Cancer Patient Survival Covering the Period 1994 to 2007

Disclaimer

The purpose of this publication is to inform discussion and assist policy development. The opinions expressed in the publication do not necessarily reflect the official views of the Ministry of Health.

All care has been taken in the production of this publication. The data is deemed to be accurate at the time of publication, but may be subject to slight changes over time as further information is received. It is advisable to check the current status of figures given here with the Ministry of Health before quoting or using them in further analysis.

National collection, coding and collation of cancer registrations is a complex process. This is because the information in the New Zealand Cancer Registry comes from laboratory reports, hospital information and mortality information, and cannot be finalised until data has become available from all sources. In addition, there are several steps required to ensure the final information is of good quality.

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Source

Cancer registration data for this publication is sourced from the New Zealand Cancer Registry. Mortality data is sourced from the Mortality Collection held by the Ministry of Health.

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Purpose of this publication

- This publication was written as a follow-up to *Cancer Patient Survival Covering the Period 1994 to 2003*, published by the Ministry of Health in 2006.
- The data used in this report covers New Zealand patients diagnosed with cancer from 1994 to 2007, and makes use of follow-up (mortality) information to 31 December 2009.
- This publication shows a broad overview of cancer survival in New Zealand, comparing the impact of various factors without investigating how these factors interact.

Interpretation of the data

- None of the information in this publication has been adjusted for biases in ethnic group or deprivation (although some adjustments for age and sex have been made, through the use of age- and sex-specific life tables).
- The data within this publication can therefore be directly compared with the information presented in the previous *Cancer Patient Survival* publication. Fewer adjustments to the data (that is, the fact that the data have not been altered to smooth out any diversity within populations) also mean that the reader will be more able to assess the information provided in 'real terms'. However, this does mean that small biases exist within the data (such as differing ethnic groups having differing age structures, or higher levels of deprivation) and these should be taken into account when reading this publication.
- In estimation of background mortality in this publication, different ethnic and deprivation groups have been assumed to have national mortality rates. This will introduce some small biases where particular subgroups (for example the most deprived) exhibit differing levels of mortality to the national level.

Relative survival ratios

- In this report, cancer survival is calculated by comparing the number of people who died with cancer (with follow-up over a period of up to 10 years) with the number of people in the general population who would have been expected to die over the same period. A ratio of one indicates that the cancer survival ratio is the same as would be expected in the general population of the same age and sex.
- Typically, cancer five- and 10-year relative survival ratios are well below one, reflecting greater mortality among cancer patients compared to the general population.
- Between 1994 and 2007, the cumulative relative survival ratio for all adult cancers was 0.607 after five years of follow-up, and 0.570 after 10 years of follow-up.
- For children aged 0–14, the survival ratio was 0.772 after five years, and 0.751 after 10 years.

Survival by cancer site

- Of the 24 cancer groups reported in this publication, cancer of the pancreas had the lowest survival outcomes over both five and 10 years.
- Testicular cancer showed the best survival ratios over five and 10 years of follow-up.

Survival by population group

- In general, women showed marginally better survival than men.
- In general, extent of disease at diagnosis (where stated) affected survival outcome. Patients with cancers diagnosed while the tumour was still confined to the organ of origin (that is, localised disease) consistently showed the best survival. The poorest survival was seen in patients whose disease had spread (that is, metastasised) to distant lymph nodes at the time of diagnosis.
- In general, survival was lower among Māori than non-Māori. The only site for which Māori patients showed consistently higher survival over 10 years of follow-up was cancer of the ovary.
- In general, cancer survival was best in those living in the least deprived areas.

Survival over time

- Between 1998 and 2007 five-year cumulative relative survival ratios improved within the 'all adult cancer' group. In 1998 and 1999 the survival ratio was 0.576; this value increased to 0.623 in 2006 and 2007.
- Between 1998 and 2007, five-year cumulative relative survival ratios improved in adults for males and females, for Māori and non-Māori, for all deprivation groups and for most age groups.

Introduction

The length of time that a person diagnosed with cancer survives is one of the most important indicators of the impact of cancer on society. It is of great interest to cancer patients and researchers, and is a valuable way of measuring the success of cancer treatments.

This publication supersedes the *Cancer Patient Survival Covering the Period 1994 to 2003* publication released by the Ministry of Health in 2006. In addition to covering all the information in the 2006 publication, this version includes 10-year survival data, as well as information for additional cancer sites. It also shows how cancer survival has changed over time, allowing an insight into the possible impacts of changes in health care on people diagnosed with cancer.

The cancer registration data analysed in this report covers the years 1994–2007. Measurement of cancer survival information requires at least five years of comparable data, including new cancer cases and the outcomes of those cases in terms of either survival or death (data in this publication includes deaths to the end of 2009).

Cancer survival

In this report, cancer survival is calculated by comparing the number of people with a particular type of cancer who died over a period of up to 10 years with the number of people in the general population who would have been expected to die over the same period. A ratio is calculated by dividing the observed survival rate experienced by cancer patients with the expected survival rate of a group of people from the population who are of the same sex and of a similar age. This figure is known as the 'relative survival ratio'.

The relative survival ratio is typically a number between zero and one, where zero would indicate that none of the patients survived and one would signify that patients experienced mortality rates no higher than those in a comparable group from the general population.

It is possible to obtain a relative survival ratio with a value greater than one: this would indicate that the observed survival of the patients in the group was better than that expected from the general population. This situation may occur if cancer patients can generally be cured, or if patients are otherwise more privileged (for example in terms of socioeconomic factors or access to medical care) than the general population.

The relative survival ratio can be presented in two ways.

The cumulative relative survival ratio

This is a measure of patient survival corrected for the effect of other independent causes of death. It represents the proportion of patients within a particular group alive after a certain number of years of follow-up, and attributes all the 'excess' mortality of the group to the cancer in question.

By way of example, the table below shows the cumulative relative survival ratios for all adult trachea, bronchus and lung cancer patients over 10 years of follow-up:

Time since diagnosis	Patients alive at the start	Patients died	Patients withdrawn*	Cumulative observed survival	Cumulative expected survival	Cumulative relative survival ratio
1 year	22,374	15,669	0	0.300	0.964	0.311
2 years	6705	2884	0	0.171	0.934	0.183
3 years	3821	945	260	0.127	0.905	0.140
4 years	2616	432	193	0.105	0.876	0.120
5 years	1991	203	154	0.094	0.848	0.111
6 years	1634	131	157	0.086	0.819	0.105
7 years	1346	84	149	0.080	0.789	0.102
8 years	1113	72	105	0.075	0.758	0.099
9 years	936	35	105	0.072	0.726	0.099
10 years	796	31	96	0.069	0.692	0.100

* For an explanation of 'patients withdrawn' see the Appendix.

In this case 796 patients were alive at the start of the 10th year of follow-up. The cumulative observed survival of 0.069 in this year indicates that 6.9 percent of adults with this cancer survived for 10 years after diagnosis. The cumulative expected 10-year survival for the general population is 69.2 percent. Therefore the cumulative relative survival ratio after 10 years is 0.069/0.692 = 0.100.

The interval-specific survival ratio

This ratio is calculated separately for each year of follow-up. By following patients' progress in this way, it is possible to see how the probability of survival varies over time.

The table below presents the interval-specific relative survival ratio for testicular cancer.

Time since diagnosis	Patients alive at the start	Patients died	Patients withdrawn	Interval-specific observed survival	Interval-specific expected survival	Interval-specific relative survival
1 year	1929	51	0	0.974	0.997	0.977
2 years	1878	22	0	0.988	0.997	0.991
3 years	1856	11	142	0.994	0.997	0.997
4 years	1703	12	162	0.993	0.997	0.996
5 years	1529	4	140	0.997	0.997	1.000
6 years	1385	4	129	0.997	0.997	1.000
7 years	1252	1	129	0.999	0.996	1.003
8 years	1122	8	160	0.992	0.996	0.996
9 years	954	4	120	0.996	0.996	1.000
10 years	830	1	135	0.999	0.996	1.003

In this case the interval-specific observed survival of 0.999 in the 10th year indicates that 99.9 percent of all patients who survived until the end of the ninth year also survived to the end of the 10th year. The interval-specific expected survival for the male population is 99.6 percent. Therefore the interval-specific relative survival for the 10th year of follow-up is 0.999/0.996 = 1.003.

This means that in this example, if a patient survives the ninth year of follow-up after being diagnosed with testicular cancer, his chances of surviving the next 12 months are actually slightly higher than that of the general male population (that is, the interval-specific relative survival ratio is greater than one). Factors affecting this are complex, but may include the fact that the patient is being regularly assessed by clinicians, or that the patient has decided to make positive changes to his lifestyle, having been diagnosed with cancer.

Methods

Calculating relative survival

Relative survival information is calculated by dividing observed survival by expected survival.

Observed survival data was obtained from the New Zealand Cancer Registry and the Mortality Collection, both of which are databases administered by the Ministry of Health. People who are diagnosed and subsequently die overseas will be considered 'alive' in this data.

Expected survival data is calculated from life tables for the total New Zealand resident population, based on data received from Statistics New Zealand. These tables include information on the probability of death and life expectancy for both sexes and by single year of life.

This information is then used to calculate cancer survival rates and ratios, using the Stata program and the Ederer II method. (See the Appendix for additional information on data used in this report.)

In this publication, survival data is presented as graphs showing relative survival ratios over time and as tables giving relative survival ratios according to age, ethnicity, extent of disease and deprivation.

Confidence intervals

Where present, confidence intervals for estimated relative survival ratios have been calculated using the method described by Dickman et al (2007). Ninety-five percent confidence limits are presented in order to provide an indication of the level of statistical uncertainty in estimated five- and 10-year relative survival ratios. (See the Appendix for more information on confidence intervals.)

Interpretation

> *The underlying reasons for social class differences in cancer patient survival are not fully understood, but are believed to depend on a combination of factors related to the biological properties of the tumour, the presence of co-morbidities, the health care system and social or psychological factors* (Eloranta et al 2010).

The 24 cancer groupings covered in this publication are:

- all adult cancers
- head, neck and larynx
- oesophagus
- stomach
- colorectum and anus
- liver and intrahepatic bile ducts
- pancreas
- trachea, bronchus and lung
- melanoma of the skin
- female breast
- cervix uteri
- corpus uteri
- ovary
- prostate
- testis
- bladder
- kidney, ureter and urethra
- brain
- thyroid gland
- Hodgkin lymphoma
- non-Hodgkin lymphoma
- myeloma
- leukaemia – all forms
- childhood cancers.

Data presented for all of the above groupings, with the exception of childhood cancers, pertain to adults aged 15–99. Data on childhood cancers pertain to patients aged 0–14. For a definition of cancer and more information the *International Classification of Diseases* (ICD) codes used in this report, please see the Appendix.

It should be noted that numbers in the 'all adult cancers' group (which includes sites not reported on in this publication) will have varied over time due to changes in Cancer Registry registration rules.

Numbers of patients within the 24 groups covered in this publication provide sufficient cases for meaningful analysis. The number of cases ranged from 1005 for Hodgkin Lymphoma to 36,103 for prostate cancer.

In grouping results by sex, extent of disease, ethnicity, deprivation and/or age, some of the numbers produced are very low. Where this is the case, recorded survival ratios should be treated with caution; a single additional death may make a large difference to a survival ratio. (For more information regarding treatment of ethnicity, extent of disease and deprivation in this publication, please see the Appendix.)

The numbers of patients who survive more than a few years after diagnosis of some cancers (for example, pancreatic cancer) are low. In these cases survival ratios can vary considerably with the addition of one or two extra deaths to the dataset, and therefore this information should also be treated with caution.

In the case of cancers that are more likely to affect older people (such as prostate cancer), care should be taken when interpreting results presented for Māori. The Māori population has a younger age structure than the non-Māori population; therefore the numbers of Māori with cancers affecting older age groups will be relatively small. Māori also have higher background mortality rates; therefore, because the population tables are based on total population, some Māori survival rates may be slightly underestimated.

Care should also be taken when interpreting information based on extent of disease: in many cases this information was not recorded. The percentage of cases for which information on extent of disease was not available ranged from 4.1 percent for melanoma of the skin to 76.7 percent for bladder cancer, over all years analysed. (For more information on extent of disease in this publication, please see the Appendix.)

Change over time information

In addition to the analyses undertaken for the previous publication (released in 2006) this publication also provides change over time information, showing five-year survival for patients with cancer over five periods between 1998 and 2007. This information shows how the chances of five-year survival for patients with a particular cancer changed over that 10-year period.

Change over time information should be treated with caution when small numbers are involved.

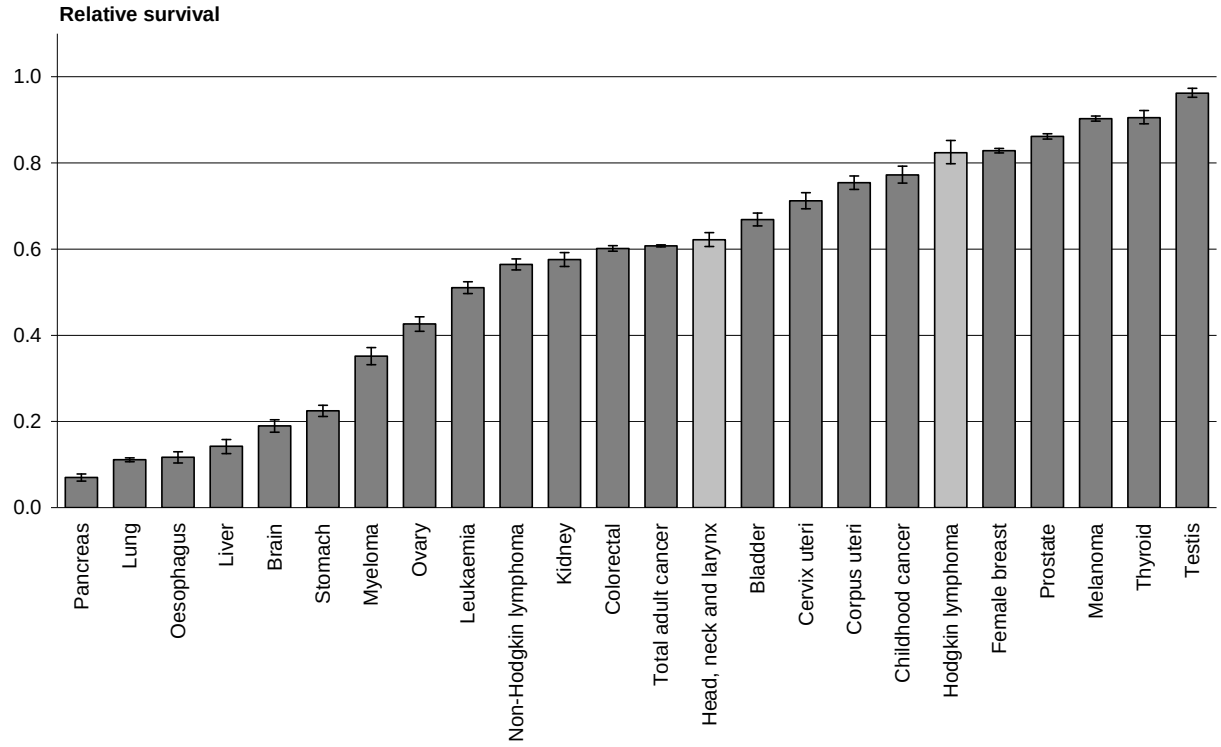
It should be noted that it has not been possible to produce change over time information broken down by extent of disease nor for cancer of the ovary or cancer of the bladder. This is due to changes in Cancer Registry processes over the period in question, meaning that this information is not comparable over time. It was not possible to produce information relating to change over time before 1998, due to the method of survival calculation used (see the Appendix for more information).

Trends noted in change over time information may not necessarily be directly due to changes in survival ratios, but rather may be due to changes in diagnosis, treatment or early detection techniques, or may be artefacts of the data. This publication does not attempt to explain the underlying cause of any trends.

Site-specific cancer survival data

Figure 1 compares five-year relative survival ratios for the 24 groups of cancers detailed in this report. The overall relative five-year survival ratio for all adult cancers (for people aged 15 and above) over the period surveyed was 0.607.

Figure 1: Five-year cumulative relative survival, by cancer type



For the years covered in this report, cancer of the pancreas showed the lowest five-year cumulative relative survival ratio: 0.070 (see Table 1). The confidence intervals for this cancer do not overlap with others, indicating that its survival rates are significantly lower than for any other cancer shown.

The cancer with the highest cumulative five-year survival was testicular cancer, with a ratio of 0.962. This value is very close to one, indicating that patients with this cancer experienced a mortality rate only slightly lower than would be expected in the general population.

Table 1 shows the data represented in Figure 1, including upper and lower confidence intervals.

Table 1: Five-year cumulative relative survival ratios and confidence intervals, by cancer type

	Five-year cumulative survival	Lower confidence interval	Upper confidence interval
Pancreas	0.070	0.062	0.079
Lung	0.111	0.106	0.116
Oesophagus	0.117	0.105	0.130
Liver	0.142	0.127	0.159
Brain	0.190	0.176	0.204
Stomach	0.225	0.212	0.238
Myeloma	0.352	0.332	0.372
Ovary	0.426	0.409	0.443
Leukaemia	0.510	0.497	0.524
Non-Hodgkin lymphoma	0.564	0.552	0.577
Kidney	0.576	0.560	0.592
Colorectal	0.602	0.595	0.608
Total adult cancer	0.607	0.605	0.610
Head, neck and larynx	0.622	0.606	0.638
Bladder	0.669	0.654	0.683
Cervix uteri	0.712	0.693	0.730
Corpus uteri	0.754	0.738	0.769
Childhood cancer	0.772	0.752	0.791
Hodgkin lymphoma	0.824	0.795	0.849
Female breast	0.828	0.823	0.834
Prostate	0.862	0.855	0.868
Melanoma	0.903	0.897	0.909
Thyroid	0.905	0.889	0.920
Testis	0.962	0.950	0.971

Ten-year relative survival ratios are compared in Figure 2. The overall relative 10-year survival ratio for all adult cancers was 0.570 in the period surveyed.

As with the figures for five-year survival, pancreatic and testicular cancers showed the highest and lowest rates of 10-year survival, respectively.

As would be expected, for every cancer the 10-year survival rate was lower than the five-year rate.

Figure 2: Ten-year cumulative relative survival, by cancer type

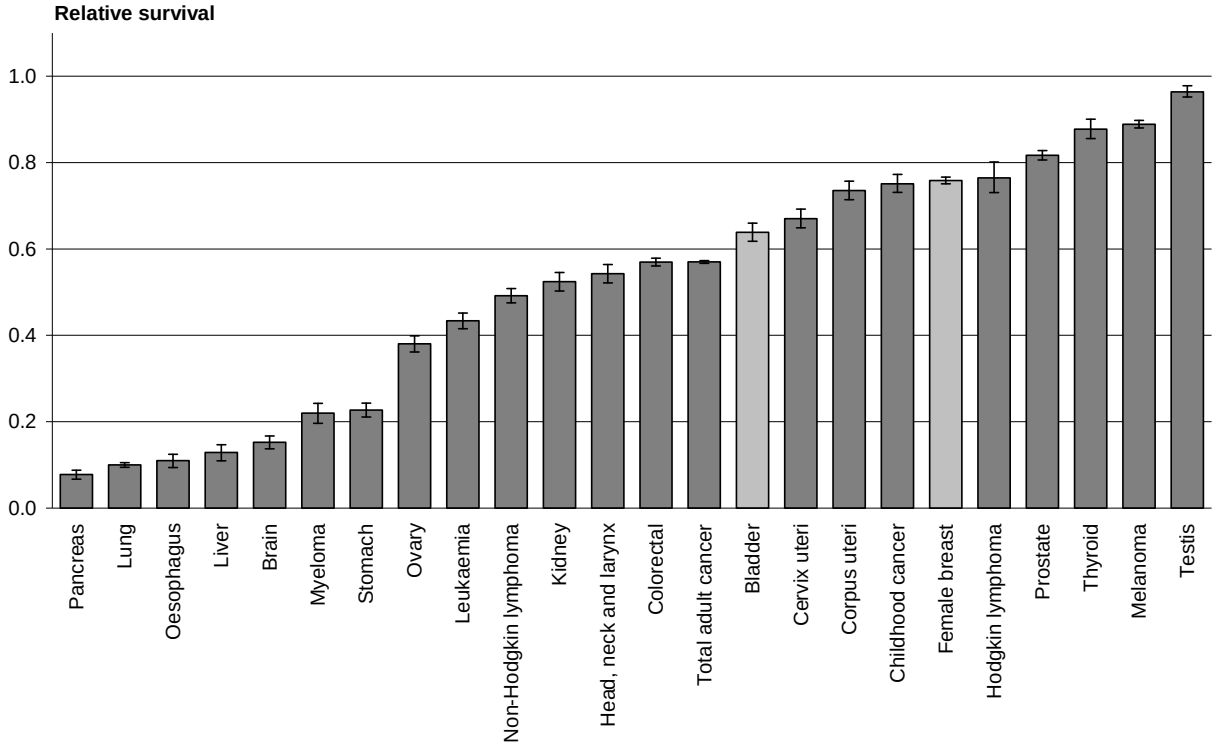


Table 2 shows the data represented in Figure 2.

Table 2: Ten-year cumulative relative survival ratios and confidence intervals, by cancer type

	10-year cumulative survival	Lower confidence interval	Upper confidence interval
Pancreas	0.078	0.068	0.089
Lung	0.100	0.095	0.105
Oesophagus	0.110	0.095	0.126
Liver	0.129	0.111	0.148
Brain	0.153	0.138	0.168
Myeloma	0.220	0.197	0.244
Stomach	0.227	0.211	0.244
Ovary	0.380	0.362	0.399
Leukaemia	0.433	0.415	0.452
Non-Hodgkin lymphoma	0.492	0.475	0.508
Kidney	0.524	0.503	0.546
Head, neck and larynx	0.543	0.521	0.564
Colorectal	0.570	0.561	0.579
Total adult cancer	0.570	0.567	0.573
Bladder	0.639	0.618	0.659
Cervix	0.670	0.648	0.691
Corpus	0.735	0.713	0.756
Childhood cancer	0.751	0.729	0.771
Female breast	0.759	0.751	0.766
Hodgkin lymphoma	0.764	0.727	0.798
Prostate	0.817	0.806	0.828
Thyroid	0.877	0.854	0.899
Melanoma	0.889	0.880	0.897
Testis	0.964	0.949	0.976

All adult cancers (ICD codes C00–C96)

Key points

- The five-year cumulative relative survival ratio for adults with cancer was 0.607, and the equivalent 10-year ratio was 0.570.
- Males had slightly lower survival ratios than females.
- Māori had lower survival ratios than non-Māori.
- Where extent of disease at diagnosis was known, extent impacted greatly on survival.
- Patients living in the most deprived areas experienced the lowest survival.
- Between 1998 and 2007 survival improved from a ratio of 0.576 to one of 0.623, showing an upward trend.
- Survival in both males and females improved, particularly for males.
- Both Māori and non-Māori survival showed upward trends.
- A general improvement in survival was seen in each of the deprivation groupings.
- Survival increased over time in most age ranges, although survival in adults in the youngest and oldest age groups showed no real improvement.
- It should be noted that the number of cancers included in the 'all adult cancers' grouping vary over time due to changes in Cancer Registry rules. This group also includes sites not individually reported on in this publication.
- Chronic myeloproliferative disorders and myelodysplastic syndromes (ICD codes D45–D47) are not included in this grouping (see the Appendix for more information).

Table 3: All adult cancers – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	1215	2151	3366	7247	12,343	19,590	8462	14,494	22,956
45–54	1165	2366	3531	10,501	16,039	26,540	11,666	18,405	30,071
55–64	2271	2541	4812	24,550	20,661	45,211	26,821	23,202	50,023
65–74	2486	1972	4458	39,340	24,286	63,626	41,826	26,258	68,084
75+	1101	971	2072	37,969	32,308	70,277	39,070	33,279	72,349
Total	8238	10,001	18,239	119,607	105,637	225,244	127,845	115,638	243,483

Table 4: All adult cancers – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Not applicable	Total
15–44	11,436	3985	2221	2865	2449	22,956
45–54	12,650	6020	3916	5165	2320	30,071
55–64	16,752	9069	7788	12,667	3747	50,023
65–74	17,997	10,945	11,502	22,300	5340	68,084
75+	14,574	10,026	12,962	28,138	6649	72,349
Total	73,409	40,045	38,389	71,135	20,505	243,483

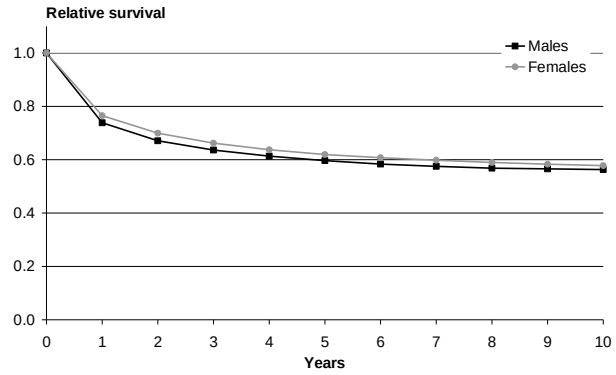
Cumulative relative survival, 1994–2007

Table 5: All adult cancers – cumulative relative survival ratios, by sex and ethnicity

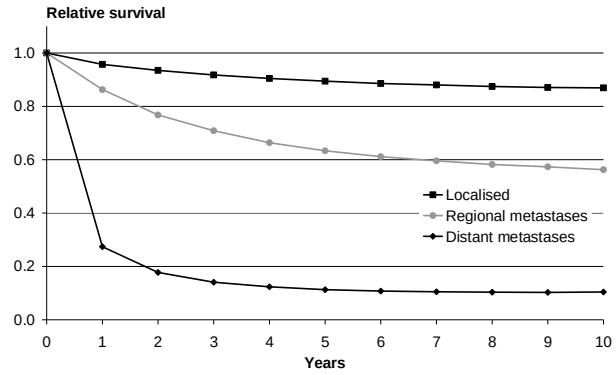
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.572	0.689	0.636	0.750	0.772	0.761	0.739	0.765	0.751
2 years	0.475	0.601	0.544	0.685	0.709	0.696	0.671	0.700	0.685
3 years	0.423	0.550	0.493	0.651	0.673	0.662	0.636	0.662	0.649
4 years	0.394	0.518	0.463	0.629	0.649	0.638	0.613	0.637	0.625
5 years	0.371	0.490	0.436	0.612	0.632	0.622	0.596	0.619	0.607
6 years	0.350	0.468	0.415	0.600	0.621	0.610	0.584	0.608	0.595
7 years	0.336	0.452	0.400	0.592	0.612	0.602	0.575	0.598	0.586
8 years	0.325	0.434	0.385	0.586	0.605	0.595	0.568	0.590	0.578
9 years	0.317	0.424	0.376	0.583	0.599	0.590	0.566	0.583	0.574
10 years	0.311	0.412	0.366	0.581	0.594	0.587	0.563	0.578	0.570

Figure 3: All adult cancers – cumulative relative survival ratios

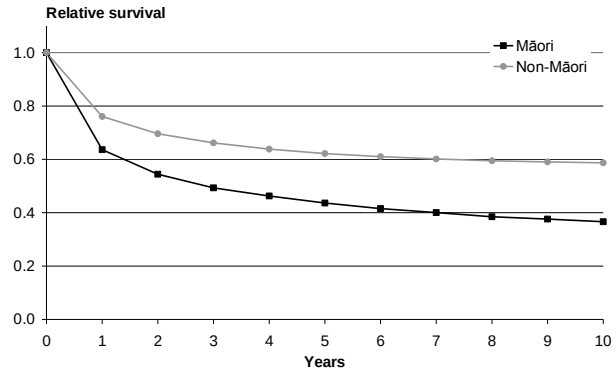
Cumulative relative survival ratios, by sex



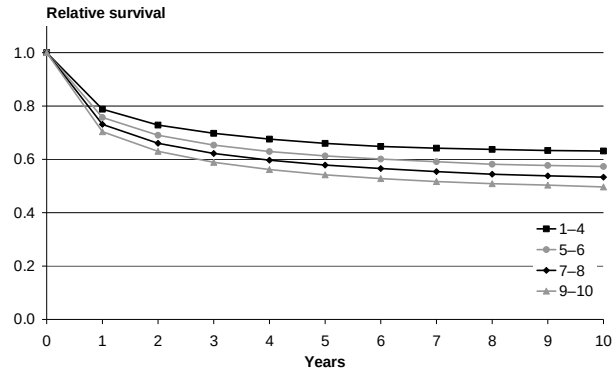
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



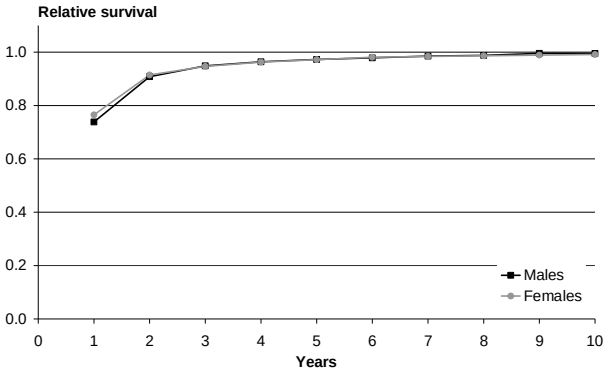
Interval-specific relative survival, 1994–2007

Table 6: All adult cancers – interval-specific relative survival ratios, by sex and ethnicity

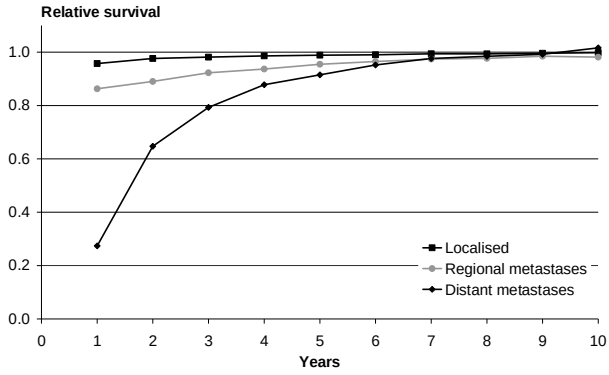
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.572	0.689	0.636	0.750	0.772	0.761	0.739	0.765	0.751
2 years	0.831	0.872	0.855	0.912	0.918	0.915	0.908	0.914	0.911
3 years	0.892	0.915	0.906	0.951	0.949	0.950	0.949	0.947	0.948
4 years	0.930	0.942	0.938	0.965	0.964	0.965	0.964	0.963	0.963
5 years	0.941	0.945	0.943	0.974	0.974	0.974	0.973	0.972	0.972
6 years	0.945	0.956	0.952	0.980	0.983	0.982	0.979	0.981	0.980
7 years	0.960	0.966	0.964	0.986	0.985	0.986	0.985	0.984	0.985
8 years	0.965	0.960	0.962	0.989	0.988	0.989	0.988	0.986	0.987
9 years	0.978	0.977	0.977	0.996	0.990	0.993	0.995	0.989	0.992
10 years	0.978	0.971	0.974	0.996	0.993	0.994	0.995	0.991	0.993

Figure 4: All adult cancers – interval-specific relative survival ratios

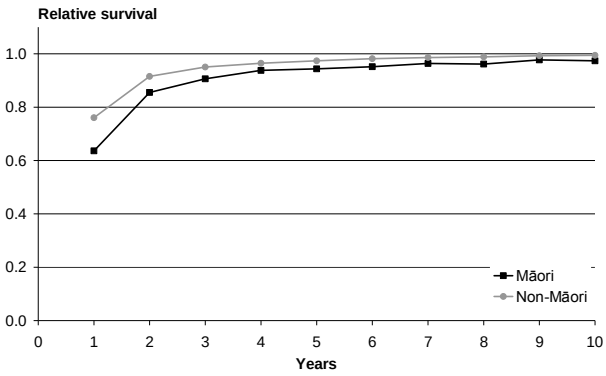
Interval-specific relative survival ratios, by sex



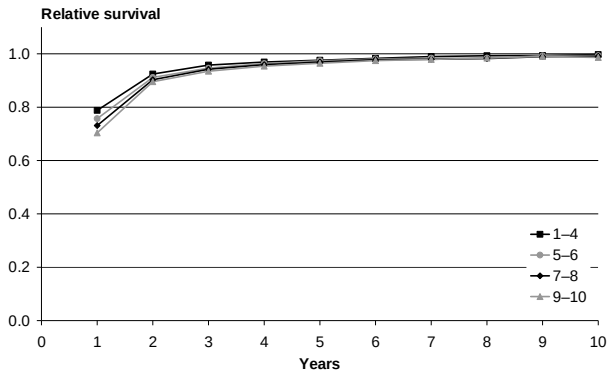
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



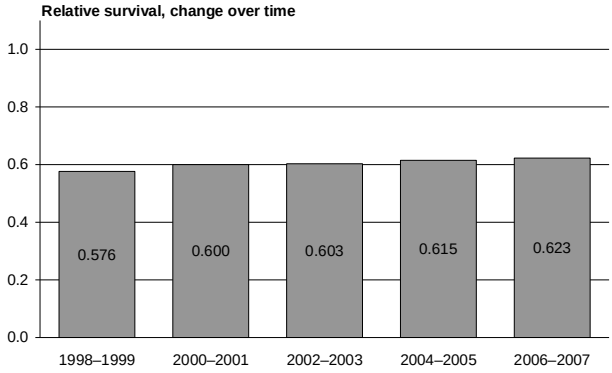
Five-year cumulative relative survival – change over time, 1998–2007

Table 7: All adult cancers – five-year cumulative relative survival ratios, by sex and ethnicity

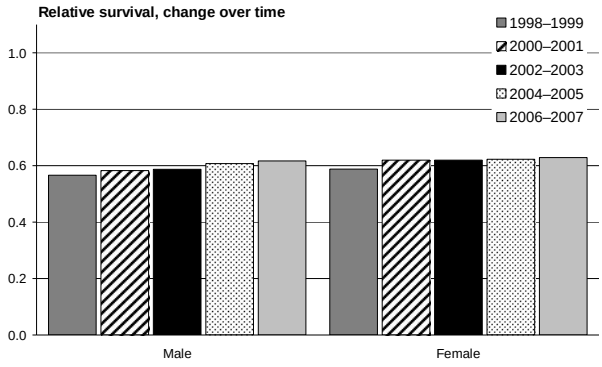
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.358	0.437	0.400	0.580	0.601	0.590	0.566	0.588	0.576
2000–2001	0.342	0.488	0.423	0.599	0.632	0.615	0.583	0.620	0.600
2002–2003	0.352	0.500	0.433	0.604	0.631	0.617	0.587	0.620	0.603
2004–2005	0.365	0.471	0.424	0.625	0.638	0.631	0.608	0.623	0.615
2006–2007	0.388	0.502	0.452	0.634	0.642	0.638	0.617	0.629	0.623

Figure 5: All adult cancers – five-year cumulative relative survival ratios, change over time

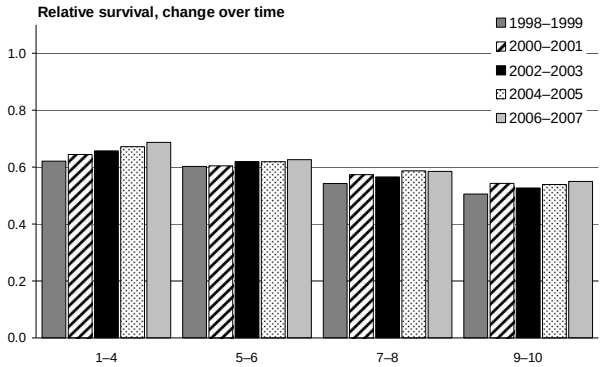
Cumulative relative survival ratios, change over time



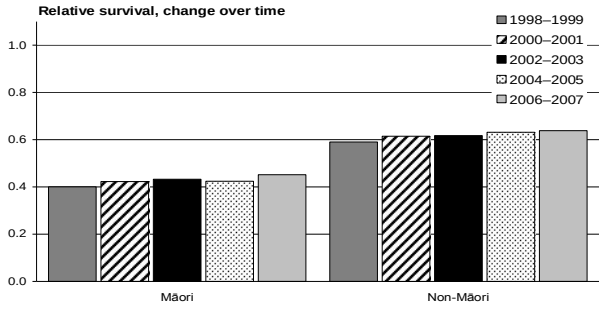
Cumulative relative survival ratios, change over time, by sex



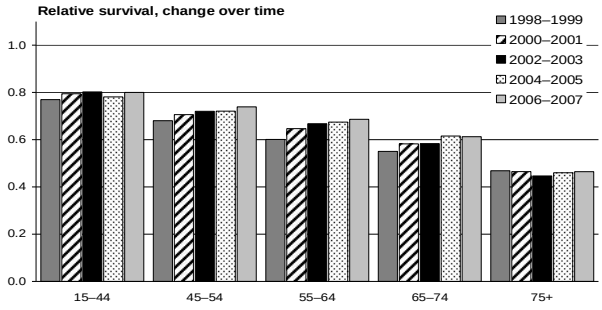
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the head, neck and larynx (ICD codes C00–C14, C32)

Key points

- The five-year cumulative relative survival ratio for patients with cancers of the head, neck and larynx was 0.622, and the equivalent 10-year ratio was 0.543.
- Males had lower survival ratios than females.
- Māori had lower survival ratios than non-Māori.
- Where extent of disease at diagnosis was known, this impacted greatly on survival outcome.
- The most deprived patients experienced the worst survival outcomes.
- No obvious trend in survival was seen between 1998 and 2007.
- Among those patients with cancer and alive in 2006 and 2007, Māori and non-Māori had similar five-year survival ratios.

