N. IRELAND Cancer Registry

Cancer in Northern Ireland 1993 - 2001: A Comprehensive Report

Queen's University Belfast

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Editors: **D. Fitzpatrick, A. Gavin, R. Middleton, D. Catney**

Data Analysis: **D. Fitzpatrick, D. Catney**

White Rocks, Antrim

Stretching from Curran Strand to Dunluce Castle are the unique limestone cliffs of the White Rocks. These soft sedimentary rocks have been carved through centuries into a labyrinth of caves and arches, magical headlands of distinguishable forms rise out of the ocean with names like Shelagh's Head, the Giants Head, the Wishing Arch, Elephant Rock and the Lion's Paw, while underneath the road you drive upon, huge cavernous caves, accessible only from the sea are home to scores of seabirds and the hunting ground for hawks. The caves are exceptional and one of the hidden treasures to be discovered along the coast.

This report should be cited as; Fitzpatrick D, Gavin A, Middleton R, Catney D, 2004. Cancer in Northern Ireland 1993-2001: A Comprehensive Report. N. Ireland Cancer Registry, Belfast.

Contents

Appendices **Page No**

i. Foreword

This Report marks the tenth birthday of the N. Ireland Cancer Registry. There is much to celebrate. During the past 10 years Dr Anna Gavin has painstakingly built, for the benefit of us all, a Cancer Registry of which we can be proud and which stands as one of the best in Europe and beyond. No-one should underestimate the level of commitment, vision, leadership and drive which has been required to bring this about. Dr Gavin and her enthusiastic and expert team are to be heartily congratulated.

We have already begun to see the significant benefits to be gained from having a comprehensive, high quality Registry. Much research is being supported, cancer services are being evaluated and surveillance is being carried out which spans international borders. In addition, Clinicians are engaged in the development of measures to analyse the outcome of their work against national and international standards. The success of this engagement proves the importance of the Cancer Registry as one of our most important public health tools.

H Campbell

Dr Henrietta Campbell
Chief Medical Officer

ii. Acknowledgements

I am indebted to the Department of Health, Social Services & Public Safety Northern Ireland (DHSSPSNI) who fund the Registry and to the Health Boards and the Ulster Cancer Foundation for their continued support.

Special thanks are due to all those who provided data, assisted with our quality checks and advised us on the Registry's development. They include members of the N. Ireland Cancer Registry Council and Management Group, staff from the Directorate of Information Systems, Ordnance Survey Northern Ireland and the General Register Office for Northern Ireland (GRO), Professor Michel Coleman from the London School of Hygiene & Tropical Medicine, Dr Karen Bailie, Leukaemia/Lymphoma Registry, Trust Patient Administration System (PAS) Co-ordinators, medical records staff, computer advisers and staff in pathology departments.

Thanks also to those clinicians who provided advice and comments on earlier drafts, to our secretary, Susan McGookin, who collated the many drafts and kept us organised and Wendy Hamill who liaised with the printers.

The staff in the Communications Department, Queen's University Belfast, have our gratitude for their advice and support.

The Registry team (see below) deserves special mention. Their dedication has made possible the data capture and analysis for this Report. Deirdre Fitzpatrick needs special recognition for her skill and input to this Report. Thanks also to Dr Jeffery Robertson, retired Pathologist, who generously provides expert advice regularly to the Registry in his own time.

Dr Denise Catney	Biostatistician	Bernadette Anderson	TVO*
Deirdre Fitzpatrick	Biostatistician	Carmel Canning	TVO
Colin Fox	IT Manager	Kate Donnelly	TVO
Wendy Hamill	Office Manager	Patricia Donnelly	TVO
Susan McGookin	Secretary	Helen Hanlon	TVO
Dr Richard Middleton	Data Manager	Rosemary Ward	TVO
Pauline Monaghan	RACC Researcher		
Dr Liam Murray	Senior Lecturer in Epidemiology		
Giulio Napolitano	Information Management		
Breige Torrans	Administrator		

* Tumour Verification Officer

The Registry would not be what it is today without the dedication, skill and professionalism of the staff listed above and all former staff who have worked in the Registry over the past 10 years.

Anna Gavin

A. Gavin, Director, May 2004

iii. Introduction

Background

In 1994, the N. Ireland Cancer Registry (NICR) was established, replacing a Department of Health and Social Services Registry which began in 1959 but had poor ascertainment of cases[1].

The diseases registered at NICR include malignant, benign and *in-situ* neoplasms and neoplasms of uncertain or unspecified behaviour. Additionally, data on conditions which in some cases are pre-malignant, e.g. Barrett's oesophagus, are also recorded. Tumour details are collected on cancer diagnoses according to the International Classification of Disease (ICD), tenth revision[2].

The NICR receives its data electronically from numerous sources such as pathology laboratories, the hospital Patient Administration System, hospices, radiology departments and the General Register Office (GRO). Collecting data electronically has ensured high quality complete information, which is recognised internationally[3]. Indeed, many other existing and new registries are converting to this method of collection. Full details on the Registry are available on our web page www.qub.ac.uk/nicr.

Data

For the purposes of this Report, only malignant neoplasms are considered, i.e. ICD10 C00 to C97. Many registries do not collect information on non-melanoma skin (NMS) cancers (C44), as these tumours tend to have poor ascertainment; this is not the case at NICR and as a result NMS are included in the Report.

The GRO provides data on all deaths occurring in Northern Ireland. Cancer mortality data were compiled from these and along with NICR incident data, provided the dataset for analysis in this Report, for the period of 1993 to 2001.

Population estimates required in the production of this Report, for example, for the calculation of incidence and mortality rates, were extracted from Census 2001 output, available from Northern Ireland Statistics and Research Agency (NISRA).

Geographical analysis is an important tool in the measurement of disease occurrence in any population. In this Report, maps were used to demonstrate the distribution of the key cancers diagnosed in Northern Ireland. The maps, which show Northern Ireland divided into its 26 District Councils, were reproduced from Ordance Survey Northern Ireland (OSNI) data 2004.

Report Outline

This Report aims to provide a comprehensive overview of cancer in Northern Ireland for health care workers and the public.

Each chapter has a similar layout, highlighting significant facts, then describing the number and rate of new cases – incidence. Prevalence, defined here as the number of people alive who have had the disease diagnosed between 1993 and 2001, is included, but in many cases underestimates the true number, as people diagnosed before 1993 are not counted but may still be alive. Data on deaths is followed by trends for incidence and deaths.

Survival is compared for two time periods, 1993-95 and 1996-99, while for selected sites, survival by disease stage is included.

Treatment information was available for selected sites and is presented for the first time.

An analysis of rates to determine geographical patterns is followed by measurement of the effect of deprivation on disease.

A discussion, pulling together the findings in Northern Ireland with information from recent research, concludes each Chapter – see Section iv for a fuller explanation of Chapter Layout.

What is Cancer?

As stated earlier, this Report concentrates on 'malignant neoplasms' but what is cancer?

Our body cells are continually growing, dying and being replaced. Cancer is the result of a breakdown in the normal growth of body cells. Normal growth is regulated by our genes. Some genes programme for growth (oncogenes) while others stop growth (tumour suppressor genes). There are several ways in which a normal cell can become a cancerous cell:

- the 'growth', oncogenes may become overactive, or
- the tumour suppressor gene is underactive or even switched off completely, and
- sometimes the rate of change from normal to faulty genes is increased. This may be due to a fault in the way the body repairs faulty genes or increased damage to genes, as occurs with carcinogens such as tar products from tobacco.

Whether a damaged cell becomes a cancer is a complex process, involving changes in several types of genes. Whether a cancer cell spreads depends on the type of cancer, local inflammation, immune response and tumour promoting growth factors.

Once a tumour is established, it may spread locally and to other sites (metastasise).Treatment depends on the tumour, its size and whether it has spread. Treatments are surgical, radiation, and drugs (chemotherapy). For further reading see reference 4.

Cancer Risk

On average, one in three of the population will develop a cancer by the age of 75 years, one in four if we exclude the common, rarely fatal non-melanoma skin cancer. Risk is not evenly distributed in the population, for example, non smokers who are less likely to develop cancer than smokers.

Our data show that about 7% of the population will have more than one tumour in their lifetime. Many of these are skin cancers and if these are excluded then about 3.5% of the population have had more than one serious cancer. See Tables 1a and 1b below. All data in this Report relate to the number of tumours diagnosed.

Table 1a: Multiple Primary Tumours Affecting the Same Person (1993-2001) All Cancers

Number of tumours per person	Number of patients	% of total	Number of tumours	% of total
1	66194	93.42%	66194	87.20%
2	4305	6.08%	8610	11.34%
3	333	0.47%	999	1.32%
4	27	0.04%	108	0.14%
Total	**70859**		**75911**	

Table 1b: Multiple Primary Tumours Affecting the Same Person (1993-2001) All Cancers Excluding Non-Melanoma Skin Cancer

Number of tumours per person	Number of patients	% of total	Number of tumours	% of total
1	52171	96.51%	52171	93.12%
2	1814	3.36%	3628	6.48%
3	72	0.13%	216	0.38%
4	2	0.00%	8	0.01%
Total	**54059**		**56023**	

1 Gavin AT and Evans AE, *The Northern Ireland Cancer Registry,* Ulster Medical Journal 1988; 57: No.2 129-136

2 *ICD10 International Classification of Diseases 10th Revision,* World Health Organisation, Geneva (1997)

3 *Cancer Incidence in Five Continents, Vol VIII.* Parkin DM, Whelan SL, Ferlay J, Teppo L, Thomas DB. IARC Scientific Publications No. 155 2002

4 Gibbs WW. *Roots of Cancer.* Scientific American July 2003; p57-65

iv. Chapter Layout

In the subsequent chapters of this Report, each covering a different cancer site, a common layout has been adopted:

- Incidence and Deaths (including trend analysis)
- Survival
- Geographical Variation
- Socioeconomic Trends
- Discussion
- References

Incidence and Deaths (including trend analysis)

A written summary includes a discussion of the age and sex profile, prevalence and trends in incidence and mortality for the cancer in question. A brief synopsis of the terms and methodologies used is provided below.

Incidence

The number of new cases of a cancer diagnosed in Northern Ireland for a particular period.

Mortality

The number of patients whose primary cause of death was the specified cancer during a particular period.

Age-Specific Rate

The number of cases per head of population for a particular age-group (0-4, 5-9, 10-14, …, 80-84, 85+ years). Reported as a rate per 100,000.

Prevalence

A measure of the burden of cancer in a population at a particular point in time. For the purposes of this Report, prevalence was estimated by counting the number of patients diagnosed between 01 January 1993 and 31 December 2001 with a specific cancer, who were still alive on 31 December 2001.

Trend Analysis

Cancer trends presented in this report are calculated using the Joinpoint Regression Program[1]. The program uses a non-linear regression model, also known as a piecewise regression model, to describe changes in trend data. Significant trends are discussed in terms of an average increase/decrease in the number of cases or deaths per 100,000 males or females per year.

The written summary precedes the main summary tables which detail incidence and mortality measures by sex for 1993 and 2001 (the first and last years for which data are available). Although a technical definition of each measure appears in the Glossary of Terms at the back of the book, a brief synopsis is provided below.

Crude Rate
The number of cases or deaths per head of population, reported as a rate per 100,000.

Cumulative Risk
The lifetime (0-74 years) chance of developing/dying from the cancer site. Usually expressed as a percentage.

Odds (1 in ...)
The odds of being diagnosed with/dying from cancer in a lifetime (0-74 years).

European Age Standardised Rate (EASR)
A rate used to permit comparisons with other European countries. This rate adjusts for differences in national population age structures by adopting a notional standard population. Reported as a rate per 100,000.

% of all cancers
The contribution made by that specific cancer to the total number of cancers.

Age Profile
The number of cases and age-specific incidence rates per 100,000 are reported next in graphical form.

Age-Standardised Incidence and Mortality Rates
European age-standardised incidence and mortality rates by sex and year of diagnosis are plotted on one graph.

Survival
A discussion of the survival rates for the cancer in question is next.

Relative Survival
The survival time for a cancer patient is defined as the time elapsed between diagnosis and death. The estimation of patient survival is complicated by the fact that some patients die of causes unrelated to the cancer of interest. To allow for the deaths due to other diseases, survival is expressed as relative survival rate (RSR). Relative survival is the ratio of the observed survival divided by the survival that the patients would have experienced if they had the same probability of dying as the general population having the same age and sex. Relative survival estimates, with associated 95% confidence intervals, are presented here for two periods; 1993-1995 and 1996-1999. Survival by stage is also presented for cancer of the breast, cervix, colon, rectum and ovary (with and without borderline tumours), and for malignant melanoma. Survival by cell type is presented for cancer of the lung.

Treatment
Treatment information is presented for selected sites. Information provided includes the proportions of patients receiving chemotherapy, radiotherapy and surgery.

Geographical Variation
The geographical distribution of disease is given next and is based on pooled data for the entire period (1993-2001), where significant variation is evident at local government district level. Maps based on Standardised Incidence Ratios (SIRs) are presented. The SIRs provide a means of inter-area comparison, taking account of the variation in age structure between areas. Areas are indexed relative to a Northern Ireland figure of 100 with areas above or below this value having an excess or deficit respectively.

For example, male lung cancer in Belfast has an SIR value of 147, indicating that Belfast had an excess of 47% in incidence over what would be expected if the Northern Ireland rate applied to Belfast. Conventional statistical confidence intervals (significant at 5%) are used here to indicate areas with significantly high or low levels of disease. Further to the example, the 95% confidence limits for male lung cancer in Belfast were 139-154. As the lower confidence limit is above 100, this indicates that the excess in Belfast was statistically significant and had only a 1 in 20 probability of being that high by chance alone.

SIRs are essentially a comparison of observed numbers of cases (in the above example, for Belfast) with expected numbers (Northern Ireland). Comparing observed and expected numbers of cancers is problematic when very small numbers are involved, as these invariably lead to wider confidence intervals, thus rendering the SIR estimate unstable and unreliable. In this Report, for the majority of cancer sites, SIRs are presented for males and females separately. However, for those cancer sites with an average annual incidence of around 100 cases or less, SIRs are presented for both sexes combined, thus avoiding the issues raised by wide confidence intervals. Caution should be exercised however in the interpretation of SIRs (at district council level) for the less common cancers. Where confidence intervals surrounding a particular SIR are wide, the number of cases upon which the SIR is based is presented.

Socioeconomic Trends

This section consists of a discussion of any socioeconomic trends in incidence and mortality. European age-standardised incidence and mortality rates are also plotted, by sex and deprivation quintile, on one graph.

In July 2001, the Northern Ireland Statistics and Research Agency (NISRA) published a report (The Northern Ireland Multiple Deprivation Measure (2001), NISRA Occasional Paper Number 18) on the geographical distribution of relative deprivation in Northern Ireland. The research was conducted by the Social Disadvantage Research Centre at the University of Oxford, by a team led by Mike Noble, with support from Queen's University Belfast. The report produced an economic deprivation score for each of the 3,729 Enumeration Districts (EDs) (typical population size of 450 people and based on the 1991 Census). For this Report, the EDs were ranked according to their deprivation score and divided into quintiles, each containing a fifth of the population. Quintile 1 consists of the least deprived EDs, whilst quintile 5 holds the most deprived EDs. The Central Postcode Directory was used to allocate a patient's postcode at diagnosis/death (when examining incidence/mortality by deprivation) to an ED, therefore enabling a deprivation quintile to be assigned. 1991 Census ED populations for each sex and five year age band were obtained from the Census Office, and subsequently assigned and aggregated to each deprivation quintile. For a particular cancer, the age-specific rates were calculated using the incidence/mortality data for that quintile, along with the appropriate quintile population.

Discussion

Next, a discussion of the general epidemiology and aetiology of the disease is provided.

References

Each chapter concludes with a listing of references used within the text of each chapter.

1 Kim HJ, Fay MP, Feuer EJ, Midthune DN. *Permutation Tests for Joinpoint Regression with Applications to Cancer Rates.* Stat Med 2000;19:335-51 (correction: 2001;20:655).

1: All Cancers (C00-C97)

Key Facts

- **New cases: 4,211 in males & 4,350 in females each year, includes non-melanoma skin cancers**
- **1,871 males & 1,742 females die annually**

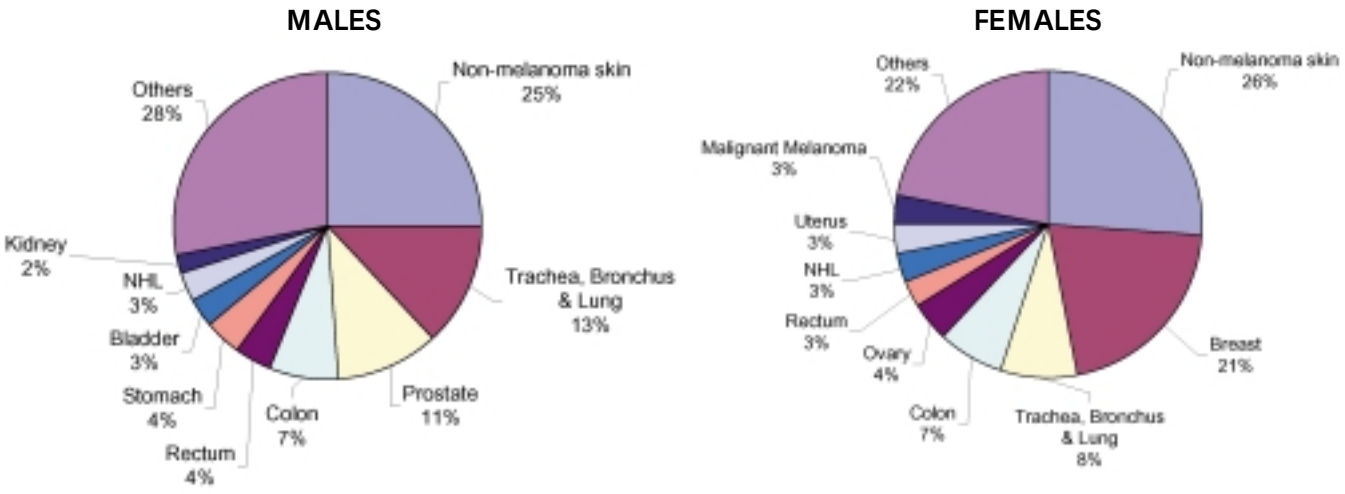
EXCLUDING NON-MELANOMA SKIN CANCERS

- **New cases: 3,095 in males & 3,269 in females each year**
- **Levels in males are falling by 41 cases per year**
- **1,864 males & 1,737 females die annually: 29 fewer deaths in males per year**
- **Incidence & mortality in males higher in more deprived areas**
- **9,853 males & 13,935 females diagnosed 1993-2001, still alive end of 2001**

Incidence

An average of 4,211 males and 4,350 females were diagnosed as having cancer each year. This included 1,116 males and 1,081 females with non-melanoma skin (NMS) cancer which is usually successfully treated by removal and caused only 12 deaths per year. The rest of this chapter relates to cancer excluding NMS cancer which is covered in chapter 10. Many registries do not report NMS cancer, as it causes few deaths but it is included in the Report for completeness.

Most Commonly Diagnosed Cancers (1993-2001) (%) in Northern Ireland by Site and Sex for All Ages



All Cancers Excluding Non-Melanoma Skin (C00-C97, Excluding C44)

Incidence

An average of 3,095 males and 3,269 females were diagnosed as having a malignant neoplasm (excluding NMS) each year 1993-2001, accounting for approximately 73% and 75% respectively of all cancers registered.

Age

Given the levels of incidence in 2001, the risk of getting cancer before the age of 75 years was 1 in 4 for both males and females (Table 1a) (1 in 3 if NMS cancers are included). Fifty percent of males were diagnosed under the age of 70 years, whilst for females it was 68 years. The average incidence (1993-2001) increased for both males and females up to age 70-74 years, and then began to decline (Figure 1a). However, the age-specific rates for the 75 and older age continued to increase due to the smaller older population. In general, although the numbers of new cases in older age-bands may be small, the age-specific rates can still increase, because the size of the population in the older age-band is also much reduced.

Prevalence

In Northern Ireland on 31st December 2001, there were 9,853 males and 13,935 females alive who had a malignant neoplasm (excluding NMS) diagnosed between 1993 and 2001. There were in addition more than 15,000 people who had NMS cancer which has excellent survival.

Deaths

Each year on average 1,864 males and 1,737 females died from malignant neoplasm (excluding NMS). Given the levels of mortality in 2001, the risk of dying from cancer before the age of 75 years was 1 in 6 for males and 1 in 9 for females (Table 1b).

Trends

Between 1993 and 2001, the EASRs for incidence and mortality in males decreased significantly ($P<0.001$) by an average of 5.1 and 3.4 cases per 100,000 per year respectively, representing 41 fewer cases and 29 fewer deaths each year.

There were no statistically significant trends in the EASRs for incidence or mortality in females (Figure 1b).

Table 1a: Incidence of All Cancers Excluding NMS in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	3125	3153	3188	3232
Crude Rate per 100,000	391.5	382.4	382.4	375.4
Cumulative Risk (0-74yrs) (%)	28.8	27.6	24.0	23.0
(Lifetime risk to 74 years) Odds, 1 in:	3	4	4	4
EASR per 100,000 (95% CI)	430.4 (415.2, 445.5)	391.6 (377.9, 405.3)	349.9 (337.3, 362.6)	331.9 (320.0, 343.7)
% of all cancers	76	74	74	76

Table 1b: Mortality of All Cancers Excluding NMS in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	1881	1912	1736	1732
Crude Rate per 100,000	235.7	231.9	207.3	200.3
Cumulative Risk (0-74yrs) (%)	17.8	15.5	13.0	11.4
(Lifetime risk to 74 years) Odds, 1 in:	6	6	8	9
EASR per 100,000 (95% CI)	259.4 (247.6, 271.3)	234.5 (223.9, 245.1)	175.5 (166.8, 184.3)	156.7 (148.9, 164.5)
% of all cancers	99.8	99.7	99.5	99.1

Figure 1a: Number of Registrations and Age-Specific Incidence Rates per 100,000 for All Cancers Excluding NMS (averaged over the diagnostic period 1993-2001) by Sex for All Ages

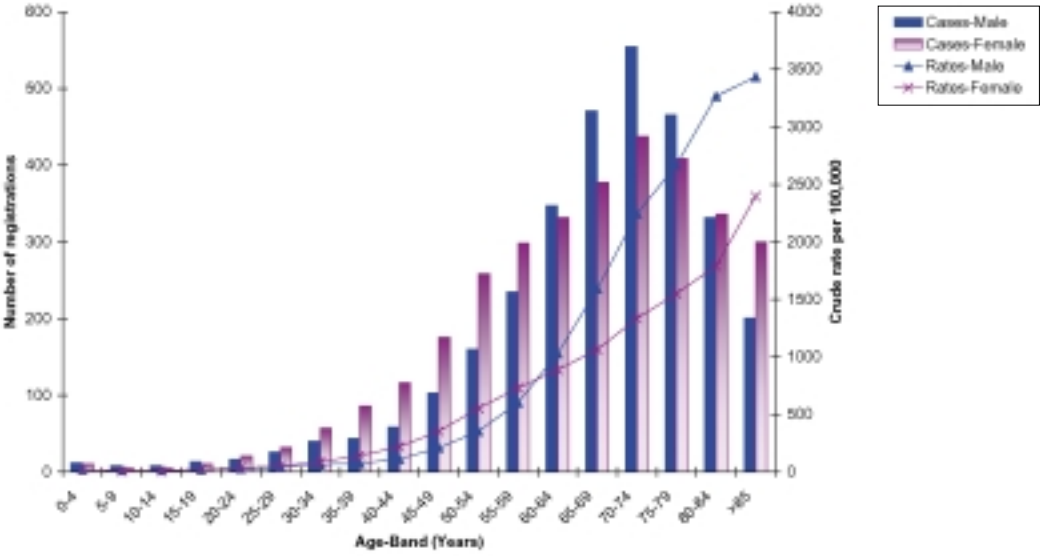
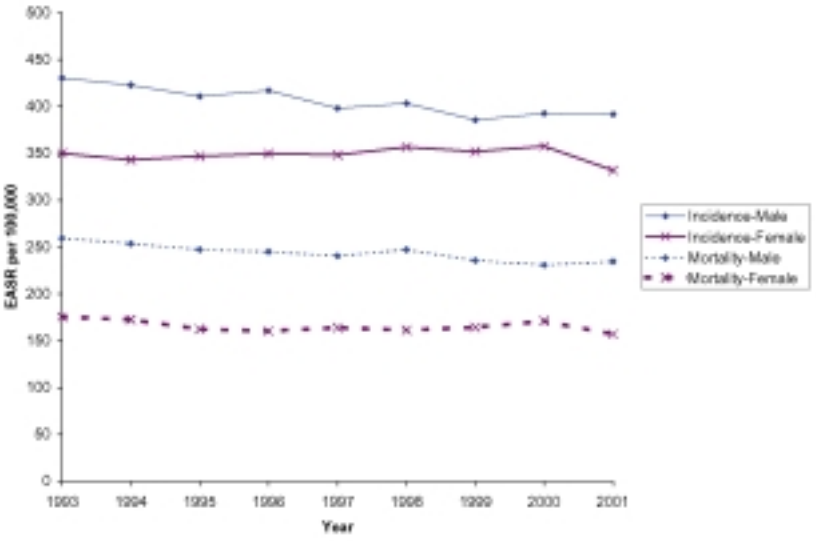


Figure 1b: European Age-Standardised Incidence and Mortality Rates of All Cancers Excluding NMS (1993-2001) by Sex for All Ages



Geographical Variation

The incidence rates of malignant neoplasms, excluding NMS, were comparable across Health Boards for both males (Figure 1c) and females, with a downward trend in males similar to that seen for Northern Ireland. On examination of the incidence by District Council, Belfast, Derry, Newry and Mourne, were found to have significantly high levels of cancer in males, with SIRs of 114 (95% CI 111, 117), 112 (95% CI 107, 118) and 107 (95% CI 101, 112) respectively (Figure 1d), whilst females in Derry had higher than expected incidence with an SIR of 108 (95% CI 102, 113) (Figure 1e).

Figure 1c: Incidence of All Cancers Excluding NMS in Males by Health Board for All Ages

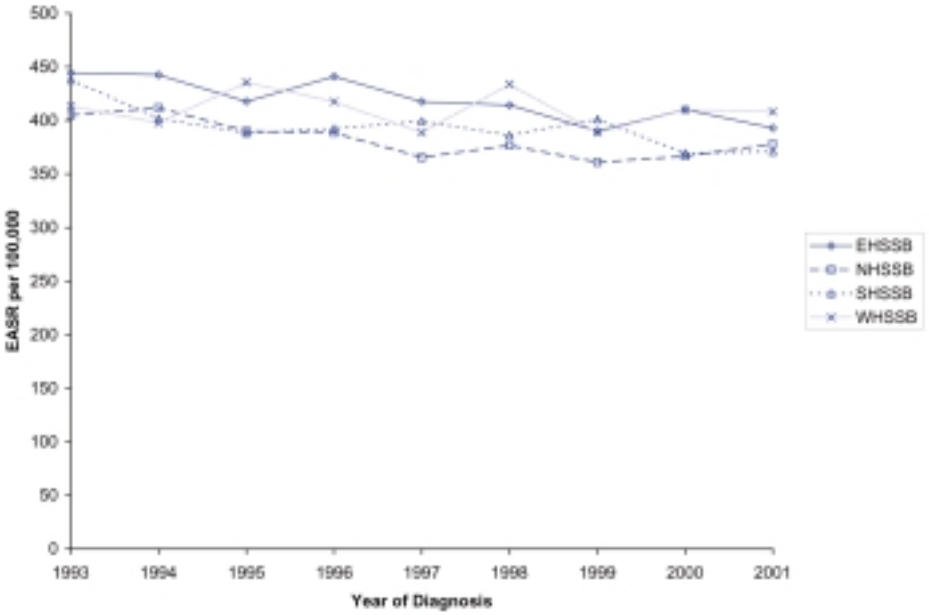


Figure 1d: Age-Standardised Incidence Ratios by District Council (1993-2001), All Cancers Excluding NMS for All Ages in Males

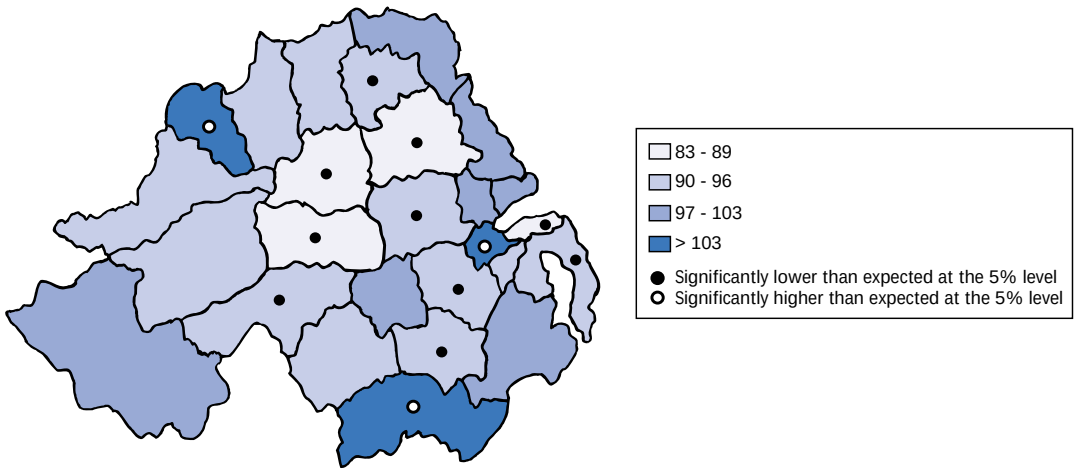
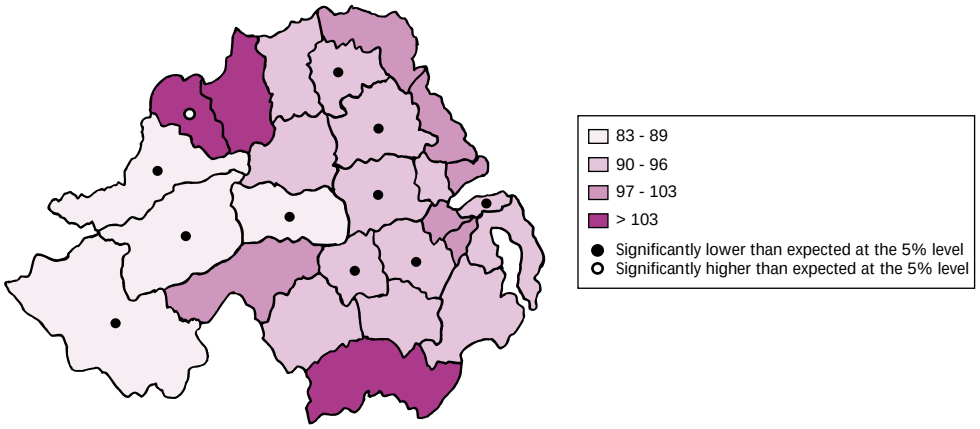


Figure 1e: Age-Standardised Incidence Ratios by District Council (1993-2001), All Cancers Excluding NMS for All Ages in Females

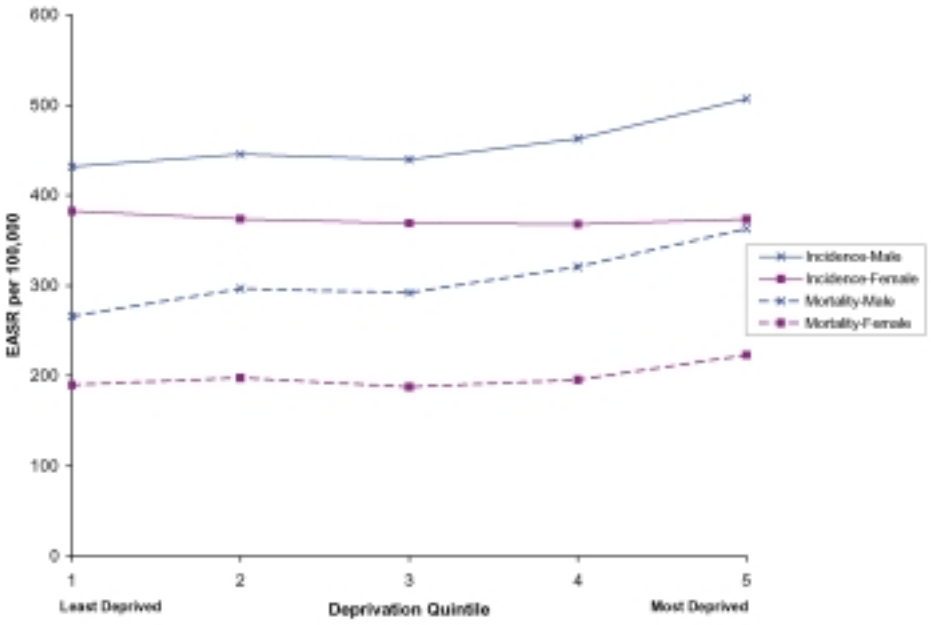


Socioeconomic Trends

In males as deprivation increased there were statistically significant increasing trends (P<0.05) in the EASRs for incidence and mortality for cancer (excluding NMS). For incidence in males, those living in the most affluent areas had an EASR of 431.9 which then rose to 507.1 per 100,000 for those living in the most deprived areas. The corresponding rates for mortality in males were 265.9 and 363.0 per 100,000 respectively.

