Comparisons of 5-year relative survival should be interpreted with caution. See Appendix 1 for further details.

APPENDIX 1

DATA AND METHODS

Sources of data

The data used in this report are from the Queensland Cancer Registry (QCR), which was established as a population-based registry in 1982. More details on the QCR are available at the following website: "http://www.health.qld.gov.au/hic/QHID/can/html/can_QCRdetails.asp".

Notification of cancer is a statutory requirement for all public and private hospitals, nursing homes and pathology services. Notifications are received for all persons with cancer who are discharged from public and private hospitals and nursing homes. Queensland pathology laboratories provide copies of pathology reports for cancer specimens to the QCR.

Deaths among people with cancer are identified by matching QCR data against records from the Office of the Queensland Registrar of Births, Deaths and Marriages. This identifies 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, are identified by matching data from the QCR to the National Death Index at the Australian Institute of Health and Welfare. Cancer registries in other states and territories also provide information on interstate deaths. People who were not known to have died were assumed to be still alive.

Time period

The report includes people diagnosed with cancer in the period from 1 January 1982 to 31 December 2000. Deaths that occurred up until 31 December 2002 were matched against these incidence records, allowing for a minimum follow-up period of 2 years. This minimum follow-up time is consistent with the strategy used by other recently published Australian survival reports[1-3].

People who were not known to have died up to 31 December 2002 were treated as censored cases.

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

Persons younger than 15 years were excluded for all of the cancers that were analysed, except leukaemia. For leukaemia, the survival of both children (younger than 15 years) and adults (15 years or older) was estimated separately because there are important differences in the types of leukaemia diagnosed for children and adults. People aged 90 years or older at time of diagnosis were also excluded from all estimates of survival because follow-up to death is problematic for this age group.

People who were reported to the cancer registry by death certificate only (DCO) were also excluded because there was no definite date of diagnosis. The percentage of DCO cases for most types of cancer was less than 2%[4].

Measures of survival

In population-based survival analyses, survival time is taken to be the date of diagnosis to the date of death. However, since the eventual survival time of everyone diagnosed with a cancer is not known (for example they may still be alive), statistical adjustments are required to take into account those unknown or "censored" survival times. The two main statistical 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 versus cause-specific survival

Relative survival compares the survival of people, who have a particular cancer, with the expected survival of a comparable group from the general population, taking into account age, sex and year of diagnosis. The method does not require knowledge of the specific cause of death, only knowledge of whether the patient has died. Only those patients who are still alive are considered censored.

Cause-specific survival looks at the time from diagnosis of a cancer to death from that specific cancer. All other events (i.e. still alive or dying from another condition (including other cancers)) are considered censored. Obtaining accurate cause of death information can be problematic when there are multiple possible causes of death.

Cancer registries have traditionally used relative survival in preference to cause-specific survival when presenting population-based survival estimates. The main reason for this is that it removes the need for accurate cause-of-death coding, and thus enables comparisons of survival estimates across different cancer registries and countries. Systematic national differences in the cause-of-death coding for some conditions make cause-specific estimates unsuitable for international comparisons. In addition, by focussing only on the cancer diagnosed rather than the specific cause of death, relative survival attempts to take into account deaths that are both directly related (i.e. specific cancer) and indirectly related (eg. suicide, treatment effects, cardiovascular disease).

Limitations of relative survival

Relative survival is the ratio of the observed survival of cancer patients to the expected survival of the general population. Although the general population survival also includes those people with cancer, in practice this does not usually have much of an effect on the expected survival calculations[5].

Comparing the survival of cancer patients with the survival of the general population has limitations for smoking-related cancers, particularly lung cancer. Smokers, whether or not they have cancer, usually have a reduced expected survival compared to non-smokers. Therefore, by using the survival of the general population as the denominator for smoking-related cancers, the relative survival for those cancers is under-estimated by not further adjusting for the different smoking status of the two populations.

Cohort method versus period method

In this report, relative survival estimates have been calculated using the traditional cohort approach. This will generate different survival estimates to the period approach[6] which is being used by some cancer registries.

Evaluations of the two approaches suggest that the cohort method under-estimates longer-term survival by about 10% compared to the period method, although there is substantial variation in this estimate for specific cancers. On the other hand, differences between the two methods are much smaller when considering shorter-term survival[7], and the precision tends to be less for the period-based approach due to the smaller numbers available for analysis.