Table 8: Cancer of the head, neck and larynx – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	47	33	80	293	163	456	340	196	536
45–54	75	23	98	523	188	711	598	211	809
55–64	103	28	131	871	259	1130	974	287	1261
65–74	73	25	98	925	328	1253	998	353	1351
75+	18	6	24	688	493	1181	706	499	1205
Total	**316**	**115**	**431**	**3300**	**1431**	**4731**	**3616**	**1546**	**5162**

Table 9: Cancer of the head, neck and larynx – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	184	143	27	182	536
45–54	191	281	50	287	809
55–64	282	372	68	539	1261
65–74	303	352	80	616	1351
75+	313	263	59	570	1205
Total	**1273**	**1411**	**284**	**2194**	**5162**

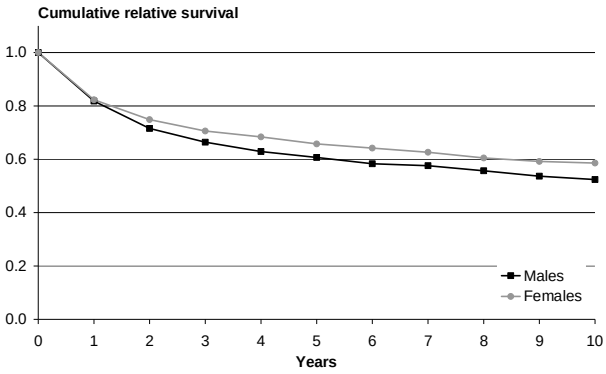
Cumulative relative survival, 1994–2007

Table 10: Cancer of the head, neck and larynx – cumulative relative survival ratios, by sex and ethnicity

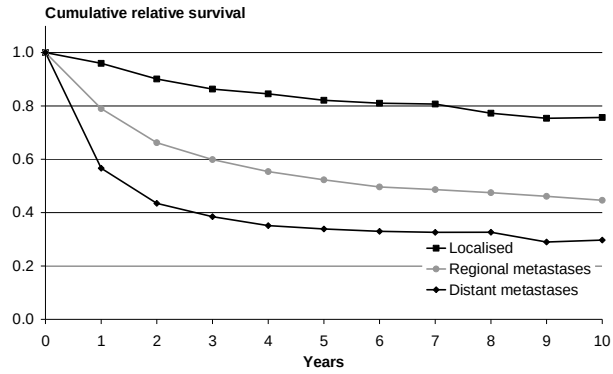
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.781	0.877	0.806	0.822	0.819	0.821	0.818	0.823	0.819
2 years	0.642	0.795	0.683	0.723	0.745	0.730	0.716	0.749	0.726
3 years	0.570	0.718	0.610	0.673	0.705	0.683	0.664	0.706	0.677
4 years	0.519	0.673	0.561	0.640	0.685	0.654	0.629	0.684	0.646
5 years	0.475	0.610	0.511	0.620	0.662	0.632	0.607	0.657	0.622
6 years	0.447	0.614	0.492	0.597	0.645	0.611	0.583	0.642	0.601
7 years	0.419	0.588	0.464	0.592	0.630	0.603	0.576	0.626	0.591
8 years	0.403	0.524	0.435	0.572	0.612	0.584	0.557	0.605	0.571
9 years	0.365	0.510	0.405	0.554	0.600	0.568	0.537	0.592	0.553
10 years	0.371	0.515	0.410	0.539	0.593	0.555	0.524	0.586	0.543

Figure 6: Cancer of the head, neck and larynx – cumulative relative survival ratios

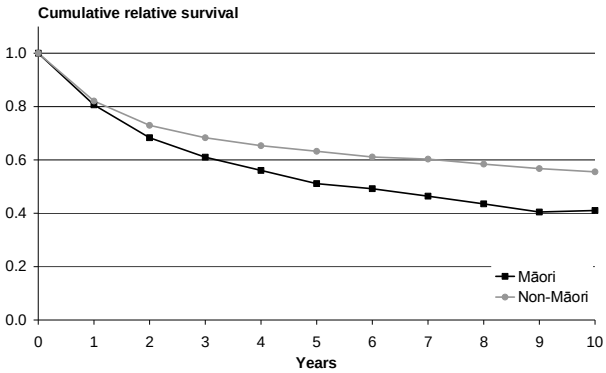
Cumulative relative survival ratios, by sex



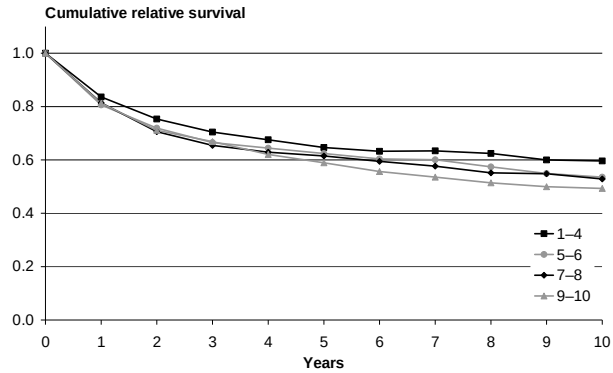
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



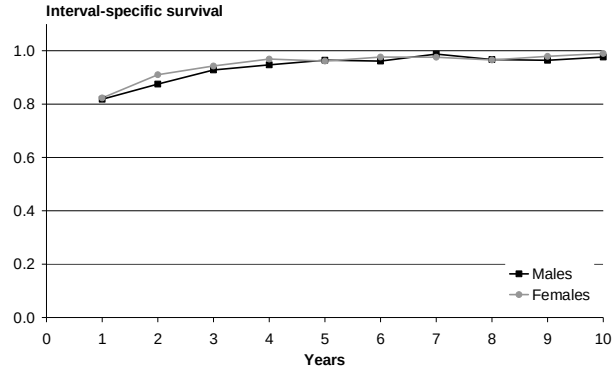
Interval-specific relative survival, 1994–2007

Table 11: Cancer of the head, neck and larynx – interval-specific relative survival ratios, by sex and ethnicity

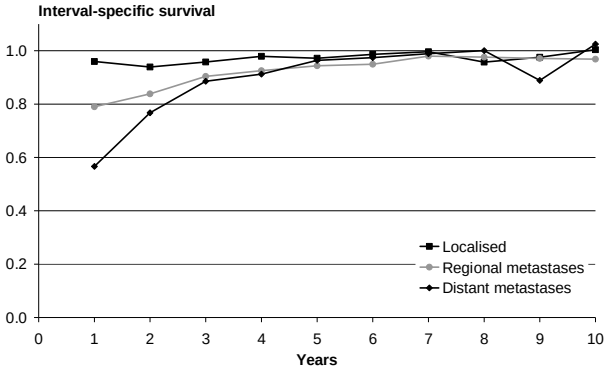
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.781	0.877	0.806	0.822	0.819	0.821	0.818	0.823	0.819
2 years	0.822	0.907	0.847	0.880	0.910	0.889	0.875	0.910	0.885
3 years	0.889	0.903	0.893	0.931	0.947	0.936	0.928	0.943	0.933
4 years	0.911	0.937	0.919	0.950	0.972	0.957	0.947	0.969	0.954
5 years	0.914	0.906	0.912	0.969	0.966	0.968	0.965	0.961	0.963
6 years	0.942	1.008	0.963	0.963	0.974	0.966	0.961	0.976	0.966
7 years	0.936	0.957	0.943	0.991	0.977	0.987	0.988	0.976	0.984
8 years	0.963	0.891	0.937	0.967	0.972	0.969	0.967	0.966	0.966
9 years	0.904	0.972	0.930	0.968	0.980	0.972	0.964	0.979	0.969
10 years	1.019	1.009	1.015	0.974	0.988	0.978	0.976	0.990	0.981

Figure 7: Cancer of the head, neck and larynx – interval-specific relative survival ratios

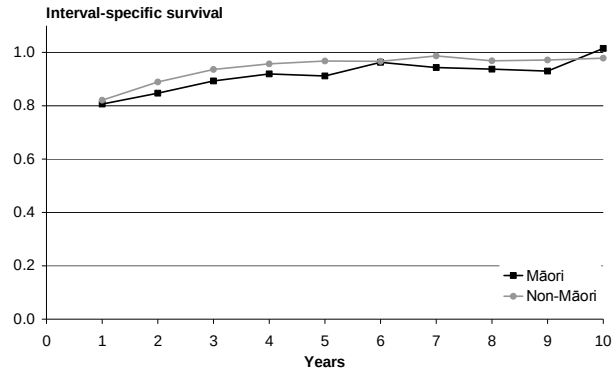
Interval-specific relative survival ratios, by sex



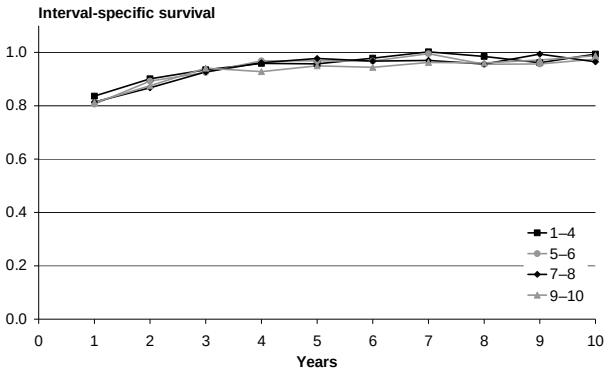
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



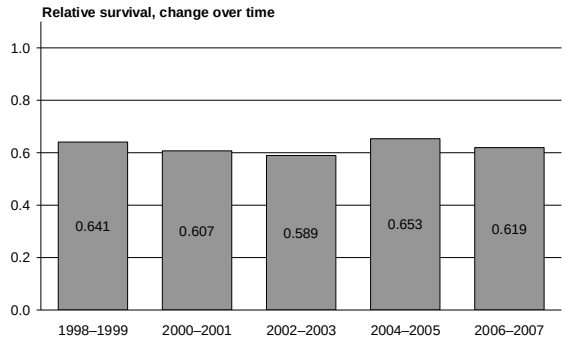
Five-year cumulative relative survival – change over time, 1998–2007

Table 12: Cancer of the head, neck and larynx – five-year cumulative relative survival ratios, by sex and ethnicity

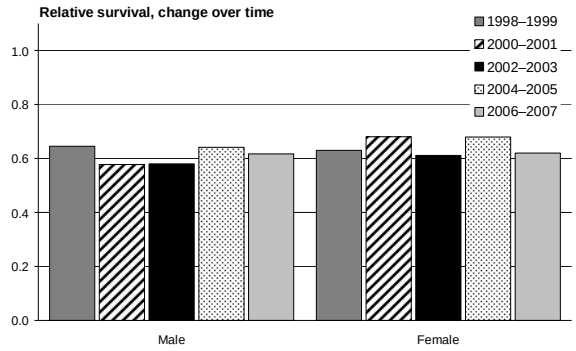
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.599	0.443	0.563	0.649	0.641	0.647	0.645	0.630	0.641
2000–2001	0.371	0.590	0.464	0.595	0.679	0.619	0.578	0.680	0.607
2002–2003	0.464	0.492	0.446	0.589	0.631	0.601	0.580	0.611	0.589
2004–2005	0.463	0.598	0.508	0.662	0.683	0.669	0.641	0.679	0.653
2006–2007	0.598	0.734	0.632	0.619	0.611	0.618	0.617	0.620	0.619

Figure 8: Cancer of the head, neck and larynx – five-year cumulative relative survival ratios, change over time

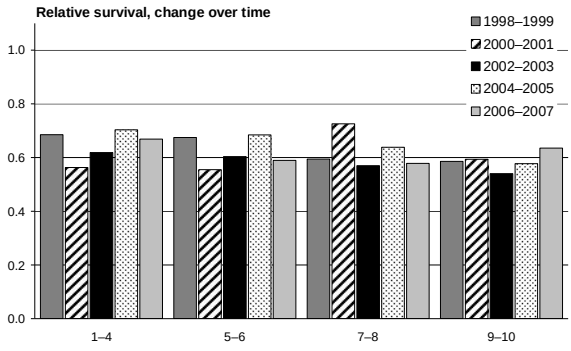
Cumulative relative survival ratios, change over time



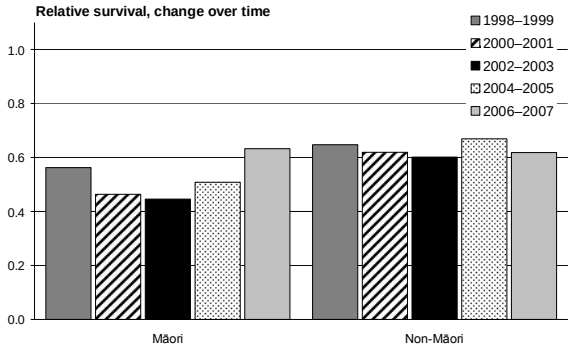
Cumulative relative survival ratios, change over time, by sex



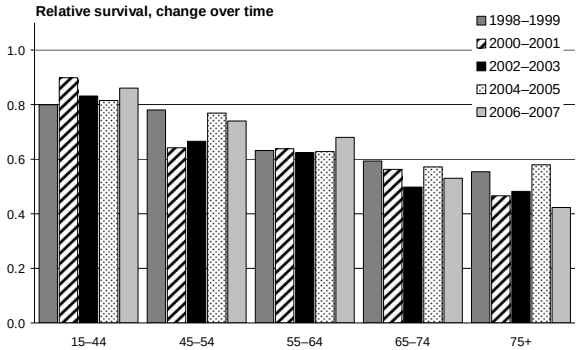
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the oesophagus (ICD code C15)

Key points

- The five-year cumulative relative survival ratio for patients with cancer of the oesophagus was 0.117, and the equivalent 10-year rate was 0.110.
- Males had slightly lower survival ratios than females.
- Māori had lower survival ratios than non-Māori.
- Survival was related to the extent of disease at diagnosis, where this was stated.
- No real differences in survival were seen between deprivation groups.
- Some of the interval-specific survival ratios for this cancer showed values greater than one, indicating that, in the applicable years, patients with this cancer had a better observed survival ratio over the next twelve months than would be expected for people in the general population. This effect was seen in both Māori and non-Māori groups.
- Low numbers resulted in high variability in the change over time information, no trends being evident between 1998 and 2007.

Table 13: Cancer of the oesophagus – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	14	3	17	34	11	45	48	14	62
45–54	19	7	26	135	41	176	154	48	202
55–64	49	19	68	388	119	507	437	138	575
65–74	59	15	74	615	242	857	674	257	931
75+	28	17	45	681	594	1275	709	611	1320
Total	169	61	230	1853	1007	2860	2022	1068	3090

Table 14: Cancer of the oesophagus – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	2	9	30	21	62
45–54	17	49	54	82	202
55–64	60	98	153	264	575
65–74	78	132	213	508	931
75+	59	62	189	1010	1320
Total	216	350	639	1885	3090

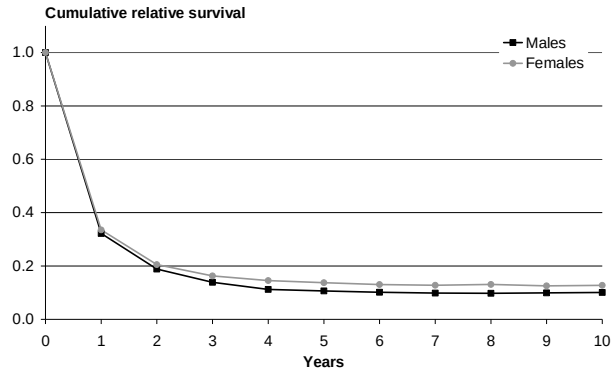
Cumulative relative survival, 1994–2007

Table 15: Cancer of the oesophagus – cumulative relative survival ratios, by sex and ethnicity

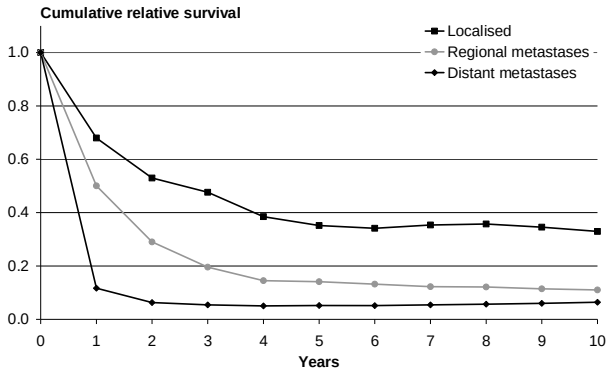
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.206	0.322	0.237	0.333	0.336	0.334	0.322	0.335	0.327
2 years	0.087	0.261	0.133	0.198	0.202	0.199	0.188	0.205	0.194
3 years	0.044	0.160	0.075	0.148	0.163	0.153	0.139	0.163	0.147
4 years	0.038	0.123	0.061	0.119	0.147	0.129	0.112	0.145	0.124
5 years	0.029	0.104	0.049	0.114	0.140	0.123	0.106	0.137	0.117
6 years	0.030	0.082	0.042	0.108	0.134	0.117	0.102	0.130	0.111
7 years	0.031	0.055	0.034	0.105	0.133	0.115	0.098	0.128	0.109
8 years	0.032	0.055	0.035	0.104	0.136	0.115	0.098	0.131	0.109
9 years	0.033	0.055	0.035	0.105	0.131	0.114	0.099	0.126	0.108
10 years	0.034	0.055	0.036	0.107	0.132	0.116	0.101	0.127	0.110

Figure 9: Cancer of the oesophagus – cumulative relative survival ratios

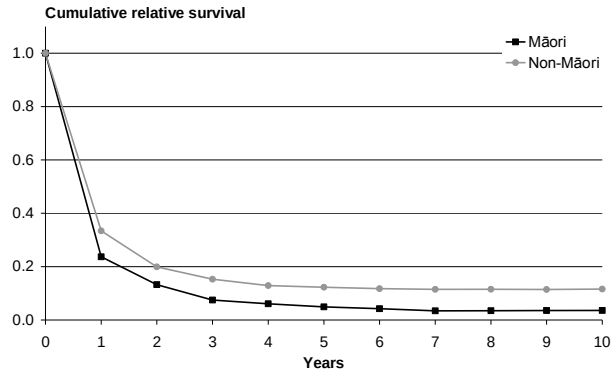
Cumulative relative survival ratios, by sex



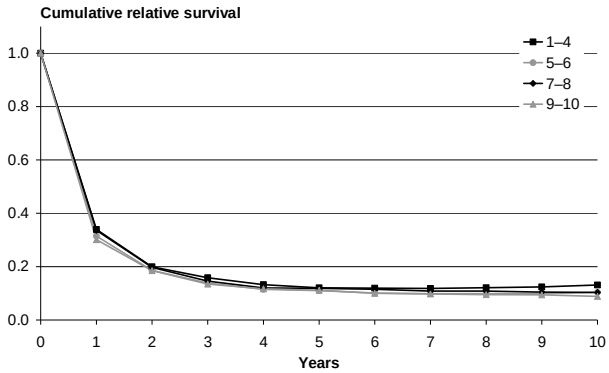
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



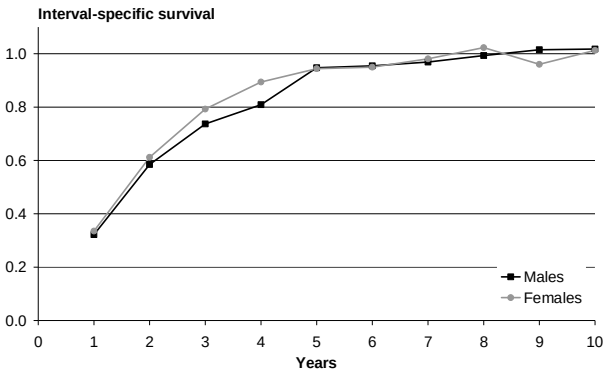
Interval-specific relative survival, 1994–2007

Table 16: Cancer of the oesophagus – interval-specific relative survival ratios, by sex and ethnicity

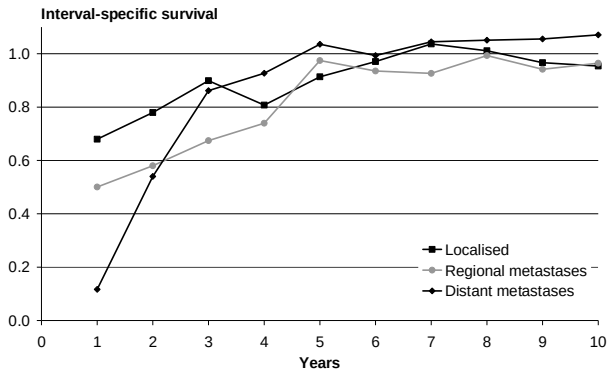
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.206	0.322	0.237	0.333	0.336	0.334	0.322	0.335	0.327
2 years	0.420	0.811	0.560	0.594	0.600	0.596	0.585	0.612	0.594
3 years	0.513	0.614	0.565	0.747	0.807	0.768	0.737	0.793	0.757
4 years	0.862	0.771	0.810	0.807	0.902	0.843	0.809	0.894	0.841
5 years	0.765	0.841	0.811	0.952	0.950	0.952	0.948	0.944	0.946
6 years	1.026	0.787	0.860	0.954	0.959	0.956	0.955	0.950	0.953
7 years	1.025	0.670	0.810	0.968	0.995	0.978	0.969	0.981	0.974
8 years	1.028	1.004	1.015	0.992	1.023	1.005	0.993	1.023	1.005
9 years	1.030	1.004	1.017	1.014	0.958	0.991	1.015	0.960	0.992
10 years	1.034	1.004	1.019	1.017	1.013	1.015	1.017	1.013	1.016

Figure 10: Cancer of the oesophagus – interval-specific relative survival ratios

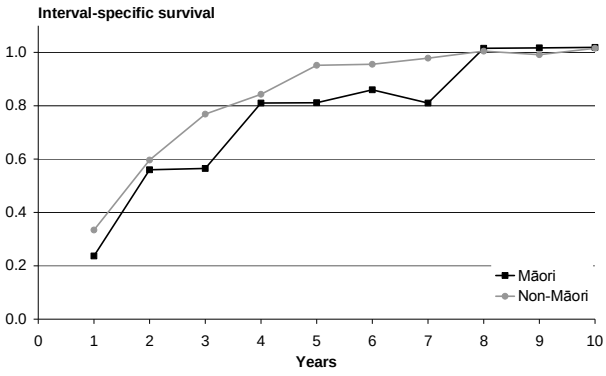
Interval-specific relative survival ratios, by sex



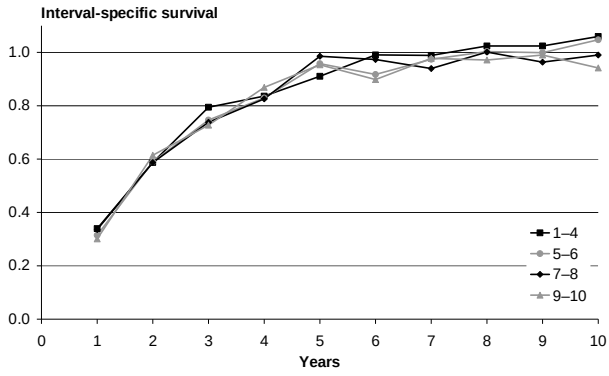
Interval-specific survival relative ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



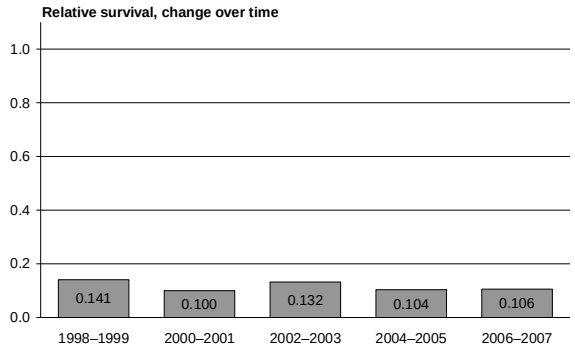
Five-year cumulative relative survival – change over time, 1998–2007

Table 17: Cancer of the oesophagus – five-year cumulative relative survival ratios, by sex and ethnicity

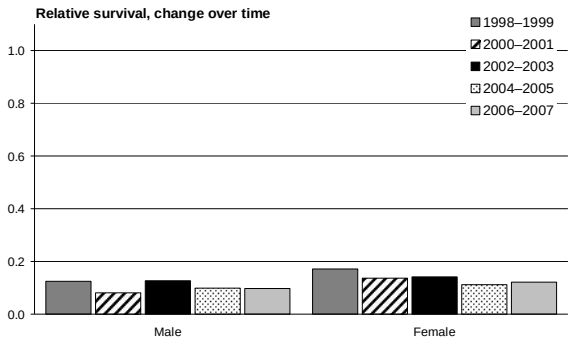
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.064	0.000	0.106	0.129	0.171	0.144	0.125	0.172	0.141
2000–2001	0.000	0.068	0.006	0.094	0.139	0.111	0.081	0.137	0.100
2002–2003	0.000	0.248	0.109	0.135	0.137	0.136	0.127	0.141	0.132
2004–2005	0.000	0.076	0.035	0.108	0.117	0.111	0.099	0.112	0.104
2006–2007	0.027	0.072	0.038	0.103	0.121	0.110	0.097	0.122	0.106

Figure 11: Cancer of the oesophagus – five-year cumulative relative survival ratios, change over time

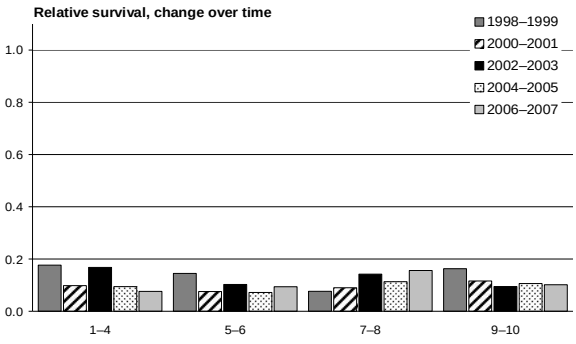
Cumulative relative survival ratios, change over time



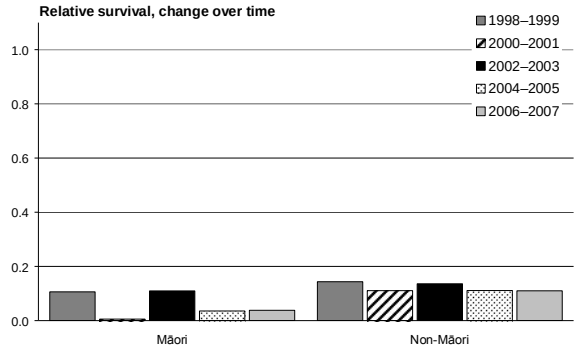
Cumulative relative survival ratios, change over time, by sex



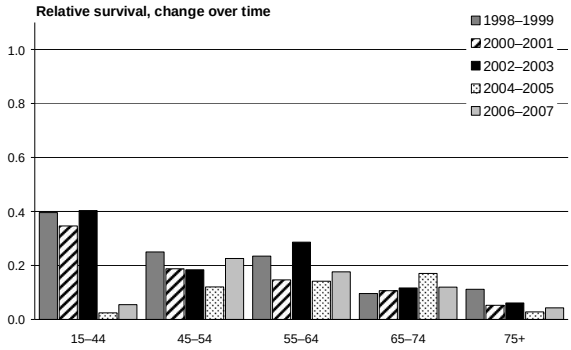
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the stomach (ICD code C16)

Key points

- The five-year cumulative relative survival ratio for patients with cancers of the stomach was 0.225, and the equivalent 10-year ratio was 0.227.
- Males and females experienced comparable survival ratios.
- Māori had survival ratios only slightly lower than non-Māori.
- Survival was very much dependent on the extent of disease at diagnosis, where this was stated.
- No real differences in survival were seen between deprivation groups.
- Some of the interval-specific survival ratios for this cancer showed values greater than one, indicating that, in the applicable years, patients with this cancer had a better observed survival ratio over the next twelve months than would be expected for people in the general population. This effect was seen in both Māori and non-Māori groups.
- No real changes in survival occurred between 1998 and 2007.

Table 18: Cancer of the stomach – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	81	85	166	117	75	192	198	160	358
45–54	89	70	159	217	149	366	306	219	525
55–64	112	60	172	524	202	726	636	262	898
65–74	113	93	206	869	392	1261	982	485	1467
75+	60	50	110	1066	817	1883	1126	867	1993
Total	455	358	813	2793	1635	4428	3248	1993	5241

Table 19: Cancer of the stomach – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	39	102	150	67	358
45–54	76	155	182	112	525
55–64	112	297	283	206	898
65–74	209	410	424	424	1467
75+	193	373	407	1020	1993
Total	629	1337	1446	1829	5241

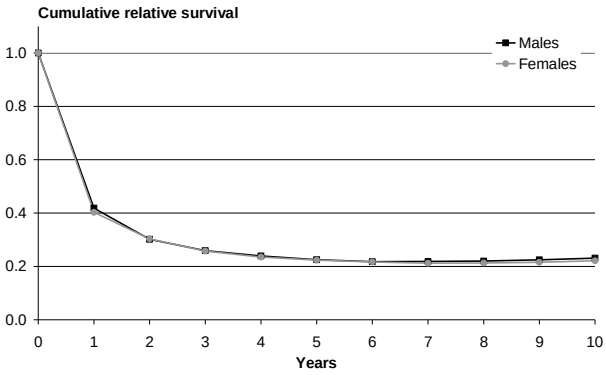
Cumulative relative survival, 1994–2007

Table 20: Cancer of the stomach – cumulative relative survival ratios, by sex and ethnicity

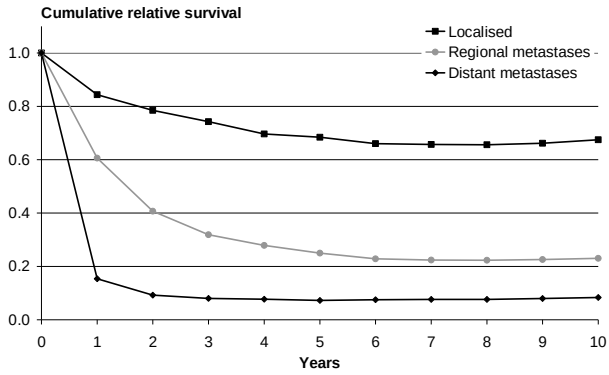
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.366	0.386	0.375	0.427	0.407	0.420	0.418	0.403	0.412
2 years	0.269	0.291	0.279	0.307	0.306	0.307	0.302	0.303	0.302
3 years	0.229	0.250	0.238	0.264	0.259	0.262	0.259	0.257	0.258
4 years	0.207	0.223	0.214	0.245	0.238	0.242	0.239	0.235	0.238
5 years	0.196	0.224	0.208	0.230	0.224	0.228	0.225	0.224	0.225
6 years	0.183	0.203	0.192	0.224	0.220	0.222	0.218	0.217	0.217
7 years	0.171	0.196	0.182	0.227	0.216	0.223	0.219	0.212	0.216
8 years	0.174	0.185	0.180	0.228	0.219	0.225	0.220	0.213	0.217
9 years	0.173	0.189	0.180	0.234	0.221	0.229	0.225	0.215	0.221
10 years	0.178	0.183	0.181	0.240	0.229	0.236	0.231	0.221	0.227

Figure 12: Cancer of the stomach – cumulative relative survival ratios

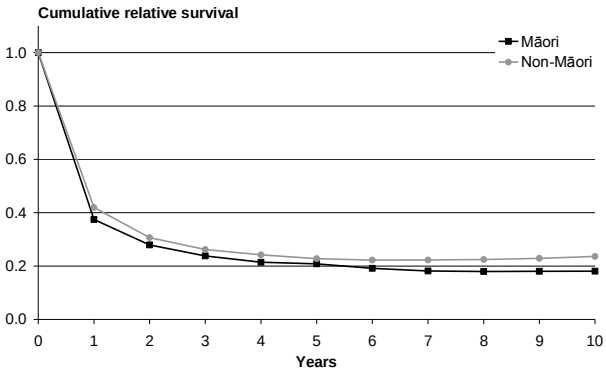
Cumulative relative survival ratios, by sex



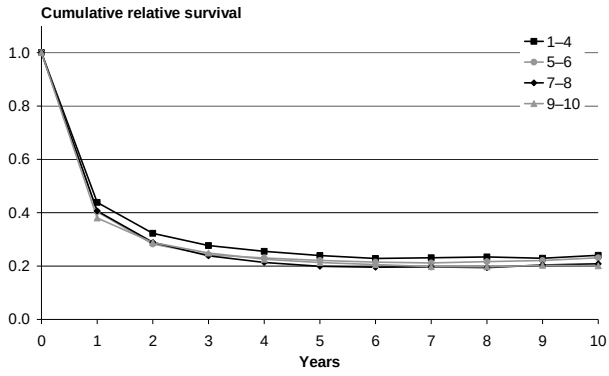
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



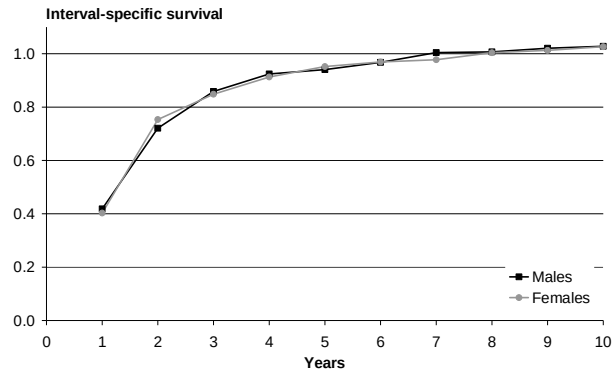
Interval-specific relative survival, 1994–2007

Table 21: Cancer of the stomach – interval-specific relative survival ratios, by sex and ethnicity

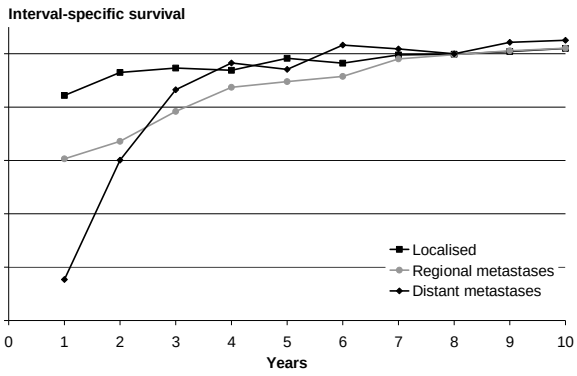
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.366	0.386	0.375	0.427	0.407	0.420	0.418	0.403	0.412
2 years	0.737	0.756	0.745	0.719	0.753	0.731	0.721	0.753	0.733
3 years	0.850	0.857	0.853	0.860	0.847	0.855	0.858	0.848	0.855
4 years	0.905	0.892	0.899	0.927	0.917	0.923	0.924	0.913	0.920
5 years	0.947	1.003	0.973	0.940	0.941	0.940	0.941	0.952	0.945
6 years	0.931	0.908	0.920	0.973	0.983	0.977	0.967	0.969	0.968
7 years	0.934	0.964	0.947	1.015	0.980	1.002	1.004	0.978	0.994
8 years	1.022	0.944	0.989	1.004	1.015	1.008	1.007	1.004	1.006
9 years	0.994	1.021	1.005	1.025	1.011	1.020	1.021	1.012	1.018
10 years	1.025	0.969	1.002	1.029	1.037	1.032	1.028	1.026	1.027

Figure 13: Cancer of the stomach – interval-specific survival ratios

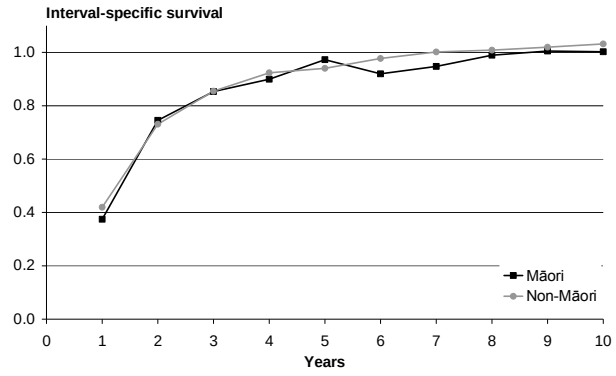
Interval-specific relative survival ratios, by sex



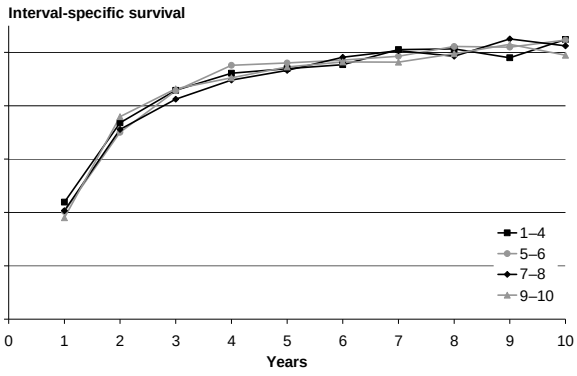
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



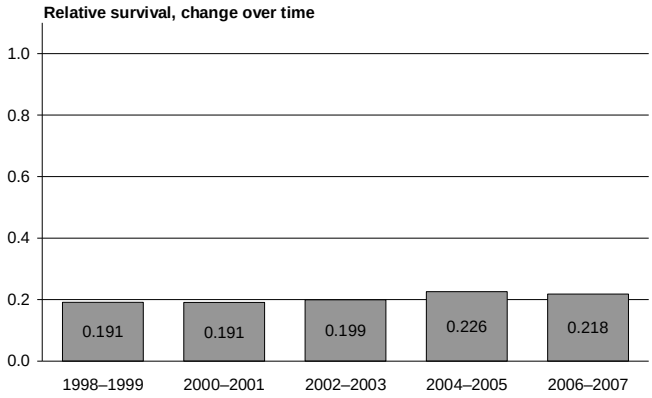
Five-year cumulative relative survival – change over time, 1998–2007

Table 22: Cancer of the stomach – five-year cumulative relative survival ratios, by sex and ethnicity

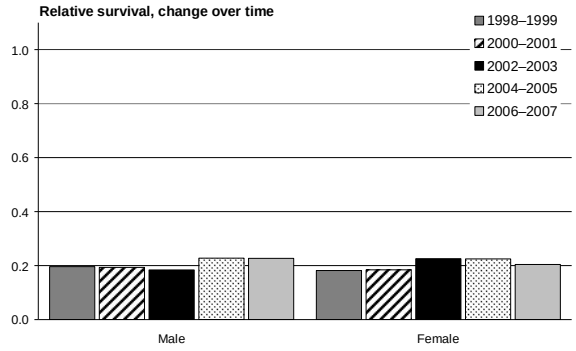
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.133	0.140	0.135	0.208	0.188	0.201	0.196	0.182	0.191
2000–2001	0.179	0.147	0.167	0.194	0.191	0.194	0.193	0.184	0.191
2002–2003	0.211	0.356	0.261	0.181	0.209	0.192	0.184	0.226	0.199
2004–2005	0.182	0.250	0.214	0.236	0.217	0.228	0.228	0.225	0.226
2006–2007	0.162	0.197	0.181	0.240	0.206	0.227	0.227	0.204	0.218

Figure 14: Cancer of the stomach – five-year cumulative relative survival ratios, change over time

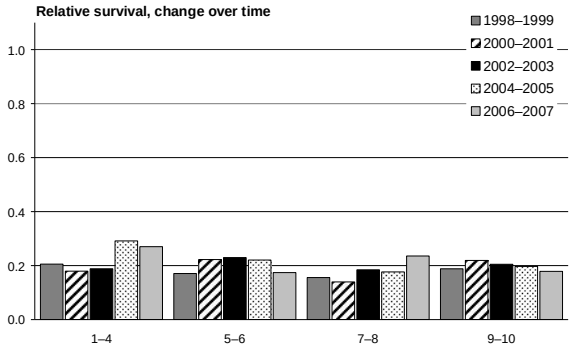
Cumulative relative survival ratios, change over time



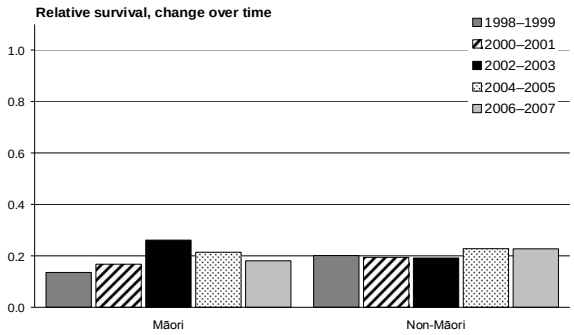
Cumulative relative survival ratios, change over time, by sex



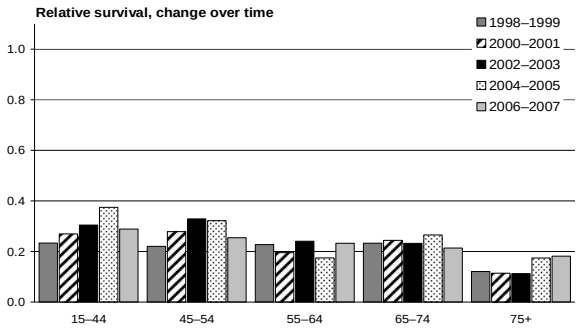
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the colorectum and anus (ICD codes C18–C21)

Key points

- The five-year cumulative relative survival ratio for patients with cancer of the colorectum and anus was 0.602, and the equivalent 10-year ratio was 0.570.
- Males had slightly lower survival ratios than females.
- Māori had lower survival ratios than non-Māori.
- Where stated, extent of disease at diagnosis had a considerable impact on survival outcome.
- Higher deprivation levels were associated with lower survival ratios.
- Some of the interval-specific survival ratios for males in the 10th year of follow-up were 1.000, indicating that, in the applicable years, patients with this cancer had the same survival ratios as would be expected for those in the general population.
- Between 1998 and 2007 overall survival for this cancer appeared to be increasing.
- Māori survival rates increased from 0.348 (for patients with cancer and alive in 1998 and 1999) to 0.497 (for 2006 and 2007).