There were no statistically significant trends in EASRs for incidence or mortality in females (Figure 1f).

Figure 1f: Age-Standardised Incidence and Mortality Rates of All Cancers Excluding NMS by Deprivation Quintile and by Sex for All Ages



Discussion

In Northern Ireland, as in many western countries, cancer levels are falling in males but not in females. The rate of fall for males in Northern Ireland is comparable with that reported recently for the UK[1]. This fall reflects the reduction in tobacco consumption among males and a decline in tobacco related cancers. Much health improvement could be achieved by further reductions in tobacco consumption. It is known that cancer is more common in less affluent groups, largely driven by higher levels of tobacco consumption[2]. In women this pattern is lost due to the higher levels of breast and ovarian cancer in affluent women.

Cancer is a disease more common with increasing age, as demonstrated by the fact that half of cases diagnosed in Northern Ireland are over 70 years for males and over 68 years for females. There are at least 40,000 people in Northern Ireland who have had a diagnosis of cancer and are currently alive. This includes many who are cured, but some continue to need treatment and care and the Health Services need to plan for this.

The higher levels in the urban areas is not a new pattern, nor is it unusual to Northern Ireland. The higher levels of cancer reported in urban areas are related to pockets of deprivation and associated higher levels of tobacco use.

References

1 Cancer Research UK. *CancerStats Mortality - UK*. Feb 2004

2 International Agency for Research on Cancer; *Social Inequalities and Cancer.* Edited by Kogevinas M, Pearce N, Susser M and Boffetta P - IARC Publication 138, WHO 1997

2: Cancer of the Lip, Oral Cavity & Pharynx (C00-C14)

Key Facts

- **New cases: 97 in males & 48 in females each year**
- **Levels in males are falling by 5 cases per year**
- **33 males & 21 females die annually**
- **Five-year survival moderate at about 44%**
- **Incidence & mortality in males higher in the most deprived areas**
- **395 males & 185 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, oral cancer was the twelfth most common cancer in males and the seventeenth commonest in females. On average, 97 males and 48 females were diagnosed as having oral cancer each year 1993-2001, accounting for about 2% of male and 1% of female cancers registered.

Age

The median age at diagnosis was 65 years for males and 69 years for females. Given the levels of disease in 2001, the risk of getting oral cancer before the age of 75 years was 1 in 101 for males and 1 in 317 for females (Table 2a). The average annual incidence of oral cancer was highest in males aged 65-69 years and females 70-74 years, with the age-specific rates predominantly higher in males (Figure 2a).

Prevalence

In Northern Ireland on 31st December 2001, there were 395 males and 185 females alive who had oral cancer diagnosed between 1993 and 2001.

Deaths

Each year on average 33 males and 21 females died from oral cancer. In 2001, it was the nineteenth and twenty-third most common cause of cancer mortality in males and females respectively. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 318 for males and 1 in 692 for females (Table 2b).

Trends

Between 1993 and 2001, the EASRs for incidence of oral cancer in males decreased significantly ($P<0.01$) by an average of 0.6 cases per 100,000 per year. There was no statistically significant trend in the EASRs for incidence in females (Figure 2b).

In the same period, there were no statistically significant trends in EASRs for mortality in males or females (Figure 2b).

Table 2a: Incidence of Cancer of the Lip, Oral Cavity & Pharynx in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	108	90	54	41
Crude Rate per 100,000	13.5	10.9	6.5	4.8
Cumulative Risk (0-74yrs) (%)	1.3	1.0	0.4	0.3
(Lifetime risk to 74 years) Odds, 1 in:	79	101	257	317
EASR per 100,000 (95% CI)	15.4 (12.4, 18.3)	11.7 (9.3, 14.1)	5.4 (3.8, 6.9)	4.1 (2.8, 5.3)
% of all cancers	3	2	1	1

Table 2b: Mortality Due to Cancer of the Lip, Oral Cavity & Pharynx in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	38	35	9	20
Crude Rate per 100,000	4.8	4.2	1.1	2.3
Cumulative Risk (0-74yrs) (%)	0.5	0.3	0.1	0.1
(Lifetime risk to 74 years) Odds, 1 in:	205	318	1478	692
EASR per 100,000 (95% CI)	5.4 (3.6, 7.1)	4.5 (3.0, 6.0)	0.8 (0.2, 1.3)	1.9 (1.0, 2.9)
% of all cancers	2	2	<1	1

Figure 2a: Number of New Cases of Cancer of the Lip, Oral Cavity & Pharynx and Age-Specific Incidence Rates per 100,000 (averaged over the diagnostic period 1993-2001) by Sex

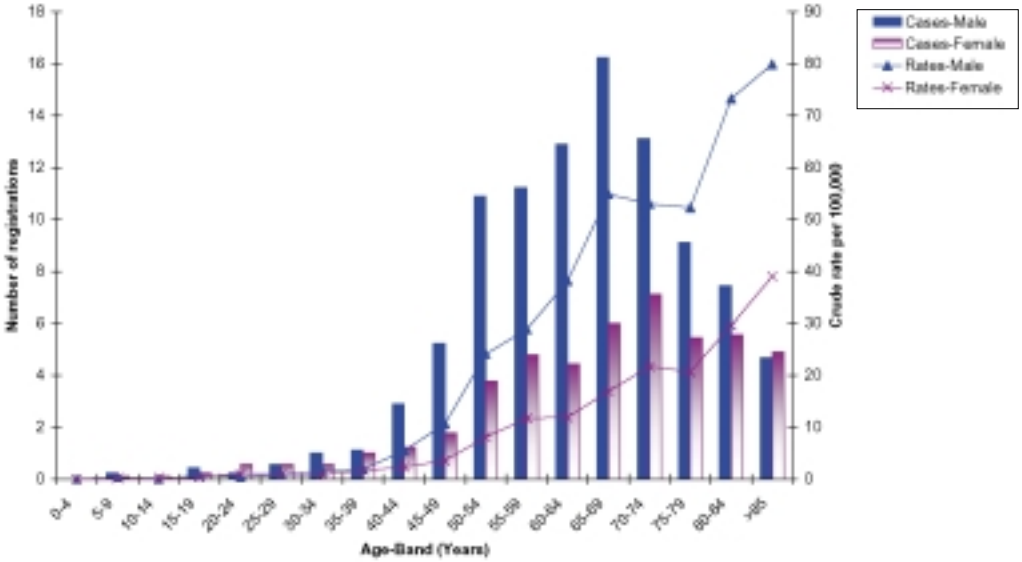
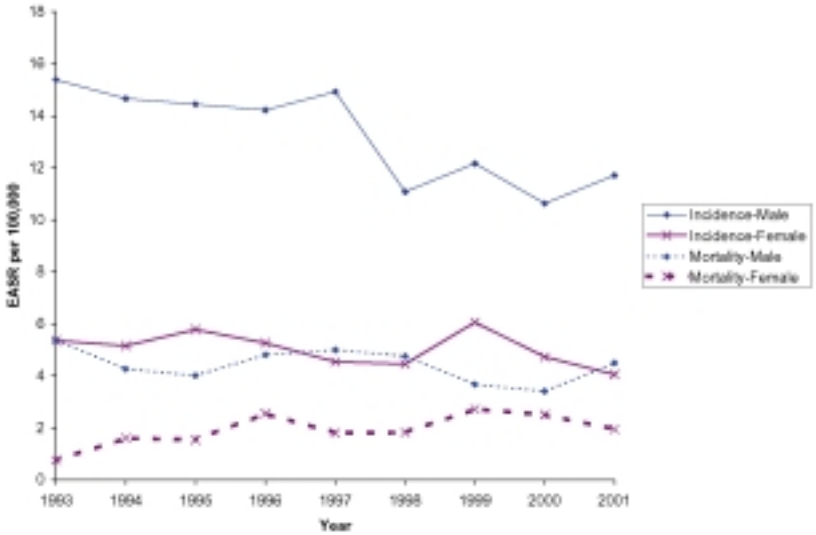


Figure 2b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Lip, Oral Cavity & Pharynx (1993-2001) by Sex for All Ages



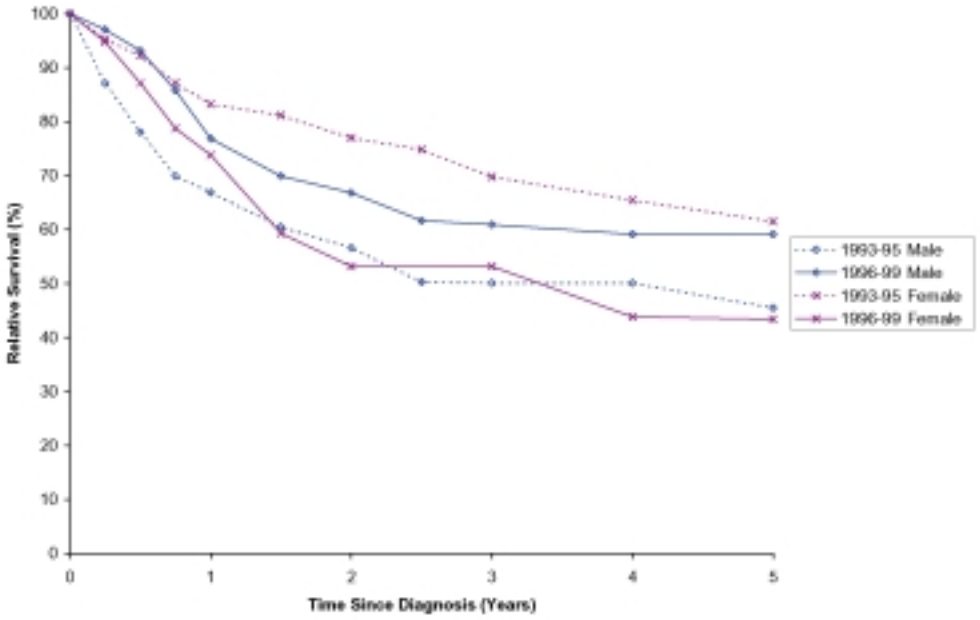
Survival

Survival is moderate, differences recorded do not reach statistical significance (Table 2c, Figure 2c).

Table 2c: One and Five-year Relative Survival (%) (95% Confidence Interval) for Cancer of the Lip, Oral Cavity and Pharynx Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Males	1993-95	66.9 (52.5, 77.8)	45.5 (30.9, 59.0)
	1996-99	76.9 (64.6, 85.3)	59.2 (45.0, 70.8)
Females	1993-95	83.3 (67.2, 91.9)	61.5 (43.1, 75.5)
	1996-99	73.8 (56.7, 85.0)	43.4 (25.5, 60.1)

Figure 2c: Cancer of the Lip, Oral Cavity & Pharynx Survival by Period of Diagnosis and Sex



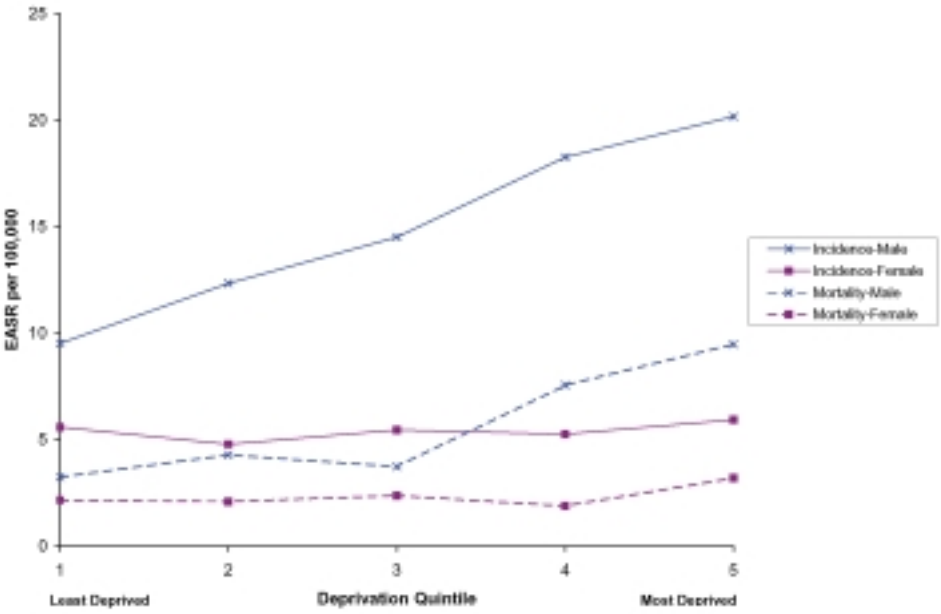
Geographical Variation

The population of Belfast District Council had significantly higher levels of oral cancers than Northern Ireland as a whole with an SIR of 119 (95% CI 105, 132).

Socioeconomic Trends

Males living in the most deprived areas had statistically significantly higher levels of incidence ($P<0.001$) and mortality ($P<0.05$) of oral cancer than those in the most affluent areas. For incidence in males, those living in the most affluent areas had an EASR of 9.5 which rose to 20.2 per 100,000 for those living in the most deprived areas. Whilst for mortality in males, the corresponding figures were 3.2 and 9.5 per 100,000 respectively. There were no statistically significant trends with deprivation for incidence or mortality in females (Figure 2d).

Figure 2d: Age-Standardised Incidence and Mortality Rates of Cancer of the Lip, Oral Cavity & Pharynx by Deprivation Quintile and by Sex



Discussion

Cancers of the oral cavity and pharynx are linked with tobacco and alcohol consumption. Recently a link with Human Papillomavirus has been reported[1]. Exposure to UV radiation from sunshine or sunbeds is known to be a risk factor for cancer of the lip[2]. Survival is best for patients with cancer of the lip, as it usually presents early and is easily accessible for treatment.

Oral cancer is strongly linked with deprivation, with the highest levels occurring in the most deprived groups[3]. The higher levels in Belfast probably indicate pockets of deprivation and higher associated tobacco use.

Symptoms of oral cancer may include;

- a mouth ulcer which is slow to heal or bleeds easily,
- a white or red patch in the mouth which does not go away,
- a lump or thickening in the mouth, throat or tongue,
- difficulty chewing or swallowing food,
- new, persistent pain.

Survival is best if the cancer is detected at an early stage. The falling levels of oral cancer in males probably reflect reduced tobacco consumption. Lower rates are possible if tobacco use could be further curtailed.

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3: Cancer of the Oesophagus (C15)

Key Facts

- **New cases: 93 in males & 61 in females each year**
- **88 males & 57 females die annually**
- **Five-year survival poor at 13%**
- **128 males & 96 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, oesophageal cancer was the ninth most common cancer in males and the fourteenth commonest in females. On average, 93 males and 61 females were diagnosed as having oesophageal cancer each year 1993-2001, accounting for about 2% and 1% of cancers registered in males and females respectively.

Age

The median age at diagnosis was 67 years for males and 75 years for females. Given the levels of disease in 2001, the risk of getting oesophageal cancer before the age of 75 years was 1 in 111 for males and 1 in 251 for females (Table 3a). The average number of new cases increased with age for males and females, peaking at 65-69 years and 70-74 years respectively (Figure 3a). However, the age-specific rates beyond this age continued to increase, with males having consistently higher rates of disease than females.

Prevalence

In Northern Ireland on 31st December 2001, there were 128 males and 96 females alive who had cancer of the oesophagus diagnosed between 1993 and 2001.

Deaths

Each year on average 88 males and 57 females died from oesophageal cancer. In 2001, it was the sixth and ninth most common cause of cancer mortality in males and females respectively. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 128 for males and 1 in 218 for females (Table 3b).

Trends

Between 1993 and 2001, there were no statistically significant trends in the EASRs for incidence or mortality in males or females (Figure 3b).

Table 3a: Incidence of Cancer of the Oesophagus in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	89	102	56	61
Crude Rate per 100,000	11.1	12.4	6.7	7.1
Cumulative Risk (0-74yrs) (%)	1.1	0.9	0.3	0.4
(Lifetime risk to 74 years) Odds, 1 in:	92	111	288	251
EASR per 100,000 (95% CI)	12.3 (9.7, 14.9)	13.0 (10.4, 15.5)	5.4 (3.9, 6.9)	5.5 (4.1, 6.9)
% of all cancers	2	2	1	1

Table 3b: Mortality Due to Cancer of the Oesophagus in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	76	90	50	60
Crude Rate per 100,000	9.5	10.9	6.0	6.9
Cumulative Risk (0-74yrs) (%)	0.8	0.8	0.3	0.5
(Lifetime risk to 74 years) Odds, 1 in:	121	128	336	218
EASR per 100,000 (95% CI)	10.8 (8.3, 13.3)	11.1 (8.8, 13.5)	4.4 (3.1, 5.7)	5.3 (3.9, 6.7)
% of all cancers	4	5	3	3

Figure 3a: Number of Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Oesophagus (averaged over the diagnostic period 1993-2001) by Sex

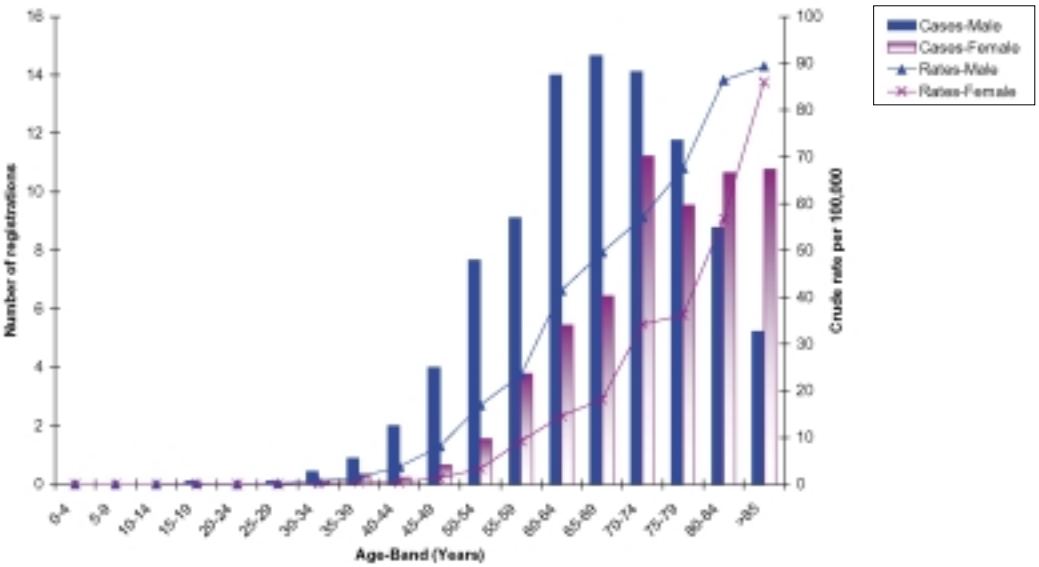
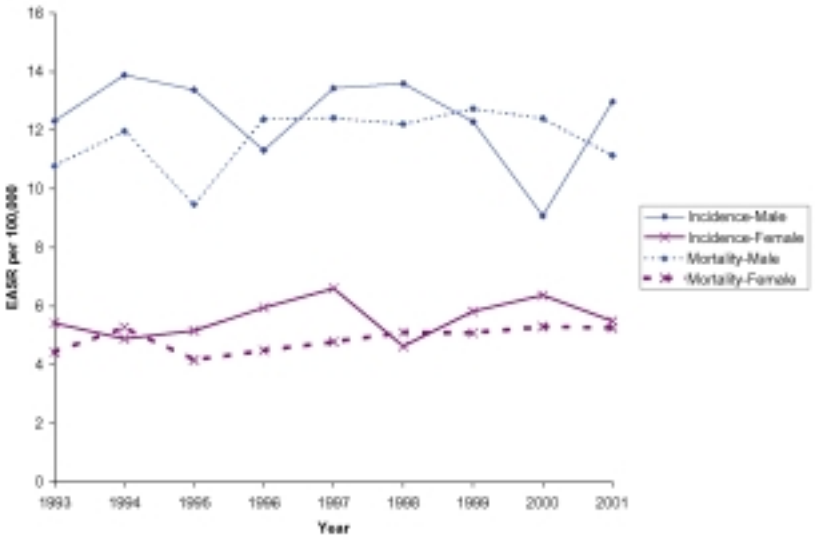


Figure 3b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Oesophagus 1993-2001 by Sex for All Ages



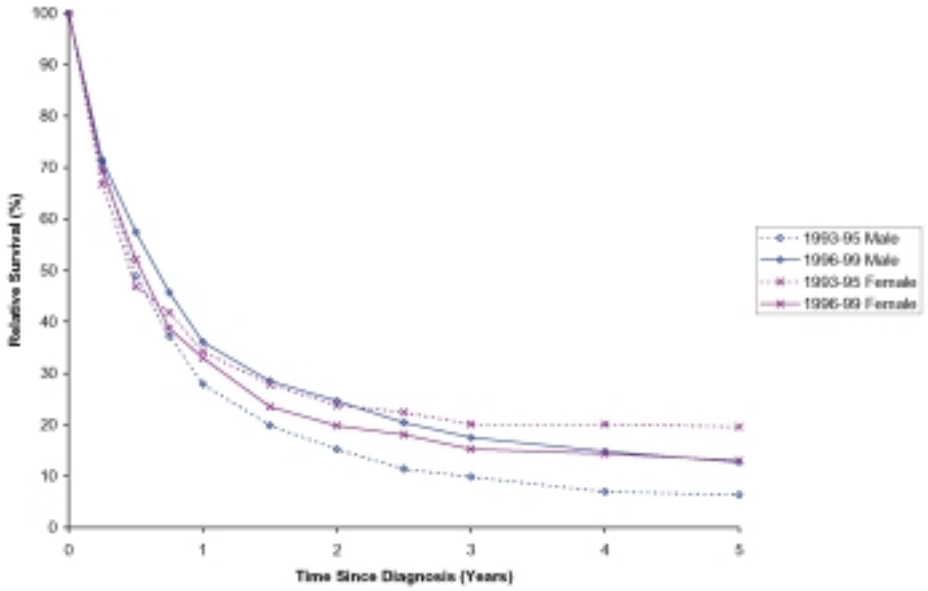
Survival

Survival for oesophageal cancer patients was poor, with our most recent (1996-99) five-year survival rate of only 13% (Table 3c). This was double the rate for males diagnosed in 1993-95 (five-year survival rate of 6.4%) (Figure 3c). This difference, though marked, was not statistically significant at the 5% level.

Table 3c: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Oesophagus Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Males	1993-95	27.9 (22.4, 33.7)	6.4 (3.6, 10.2)
	1996-99	36.1 (30.9, 41.3)	12.7 (8.9, 17.2)
Females	1993-95	34.2 (26.4, 42.2)	19.6 (12.9, 27.4)
	1996-99	33.0 (26.8, 39.3)	13.0 (8.4 18.6)

Figure 3c: Cancer of the Oesophagus Survival by Period of Diagnosis and by Sex



Treatment

As seen by the survival rates of oesophageal cancer patients, many die within one-year of their diagnosis. Hence, treatment rates appear low. Of those patients diagnosed in 2001, 18% had radiotherapy, 24% had chemotherapy and 25% had surgery (Table 3d). Note patients may have undergone more than one treatment type.

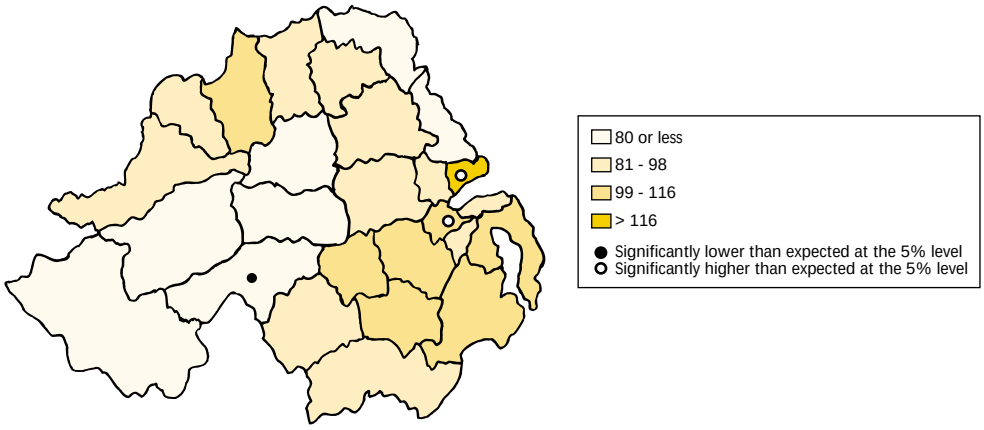
Table 3d: Treatment of Cancer of the Oesophagus Patients Diagnosed in 2001 by Sex

	No. of cases (%)		
	Males	Females	Persons
Radiotherapy	20 (20%)	10 (16%)	30 (18%)
Chemotherapy	26 (25%)	14 (23%)	40 (24%)
Surgery	27 (26%)	14 (23%)	41 (25%)

Geographical Variation

There was little difference in the EASRs for incidence of oesophageal cancer amongst the Health Boards. On examination of incidence by District Council, in males and females combined, both Belfast and Carrickfergus were found to have significantly high levels of the disease, with SIRs of 114 (95% CI 101, 126) and 151 (95% CI 107, 194) respectively (Figure 3d). Note, however, the wide confidence interval surrounding the estimate for Carrickfergus which had an average annual incidence of only 5 cases per year.

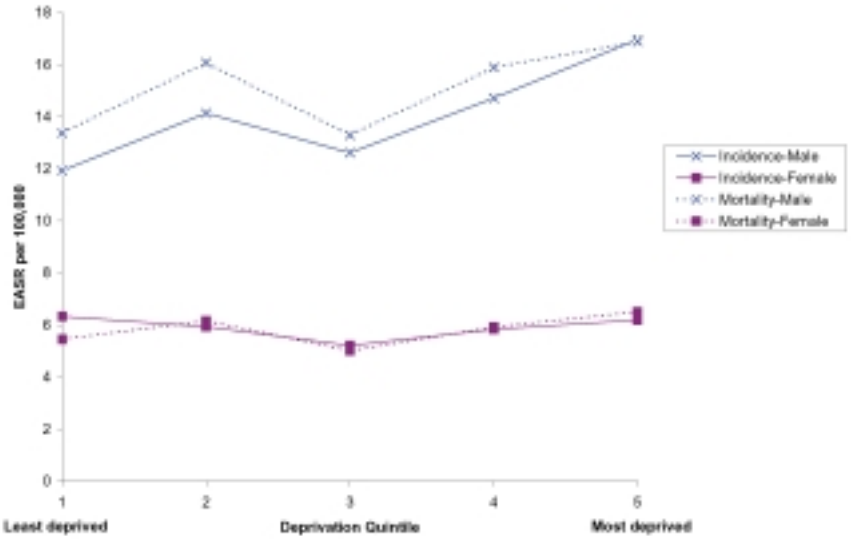
Figure 3d: Age-Standardised Incidence Ratios by District Council (1993-2001), Cancer of the Oesophagus for All Ages in Males and Females Combined



Socioeconomic Trends

There were no statistically significant trends in the EASRs for incidence or mortality of oesophageal cancer in males or females by deprivation (Figure 3e).

Figure 3e: European Age-Standardised Incidence and Mortality Rates of Cancer of the Oesophagus by Deprivation Quintile and by Sex



Discussion

Oesophageal cancer is more common in men (ninth most common cancer) than women (fifteenth most common cancer). There were no significant trends in either deaths or incidence for the period under study, although the incidence of oesophageal cancer is rising throughout Europe especially in males[1]. Oesophageal cancer is considered to be a cancer with poor survival[2]. There are currently over 200 people living in Northern Ireland who have had a diagnosis of oesophageal cancer.

There are two main types of oesophageal cancer;

1. Adenocarcinoma which is rising rapidly and found most commonly in the lower third of the oesophagus.
2. Squamous carcinoma found most commonly in the upper two thirds of the oesophagus.

The major risk factors for oesophageal cancer are tobacco, alcohol use and a diet low in fresh fruit and vegetables. Tobacco and alcohol can act together to give an even higher risk than either on their own. Patients with gastro-oesophageal reflux[3], including those with Barrett's Oesophagus[4], are at a higher risk of developing adenocarcinoma of the oesophagus. The N. Ireland Cancer Registry and the National Cancer Registry Ireland are currently involved in a major all-Ireland research project examining the causes of Barrett's Oesophagus and oesophageal adenocarcinoma.

Symptoms of oesophageal cancer may include pain and difficulty in swallowing.

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3 Lagergren J, Bergstrom R, Lindgren A, Nyren O. *Symptomatic Gastroesphageal Reflux as a Risk Factor of Esophageal Adenocarcinoma.* NEJM 1999; 340: 825-31

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4: Cancer of the Stomach (C16)

Key Facts

- **New cases: 157 in males & 101 in females each year**
- **113 males & 76 females die annually**
- **Five-year survival poor at 16%**
- **Incidence & mortality in males & females, higher in the most deprived areas**
- **260 males & 171 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, stomach cancer was the sixth most common cancer in males and the tenth commonest in females. On average, 157 males and 101 females were diagnosed as having stomach cancer each year 1993-2001, accounting for about 3% of male and 2% of female cancers registered.

Age

The median age at diagnosis was 71 years for males and 75 years for females. Given the levels of disease in 2001, the risk of getting stomach cancer was 1 in 69 for males and 1 in 161 for females (Table 4a). The number of new cases increased with age up to 70-74 years for males and 80-84 years for females, with the age-specific rates consistently higher in males than females (Figure 4a).

Prevalence

In Northern Ireland on 31st December 2001 there were 260 males and 171 females alive who had cancer of the stomach diagnosed between 1993 and 2001.

Deaths

Each year on average 113 males and 76 females died from stomach cancer. In 2001, it was the fourth and seventh most common cause of cancer mortality in males and females respectively. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 118 for males and 1 in 215 for females (Table 4b).

Trends

Between 1993 and 2001, there were no statistically significant trends in the EASR, for incidence and mortality of stomach cancer in males or females (Figure 4b).