The preferred methodology will need to be re-evaluated prior to the future publication of cancer survival estimates for Queensland, to ensure that the results for Queensland remain in line with national and international standard practices.

Details of the analysis

Relative survival estimates were generated based on a suite of SAS®[8] programs, adapted from those written by Paul Dickman[9]. The programs use a life table (or actuarial) method for calculating observed survival. This approach involves dividing the total period of "observation" into a series of discrete time intervals. The survival proportion was then calculated for each of these intervals, and these were multiplied together to get the observed survival estimate. Expected survival (based on total Queensland mortality) was calculated using the Ederer II method[9]. As described previously, relative survival is then obtained from the ratio of observed survival to expected survival, and presented with the corresponding 95% confidence intervals.

Modelling of the relative survival estimates used a generalised linear model using exact survival times and a Poisson assumption (with logarithmic link and offset)[10], including adjustments for age and sex where applicable. Differences in survival were expressed in terms of excess mortality (along with 95% confidence intervals).

Age at diagnosis was based on 6 age groups: 15-39; 40-49; 50-59; 60-69; 70-79; and 80-89 years. For some cancers it was necessary to combine some of the age groups so that there were sufficient numbers in each age group to provide meaningful estimates. Five-year age groups were used in the analysis of childhood leukaemia (0-4; 5-9; and 10-14 years).

It was not always feasible to report the results of longer-term relative survival, because the number of long-term survivors for some cancers was too small to produce reliable results. For example, 20 year survival for cancer of the liver was not available for either males or females as none of the patients who were diagnosed in 1982 were still alive in 2002 (page 16).

Excess mortality was calculated for:

- age group (adjusted for sex and using cancers diagnosed between 1996 and 2000),
- sex (adjusted for age group and using cancers diagnosed between 1996 and 2000); and,
- period (adjusted for age group and sex and using cancers diagnosed between 1982 and 2000).

The respective reference categories for excess mortality (i.e. where excess mortality = 1.00) were the youngest age group (usually 15-39 years), females and cancers diagnosed in the period 1996-2000. The excess mortality compares the relative survival curves from 0 to 5 years, not just the 5-year relative survival point estimates. Therefore, it is possible that a comparison of the 5-year relative survival estimates may not match the pattern of the excess mortality results. For example, the 5-year relative survival for mesothelioma has decreased between 1991-1995 and 1996-2000 (7.2% and 5.2% respectively); however, there was an excess mortality of 11% reported for 1991-1995 compared to the reference period of 1996-2000 (page 26).

Interpretation of national or international differences

Although useful, the interpretation of survival differences within or between countries is not straightforward, and need not necessarily imply differences in the effectiveness of cancer treatment. Some other possible reasons for the observed differences are described below.

Survival for all cancers combined

Survival estimates for all cancers combined have been included in this report, in line with national and international publications on cancer survival. However, these estimates need to be interpreted with caution, as the results depend on the particular mix of cancers that are present in the various populations. For example, a population with a greater proportion of "high survival" cancers will have a higher survival estimate for all cancers combined. This is the case in Queensland, where there is a far greater number of melanomas diagnosed (with generally high survival) relative to the rest of Australia and other countries. Demographic differences across populations also contribute to the varying mix of cancers diagnosed.

Random variation

Some differences in survival can be explained by random variation. That is, the variations in survival are due to chance alone and require no further investigation. However, the likelihood of chance explaining the difference reduces as the number of cancers diagnosed increases.

Registration practices

The way in which some cancers are registered can vary among registries, both within Australia and internationally. Bladder cancer is the most striking example of this. In Australia, the Queensland, Victorian and Tasmanian registries include papillomas with other invasive bladder tumours, while the other states and territories do not. The inclusion of papillomas will tend to increase population-based survival estimates for bladder cancer.

Calculation methods

Although most software packages and programs are based on the same underlying methodology, the various programs used by different cancer registries may result in very small differences in survival estimates.

Different time periods

Since survival estimates generally increase over time, comparing survival estimates across different time periods can be misleading. While the time periods for the Australian (1992-1997) and United States (1995-2000) cancer survival estimates are similar to the Queensland estimates (1996-2000), the latest available

European survival estimates are substantially earlier (1990-1994). Therefore it is likely that the survival estimates for the European countries are under-estimates of the current survival for those countries. The number of years of follow-up data available can also make small differences to the survival estimates.