Table 23: Colorectal cancer – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	55	79	134	508	564	1,072	563	643	1,206
45–54	112	114	226	1,442	1,347	2,789	1,554	1,461	3,015
55–64	212	189	401	3,823	3,248	7,071	4,035	3,437	7,472
65–74	281	165	446	6,312	5,116	11,428	6,593	5,281	11,874
75+	109	111	220	5,875	7,386	13,261	5,984	7,497	13,481
Total	769	658	1,427	17,960	17,661	35,621	18,729	18,319	37,048

Table 24: Colorectal cancer – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	268	504	298	136	1,206
45–54	814	1,187	666	348	3,015
55–64	2,019	3,297	1,445	711	7,472
65–74	3,552	5,080	2,170	1,072	11,874
75+	3,758	5,406	2,170	2,147	13,481
Total	10,411	15,474	6,749	4,414	37,048

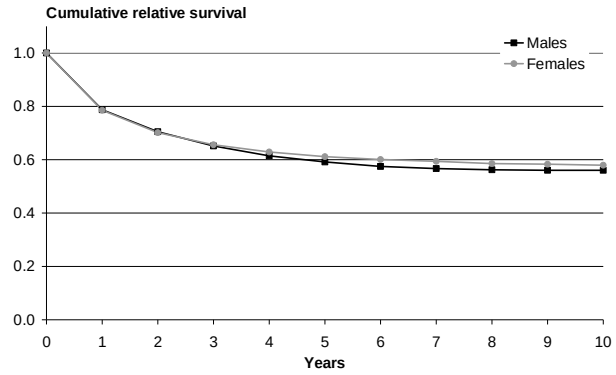
Cumulative relative survival, 1994–2007

Table 25: Colorectal cancer – cumulative relative survival ratios, by sex and ethnicity

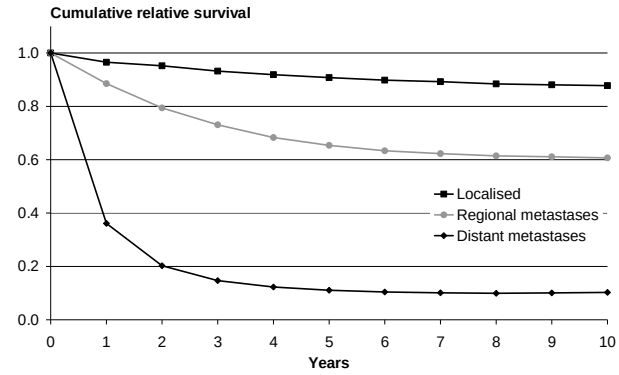
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.688	0.741	0.713	0.792	0.787	0.789	0.787	0.785	0.786
2 years	0.575	0.630	0.600	0.711	0.704	0.707	0.705	0.702	0.703
3 years	0.480	0.531	0.504	0.659	0.661	0.660	0.652	0.656	0.654
4 years	0.424	0.498	0.458	0.623	0.634	0.629	0.615	0.629	0.622
5 years	0.382	0.457	0.417	0.601	0.617	0.609	0.592	0.611	0.602
6 years	0.356	0.445	0.397	0.584	0.607	0.596	0.575	0.601	0.588
7 years	0.337	0.428	0.378	0.577	0.600	0.589	0.567	0.594	0.581
8 years	0.332	0.418	0.371	0.572	0.592	0.582	0.562	0.586	0.574
9 years	0.331	0.406	0.365	0.571	0.590	0.580	0.560	0.583	0.572
10 years	0.328	0.393	0.358	0.571	0.586	0.578	0.560	0.579	0.570

Figure 15: Colorectal cancer – cumulative relative survival ratios

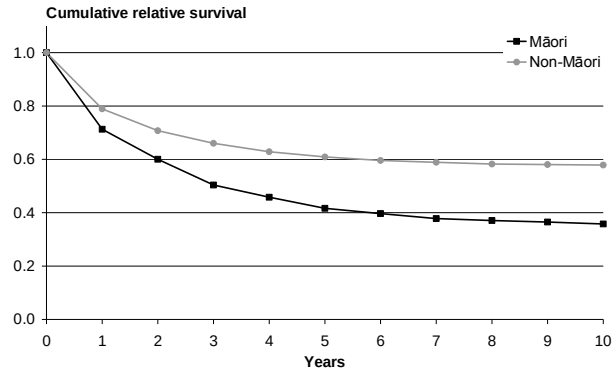
Cumulative relative survival ratios, by sex



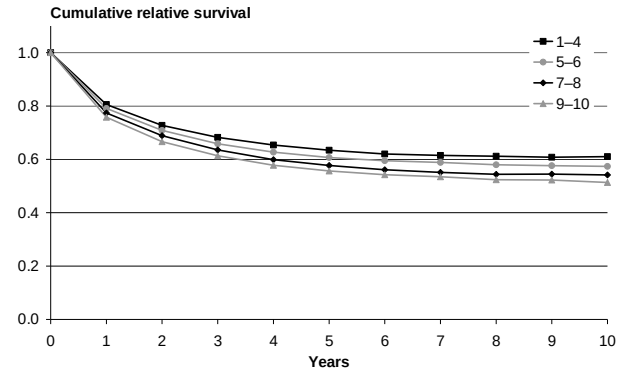
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



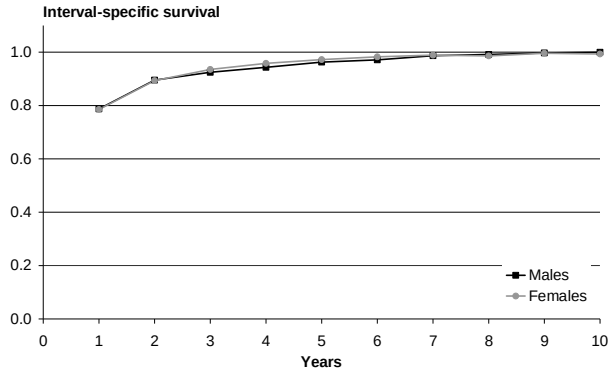
Interval-specific relative survival, 1994–2007

Table 26: Colorectal cancer – interval-specific relative survival ratios, by sex and ethnicity

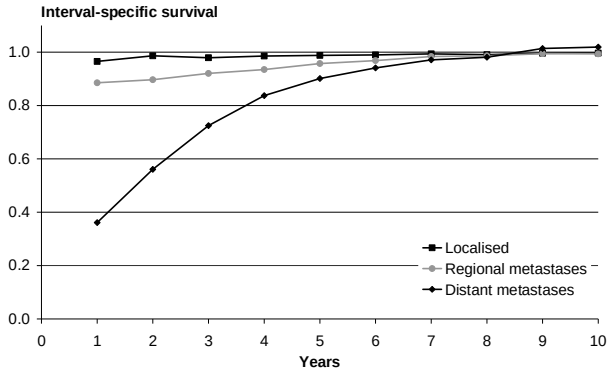
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.688	0.741	0.713	0.792	0.787	0.789	0.787	0.785	0.786
2 years	0.835	0.850	0.842	0.898	0.895	0.896	0.895	0.893	0.894
3 years	0.834	0.844	0.839	0.928	0.938	0.933	0.924	0.935	0.930
4 years	0.884	0.937	0.910	0.945	0.959	0.952	0.943	0.958	0.951
5 years	0.901	0.918	0.909	0.965	0.974	0.969	0.963	0.972	0.967
6 years	0.932	0.974	0.953	0.972	0.983	0.978	0.971	0.983	0.977
7 years	0.945	0.961	0.953	0.988	0.990	0.989	0.987	0.989	0.988
8 years	0.985	0.975	0.980	0.992	0.986	0.989	0.991	0.986	0.989
9 years	0.997	0.972	0.985	0.997	0.996	0.997	0.997	0.996	0.996
10 years	0.991	0.968	0.980	1.000	0.994	0.997	1.000	0.993	0.996

Figure 16: Colorectal cancer – interval-specific relative survival ratios

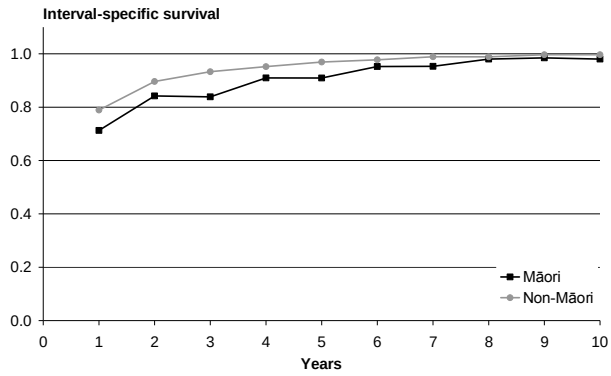
Interval-specific relative survival ratios, by sex



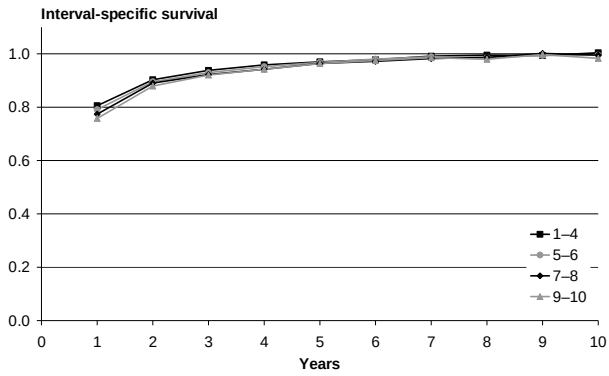
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



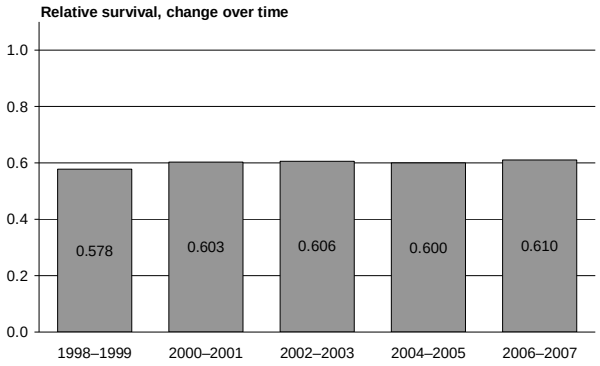
Five-year cumulative relative survival – change over time, 1998–2007

Table 27: Colorectal cancer – five-year cumulative relative survival ratios, by sex and ethnicity

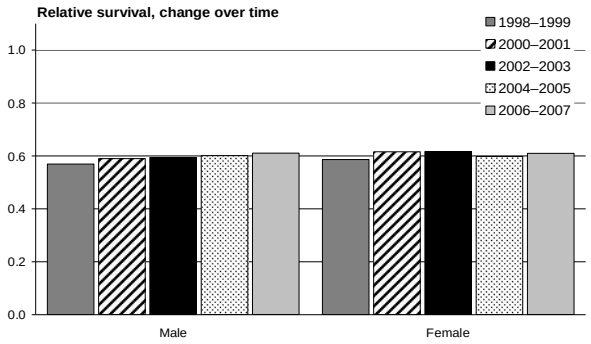
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.379	0.309	0.348	0.576	0.595	0.586	0.569	0.586	0.578
2000–2001	0.406	0.382	0.397	0.598	0.624	0.611	0.590	0.616	0.603
2002–2003	0.334	0.550	0.423	0.607	0.619	0.614	0.594	0.617	0.606
2004–2005	0.429	0.416	0.425	0.609	0.606	0.608	0.601	0.598	0.600
2006–2007	0.428	0.594	0.497	0.619	0.611	0.615	0.611	0.610	0.610

Figure 17: Colorectal cancer – five-year cumulative relative survival ratios, change over time

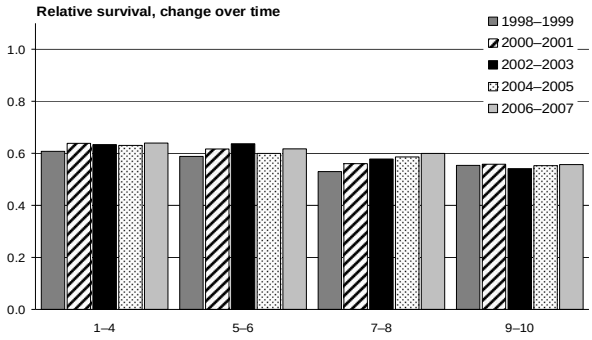
Relative survival ratios, change over time



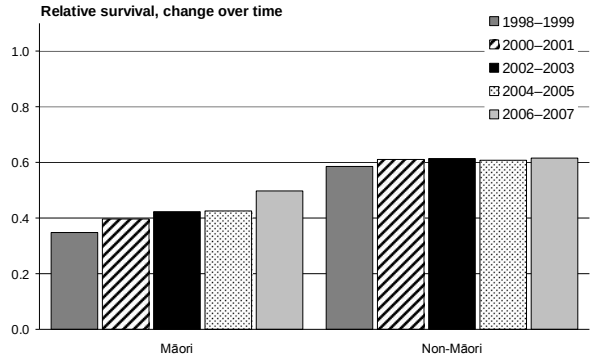
Cumulative relative survival ratios, change over time, by sex



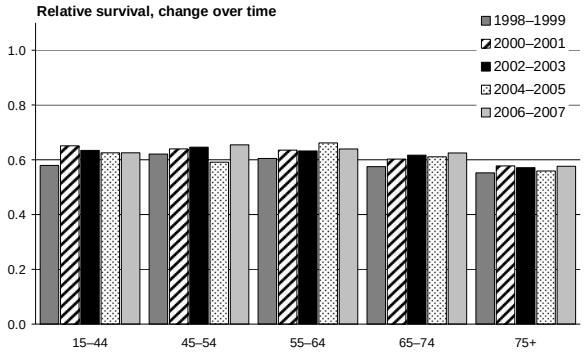
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the liver and intrahepatic bile ducts (ICD code C22)

Key points

- The five-year cumulative relative survival ratio for patients with cancers of the liver was low at 0.142; the equivalent 10-year ratio was 0.129.
- Males and females experienced comparable survival.
- Māori had survival ratios only slightly lower than non-Māori.
- Where stated, survival related (to some degree) to the extent of disease at diagnosis.
- No real differences in survival were seen between deprivation groups.
- Very low survival ratios, and therefore low numbers, meant that change over time information was variable: this should be treated with caution.

Table 28: Cancer of the liver and intrahepatic bile ducts – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	50	13	63	77	31	108	127	44	171
45–54	106	17	123	156	53	209	262	70	332
55–64	121	31	152	242	104	346	363	135	498
65–74	66	20	86	333	184	517	399	204	603
75+	22	11	33	287	235	522	309	246	555
Total	365	92	457	1095	607	1702	1460	699	2159

Table 29: Cancer of the liver and intrahepatic bile ducts – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	25	8	40	98	171
45–54	46	12	73	201	332
55–64	49	19	99	331	498
65–74	47	17	144	395	603
75+	27	10	93	425	555
Total	194	66	449	1450	2159

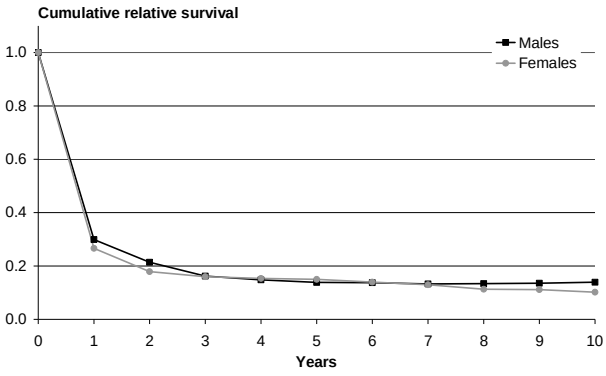
Cumulative relative survival, 1994–2007

Table 30: Cancer of the liver and intrahepatic bile ducts – cumulative relative survival ratios, by sex and ethnicity

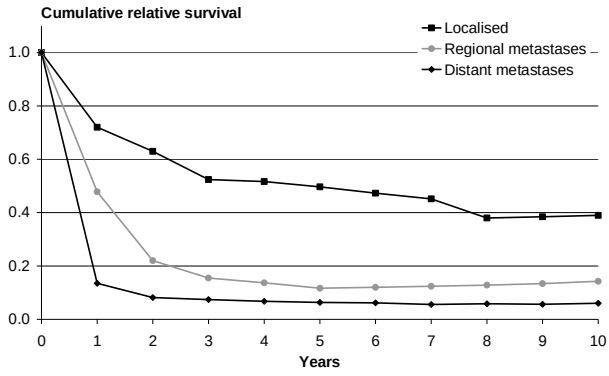
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.247	0.286	0.255	0.317	0.263	0.297	0.299	0.266	0.288
2 years	0.163	0.233	0.177	0.231	0.170	0.209	0.214	0.179	0.203
3 years	0.124	0.211	0.142	0.175	0.152	0.167	0.162	0.160	0.161
4 years	0.122	0.183	0.134	0.157	0.148	0.154	0.148	0.153	0.150
5 years	0.110	0.185	0.125	0.148	0.144	0.147	0.138	0.150	0.142
6 years	0.105	0.169	0.118	0.148	0.135	0.144	0.137	0.140	0.138
7 years	0.100	0.144	0.109	0.144	0.127	0.138	0.133	0.130	0.132
8 years	0.093	0.098	0.096	0.147	0.113	0.136	0.134	0.113	0.128
9 years	0.094	0.101	0.097	0.149	0.111	0.136	0.135	0.111	0.128
10 years	0.095	0.104	0.099	0.154	0.100	0.137	0.139	0.102	0.129

Figure 18: Cancer of the liver and intrahepatic bile ducts – cumulative relative survival ratios

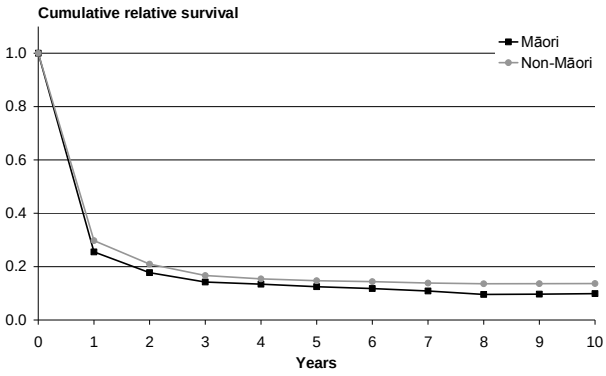
Cumulative relative survival ratios, by sex



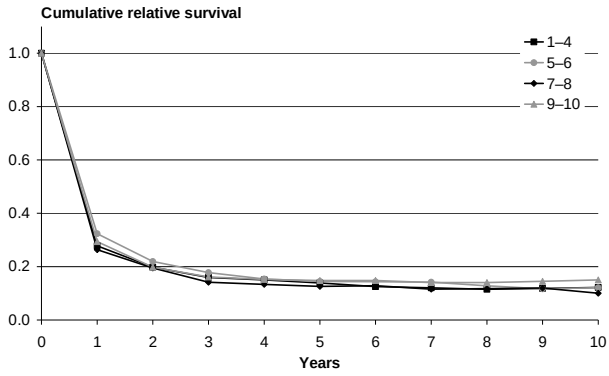
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



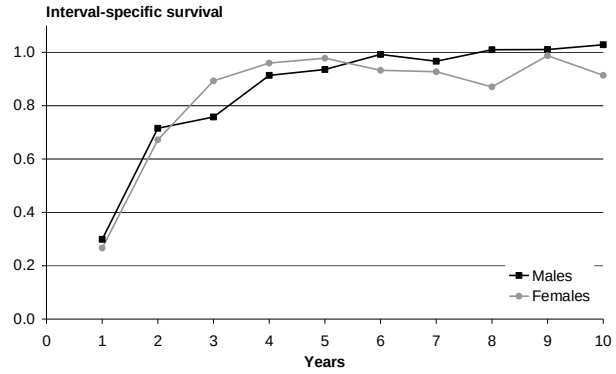
Interval-specific relative survival, 1994–2007

Table 31: Cancer of the liver and intrahepatic bile ducts – interval-specific relative survival ratios, by sex and ethnicity

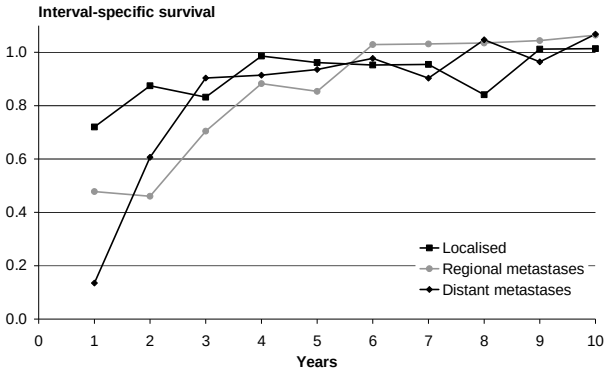
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.247	0.286	0.255	0.317	0.263	0.297	0.299	0.266	0.288
2 years	0.660	0.814	0.695	0.730	0.648	0.704	0.715	0.672	0.702
3 years	0.763	0.906	0.802	0.756	0.890	0.795	0.757	0.893	0.797
4 years	0.978	0.868	0.945	0.898	0.979	0.925	0.914	0.960	0.929
5 years	0.900	1.010	0.929	0.945	0.972	0.955	0.936	0.978	0.950
6 years	0.962	0.910	0.945	0.999	0.937	0.978	0.992	0.933	0.972
7 years	0.949	0.856	0.923	0.970	0.941	0.961	0.966	0.927	0.954
8 years	0.927	0.679	0.878	1.026	0.890	0.982	1.010	0.870	0.968
9 years	1.012	1.028	1.015	1.011	0.983	1.003	1.011	0.987	1.005
10 years	1.015	1.032	1.019	1.030	0.902	1.002	1.028	0.914	1.003

Figure 19: Cancer of the liver and intrahepatic bile ducts – interval-specific relative survival ratios

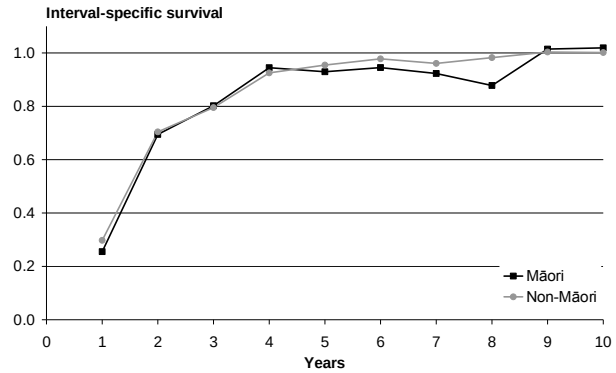
Interval-specific relative survival ratios, by sex



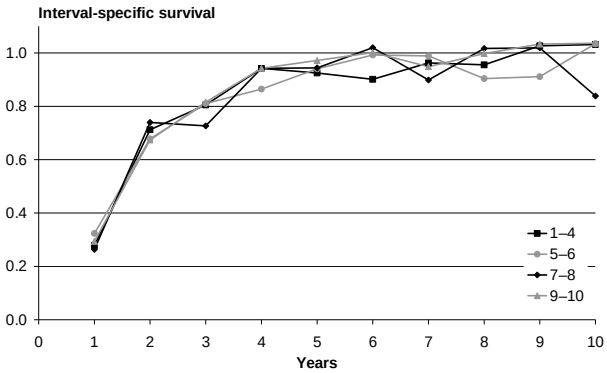
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



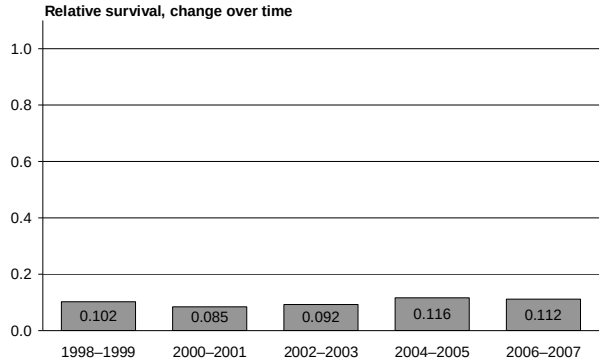
Five-year cumulative relative survival – change over time, 1998–2007

Table 32: Cancer of the liver and intrahepatic bile ducts – five-year cumulative relative survival ratios, by sex and ethnicity

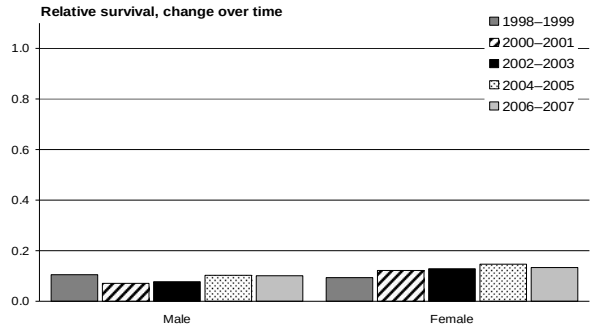
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.041	0.000	0.051	0.133	0.091	0.119	0.105	0.093	0.102
2000–2001	0.027	0.061	0.036	0.088	0.130	0.102	0.071	0.122	0.085
2002–2003	0.046	0.135	0.060	0.092	0.127	0.103	0.077	0.128	0.092
2004–2005	0.103	0.472	0.162	0.099	0.104	0.103	0.103	0.147	0.116
2006–2007	0.116	0.205	0.133	0.102	0.125	0.110	0.101	0.133	0.112

Figure 20: Cancer of the liver and intrahepatic bile ducts – five-year cumulative relative survival ratios, change over time

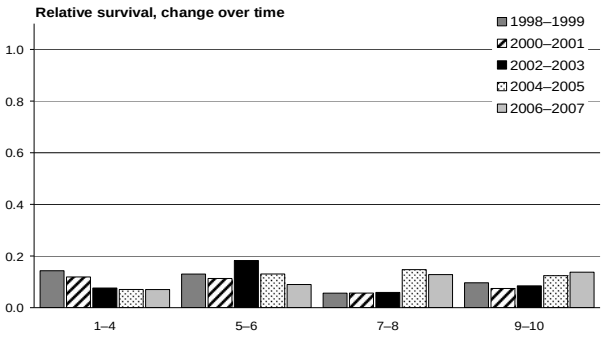
Relative survival ratios, change over time



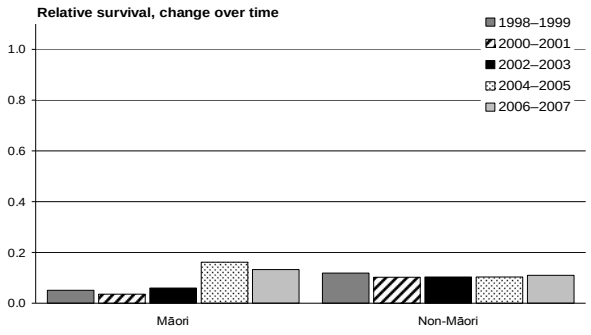
Cumulative relative survival ratios, change over time, by sex



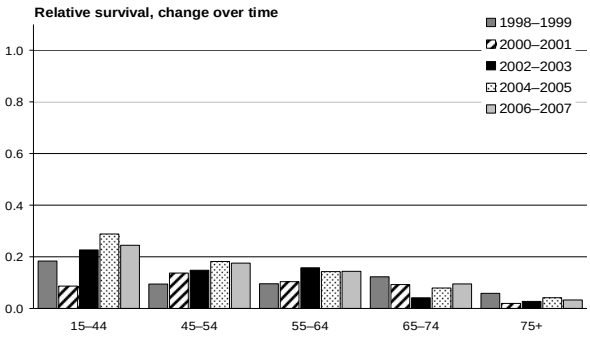
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the pancreas (ICD code C25)

Key points

- The five-year cumulative relative survival ratio for patients with cancer of the pancreas was 0.070, and the equivalent 10-year ratio was 0.078: the lowest of all the cancer groupings included in this report.
- Where stated, extent of disease at diagnosis impacted to some degree on patient survival.
- Extremely low levels of survival beyond the first year of follow-up meant that no other clear trends were evident among the data.

Table 33: Cancer of the pancreas – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	18	20	38	66	37	103	84	57	141
45–54	36	32	68	167	117	284	203	149	352
55–64	54	49	103	419	300	719	473	349	822
65–74	67	64	131	660	563	1223	727	627	1354
75+	31	49	80	748	1076	1824	779	1125	1904
Total	206	214	420	2060	2093	4153	2266	2307	4573

Table 34: Cancer of the pancreas – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	9	25	79	28	141
45–54	17	49	197	89	352
55–64	30	120	427	245	822
65–74	47	150	646	511	1354
75+	38	63	720	1083	1904
Total	141	407	2069	1956	4573

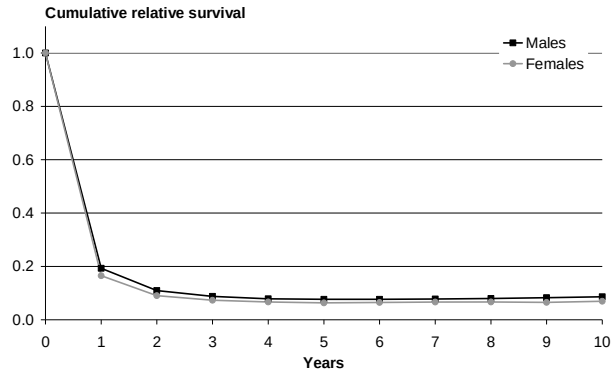
Cumulative relative survival, 1994–2007

Table 35: Cancer of the pancreas – cumulative relative survival ratios, by sex and ethnicity

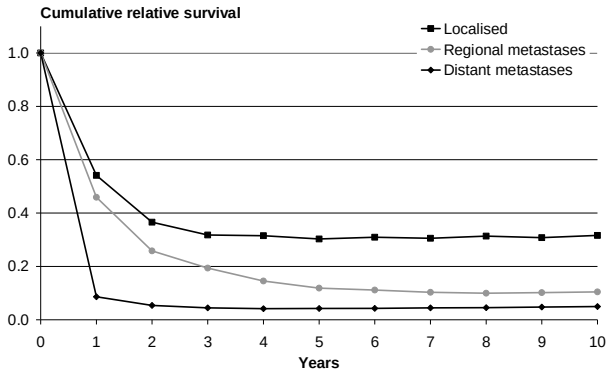
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.184	0.162	0.173	0.194	0.165	0.179	0.193	0.165	0.179
2 years	0.121	0.102	0.111	0.108	0.089	0.099	0.109	0.091	0.100
3 years	0.102	0.078	0.090	0.086	0.073	0.079	0.088	0.073	0.080
4 years	0.104	0.068	0.086	0.076	0.067	0.071	0.079	0.067	0.073
5 years	0.106	0.069	0.087	0.073	0.063	0.068	0.077	0.063	0.070
6 years	0.091	0.070	0.081	0.075	0.064	0.070	0.077	0.065	0.071
7 years	0.093	0.071	0.082	0.076	0.066	0.071	0.078	0.066	0.072
8 years	0.087	0.072	0.080	0.079	0.066	0.072	0.080	0.067	0.073
9 years	0.078	0.073	0.077	0.083	0.064	0.074	0.083	0.065	0.074
10 years	0.080	0.075	0.078	0.087	0.069	0.078	0.086	0.069	0.078

Figure 21: Cancer of the pancreas – cumulative relative survival ratios

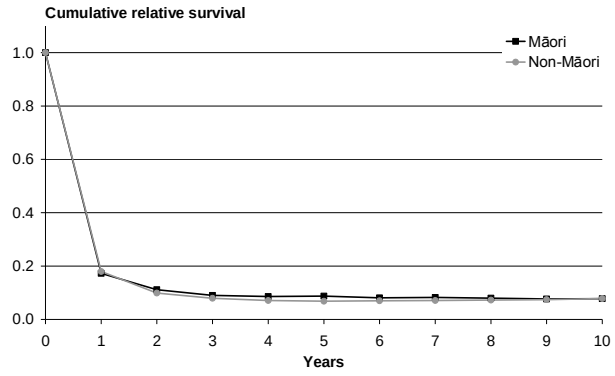
Cumulative relative survival ratios, by sex



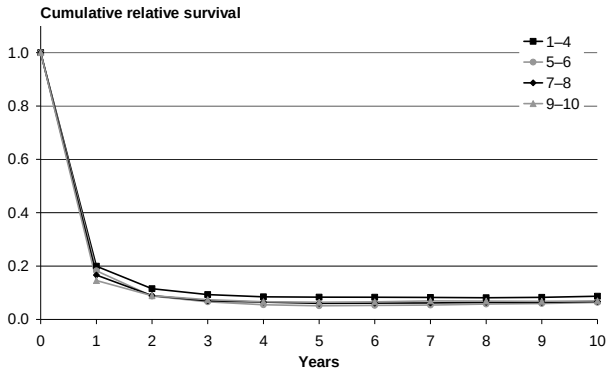
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



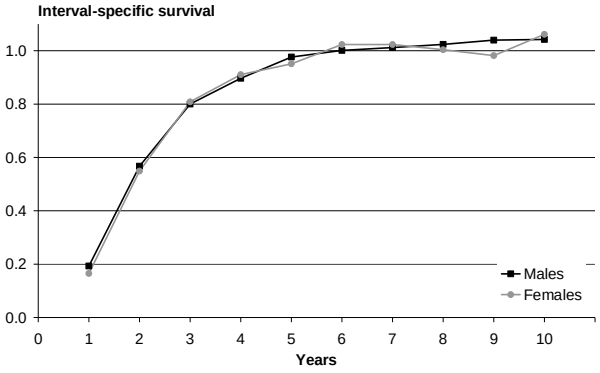
Interval-specific relative survival, 1994–2007

Table 36: Cancer of the pancreas – interval-specific relative survival ratios, by sex and ethnicity

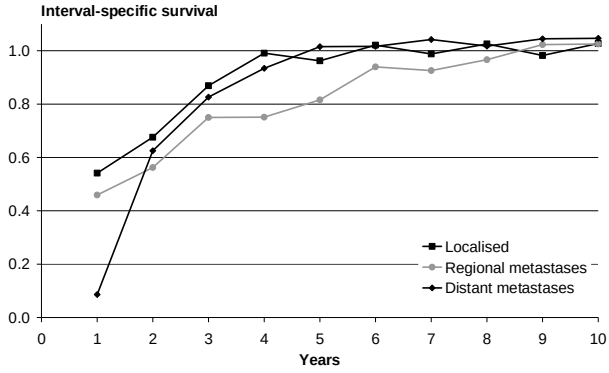
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.184	0.162	0.173	0.194	0.165	0.179	0.193	0.165	0.179
2 years	0.659	0.627	0.643	0.558	0.541	0.550	0.567	0.549	0.559
3 years	0.844	0.771	0.810	0.795	0.813	0.803	0.800	0.808	0.804
4 years	1.019	0.867	0.954	0.881	0.915	0.897	0.897	0.910	0.903
5 years	1.019	1.012	1.016	0.970	0.945	0.958	0.976	0.951	0.964
6 years	0.862	1.014	0.925	1.022	1.024	1.023	1.001	1.023	1.012
7 years	1.022	1.015	1.019	1.010	1.024	1.017	1.012	1.023	1.017
8 years	0.927	1.017	0.969	1.038	1.001	1.022	1.024	1.004	1.015
9 years	0.902	1.019	0.960	1.058	0.975	1.023	1.040	0.982	1.015
10 years	1.020	1.019	1.019	1.045	1.070	1.055	1.042	1.061	1.050

Figure 22: Cancer of the pancreas – interval-specific relative survival ratios

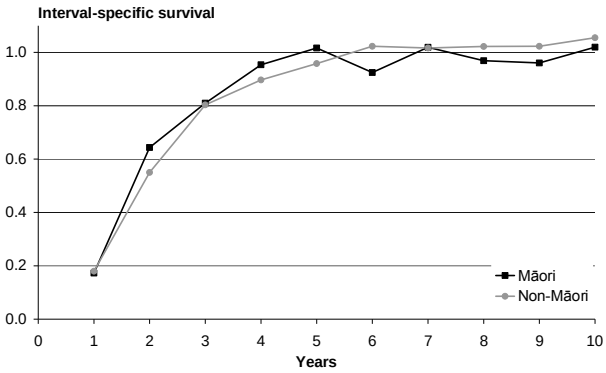
Interval-specific relative survival ratios, by sex



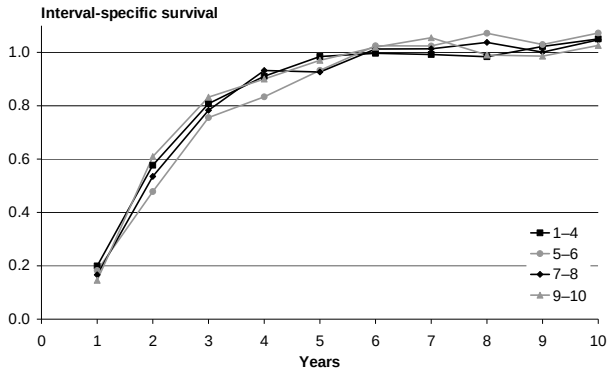
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



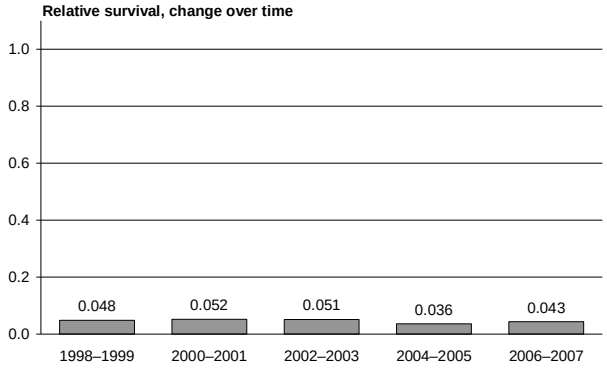
Five-year cumulative relative survival – change over time, 1998–2007

Table 37: Cancer of the pancreas – five-year cumulative relative survival ratios, by sex and ethnicity

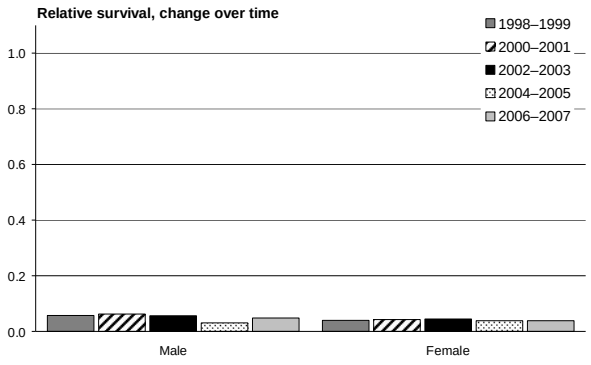
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.112	0.029	0.059	0.053	0.041	0.047	0.057	0.040	0.048
2000–2001	0.109	0.077	0.093	0.054	0.038	0.046	0.062	0.042	0.052
2002–2003	0.111	0.069	0.088	0.052	0.041	0.048	0.056	0.045	0.051
2004–2005	0.023	0.011	0.018	0.031	0.040	0.038	0.031	0.039	0.036
2006–2007	0.115	0.028	0.060	0.044	0.040	0.042	0.048	0.038	0.043

Figure 23: Cancer of the pancreas – five-year cumulative relative survival ratios, change over time

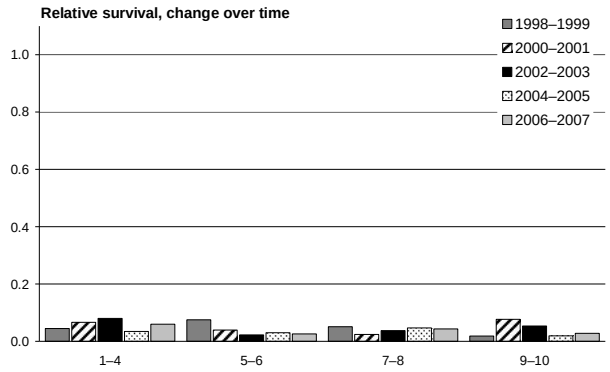
Cumulative relative survival ratios, change over time



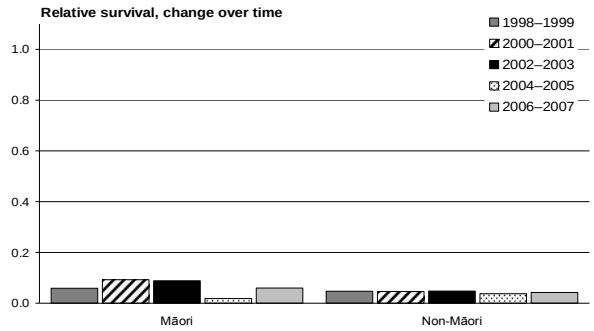
Cumulative relative survival ratios, change over time, by sex



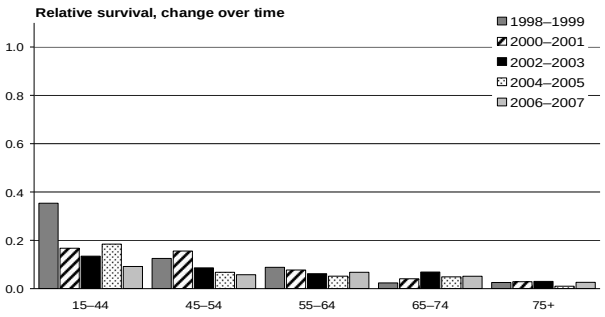
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the trachea, bronchus and lung (ICD codes C33–C34)

Key points

- The five-year cumulative relative survival ratio for patients with lung cancer was very low at 0.111; the equivalent 10-year ratio was 0.100.
- Females experienced slightly higher survival ratios in the first few years of follow-up.
- Māori had survival ratios only slightly lower than non-Māori.
- Patient survival was related to the extent of disease at diagnosis, where this was stated.
- Very small differences in survival ratios were seen between deprivation groups.
- Very low survival ratios, and therefore low numbers, meant that change over time information was variable: it should therefore be treated with caution.