Table 4a: Incidence of Cancer of the Stomach in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	151	149	105	103
Crude Rate per 100,000	18.9	18.1	12.6	12.0
Cumulative Risk (0-74yrs) (%)	1.8	1.5	0.6	0.6
(Lifetime risk to 74 years) Odds, 1 in:	56	69	158	161
EASR per 100,000 (95% CI)	20.9 (17.5, 24.3)	17.8 (15.0, 20.7)	9.9 (7.9, 11.9)	8.6 (6.9, 10.3)
% of all cancers	4	3	2	2

Table 4b: Mortality Due to Cancer of the Stomach in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	126	97	67	77
Crude Rate per 100,000	15.8	11.8	8.0	8.9
Cumulative Risk (0-74yrs) (%)	1.4	0.9	0.4	0.5
(Lifetime risk to 74 years) Odds, 1 in:	71	118	273	215
EASR per 100,000 (95% CI)	17.2 (14.1, 20.2)	11.8 (9.4, 14.2)	5.9 (4.4, 7.4)	6.2 (4.7, 7.7)
% of all cancers	7	5	4	4

Figure 4a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Stomach (averaged over the diagnostic period 1993-2001) by Sex

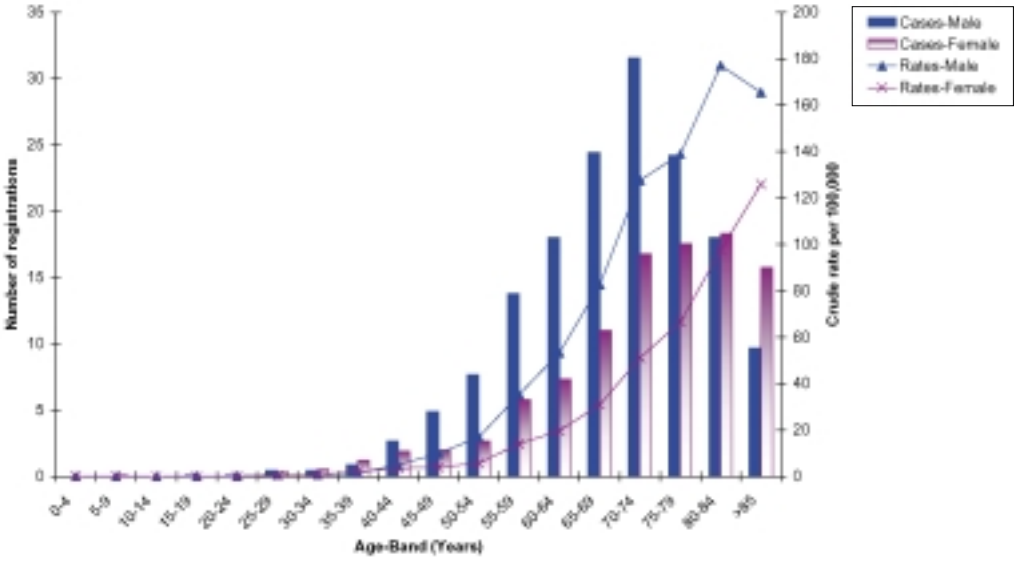
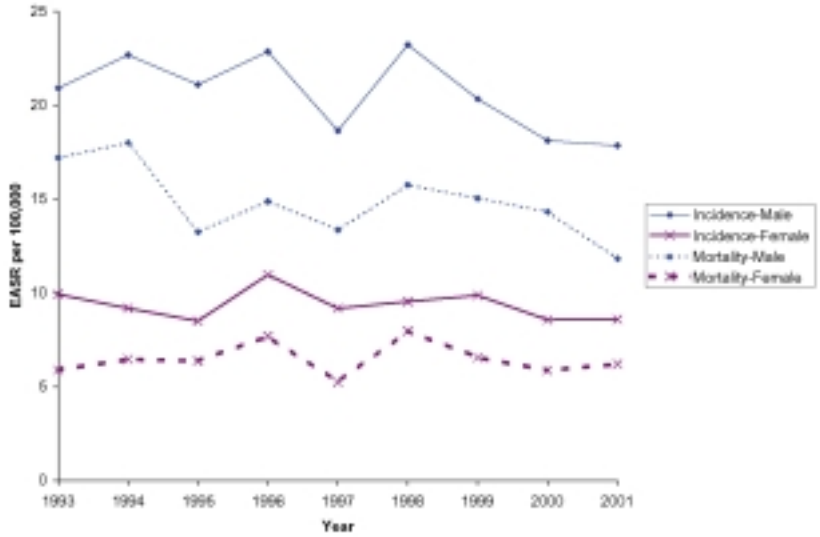


Figure 4b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Stomach (1993-2001) by Sex for All Ages



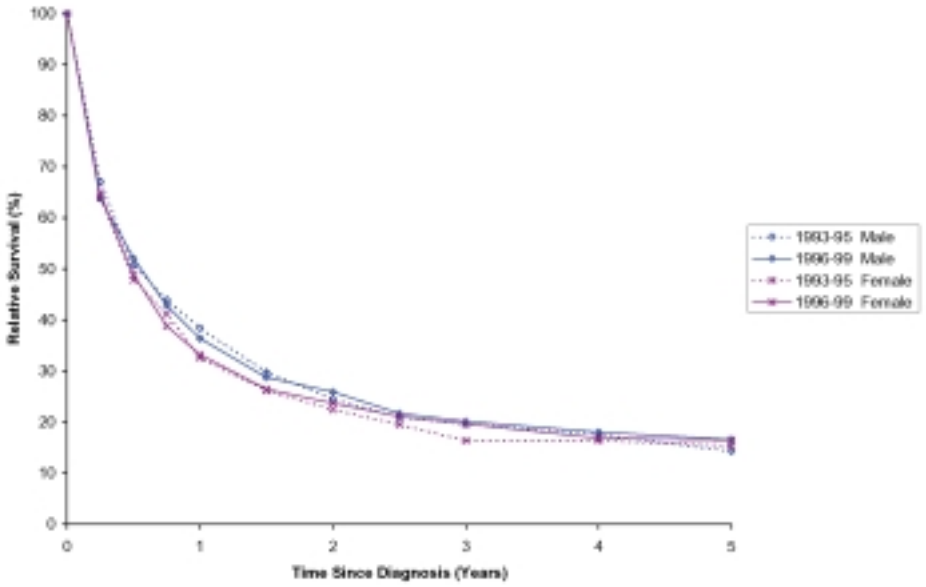
Survival

The five-year survival rates were similar for males and females, at around 16% (Table 4c), with little change in the rates between the two diagnostic periods (Figure 4c).

Table 4c: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Stomach Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Males	1993-95	38.4 (33.7, 43.1)	14.3 (10.8, 18.2)
	1996-99	36.4 (32.5, 40.3)	16.6 (13.3, 20.2)
Females	1993-95	32.6 (26.9, 38.5)	15.4 (10.8, 20.8)
	1996-99	33.2 (28.4, 38.1)	16.5 (12.6, 20.9)

Figure 4c: Cancer of the Stomach Survival by Period of Diagnosis and by Sex



Treatment

Of those patients diagnosed in 2001, 4% had radiotherapy, 21% had chemotherapy and 38% had surgery (Table 4d). Note patients may have undergone more than one treatment type.

Table 4d: Treatment of Cancer of the Stomach Patients Diagnosed in 2001 by Sex

	No. of cases (%)		
	Males	Females	Persons
Radiotherapy	6 (4%)	4 (4%)	10 (4%)
Chemotherapy	37 (25%)	15 (15%)	52 (21%)
Surgery	61 (41%)	36 (35%)	97 (38%)

Geographical Variation

The EASRs for incidence of cancer of the stomach were broadly similar across the four Health Boards. On examining incidence by District Council, Newry and Mourne was found to have higher than expected incidence of the disease in males (SIR of 164 (95% CI 133, 196)) and females (SIR of 137 (95% CI 101, 173)) (Figures 4d and 4e). However, note the wide confidence estimates surrounding each of these estimates, which were based on an annual average of 12 and 6 cases per year for males and females respectively. Significantly high levels of stomach cancer were also found in females resident in Belfast District Council, with an SIR of 116 (95% CI 101, 131).

Figure 4d: Age-Standardised Incidence Ratios by District Council (1993-2001), Cancer of the Stomach for All Ages in Males

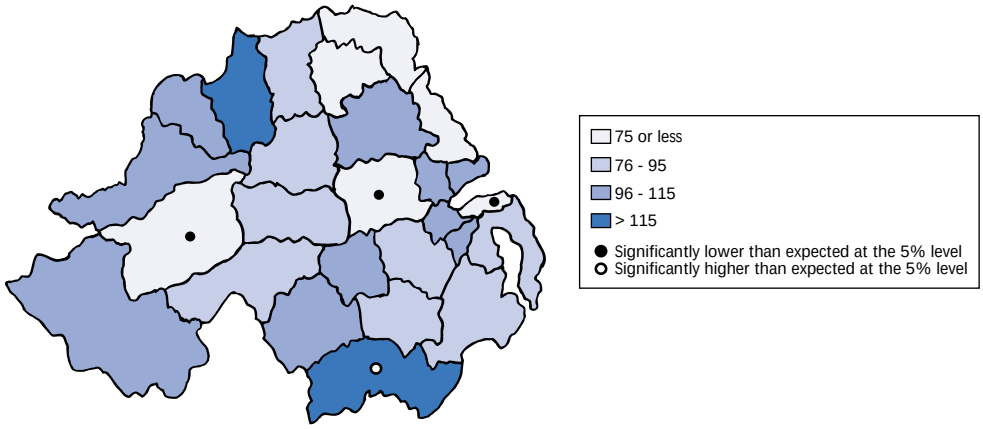
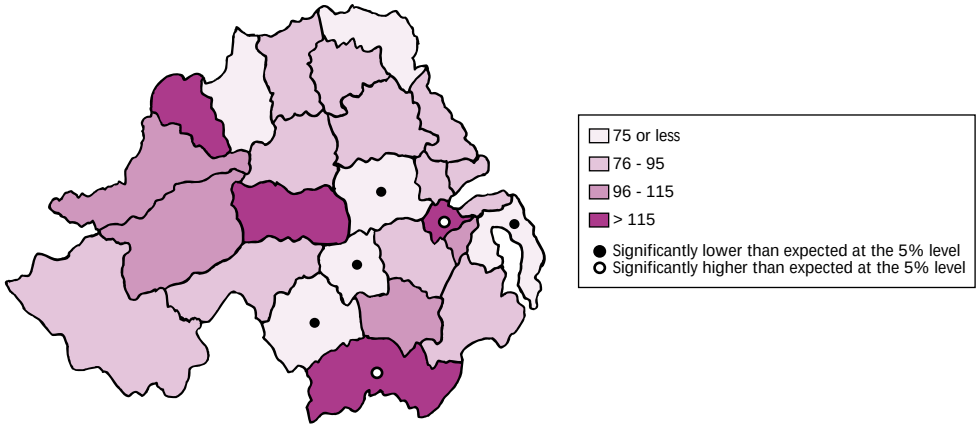


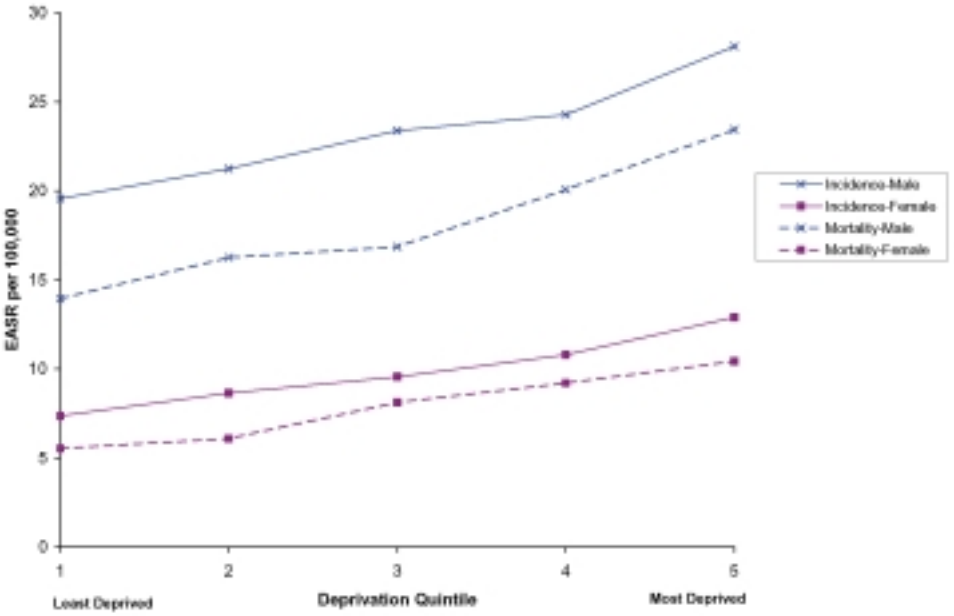
Figure 4e: Age-Standardised Incidence Ratios by District Council (1993-2001), Cancer of the Stomach for All Ages in Females



Socioeconomic Trends

There were statistically significant increasing trends in EASRs for incidence and mortality of stomach cancer in males (P<0.01) and females (P<0.001 incidence and P<0.01 mortality) with increasing deprivation (Figure 4f). For incidence in males, those living in the most affluent areas had an EASR of 19.6 which rose to 28.1 per 100,000 for those living in the most deprived areas. The corresponding rates for females were 7.4 and 12.9 per 100,000 respectively. For mortality in males, those residing in the most affluent areas had an EASR of 13.9 which rose to 23.5 per 100,000 for those in the most deprived areas, and in females the rates increased from 5.5 to 10.4 per 100,000 respectively.

Figure 4f: Age-Standardised Incidence and Mortality Rates of Cancer of the Stomach by Deprivation Quintile and by Sex



Discussion

Stomach cancer accounts for 1 in 25 cancers diagnosed in males and 1 in 50 cancers diagnosed in females. Rates vary widely throughout the world, with highest rates occurring in Korea and Japan, at almost 7 times that in the UK and 10 times that in USA. Rates have been falling dramatically over recent decades suggesting a major role for environmental factors in causation, particularly improvements in diet and food preservation[1]. Significant reductions in mortality have been documented in a previous NICR mortality report for the period 1969-93[2], but there was no significant downward trend detected here, which may reflect the small numbers and random variations as well as the relatively short period of trend analysis.

Stomach cancer is more common with increasing age, with half of the cases in males diagnosed over age 71 years and females over 75 years. Deprivation was shown to have a marked effect on both the incidence and mortality, with a significant trend of higher levels in more deprived areas.

There is epidemiological evidence of associations with salt, smoked and cured foods which contain N-nitroso compounds, nitrates and nitrites in preserved foods. Other risk factors that have been shown to be important for this cancer include tobacco use[3], low intake of fruit and vegetables in the diet[4] and infection with *Helicobacter pylori* bacteria[5]. These factors are more frequently found in lower socioeconomic groups and would help to explain the increased incidence and mortality in this group. *Helicobacter pylori* seropositivity has been recorded at 50% for the population in Northern Ireland[6]. Infection is more common in crowded living conditions, large families and low socioeconomic status. *Helicobacter pylori* can be treated with a course of antibiotics.

People with pernicious anaemia have a risk 2-3 times that of the general population of developing stomach cancer[7]. Ionisation radiation is also a risk factor.

Early stomach cancer may present with vague, non-specific symptoms such as indigestion, tiredness or loss of appetite. Unfortunately the majority of patients present with late disease and so survival is poor. Surgery is the main form of treatment.

Addressing tobacco and diet should reduce stomach cancer, as may treatment of *Helicobacter pylori.*

The higher level of stomach cancer detected in Newry and Mourne District Council area is a finding consistent with the mortality pattern from a previous report[2] and merits further investigation. The raised level among females in Belfast is a new finding and may represent random variation in the data.

Survival was poor at approximately 16% for five-years. There are about 430 people alive who have had a diagnosis of stomach cancer in the past.

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5: Cancer of the Colon (C18)

Key Facts

- **New cases: 301 in males & 312 in females each year**
- **Levels are falling by 6 cases in males & 8 cases in females per year**
- **155 males & 162 females die annually: Annually 6 less deaths in males & 4 in females**
- **Survival has improved, now about 55% of males & females survive five-years**
- **1,194 males & 1,249 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, colon cancer was the fourth most common cancer in males and females. On average, 301 males and 312 females were diagnosed as having colon cancer each year 1993-2001 representing approximately 7% of all cancers registered.

Age

The median age at diagnosis was 71 years for males and 73 years for females. Given the levels of disease in 2001, the risk of getting colon cancer before the age of 75 years was 1 in 35 for males and 1 in 54 for females (Table 5a). The average number of new cases increased with age for males and females, peaking at 70-74 years and 75-79 years respectively (Figure 5a). However, the age-specific rates beyond this age continued to increase, with males having consistently higher rates of disease than females.

Prevalence

In Northern Ireland on 31st December 2001, there were 1,194 males and 1,249 females alive who had colon cancer diagnosed between 1993 and 2001.

Deaths

Each year on average 155 males and 162 females died from colon cancer. In 2001, it was the third most common cause of cancer mortality in males and females. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 83 for males and 1 in 163 for females (Table 5b).

Trends

Between 1993 and 2001, the EASRs for incidence of colon cancer in males and females decreased significantly ($P<0.05$) by an average of 0.7 and 0.9 cases per 100,000 per year respectively (Figure 5b).

In the same period, both males and females demonstrated statistically significant downward trends in EASRs for mortality ($P<0.05$ and $P<0.01$ respectively). These corresponded to an average decrease in the mortality rate of 0.7 in males and 0.5 per 100,000 per year in females (Figure 5b).

Table 5a: Incidence of Cancer of the Colon in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	290	314	321	268
Crude Rate per 100,000	36.3	38.1	38.5	31.1
Cumulative Risk (0-74yrs) (%)	3.0	2.9	2.4	1.8
(Lifetime risk to 74 years) Odds, 1 in:	33	35	42	54
EASR per 100,000 (95% CI)	40.5 (35.8, 45.2)	38.9 (34.5, 43.2)	32.1 (28.4, 35.8)	24.6 (21.5, 27.6)
% of all cancers	7	7	7	6

Table 5b: Mortality Due to Cancer of the Colon in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	170	143	181	125
Crude Rate per 100,000	21.3	17.3	21.6	14.5
Cumulative Risk (0-74yrs) (%)	1.6	1.2	1.1	0.6
(Lifetime risk to 74 years) Odds, 1 in:	62	83	89	163
EASR per 100,000 (95% CI)	23.7 (20.1, 27.4)	17.7 (14.8, 20.6)	16.3 (13.8, 18.9)	9.9 (8.1, 11.7)
% of all cancers	9	7	10	7

Figure 5a: Number of Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Colon (averaged over the diagnostic period 1993-2001) by Sex

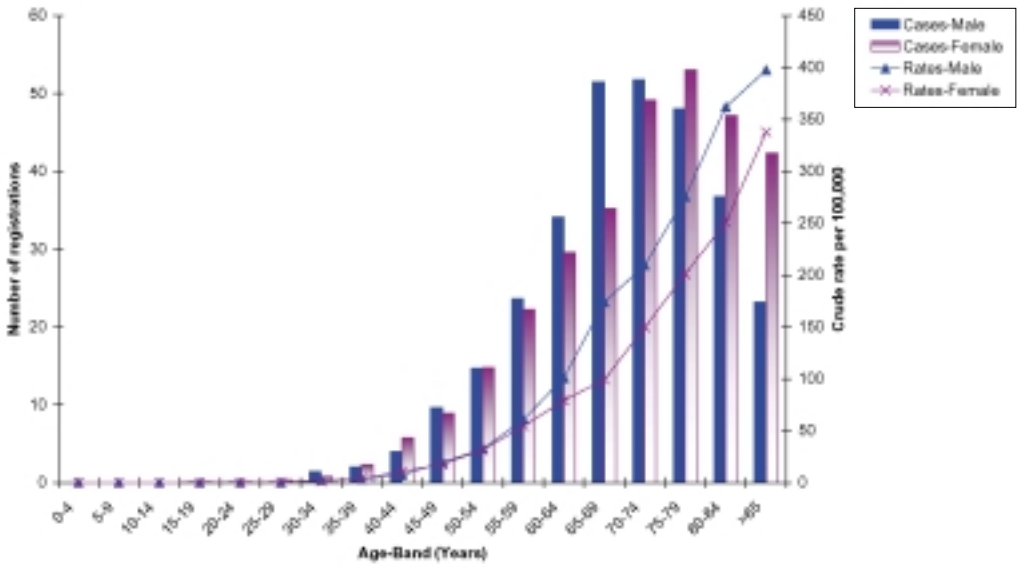
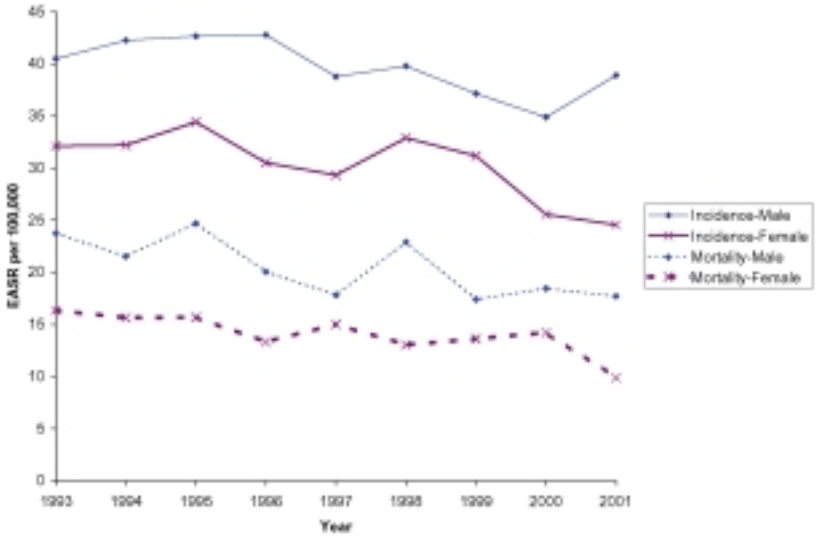


Figure 5b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Colon (1993-2001) by Sex for All Ages

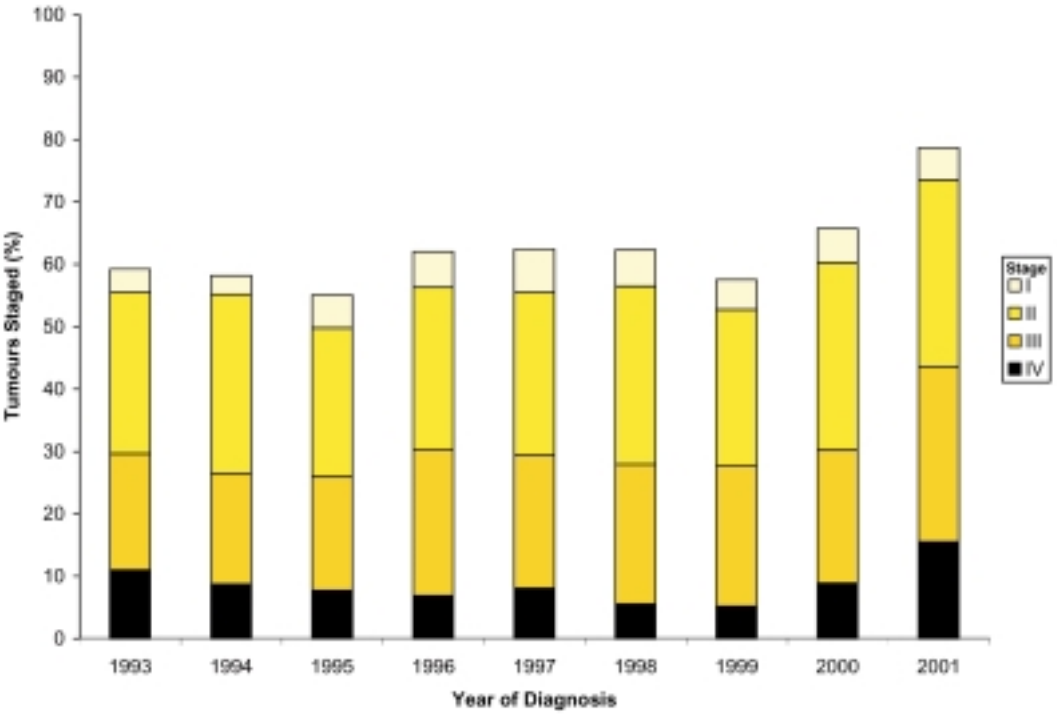


Staging

Staging information for colon cancers was available from two sources, histopathology reports, and the Northern Ireland Colorectal Registry, which was able to supply staging information on patients diagnosed from 1993 to 1999.

On average staging information was available for 62% of the tumours, which in 2001 were classified as Stage I (5%), II (30%), III (28%) and IV (15%), (Stage I being the earliest stage), equivalent to Dukes A, B, C and D respectively. Staging information was best recorded in 2001 due to an audit project carried out by NICR staff (41% unclassified in 1993 compared to 31% unclassified in 2001) (Figure 5c). Later Stage IV tumours are under-estimated as the Registry does not receive all the pertinent clinical information e.g. results of imaging techniques or clinical judgement.

Figure 5c: Percentage of Cancer of the Colon Cases by Stage and by Year of Diagnosis



Survival

The five-year survival rates were similar for males and females, with both sexes showing an improvement in survival in the later diagnostic period (1996-99), where almost 55% of males and females with cancer of the colon survived five-years (Table 5c, Figure 5d). However, survival is very dependent on the stage of presentation of disease (Table 5d, Figure 5e). Patients presenting with Stage I disease had a five-year survival rate of 97%, compared with 14% for patients with Stage IV disease.

The estimate for five-year survival of 14% for Stage IV tumours is higher than that reported for other countries[1]. This figure may be an overestimate, as many of the cases which are "Unstaged" are likely to be severe Stage IV tumours which consequently have a very poor prognosis.

Table 5c: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Colon Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Males	1993-95	68.8 (65.3, 72.0)	46.3 (42.1, 50.3)
	1996-99	75.0 (72.0, 77.7)	55.8 (51.9, 59.5)
Females	1993-95	67.5 (64.1, 70.6)	46.0 (42.2, 49.8)
	1996-99	72.4 (69.5, 75.0)	54.0 (50.5, 57.4)

Figure 5d: Cancer of the Colon Survival by Period of Diagnosis and by Sex

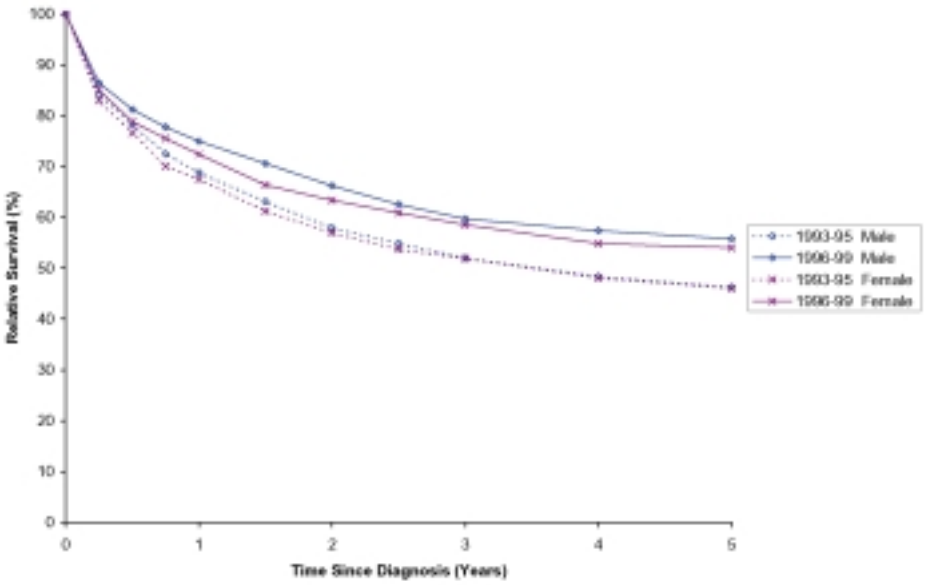
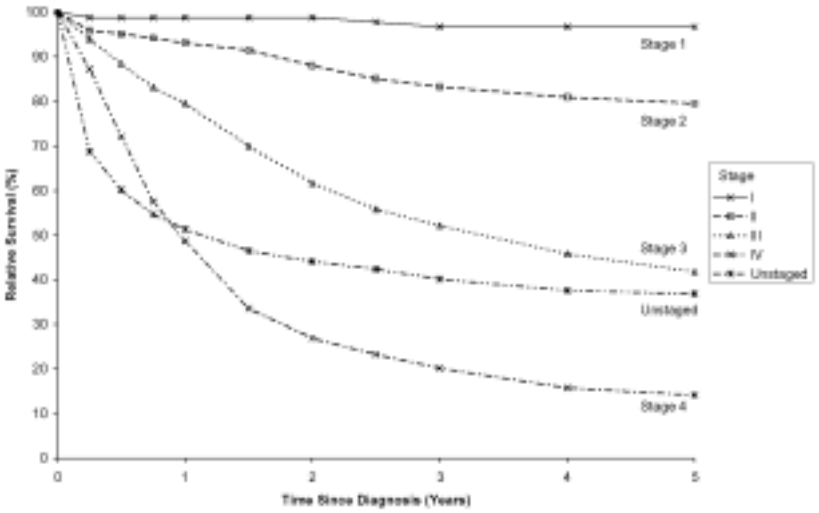


Table 5d: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Colon (15-99 years) Diagnosed in 1993-1999 by Stage

Stage	1-year (95% CI)	5-year (95% CI)
I	98.8 (86.0, 99.9)	96.7 (84.4, 99.3)
II	93.1 (90.9, 94.8)	79.6 (75.9, 82.7)
III	79.6 (76.4, 82.4)	41.8 (37.7, 45.8)
IV	48.7 (42.8, 54.2)	14.1 (10.2, 18.8)
Unstaged	51.4 (48.7, 53.9)	36.9 (34.0, 39.8)

Figure 5e: Cancer of the Colon Survival by Stage



Treatment

Of those patients diagnosed in 2001, almost 80% went on to have surgery, 2% had radiotherapy and 32% had chemotherapy (Table 5e). Note patients may have undergone more than one treatment type.

Table 5e: Treatment of Cancer of the Colon Patients Diagnosed in 2001 by Sex

	No. of cases (%)		
	Males	Females	Persons
Radiotherapy	8 (3%)	6 (2%)	14 (2%)
Chemotherapy	103 (33%)	84 (31%)	187 (32%)
Surgery	242 (77%)	219 (82%)	461 (79%)

Geographical Variation

The EASRs for incidence of colon cancer were similar in each of the Health Boards across the years. However, males (Figure 5f) and females (Figure 5g) in Newry and Mourne District Council had higher than expected incidence of the disease, with SIRs of 121 (95% CI 102, 141) and 120 (95% CI 101, 139) respectively.

Figure 5f: Age-Standardised Incidence Ratios by District Council (1993-2001), Cancer of the Colon for All Ages in Males

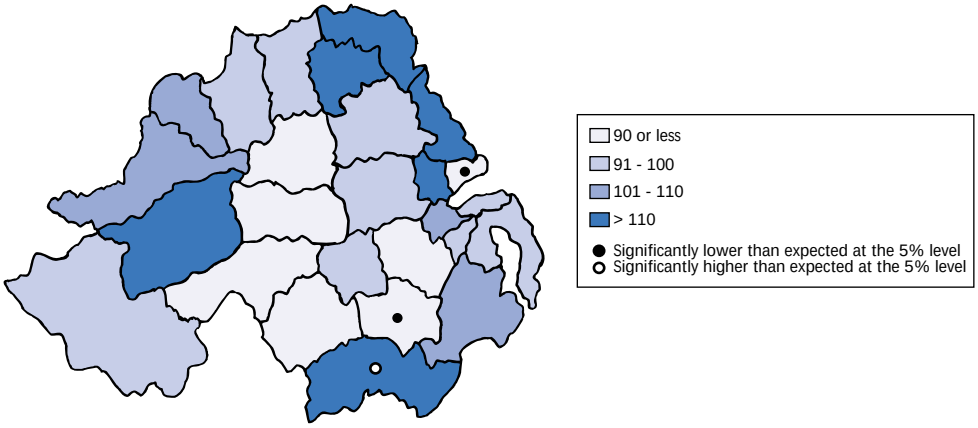
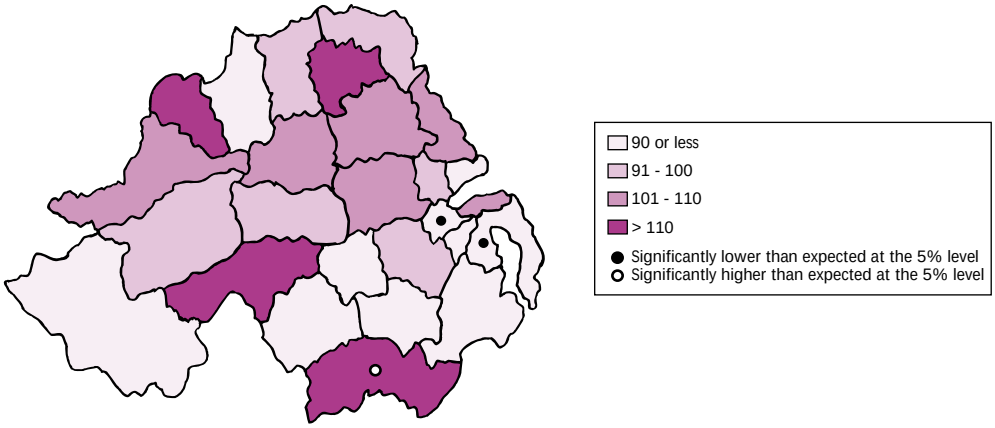


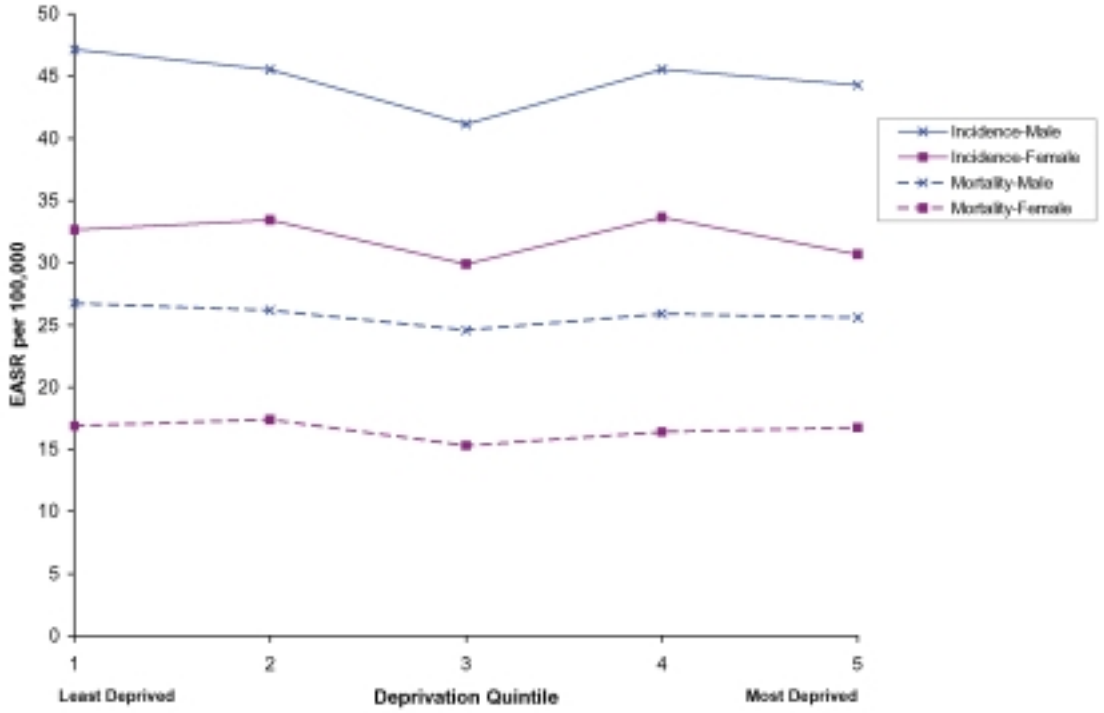
Figure 5g: Age-Standardised Incidence Ratios by District Council (1993-2001), Cancer of the Colon for All Ages in Females



Socioeconomic Trends

There were no statistically significant trends in the EASRs for incidence or mortality of colon cancer with deprivation in males or females (Figure 5h).