Different age groups

The Queensland survival estimates are based on people diagnosed with cancer between 15 and 89 years of age (for the reasons outlined in the "Exclusions" paragraph above). The Australian and United States national estimates use 0-99 years, while the European countries use 15-99 years. Since survival generally decreases with age, the differences in the age groups would slightly increase the Queensland estimates compared to the other countries.

Completeness of death linkage

Survival rates depend on the completeness of the death linkage. This may vary among countries. Incomplete death linkage would result in inflated cancer survival estimates, as this would allow people who had died being recorded as still alive.

Different screening practices

Levels of screening may also influence cancer survival rates (see "Effects of screening" below). Queensland and Australia currently have organised screening programs for breast and cervical cancer, and ah-hoc screening also occurs for skin, prostate and colorectal cancer. Although specific details of screening practices in other countries are difficult to ascertain, it is possible that different levels of screening could explain some of the international differences, particularly for the above types of cancer.

In short, comparisons of population-based survival are best viewed as a way of summarising large amounts of routinely-collected cancer registry data. The comparisons 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 determine the underlying cause of any differences in cancer survival within or between countries.

Effects of screening on cancer survival

Cancers detected through screening are usually detected at an earlier stage in their development than those detected symptomatically. Therefore, as the proportion of cancers detected by screening increases, the calculated patient survival for that type of cancer will also increase; however, there may not necessarily be any actual prolonging of the patient's life. In other words, the time of diagnosis is often brought forward but the time of death may remain the same.

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*. For there to be a real survival benefit as a result of cancer screening (i.e. survival is increased by more than that due to lead-time alone), there needs to be an effective treatment or management process that can either slow or stop the natural progression of the cancer depending on the stage at which it is detected. While screening for breast cancer has been shown by clinical trials to result in a real increase in survival[11,12], the effectiveness of screening for other types of cancer (such as prostate cancer) remains unclear and research studies are ongoing[13,14].

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9 Dickman PW. *Estimating and modelling relative survival in SAS*. Karolinska Institute, Stockholm, Sweden. Available at http://www.pauldickman.com/rsmodel/sas_colon/. Accessed April 2004.

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14 De Koning H.J, Auvinen A, et al. *Large-scale randomized prostate cancer screening trials: program performances in the European randomized screening for prostate cancer trial and the prostate, lung, colorectal and ovary cancer trial*. International Journal of Cancer **97**(2): 237-244, 2002.

APPENDIX 2

CANCER SITE CODES

All cancer code definitions in this report are based on the second edition of the International Classification of Diseases for Oncology (ICD-O-2) coding scheme.

Cancer Site/Type	ICD-O-2 Code
All cancers (excluding non-melanoma skin cancers)	C00-C80
Oesophagus	C15
Stomach	C16
Colon or rectum (excluding anus)	C18-C20, C218
Liver	C22
Pancreas	C25
Larynx	C32
Lung	C33-C34
Melanoma	C44, M872-M879
Mesothelioma	M905
Female breast	C50
Cervix	C53
Uterus	C54
Ovary	C56
Prostate gland	C61
Testis	C62
Kidney	C64-C66, C68
Bladder	C67
Brain	C70
Thyroid gland	C73
Hodgkin's disease	M965-M966
Non-Hodgkin's lymphoma	M959, M967-M971
Leukaemia (adult and childhood)	M980-M994
Myeloma	M973

APPENDIX 3

SOURCES OF INFORMATION FOR NATIONAL AND INTERNATIONAL COMPARISONS

Australia

Australian Institute of Health and Welfare (AIHW) and Australasian Association of Cancer Registries (AACR). *Cancer Survival in Australia, 2001. Part 2: Statistical tables*. AIHW cat. no. CAN 14. Canberra, Australian Institute of Health and Welfare (Cancer Series No. 19), 2001.

United States

Ries LAG, Eisner MP, Kosary CL, Hankey BF, Miller BA, Clegg L, Mariotto A, Feuer EJ, Edwards BK (eds.). *SEER Cancer Statistics Review, 1975-2001*. National Cancer Institute. Bethesda, MD, 2004. Data available at http://seer.cancer.gov/csr/1975_2001/results_merged/topic_survival.pdf. Accessed December 2004.

Europe

Berrino F, Capocaccia R, Coleman MP, Esteve J, Gatta G, Hakulinen T, Micheli A, Sant M, Verdecchia A. *Survival of cancer patients in Europe: The EUROCARE-3 Study*. Annals of Oncology; 14 (Suppl 5), 2003. Data available at http://www.eurocare.it/. Accessed December 2004.