Table 38: Cancer of the trachea, bronchus and lung – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	51	77	128	151	215	366	202	292	494
45–54	239	311	550	686	600	1286	925	911	1836
55–64	628	624	1252	2144	1512	3656	2772	2136	4908
65–74	584	539	1123	4317	2423	6740	4901	2962	7863
75+	218	218	436	4318	2519	6837	4536	2737	7273
Total	1720	1769	3489	11,616	7269	18,885	13,336	9038	22,374

Table 39: Cancer of the trachea, bronchus and lung – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	54	69	225	146	494
45–54	132	270	840	594	1836
55–64	390	558	2063	1897	4908
65–74	573	737	2851	3702	7863
75+	259	407	2313	4294	7273
Total	1408	2041	8292	10,633	22,374

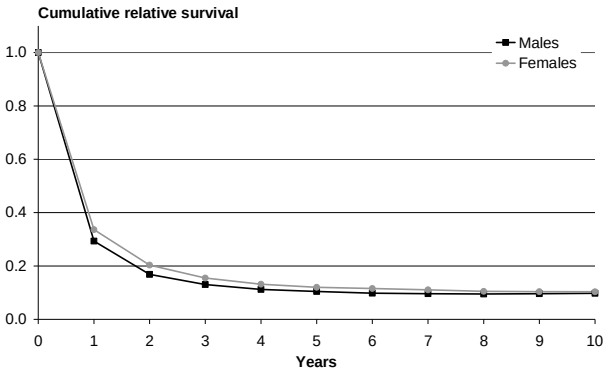
Cumulative relative survival, 1994–2007

Table 40: Cancer of the trachea, bronchus and lung – cumulative relative survival ratios, by sex and ethnicity

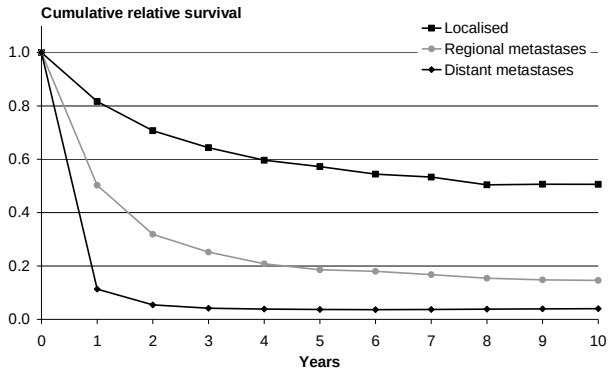
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.254	0.314	0.284	0.299	0.342	0.316	0.293	0.336	0.311
2 years	0.127	0.160	0.143	0.175	0.214	0.190	0.169	0.203	0.183
3 years	0.085	0.108	0.097	0.137	0.167	0.149	0.130	0.155	0.140
4 years	0.071	0.087	0.079	0.119	0.143	0.128	0.112	0.132	0.120
5 years	0.064	0.080	0.072	0.111	0.130	0.118	0.105	0.120	0.111
6 years	0.060	0.071	0.066	0.104	0.127	0.113	0.098	0.116	0.105
7 years	0.056	0.066	0.061	0.102	0.122	0.110	0.096	0.111	0.102
8 years	0.053	0.061	0.057	0.101	0.116	0.107	0.095	0.105	0.099
9 years	0.052	0.060	0.056	0.103	0.115	0.108	0.096	0.104	0.099
10 years	0.049	0.060	0.055	0.105	0.114	0.109	0.098	0.103	0.100

Figure 24: Cancer of the trachea, bronchus and lung – cumulative relative survival ratios

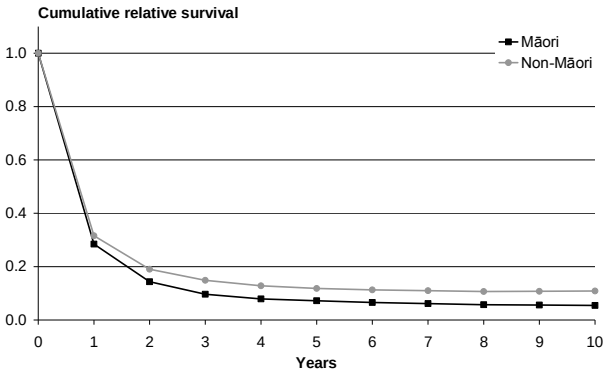
Cumulative relative survival ratios, by sex



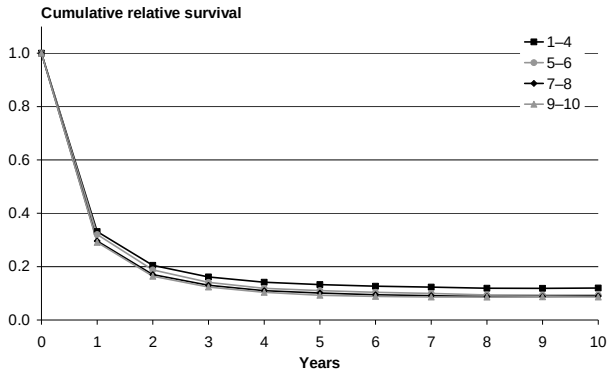
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



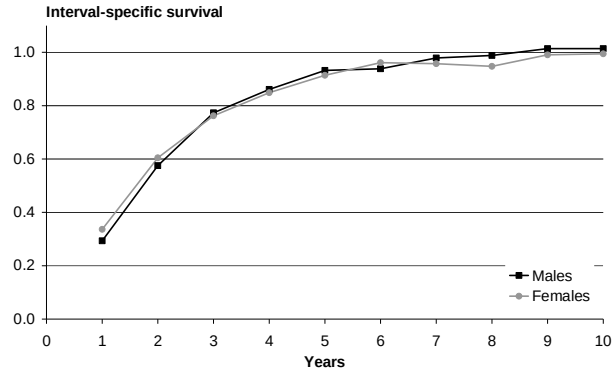
Interval-specific relative survival, 1994–2007

Table 41: Cancer of the trachea, bronchus and lung – interval-specific relative survival ratios, by sex and ethnicity

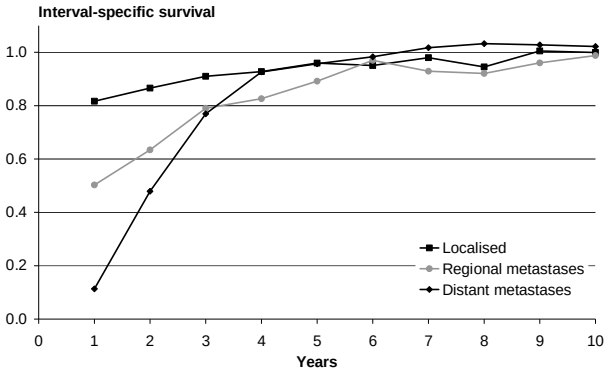
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.254	0.314	0.284	0.299	0.342	0.316	0.293	0.336	0.311
2 years	0.499	0.508	0.504	0.585	0.627	0.603	0.575	0.605	0.588
3 years	0.669	0.677	0.674	0.785	0.778	0.782	0.773	0.762	0.768
4 years	0.843	0.801	0.819	0.863	0.857	0.860	0.861	0.849	0.855
5 years	0.903	0.922	0.913	0.935	0.913	0.925	0.932	0.914	0.924
6 years	0.931	0.894	0.911	0.939	0.972	0.953	0.938	0.961	0.948
7 years	0.940	0.931	0.935	0.982	0.961	0.973	0.979	0.957	0.969
8 years	0.942	0.926	0.933	0.992	0.950	0.974	0.988	0.947	0.970
9 years	0.981	0.975	0.978	1.017	0.992	1.006	1.014	0.990	1.004
10 years	0.949	0.998	0.975	1.019	0.994	1.009	1.014	0.995	1.005

Figure 25: Cancer of the trachea, bronchus and lung – interval-specific relative survival ratios

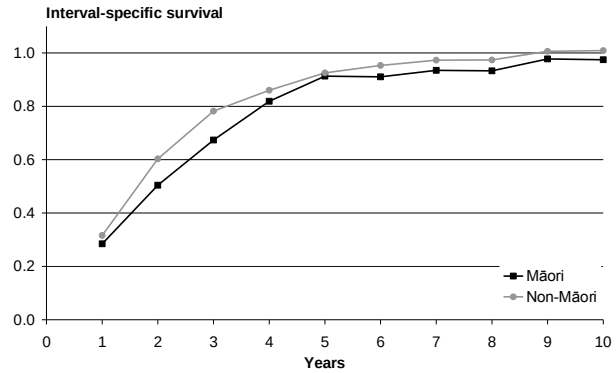
Interval-specific relative survival ratios, by sex



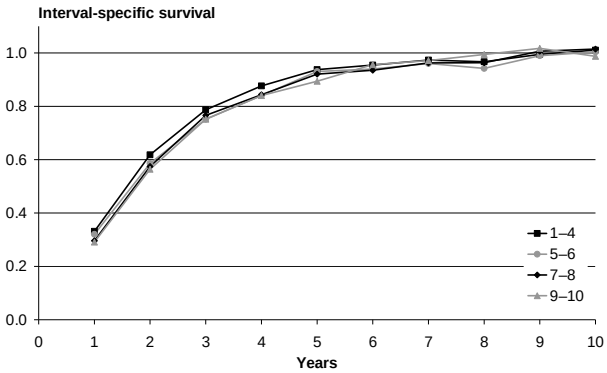
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



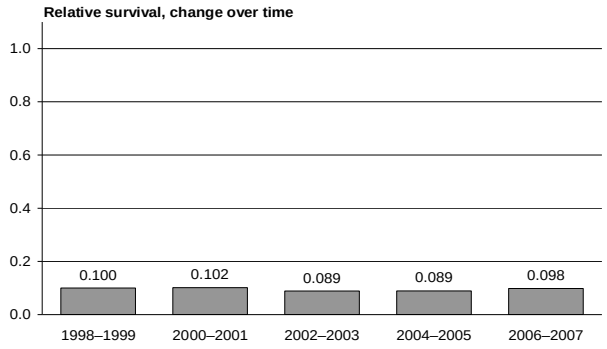
Five-year cumulative relative survival – change over time, 1998–2007

Table 42: Cancer of the trachea, bronchus and lung – five-year cumulative relative survival ratios, by sex and ethnicity

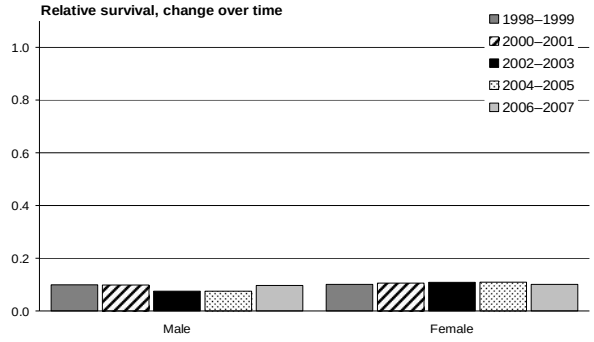
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.061	0.058	0.060	0.104	0.112	0.107	0.099	0.101	0.100
2000–2001	0.060	0.059	0.059	0.105	0.119	0.111	0.099	0.106	0.102
2002–2003	0.032	0.106	0.064	0.082	0.110	0.093	0.075	0.108	0.089
2004–2005	0.044	0.065	0.054	0.079	0.122	0.095	0.075	0.109	0.089
2006–2007	0.074	0.061	0.066	0.101	0.111	0.105	0.097	0.101	0.098

Figure 26: Cancer of the trachea, bronchus and lung – five-year cumulative relative survival ratios, change over time

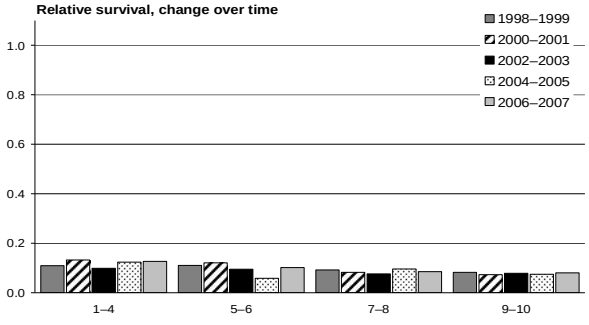
Cumulative relative survival ratios, change over time



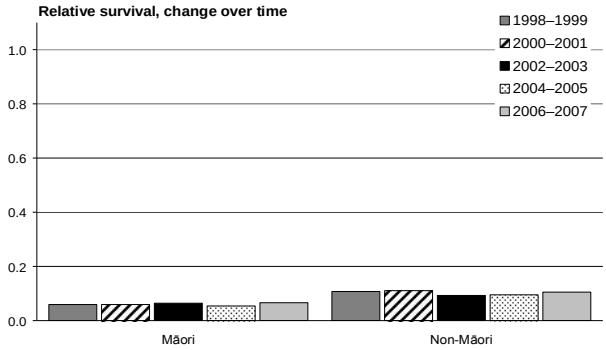
Cumulative relative survival ratios, change over time, by sex



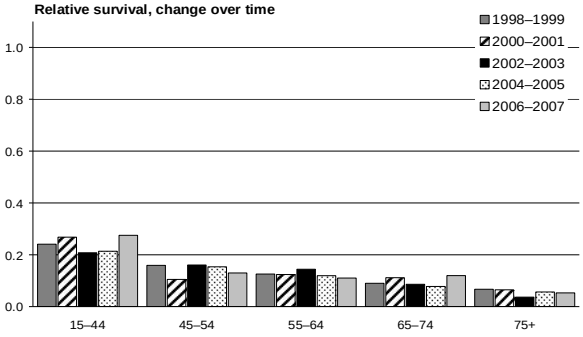
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Melanoma of the skin (ICD code C43)

Key points

- The five-year cumulative relative survival ratio for patients with melanoma was high, at 0.903; the equivalent 10-year ratio was 0.889.
- Females experienced slightly higher survival ratios than males.
- Māori had lower survival ratios than non-Māori.
- Survival depended very much on the extent of disease at diagnosis, where this was stated.
- Small differences in survival were seen between deprivation groups.
- No real changes in survival were seen between 1998 and 2007.
- The number of Māori registered with this cancer was very low, and therefore survival ratios over time were variable.

Table 43: Melanoma – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	37	84	121	2026	3020	5046	2063	3104	5167
45–54	21	49	70	2212	2379	4591	2233	2428	4661
55–64	16	27	43	2868	2201	5069	2884	2228	5112
65–74	30	19	49	3273	2264	5537	3303	2283	5586
75+	14	27	41	3180	2705	5885	3194	2732	5926
Total	118	206	324	13,559	12,569	26,128	13,677	12,775	26,452

Table 44: Melanoma – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	4651	158	143	215	5167
45–54	4163	158	160	180	4661
55–64	4457	233	221	201	5112
65–74	4746	322	305	213	5586
75+	4720	597	333	276	5926
Total	22,737	1468	1162	1085	26,452

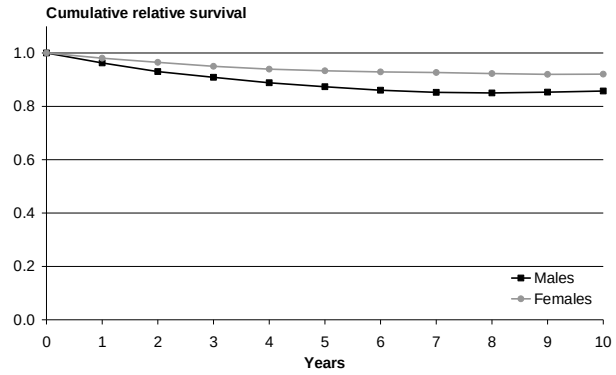
Cumulative relative survival, 1994–2007

Table 45: Melanoma – cumulative relative survival ratios, by sex and ethnicity

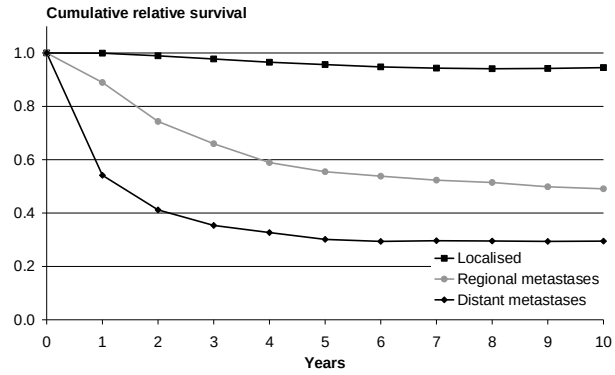
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.882	0.957	0.930	0.963	0.981	0.972	0.963	0.981	0.971
2 years	0.793	0.918	0.873	0.931	0.966	0.948	0.930	0.965	0.947
3 years	0.732	0.908	0.844	0.910	0.951	0.930	0.909	0.950	0.929
4 years	0.691	0.885	0.815	0.890	0.940	0.915	0.888	0.939	0.913
5 years	0.666	0.876	0.800	0.875	0.934	0.904	0.873	0.933	0.903
6 years	0.635	0.865	0.783	0.862	0.930	0.896	0.860	0.929	0.894
7 years	0.613	0.857	0.770	0.855	0.928	0.891	0.852	0.927	0.889
8 years	0.623	0.856	0.772	0.852	0.924	0.887	0.850	0.923	0.886
9 years	0.615	0.864	0.775	0.855	0.921	0.888	0.853	0.920	0.886
10 years	0.582	0.845	0.750	0.860	0.922	0.891	0.858	0.921	0.889

Figure 27: Melanoma – cumulative relative survival ratios

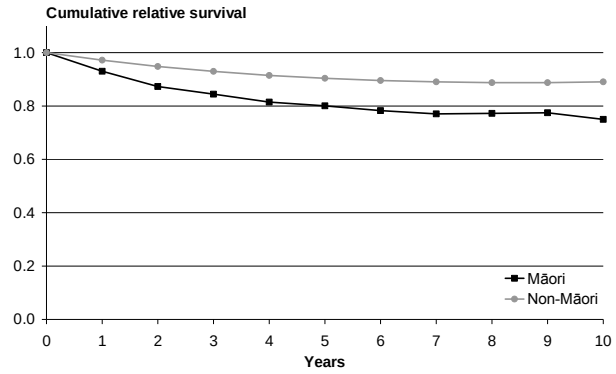
Cumulative relative survival ratios, by sex



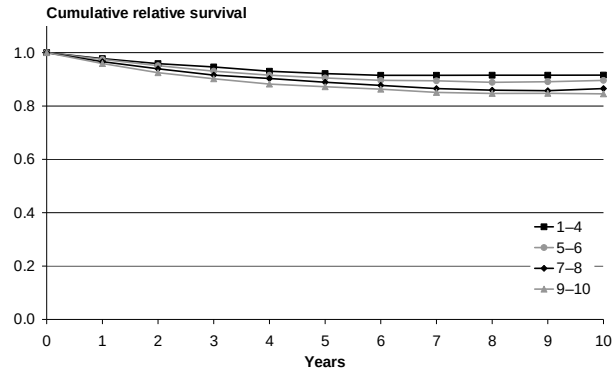
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



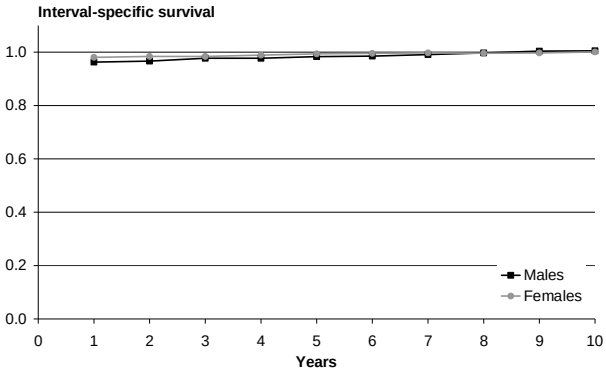
Interval-specific relative survival, 1994–2007

Table 46: Melanoma – interval-specific relative survival ratios, by sex and ethnicity

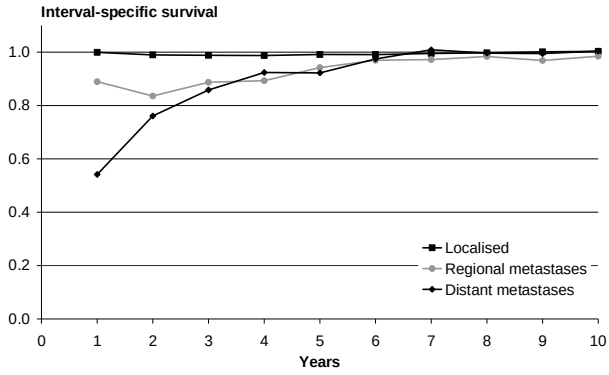
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.882	0.957	0.930	0.963	0.981	0.972	0.963	0.981	0.971
2 years	0.899	0.959	0.939	0.967	0.985	0.976	0.966	0.984	0.975
3 years	0.923	0.989	0.967	0.978	0.984	0.981	0.977	0.984	0.981
4 years	0.944	0.974	0.965	0.978	0.989	0.983	0.977	0.989	0.983
5 years	0.964	0.990	0.982	0.983	0.993	0.989	0.983	0.993	0.988
6 years	0.953	0.987	0.978	0.985	0.996	0.991	0.985	0.995	0.991
7 years	0.965	0.992	0.985	0.991	0.997	0.994	0.991	0.997	0.994
8 years	1.016	0.998	1.002	0.997	0.996	0.996	0.997	0.996	0.996
9 years	0.987	1.009	1.003	1.004	0.997	1.000	1.004	0.997	1.000
10 years	0.946	0.978	0.968	1.006	1.001	1.003	1.005	1.001	1.003

Figure 28: Melanoma – interval-specific relative survival ratios

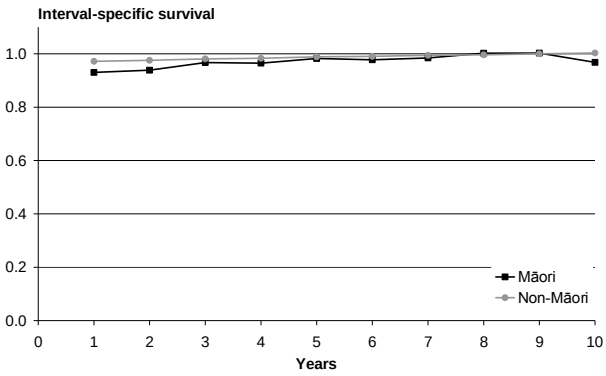
Interval-specific relative survival ratios, by sex



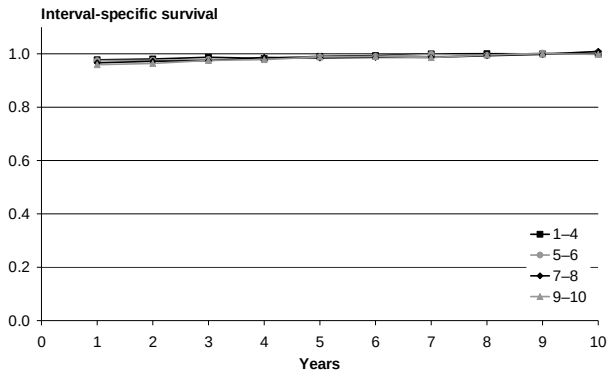
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



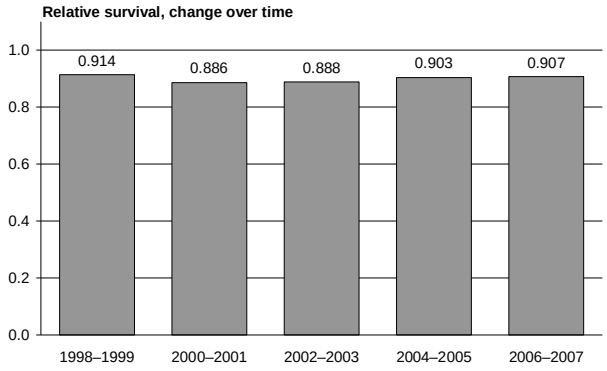
Five-year cumulative relative survival – change over time, 1998–2007

Table 47: Melanoma – five-year cumulative relative survival ratios, by sex and ethnicity

Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.813	1.043	0.956	0.884	0.942	0.913	0.884	0.944	0.914
2000–2001	0.731	0.904	0.863	0.850	0.923	0.886	0.850	0.923	0.886
2002–2003	0.488	0.899	0.768	0.863	0.918	0.890	0.859	0.917	0.888
2004–2005	0.392	0.911	0.715	0.878	0.934	0.906	0.873	0.934	0.903
2006–2007	0.657	0.771	0.724	0.883	0.938	0.909	0.881	0.935	0.907

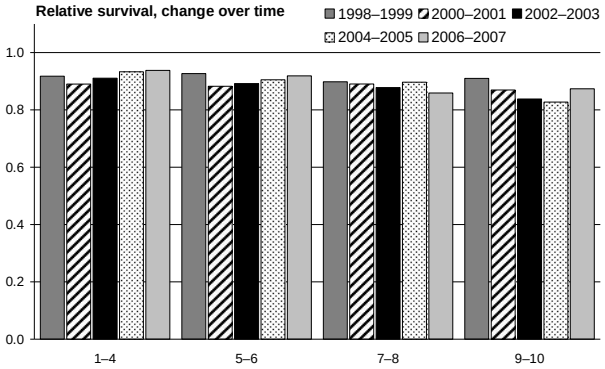
Figure 29: Melanoma – five-year cumulative relative survival ratios, change over time

Cumulative relative survival ratios, change over time

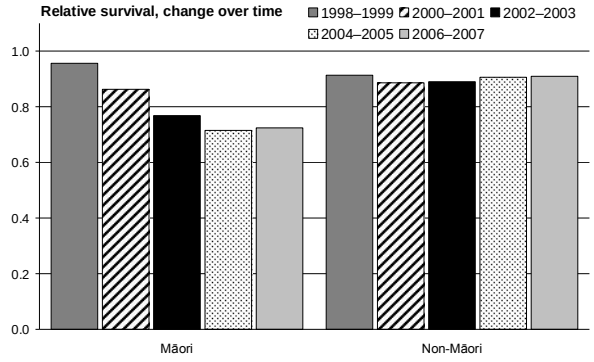


Cumulative relative survival ratios, change over time, by sex

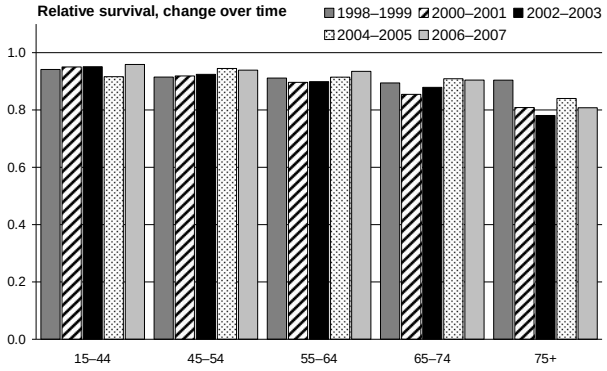
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the breast (ICD code C50, females)

Key points

- The five-year cumulative relative survival ratio for women patients with breast cancer was relatively high at 0.828; the equivalent 10-year ratio was 0.759.
- Māori women had lower survival ratios than non-Māori women.
- Where stated, extent of disease at diagnosis had a substantial effect on survival.
- The least deprived women experienced the highest survival ratios.
- Survival over time for breast cancer showed a positive trend, with an increase in five-year cumulative relative survival ratios from 0.792 (in 1998 and 1999) to 0.855 (in 2006 and 2007).
- Although this upward trend was clearly observed in non-Māori ratios, Māori ratios were more variable over time.
- A general improvement in survival was seen in all deprivation groups.
- In general, increased survival over time was observed in all age groups.

Table 48: Cancer of the breast – number of cases included in analysis, by age, sex and ethnicity

Age group	Females		
	Māori population	Non-Māori population	Total population
15–44	778	4042	4820
45–54	1005	7155	8160
55–64	785	6931	7716
65–74	468	5382	5850
75+	167	5841	6008
Total	3,203	29,351	32,554

Table 49: Cancer of the breast – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	1962	2089	180	589	4820
45–54	3899	2955	260	1046	8160
55–64	4113	2386	270	947	7716
65–74	3026	1766	273	785	5850
75+	1899	1550	404	2155	6008
Total	14,899	10,746	1387	5522	32,554

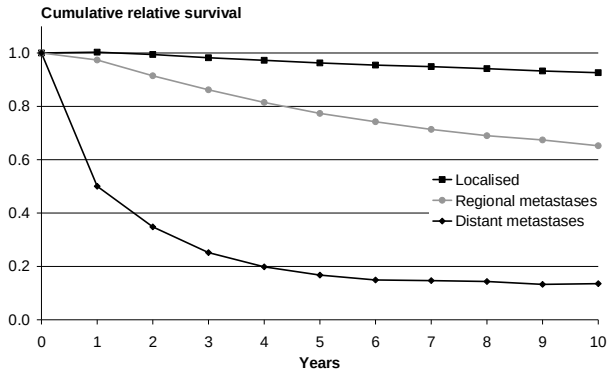
Cumulative relative survival, 1994–2007

Table 50: Cancer of the breast – cumulative relative survival ratios, by sex and ethnicity

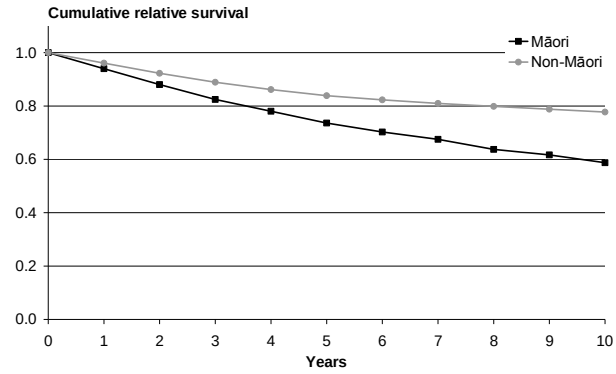
Time since diagnosis	Females		
	Māori population	Non-Māori population	Total population
1 year	0.940	0.961	0.959
2 years	0.880	0.923	0.918
3 years	0.824	0.889	0.882
4 years	0.781	0.861	0.853
5 years	0.736	0.839	0.828
6 years	0.702	0.823	0.811
7 years	0.675	0.810	0.796
8 years	0.637	0.799	0.783
9 years	0.617	0.788	0.771
10 years	0.588	0.777	0.759

Figure 30: Cancer of the breast – cumulative relative survival ratios

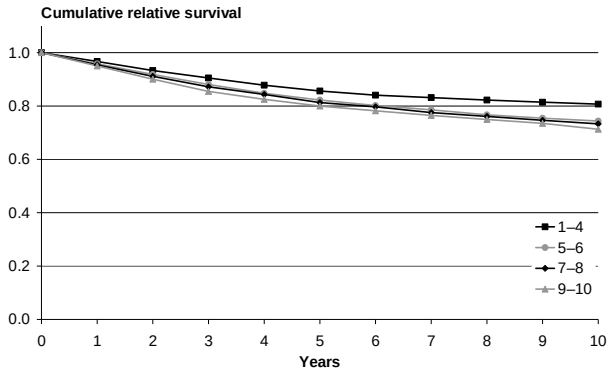
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



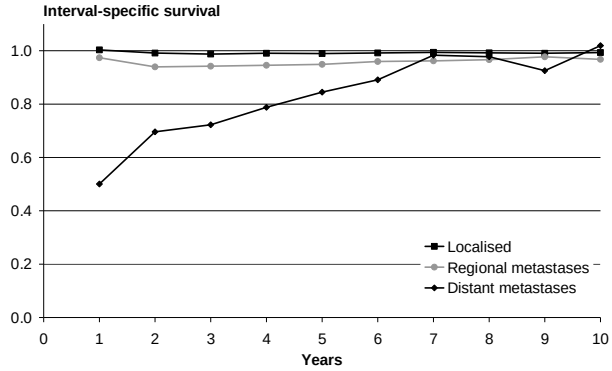
Interval-specific relative survival, 1994–2007

Table 51: Cancer of the breast – interval-specific relative survival ratios, by sex and ethnicity

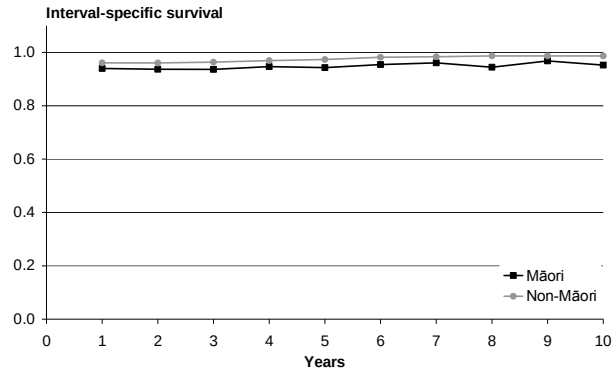
Time since diagnosis	Females		
	Māori population	Non-Māori population	Total population
1 year	0.940	0.961	0.959
2 years	0.937	0.960	0.958
3 years	0.936	0.963	0.961
4 years	0.947	0.969	0.967
5 years	0.943	0.973	0.971
6 years	0.954	0.982	0.979
7 years	0.961	0.983	0.982
8 years	0.944	0.987	0.983
9 years	0.968	0.987	0.985
10 years	0.952	0.987	0.984

Figure 31: Cancer of the breast – interval-specific relative survival ratios

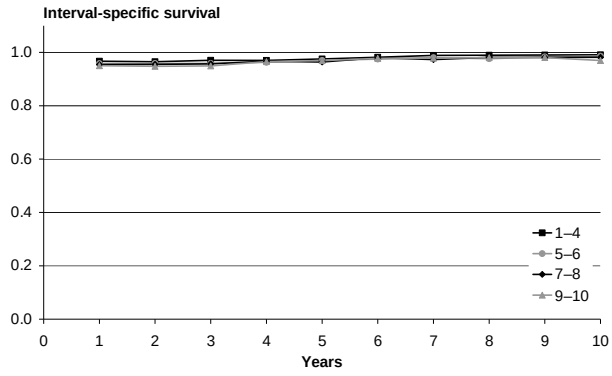
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



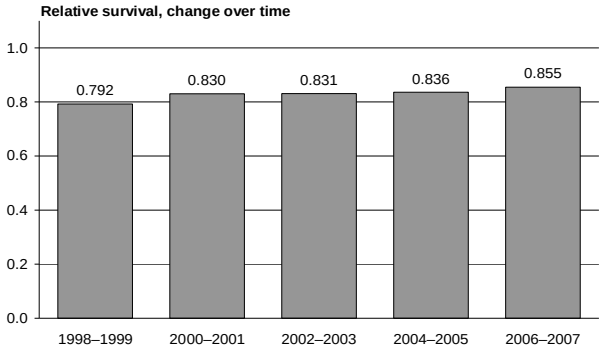
Five-year cumulative relative survival – change over time, 1998–2007

Table 52: Cancer of the breast – five-year cumulative relative survival ratios, by sex and ethnicity

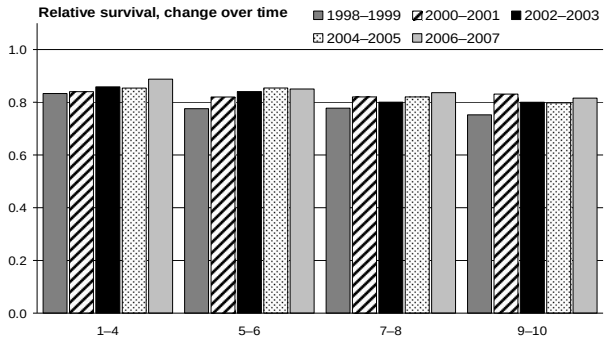
Registration years	Females		
	Māori population	Non-Māori population	Total population
1998–1999	0.670	0.805	0.792
2000–2001	0.756	0.838	0.830
2002–2003	0.730	0.842	0.831
2004–2005	0.711	0.850	0.836
2006–2007	0.751	0.867	0.855

Figure 32: Cancer of the breast – five-year cumulative relative survival ratios, change over time

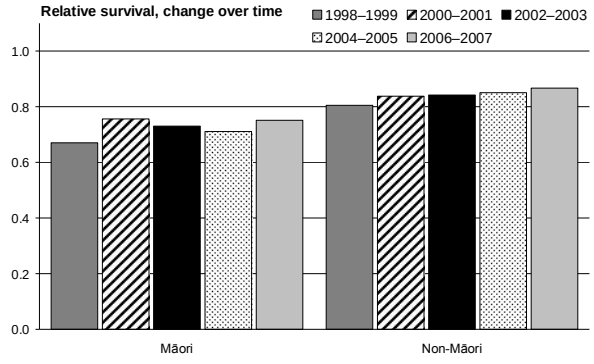
Cumulative relative survival ratios, change over time



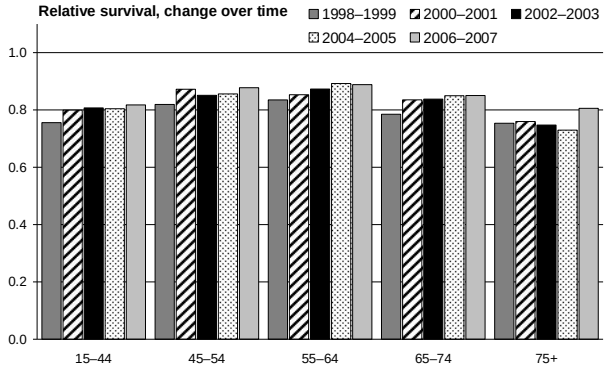
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the cervix uteri (ICD code C53)

Key points

- The five-year cumulative relative survival ratio for patients with cervical cancer was 0.712, and the equivalent 10-year ratio was 0.670.
- Māori women had lower survival ratios than non-Māori women.
- Extent of disease at diagnosis had a substantial affect on survival, where this was stated.
- The least deprived women experienced the highest survival ratios.
- Survival over time for cervical cancer appeared to show a downward trend, with lower survival in recent years.
- Survival ratios may have been affected by cervical screening. Screening results in cervical tumours being found at the pre-cancerous stage (and therefore not included in this data) more often, meaning that a larger proportion of the cervical cancers that *were* registered were likely to be more aggressive, increasing the likelihood of death.

Table 53: Cancer of the cervix uteri – number of cases included in analysis, by age, sex and ethnicity

Age group	Females		
	Māori population	Non-Māori population	Total population
15–44	267	923	1190
45–54	129	399	528
55–64	75	288	363
65–74	34	269	303
75+	15	232	247
Total	520	2111	2631

Table 54: Cancer of the cervix uteri – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	771	123	44	252	1190
45–54	223	62	45	198	528
55–64	116	51	40	156	363
65–74	59	33	42	169	303
75+	14	14	34	185	247
Total	1183	283	205	960	2631

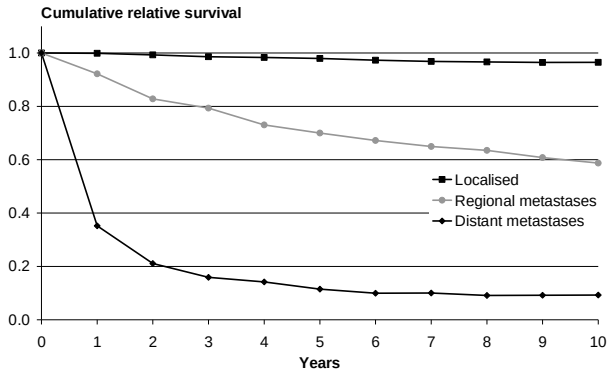
Cumulative relative survival, 1994–2007

Table 55: Cancer of the cervix uteri – cumulative relative survival ratios, by sex and ethnicity

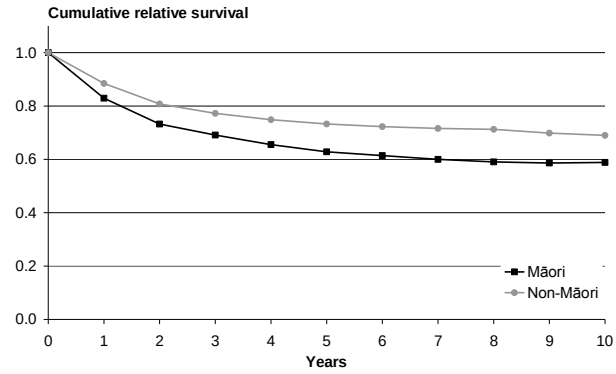
Time since diagnosis	Females		
	Māori population	Non-Māori population	Total population
1 year	0.829	0.885	0.874
2 years	0.732	0.808	0.793
3 years	0.691	0.772	0.756
4 years	0.655	0.749	0.730
5 years	0.628	0.733	0.712
6 years	0.614	0.723	0.701
7 years	0.600	0.716	0.693
8 years	0.590	0.712	0.688
9 years	0.586	0.698	0.676
10 years	0.589	0.690	0.670

Figure 33: Cancer of the cervix uteri – cumulative relative survival ratios

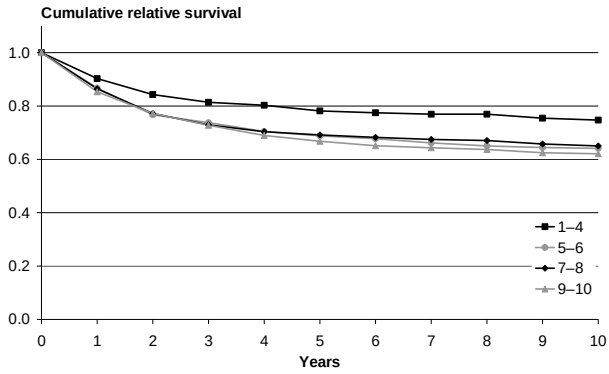
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



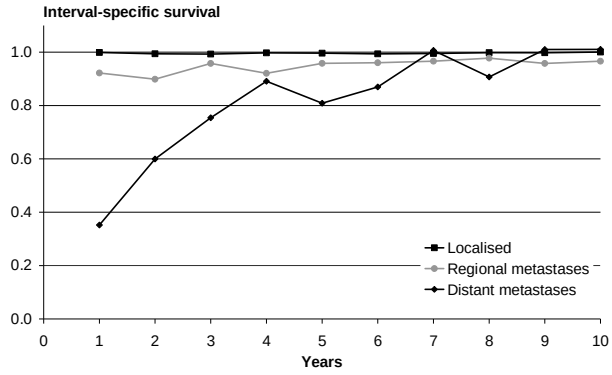
Interval-specific relative survival, 1994–2007

Table 56: Cancer of the cervix uteri – interval-specific survival ratios, by sex and ethnicity

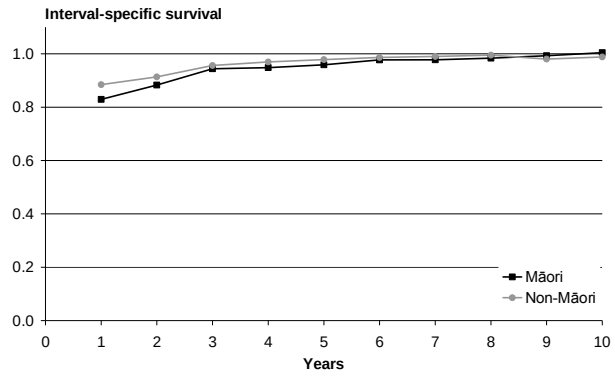
Time since diagnosis	Females		
	Māori population	Non-Māori population	Total population
1 year	0.829	0.885	0.874
2 years	0.883	0.913	0.908
3 years	0.944	0.956	0.954
4 years	0.948	0.969	0.966
5 years	0.959	0.978	0.975
6 years	0.977	0.987	0.985
7 years	0.977	0.990	0.988
8 years	0.984	0.995	0.993
9 years	0.993	0.980	0.983
10 years	1.004	0.988	0.991

Figure 34: Cancer of the cervix uteri – interval-specific relative survival ratios

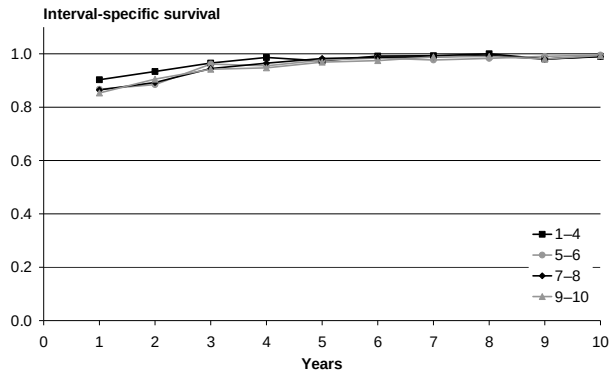
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



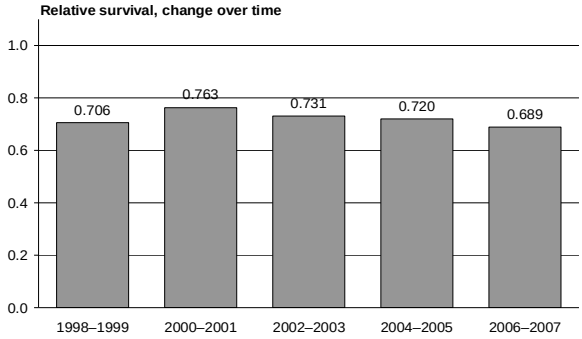
Five-year cumulative relative survival – change over time, 1998–2007

Table 57: Cancer of the cervix uteri – five-year cumulative relative survival ratios, by sex and ethnicity

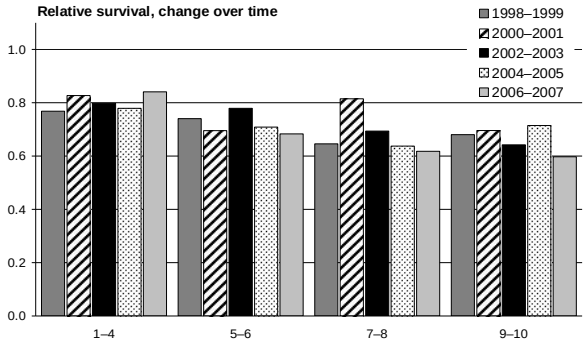
Registration years	Females		
	Māori population	Non-Māori population	Total population
1998–1999	0.620	0.729	0.706
2000–2001	0.683	0.782	0.763
2002–2003	0.666	0.746	0.731
2004–2005	0.682	0.729	0.720
2006–2007	0.575	0.716	0.689

Figure 35: Cancer of the cervix uteri – five-year cumulative relative survival ratios, change over time

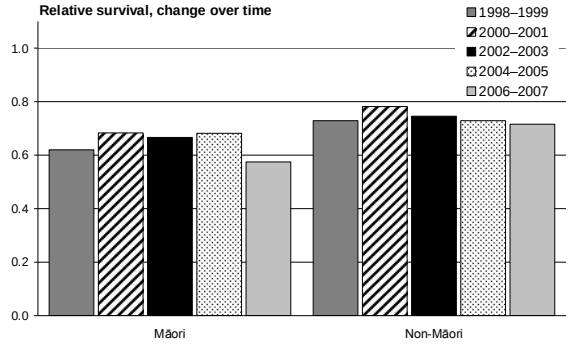
Cumulative relative survival ratios, change over time



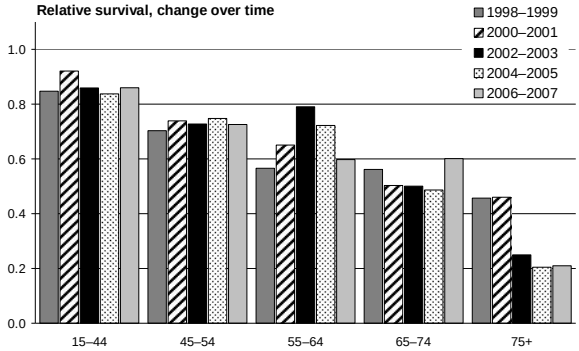
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the corpus uteri (ICD codes C54–C55)

Key points

- The five-year cumulative relative survival ratio for patients with cancer of the corpus uteri was 0.754, and the equivalent 10-year ratio was 0.735.
- Māori women had lower survival ratios than non-Māori women.
- Where stated, extent of disease at diagnosis had a substantial affect on survival.
- The least deprived women experienced the highest survival ratios.
- No trend in survival over time was observed for this cancer, although survival in Māori women may have been increasing, 2006 and 2007 levels being comparable for Māori and non-Māori.