Figure 5h: European Age-Standardised Incidence and Mortality Rates of Cancer of the Colon by Deprivation Quintile and by Sex



Discussion

Cancer of the colon is more common in westernised countries than less developed countries, it accounts for 7% of cancers diagnosed in Northern Ireland. Rates of colon cancer here have consistently been higher than the rest of the UK, but are now falling in males and females. It is more common with increasing age, with half of the cases occurring in males over 71 years and females over 73 years. Up to approximately age 50 years rates are low but equal in males and females, while in 50 years and over rates are more common in males than females.

Over 90% of cases are adenocarcinoma. It is thought that these arise from adenomatous polyps which are common benign tumours.

Symptoms may vary, the commonest being abdominal pain, a change in bowel habit, anaemia and sometimes obstruction or perforation of the bowel.

Survival is directly related to the stage at which the tumour is detected, and has improved over time. A trial of screening using haemocult test of faeces to detect blood in stools is almost complete. This identifies persons at risk of having cancer and who should have further investigations. Reductions in mortality have been demonstrated in randomised trials[2, 3, 4].

Colon cancers are more common in people with chronic inflammatory disease of their bowels such as ulcerative colitis. Regular endoscopic examination of the colon is recommended in such cases.

Other high risk groups are those with a strong family history. This may be due to autosomal dominant inherited conditions such as Familial Adenomatous Polyposis (FAP). This accounts for 1% of colorectal cancers in western populations. These people have many benign polyps and a very high risk of cancer, so much so, that many have a total colectomy. Another condition is Hereditary Non-Polyposis Colorectal Cancer (HNPCC) which accounts for 5% of colorectal cancers. HNPCC is also associated with cancers of the endometrium, stomach and urinary tract.

Treatment of colon cancer is surgery with chemotherapy in selected cases. Survival is relatively good and has improved, with a five-year survival rate of around 55%. Higher survival is seen with earlier diagnosis and disease stage. There are at least 2,400 people living in Northern Ireland who have had a diagnosis of colon cancer.

Prevention

Evidence exists that diets with less red and processed meat and more vegetables are associated with a reduced risk of bowel cancer[5, 6]. There is some evidence that obesity may increase the risk of colon cancer, but not rectal cancer[7]. Physical exercise has been shown in epidemiological studies to reduce the risk of colon cancer by 40-50%[8] but not rectal cancer. The mechanism by which this is thought to work is by increasing the immune functions and reducing bowel transit time[9].

Some studies have shown that non-steroidal anti-inflammation drugs reduce the risk of colon and rectal cancer[10].

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7 Cancer Research Campaign (CRC). *CancerStats: Large Bowel - UK*. November 1999

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9 Cordain L, Latin RW, Behnke JJ. *The Effects of an Aerobic Running Program on Bowel Transit Time*. J Sports Med Phys Fitness 1986; 26: 101-4

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6: Cancer of the Rectum, Rectosigmoid Junction & Anus (C19-C21)

Key Facts

- **New cases: 178 in males & 139 in females each year**
- **63 males & 51 females die annually**
- **Half of patients survive five-years**
- **728 males & 600 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, rectal cancer was the fifth most common cancer in males and sixth commonest in females. On average, 178 males and 139 females were diagnosed as having rectal cancer each year, accounting for about 4% of male and 3% of female cancers registered.

Age

The median age at diagnosis was 69 years for males and 72 years for females. Given the levels of disease in 2001, the risk of getting rectal cancer before the age of 75 years was 1 in 46 for males and 1 in 85 for females (Table 6a). The average number of new cases increased with age for males and females, peaking at 70-74 years and 75-79 years respectively (Figure 6a). However, the age-specific rates beyond this age continued to increase, with males having consistently higher rates of disease than females.

Prevalence

In Northern Ireland on 31st December 2001, there were 728 males and 600 females alive who had cancer of the rectum diagnosed between 1993 and 2001.

Deaths

Each year on average 63 males and 51 females died from rectal cancer. In 2001, it was the eighth and tenth most common cause of cancer mortality in males and females respectively. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 171 for males and 1 in 292 for females (Table 6b).

Trends

Between 1993 and 2001, there were no statistically significant trends in EASRs for incidence or mortality of rectal cancer in males or females (Figure 6b).

Table 6a: Incidence of Cancer of the Rectum, Rectosigmoid Junction & Anus in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	184	199	128	151
Crude Rate per 100,000	23.1	24.1	15.4	17.5
Cumulative Risk (0-74yrs) (%)	2.1	2.2	0.9	1.2
(Lifetime risk to 74 years) Odds, 1 in:	47	46	109	85
EASR per 100,000 (95% CI)	25.7 (21.9, 29.5)	24.8 (21.4, 28.3)	13.1 (10.7, 15.6)	15.3 (12.8, 17.9)
% of all cancers	4	5	3	4

Table 6b: Mortality Due to Cancer of the Rectum, Rectosigmoid Junction & Anus in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	68	76	55	55
Crude Rate per 100,000	8.5	9.2	6.6	6.4
Cumulative Risk (0-74yrs) (%)	0.7	0.6	0.3	0.3
(Lifetime risk to 74 years) Odds, 1 in:	134	171	292	292
EASR per 100,000 (95% CI)	9.7 (7.4, 12.1)	8.9 (6.8, 10.9)	4.7 (3.4, 6.1)	4.6 (3.3, 5.9)
% of all cancers	4	4	3	3

Figure 6a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Rectum, Rectosigmoid Junction & Anus (averaged over the diagnostic period 1993-2001) by Sex

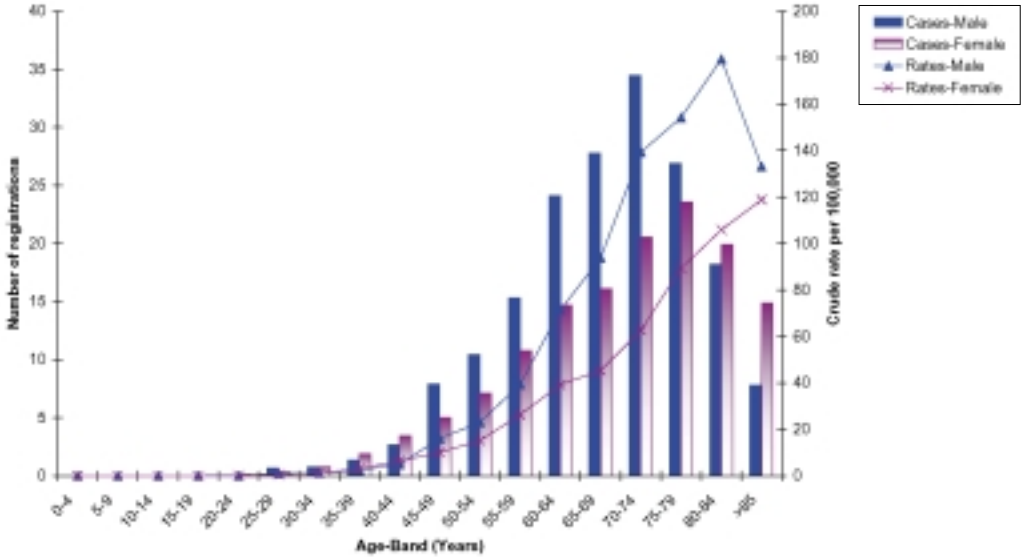
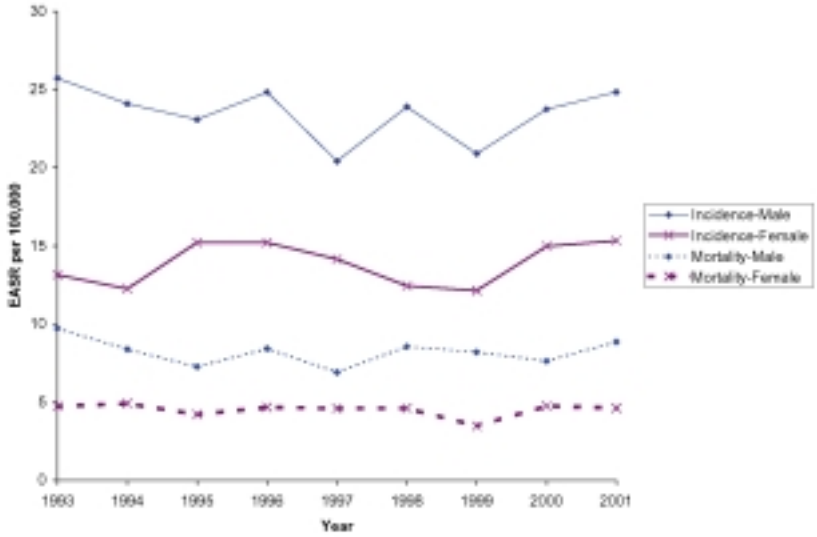


Figure 6b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Rectum, Rectosigmoid Junction & Anus (1993-2001) by Sex for All Ages



Staging

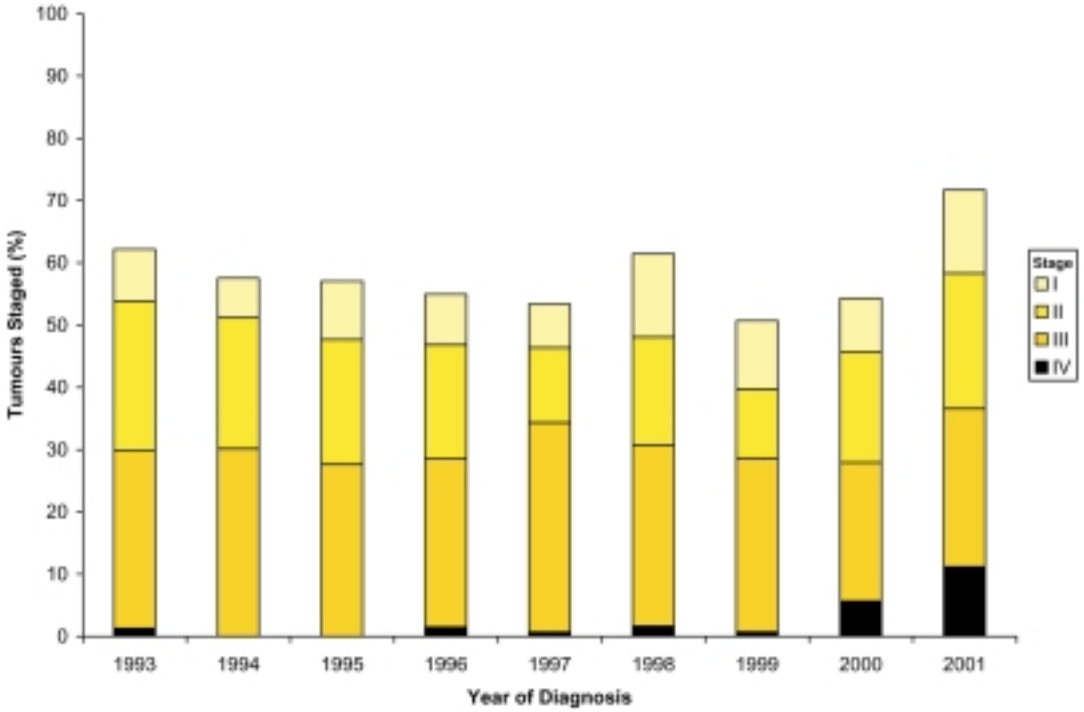
Staging information for rectal cancers was available from two sources, histopathology reports and the Northern Ireland Colorectal Registry which was able to supply staging information on patients registered with them 1993 to 1999.

On average staging information was available for 58% of the tumours, which for 2001 were classified as Stage I (13%), II (22%), III (25%) and IV (11%) (Stage I being the earliest stage), and equivalent to Dukes A, B, C and D respectively. Staging information was best recorded in 2001, due to an audit project carried out by NICR staff for that year (38% unclassified in 1993 compared to 28% unclassified in 2001) (Figure 6c).

The variable number of late Stage IV tumours reflects the difficulty for the NICR in obtaining information from imaging techniques and clinical data to classify this stage. The recording of the other three stages was relatively constant throughout the period.

It also means that people with very late Stage IV tumours who die very soon after diagnosis, may be underrepresented in our Stage IV grouping. This would lead to an improved survival of this stage than would be the case if all cancers were staged.

Figure 6c: Percentage of Cancer of the Rectum, Rectosigmoid Junction & Anus Cases by Stage and Year of Diagnosis



Survival

The five-year survival rates were similar for males and females, and for both periods, with over 50% of males and females with cancer of the rectum surviving five-years (1996-99) (Table 6c, Figure 6d). Survival is very dependent on the stage of disease at presentation (Table 6d, Figure 6e). Patients presenting with Stage I disease had a five-year survival rate of 90%, compared to 16% for patients with Stage IV disease. As already mentioned in the colon chapter, it is possible that our estimate for five-year survival in Stage IV rectal patients is an overestimate. This may be due to the high number of "Unstaged" tumours which may contain those Stage IV tumours with very poor prognosis.

Table 6c: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Rectum, Rectosigmoid Junction & Anus Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Males	1993-95	73.8 (69.3, 77.7)	46.8 (41.5, 51.9)
	1996-99	77.3 (73.4, 80.5)	52.2 (47.1, 57.1)
Females	1993-95	73.8 (68.6, 78.4)	44.7 (38.7, 50.4)
	1996-99	79.4 (75.2, 83.0)	51.1 (45.3, 56.5)

Figure 6d: Cancer of the Rectum, Rectosigmoid Junction & Anus Survival by Period of Diagnosis and by Sex

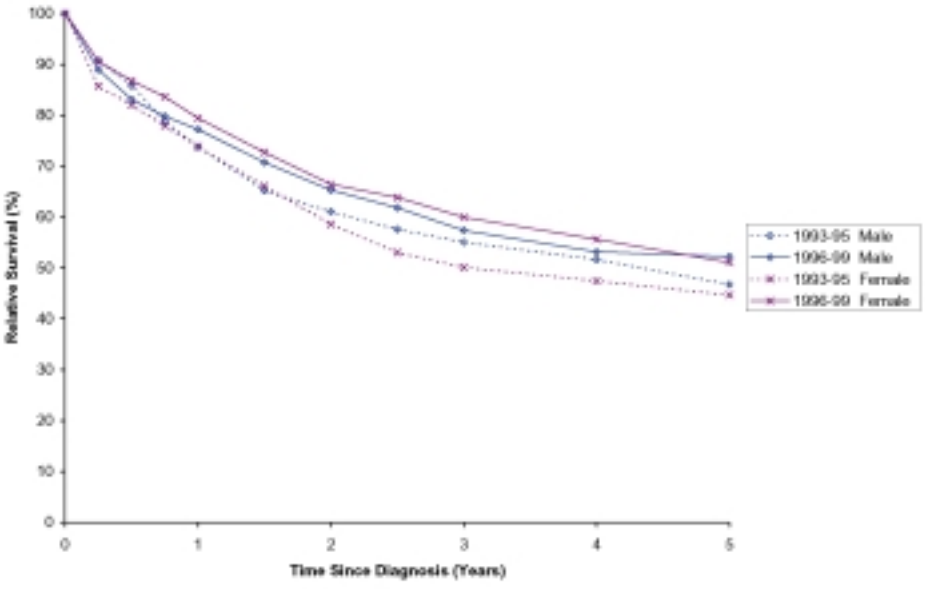
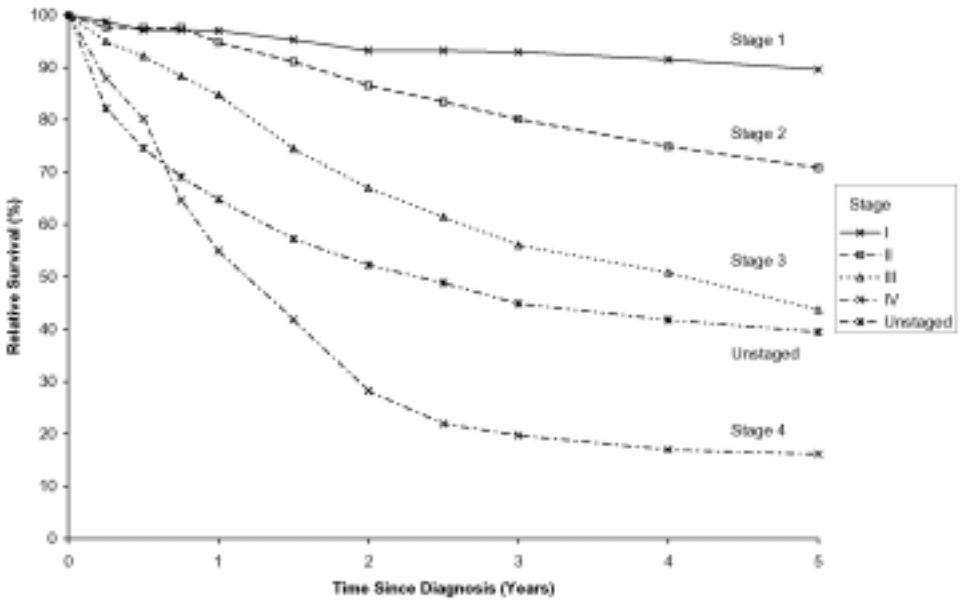


Table 6d: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Rectum, Rectosigmoid Junction & Anus (15-99 years) Diagnosed in 1993-1999 by Stage

Stage	1-year (95% CI)	5-year (95% CI)
I	97.0 (89.2, 99.2)	89.6 (79.5, 94.9)
II	94.8 (90.4, 97.2)	70.8 (63.9, 76.7)
III	84.8 (80.2, 88.3)	43.7 (37.7, 49.6)
IV	55.0 (45.7, 63.3)	16.1 (9.4, 24.5)
Unstaged	64.8 (61.4, 67.9)	39.5 (35.7, 43.3)

Figure 6e: Cancer of the Rectum, Rectosigmoid Junction & Anus Survival by Stage



Treatment

Of those patients diagnosed in 2001, almost three-quarters went on to have surgery, 29% had radiotherapy and 32% had chemotherapy (Table 6e). Note patients may have undergone more than one treatment type.

Table 6e: Treatment of Cancer of the Rectum, Rectosigmoid Junction & Anus Patients Diagnosed in 2001 by Sex

	No. of cases (%)		
	Males	Females	Persons
Radiotherapy	63 (32%)	37 (25%)	100 (29%)
Chemotherapy	65 (33%)	46 (30%)	111 (32%)
Surgery	156 (78%)	103 (68%)	259 (74%)

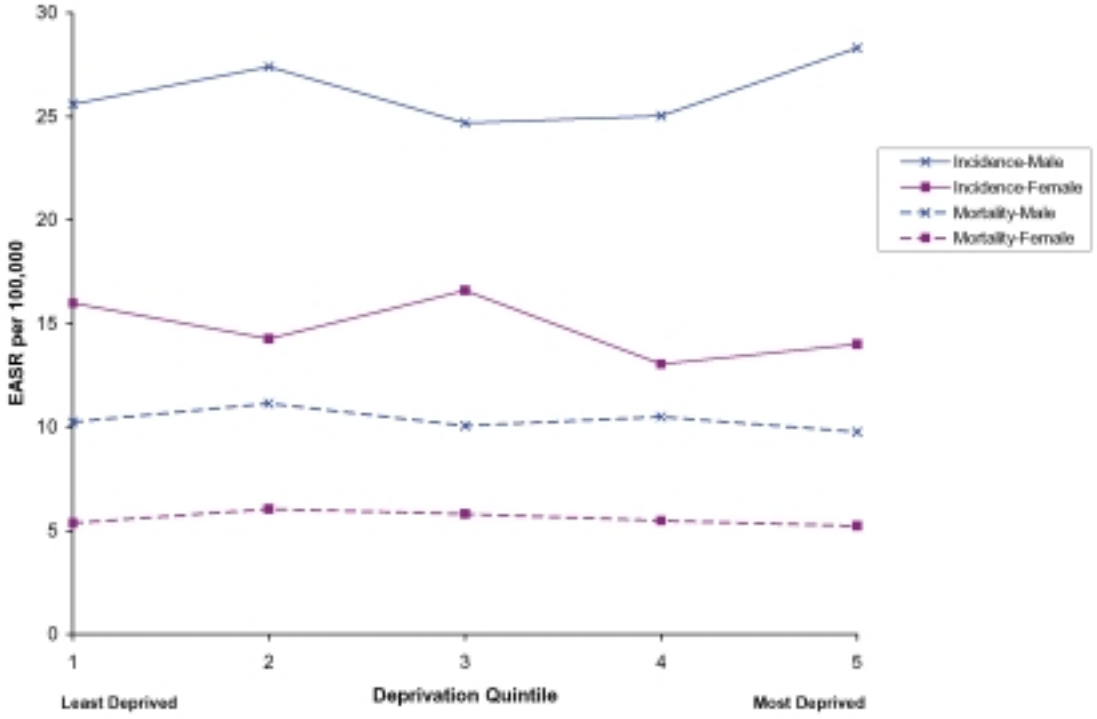
Geographical Variation

There was little variation in the EASRs for incidence of cancer of the rectum across Health Boards. At District Council level, none exhibited higher than expected levels of the disease.

Socioeconomic Trends

There were no statistically significant trends in the EASRs for incidence or mortality of rectal cancer in males or females with deprivation (Figure 6f).

Figure 6f: European Age-Standardised Incidence and Mortality Rates of Cancer of the Rectum, Rectosigmoid Junction & Anus by Deprivation Quintile and by Sex



Discussion

Rectal cancer accounts for between 3% and 4% of cancers diagnosed. As with colon cancers, the average age of diagnosis was over 70 years. However, unlike colon cancer there were no trends in new cases or deaths of rectal cancer. There are now over 1,300 people living in Northern Ireland who have had a diagnosis of rectal cancer in the recent past. The levels of staging recorded in notes should be improved.

See also Chapter 5 on Cancer of the Colon .

7: Cancer of the Liver & Intrahepatic Bile Ducts (C22)

(This refers to primary hepatocellular carcinoma and includes cholangiocarcinoma but not secondary tumours)

Key Facts

- **New cases: 29 in males & 26 in females each year**
- **40 males & 34 females die annually**
- **Survival poor: 7% survive three-years**
- **20 males & 21 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, cancer of the liver was the seventeenth most common cancer in males and nineteenth commonest in females. On average, 29 males and 26 females were diagnosed as having cancer of the liver each year, accounting for about 1% of all cancers registered.

Age

The median age at diagnosis was 69 years for males and 74 years for females. Given the levels of disease in 2001, the risk of getting liver cancer before the age of 75 years was 1 in 504 for males and 1 in 623 for females (Table 7a). Cancer of the liver is predominantly a disease in the older population with few cases diagnosed before the age of 60 years. The age-specific rates were generally higher in males than females (Figure 7a).

Prevalence

In Northern Ireland on 31st December 2001, there were 20 males and 21 females alive who had cancer of the liver diagnosed between 1993 and 2001.

Deaths

Each year on average 40 males and 34 females died from cancer of the liver. In 2001, it was the eighteenth and nineteenth most common cause of cancer mortality in males and females respectively. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 298 for males and 1 in 590 for females (Table 7b).

Trends

Between 1993 and 2001, there were no statistically significant trends in the EASRs for incidence or mortality in males or females (Figure 7b).

Table 7a: Incidence of Cancer of the Liver & Intrahepatic Bile Ducts in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	31	25	33	19
Crude Rate per 100,000	3.9	3.0	4.0	2.2
Cumulative Risk (0-74yrs) (%)	0.3	0.2	0.3	0.2
(Lifetime risk to 74 years) Odds, 1 in:	376	504	374	623
EASR per 100,000 (95% CI)	4.3 (2.8, 5.9)	3.2 (1.9, 4.4)	3.3 (2.1, 4.4)	1.8 (1.0, 2.6)
% of all cancers	<1	<1	<1	<1

Table 7b: Mortality from Cancer of the Liver & Intrahepatic Bile Ducts in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	34	42	37	26
Crude Rate per 100,000	4.3	5.1	4.4	3.0
Cumulative Risk (0-74yrs) (%)	0.3	0.3	0.3	0.2
(Lifetime risk to 74 years) Odds, 1 in:	347	298	296	590
EASR per 100,000 (95% CI)	4.7 (3.1, 6.3)	5.2 (3.6, 6.8)	3.8 (2.5, 5.0)	2.1 (1.3, 3.0)
% of all cancers	2	2	2	2

Figure 7a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Liver & Intrahepatic Bile Ducts (averaged over the diagnostic period 1993-2001) by Sex

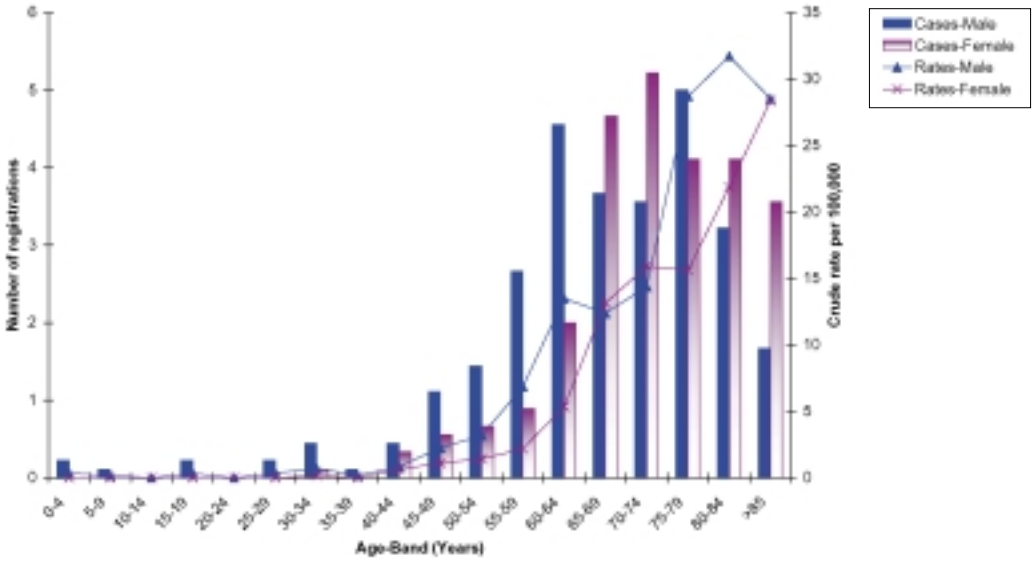
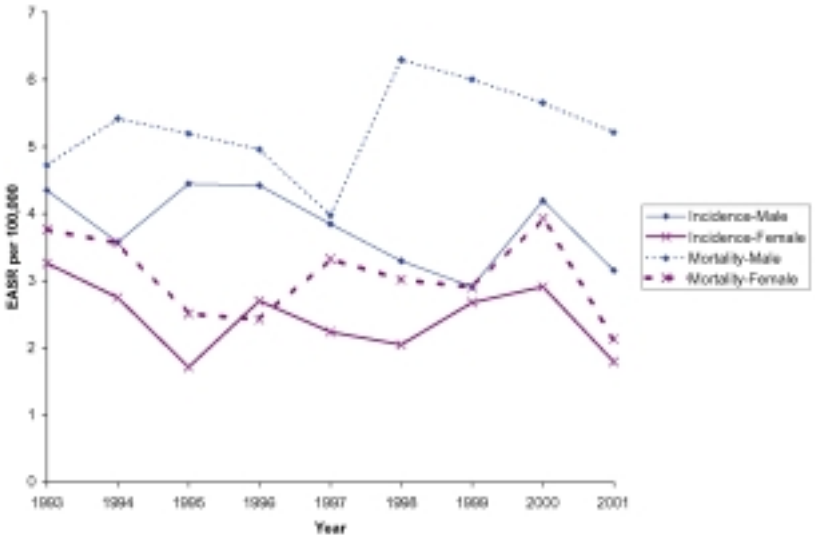


Figure 7b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Liver & Intrahepatic Bile Ducts (1993-2001) by Sex for All Ages



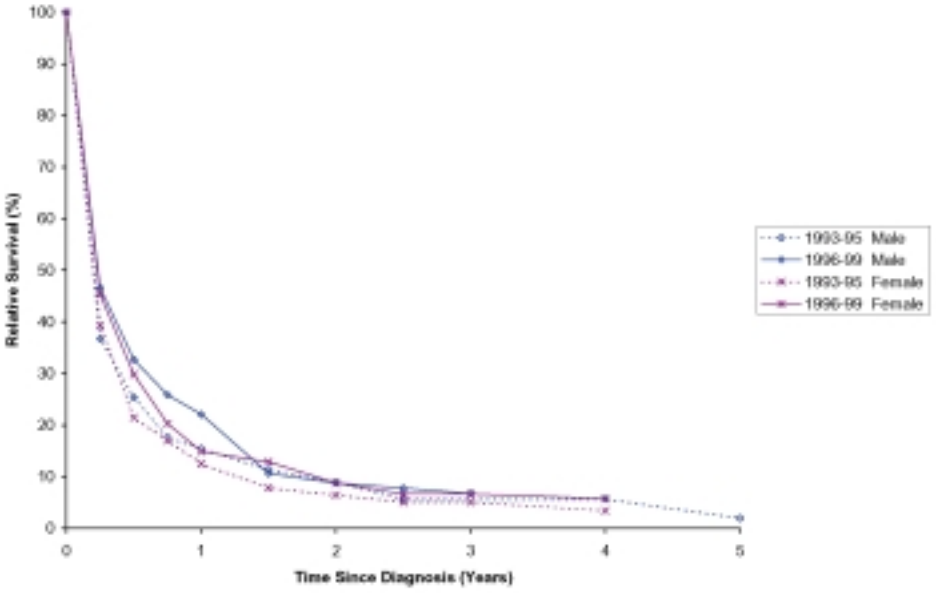
Survival

Survival from cancer of the liver was extremely low, with few patients surviving five-years. Hence, one and three-year survival rates are given. There was no detectable change in survival between the two periods examined (Table 7c, Figure 7c).

Table 7c: One and Three-year Relative Survival (95% Confidence Interval) for Cancer of the Liver & Intrahepatic Bile Ducts Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	3-year (95% CI)
Males	1993-95	15.5 (8.4, 24.5)	5.7 (1.9, 12.3)
	1996-99	22.1 (14.4, 30.8)	6.8 (2.8, 13.2)
Females	1993-95	12.5 (6.0, 21.6)	5.1 (1.4, 12.7)
	1996-99	14.9 (8.5, 23.0)	6.7 (2.7, 13.1)

Figure 7c: Cancer of the Liver & Intrahepatic Bile Ducts Survival by Period of Diagnosis and by Sex



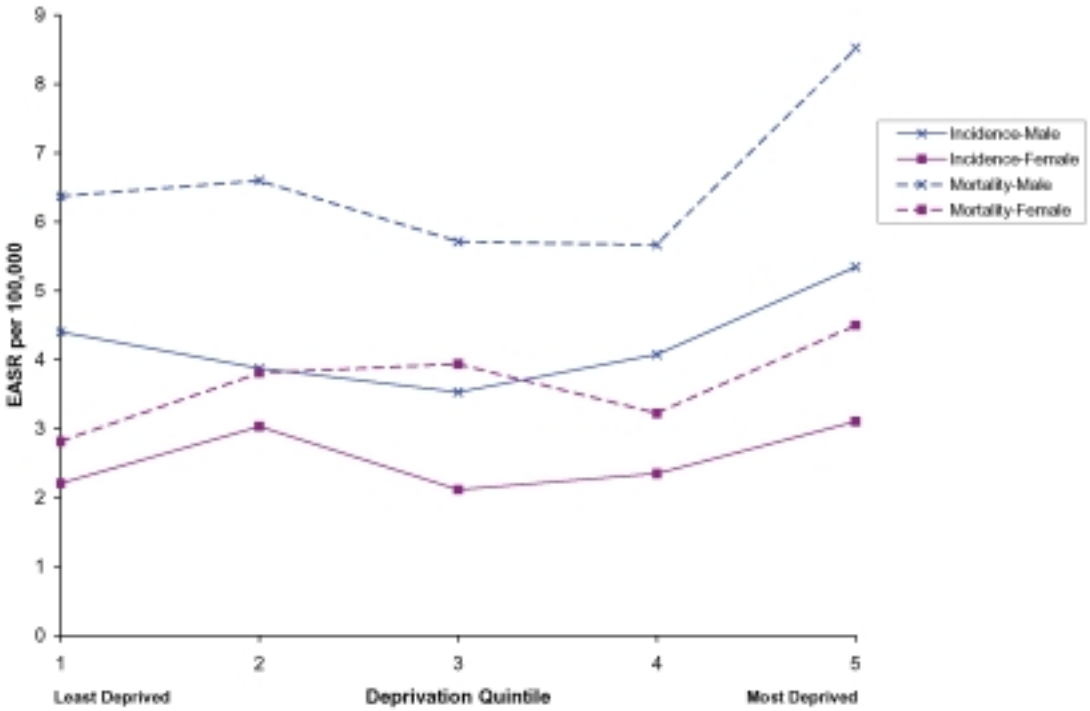
Geographical Variation

There was little difference in the EASRs for incidence of cancer of the liver between the four Health Boards. On examination of incidence by District Council, in males and females combined, Belfast was found to have significantly high levels of the disease, with an SIR of 138 (95% CI 114, 161), based on an annual average of 15 cases per year.