Table 58: Cancer of the corpus uteri – number of cases included in analysis, by age, sex and ethnicity

Age group	Females		
	Māori population	Non-Māori population	Total population
15–44	62	218	280
45–54	141	606	747
55–64	145	1137	1282
65–74	90	1022	1112
75+	42	869	911
Total	480	3852	4332

Table 59: Cancer of the corpus uteri – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	159	50	26	45	280
45–54	479	121	68	79	747
55–64	834	238	109	101	1282
65–74	675	197	113	127	1112
75+	416	165	92	238	911
Total	2563	771	408	590	4332

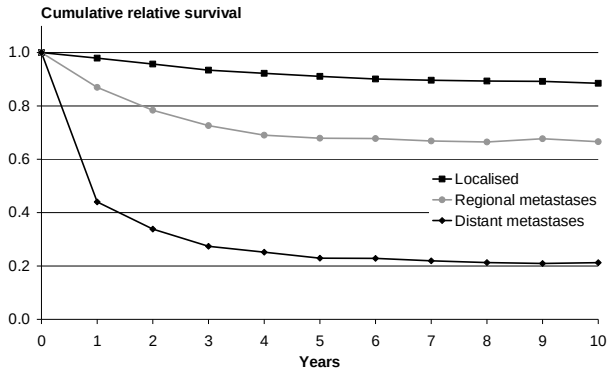
Cumulative relative survival, 1994–2007

Table 60: Cancer of the corpus uteri – cumulative relative survival ratios, by sex and ethnicity

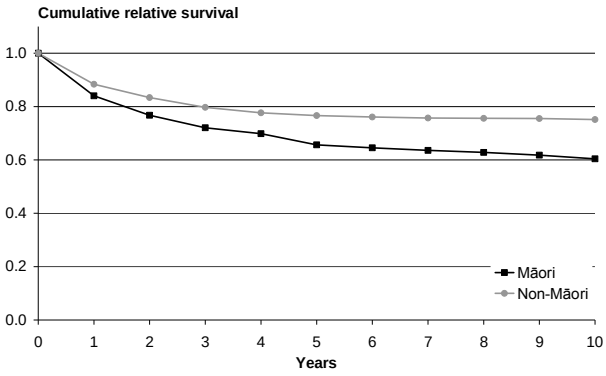
Time since diagnosis	Females		
	Māori population	Non-Māori population	Total population
1 year	0.840	0.884	0.879
2 years	0.768	0.834	0.826
3 years	0.721	0.797	0.788
4 years	0.699	0.776	0.768
5 years	0.657	0.766	0.754
6 years	0.645	0.761	0.748
7 years	0.636	0.757	0.744
8 years	0.628	0.756	0.742
9 years	0.618	0.755	0.740
10 years	0.604	0.751	0.735

Figure 36: Cancer of the corpus uteri – cumulative relative survival ratios

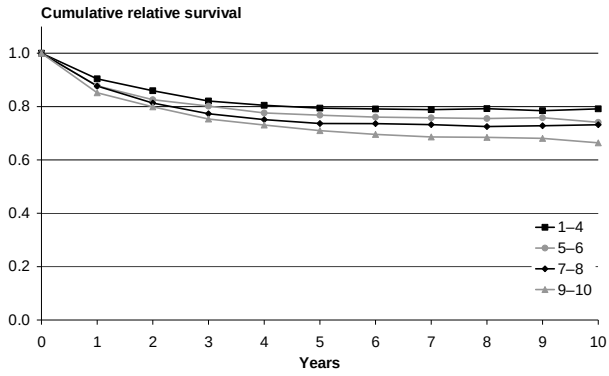
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



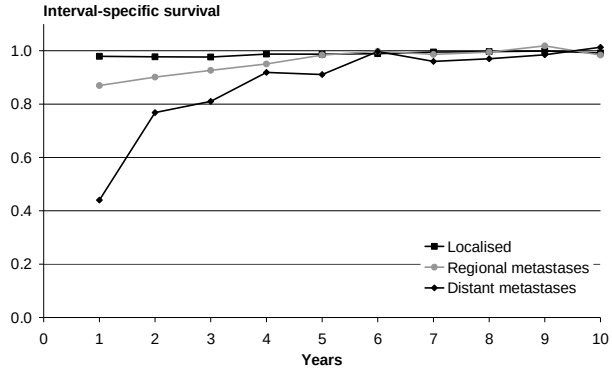
Interval-specific relative survival, 1994–2007

Table 61: Cancer of the corpus uteri – interval-specific relative survival ratios, by sex and ethnicity

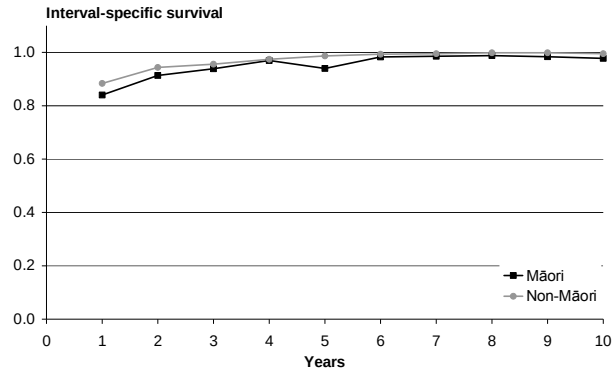
Time since diagnosis	Females		
	Māori population	Non-Māori population	Total population
1 year	0.840	0.884	0.879
2 years	0.913	0.944	0.940
3 years	0.939	0.956	0.954
4 years	0.969	0.974	0.974
5 years	0.940	0.987	0.982
6 years	0.983	0.993	0.992
7 years	0.985	0.995	0.994
8 years	0.988	0.999	0.998
9 years	0.984	0.999	0.997
10 years	0.977	0.995	0.994

Figure 37: Cancer of the corpus uteri – interval-specific relative survival ratios

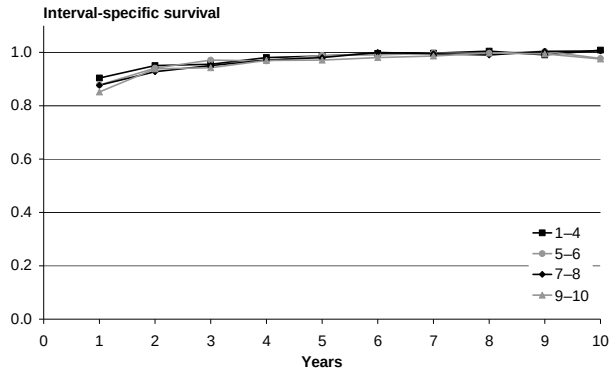
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



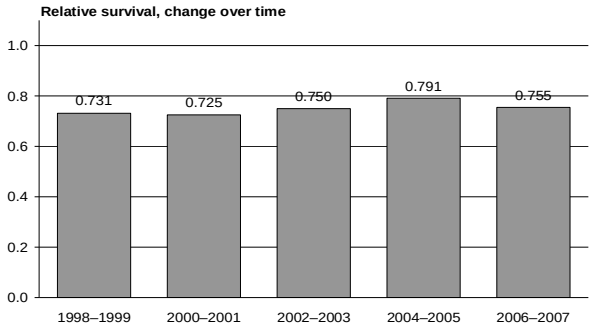
Five-year cumulative relative survival – change over time, 1998–2007

Table 62: Cancer of the corpus uteri – five-year cumulative relative survival ratios, by sex and ethnicity

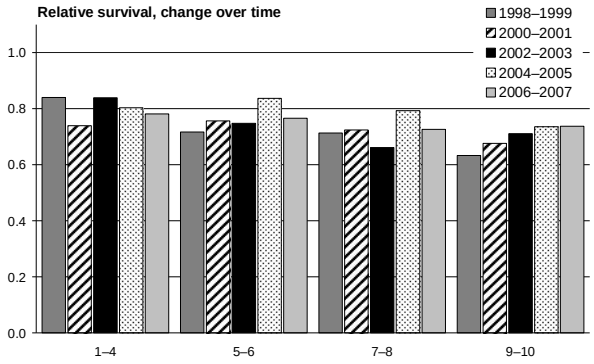
Registration years	Females		
	Māori population	Non-Māori population	Total population
1998–1999	0.602	0.745	0.731
2000–2001	0.589	0.741	0.725
2002–2003	0.664	0.761	0.750
2004–2005	0.640	0.813	0.791
2006–2007	0.739	0.756	0.755

Figure 38: Cancer of the corpus uteri – five-year cumulative relative survival ratios, change over time

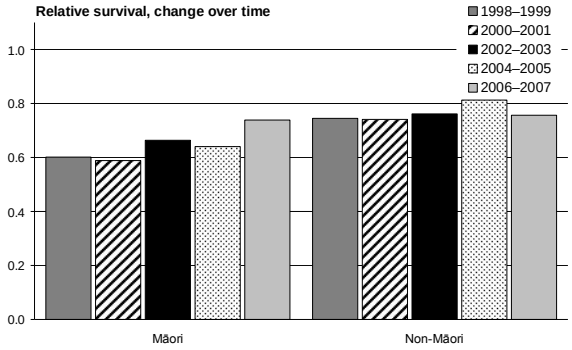
Cumulative relative survival ratios, change over time



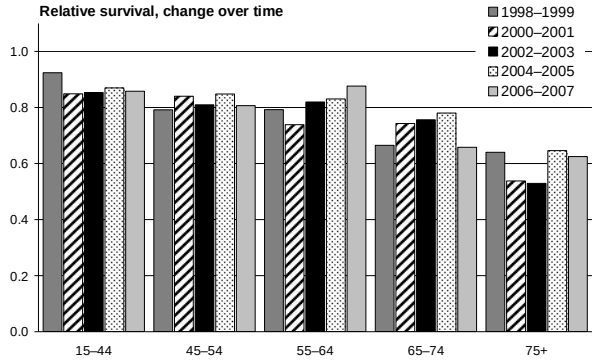
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the ovary (ICD code C56)

Key points

- The five-year cumulative relative survival ratio for patients with cancer of the ovary was 0.426, and the equivalent 10-year ratio was 0.380.
- Māori women had higher survival ratios than non-Māori women. (Cancer of the ovary was the only cancer covered by this publication for which Māori outcomes were recorded as better than those of non-Māori.)
- Where stated, extent of disease at diagnosis greatly affected survival.
- Very little differentiation was seen between deprivation groups.
- Ovarian cancers of borderline malignancy were omitted from registration from 1 January 2003, meaning that a higher proportion of registered ovarian cancers were recorded as resulting in death after this date. In turn, survival ratios after this time were recorded as lower: it was therefore not appropriate to analyse the data over time.

Table 63: Cancer of the ovary – number of cases included in analysis, by age, sex and ethnicity

Age group	Females		
	Māori population	Non-Māori population	Total population
15–44	115	482	597
45–54	85	602	687
55–64	80	776	856
65–74	38	782	820
75+	20	917	937
Total	338	3559	3897

Table 64: Cancer of the ovary – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	304	53	192	48	597
45–54	237	81	321	48	687
55–64	196	99	516	45	856
65–74	143	86	538	53	820
75+	108	91	600	138	937
Total	988	410	2167	332	3897

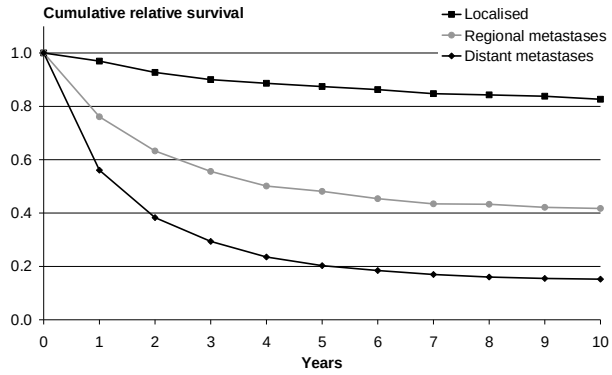
Cumulative relative survival, 1994–2007

Table 65: Cancer of the ovary – cumulative relative survival ratios, by sex and ethnicity

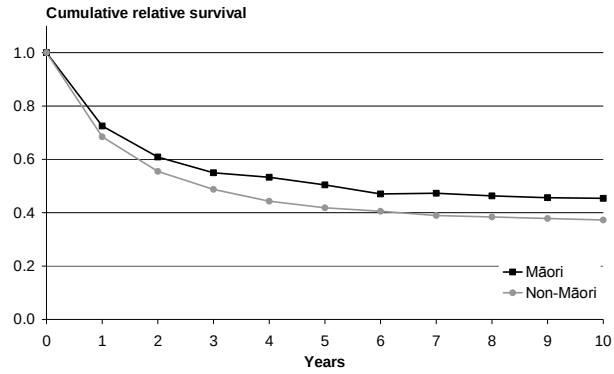
Time since diagnosis	Females		
	Māori population	Non-Māori population	Total population
1 year	0.725	0.685	0.688
2 years	0.609	0.555	0.560
3 years	0.550	0.488	0.493
4 years	0.533	0.443	0.451
5 years	0.504	0.418	0.426
6 years	0.470	0.406	0.411
7 years	0.473	0.389	0.397
8 years	0.463	0.384	0.391
9 years	0.456	0.378	0.385
10 years	0.454	0.373	0.380

Figure 39: Cancer of the ovary – cumulative relative survival ratios

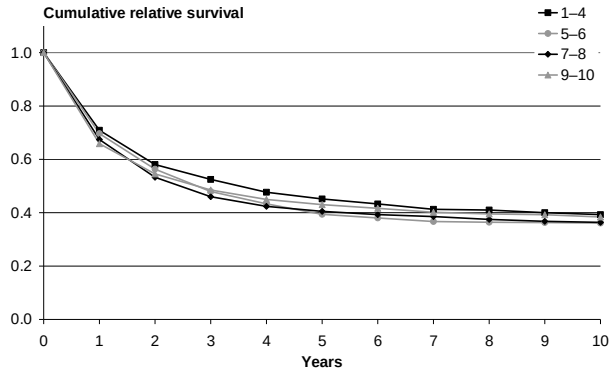
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



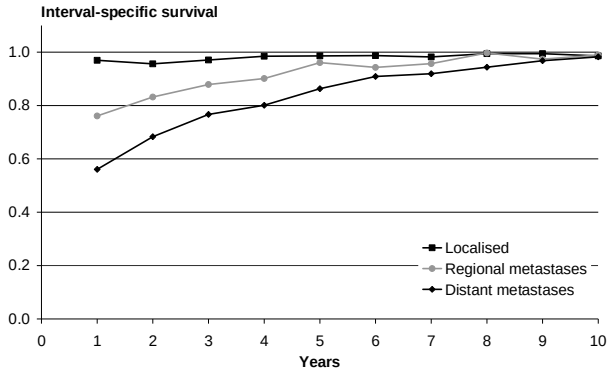
Interval-specific relative survival, 1994–2007

Table 66: Cancer of the ovary – interval-specific relative survival ratios, by sex and ethnicity

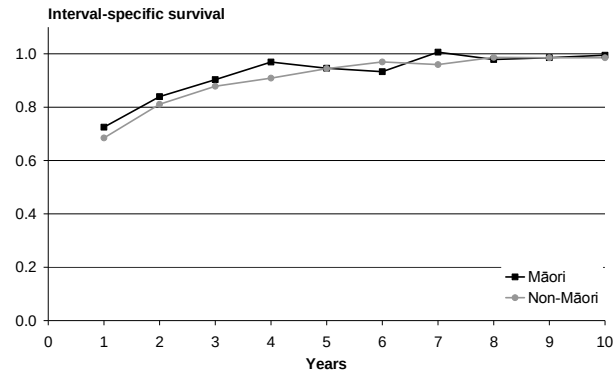
Time since diagnosis	Females		
	Māori population	Non-Māori population	Total population
1 year	0.725	0.685	0.688
2 years	0.840	0.811	0.814
3 years	0.903	0.878	0.881
4 years	0.969	0.909	0.915
5 years	0.946	0.944	0.945
6 years	0.933	0.969	0.965
7 years	1.006	0.960	0.965
8 years	0.979	0.987	0.986
9 years	0.985	0.985	0.985
10 years	0.995	0.985	0.986

Figure 40: Cancer of the ovary – interval-specific relative survival ratios

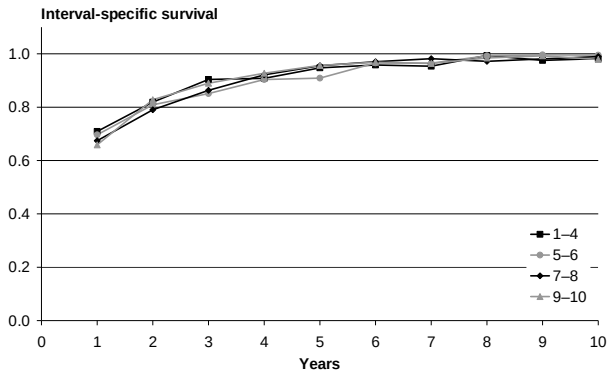
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



Cancer of the prostate (ICD code C61)

Key points

- The five-year cumulative relative survival ratio for patients with cancer of the prostate was high at 0.862, and the equivalent 10-year ratio was 0.817.
- Māori men had lower survival ratios than non-Māori men.
- Where stated, extent of disease at diagnosis had a substantial affect on survival.
- Men experiencing the highest deprivation experienced the lowest survival ratios.
- An upward trend in survival over time was observed, ratios of 0.818 in 1998 and 1999 increasing to 0.914 in 2006 and 2007. However, it should be noted that trends in survival for prostate cancer are difficult to interpret due to differing levels of prostate-specific antigen testing being undertaken in the community at any one time.
- An upward trend was seen in survival ratios for both Māori and non-Māori men over time.
- A general increase in survival over time was observed within all deprivation groupings and all age groups.

Table 67: Cancer of the prostate – number of cases included in analysis, by age, sex and ethnicity

Age group	Males		
	Māori population	Non-Māori population	Total population
15–44	8	72	80
45–54	76	1543	1619
55–64	459	7733	8192
65–74	738	13,581	14,319
75+	339	11,554	11,893
Total	1620	34,483	36,103

Table 68: Cancer of the prostate – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	24	6	5	45	80
45–54	489	125	46	959	1619
55–64	1995	624	243	5330	8192
65–74	2158	728	743	10,690	14,319
75+	717	172	1304	9700	11,893
Total	5383	1655	2341	26,724	36,103

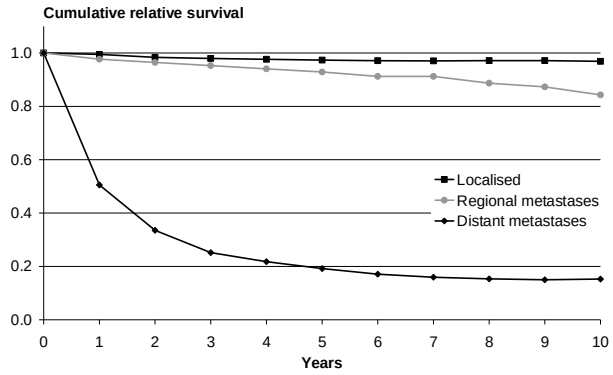
Cumulative relative survival, 1994–2007

Table 69: Cancer of the prostate – cumulative relative survival ratios, by sex and ethnicity

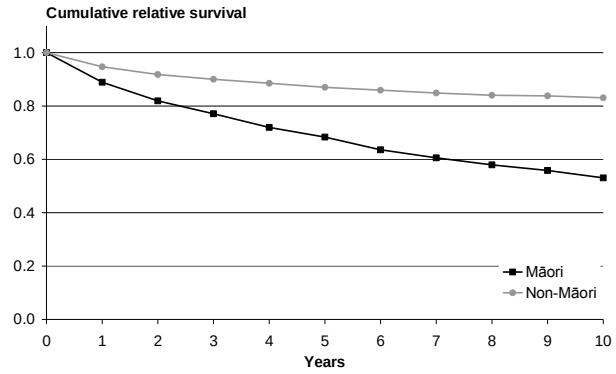
Time since diagnosis	Males		
	Māori population	Non-Māori population	Total population
1 year	0.889	0.947	0.945
2 years	0.819	0.918	0.914
3 years	0.771	0.900	0.894
4 years	0.720	0.885	0.878
5 years	0.684	0.870	0.862
6 years	0.636	0.859	0.849
7 years	0.606	0.849	0.838
8 years	0.579	0.840	0.828
9 years	0.558	0.838	0.825
10 years	0.531	0.831	0.817

Figure 41: Cancer of the prostate – cumulative relative survival ratios

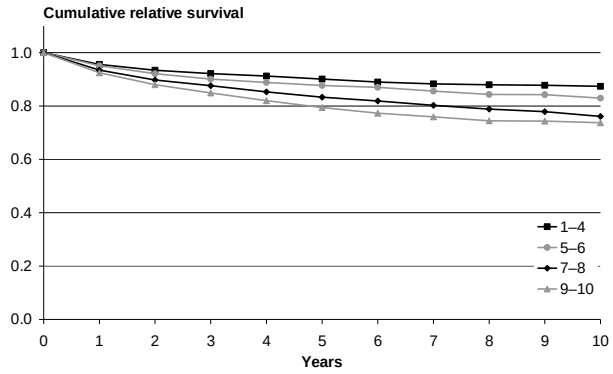
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



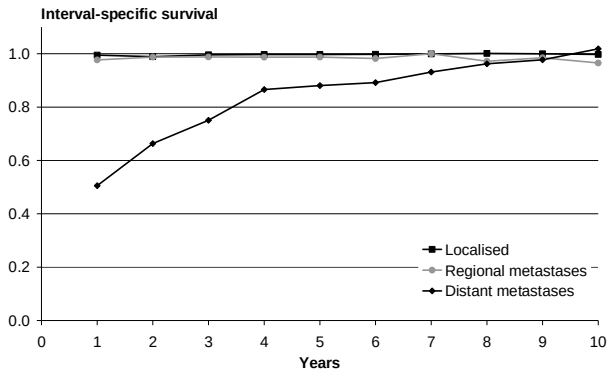
Interval-specific relative survival, 1994–2007

Table 70: Cancer of the prostate – interval-specific relative survival ratios, by sex and ethnicity

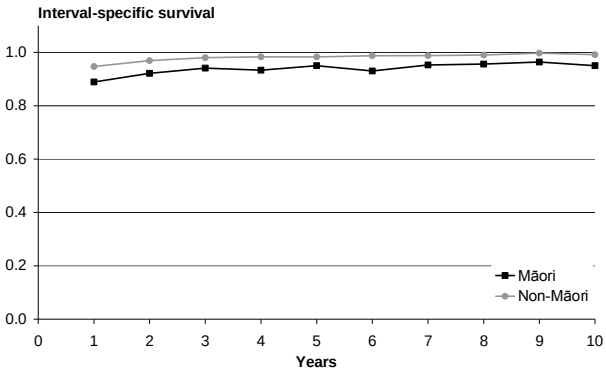
Time since diagnosis	Males		
	Māori population	Non-Māori population	Total population
1 year	0.889	0.947	0.945
2 years	0.921	0.969	0.967
3 years	0.941	0.980	0.979
4 years	0.933	0.983	0.981
5 years	0.950	0.983	0.982
6 years	0.930	0.988	0.985
7 years	0.953	0.988	0.987
8 years	0.956	0.990	0.989
9 years	0.964	0.997	0.996
10 years	0.950	0.991	0.990

Figure 42: Cancer of the prostate – interval-specific relative survival ratios

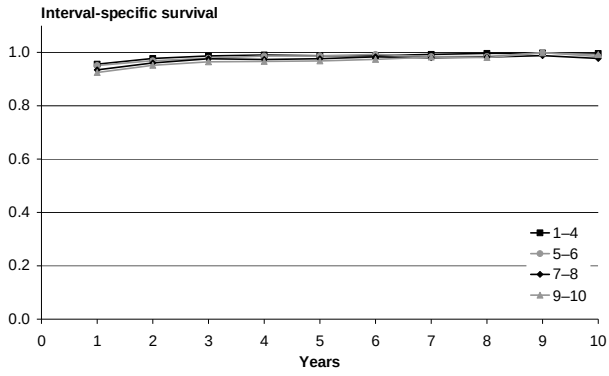
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



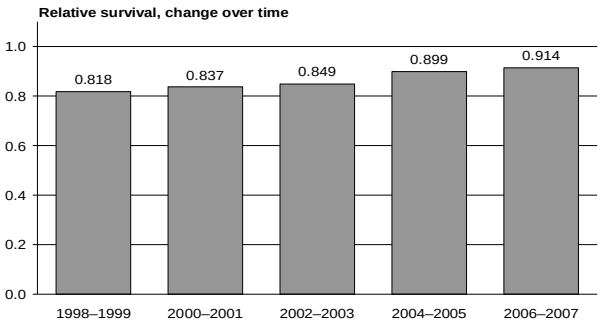
Five-year cumulative relative survival – change over time, 1998–2007

Table 71: Cancer of the prostate – five-year cumulative relative survival ratios, by sex and ethnicity

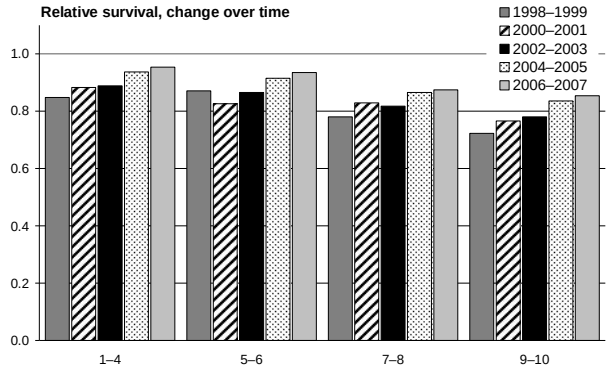
Registration years	Males		
	Māori population	Non-Māori population	Total population
1998–1999	0.683	0.823	0.818
2000–2001	0.621	0.847	0.837
2002–2003	0.706	0.855	0.849
2004–2005	0.718	0.908	0.899
2006–2007	0.736	0.924	0.914

Figure 43: Cancer of the prostate – five-year cumulative relative survival ratios, change over time

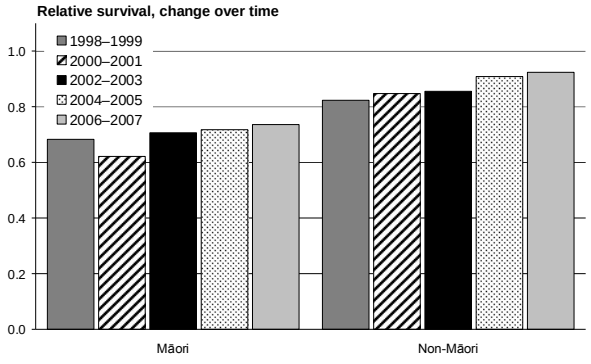
Cumulative relative survival ratios, change over time



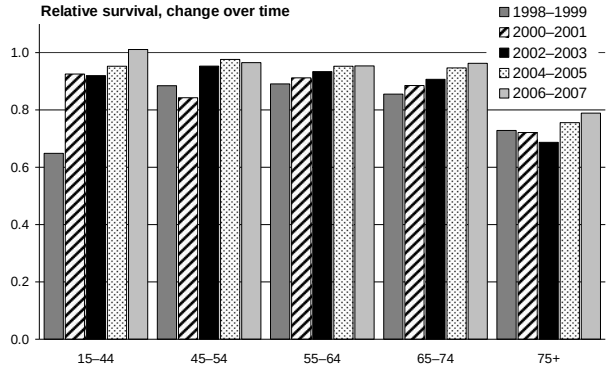
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the testis (ICD code C62)

Key points

- The five-year and 10-year cumulative relative survival ratios for cancer of the testis were the highest of all sites presented in this publication, at 0.962 and 0.964 respectively.
- Māori men had lower survival ratios than non-Māori men.
- Where stated, extent of disease at diagnosis affected survival.
- Levels of deprivation had a slight affect on survival.
- Some of the interval-specific survival ratios for men with this cancer were greater than one, indicating that, in the applicable years, men with this cancer had a better observed survival ratio over the next twelve months than would be expected for men in the general population. This effect was seen in both Māori and non-Māori.
- The survival ratio for Māori men increased over the period surveyed from 0.863 (for cancers registered in 1998 and 1999) to 0.934 (for cancers registered in 2006 and 2007).
- Low numbers in the older age groups meant that ratios for these groups were variable, and should be treated with caution.

Table 72: Cancer of the testis – number of cases included in analysis, by age, sex and ethnicity

Age group	Males		
	Māori population	Non-Māori population	Total population
15–44	371	1166	1537
45–54	17	244	261
55–64	5	81	86
65–74	2	31	33
75+	1	11	12
Total	396	1533	1929

Table 73: Cancer of the testis – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	1082	187	159	109	1537
45–54	196	30	15	20	261
55–64	56	12	12	6	86
65–74	20	6	4	3	33
75+	7	2	2	1	12
Total	1361	237	192	139	1929

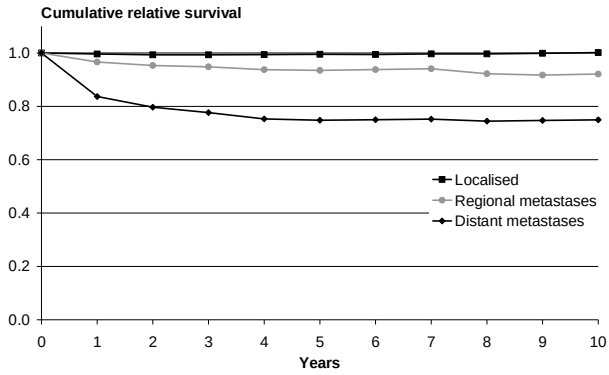
Cumulative relative survival, 1994–2007

Table 74: Cancer of the testis – cumulative relative survival ratios, by sex and ethnicity

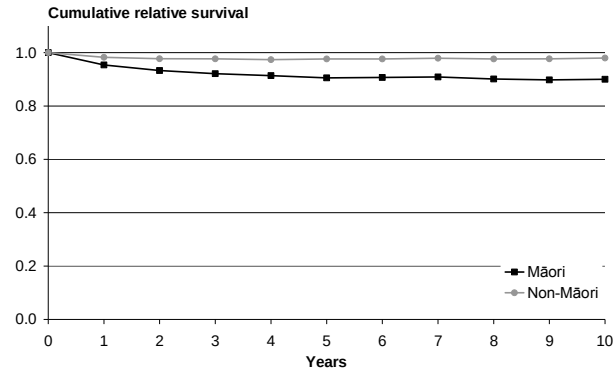
Time since diagnosis	Males		
	Māori population	Non-Māori population	Total population
1 year	0.954	0.983	0.977
2 years	0.933	0.977	0.968
3 years	0.921	0.977	0.965
4 years	0.914	0.974	0.961
5 years	0.905	0.976	0.962
6 years	0.907	0.976	0.962
7 years	0.909	0.979	0.965
8 years	0.901	0.976	0.961
9 years	0.898	0.977	0.961
10 years	0.900	0.980	0.964

Figure 44: Cancer of the testis – cumulative relative survival ratios

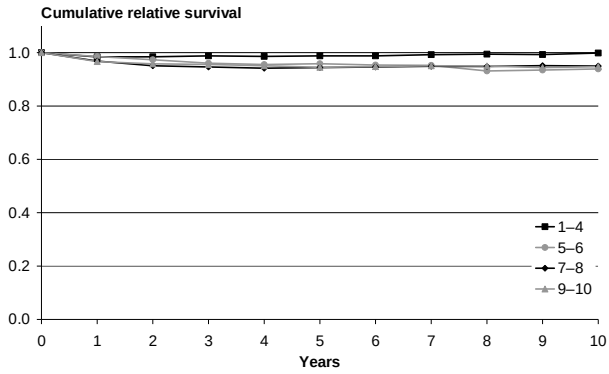
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



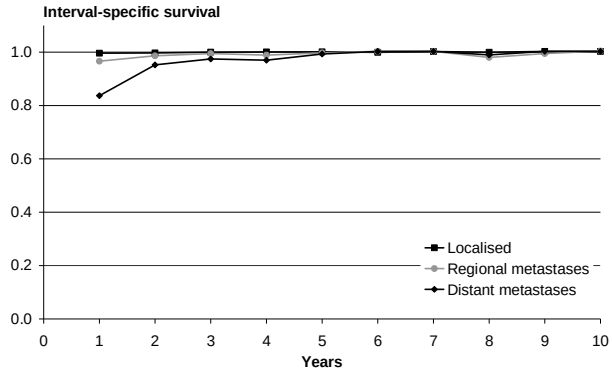
Interval-specific relative survival, 1994–2007

Table 75: Cancer of the testis – interval-specific relative survival ratios, by sex and ethnicity

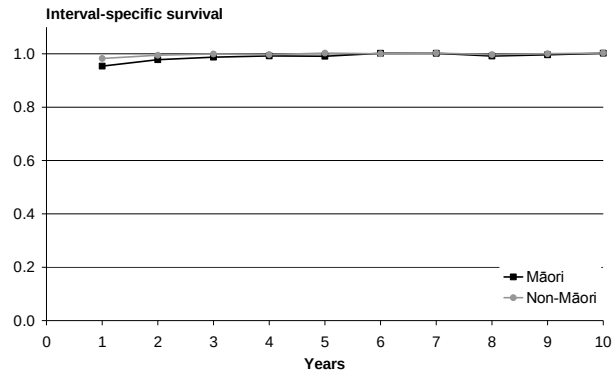
Time since diagnosis	Males		
	Māori population	Non-Māori population	Total population
1 year	0.954	0.983	0.977
2 years	0.978	0.995	0.991
3 years	0.987	0.999	0.997
4 years	0.992	0.997	0.996
5 years	0.991	1.003	1.000
6 years	1.002	1.000	1.000
7 years	1.002	1.003	1.003
8 years	0.992	0.997	0.996
9 years	0.996	1.000	1.000
10 years	1.002	1.003	1.003

Figure 45: Cancer of the testis – interval-specific relative survival ratios

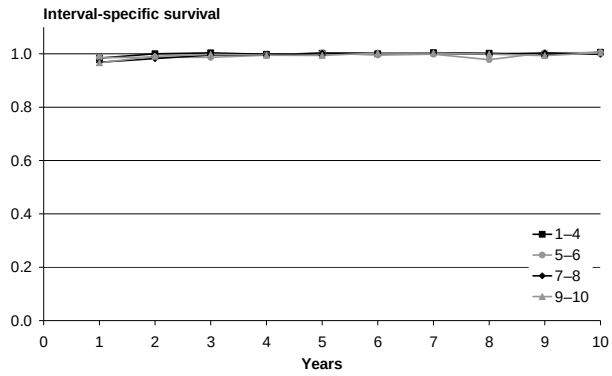
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



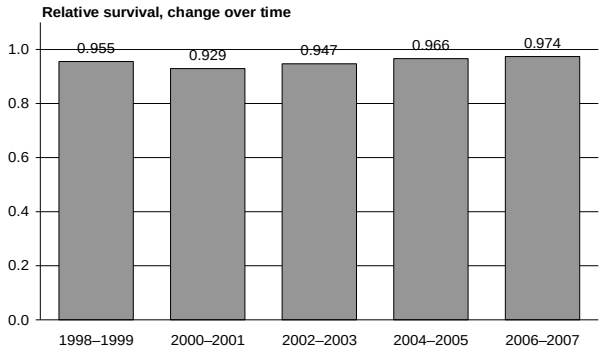
Five-year cumulative relative survival – change over time, 1998–2007

Table 76: Cancer of the testis – five-year cumulative relative survival ratios, by sex and ethnicity

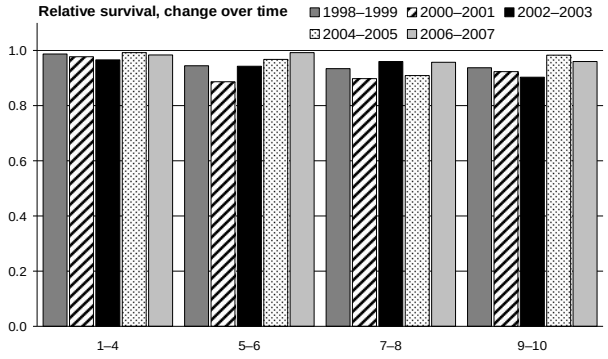
Registration years	Males		
	Māori population	Non-Māori population	Total population
1998–1999	0.863	0.979	0.955
2000–2001	0.885	0.942	0.929
2002–2003	0.891	0.961	0.947
2004–2005	0.884	0.986	0.966
2006–2007	0.934	0.985	0.974

Figure 46: Cancer of the testis – five-year cumulative relative survival ratios, change over time

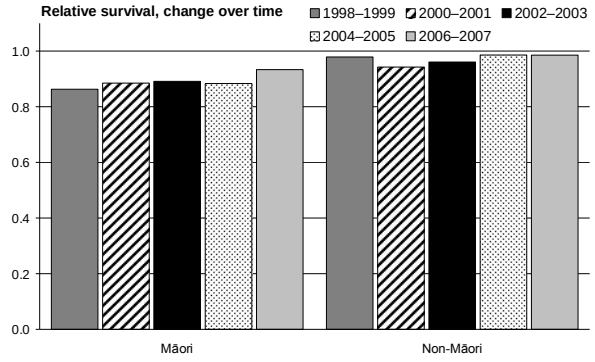
Cumulative relative survival ratios, change over time



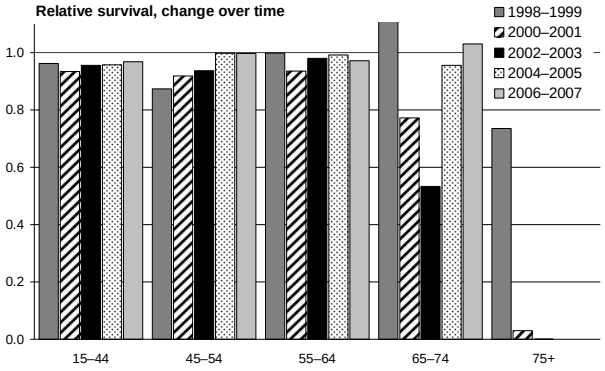
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the bladder (ICD code C67)

Key points

- The five-year cumulative relative survival ratio for patients with cancer of the bladder was 0.669, and the equivalent 10-year ratio was 0.639.
- Men showed better survival than women; for the first seven years of follow-up this difference was significant.
- Māori had lower survival ratios than non-Māori.
- Where stated, extent of disease at diagnosis had a substantial affect on survival.
- The higher the level of deprivation, the lower the survival ratio.
- There was no extent of disease information recorded for a high percentage of bladder cancer registrations; ratios relating to this information were therefore variable and should be treated with caution.
- Superficial transitional cell carcinoma of the bladder was excluded from registration from 1 January 2005, with the effect that a larger proportion of more lethal bladder cancers were registered from this date. Registrations after this time were therefore more likely to result in death; subsequently, change over time analysis has not been possible for this cancer.