Socioeconomic Trends

There were no statistically significant trends in the EASRs for incidence or mortality with increasing deprivation in males or females (Figure 7d).

Figure 7d: European Age-Standardised Incidence and Mortality Rates of Cancer of the Liver & Intrahepatic Bile Ducts by Deprivation Quintile and by Sex



Discussion

Many cancers, from other sites, spread to the liver and as a result, cancer of the liver is recorded as a cause of death on death certificates more often than when primary liver cancers are diagnosed. Primary liver cancer is relatively rare here accounting for less than 1% of all cancers. However it is the fifth most common cause of cancer in the world[1]. In 80% of cases hepatocellular carcinoma develops in cirrhotic livers and cirrhosis is the strongest predisposing risk factor[2].

Liver cancer is causally linked with Hepatitis B and Hepatitis C viral infection and internationally with liver fluke infection. These can all cause cirrhosis as can alcohol.

Aflatoxin B1 which occurs as a food contaminant in hot, humid countries also causes liver cancer. They are products of aspergillus fungi and accumulate during storage of grains and peanuts. This is not a problem in Northern Ireland. Vaccination of high risk individuals for Hepatitis infection reduces the risk of liver cancer.

Survival was poor, 7% surviving three-years. This is reflected by the low numbers of people who are alive having had a diagnosis of liver cancer.

1 Llovet JM, Burroughs A, Bruix J. *Hepatocellular Carcinoma.* Lancet 2003; 362: 1907-17

2 Colombo M. *Risk Groups and Preventive Strategies.* In: Berr F, Bruix J, Hauss J, Wands J, Wittekind CH. Eds. *Malignant Liver Tumours: Basic Concepts and Clinical Management.* Dodrecht: Kluwer Academic Publishers BV and Falk Foundation 2003; 67-74

8: Cancer of the Pancreas (C25)

Key Facts

- **New cases: 75 in males & 74 in females each year**
- **78 males & 77 females die annually**
- **Survival poor: 3% survive three-years**
- **45 males & 41 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, pancreatic cancer was the eleventh most common cancer in males and females. On average, 75 males and 74 females were diagnosed as having pancreatic cancer each year, accounting for about 2% of all cancers registered.

Age

The median age at diagnosis was 71 years for males and 74 years for females. Given the level of disease in 2001, the risk of getting pancreatic cancer before the age of 75 years was 1 in 102 for males and 1 in 246 for females (Table 8a). The incidence of cancer of the pancreas was highest for males aged 70-74 years and females 75-79 years, with age-specific rates highest for males (Figure 8a).

Prevalence

In Northern Ireland on 31st December 2001, there were 45 males and 41 females alive who had pancreatic cancer diagnosed between 1993 and 2001.

Deaths

Each year 1993-2001 on average 78 males and 77 females died from pancreatic cancer. In 2001, it was the sixth most common cause of cancer mortality in both males and females. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 123 for males and 1 in 178 for females (Table 8b).

Trends

Between 1993 and 2001, there were no statistically significant trends in the EASRs for incidence or mortality in males or females (Figure 8b).

Table 8a: Incidence of Cancer of the Pancreas in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	90	94	84	74
Crude Rate per 100,000	11.3	11.4	10.1	8.6
Cumulative Risk (0-74yrs) (%)	1.2	1.0	0.6	0.4
(Lifetime risk to 74 years) Odds, 1 in:	81	102	170	246
EASR per 100,000 (95% CI)	12.1 (9.6, 14.6)	11.8 (9.4, 14.2)	8.1 (6.3, 9.9)	6.1 (4.6, 7.5)
% of all cancers	2	2	2	2

Table 8b: Mortality Due to Cancer of the Pancreas in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	72	90	83	87
Crude Rate per 100,000	9.0	10.9	9.9	10.1
Cumulative Risk (0-74yrs) (%)	0.9	0.8	0.6	0.6
(Lifetime risk to 74 years) Odds, 1 in:	113	123	178	178
EASR per 100,000 (95% CI)	9.8 (7.5, 12.1)	11.1 (8.8, 13.5)	7.6 (5.8, 9.3)	7.3 (5.7, 9.0)
% of all cancers	4	5	5	5

Figure 8a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Pancreas (averaged over the diagnostic period 1993-2001) by Sex

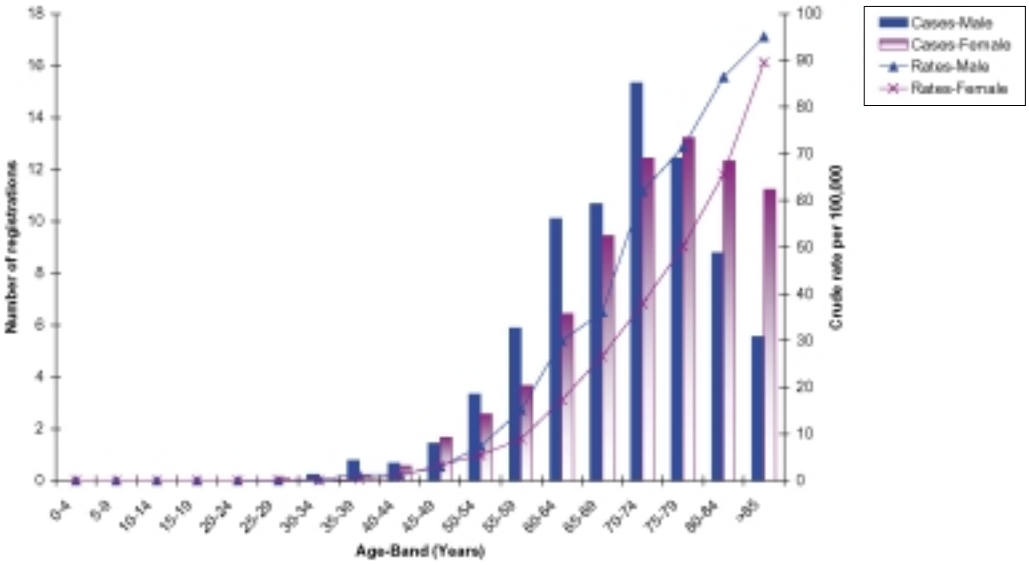
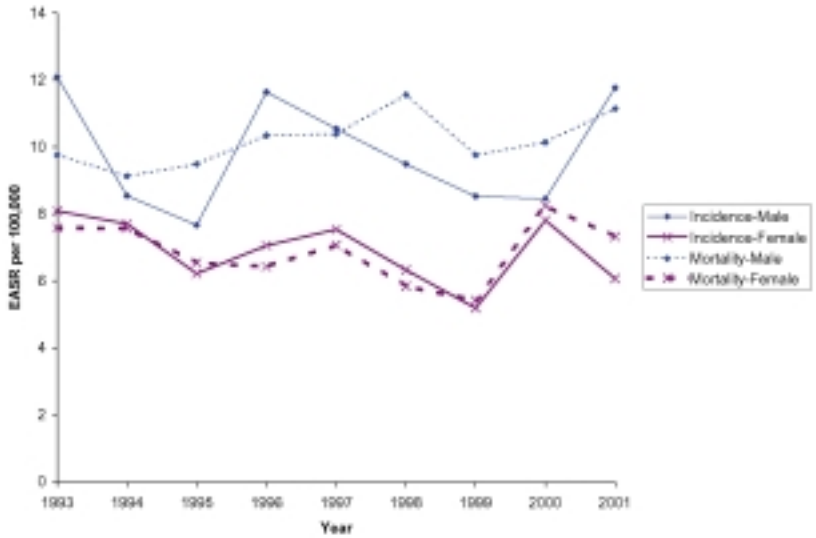


Figure 8b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Pancreas (1993-2001) by Sex for All Ages



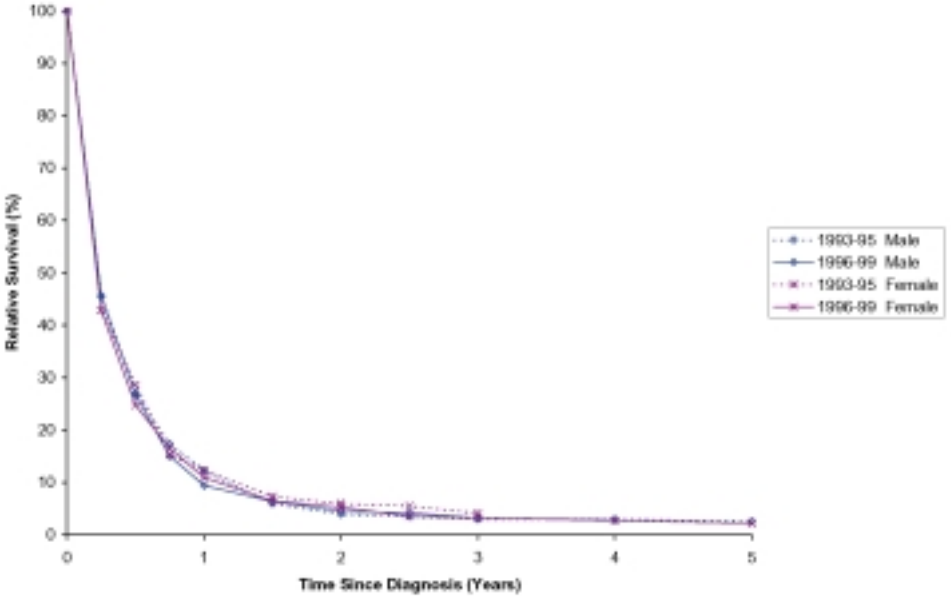
Survival

Survival rates for pancreatic cancer patients were extremely low, with around 10% surviving one-year and about 3% surviving three-years (Table 8c, Figure 8c).

Table 8c: One and Three-year Relative Survival (95% Confidence Interval) for Cancer of the Pancreas Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	3-year (95% CI)
Males	1993-95	12.2 (8.1, 17.3)	3.0 (1.2, 6.3)
	1996-99	9.4 (6.3, 13.3)	3.2 (1.5, 6.0)
Females	1993-95	12.3 (8.3, 17.2)	4.1 (1.9, 7.7)
	1996-99	11.0 (7.5, 15.1)	3.3 (1.5, 6.2)

Figure 8c: Cancer of the Pancreas Survival by Period of Diagnosis and by Sex



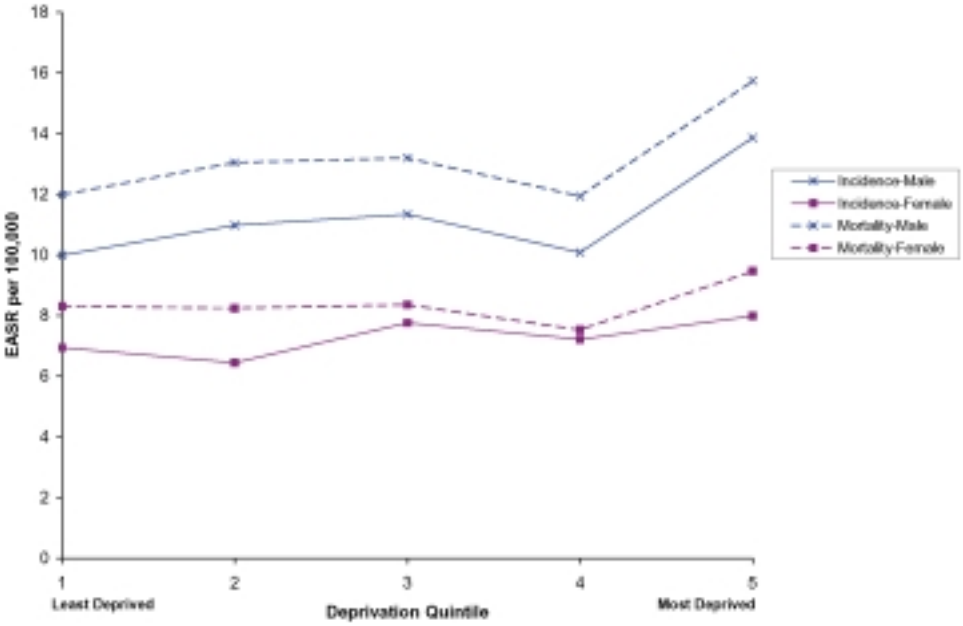
Geographical Variation

There was little difference in the EASRs for incidence of pancreatic cancer amongst the four Health Boards, with none of the District Councils having higher than expected levels of the disease.

Socioeconomic Trends

There were no statistically significant trends in the EASRs for incidence or mortality of pancreatic cancer with increasing deprivation for males or females (Figure 8d).

Figure 8d: European Age-Standardised Incidence and Mortality Rates of Cancer of the Pancreas by Deprivation Quintile and by Sex



Discussion

The incidence of pancreatic cancer shows no trend here, but in England and Wales it has recently reached a plateau phase after rising steadily since the 1960's[1]. Problems exist around the death certification of pancreatic tumours. Some patients were registered on death certificate as having a cancer at a nearby site, such as common bile duct or ampulla of Vater, rather than the pancreas itself. This explains why in some years there are more 'deaths' than incident cases for this site.

Cigarette smoking is associated with a 2-3 fold increase in pancreatic cancer[2]. No link has been established between pancreatic cancer and chronic pancreatitis or diabetes. Pancreatic cancer may also occur in rare cancer family syndromes. Symptoms of pancreatic cancer are usually non-specific until the later stages of the disease, when pain, jaundice and weight loss predominate. Survival is poor, and there are only about 90 cases alive who have had a diagnosis of pancreatic cancer in the recent past.

1 ONS. *Cancer Registry Stats,* 1992 London HMSO 1997

2 Doll R, Peto R, Wheatley K, et al. *Mortality in Relation to Smoking: 40 Years Observations on Male British Doctors*. BMJ 1994; 309: 901-911

9: Cancer of the Trachea, Bronchus & Lung (C33, C34)

Key Facts

- **New cases: 556 in males & 326 in females each year**
- **Levels falling by 16 cases per year in males**
- **505 males & 286 females die annually: Death rates falling by 11 males annually**
- **Survival poor at 10% at five-years**
- **Incidence & mortality rates twice as common in deprived groups**
- **611 males & 394 females diagnosed 1993-2001, still alive end of 2001**
- **Rates highest in Belfast & Derry District Council**

Incidence

In 2001, lung cancer was the second most common cancer in males (after NMS) and the third commonest in females (after NMS and breast cancer). On average, 556 males and 326 females were diagnosed as having lung cancer each year, accounting for about 13% of male and 7% of female cancers registered.

Age

While lung cancer is a disease of the older age groups (half of the cases were over 70 years when diagnosed), it is still a relatively common condition in younger patients. Given the levels of disease in 2001, the risk of getting lung cancer before the age of 75 years was 1 in 17 for males and 1 in 40 for females (Table 9a). The incidence of lung cancer in males and females peaked at 70-74 years, with the age-specific rates consistently higher in males than in females (Figure 9a).

Prevalence

In Northern Ireland on 31st December 2001, there were 611 males and 394 females alive who had lung cancer diagnosed between 1993 and 2001.

Deaths

Each year on average 505 males and 286 females died from lung cancer. In 2001, it was the most common cancer death in males and second most common in females. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 20 for males and 1 in 43 for females (Table 9b). However in 2002, lung cancer overtook cancer of the breast, and became the most common cause of cancer mortality in females in Northern Ireland, a pattern observed elsewhere in the United Kingdom.

Trends

Between 1993 and 2001, there were statistically significant downward trends in the EASRs for incidence ($P<0.01$) and mortality ($P<0.001$) in males, corresponding to a decrease of 2.0 and 1.4 cases per 100,000 per year respectively (Figure 9b).

There were no statistically significant trends in the EASRs for incidence or mortality in females.

Table 9a: Incidence of Cancer of the Trachea, Bronchus & Lung in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	567	544	318	302
Crude Rate per 100,000	71.0	66.0	38.1	35.1
Cumulative Risk (0-74yrs) (%)	6.5	5.9	3.2	2.5
(Lifetime risk to 74 years) Odds, 1 in:	15	17	31	40
EASR per 100,000 (95% CI)	78.2 (71.7, 84.7)	67.2 (61.5, 72.9)	34.5 (30.5, 38.4)	30.1 (26.6, 33.7)
% of all cancers	14	13	7	7

Table 9b: Mortality Due to Cancer of the Trachea, Bronchus & Lung in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	540	507	268	269
Crude Rate per 100,000	67.7	61.5	32.0	31.1
Cumulative Risk (0-74yrs) (%)	6.1	4.9	2.8	2.3
(Lifetime risk to 74 years) Odds, 1 in:	16	20	36	43
EASR per 100,000 (95% CI)	74.2 (67.9, 80.6)	62.3 (56.9, 67.8)	28.6 (25.0, 32.2)	25.9 (22.7, 29.1)
% of all cancers	29	26	15	15

Figure 9a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Trachea, Bronchus & Lung (averaged over the diagnostic period 1993-2001) by Sex

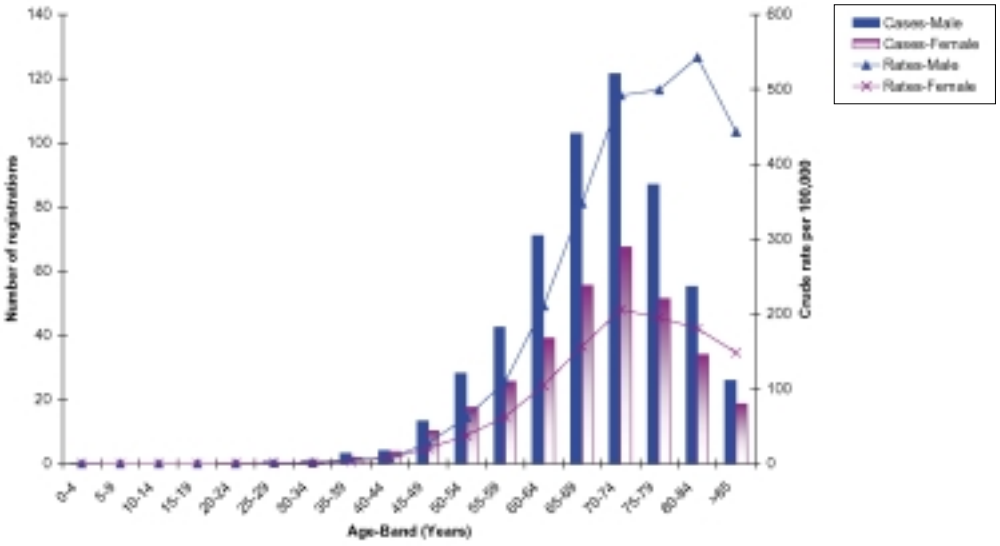
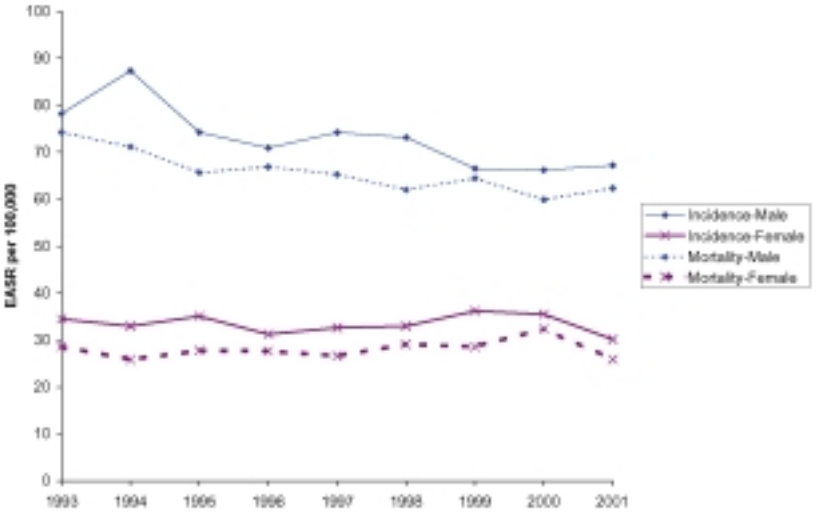


Figure 9b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Trachea, Bronchus & Lung (1993-2001) by Sex for All Ages



Cell Type

Based on pathology reports, cases were classified according to cell type (Table 9c)

1) Non-small cell (including squamous, adenocarcinoma, large cell, other microscopically verified),
2) Small cell,
3) Unknown - no microscopic verification (NMV).

In 2001, non-small cell type accounted for 58% of lung tumours, small cell about 14% and 27% were of unknown cell type and were not microscopically verified. There was little variation in the cell type year on year.

Table 9c: Cancer of the Trachea, Bronchus & Lung Diagnosed in 2001 by Cell Type and by Sex

	No. of cases (%)		
	Males	Females	Persons
Non-small cell	327 (60%)	166 (55%)	493 (58%)
Small cell	75 (14%)	47 (16%)	122 (14%)
Unknown-NMV	142 (26%)	89 (29%)	231 (27%)

Survival

Survival rates for lung cancer were poor and similar in males and females. Survival at one-year has improved ($P<0.05$) for males but not for females. This effect may be spurious and is not present at five-years (Table 9d, Figure 9c). Survival was found to vary with cell type. Non-small cell type lung cancers had a five-year survival rate of 13%, compared to 3% for small cell (Table 9e, Figure 9d).

Table 9d: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Trachea, Bronchus & Lung Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Males	**1993-95**	**22.3 (20.3, 24.4)**	**6.8 (5.5, 8.3)**
	1996-99	**26.7 (24.7, 28.7)**	**9.5 (8.0, 11.0)**
Females	**1993-95**	**25.6 (22.7, 28.5)**	**9.7 (7.8, 11.9)**
	1996-99	**27.8 (25.3, 30.3)**	**10.2 (8.4, 12.2)**

Figure 9c: Cancer of the Trachea, Bronchus & Lung Survival by Period of Diagnosis and by Sex

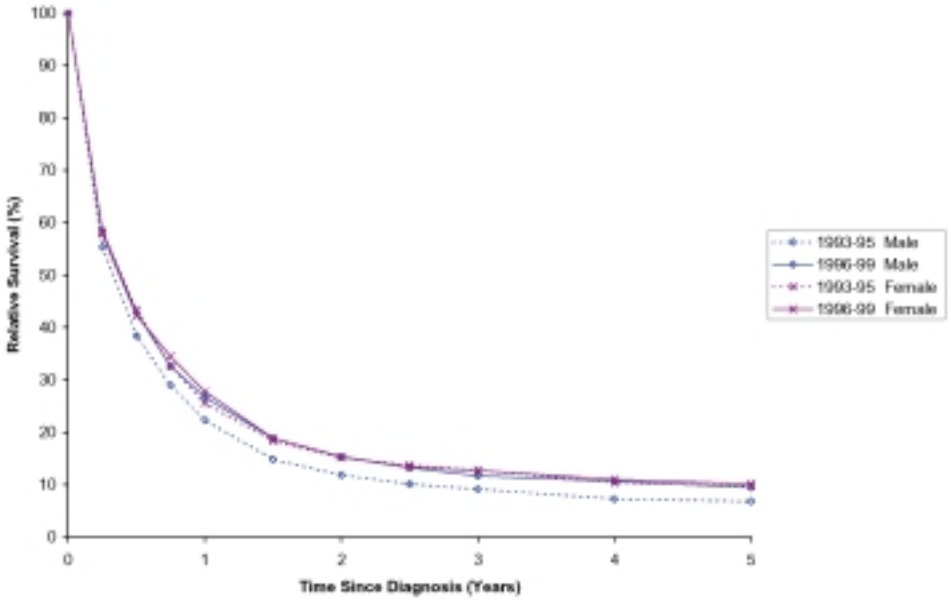
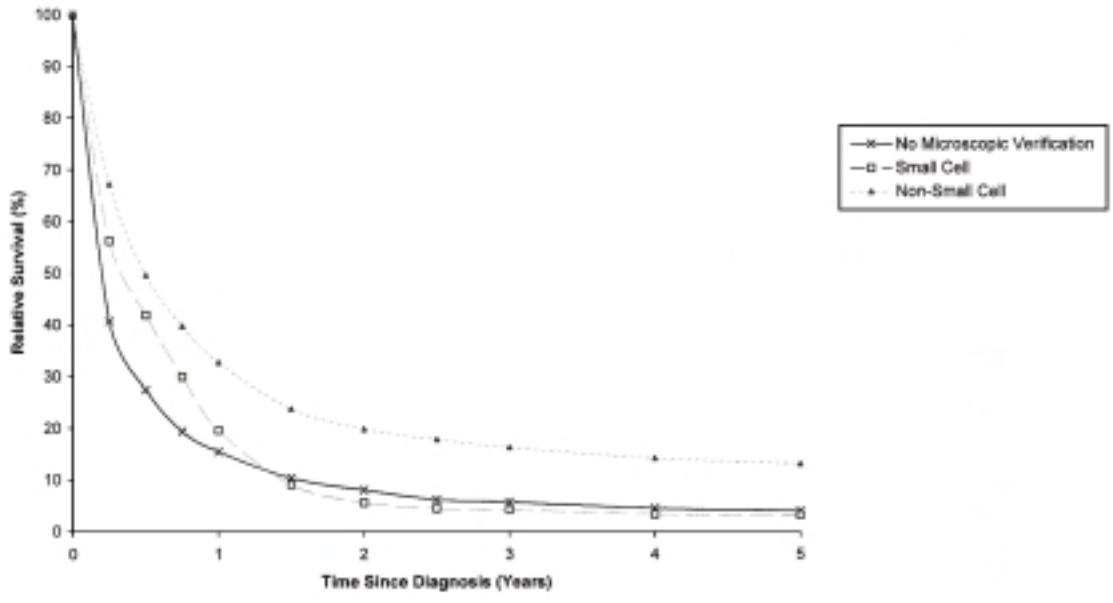


Table 9e: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Trachea, Bronchus & Lung (15-99 years) Diagnosed in 1993-1999 by Cell Type

Cell Type	1-year (95% CI)	5-year (95% CI)
Non-small cell	32.7 (31.1, 34.4)	13.1 (11.8, 14.5)
Small cell	19.6 (16.7, 22.7)	3.2 (2.0, 4.8)
Unknown-NMV	15.5 (13.9, 17.2)	4.0 (3.1, 5.1)

Figure 9d: Cancer of the Trachea, Bronchus & Lung Survival by Cell Type



Treatment

With 3 out of 4 lung cancer patients dying within 12 months of diagnosis, treatment rates are low. Of those lung cancer patients diagnosed in 2001, 39% had radiotherapy, 16% had chemotherapy and 11% had surgery (Table 9f). Note patients may have undergone more than one treatment.

Table 9f: Treatment of Cancer of the Trachea, Bronchus & Lung Patients Diagnosed in 2001 by Sex

	No. of cases (%)		
	Males	Females	Persons
Radiotherapy	219 (40%)	110 (36%)	329 (39%)
Chemotherapy	85 (16%)	52 (17%)	137 (16%)
Surgery	55 (10%)	42 (14%)	97 (11%)
Mediastinoscopy	29 (5%)	13 (4%)	42 (5%)
Thoracotomy	30 (6%)	23 (8%)	53 (6%)
Excision	43 (8%)	35 (12%)	78 (9%)

Geographical Variation

The EASRs for incidence of cancer of the lung were highest in the EHSSB, followed then by the WHSSB (Figures 9e and 9f). On examination of the incidence by District Council, both Belfast and Derry were found to have significantly high levels of lung cancer in both males and females, with SIRs for Belfast of 147 in males (95% CI 139, 154) and 146 in females (95% CI 137, 156) and in Derry, 125 (95% CI 111, 139) and 135 (95% CI 116, 154) for males and females respectively (Figures 9g and 9h).

Figure 9e: Incidence of Cancer of the Trachea, Bronchus & Lung in Males by Health Board

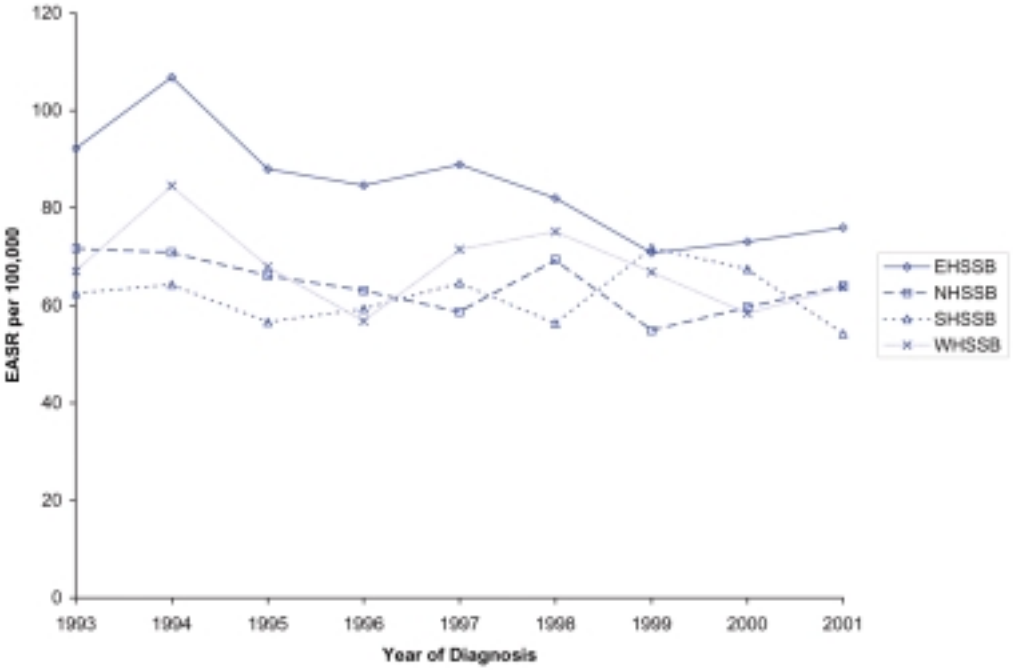


Figure 9f: Incidence of Cancer of the Trachea, Bronchus & Lung in Females by Health Board

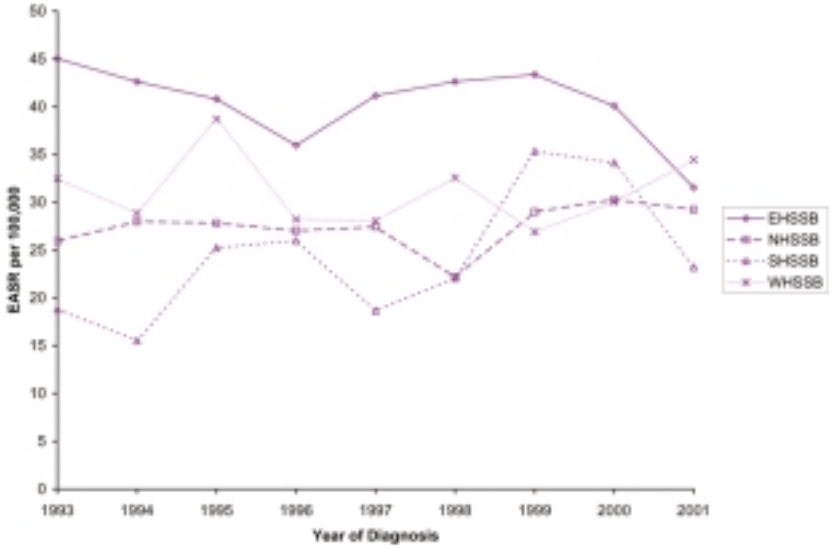


Figure 9g: Age-Standardised Incidence Ratios by District Council (1993-2001), Cancer of the Trachea, Bronchus & Lung for All Ages in Males

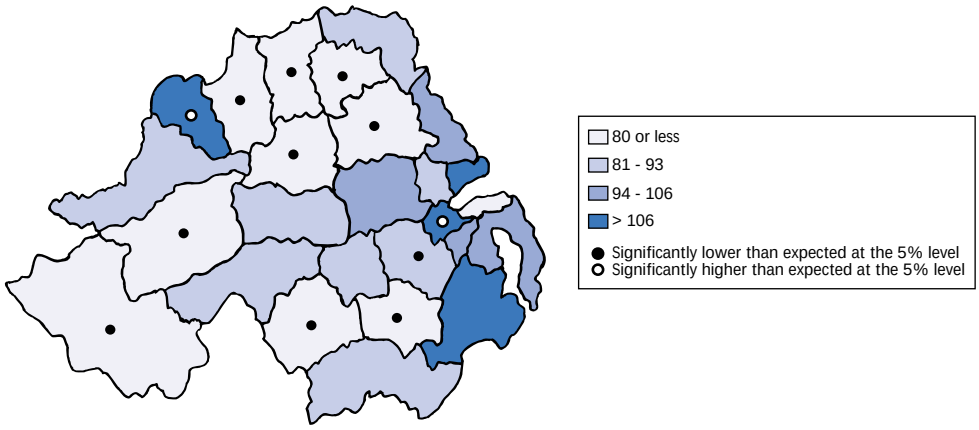
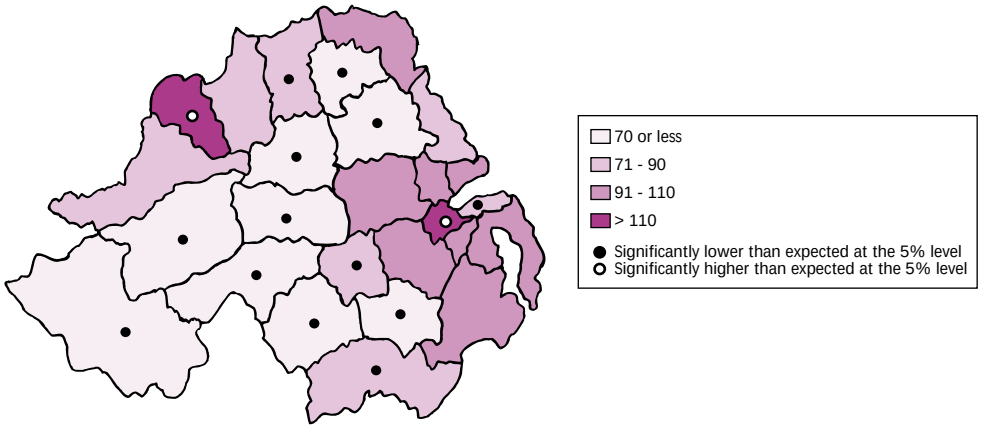


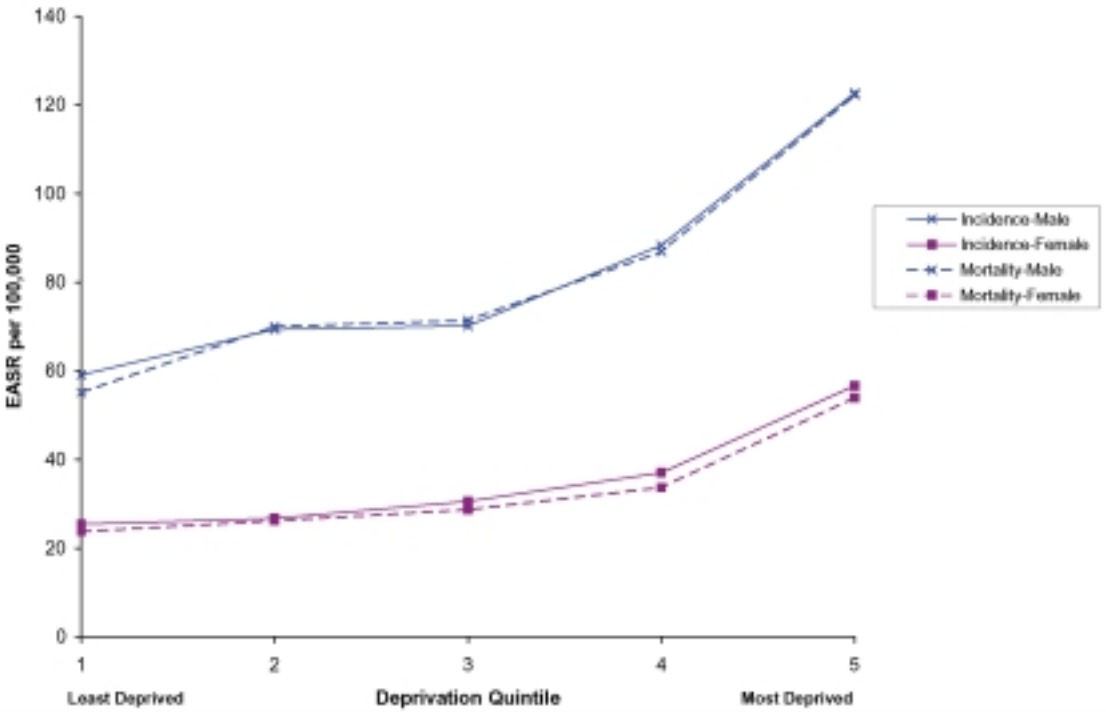
Figure 9h: Age-Standardised Incidence Ratios by District Council (1993-2001), Cancer of the Trachea, Bronchus & Lung for All Ages in Females



Socioeconomic Trends

The EASRs for incidence and mortality in males and females were found to increase significantly with deprivation (P<0.05 for incidence in males and females, and for mortality in males P<0.01 and females P<0.05), (Figure 9i). Compared with individuals living in the more affluent areas, males and females living in the most deprived areas had twice the risk of lung cancer. For males, incidence corresponded to an EASR of 59.1 in the most affluent areas rising to 122.7 per 100,000 for the most deprived areas, and for mortality the respective rates were 55.1 and 122.3 per 100,000. For females, incidence in the most affluent areas had an EASR of 25.4 rising to 56.7 per 100,000 for the most deprived areas, whilst for mortality rates were 23.7 and 54.0 per 100,000 respectively.

Figure 9i: European Age-Standardised Incidence and Mortality Rates of Cancer of the Trachea, Bronchus & Lung in by Deprivation Quintile and by Sex



Discussion

Note: The figures in this Chapter relate only to primary tumours in the lung and trachea and do not relate to primary tumours of the pleura. One of the most important types of pleural tumour is mesothelioma, which is a malignant tumour associated with asbestos exposure. It mainly occurs in the pleural cavity, although it also can occur at other sites in the body. In Northern Ireland we have a very high rate of this rare tumour[1], which is mainly associated with men working in the ship-building industry. We have on average 40 cases of mesothelioma per year (1993-2001), 90% of which are pleural mesothelioma. There are on average 35 deaths per year (1993-2001) from this disease. Trends in this disease over this time period are difficult to monitor due to the relatively small numbers involved.

Lung cancer is the main cause of cancer deaths in males, and in 2002 overtook breast cancer to become the most common cause of cancer mortality in females in Northern Ireland. It was rare at the beginning of the 20th century but is currently the most common cancer in the world[2].

Cigarette smoking is implicated in more than 90% of cases, and although early detection would significantly improve outcome, no evidence exists to show that screening can reduce lung cancer mortality[3]. Relative survival has improved but is still poor at only 27% at one-year and 10% at five-years. This is reflected by the fact that only about 1,000 people are alive here having had a diagnosis of lung cancer in the past.

Other factors related causally to lung cancer are exposure to environmental tobacco smoke, asbestos, radon gas and industrial products such as arsenic, zinc, nickel, chromium and polycyclic hydrocarbons.

Lung cancer is rare before the age of 40, but rates rise steeply thereafter, and are twice as high in males than females.

Lung cancer incidence and mortality rates are strongly associated with deprivation as shown in this report. Scottish data showed incidence was 2-5 times more common in deprived male groups compared to least deprived, with the difference for women greater at 3[4].

Unskilled manual workers are more than twice as likely to be smokers than professional people. In 2000, according to the continuous household survey in Northern Ireland, men working in unskilled manual occupations were four and a half times more likely to report that they currently smoke than men employed in professional jobs (42% vs 9%). Similarly women were three times more likely to smoke (38% vs 11%)[5]. In 1998, in the UK unskilled and manual workers were more than twice as likely to be smokers than professional people, and also start smoking at an earlier age[6].

The higher rate in urban areas is similar to that presented in earlier reports[7], and indicates pockets of deprivation where there are high levels of tobacco use.

The number of new cases and deaths are falling in males, reflecting reductions in tobacco use over recent years. Unfortunately the same cannot be said for females.

Although the causal links between tobacco and lung cancer have been known for over 50 years[8], the burden of tobacco related mortality remains. This is partly because of the highly addictive nature of nicotine in cigarettes which makes smoking cessation difficult.

Efforts to control tobacco use must include the prevention of starting to smoke through education; support for people who wish to stop and an environment which protects the non-smoker by restrictions on smoking in workplaces and public places.

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10: Malignant Melanoma (C43)

Key Facts

- **New cases: 69 in males & 113 in females each year**
- **Rates of incidence increasing by 4 males & 9 females each year**
- **13 males & 18 females die annually**
- **Survival is excellent: Over 90% at five-years**
- **Incidence in males & females higher in the more affluent population**
- **484 males & 857 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, malignant melanoma was the thirteenth most common cancer in males and ninth commonest in females. On average, 69 males and 113 females were diagnosed as having malignant melanoma each year, accounting for about 2% of male and 3% of female cancers.

Age

Although a relatively uncommon cancer, half the cases are detected in males and females aged 57 years and younger. Given the levels of disease in 2001, the risk of getting malignant melanoma before the age of 75 years was 1 in 121 for males and 1 in 96 for females (Table 10a). The incidence of malignant melanoma across the age groups was higher for females than males, with the age-specific rates in both sexes increasing with age (Figure 10a).

Prevalence

In Northern Ireland on 31st December 2001, there were 484 males and 857 females alive who had a malignant melanoma diagnosed between 1993 and 2001.

Deaths

Each year on average 13 males and 18 females died from malignant melanoma. In 2001, it was the twenty-first and twenty-sixth most common cause of cancer mortality in males and females respectively. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 504 for males and 1 in 912 for females (Table 10b).

Trends

NICR had access to historic data collected by the Ulster Cancer Foundation (UCF) Melanoma Registry, which enabled trend analysis for the period 1984 to 2001. During this period, there were two statistically significant upward trends ($P<0.001$ and $P<0.05$) in the EASR for incidence of malignant melanoma in males (Figure 10b). The first occurred in the period 1984-1995, corresponding to an average increase of 0.5 cases per 100,000 per year, whilst the second occurred in the later period of 1998 and 2001, representing an average increase of 0.6 cases per 100,000 per year. In women, a statistically significant ($P<0.05$) upward trend in EASRs for incidence was also apparent between 1984 and 1990, with an associated average increase of 0.9 cases per 100,000 per year.

There were no statistically significant trends in EASRs for mortality in males or females between 1984 and 2001.

Table 10a: Incidence of Malignant Melanoma in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	59	85	126	126
Crude Rate per 100,000	7.4	10.3	15.1	14.6
Cumulative Risk (0-74yrs) (%)	0.7	0.8	1.1	1.0
(Lifetime risk to 74 years) Odds, 1 in:	152	121	95	96
EASR per 100,000 (95% CI)	8.5 (6.3, 10.7)	10.6 (8.3, 12.8)	14.3 (11.7, 16.9)	13.4 (11.0, 15.8)
% of all cancers	1	2	3	3

Table 10b: Mortality Due to Malignant Melanoma in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	7	20	20	15
Crude Rate per 100,000	0.9	2.4	2.4	1.7
Cumulative Risk (0-74yrs) (%)	0.1	0.2	0.2	0.1
(Lifetime risk to 74 years) Odds, 1 in:	1356	504	568	912
EASR per 100,000 (95% CI)	1.0 (0.2, 1.7)	2.5 (1.4, 3.6)	2.1 (1.2, 3.1)	1.5 (0.7, 2.2)
% of all cancers	<1	1	1	1

Figure 10a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Malignant Melanoma (averaged over the diagnostic period 1993-2001) by Sex

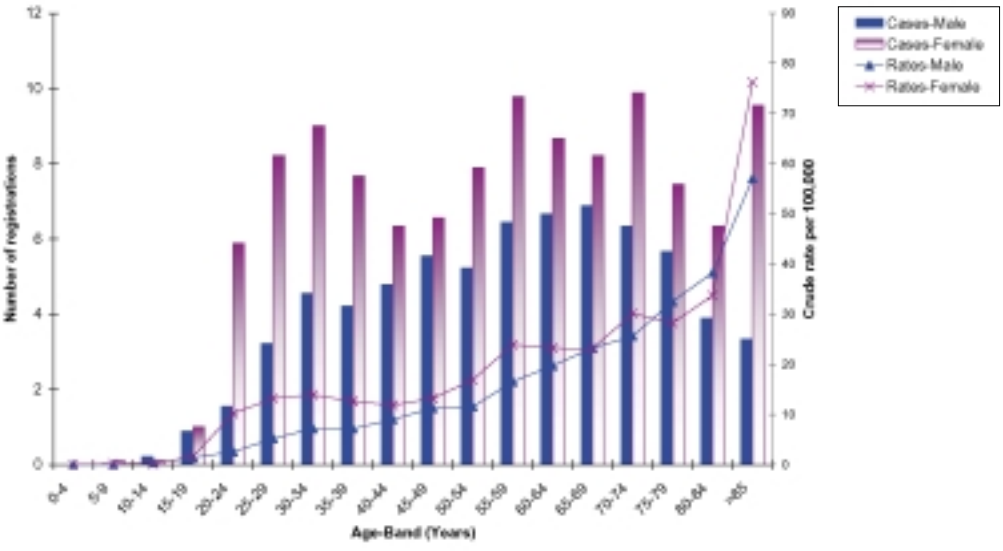
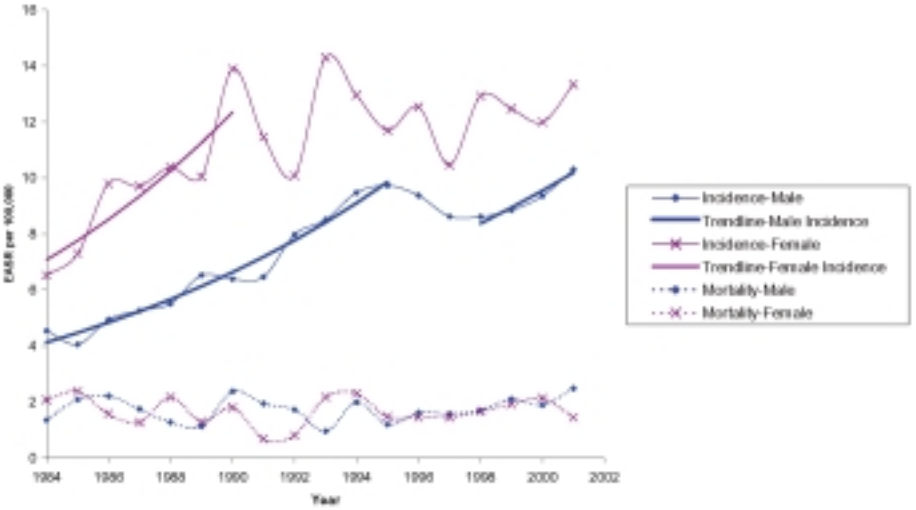


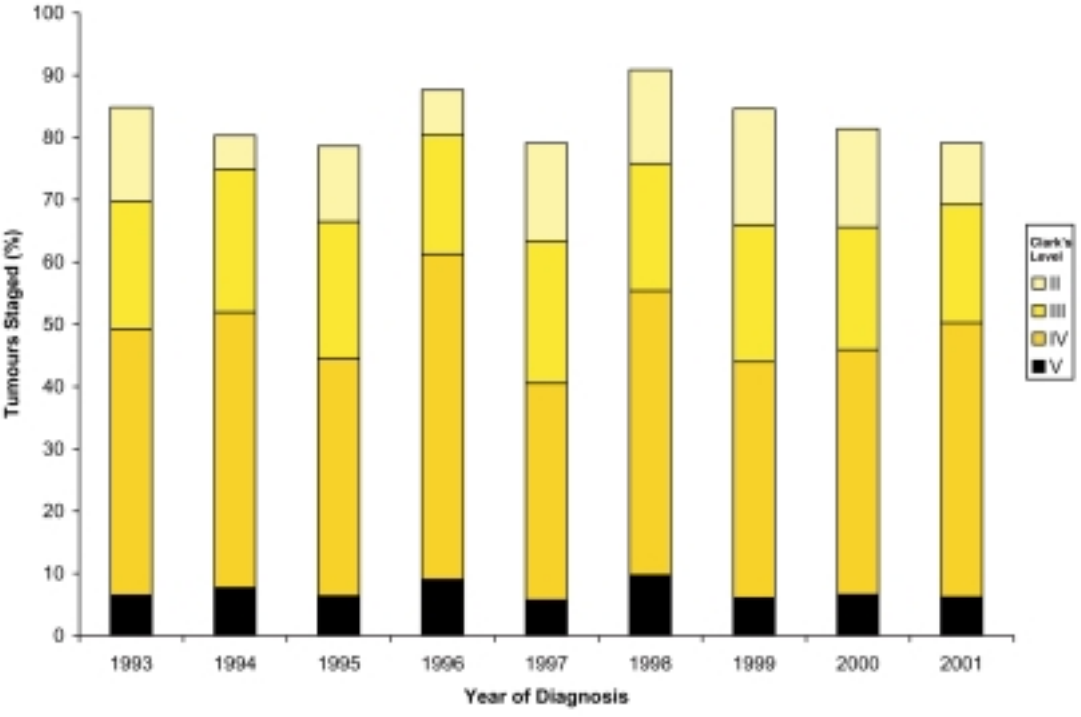
Figure 10b: European Age-Standardised Incidence and Mortality Rates of Malignant Melanoma (1984-2001) by Sex for All Ages



Staging

On average staging information was available for 83% of the tumours, which were classified in 2001 as Clark's Level II (10%), III (19%), IV (44%) and V (6%) (Clark's Level I are *insitu* tumours and are excluded from our stage breakdown). Clark's Level figures were used, as they were more complete than the other measure of staging, Breslow thickness. There was little variation in the staging distribution year on year (Figure 10c), with about 40% of tumours being Clark's Level IV.

Figure 10c: Percentage of Malignant Melanoma Cases by Clark's Staging and Year of Diagnosis



Survival

Survival in Northern Ireland is excellent for malignant melanoma, with five-year survival rates for males and females of 90% and 96% respectively (Table 10c, Figure 10d). Survival is very dependent on the stage at presentation of disease (Table 10d, Figure 10e). Patients presenting with Clark's II disease had a five-year survival rate of 98%, compared with 68% for patients with Clark's V disease.

Table 10c: One and Five-year Relative Survival (95% Confidence Interval) for Malignant Melanoma Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Males	1993-95	96.6 (91.3, 98.7)	88.5 (80.1, 93.5)
	1996-99	98.6 (93.5, 99.7)	89.5 (82.4, 93.8)
Females	1993-95	98.0 (94.7, 99.2)	93.5 (88.1, 96.4)
	1996-99	99.0 (95.8, 99.8)	96.3 (91.7, 98.3)

Figure 10d: Malignant Melanoma Survival by Period of Diagnosis and by Sex

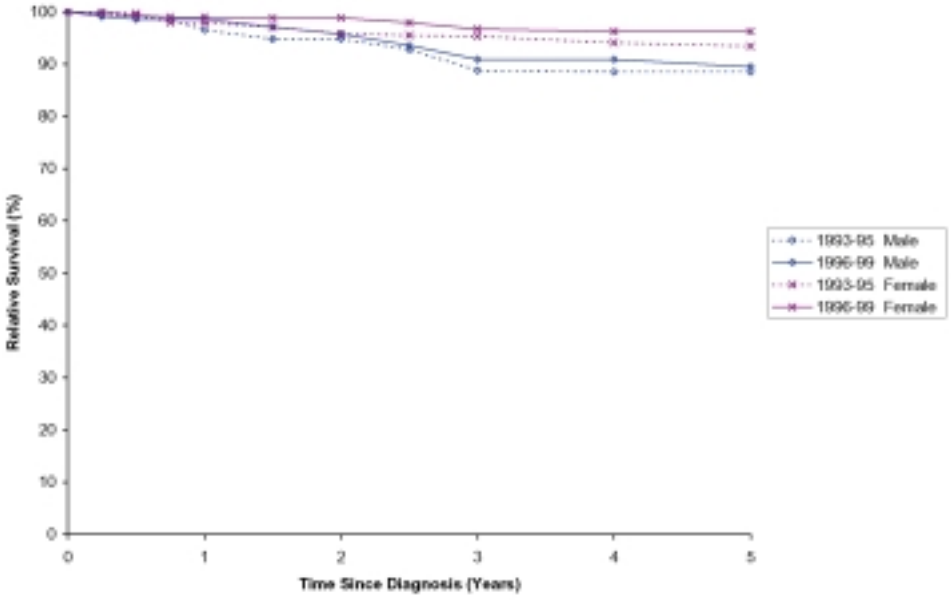
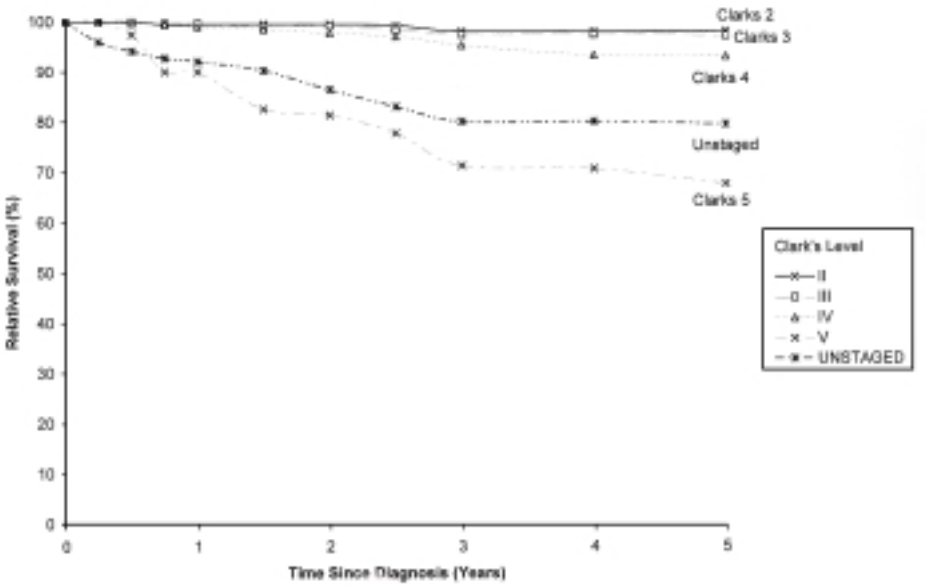


Table 10d: One and Five-year Relative Survival (95% Confidence Interval) for Malignant Melanoma (15-99 years) Diagnosed in 1993-1999 by Stage

Clark's Level	1-year (95% CI)	5-year (95% CI)
II	99.5 (84.2, 100.0)	98.0 (89.0, 99.7)
III	99.6 (91.4, 100.0)	97.1 (92.4, 98.9)
IV	99.0 (97.0, 99.7)	93.0 (89.1, 95.6)
V	90.0 (78.3, 95.6)	67.6 (51.8, 79.2)
Unstaged	92.1 (86.3, 95.5)	79.5 (70.8, 85.9)

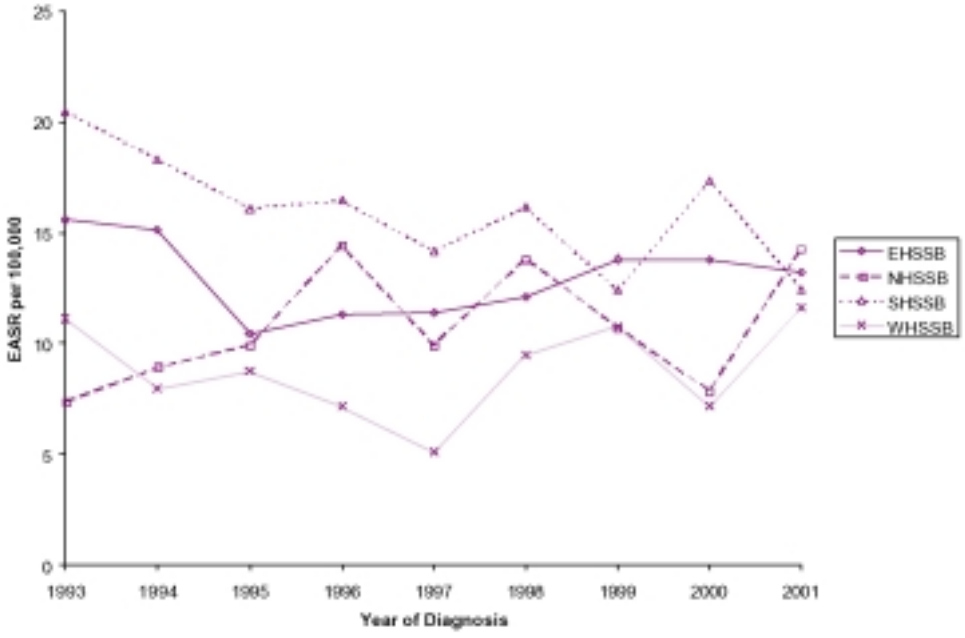
Figure 10e: Malignant Melanoma Survival by Stage



Geographical Variation

Between 1993 and 1998, the EASRs for incidence of malignant melanoma in females were higher in the SHSSB than the other Health Boards. However, the rates in the SHSSB appeared to decrease with time (Figure 10f). None of the District Councils had higher than expected incidence of malignant melanoma in either males or females.

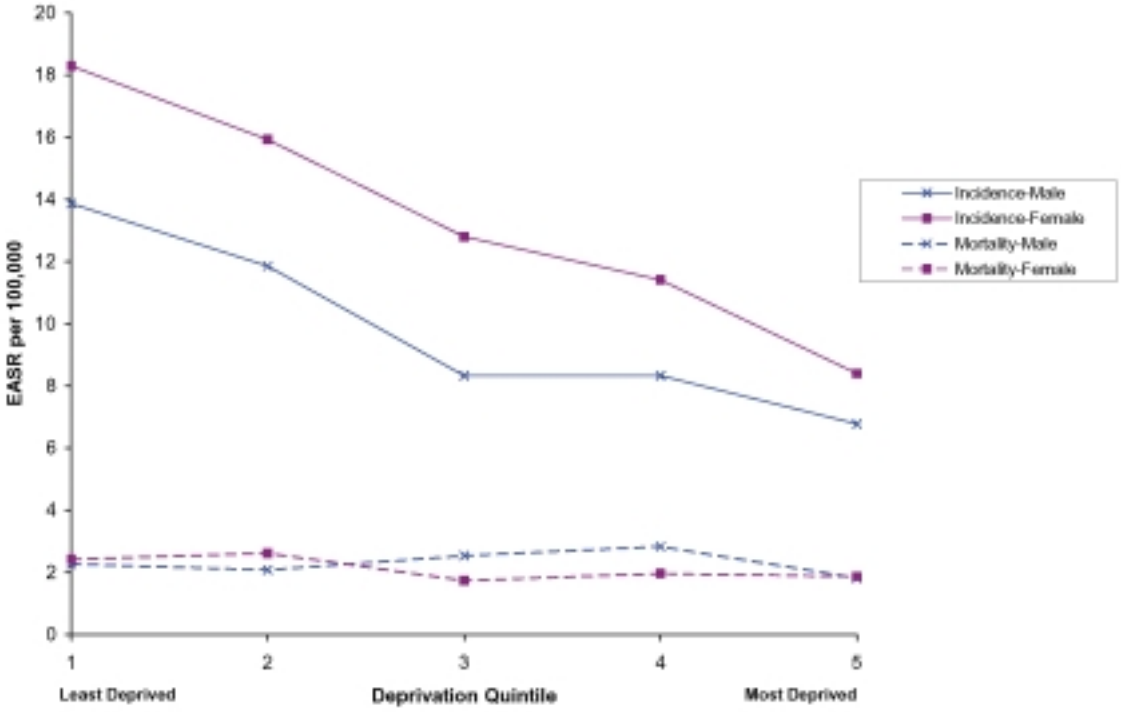
Figure 10f: Incidence of Malignant Melanoma in Females by Health Board



Socioeconomic Trends

There were statistically significant upward trends (P<0.01) in EASRs for incidence of malignant melanoma in males and females as deprivation decreased. Males living in the most affluent areas had an EASR of 13.9 which fell to 6.8 per 100,000 for males living in the most deprived areas. Similarly, females living in the most affluent areas had higher EASR incidence of malignant melanoma than those living in the most deprived areas (18.3 and 8.4 per 100,000 respectively) (Figure 10g). Mortality rates from malignant melanoma were considerably lower than incidence, with no statistically significant trends for either males or females.

Figure 10g: Age-Standardised Incidence and Mortality Rates of Malignant Melanoma by Deprivation Quintile and by Sex



Discussion

Melanoma accounts for only 7% of skin cancer cases, but almost all of skin cancer deaths. The relative survival however, for those who get the disease is usually excellent, with over 90% of patients surviving five-years. This is reflected by the estimate that there are at least 1,400 people living in Northern Ireland having had a previous diagnosis of melanoma. It is a disease more common in younger people than most other cancers, with half of the cases detected before age 57. Over recent years there has been a rapid increase in the number of people developing melanoma.

Incidence rates have increased markedly since the 1980s when our records began, mortality rates have remained unchanged.

A consistent finding has been increased rates of melanoma with increasing affluence[1], a phenomenon which may reflect increased access to holidays in sunny climates.

The higher rates in the SHSSB is a consistent but unexplained finding from previous reports[2].

Melanoma risk is directly related to overexposure of sunlight especially in childhood particularly in doses which lead to sunburn.

Prevention of melanoma involves taking care in the sun by:
- Seeking shade from 11am to 3pm.
- Covering up with a t-shirt, hat and glasses.
- Using sunscreen, SPF* 15 minimum.

Early detection is important, as survival for early stage disease is excellent. People should regularly examine their skin for change in moles. Symptoms to watch for are a new mole over age 30, change in size, shape or colour of an existing mole, inflammation, crusting, bleeding, persistent itch or pain, or a diameter greater than 7mm (about the size of the blunt end of a pencil). Suspected cases should be referred urgently for investigation by a dermatologist or plastic surgeon.

** Sun Protection Factor*

References

1 Faggiano F, Partanen T, Kogevinas M, Boffetta P. *Socioeconomic Differences in Cancer Incidence and Mortality*. In Kogevinas M, Pearce N, Susser H, Boffetta P, Eds. Social Inequalities and Cancer, IARC Scientific Publications No. 138 Lyon 1997

2 Gavin AT, Reid J. *Cancer Incidence in Northern Ireland 1993-95.* Published by N. Ireland Cancer Registry 1999

11: Non-Melanoma Skin Cancer (C44)

Key Facts

- **New cases: 1,116 in males & 1,081 in females each year**
- **Rates of incidence decreasing for females by 12 cases per year**
- **7 males & 5 females die annually**
- **Survival very high**
- **Incidence in males & females higher in the more affluent population**
- **7,772 males & 7,592 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, non-melanoma skin (NMS) cancer was the most common cancer in males and females. On average 1,116 males and 1,081 females were diagnosed as having NMS cancer each year, accounting for about 27% of male and 25% of female cancers. The most commonly diagnosed NMS were basal cell carcinomas (64%), followed by squamous cell (29%).

Age

The median age at diagnosis was 71 years for males and 73 years for females. Given the levels of disease in 2001, the risk of getting NMS cancer before the age of 75 years was 1 in 10 for males and 1 in 15 for females (Table 11a). The number of cases and the age-specific rates increased with increasing age (Figure 11a). The age-specific rates for NMS cancer were higher in males than females.

Prevalence

In Northern Ireland on 31st December 2001, there were 7,772 males and 7,592 females alive with NMS cancer diagnosed between 1993 and 2001.

Deaths

Although a commonly diagnosed cancer, NMS is rarely a cause of cancer mortality. Each year on average 7 males and 5 females died from NMS cancer. In 2001, it was the twenty-eighth and twenty-sixth most common cause of cancer mortality in males and females respectively. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 3,193 for males and 1 in 2,466 for females (Table 11b).

Trends

Between 1993 and 2001, there was no statistically significant trend in the EASRs for incidence of NMS cancer in males (Figure 11b). However, females exhibited a statistically significant downward trend ($P<0.05$) in EASR incidence, corresponding to an annual decrease of 1.4 cases per 100,000 females.

In the same period, there were no statistically significant trends in EASRs for mortality in males or females (Figure 11b).