Table 77: Cancer of the bladder – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	17	12	29	134	66	200	151	78	229
45–54	27	16	43	311	123	434	338	139	477
55–64	28	14	42	837	226	1063	865	240	1105
65–74	50	13	63	1710	474	2184	1760	487	2247
75+	39	22	61	2148	920	3068	2187	942	3129
Total	161	77	238	5140	1809	6949	5301	1886	7187

Table 78: Cancer of the bladder – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	35	17	17	160	229
45–54	84	39	15	339	477
55–64	159	84	59	803	1105
65–74	296	166	100	1685	2247
75+	267	174	161	2527	3129
Total	841	480	352	5514	7187

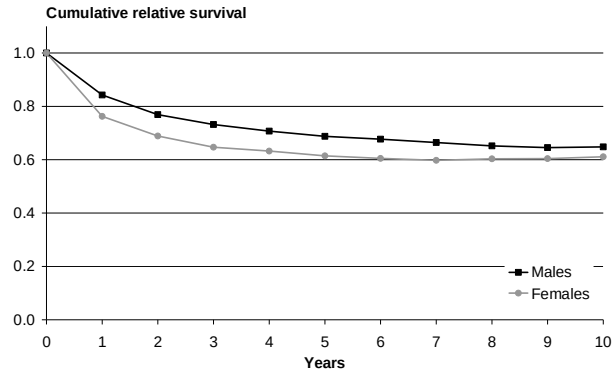
Cumulative relative survival, 1994–2007

Table 79: Cancer of the bladder – cumulative relative survival ratios, by sex and ethnicity

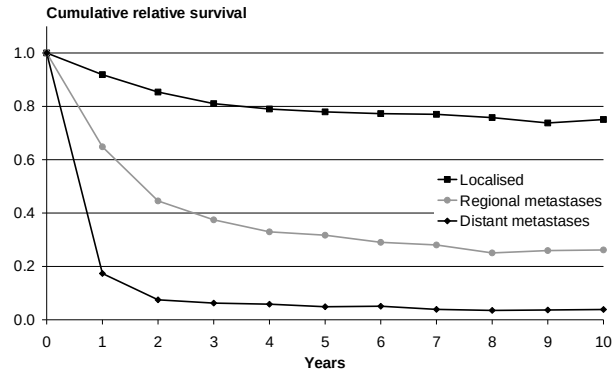
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.775	0.598	0.718	0.845	0.770	0.825	0.843	0.762	0.821
2 years	0.679	0.515	0.626	0.772	0.696	0.752	0.769	0.689	0.748
3 years	0.615	0.497	0.576	0.736	0.654	0.714	0.732	0.647	0.709
4 years	0.594	0.427	0.540	0.711	0.641	0.693	0.707	0.633	0.687
5 years	0.548	0.402	0.501	0.692	0.624	0.675	0.688	0.615	0.669
6 years	0.537	0.411	0.496	0.682	0.613	0.664	0.677	0.605	0.658
7 years	0.551	0.361	0.489	0.668	0.608	0.653	0.664	0.598	0.647
8 years	0.521	0.345	0.463	0.656	0.615	0.646	0.652	0.603	0.639
9 years	0.485	0.353	0.442	0.651	0.615	0.642	0.645	0.604	0.635
10 years	0.487	0.362	0.446	0.653	0.622	0.646	0.648	0.611	0.639

Figure 47: Cancer of the bladder – cumulative relative survival ratios

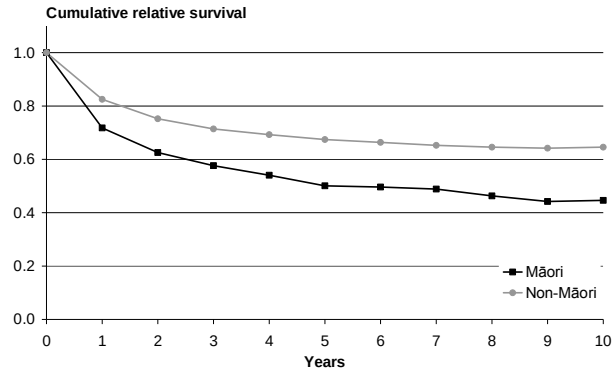
Cumulative relative survival ratios, by sex



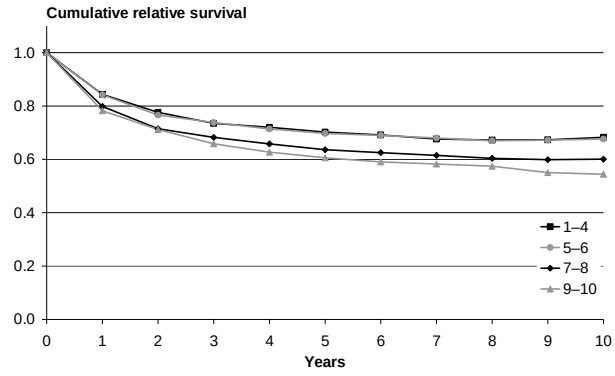
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



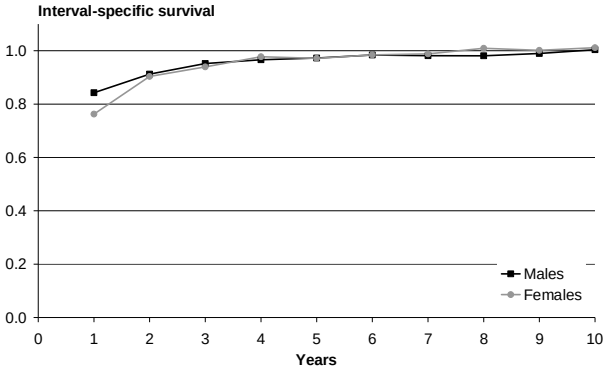
Interval-specific relative survival, 1994–2007

Table 80: Cancer of the bladder – interval-specific relative survival ratios, by sex and ethnicity

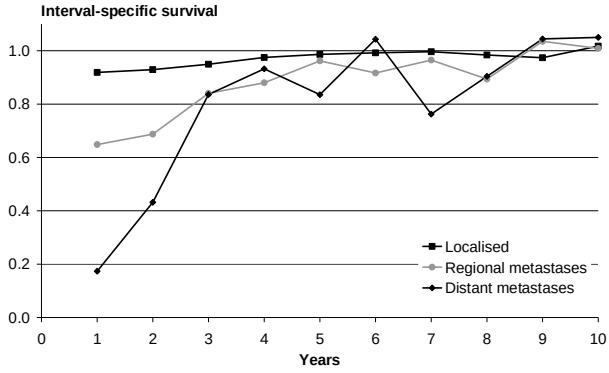
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.775	0.598	0.718	0.845	0.770	0.825	0.843	0.762	0.821
2 years	0.876	0.861	0.872	0.914	0.905	0.911	0.912	0.903	0.910
3 years	0.905	0.964	0.921	0.953	0.939	0.950	0.952	0.939	0.949
4 years	0.966	0.860	0.938	0.966	0.981	0.970	0.966	0.978	0.969
5 years	0.923	0.941	0.927	0.974	0.972	0.974	0.973	0.972	0.972
6 years	0.979	1.023	0.991	0.984	0.983	0.984	0.984	0.984	0.984
7 years	1.027	0.878	0.985	0.980	0.992	0.983	0.982	0.988	0.983
8 years	0.944	0.956	0.947	0.982	1.011	0.990	0.981	1.009	0.988
9 years	0.932	1.021	0.955	0.992	1.001	0.994	0.990	1.001	0.993
10 years	1.003	1.025	1.009	1.004	1.011	1.006	1.004	1.011	1.006

Figure 48: Cancer of the bladder – interval-specific relative survival ratios

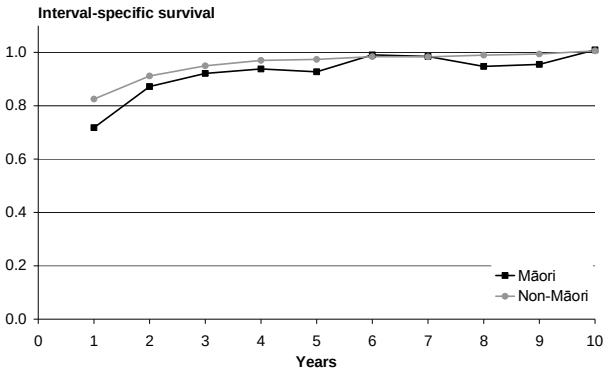
Interval-specific relative survival ratios, by sex



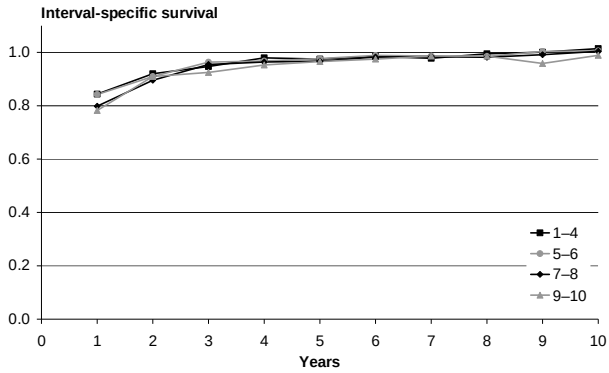
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



Cancer of the kidney, ureter and urethra (ICD codes C64–C66, C68)

Key points

- The five-year cumulative relative survival ratio for patients with cancers of the kidney, ureter and urethra was 0.576, and the equivalent 10-year ratio was 0.524.
- Male and female survival outcomes were almost identical.
- Māori had lower survival ratios than non-Māori.
- Where stated, extent of disease at diagnosis impacted greatly on survival outcome.
- The most deprived patients experienced the worst survival ratios.
- Survival ratios were generally variable over time

Table 81: Cancer of the kidney, ureter and urethra – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	44	30	74	176	135	311	220	165	385
45–54	68	31	99	417	227	644	485	258	743
55–64	74	34	108	694	360	1054	768	394	1162
65–74	51	28	79	977	503	1480	1028	531	1559
75+	13	16	29	833	601	1434	846	617	1463
Total	250	139	389	3097	1826	4923	3347	1965	5312

Table 82: Cancer of the kidney, ureter and urethra – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	227	50	72	36	385
45–54	422	117	141	63	743
55–64	594	183	252	133	1162
65–74	679	281	362	237	1559
75+	425	207	363	468	1463
Total	2347	838	1190	937	5312

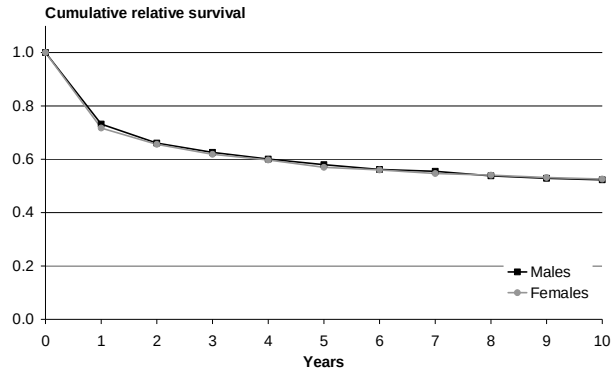
Cumulative relative survival, 1994–2007

Table 83: Cancer of the kidney, ureter and urethra – cumulative relative survival ratios, by sex and ethnicity

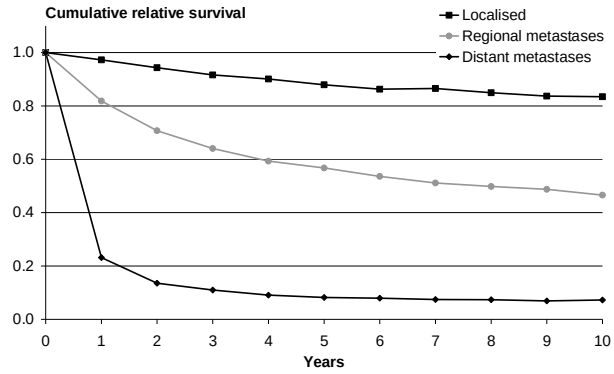
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.701	0.728	0.711	0.734	0.716	0.728	0.732	0.717	0.726
2 years	0.604	0.654	0.622	0.666	0.656	0.662	0.661	0.656	0.659
3 years	0.537	0.574	0.550	0.633	0.622	0.629	0.626	0.619	0.623
4 years	0.499	0.527	0.509	0.609	0.603	0.607	0.601	0.597	0.599
5 years	0.475	0.483	0.478	0.588	0.577	0.584	0.580	0.570	0.576
6 years	0.425	0.452	0.435	0.573	0.568	0.572	0.562	0.560	0.561
7 years	0.432	0.403	0.421	0.565	0.558	0.562	0.555	0.547	0.552
8 years	0.378	0.408	0.388	0.552	0.551	0.552	0.538	0.541	0.539
9 years	0.365	0.374	0.368	0.543	0.544	0.543	0.529	0.532	0.530
10 years	0.359	0.380	0.366	0.537	0.537	0.537	0.523	0.526	0.524

Figure 49: Cancer of the kidney, ureter and urethra – cumulative relative survival ratios

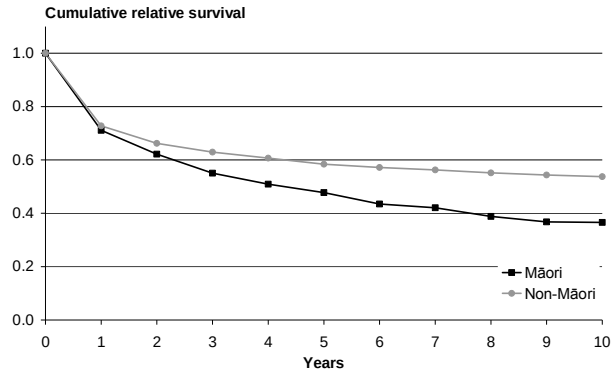
Cumulative relative survival ratios, by sex



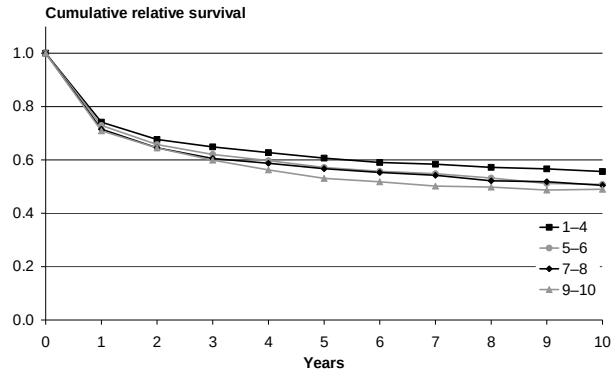
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



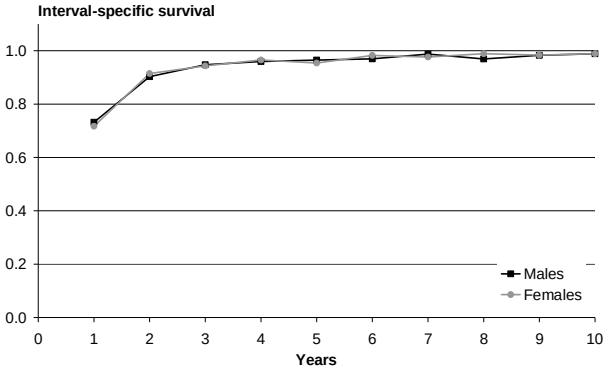
Interval-specific relative survival, 1994–2007

Table 84: Cancer of the kidney, ureter and urethra – interval-specific relative survival ratios, by sex and ethnicity

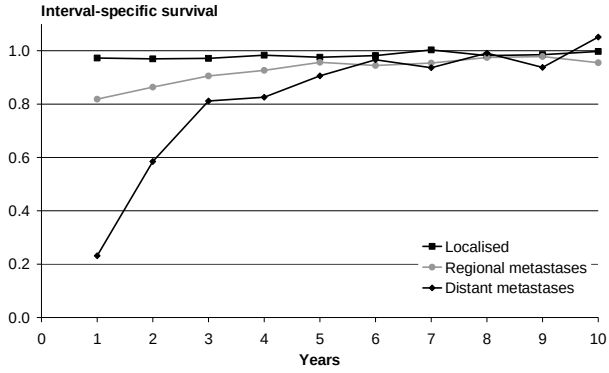
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.701	0.728	0.711	0.734	0.716	0.728	0.732	0.717	0.726
2 years	0.861	0.898	0.874	0.906	0.916	0.910	0.903	0.915	0.907
3 years	0.890	0.878	0.885	0.952	0.949	0.951	0.947	0.943	0.946
4 years	0.929	0.919	0.925	0.962	0.969	0.964	0.960	0.965	0.962
5 years	0.953	0.915	0.938	0.966	0.956	0.962	0.965	0.954	0.961
6 years	0.893	0.936	0.910	0.974	0.986	0.979	0.970	0.983	0.975
7 years	1.018	0.892	0.968	0.986	0.982	0.984	0.988	0.976	0.983
8 years	0.875	1.013	0.923	0.976	0.988	0.981	0.969	0.989	0.977
9 years	0.965	0.917	0.947	0.984	0.987	0.985	0.983	0.984	0.983
10 years	0.984	1.015	0.994	0.989	0.988	0.989	0.989	0.989	0.989

Figure 50: Cancer of the kidney, ureter and urethra – interval-specific survival ratios

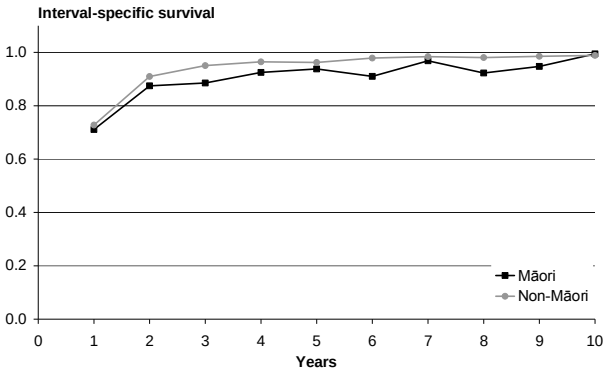
Interval-specific relative survival ratios, by sex



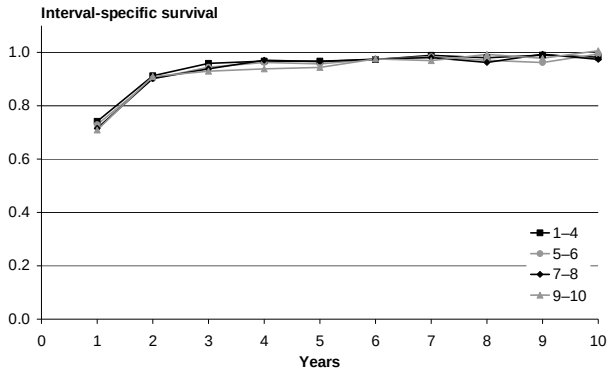
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



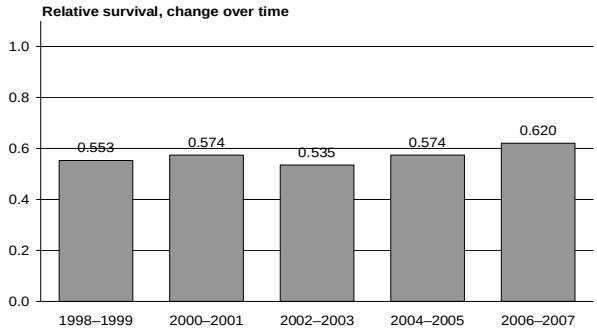
Five-year cumulative relative survival – change over time, 1998–2007

Table 85: Cancer of the kidney, ureter and urethra – five-year cumulative relative survival ratios, by sex and ethnicity

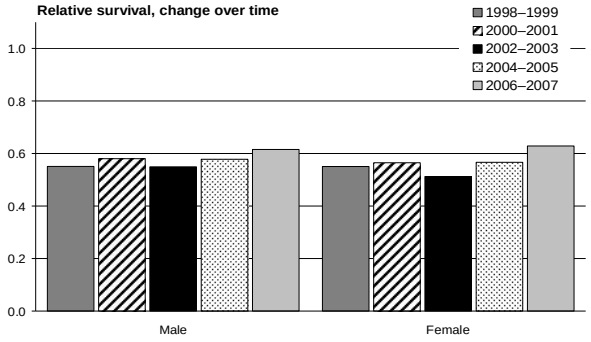
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.306	0.311	0.311	0.569	0.571	0.572	0.551	0.551	0.553
2000–2001	0.613	0.809	0.674	0.577	0.552	0.567	0.580	0.565	0.574
2002–2003	0.496	0.372	0.450	0.553	0.525	0.542	0.549	0.512	0.535
2004–2005	0.424	0.407	0.423	0.590	0.581	0.587	0.578	0.566	0.574
2006–2007	0.425	0.572	0.476	0.631	0.632	0.631	0.615	0.629	0.620

Figure 51: Cancer of the kidney, ureter and urethra – five-year cumulative relative survival ratios, change over time

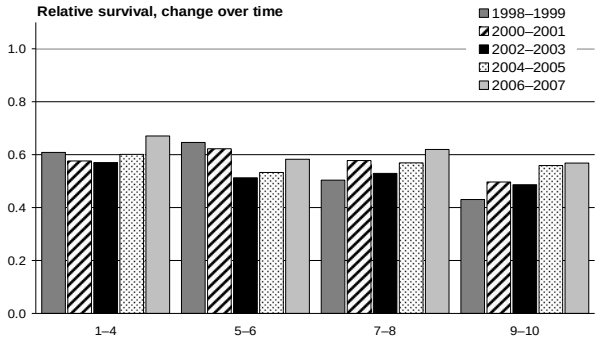
Cumulative relative survival ratios, change over time



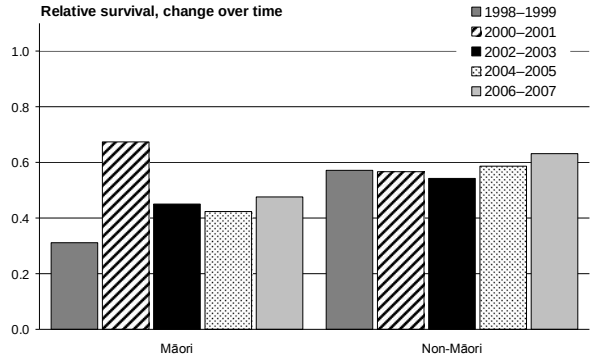
Cumulative relative survival ratios, change over time, by sex



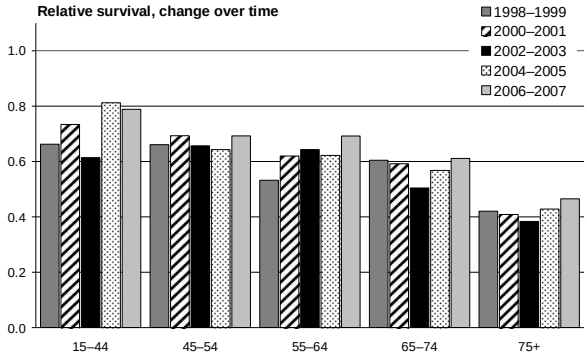
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the brain (ICD code C71)

Key points

- The five-year cumulative relative survival ratio for patients with cancers of the brain was very low: 0.190. The 10-year survival ratio was 0.153.
- There was no difference between male and female survival ratios.
- Māori and non-Māori had similar rates of survival.
- Extent of disease at diagnosis, where stated, had only a slight impact on survival, unlike in the case of most other cancers.
- Level of deprivation had only a marginal impact on survival outcome.
- Low numbers of patients registering with metastatic disease have had the effect that extent of disease figures are highly variable, and should therefore be treated with caution.
- No obvious trends in survival were seen between 1998 and 2007.

Table 86: Cancer of the brain – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	39	29	68	376	264	640	415	293	708
45–54	27	16	43	305	170	475	332	186	518
55–64	19	20	39	374	228	602	393	248	641
65–74	18	18	36	385	277	662	403	295	698
75+	8	8	16	299	293	592	307	301	608
Total	111	91	202	1739	1232	2971	1850	1323	3173

Table 87: Cancer of the brain – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	635	3	10	60	708
45–54	481	2	2	33	518
55–64	582	2	6	51	641
65–74	613	4	3	78	698
75+	497	0	9	102	608
Total	2808	11	30	324	3173

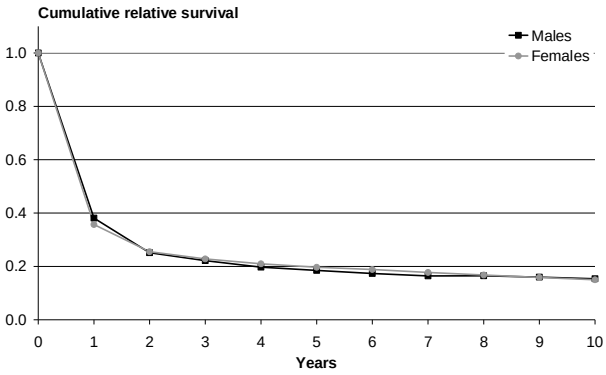
Cumulative relative survival, 1994–2007

Table 88: Cancer of the brain – cumulative relative survival ratios, by sex and ethnicity

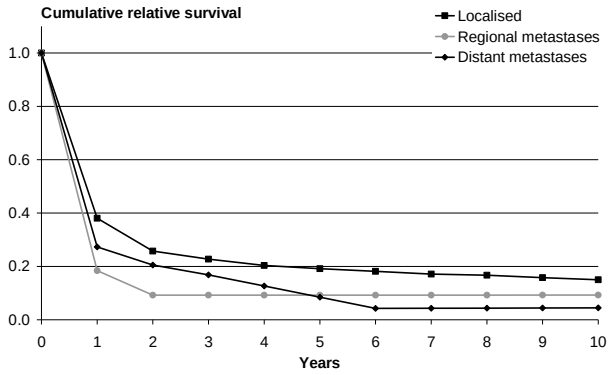
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.403	0.366	0.386	0.379	0.356	0.370	0.381	0.357	0.371
2 years	0.248	0.256	0.252	0.252	0.255	0.253	0.252	0.255	0.253
3 years	0.201	0.233	0.215	0.223	0.228	0.225	0.222	0.228	0.224
4 years	0.180	0.233	0.204	0.198	0.208	0.202	0.197	0.210	0.202
5 years	0.181	0.234	0.205	0.185	0.194	0.189	0.185	0.197	0.190
6 years	0.168	0.234	0.198	0.174	0.185	0.178	0.173	0.188	0.180
7 years	0.156	0.218	0.185	0.165	0.174	0.168	0.164	0.177	0.170
8 years	0.157	0.200	0.177	0.165	0.165	0.165	0.165	0.168	0.166
9 years	0.142	0.163	0.152	0.161	0.159	0.160	0.160	0.159	0.160
10 years	0.125	0.141	0.133	0.156	0.151	0.154	0.154	0.150	0.153

Figure 52: Cancer of the brain – cumulative relative survival ratios

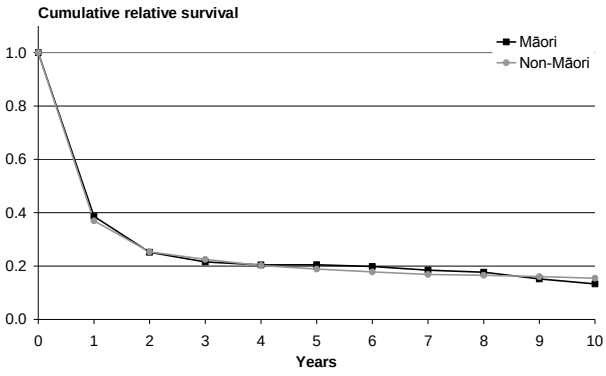
Cumulative relative survival ratios, by sex



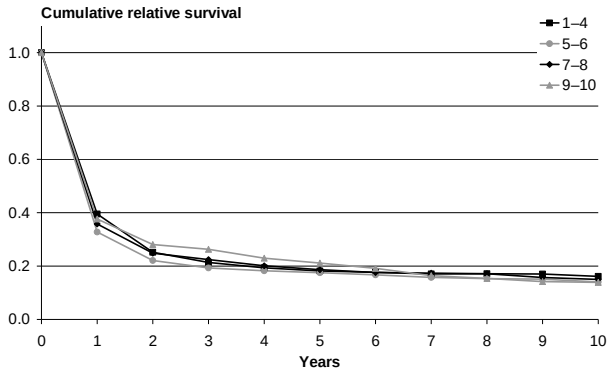
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



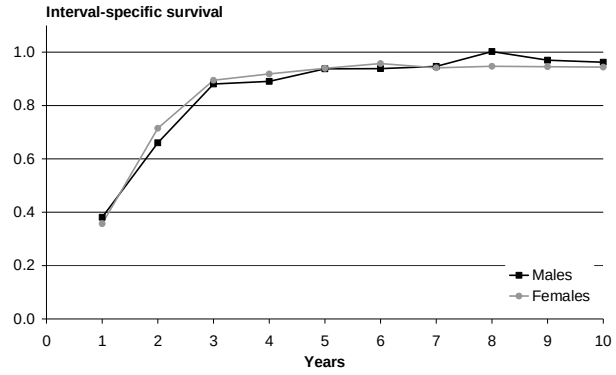
Interval-specific relative survival, 1994–2007

Table 89: Cancer of the brain – interval-specific relative survival ratios, by sex and ethnicity

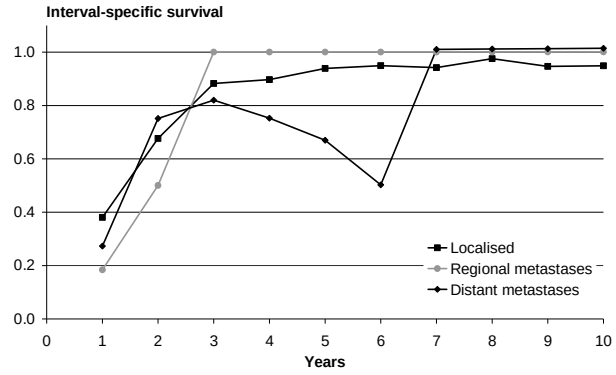
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.403	0.366	0.386	0.379	0.356	0.370	0.381	0.357	0.371
2 years	0.616	0.699	0.651	0.663	0.716	0.684	0.660	0.715	0.682
3 years	0.810	0.910	0.856	0.885	0.894	0.889	0.881	0.895	0.887
4 years	0.897	1.001	0.949	0.890	0.911	0.899	0.891	0.918	0.902
5 years	1.003	1.002	1.002	0.934	0.933	0.934	0.937	0.939	0.938
6 years	0.932	1.002	0.970	0.939	0.952	0.944	0.938	0.957	0.946
7 years	0.927	0.933	0.930	0.948	0.942	0.946	0.947	0.941	0.944
8 years	1.004	0.918	0.959	1.002	0.950	0.982	1.002	0.947	0.980
9 years	0.904	0.811	0.857	0.974	0.963	0.970	0.970	0.946	0.960
10 years	0.886	0.869	0.878	0.968	0.952	0.962	0.962	0.944	0.956

Figure 53: Cancer of the brain – interval-specific relative survival ratios

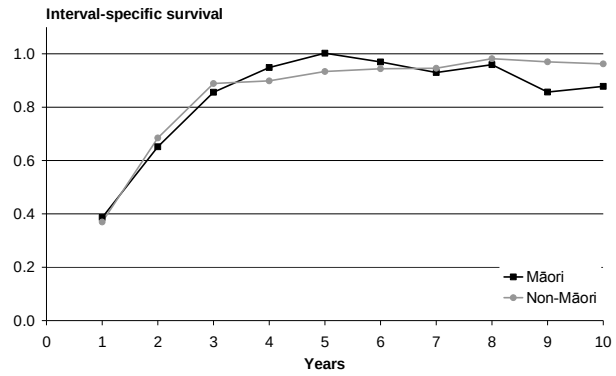
Interval-specific relative survival ratios, by sex



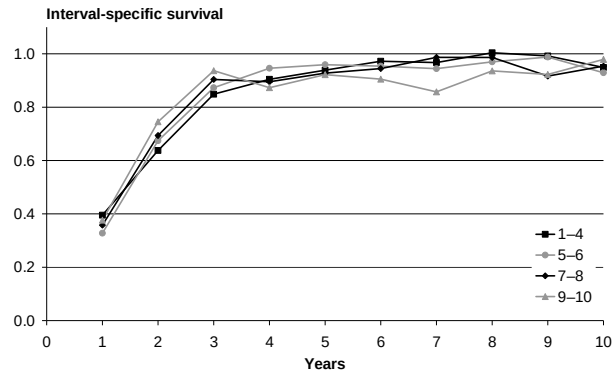
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



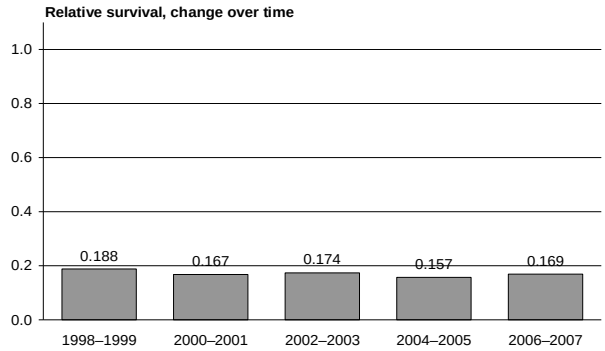
Five-year cumulative relative survival – change over time, 1998–2007

Table 90: Cancer of the brain – five-year cumulative relative survival ratios, by sex and ethnicity

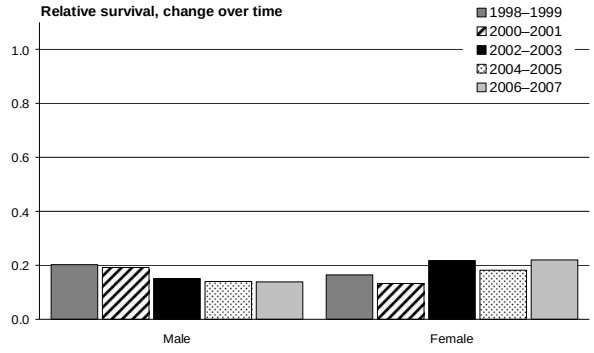
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.178	0.000	0.353	0.203	0.146	0.180	0.203	0.164	0.188
2000–2001	0.283	0.384	0.344	0.188	0.118	0.159	0.192	0.133	0.167
2002–2003	0.110	0.100	0.106	0.153	0.222	0.176	0.151	0.217	0.174
2004–2005	0.161	0.233	0.180	0.139	0.180	0.155	0.140	0.182	0.157
2006–2007	0.060	0.073	0.093	0.144	0.230	0.176	0.139	0.220	0.169

Figure 54: Cancer of the brain – five-year cumulative relative survival ratios, change over time

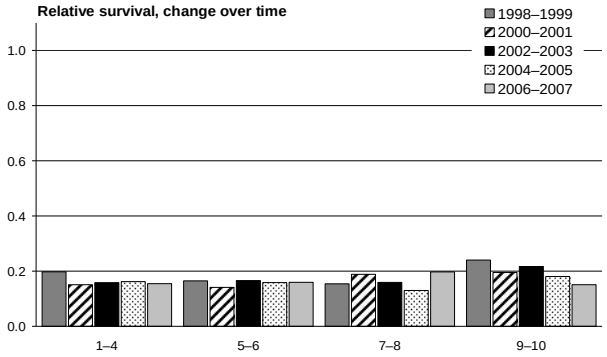
Cumulative relative survival ratios, change over time



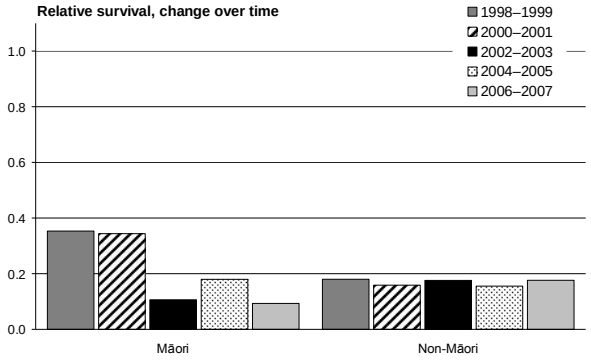
Cumulative relative survival ratios, change over time, by sex



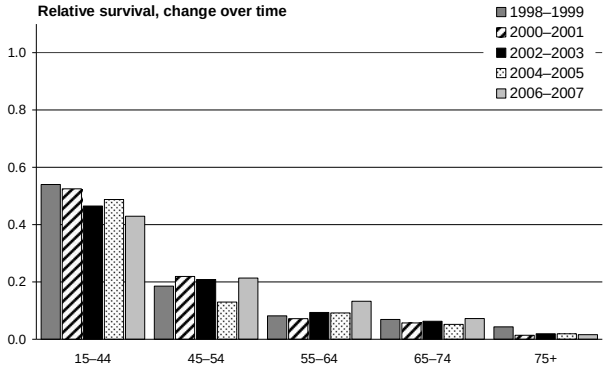
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Cancer of the thyroid gland (ICD code C73)

Key points

- The five-year cumulative relative survival ratio for patients with cancer of the thyroid gland was high at 0.905, and the 10-year survival ratio was 0.877.
- Males experienced lower survival than females.
- Māori experienced lower survival than non-Māori.
- Where stated, extent of disease at diagnosis impacted on survival.
- Level of deprivation had only a marginal impact on survival outcomes.
- Low numbers of Māori patients for this cancer, particularly in the older age groups, mean that Māori figures should be treated with caution.
- No obvious trends in survival were seen between 1998 and 2007.

Table 91: Cancer of the thyroid gland – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	27	129	156	161	582	743	188	711	899
45–54	16	58	74	108	313	421	124	371	495
55–64	14	35	49	111	229	340	125	264	389
65–74	11	23	34	87	157	244	98	180	278
75+	5	7	12	49	129	178	54	136	190
Total	**73**	**252**	**325**	**516**	**1410**	**1926**	**589**	**1662**	**2251**

Table 92: Cancer of the thyroid gland – extent of disease at diagnosis, by age group

Age group	Localised	Regional metastases	Distant metastases	Not stated	Total
15–44	565	224	21	89	899
45–54	307	107	25	56	495
55–64	214	101	29	45	389
65–74	149	59	38	32	278
75+	73	39	28	50	190
Total	**1308**	**530**	**141**	**272**	**2251**

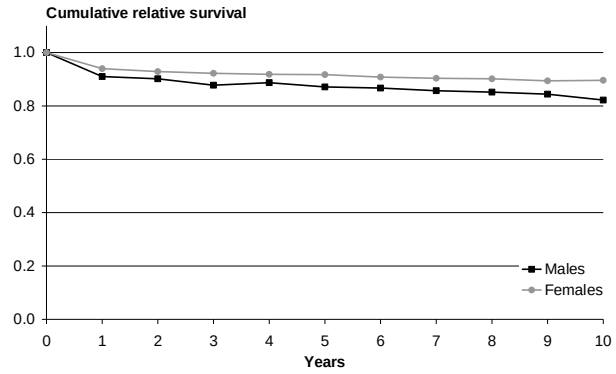
Cumulative relative survival, 1994–2007

Table 93: Cancer of the thyroid gland – cumulative relative survival ratios, by sex and ethnicity

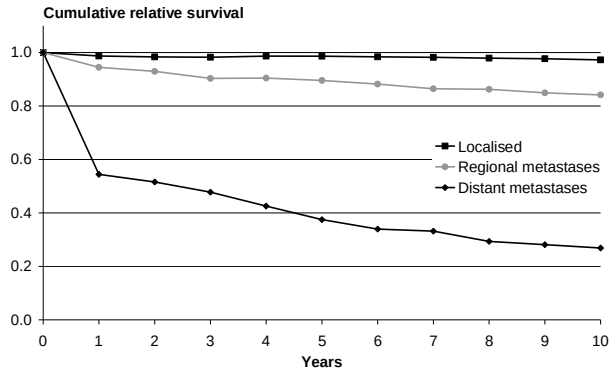
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.859	0.941	0.923	0.917	0.940	0.934	0.910	0.940	0.932
2 years	0.840	0.932	0.912	0.911	0.928	0.924	0.902	0.929	0.922
3 years	0.803	0.923	0.897	0.888	0.922	0.913	0.878	0.922	0.911
4 years	0.794	0.913	0.887	0.900	0.919	0.914	0.887	0.918	0.910
5 years	0.727	0.901	0.863	0.892	0.920	0.913	0.871	0.917	0.905
6 years	0.712	0.864	0.830	0.889	0.917	0.909	0.867	0.908	0.898
7 years	0.690	0.868	0.829	0.881	0.910	0.903	0.857	0.904	0.892
8 years	0.624	0.856	0.807	0.883	0.910	0.903	0.852	0.902	0.889
9 years	0.587	0.841	0.789	0.878	0.904	0.897	0.844	0.894	0.881
10 years	0.543	0.833	0.776	0.858	0.908	0.895	0.822	0.896	0.877

Figure 55: Cancer of the thyroid gland – cumulative relative survival ratios

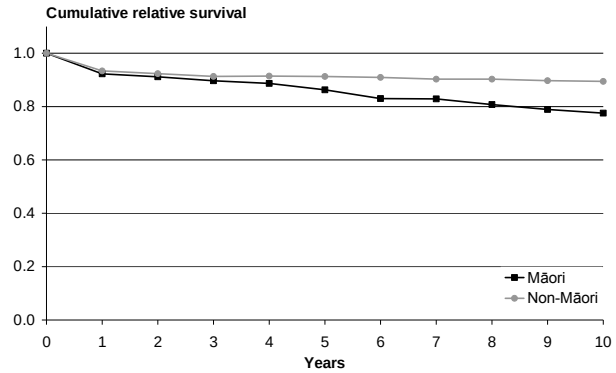
Cumulative relative survival ratios, by sex



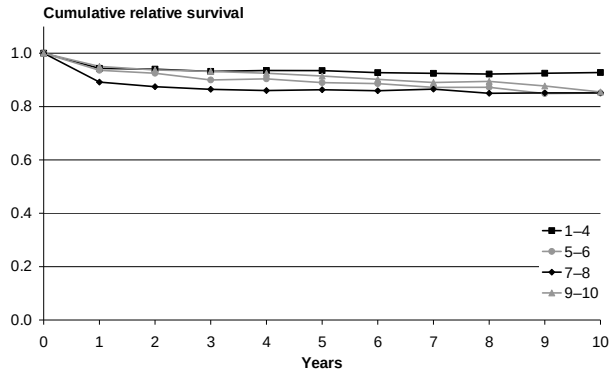
Cumulative relative survival ratios, by extent of disease



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



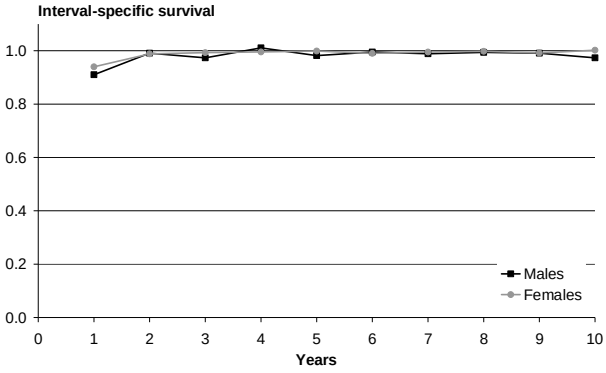
Interval-specific relative survival, 1994–2007

Table 94: Cancer of the thyroid gland – interval-specific relative survival ratios, by sex and ethnicity

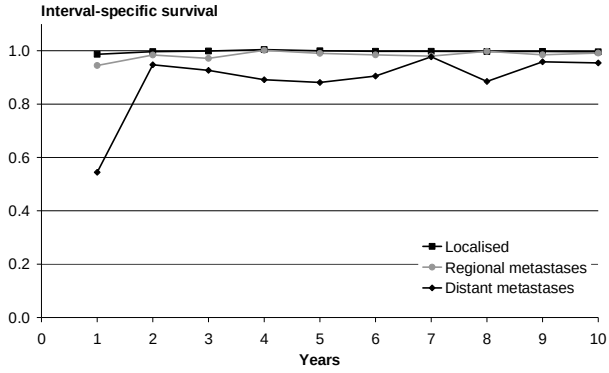
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.859	0.941	0.923	0.917	0.940	0.934	0.910	0.940	0.932
2 years	0.978	0.991	0.988	0.993	0.988	0.989	0.991	0.988	0.989
3 years	0.956	0.990	0.983	0.976	0.993	0.989	0.973	0.993	0.988
4 years	0.989	0.989	0.989	1.014	0.997	1.001	1.011	0.996	0.999
5 years	0.915	0.987	0.973	0.990	1.001	0.998	0.982	0.999	0.995
6 years	0.980	0.958	0.962	0.997	0.996	0.996	0.995	0.990	0.991
7 years	0.969	1.005	0.999	0.991	0.993	0.993	0.989	0.995	0.993
8 years	0.904	0.986	0.974	1.002	1.000	1.000	0.994	0.998	0.997
9 years	0.942	0.983	0.978	0.995	0.993	0.994	0.991	0.992	0.992
10 years	0.924	0.991	0.983	0.977	1.004	0.997	0.973	1.002	0.995

Figure 56: Cancer of the thyroid gland – interval-specific relative survival ratios

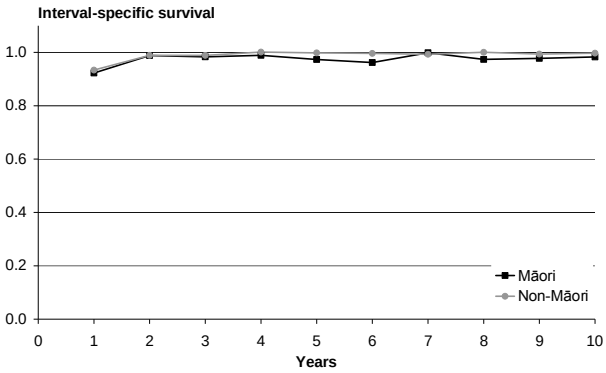
Interval-specific relative survival ratios, by sex



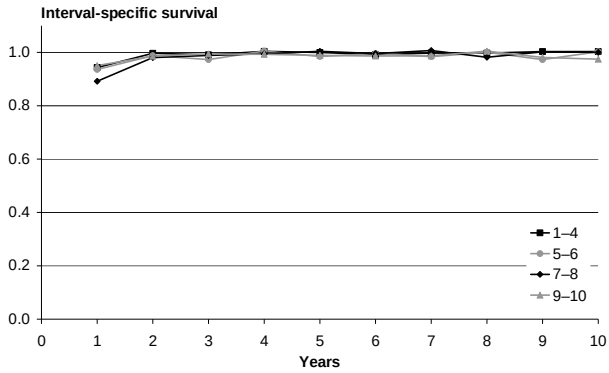
Interval-specific relative survival ratios, by extent of disease



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



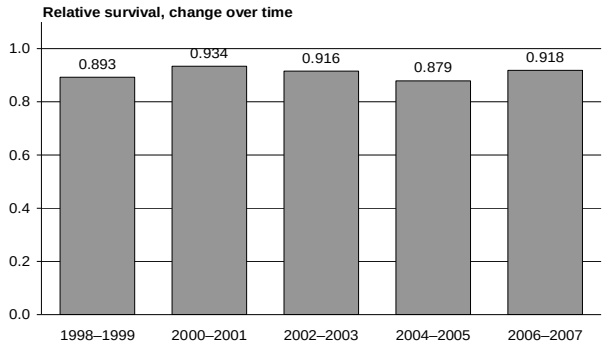
Five-year cumulative relative survival – change over time, 1998–2007

Table 95: Cancer of the thyroid gland – five-year cumulative relative survival ratios, by sex and ethnicity

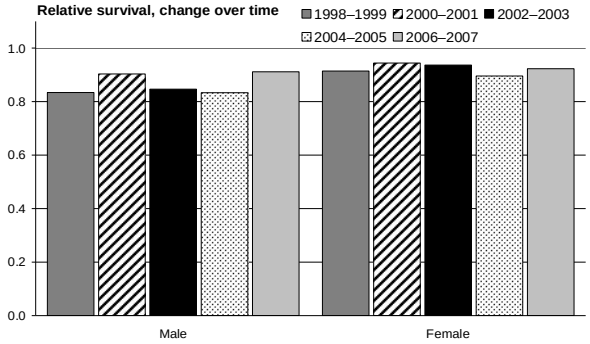
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.328	0.922	0.861	0.850	0.911	0.897	0.834	0.914	0.893
2000–2001	0.896	0.956	0.938	0.911	0.942	0.933	0.903	0.944	0.934
2002–2003	0.695	0.935	0.875	0.875	0.937	0.923	0.846	0.937	0.916
2004–2005	0.609	0.808	0.755	0.877	0.911	0.901	0.833	0.896	0.879
2006–2007	0.807	0.899	0.878	0.927	0.926	0.925	0.911	0.923	0.918

Figure 57: Cancer of the thyroid gland – five-year cumulative relative survival ratios, change over time

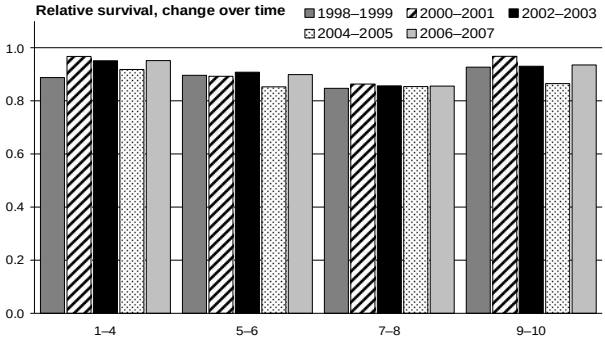
Cumulative relative survival ratios, change over time



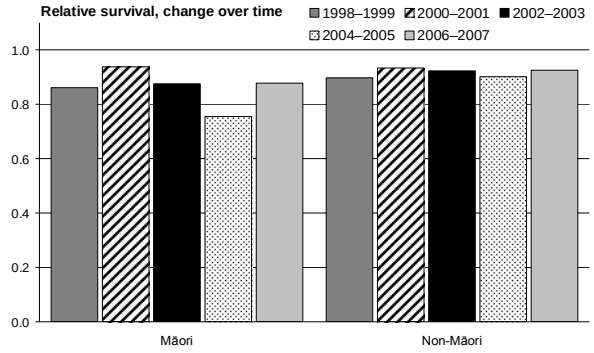
Cumulative relative survival ratios, change over time, by sex



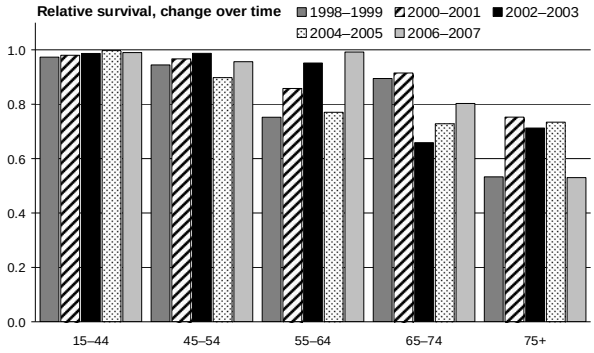
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Hodgkin lymphoma (ICD code C81)

Key points

- The five-year cumulative relative survival ratio for patients with Hodgkin lymphoma was 0.824 and the equivalent 10-year ratio was 0.764.
- Males experienced slightly lower survival than women in some of the later years of follow-up.
- Māori experienced comparable survival to non-Māori.
- Extent of disease analysis is not applicable for blood cancers such as lymphoma, and has therefore not been included.
- Level of deprivation did not have a definite impact on survival.
- Low numbers of Māori patients with this cancer mean that Māori figures should be treated with caution.
- No obvious trends in survival were seen between 1998 and 2007.

Table 96: Hodgkin lymphoma – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	27	32	59	279	235	514	306	267	573
45–54	8	1	9	70	39	109	78	40	118
55–64	5	3	8	78	30	108	83	33	116
65–74	2	5	7	55	50	105	57	55	112
75+	0	2	2	52	32	84	52	34	86
Total	42	43	85	534	386	920	576	429	1005

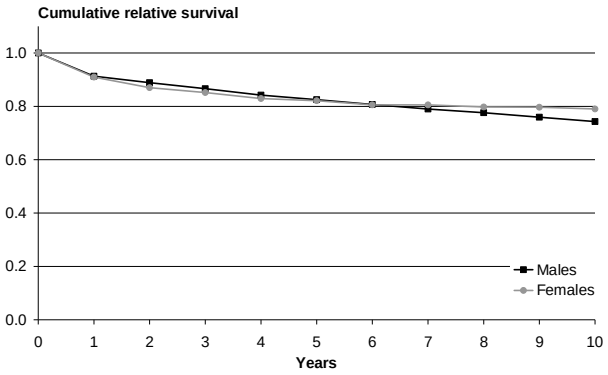
Cumulative relative survival, 1994–2007

Table 97: Hodgkin lymphoma – cumulative relative survival ratios, by sex and ethnicity

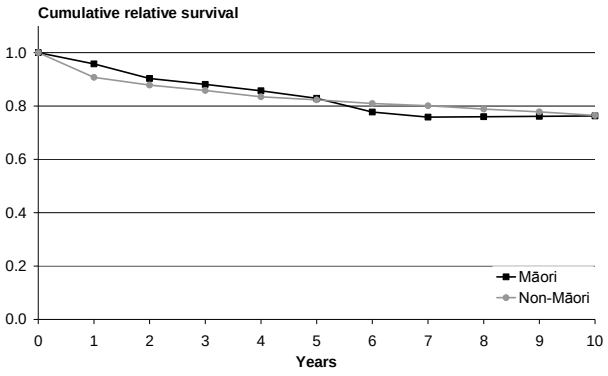
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.956	0.960	0.958	0.910	0.904	0.907	0.913	0.910	0.912
2 years	0.912	0.895	0.903	0.887	0.867	0.879	0.889	0.870	0.881
3 years	0.890	0.872	0.881	0.864	0.850	0.858	0.866	0.852	0.860
4 years	0.867	0.848	0.857	0.840	0.827	0.835	0.842	0.829	0.837
5 years	0.808	0.849	0.829	0.827	0.818	0.823	0.825	0.821	0.824
6 years	0.740	0.814	0.777	0.813	0.804	0.809	0.807	0.805	0.807
7 years	0.701	0.815	0.758	0.797	0.804	0.801	0.790	0.806	0.797
8 years	0.703	0.816	0.760	0.782	0.795	0.789	0.776	0.797	0.786
9 years	0.705	0.817	0.761	0.764	0.795	0.778	0.760	0.797	0.777
10 years	0.707	0.818	0.763	0.747	0.787	0.765	0.743	0.790	0.764

Figure 58: Hodgkin lymphoma – cumulative relative survival ratios

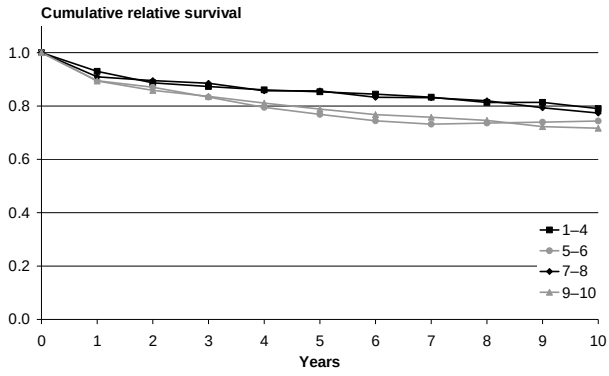
Cumulative relative survival ratios, by sex



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



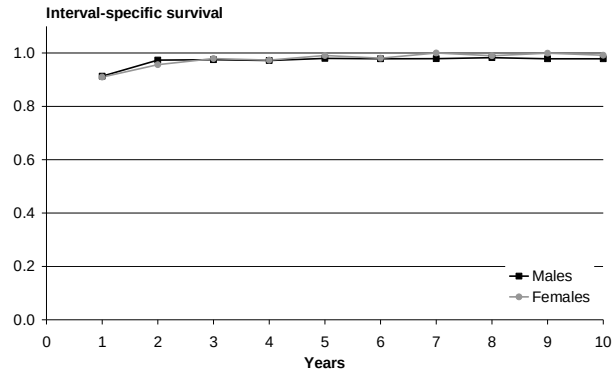
Interval-specific relative survival, 1994–2007

Table 98: Hodgkin lymphoma – interval-specific relative survival ratios, by sex and ethnicity

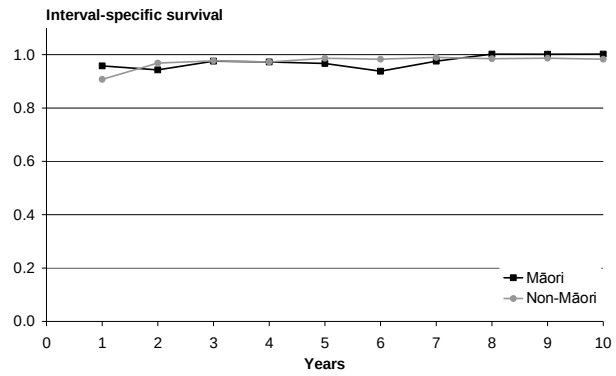
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.956	0.960	0.958	0.910	0.904	0.907	0.913	0.910	0.912
2 years	0.954	0.932	0.943	0.975	0.959	0.968	0.973	0.956	0.966
3 years	0.977	0.975	0.976	0.975	0.980	0.977	0.975	0.979	0.977
4 years	0.973	0.972	0.973	0.972	0.974	0.973	0.972	0.974	0.973
5 years	0.932	1.002	0.967	0.984	0.989	0.986	0.980	0.990	0.985
6 years	0.916	0.959	0.938	0.983	0.983	0.983	0.978	0.981	0.979
7 years	0.947	1.001	0.976	0.981	1.000	0.990	0.979	1.000	0.989
8 years	1.003	1.001	1.002	0.981	0.989	0.985	0.983	0.990	0.986
9 years	1.003	1.001	1.002	0.977	0.999	0.987	0.978	0.999	0.988
10 years	1.003	1.001	1.002	0.977	0.991	0.983	0.978	0.992	0.984

Figure 59: Hodgkin lymphoma – interval-specific relative survival ratios

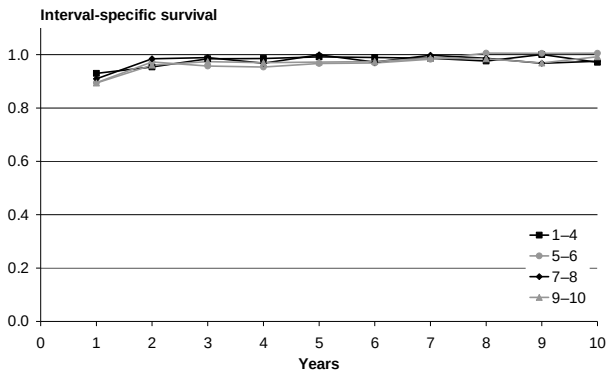
Interval-specific survival ratios, by sex



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



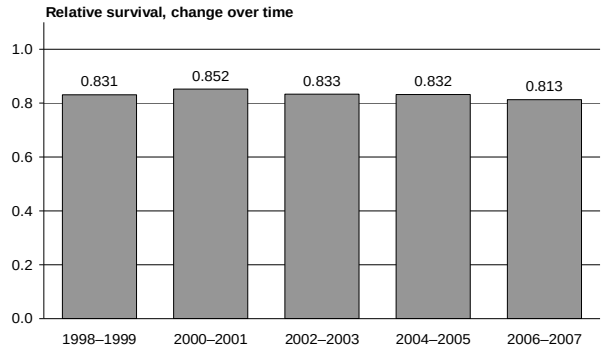
Five-year cumulative relative survival – change over time, 1998–2007

Table 99: Hodgkin lymphoma – five-year cumulative relative survival ratios, by sex and ethnicity

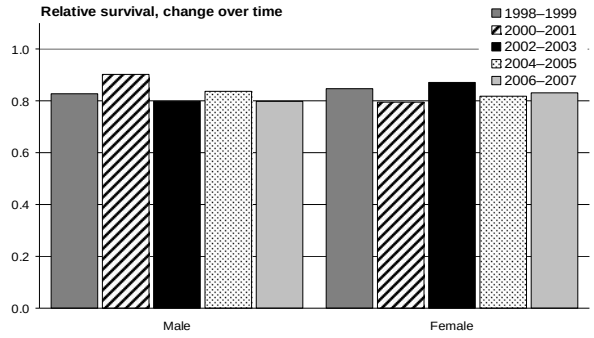
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.813	0.695	0.813	0.831	0.854	0.834	0.827	0.847	0.831
2000–2001	0.861	0.844	0.843	0.907	0.789	0.852	0.902	0.795	0.852
2002–2003	1.012	0.736	0.864	0.780	0.889	0.832	0.798	0.871	0.833
2004–2005	0.747	0.883	0.812	0.842	0.811	0.834	0.837	0.818	0.832
2006–2007	0.867	1.017	0.940	0.795	0.805	0.800	0.798	0.831	0.813

Figure 60: Hodgkin lymphoma – five-year cumulative relative survival ratios, change over time

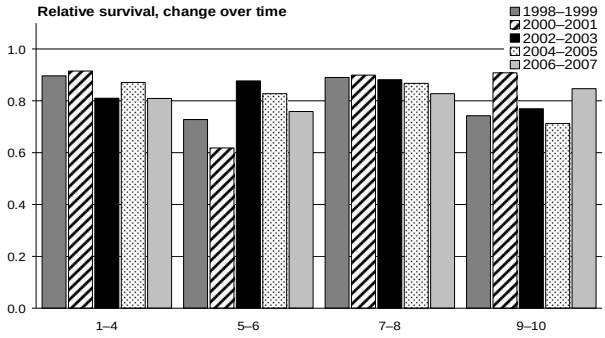
Cumulative relative survival ratios, change over time



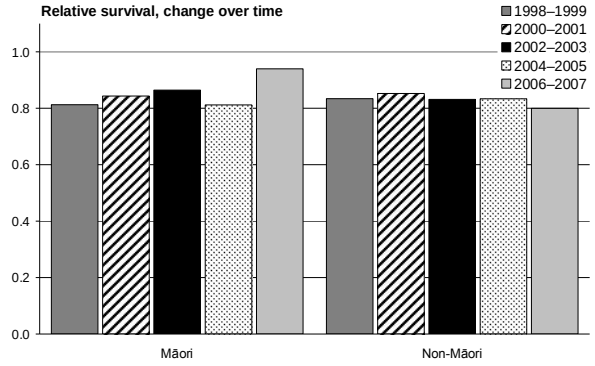
Cumulative relative survival ratios, change over time, by sex



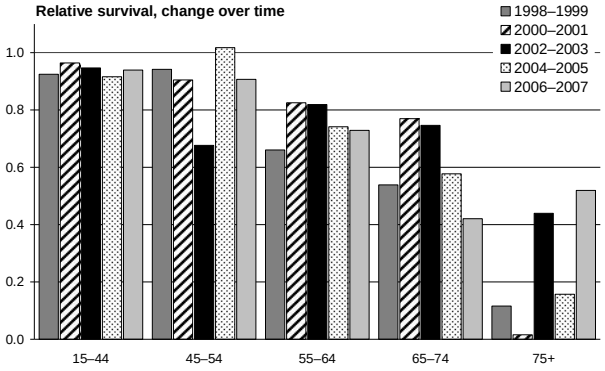
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Non-Hodgkin lymphoma (ICD codes C82–C85, C96)

Key points

- The five-year cumulative relative survival ratio for patients with non-Hodgkin lymphoma was 0.564, and the equivalent 10-year ratio was 0.492.
- Males had survival comparable to that of females.
- Māori survival ratios were lower than those of non-Māori.
- Extent of disease analysis is not applicable for blood cancers such as lymphoma, and has therefore not been included.
- Patients living in the most deprived areas experienced slightly lower survival ratios than those living in the least deprived areas.
- Between 1998 and 2007 there was an upward trend in survival ratios for this cancer, ratios increasing from 0.491 (in 1998 and 1999) to 0.595 (in 2006 and 2007).
- Survival ratios showed an improvement over time for non-Māori; Māori ratios were more variable.
- Although ratios were variable, general improvements in survival were seen when data was broken down by deprivation and age groups.

Table 100: Non-Hodgkin lymphoma – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	75	53	128	493	321	814	568	374	942
45–54	53	41	94	585	414	999	638	455	1093
55–64	63	59	122	870	718	1588	933	777	1710
65–74	52	56	108	1108	965	2073	1160	1021	2181
75+	30	33	63	1078	1240	2318	1108	1273	2381
Total	273	242	515	4134	3658	7792	4407	3900	8307

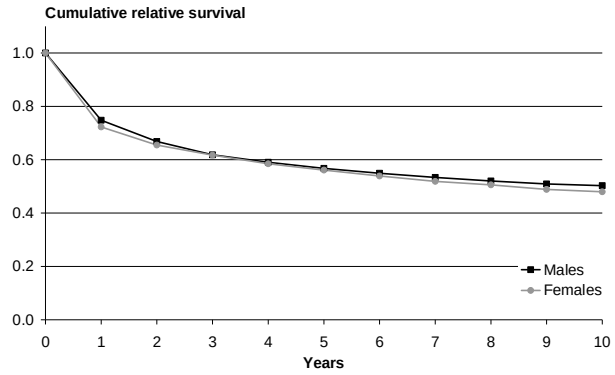
Cumulative relative survival, 1994–2007

Table 101: Non-Hodgkin lymphoma – cumulative relative survival ratios, by sex and ethnicity

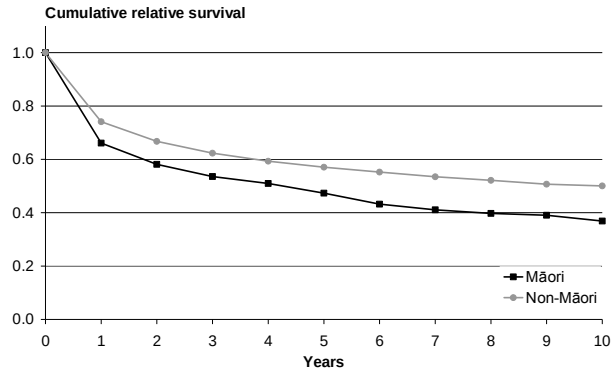
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.670	0.650	0.661	0.753	0.727	0.741	0.748	0.723	0.736
2 years	0.574	0.590	0.581	0.675	0.659	0.667	0.668	0.655	0.662
3 years	0.533	0.539	0.536	0.624	0.622	0.623	0.618	0.617	0.618
4 years	0.499	0.521	0.510	0.597	0.589	0.593	0.591	0.585	0.588
5 years	0.480	0.465	0.473	0.573	0.567	0.571	0.567	0.561	0.564
6 years	0.454	0.409	0.432	0.556	0.548	0.552	0.549	0.539	0.544
7 years	0.429	0.391	0.411	0.541	0.528	0.535	0.534	0.519	0.527
8 years	0.408	0.388	0.397	0.528	0.514	0.521	0.520	0.506	0.513
9 years	0.407	0.371	0.390	0.516	0.497	0.507	0.509	0.488	0.499
10 years	0.396	0.333	0.369	0.510	0.490	0.500	0.503	0.480	0.492

Figure 61: Non-Hodgkin lymphoma – cumulative relative survival ratios

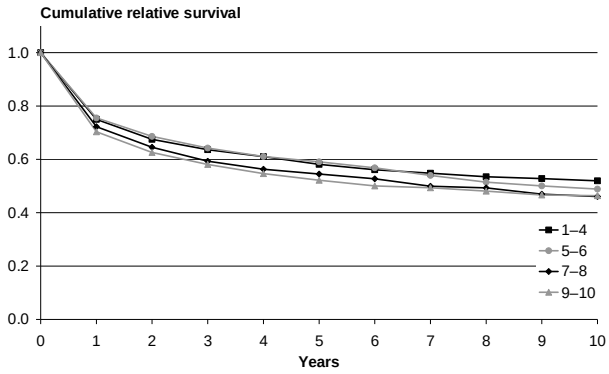
Cumulative relative survival ratios, by sex



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



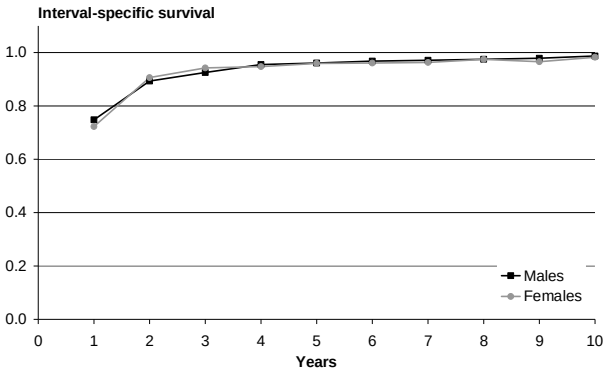
Interval-specific relative survival, 1994–2007

Table 102: Non-Hodgkin lymphoma – interval-specific relative survival ratios, by sex and ethnicity

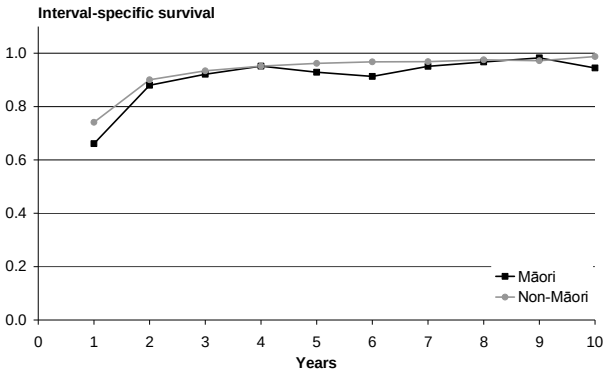
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.670	0.650	0.661	0.753	0.727	0.741	0.748	0.723	0.736
2 years	0.856	0.907	0.880	0.896	0.906	0.900	0.893	0.906	0.899
3 years	0.928	0.913	0.921	0.925	0.944	0.934	0.925	0.943	0.933
4 years	0.936	0.968	0.951	0.956	0.946	0.952	0.955	0.948	0.952
5 years	0.963	0.893	0.929	0.961	0.963	0.962	0.961	0.959	0.960
6 years	0.944	0.878	0.913	0.970	0.966	0.968	0.968	0.961	0.965
7 years	0.946	0.957	0.951	0.973	0.963	0.968	0.971	0.963	0.967
8 years	0.950	0.991	0.967	0.977	0.974	0.975	0.975	0.975	0.975
9 years	0.999	0.959	0.983	0.977	0.966	0.972	0.979	0.966	0.973
10 years	0.972	0.897	0.945	0.988	0.986	0.987	0.987	0.983	0.985

Figure 62: Non-Hodgkin lymphoma – interval-specific relative survival ratios

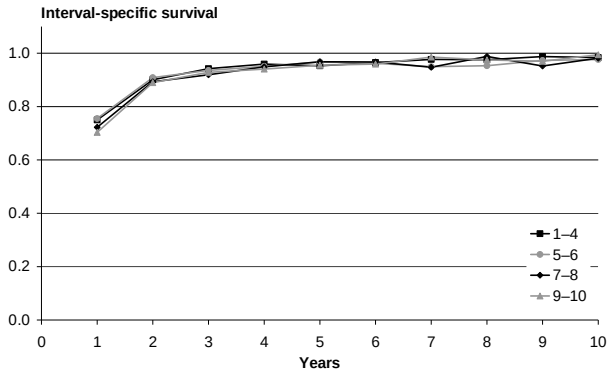
Interval-specific relative survival ratios, by sex



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



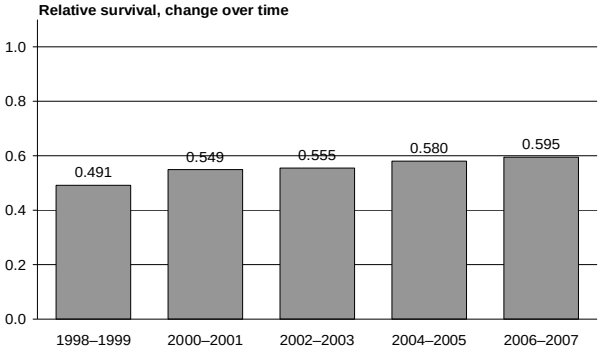
Five-year cumulative relative survival – change over time, 1998–2007

Table 103: Non-Hodgkin lymphoma – five-year cumulative relative survival ratios, by sex and ethnicity

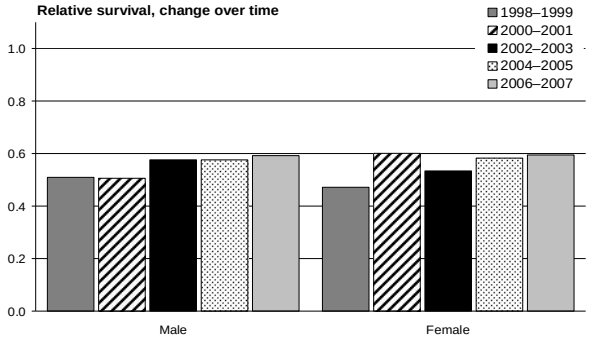
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.552	0.547	0.548	0.508	0.468	0.489	0.509	0.472	0.491
2000–2001	0.406	0.413	0.416	0.514	0.614	0.559	0.506	0.601	0.549
2002–2003	0.466	0.402	0.434	0.584	0.545	0.564	0.576	0.534	0.555
2004–2005	0.332	0.523	0.429	0.593	0.585	0.590	0.576	0.583	0.580
2006–2007	0.514	0.508	0.501	0.598	0.601	0.601	0.592	0.594	0.595

Figure 63: Non-Hodgkin lymphoma – five-year cumulative relative survival ratios, change over time

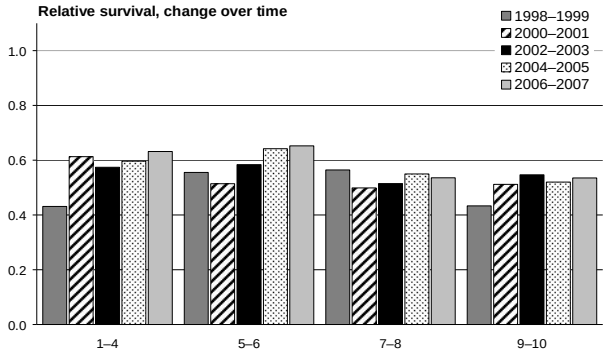
Cumulative relative survival ratios, change over time



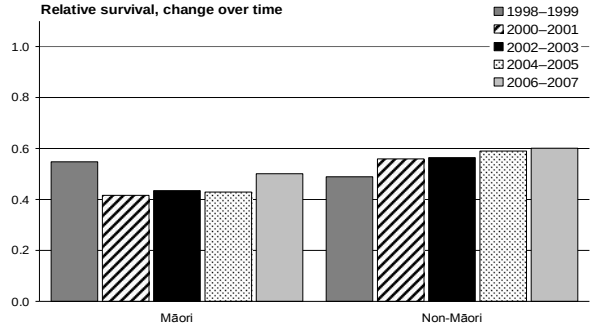
Cumulative relative survival ratios, change over time, by sex



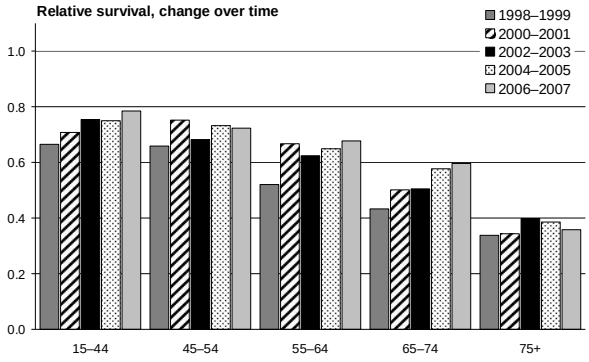
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Myeloma (ICD code C90)

Key points

- The five-year cumulative relative survival ratio for patients with myeloma was 0.352, and the equivalent 10-year ratio was 0.220.
- Males and females showed comparable survival ratios.
- In general, Māori survival ratios were lower than those of non-Māori.
- Extent of disease analysis is not applicable for blood cancers such as myeloma, and has therefore not been included.
- Level of deprivation did not impact greatly on survival outcomes.
- Between 1998 and 2007 survival improved from a ratio of 0.273 (in 1998 and 1999) to 0.373 (in 2006 and 2007).
- Survival ratios for this cancer generally improved for both sexes, for most age groups and for non-Māori, although Māori rates showed variability, probably due to the low numbers of patients within this cohort.