Table 11a: Incidence of NMS Cancer in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	1006	1133	1101	1031
Crude Rate per 100,000	126.0	137.4	132.1	119.8
Cumulative Risk (0-74yrs) (%)	9.8	9.8	7.9	6.8
(Lifetime risk to 74 years) Odds, 1 in:	10	10	13	15
EASR per 100,000 (95% CI)	140.1 (131.3, 148.9)	140.6 (132.3, 148.9)	110.9 (104.1, 117.8)	96.6 (90.4, 102.7)
% of all cancers	24	26	26	24

Table 11b: Mortality Due to NMS Cancer in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	3	5	8	15
Crude Rate per 100,000	0.4	0.6	1.0	1.7
Cumulative Risk (0-74yrs) (%)	0.0	0.0	0.1	0.0
(Lifetime risk to 74 years) Odds, 1 in:	-	3193	1208	2466
EASR per 100,000 (95% CI)	0.4 (0.0, 0.8)	0.7 (0.1, 1.2)	0.9 (0.3, 1.6)	1.0 (0.5, 1.6)
% of all cancers	<1	<1	<1	<1

- : Unable to calculate due to small numbers

Figure 11a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of NMS Cancer (averaged over the diagnostic period 1993-2001) by Sex

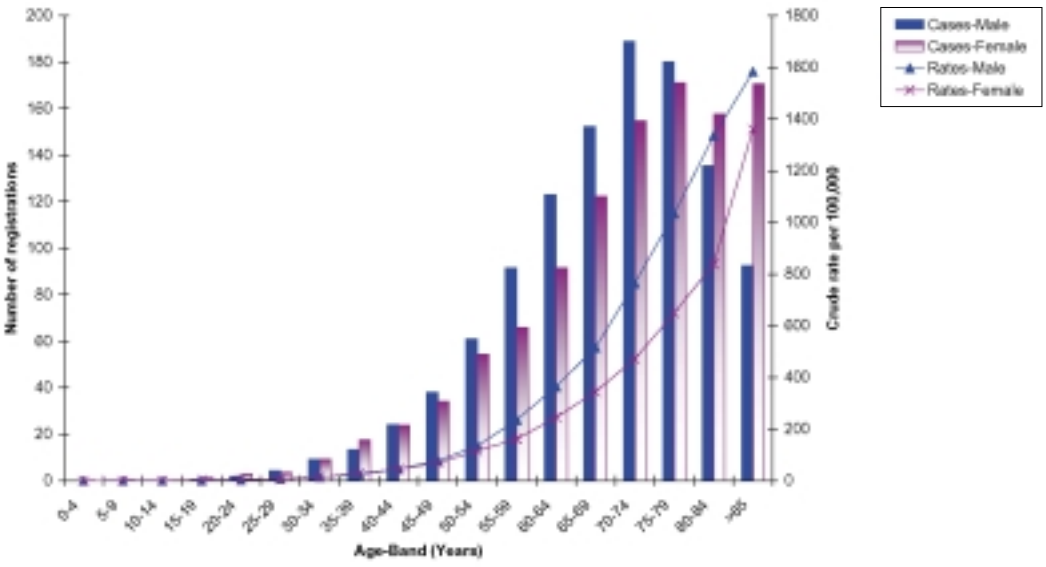
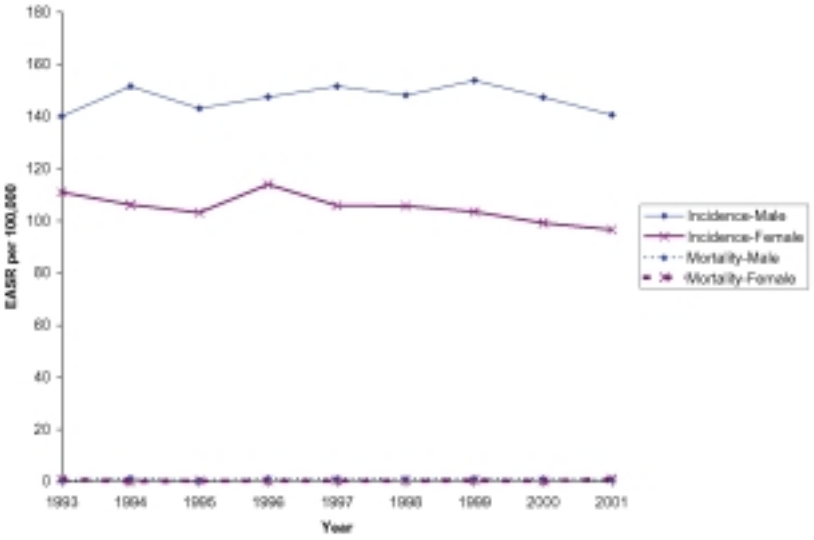


Figure 11b: European Age-Standardised Incidence and Mortality Rates of NMS Cancer (1993-2001) by Sex for All Ages



Geographical Variation

The EASRs for incidence of NMS cancer in males and females were much higher in the SHSSB across the years (Figures 11c and 11d), which may be driven by the significantly high levels in Newry and Mourne, and Craigavon District Councils. Newry and Mourne had an SIR of 136 (95% CI 126, 147) for males and 133 (95% CI 122, 143) for females, whilst Craigavon District Council had an SIR of 116 (95% CI 106, 126) for males and 113 (95% CI 104, 123) for females (Figures 11e and 11f).

Figure 11c: Incidence of NMS Cancer in Males by Health Board

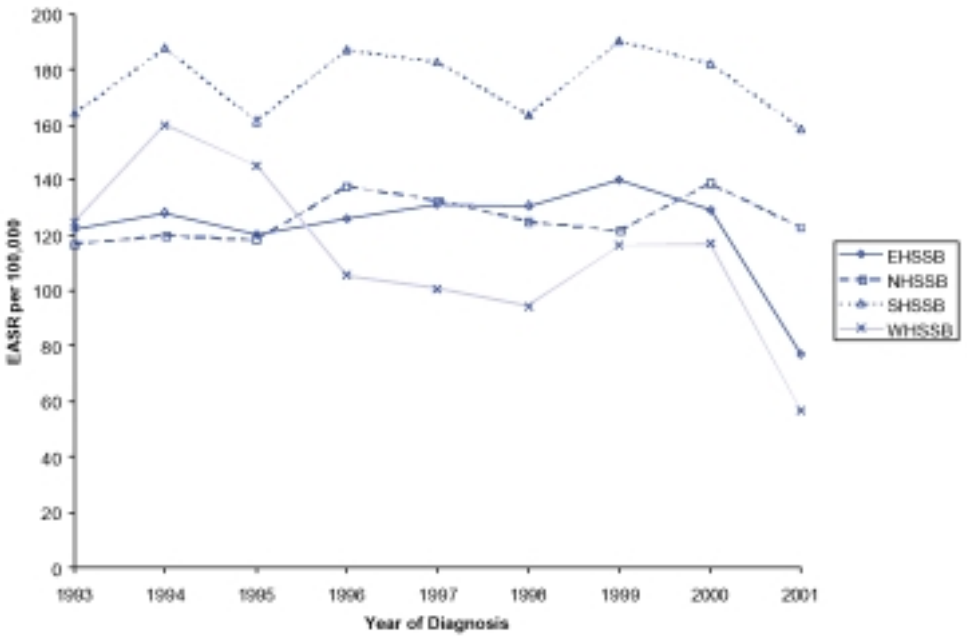


Figure 11d: Incidence of NMS Cancer in Females by Health Board

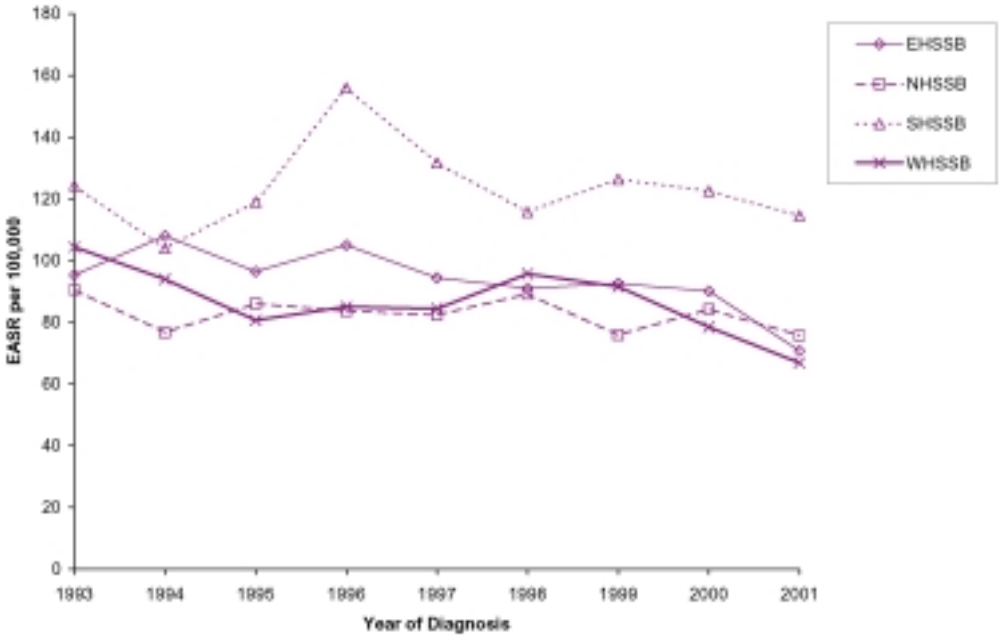


Figure 11e: Age-standardised Incidence Ratios by District Council (1993-2001), NMS Cancer for All Ages in Males

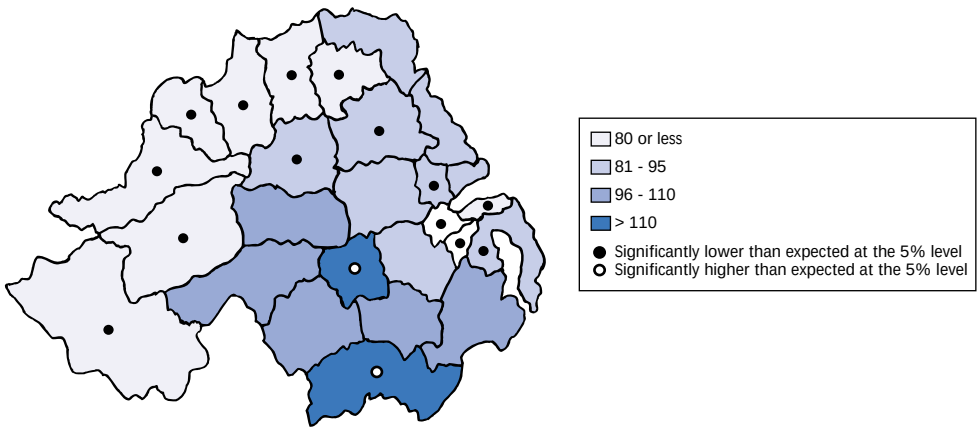
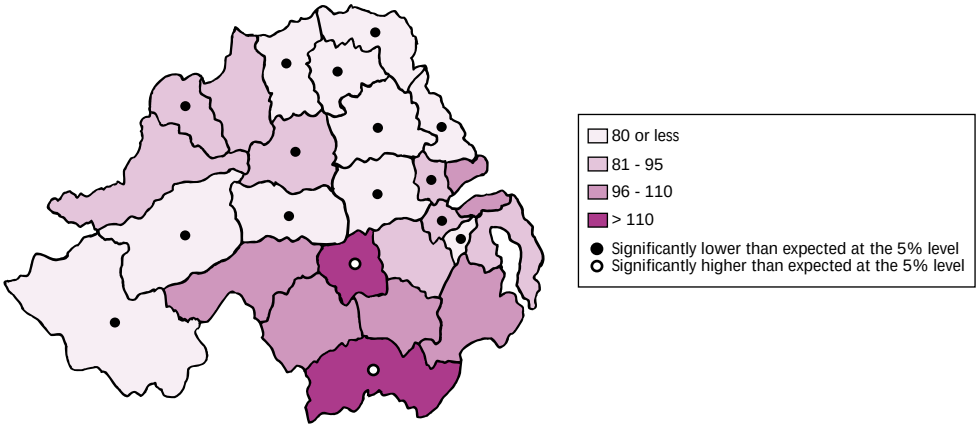


Figure 11f: Age-Standardised Incidence Ratios by District Council (1993-2001), NMS Cancer for All Ages in Females

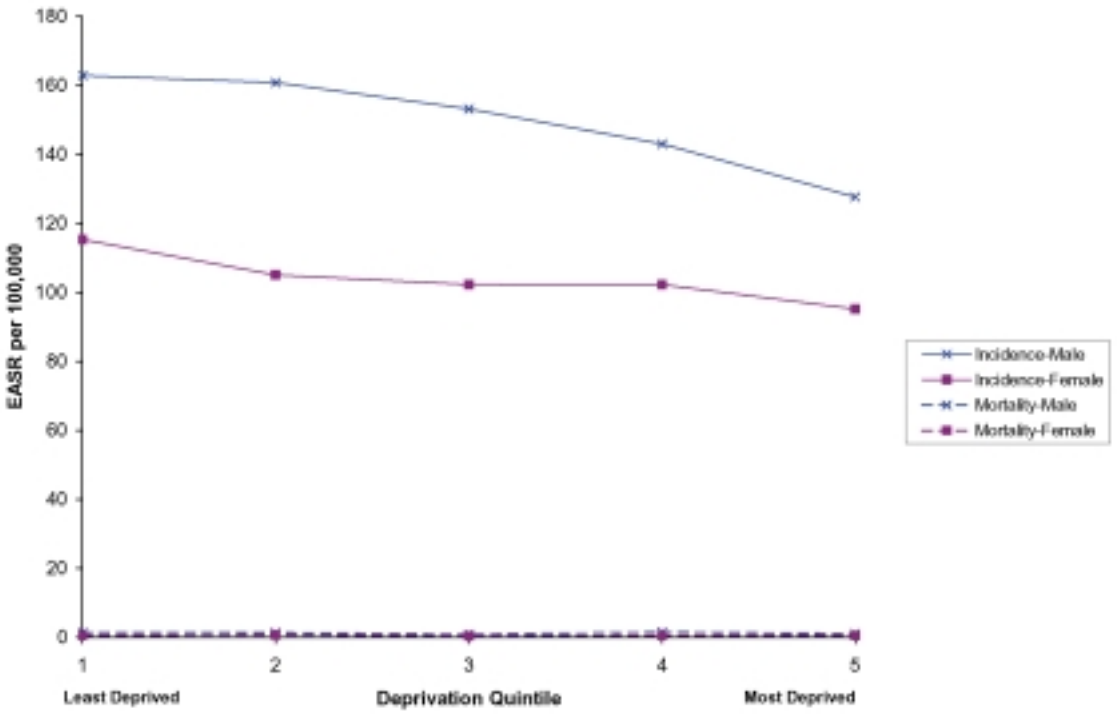


Socioeconomic Trends

There were statistically significant upward trends (P<0.05) in EASRs for incidence of NMS cancer with decreasing deprivation. Males living in the most affluent areas had an EASR of 162.9 falling to 127.7 per 100,000 for those living in the most deprived areas. Similarly, females living in the most affluent areas had a higher EASR for incidence than those living in the most deprived areas (115.4 and 95.2 per 100,000 respectively) (Figure 11g).

There were no statistically significant trends in mortality rates for either males or females.

Figure 11g: European Age-Standardised Incidence and Mortality Rates of NMS Cancer by Deprivation Quintile and by Sex



Discussion

Skin cancer is the most common cancer accounting for over a quarter of all cancers diagnosed in Northern Ireland. Some patients may have more than one skin cancer, but if these are of the same type they are counted only once for this Report. There are actually over 3,000 skin cancers diagnosed annually. Treatment is usually surgical and survival is excellent, with an average of only 12 deaths per year for over 2,200 patients. Consequent to this good survival, there are at least 15,000 people living in Northern Ireland who have had skin cancer.

Most skin cancers are caused by excessive exposure to the sun. The types of NMS cancer are:-

(i) Basal Cell Carcinoma which is the most common and least dangerous, accounts for over half of skin cancers. It grows slowly, mainly affecting people over 60 years, and rarely spreads, but can cause local damage and require treatment.

(ii) Squamous Cell Carcinoma which also occurs mainly in older people and accounts for over one quarter of skin cancers.

There are a number of other rare skin cancers, such as primary lymphomas of the skin, sarcomas arising in the skin and subcutaneous tissue, and malignant skin appendage tumours.

Many Cancer Registries do not count skin cancers as they are easily treated and rarely cause death. Taking care in the sun, seeking the shade, covering up with hat, t-shirt, sunglasses, and using at least factor 15 sunscreen, will reduce the risk of skin cancer especially in those who work or spend much time out of doors.

Skin cancer is more commonly associated with affluence than deprivation[1] which may reflect increased access to holidays in sunnier climates.

1 Faggiano F, Partanen T, Kogevinas M, Boffetta P. *Socioeconomic Differences in Cancer Incidence and Mortality.* In Kogevinas M, Pearce N, Susser H, Boffetta P, Eds. Social Inequalities and Cancer, IARC Scientific Publications No. 138 Lyon 1997

12: Cancer of the Breast (C50)

Key Facts

- **New cases: 877 females each year**
- **Rates of new cases are rising by 12 females per year**
- **306 females die annually: 8 less females die per year**
- **Survival is excellent and has improved to 82% at five-years**
- **Incidence & mortality higher in the more affluent females**
- **5,752 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, after non-melanoma skin cancer, breast cancer was the most common cancer in females. On average, 877 cases were diagnosed each year, accounting for approximately one fifth of all cancers registered in females.

Age

Given the levels of disease in 2001, the risk of females getting breast cancer before the age of 65 years was 1 in 17, rising to 1 in 12 by the age of 75 years (Table 12a). Half of the cases were diagnosed in those under the age of 60 years. The incidence of breast cancer peaked at 50-54 years, although rates were highest for those 75 years and older due to the smaller population in those age groups (Figure 12a).

Prevalence

In Northern Ireland on 31st December 2001, there were 5,752 females alive who had breast cancer diagnosed between 1993 and 2001.

Deaths

There were approximately 306 deaths annually from breast cancer. In 2001, it was the most common cancer death in females (taken over in 2002 by lung cancer). Given the levels of mortality in 2001, the risk of females dying from this cancer before the age of 75 years was 1 in 42 (Table 12b).

Trends

Between 1993 and 2001, the EASR for incidence of breast cancer in females rose significantly ($P<0.05$) by an average of 1.4 cases per 100,000 per year (Figure 12b). In the same period, there was a statistically significant downward trend ($P<0.05$) in EASRs for mortality, corresponding to a decrease of 1.0 cases per 100,000 per year (Figure 12b).

Table 12a: Incidence of Cancer of the Breast in 1993 and 2001

	Males		Females	
	1993	**2001**	**1993**	**2001**
Number of Cases	6	9	761	913
Crude Rate per 100,000	0.8	1.1	91.3	106.1
Cumulative Risk (0-64yrs) (%)	0.0	0.0	5.5	5.9
Cumulative Risk (0-74yrs) (%)	0.1	0.1	7.1	8.0
(Lifetime risk to 74 years) Odds, 1 in:	1297	1074	14	12
EASR per 100,000 (95% CI)	0.9 (0.2, 1.6)	1.1 (0.4, 1.9)	92.6 (85.8, 99.5)	103.8 (96.9, 110.7)
% of all cancers	<1	<1	18	21

Table 12b: Mortality Due to Cancer of the Breast in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	8	2	328	315
Crude Rate per 100,000	1.0	0.2	39.2	36.4
Cumulative Risk (0-74yrs) (%)	0.0	0.0	3.0	2.4
(Lifetime risk to 74 years) Odds, 1 in:	2099	6098	34	42
EASR per 100,000 (95% CI)	1.0 (0.3, 1.7)	0.3 (0.0, 0.7)	37.9 (33.6, 42.2)	31.0 (27.4, 34.5)
% of all cancers	<1	<1	19	18

Figure 12a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Breast in Females (averaged over the diagnostic period 1993-2001)

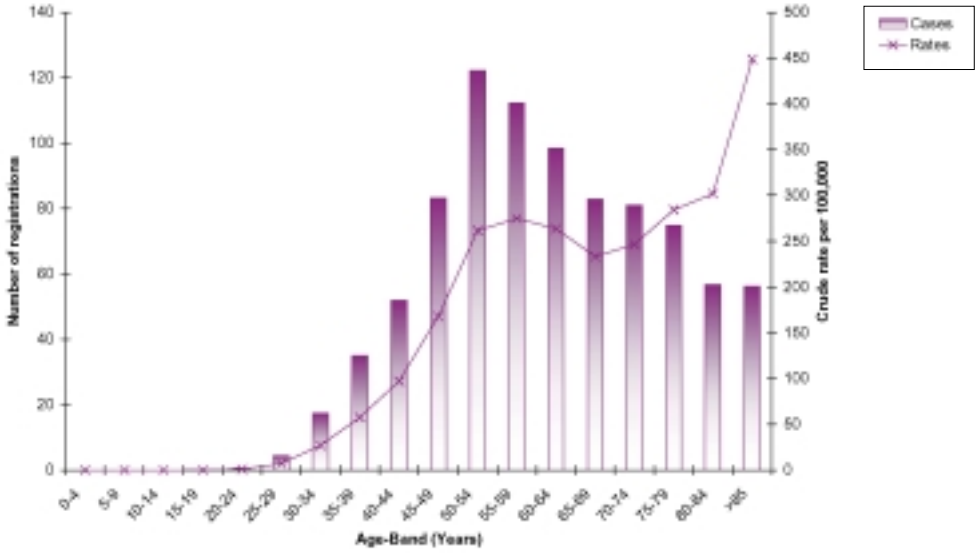
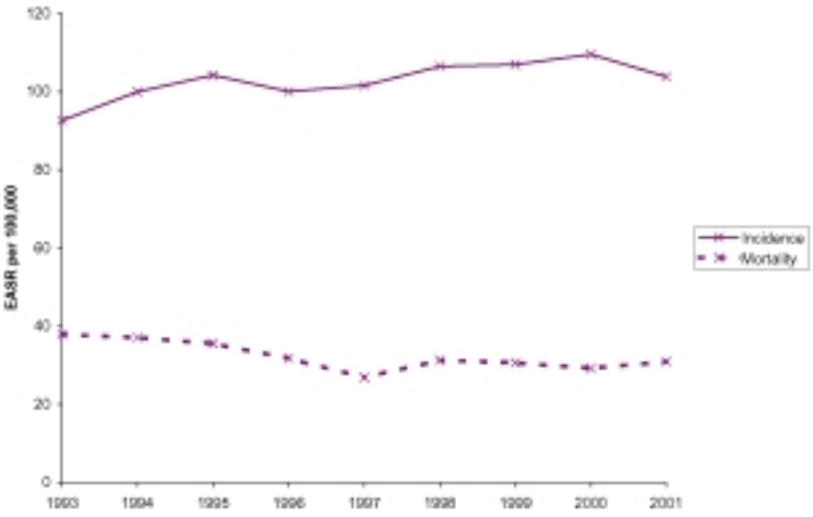


Figure 12b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Breast in Females (1993-2001) for All Ages

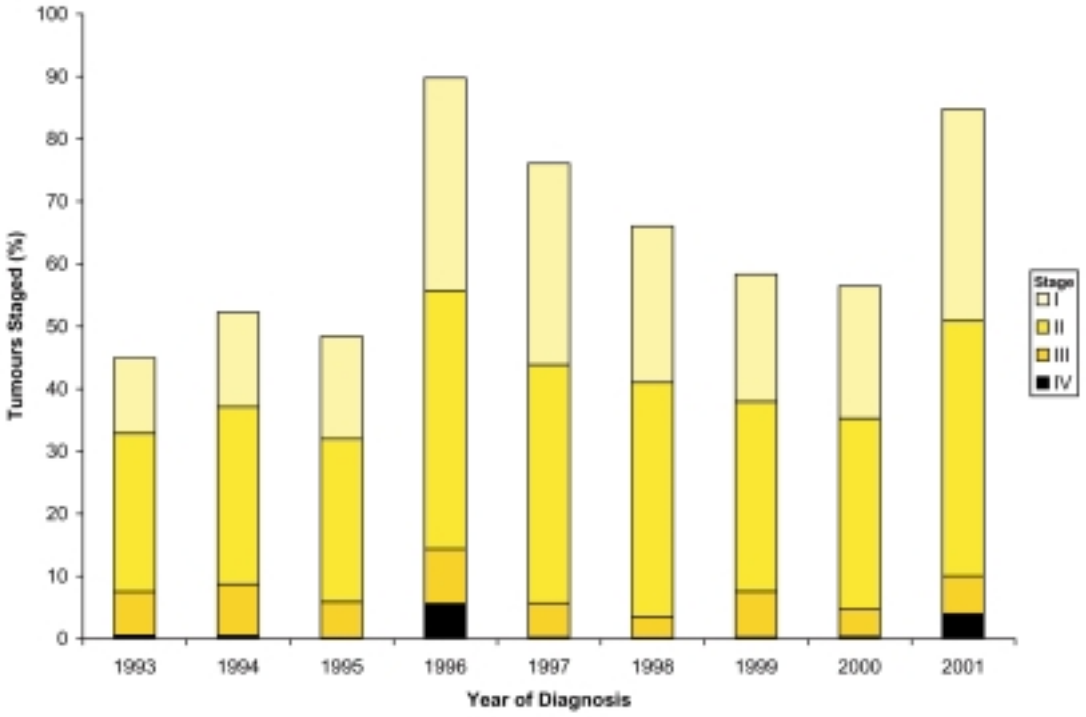


Staging

Most of the staging for breast cancer presented here is solely pathological[1], as full clinical staging can only be completed from patients' notes, which is difficult for an electronic registry. This generally means that advanced tumours remain unclassified. The nodal status of some early stage tumours was also not readily available to the NICR.

On average staging information was available for 64% of the tumours obtained from pathology reports, which were classified in 2001 as Stage I (34%), II (40%), III (6%) or IV (4%) (I being the earliest stage). In 1996 and 2001, efforts made by NICR staff to acquire this information as part of a particular audit project ensured a higher proportion of tumours were staged (Figure 12c). The majority (about one third) of tumours detected were Stage II.

Figure 12c: Percentage of Females with Cancer of the Breast, Cases by Stage and Year of Diagnosis



Survival

Survival from breast cancer was high, with our most recent five-year estimate (1996-99) for women being 82%. This is an improvement on our estimate for the earlier diagnostic period (1993-95), where 76% of females with cancer of the breast survived five-years ($P<0.05$) (Table 12c, Figure 12d). Survival from breast cancer varied significantly, depending on the stage of the disease. Females with Stage I breast cancer had a five-year survival of 97%, whilst Stage IV had a five-year survival of 13% (Table 12d, Figure 12e).

Table 12c: One and Five-year Relative Survival (95% Confidence Interval) for Females with Cancer of the Breast (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Diagnosis Period	1-year (95% CI)	5-year (95% CI)
1993-95	93.5 (92.2, 94.5)	76.3 (74.2, 78.3)
1996-99	95.2 (94.3, 96.0)	81.5 (79.8, 83.1)

Figure 12d: Cancer of the Breast, in Females, Survival by Period of Diagnosis

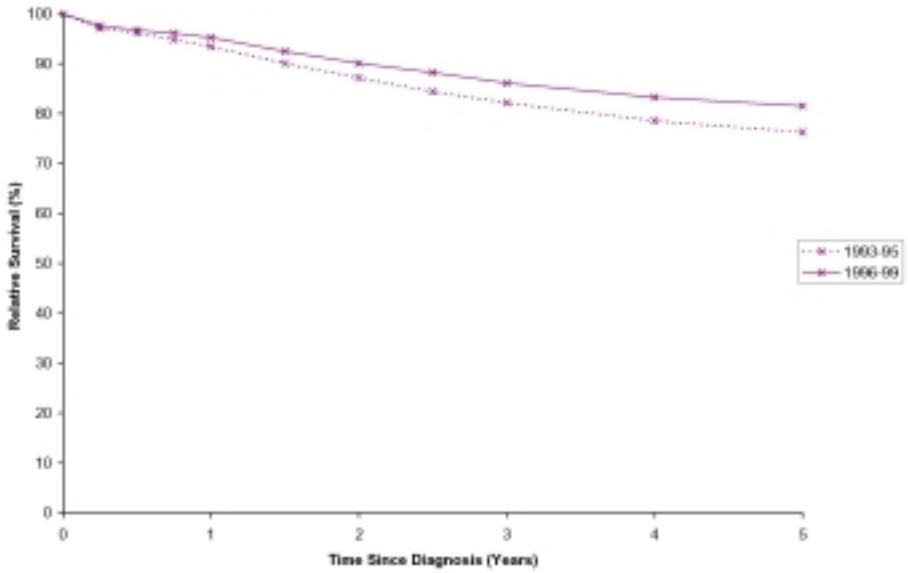
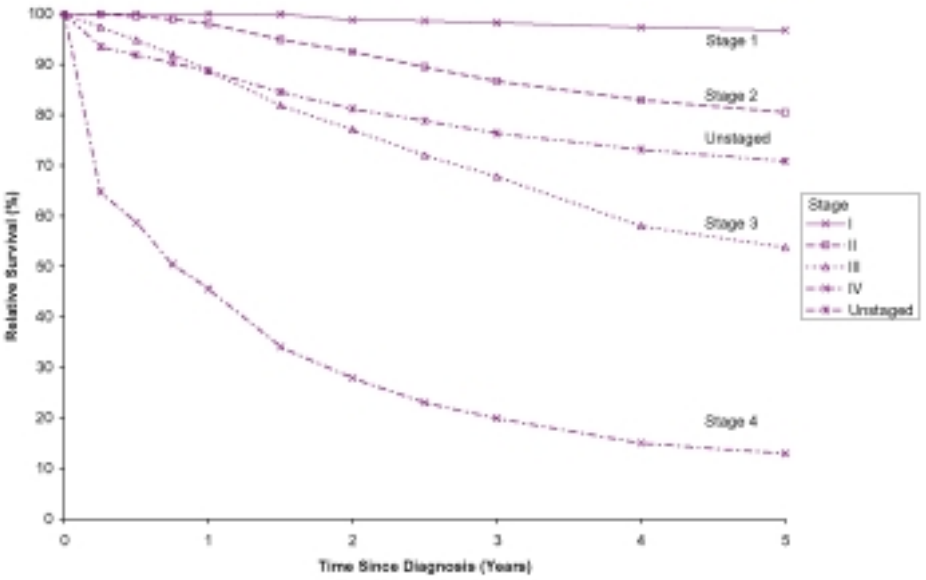


Table 12d: One and Five-year Relative Survival (95% Confidence Interval) for Females with Cancer of the Breast (15-99 years) Diagnosed in 1993-99 by Stage

Stage	1-year (95% CI)	5-year (95% CI)
I	99.9(99.8, 100)	96.8 (95.0, 97.9)
II	98.1 (97.1, 98.7)	80.5 (78.3, 82.5)
III	88.8 (84.7, 91.8)	53.7 (47.7, 59.4)
IV	45.6 (32.3, 57.9)	13.0 (5.4, 23.9)
Unstaged	88.6 (87.0, 90.1)	70.9 (68.4, 73.2)

Figure 12e: Female Cancer of the Breast Survival by Stage



Treatment

Of those females diagnosed in 2001, 74% had radiotherapy, 38% had chemotherapy, 88% had surgery, and 77% of females were given hormone therapy (Table 12e). Note patients may have undergone more than one treatment type.

Table 12e: Treatment of Females with Cancer of the Breast Patients Diagnosed in 2001

	No. of cases (%)
Radiotherapy	648 (74%)
Chemotherapy	344 (38%)
Hormone therapy	703 (77%)
Surgery	804 (88%)
-Mastectomy	316 (35%)
-Wide local excision	216 (24%)
-Excision biopsy	47 (5%)
-Other	225 (25%)

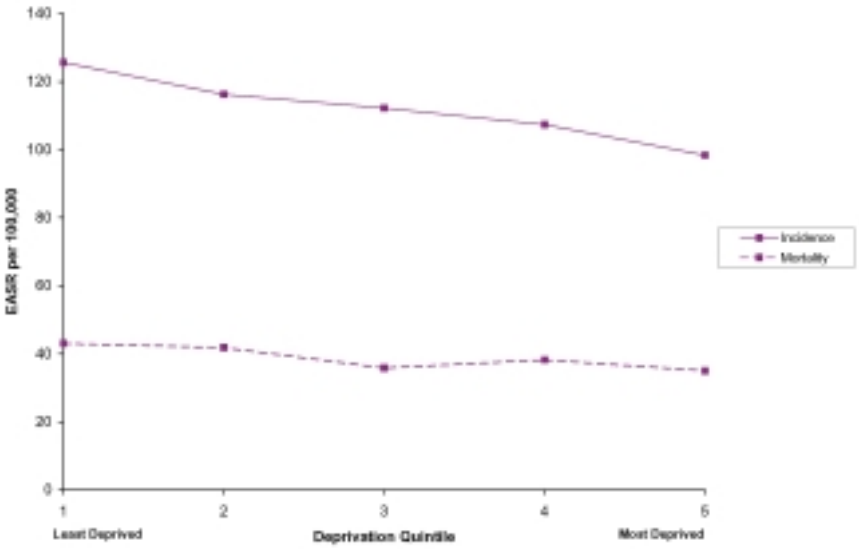
Geographical Variation

There was little variation in the EASRs for incidence between the four Health Boards. None of the District Council areas had significantly higher than expected levels of breast cancer in their female population.

Socioeconomic Trends

There were statistically significant increasing trends in the EASR for incidence ($P<0.01$) and mortality ($P<0.05$) of breast cancer with decreasing deprivation (Figure 12f). For incidence in females, those living in the most affluent areas had an EASR of 125.6 falling to 98.4 per 100,000 for those living in the most deprived areas. The corresponding mortality rates were 43.0 and 35.0 per 100,000 respectively.