Table 104: Myeloma – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	16	12	28	53	21	74	69	33	102
45–54	23	19	42	172	117	289	195	136	331
55–64	32	37	69	314	237	551	346	274	620
65–74	42	40	82	515	334	849	557	374	931
75+	24	18	42	626	600	1226	650	618	1268
Total	137	126	263	1680	1309	2989	1817	1435	3252

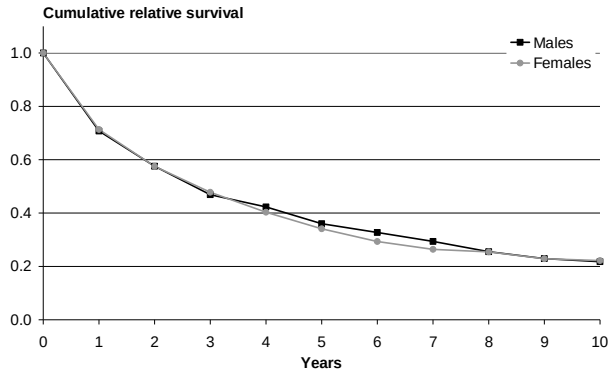
Cumulative relative survival, 1994–2007

Table 105: Myeloma – cumulative relative survival ratios, by sex and ethnicity

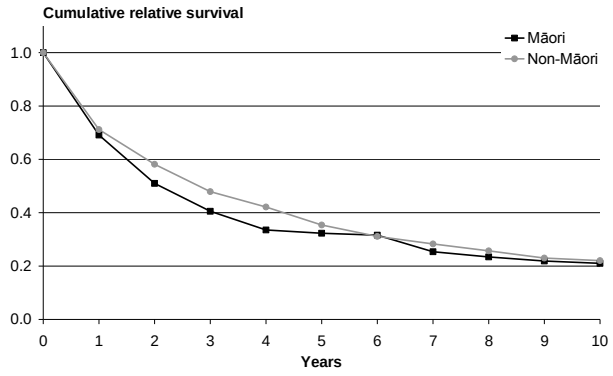
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.680	0.703	0.691	0.710	0.714	0.712	0.707	0.713	0.710
2 years	0.488	0.533	0.510	0.583	0.579	0.581	0.576	0.575	0.575
3 years	0.346	0.474	0.405	0.479	0.479	0.479	0.469	0.478	0.473
4 years	0.299	0.374	0.335	0.434	0.406	0.422	0.423	0.403	0.414
5 years	0.303	0.338	0.323	0.364	0.341	0.354	0.360	0.341	0.352
6 years	0.298	0.327	0.316	0.328	0.290	0.311	0.327	0.293	0.312
7 years	0.225	0.284	0.254	0.300	0.262	0.283	0.294	0.264	0.280
8 years	0.202	0.270	0.234	0.260	0.253	0.257	0.255	0.254	0.255
9 years	0.204	0.233	0.219	0.230	0.229	0.230	0.229	0.229	0.229
10 years	0.206	0.212	0.210	0.217	0.224	0.221	0.218	0.222	0.220

Figure 64: Myeloma – cumulative relative survival ratios

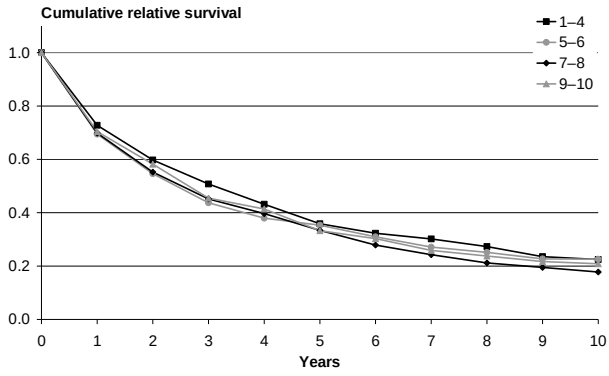
Cumulative relative survival ratios, by sex



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



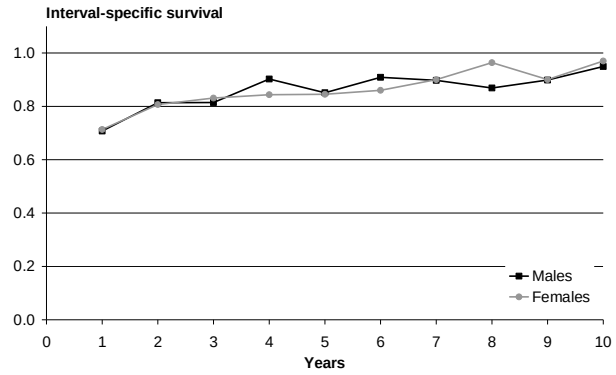
Interval-specific relative survival, 1994–2007

Table 106: Myeloma – interval-specific relative survival ratios, by sex and ethnicity

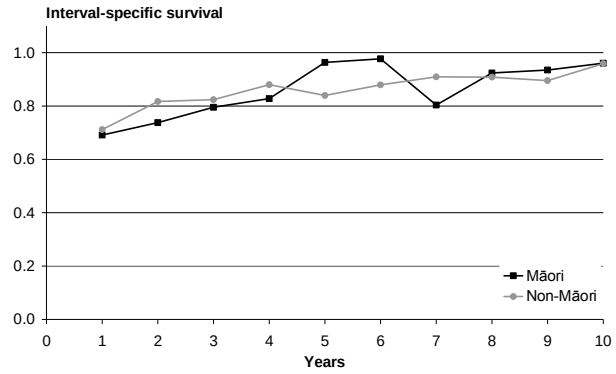
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.680	0.703	0.691	0.710	0.714	0.712	0.707	0.713	0.710
2 years	0.717	0.759	0.738	0.822	0.811	0.817	0.814	0.807	0.811
3 years	0.708	0.888	0.795	0.822	0.826	0.824	0.814	0.831	0.822
4 years	0.866	0.789	0.828	0.905	0.848	0.880	0.903	0.844	0.876
5 years	1.013	0.903	0.963	0.839	0.841	0.840	0.851	0.845	0.848
6 years	0.982	0.969	0.977	0.902	0.850	0.879	0.909	0.860	0.888
7 years	0.756	0.867	0.804	0.913	0.904	0.909	0.898	0.900	0.899
8 years	0.897	0.952	0.924	0.866	0.965	0.908	0.869	0.964	0.910
9 years	1.011	0.864	0.935	0.887	0.905	0.895	0.898	0.900	0.899
10 years	1.010	0.911	0.960	0.943	0.977	0.959	0.949	0.970	0.959

Figure 65: Myeloma – interval-specific relative survival ratios

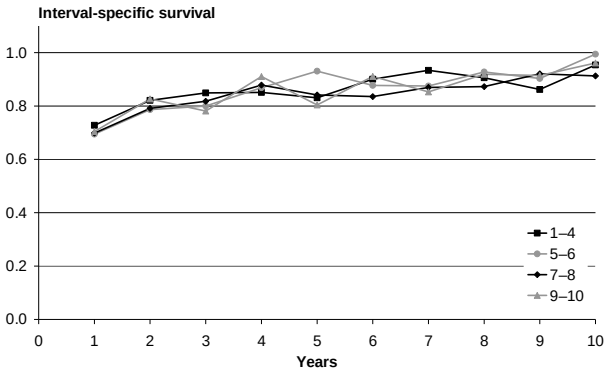
Interval-specific survival ratios, by sex



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



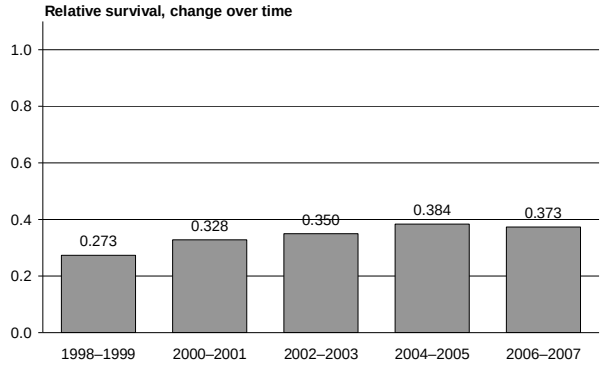
Five-year cumulative relative survival – change over time, 1998–2007

Table 107: Myeloma – five-year cumulative relative survival ratios, by sex and ethnicity

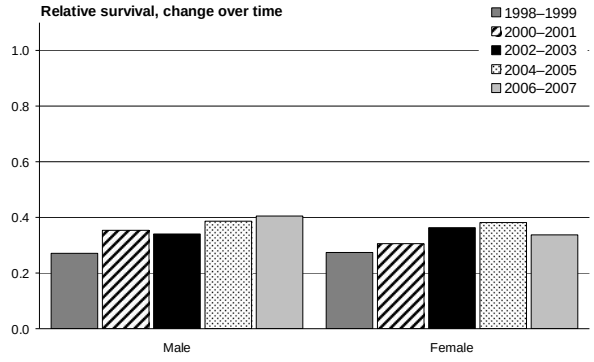
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.234	0.191	0.183	0.283	0.284	0.283	0.271	0.274	0.273
2000–2001	0.134	0.415	0.226	0.378	0.298	0.337	0.354	0.306	0.328
2002–2003	0.519	0.284	0.411	0.328	0.369	0.344	0.340	0.363	0.350
2004–2005	0.431	0.398	0.422	0.380	0.381	0.380	0.386	0.381	0.384
2006–2007	0.243	0.132	0.203	0.408	0.367	0.389	0.405	0.337	0.373

Figure 66: Myeloma – five-year cumulative relative survival ratios, change over time

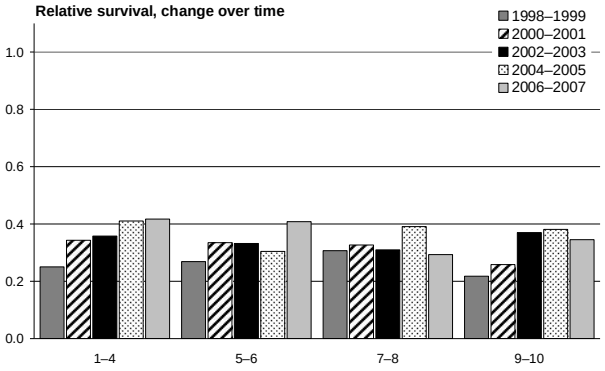
Cumulative relative survival ratios, change over time



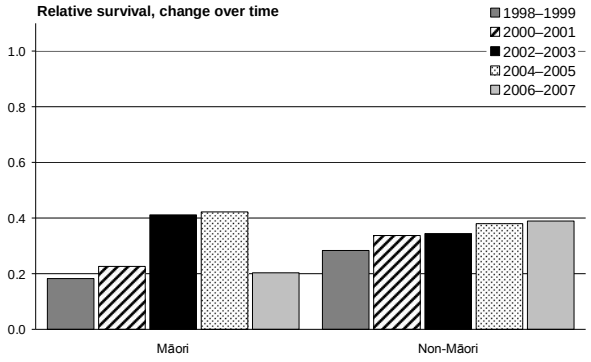
Cumulative relative survival ratios, change over time, by sex



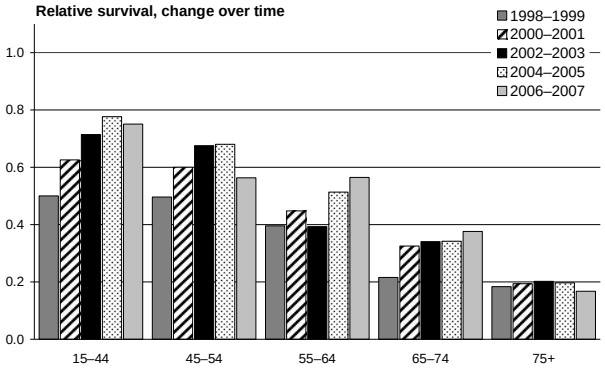
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Leukaemia – all forms (ICD codes C91–C95)

Key points

- The five-year cumulative relative survival ratio for patients with leukaemia was 0.510, and the equivalent 10-year ratio was 0.433.
- Males and females had comparable survival ratios.
- Māori survival ratios were lower than those of non-Māori.
- Extent of disease analysis is not applicable for blood cancers such as leukaemia, and has therefore not been included.
- Patients living in the most deprived areas experienced slightly lower survival ratios than those living in the least deprived areas.
- An improvement in survival was seen between 1998 and 2005, ratios increasing from 0.395 (in 1998 and 1999) to 0.561 (in 2004 and 2005). However, cancers registered in 2006 and 2007 showed a drop in the survival ratio, to 0.503.
- This decrease following the increase is probably due to a registration coding change in 2003, which resulted in fewer cancers being registered as a leukaemia, and more being registered in the range of D45–D47 (chronic myeloproliferative disorders and myelodysplastic syndromes).

Table 108: Leukaemia – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
15–44	76	73	149	395	278	673	471	351	822
45–54	46	38	84	404	276	680	450	314	764
55–64	67	58	125	716	408	1124	783	466	1249
65–74	73	46	119	1146	740	1886	1219	786	2005
75+	41	24	65	1411	1280	2691	1452	1304	2756
Total	303	239	542	4072	2982	7054	4375	3221	7596

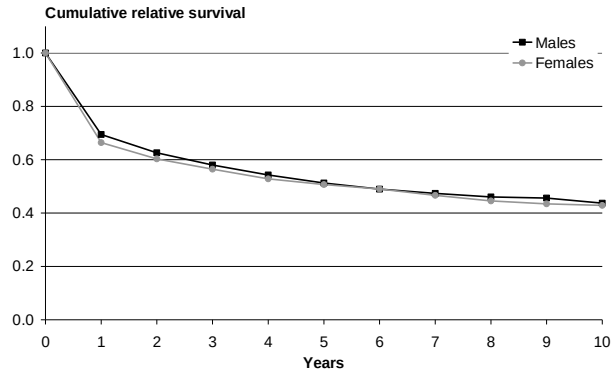
Cumulative relative survival, 1994–2007

Table 109: Leukaemia – cumulative relative survival ratios, by sex and ethnicity

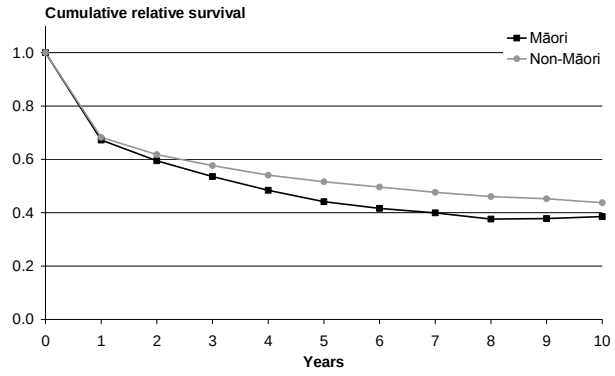
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.675	0.670	0.672	0.696	0.663	0.682	0.694	0.664	0.681
2 years	0.591	0.600	0.595	0.629	0.603	0.618	0.626	0.603	0.616
3 years	0.522	0.553	0.536	0.585	0.565	0.577	0.580	0.564	0.573
4 years	0.460	0.514	0.484	0.549	0.529	0.541	0.543	0.528	0.537
5 years	0.404	0.487	0.441	0.521	0.509	0.516	0.513	0.507	0.510
6 years	0.391	0.448	0.416	0.498	0.494	0.496	0.490	0.490	0.490
7 years	0.380	0.423	0.399	0.481	0.470	0.477	0.474	0.467	0.471
8 years	0.366	0.389	0.376	0.468	0.450	0.460	0.460	0.446	0.454
9 years	0.367	0.393	0.378	0.463	0.438	0.452	0.456	0.435	0.447
10 years	0.376	0.397	0.386	0.441	0.432	0.437	0.437	0.429	0.433

Figure 67: Leukaemia – cumulative relative survival ratios

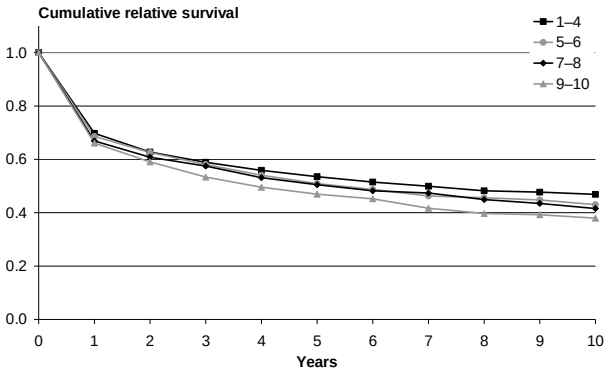
Cumulative relative survival ratios, by sex



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



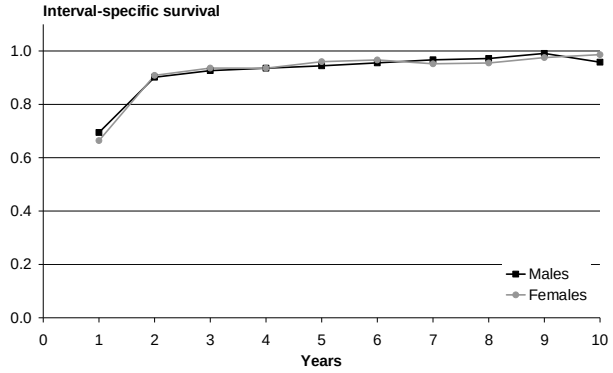
Interval-specific relative survival, 1994–2007

Table 110: Leukaemia – interval-specific relative survival ratios, by sex and ethnicity

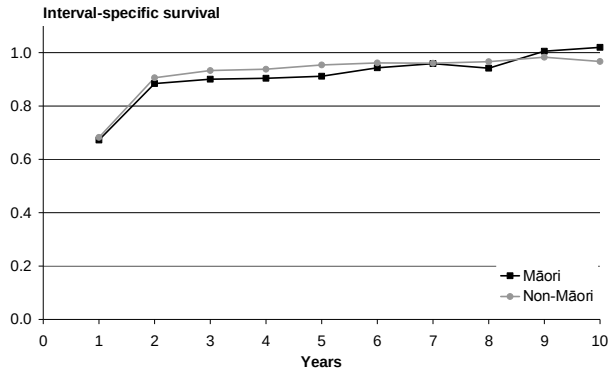
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.675	0.670	0.672	0.696	0.663	0.682	0.694	0.664	0.681
2 years	0.875	0.895	0.884	0.903	0.910	0.906	0.901	0.908	0.904
3 years	0.884	0.922	0.901	0.930	0.937	0.933	0.927	0.936	0.930
4 years	0.881	0.931	0.904	0.939	0.936	0.938	0.936	0.936	0.936
5 years	0.879	0.947	0.912	0.949	0.961	0.954	0.945	0.960	0.951
6 years	0.967	0.920	0.943	0.955	0.970	0.962	0.956	0.966	0.960
7 years	0.973	0.944	0.959	0.967	0.953	0.961	0.967	0.952	0.960
8 years	0.962	0.921	0.942	0.972	0.958	0.966	0.972	0.955	0.965
9 years	1.003	1.010	1.006	0.990	0.973	0.983	0.991	0.975	0.984
10 years	1.026	1.011	1.020	0.953	0.985	0.967	0.958	0.986	0.970

Figure 68: Leukaemia – interval-specific relative survival ratios

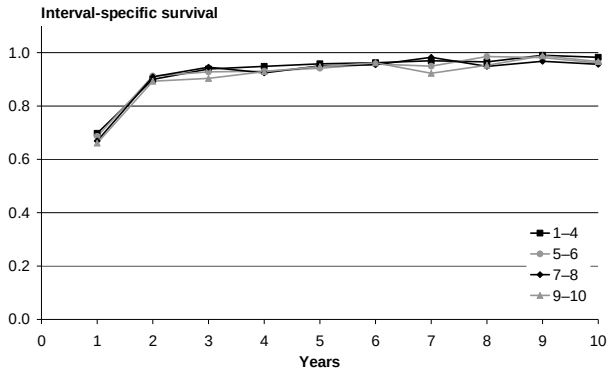
Interval-specific survival ratios, by sex



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



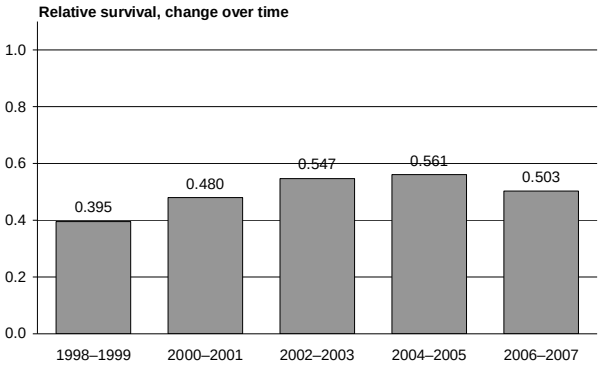
Five-year cumulative relative survival – change over time, 1998–2007

Table 111: Leukaemia – five-year cumulative relative survival ratios, by sex and ethnicity

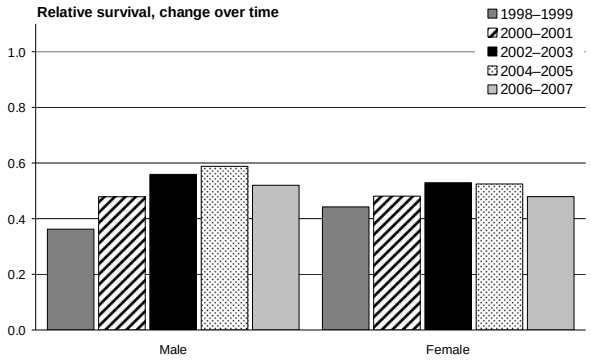
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.421	0.370	0.376	0.361	0.449	0.397	0.362	0.442	0.395
2000–2001	0.330	0.359	0.344	0.492	0.488	0.490	0.479	0.481	0.480
2002–2003	0.525	0.475	0.508	0.562	0.531	0.549	0.559	0.529	0.547
2004–2005	0.373	0.540	0.447	0.607	0.523	0.571	0.588	0.525	0.561
2006–2007	0.385	0.591	0.469	0.532	0.470	0.506	0.520	0.479	0.503

Figure 69: Leukaemia – five-year cumulative relative survival ratios, change over time

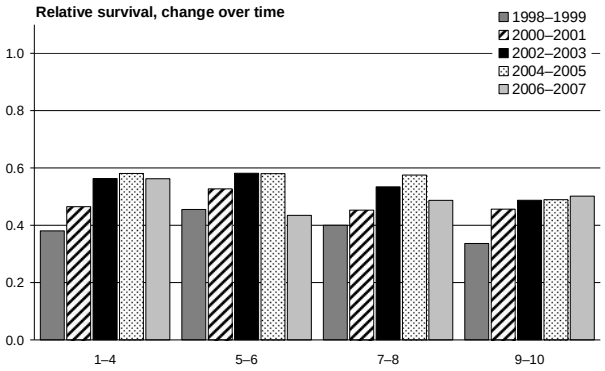
Cumulative relative survival ratios, change over time



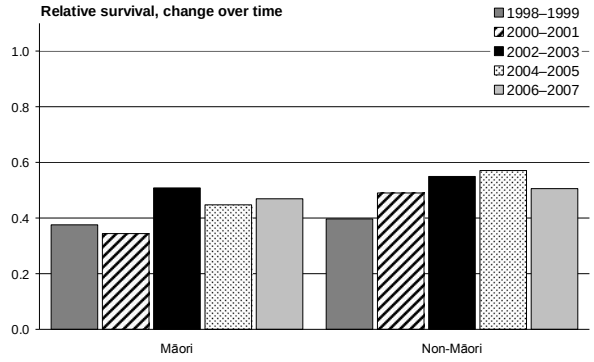
Cumulative relative survival ratios, change over time, by sex



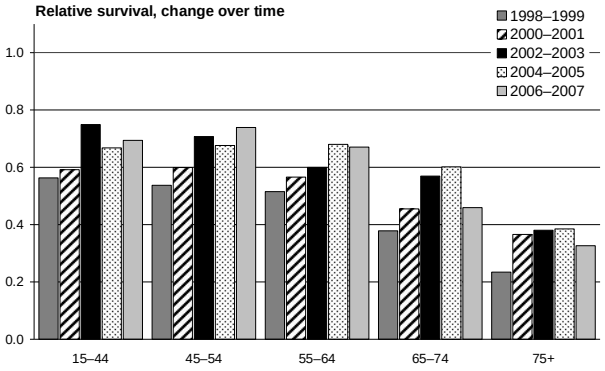
Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Cumulative relative survival ratios, change over time, by age



Childhood cancers (C00–C96, ages 0–14)

Key points

- The five-year cumulative relative survival ratio for children with cancer was 0.772, and the equivalent 10-year ratio was 0.751.
- Male and female children showed comparable survival ratios.
- Māori children had lower survival ratios than those of non-Māori.
- A large proportion of childhood cancers were blood cancers (particularly leukaemias), and therefore the data has not been broken down by extent of disease.
- Children living in the most deprived areas experienced slightly lower survival than those living in the least deprived areas.
- An improvement in survival was seen between 1998 and 2005, ratios increasing from 0.718 (in 1998 and 1999) to 0.822 (in 2004 and 2005). However, cancers registered in 2006 and 2007 showed a drop in the survival ratio, to 0.769.
- This decrease following the increase is probably due to a coding change in 2003, which resulted in fewer cancers being registered as a leukaemia, and more being registered in the range of D45–D47 (chronic myeloproliferative disorders and myelodysplastic syndromes).

Table 112: Childhood cancers – number of cases included in analysis, by age, sex and ethnicity

Age group	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
0–14	208	178	386	773	662	1435	981	840	1821

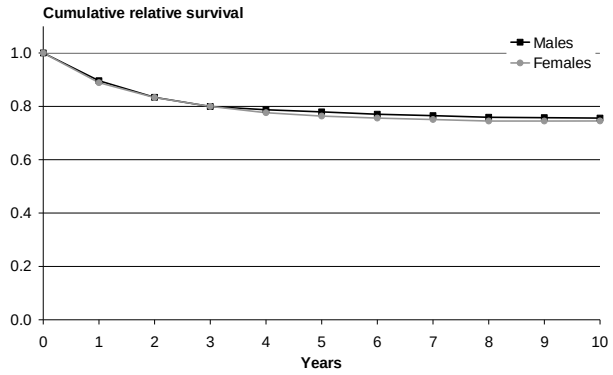
Cumulative relative survival, 1994–2007

Table 113: Childhood cancers – cumulative relative survival ratios, by sex and ethnicity

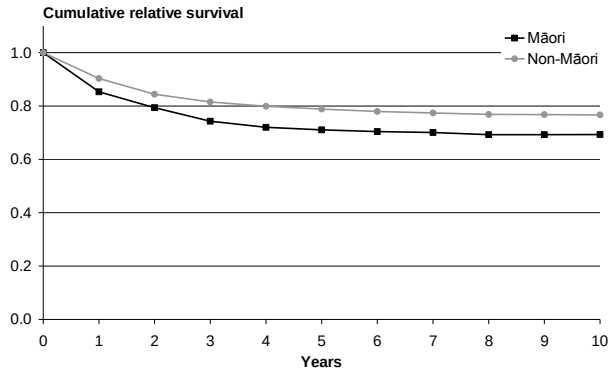
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.861	0.844	0.853	0.905	0.901	0.903	0.896	0.889	0.893
2 years	0.780	0.810	0.794	0.848	0.839	0.844	0.834	0.833	0.833
3 years	0.740	0.746	0.743	0.815	0.814	0.815	0.799	0.800	0.800
4 years	0.724	0.715	0.720	0.804	0.793	0.799	0.787	0.776	0.782
5 years	0.725	0.695	0.711	0.794	0.782	0.788	0.779	0.764	0.772
6 years	0.712	0.695	0.704	0.786	0.772	0.780	0.770	0.756	0.764
7 years	0.705	0.695	0.701	0.781	0.765	0.774	0.765	0.751	0.758
8 years	0.698	0.686	0.693	0.775	0.760	0.769	0.759	0.745	0.752
9 years	0.698	0.687	0.693	0.774	0.761	0.768	0.758	0.745	0.752
10 years	0.698	0.687	0.693	0.771	0.761	0.766	0.756	0.745	0.751

Figure 70: Childhood cancers – cumulative relative survival ratios

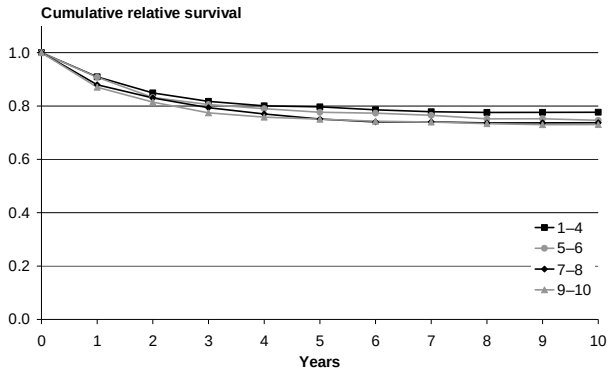
Cumulative relative survival ratios, by sex



Cumulative relative survival ratios, by ethnicity



Cumulative relative survival ratios, by deprivation



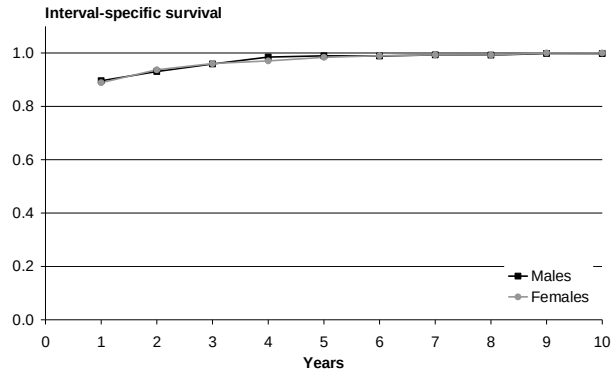
Interval-specific relative survival, 1994–2007

Table 114: Childhood cancers – interval-specific relative survival ratios, by sex and ethnicity

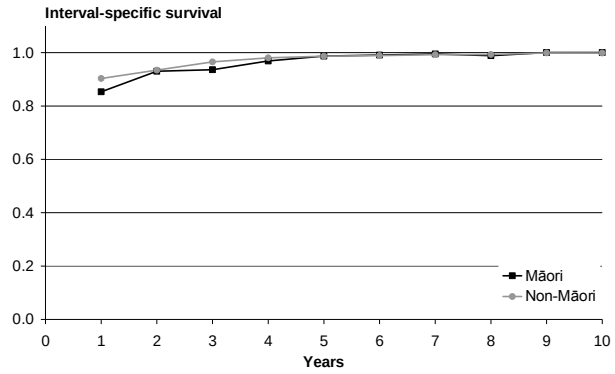
Time since diagnosis	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1 year	0.861	0.844	0.853	0.905	0.901	0.903	0.896	0.889	0.893
2 years	0.905	0.960	0.930	0.937	0.931	0.935	0.931	0.937	0.934
3 years	0.949	0.921	0.936	0.961	0.970	0.965	0.959	0.960	0.959
4 years	0.978	0.958	0.969	0.986	0.973	0.980	0.985	0.970	0.978
5 years	1.000	0.972	0.987	0.987	0.986	0.987	0.990	0.984	0.987
6 years	0.983	1.000	0.991	0.990	0.987	0.989	0.989	0.990	0.989
7 years	0.991	1.000	0.995	0.994	0.991	0.993	0.993	0.993	0.993
8 years	0.989	0.988	0.988	0.993	0.993	0.993	0.992	0.992	0.992
9 years	1.000	1.000	1.000	0.998	1.000	0.999	0.998	1.000	0.999
10 years	1.000	1.000	1.000	0.997	1.000	0.999	0.998	1.000	0.999

Figure 71: Childhood cancers – interval-specific relative survival ratios

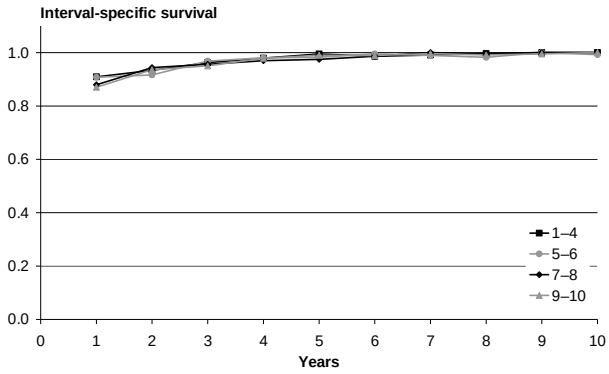
Interval-specific survival ratios, by sex



Interval-specific relative survival ratios, by ethnicity



Interval-specific relative survival ratios, by deprivation



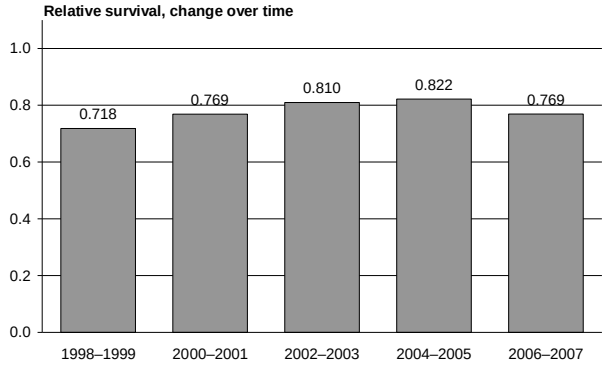
Five-year cumulative relative survival – change over time, 1998–2007

Table 115: Childhood cancers – five-year cumulative relative survival ratios, by sex and ethnicity

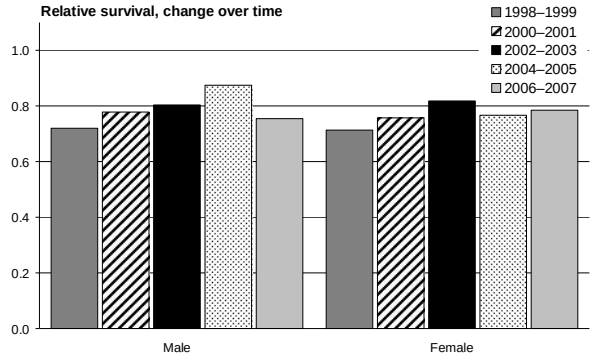
Registration years	Māori population			Non-Māori population			Total population		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1998–1999	0.492	0.792	0.649	0.777	0.683	0.737	0.720	0.713	0.718
2000–2001	0.764	0.636	0.690	0.781	0.801	0.790	0.778	0.757	0.769
2002–2003	0.855	0.735	0.806	0.790	0.832	0.810	0.804	0.818	0.810
2004–2005	0.889	0.642	0.791	0.869	0.792	0.828	0.874	0.767	0.822
2006–2007	0.636	0.690	0.667	0.789	0.803	0.795	0.754	0.785	0.769

Figure 72: Childhood cancers – five-year cumulative relative survival ratios, change over time

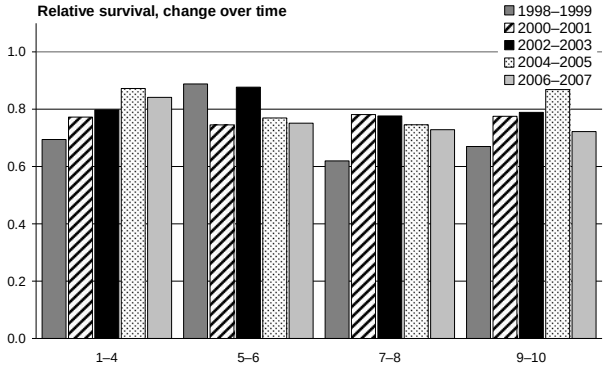
Cumulative relative survival ratios, change over time



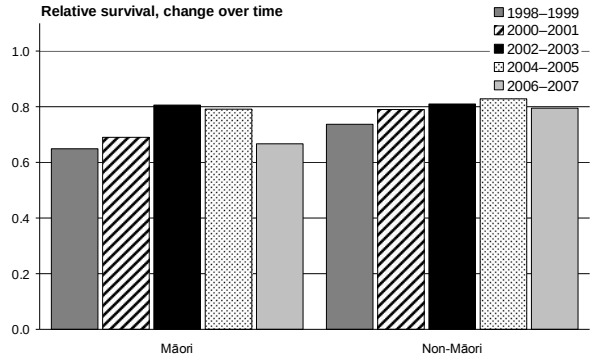
Cumulative relative survival ratios, change over time, by sex



Cumulative relative survival ratios, change over time, by deprivation



Cumulative relative survival ratios, change over time, by ethnicity



Appendix

Explanation of terms used in this document

Cancer

'Cancer' is defined as a range of diseases in which abnormal cells proliferate and grow in an uncontrolled manner. In this publication cancer is classified as those cancers registered in the New Zealand Cancer Registry under the ICD codes C00–C96 (see 'ICD codes' below). ICD codes D45–D47 (chronic myeloproliferative disorders and myelodysplastic syndromes) were only considered malignant from 2003, and so for consistency cancers classified under those codes were not included in this report.

Confidence intervals

A confidence interval is a range of values used to describe the uncertainty around a single value (such as a survival ratio), in order to estimate where the true value lies. Confidence intervals describe how different the estimate could have been if chance had led to a different set of data. They are calculated with a stated probability, in this case 95 percent (indicating that there is a 95 percent chance that the true value lies within the confidence intervals).

If two confidence intervals do not overlap, then it is reasonable to assume that the difference is not due to chance (that is, is statistically significant). If two confidence intervals overlap it is not possible to draw any conclusion about the significance of any difference between them.

Confidence intervals in this publication have been calculated for survival ratios at the 95 percent level using the log cumulative hazard scale as described in Dickman et al (2007).

Deprivation

The New Zealand Index of Deprivation is a measure of socioeconomic status calculated for discrete geographic areas. The calculation uses a range of variables from the 2001 Census of Population and Dwellings, representing nine dimensions of social deprivation. Deprivation Index is calculated at the level of mesh blocks (geographical units containing a median of 90 people), and the Ministry of Health maps these to domicile codes, which are built up to the relevant geographic scale using weighted average census 'usually resident population' counts. The nine variables (proportions in small areas) in the index, by decreasing weight, are:

- income: people aged 18–59 receiving a means-tested benefit
- employment: people aged 18–59 who are unemployed
- income: people living in an equivalised household whose income is below a certain threshold
- communication: people with no access to a telephone

- transport: people with no access to a car
- support: people aged under 60 living in a single-parent family
- qualifications: people aged 18–59 with no qualifications
- living space: people living in an equivalised household below a bedroom occupancy threshold
- home ownership: people not living in their own home.

Note that the 2001 Index has been used in this publication because the 2006 domicile codes were not introduced until 2008 and therefore do not apply. Events coded to 1996 domicile codes were mapped forward to 2001.

In this publication, deprivation is broken down into the following groups: deciles 1–4 (little differentiation is typically evident between deciles 1 and 4), deciles 5–6, deciles 7–8 and deciles 9–10; the 1–4 group being the least deprived and the 9–10 group being the most deprived.

Further information can be obtained from:
http://www.moh.govt.nz/moh.nsf/pagesmh/3357?Open

Ethnicity

The ethnicity data in this publication relates to ethnicity as recorded on the New Zealand Cancer Registry.

Ethnicity data is required to be collected and classified according to Ministry of Health ethnicity data protocols for the health and disability sector (Ministry of Health 2004).

Under the protocols, ethnicity is determined through self-identification or, when this is not possible, by appropriate proxy using a standard question format. Individuals may select up to three ethnic groups they feel they belong to.

The ethnicity data in this publication is based on prioritised ethnicity. Under this system each individual is allocated to a single ethnic group according to the following prioritised list: Māori, Pacific peoples, Asian, other groups except New Zealand European, New Zealand European. Thus, any person who selects Māori as one of their three ethnicities will be recorded as Māori.

Ethnicity as recorded on the Cancer Registry is taken from hospital discharge information, the National Health Index and the Mortality Collection. Therefore, the less contact a patient has with the hospital system, the less likely he or she is to have an accurate ethnicity recorded.

Those registrations recorded with unspecified ethnicity have been included in the non-Māori group in this report; caution should therefore be used when interpreting ethnic comparisons.

Extent of disease

The extent of disease data used in this publication is that recorded according to the information that is available at registration, and is grouped into several broad categories:

- Localised – the tumour is confined to the organ of origin
- Regional – the tumour has invaded adjacent tissues or organs or involves regional lymph nodes
- Distant – the tumour has spread to distant organs or lymph nodes
- Not stated – the information is not sufficient to assign an extent of disease.

Extent of disease is determined using all diagnostic and therapeutic evidence available to the staff of the Cancer Registry, and may be modified within four months of diagnosis if more information comes to hand.

The Cancer Registry records extent of disease information where it is available. Because pathology reports are the main source of data, this information is most complete for tumours for which the primary treatment is surgical (for example for melanoma and breast and colorectal cancers).

ICD codes

International Classification of Diseases (ICD) codes comprise a system of classification of diseases, including cancer, devised by the World Health Organization. ICD codes in this publication are taken from the Australian Version of the *International Classification of Diseases, 10th Revision*.

Incidence

'Incidence' refers to new diagnoses of primary cancer recorded during a given period. It is possible for one person to have more than one primary cancer and therefore be counted in incidence statistics more than once, if the cancers are in different parts of the body or are of a different type.

Mortality

'Mortality' refers to the number of deaths recorded during a given period.

Patients withdrawn

In this publication, a patient was withdrawn from the analysis if they were alive as of 31 December 2009. This is because outcomes for a patient registered with cancer on 1 July 2007 and alive on 31 December 2009 could only be determined for two full years (using 2008 and 2009 death information): it was not possible to confirm whether such patients completed a third year of survival. In the same way, there would only be four years and one month of follow-up data for an individual registered on 10 December 2005: data for this patient would be withdrawn during year five.

Survival

'Survival' refers to the length of time lived after an initial diagnosis of cancer. A number of different statistical procedures can be used to derive survival figures.

Methodology of survival calculation

In this publication, the period method was used to calculate survival. This method uses the survival patterns of all patients alive (and diagnosed with cancer) during a particular time to calculate survival rates and ratios. (For detailed information see Brenner and Gefeller 1996.)

Although it is possible to use sub-population life tables to help smooth biases exhibited in the survival ratios of different groups (such as Māori, or patients living in more deprived areas), total population life tables were used in calculations for this report to allow direct comparison with the data produced in the previous *Cancer Patient Survival* publication, and to keep this analysis as simple as possible.

Data used in this report

This publication uses information from the New Zealand Cancer Registry and the Mortality Collection held by the Ministry of Health. Expected survival ratios were obtained from life tables developed by Statistics New Zealand.

The Cancer Registry is population-based and has been in existence since 1948. Registration of cancer cases became compulsory, through legislation, in 1994.

The primary source of cancer incidence data is laboratory reports (along with hospital discharge reporting). Information also comes from death certificates, autopsy reports and the records of cancer treatment providers.

Information about the deaths of people registered with cancer was obtained through passive follow-up. The records of all people with cancer registered in the period 1 January 1994 to 31 December 2007 were linked with death records for the period 1 January 1994 to 31 December 2009. For the purpose of this analysis it was assumed that cancer patients for whom no death information was available were alive.

Some cancer registrations have been excluded from the analysis, such as those for children under the age of 15 years (with the exception of registrations recorded in the 'childhood cancers' grouping) and those for patients whose date of registration was the same as the date of death.

Significance testing has not been applied to most of the data in this report (with the exception of the addition of confidence intervals); therefore, most differences discussed in this report are not statistically significant.

Summary information about the number of new registrations for each of the primary cancer sites covered in this publication as recorded in the Cancer Registry between 1994 and 2007 (and followed up to December 2008) is given in the following table.

ICD-10 code(s)	Site	Number of cases
C00–C96	All adult cancers	243,483
C01–14, C32	Head, neck and larynx	5126
C15	Oesophagus	3090
C16	Stomach	5241
C18–C21	Colorectum and anus	37,048
C22	Liver and intrahepatic bile ducts	2159
C25	Pancreas	4573
C33–C34	Trachea, bronchus and lung	22,374
C43	Melanoma of the skin	26,452
C50 (female)	Female breast	32,554
C53	Cervix uteri	2631
C54–C55	Corpus uteri	4332
C56	Ovary	3879
C61	Prostate	36,103
C62	Testis	1929
C67	Bladder	7187
C64–C66, C68	Kidney, ureter and urethra	5312
C71	Brain	3173
C73	Thyroid gland	2251
C81	Hodgkin lymphoma	1005
C82–C85, C96	Non-Hodgkin lymphoma	8307
C90	Myeloma	3252
C91–C95	Leukaemia – all forms	7596
C00–C96 (age 0–14)	Childhood cancers	1821

For simplicity, multiple cancers were not included in this study.

Additional information available from the Ministry of Health

Should you require additional information, analysis or material not included in this report, or material tabulated in different ways, please contact:

National Collections and Reporting
Ministry of Health
PO Box 5013
Wellington
New Zealand
Phone (04) 496 2000
Fax (04) 816 2898
Email data-enquiries@moh.govt.nz

Further Ministry of Health publications can be found online at http://www.moh.govt.nz/dataandstatistics

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