Figure 12f: Age-Standardised Incidence and Mortality Rates of Females with Cancer of the Breast by Deprivation Quintile



Discussion

Breast cancer is the most common cancer in females after NMS cancer. Incidence of breast cancer has risen steadily in Northern Ireland since figures have been available (1993). This coincided with the introduction of mammographic breast cancer screening for females aged 50-65 years, which may have contributed somewhat to the rise by picking up tumours earlier than they would have presented clinically.

Breast cancer risk increases with age, but half of the cases were diagnosed in females younger than 60 years. Other risk factors include a family history of breast cancer, although only 5-10% of breast cancers are inherited via the BRCA1/BRCA2 genes. Another 15% are known to cluster in families.

An early menarche and late menopause, nulliparity or first birth after thirty-years and lack of breast feeding increase risk, as does exposure to oestrogen through Hormone Replacement Therapy.

A personal history of breast cancer, a history of atypical hyperplasia of the breast, and Lobular or Ductal Carcinoma in situ are all associated with increased risk[2]. Exposure to ionisating radiation is also a risk factor[2]. There is some evidence that obesity and alcohol consumption contribute to increased risk, while exercise of 4-5 hours per week can reduce the risk of breast cancer[3].

There is an inverse relationship with deprivation and rates are more common with increasing affluence. This may, in part, reflect lower levels of parity and delayed age at first pregnancy.

Survival for breast cancer is good, with 82% surviving five-years. Consequently there are at least 6,000 females alive in Northern Ireland who have had a diagnosis of breast cancer.

References

1. SEER Extent of Disease 1988, *Codes and Coding Instructions (3rd Edition)* 1998

2 Cancer Research Campaign (CRC). Factsheet 6.3 1996. *Breast Cancer - UK*

3 Thune I, Furberg AS. *Physical Activity and Cancer Risk: Dose-Response and Cancer, All Site and Site Specific.* Medicine and Science in Sports Exercise 2001; Proceedings of Symposium October 11-15 2000; S530-D610

13: Cancer of the Cervix Uteri (C53)

Key Facts

- **83 new cases each year**
- **32 deaths annually**
- **Five-year survival is good at 72%**
- **Incidence & mortality higher in the more deprived females**
- **496 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, cervical cancer was the twelfth most common cancer in females. On average 83 cases were diagnosed each year, accounting for about 2% of all cancers registered in females.

Age

Given the levels of disease in 2001, the risk of getting cervical cancer before the age of 75 years was 1 in 157 (Table 13a). Cervical cancer was more frequently diagnosed in younger females, with half diagnosed below 48 years. The average annual incidence of cervical cancer was highest for those aged 35-39 years, after which the incidence began to decline. However, due to the decreasing older population the age-specific rates remain fairly high in the older age-groups (Figure 13a).

Prevalence

In Northern Ireland on 31st December 2001, there were 496 females alive who had cervical cancer diagnosed between 1993 and 2001.

Deaths

Each year on average there were 32 deaths from cervical cancer. In 2001, it was the twentieth most common cause of cancer mortality in females. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 532 (Table 13b).

Trends

Between 1993 and 2001, there were no statistically significant trends in EASRs for incidence or mortality (Figure 13b).

Table 13a: Incidence of Cancer of the Cervix Uteri in 1993 and 2001

	1993	2001
Number of Cases	83	70
Crude Rate per 100,000	10.0	8.1
Cumulative Risk (0-74yrs) (%)	0.8	0.6
(Lifetime risk to 74 years) Odds, 1 in:	132	157
EASR per 100,000 (95% CI)	10.4 (8.1, 12.7)	8.0 (6.1, 9.8)
% of all cancers	2	2

Table 13b: Mortality Due to Cancer of the Cervix Uteri in 1993 and 2001

	1993	2001
Number of Deaths	34	24
Crude Rate per 100,000	4.1	2.8
Cumulative Risk (0-74yrs) (%)	0.3	0.2
(Lifetime risk to 74 years) Odds, 1 in:	312	532
EASR per 100,000 (95% CI)	3.9 (2.5, 5.2)	2.6 (1.5, 3.6)
% of all cancers	2	1

Figure 13a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Cervix Uteri (averaged over the diagnostic period 1993-2001)

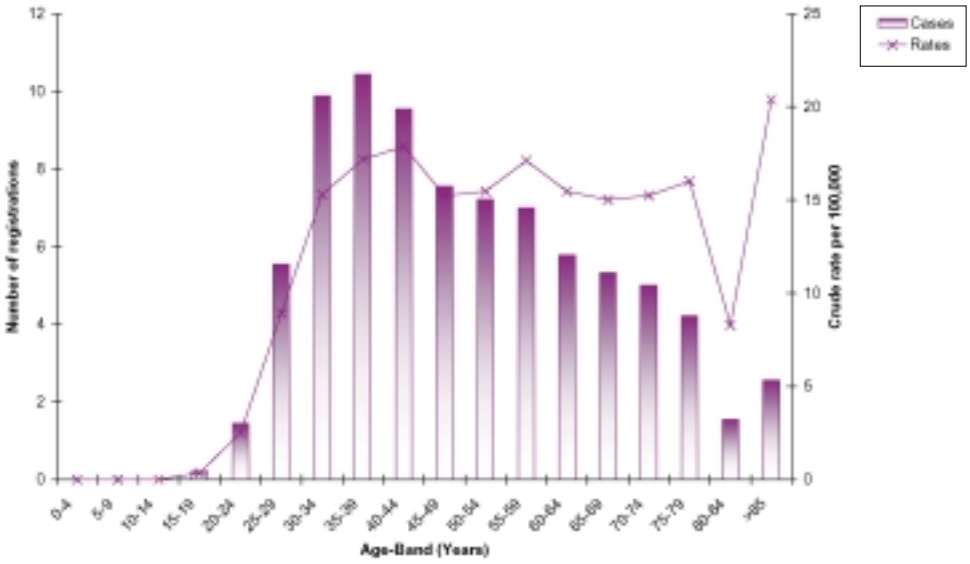
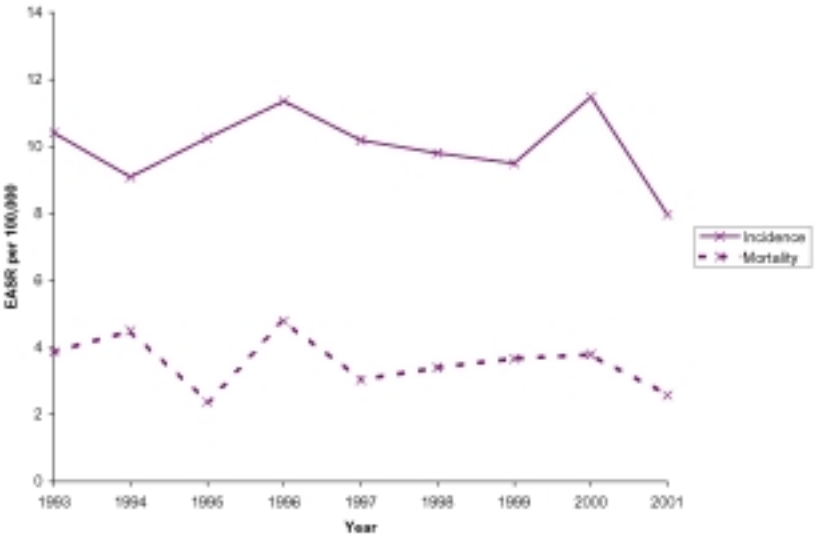


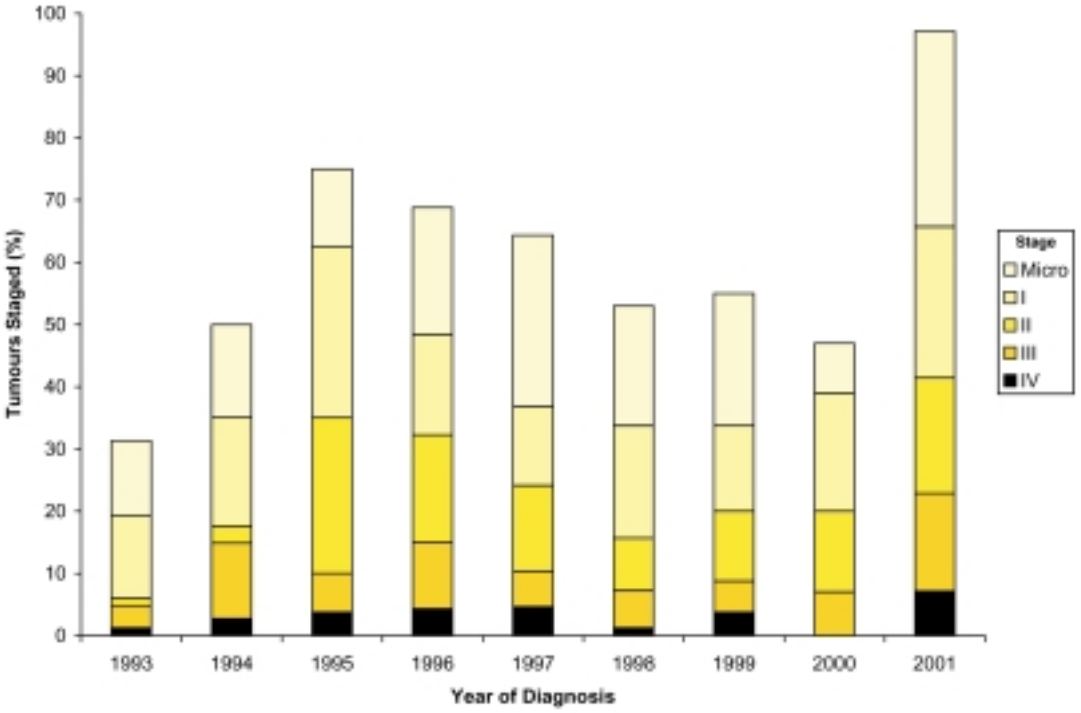
Figure 13b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Cervix Uteri (1993-2001) for All Ages



Staging

Staging for cervical cancers was variable over the time period. On average staging (mainly pathological) information was available for 59% of the tumours, which were classified in 2001 as microinvasive, Stage I (31%), II (24%), III (18%) or IV (7%). Over a third of tumours diagnosed were early stage (microinvasive or Stage Ia) (Figure 13c), which have good prognosis. Staging information was most complete in 2001 due to an audit project being carried out by NICR staff (only 3% remained unclassified compared with 69% in 1993). Additional staging information was available for the year 1995 provided by a DHSSPSNI audit project, which was kindly given to us by Dr Glenda Mock.

Figure 13c: Percentage of Cancer of the Cervix Uteri Cases by Stage and by Year of Diagnosis



Survival

Survival from cervical cancer was good, with the most recent (1996-99) five-year estimate being 72%. Although this appears to be an improvement on the estimate for the earlier diagnostic period (1993-95) (61%), it was not statistically significant. (Table 13c, Figure 13d). The prognosis for those patients presenting with early stage disease was good. The five-year survival rate for Stage I cervical cancer was 82%, compared to 2% for Stage IV disease (Table 13d, Figure 13e).

Table 13c: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Cervix Uteri (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Diagnosis Period	1-year (95% CI)	5-year (95% CI)
1993-95	84.6 (78.9, 88.9)	61.4 (54.2, 67.8)
1996-99	85.9 (81.4, 89.4)	71.9 (65.9, 77.0)

Figure 13d: Cancer of the Cervix Uteri Survival by Period of Diagnosis

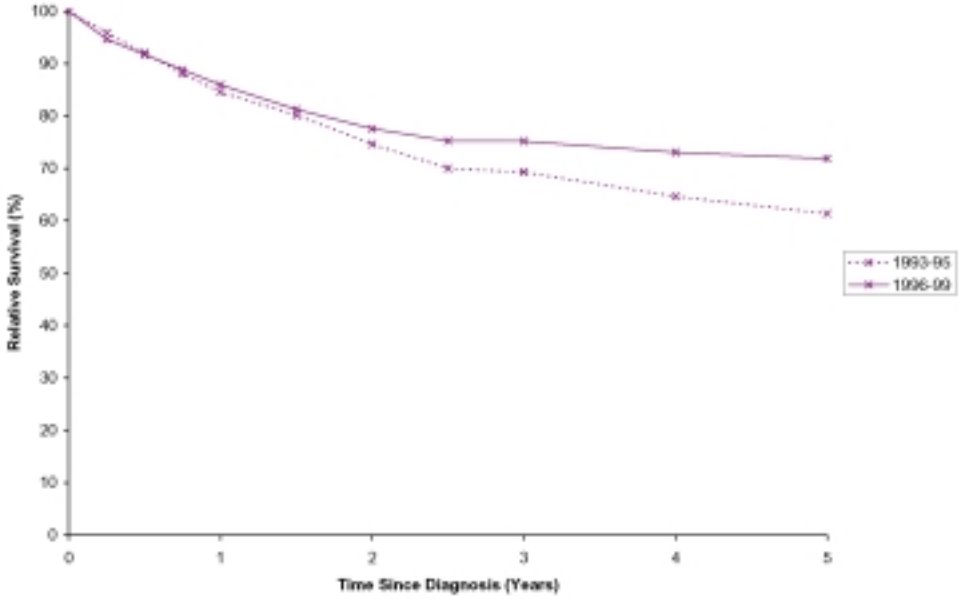
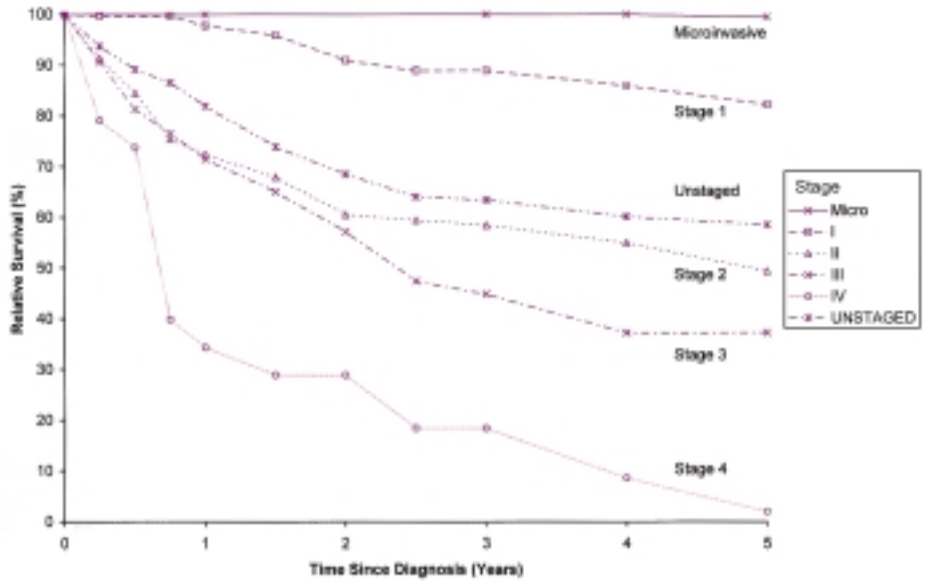


Table 13d: One and Five-year Relative Survival (95% Confidence Interval) for Females with Cancer of the Cervix Uteri (15-99 years) Diagnosed in 1993-1999 by Stage

Stage	1-year (95% CI)	5-year (95% CI)
Microinvasive	99.9 (99.8,100.0)	99.4 (1.7, 100.0)
I	97.8 (89.6, 99.6)	82.2 (71.8, 89.1)
II	72.5 (59.2, 82.0)	49.4 (35.0, 62.2)
III	71.5 (54.0, 83.3)	37.3 (22.0, 52.6)
IV	34.4 (14.3, 55.7)	2.0 (0.0, 17.9)
Unstaged	82.0 (76.1, 86.5)	58.5 (51.2, 65.2)

Figure 13e: Cancer of the Cervix Uteri Survival by Stage



Treatment

Of those diagnosed in 2001, almost half had radiotherapy, 40% had chemotherapy and 74% had surgery (Table 13e). Note patients may have undergone more than one treatment type.

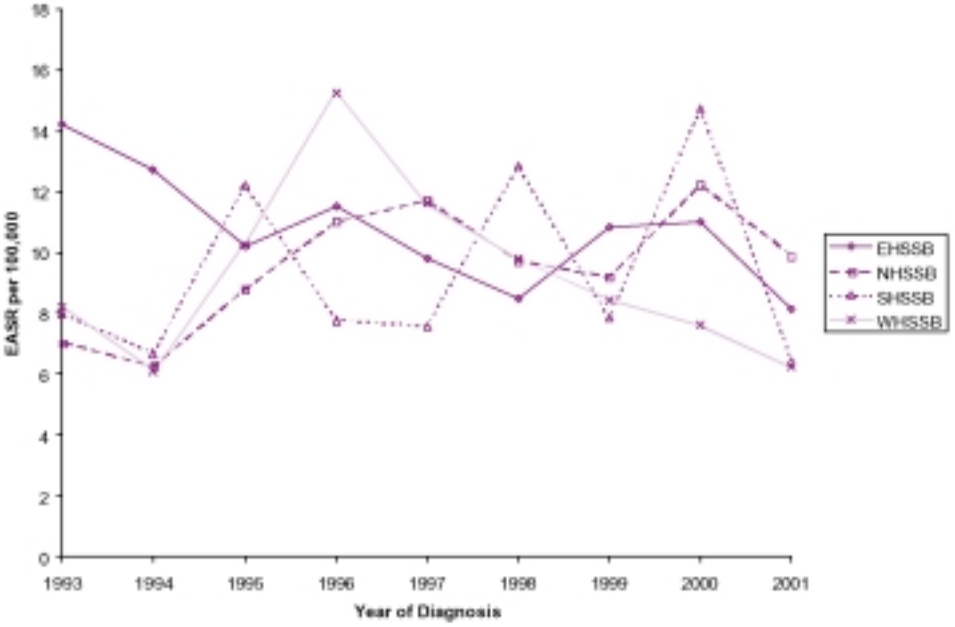
Table 13e: Treatment of Cancer of the Cervix Uteri Patients Diagnosed in 2001

	No. of cases (%)
Radiotherapy	33 (47%)
Chemotherapy	21 (40%)
Surgery	52 (74%)

Geographical Variation

There was little variation in the EASR for incidence between the four Health Boards, although incidence in the WHSSB appeared to decrease from 1996 onwards (Figure 13f).

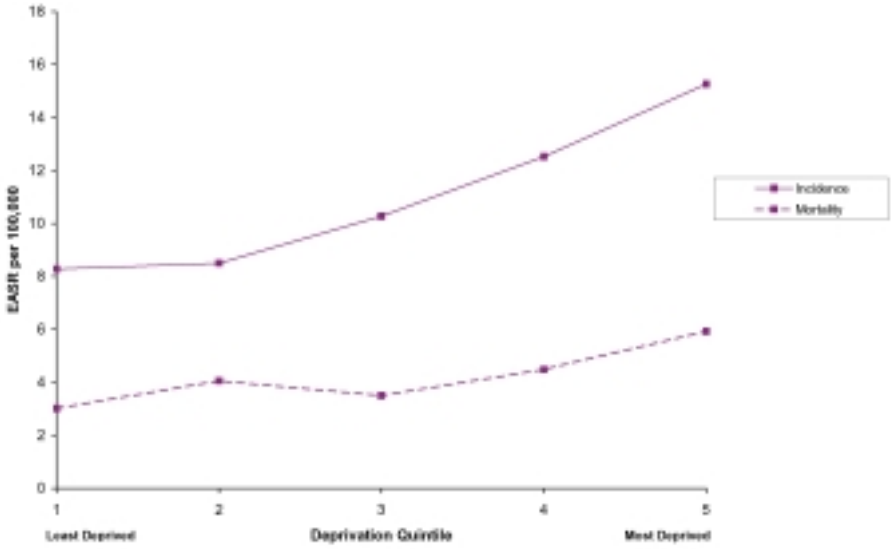
Figure 13f: Incidence of Cancer of the Cervix Uteri by Health Board



Socioeconomic Trends

There were statistically significant increasing trends in the EASR for incidence ($P<0.01$) and mortality ($P<0.05$) of cervical cancer with increasing deprivation (Figure 13g). For incidence, females living in the most affluent areas had an EASR of 8.3 rising to 15.3 per 100,000 for those in the most deprived areas, whilst the corresponding mortality rates were 3.0 and 5.9 per 100,000 respectively.

Figure 13g: Age-Standardised Incidence and Mortality Rates of Cervical Cancer of the Cervix Uteri by Deprivation Quintile



Discussion

Cancer of the cervix is a major health problem in the developing world. In Northern Ireland it is the twelfth most common cancer in females accounting for 2% of cases. It is a disease which increases with age, but half of the cases were diagnosed in women younger than 48 years.

Cervical cancer is preceded by premalignant conditions, and this is the rationale for the population based cervical cancer screening programme. Survival is good and so there are at least 500 females living in Northern Ireland with a diagnosis of cervical cancer.

Cervical cancer is more common in deprived groups who unfortunately are least likely to participate in screening programmes. In England and Wales rates in deprived areas were 3 times those in affluent areas[1]. Similar patterns exist in Scotland[2].

Cigarette smoking is linked with an increased risk of cervical cancer[3], although a causal role is difficult to establish because of possible confounding with sexual behaviour. Various cellular mechanisms for this link have been described. Infection with Human Papilloma Virus (HPV), especially types 16 and 18, pose a high risk for development of cervical cancer. However most HPV infections will not progress to cervical cancer[3].

Females should attend for cervical smear tests when invited. The risk associated with cigarette smoking is another good reason for females not to smoke.

1 Quinn M, Babb P, Brock A, et al. *Cancer Trends in England and Wales 1950-1999*. HMSO 2001

2 Harris V, Sandridge A, Black R, Brewster D, Gould A. *Cancer Registration Statistics Scotland 1986-1995.* Edinburgh ISD Scotland Publication 1998

3 Cancer Research UK. *CancerStats Cervical Cancer - UK.* January 2003

14: Cancer of the Corpus Uteri (C54)

Key Facts

- **113 new cases each year**
- **Rates of new cases are rising by 6 per year**
- **14 deaths annually**
- **Survival good: 75% survive five-years**
- **700 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, cancer of the uterus was the seventh most common cancer in females, with on average, 113 cases diagnosed each year, accounting for about 3% of all cancers registered in females.

Age

Given the levels of disease in 2001, the risk of getting cancer of the uterus before the age of 75 years was 1 in 72 (Table 14a). Half were diagnosed below 64 years. The incidence of cancer of the uterus was low for those aged below 45 years, after which it began to rise dramatically, reaching a plateau at 65-69 years (Figure 14a). The age-specific rates for 70 years and older remained high.

Prevalence

In Northern Ireland on 31st December 2001, there were 700 females alive who had cancer of the uterus diagnosed between 1993 and 2001.

Deaths

Each year on average there were 14 deaths from cancer of the uterus. In 2001, it was the twenty-first most common cause of cancer mortality in females. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 716 (Table 14b).

Trends

Between 1993 and 2001, there was a statistically significant upward trend (P<0.001) in the EASRs for incidence, corresponding to the standardised incidence rate increasing by 0.7 cases per 100,000 per year (Figure 14b).

In the same period, there was no statistically significant trend in EASRs for mortality (Figure 14b).

Table 14a: Incidence of Cancer of the Corpus Uteri in 1993 and 2001

	1993	2001
Number of cases	90	144
Crude Rate per 100,000	10.8	16.7
Cumulative Risk (0-74yrs) (%)	0.9	1.4
(Lifetime risk to 74 years) Odds, 1 in:	112	72
EASR per 100,000 (95% CI)	10.7 (8.4, 13.0)	15.9 (13.2, 18.6)
% of all cancers	2	3

Table 14b: Mortality Due to Cancer of the Corpus Uteri in 1993 and 2001

	1993	2001
Number of Deaths	6	22
Crude Rate per 100,000	0.7	2.5
Cumulative Risk (0-74yrs) (%)	0.0	0.1
(Lifetime risk to 74 years) Odds, 1 in:	3425	716
EASR per 100,000 (95% CI)	0.5 (0.1, 0.9)	1.9 (1.0, 2.7)
% of all cancers	<1	1

Figure 14a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Corpus Uteri (averaged over the diagnostic period 1993-2001)

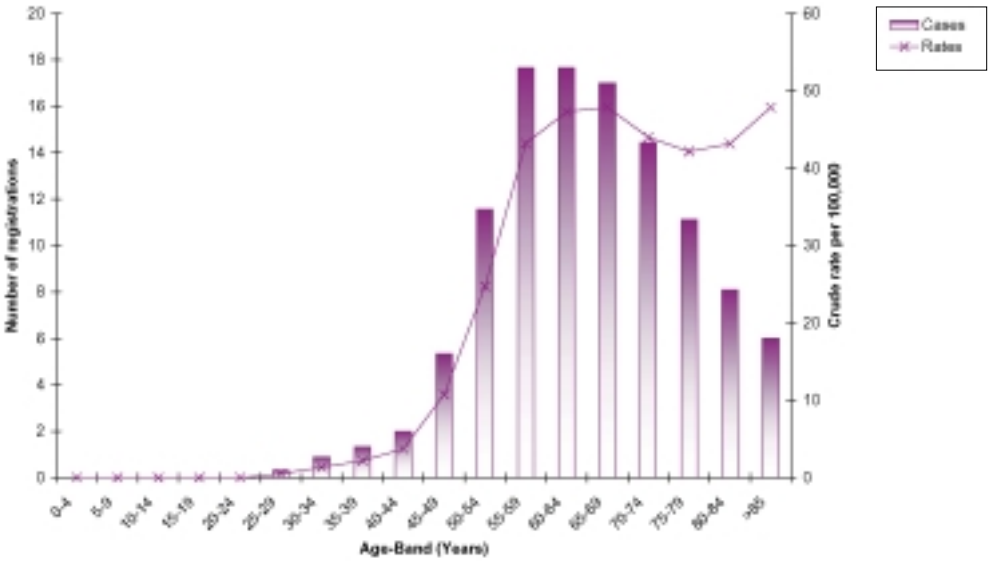
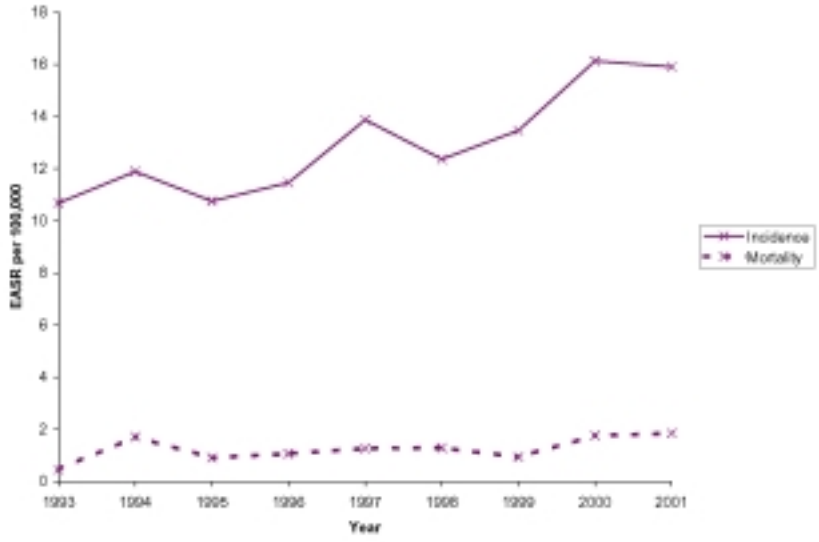


Figure 14b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Corpus Uteri (1993-2001) for All Ages



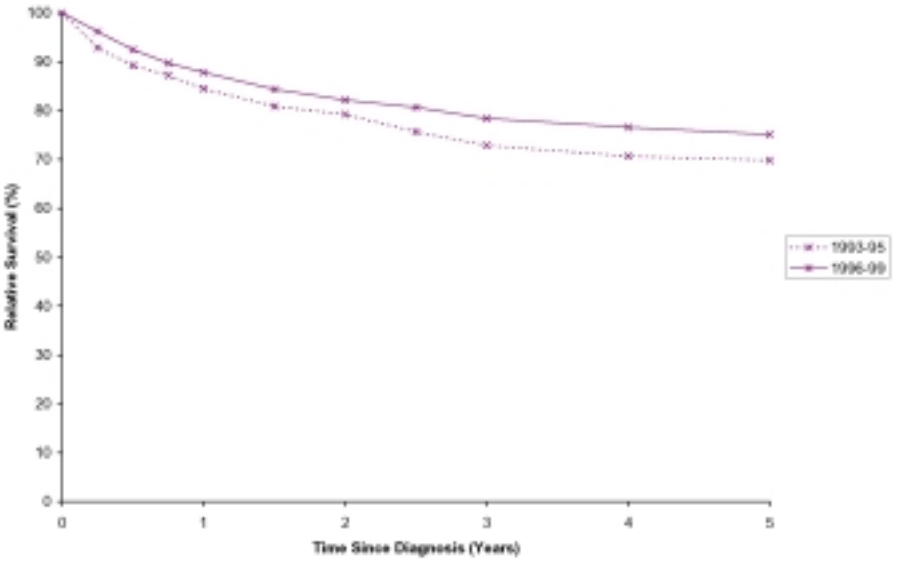
Survival

Survival from cancer of the uterus was good, with the most recent (1996-99) five-year estimate being 75% (Table 14c, Figure 14c).

Table 14c: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Corpus Uteri (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Diagnosis Period	1-year (95% CI)	5-year (95% CI)
1993-95	84.5 (79.4, 88.4)	69.8 (63.3, 75.5)
1996-99	87.8 (83.8, 90.9)	75.1 (69.5, 79.9)

Figure 14c: Cancer of the Corpus Uteri Survival by Period of Diagnosis



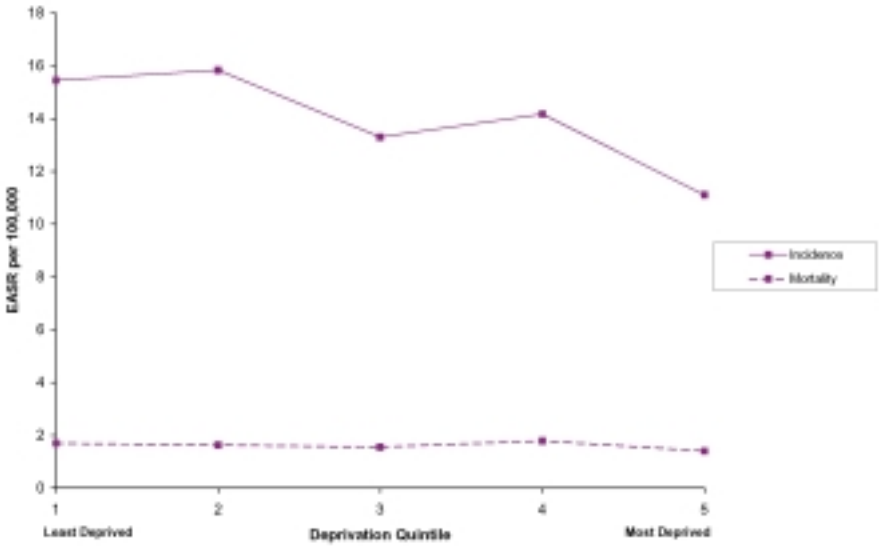
Geographical Variation

The incidence of cancer of the uterus appears to be increasing across the four Health Boards, but there was no variation by Board.

Socioeconomic Trends

There were no statistically significant trends in the EASRs for incidence or mortality with increasing deprivation (Figure 14d).

Figure 14d: European Age-Standardised Incidence and Mortality Rates of Cancer of the Corpus Uteri by Deprivation Quintile



Discussion

Cancer of the body of the uterus was the seventh most common cancer in females and more common than cancer of the cervix. Most tumours arise in the endometrium rather than other parts of the uterus. The incidence of cancer of the body of the uterus has risen steadily, from 90 cases in 1993 to 144 in 2001 (Figure 14b). However the number of deaths per year has not seen a dramatic rise. This reflects the relatively good survival of patients with this cancer and consequently, 700 of the patients diagnosed with cancer of the body of the uterus between 1993 and 2001, were still alive at 31st December 2001. In our data, there is little evidence to suggest that deprivation or geographic variation plays a significant role in the incidence of this cancer.

There has been a rise in this cancer noted in the USA, although numbers now seem to be levelling out[1]. In the UK as a whole, a rise has been noted since the 1970's[2,3]. The exact reasons for this are unclear, but it has been suggested that changes in lifestyle may be a cause. Attention has focused on the taking of the contraceptive pill and the number of children a woman has, both of which are thought to be protective. The use of Hormone Replacement Therapy (HRT) and tamoxifen has been linked to a rise in endometrial cancer[4]. Other studies have shown that females who are obese are at a higher risk of developing cancers of the body of the uterus than females of healthy weight range[5].

1 American Cancer Society. *Cancer Facts and Figures 2003*. Atlanta, Ga. American Cancer Society 2003

2 National Cancer Intelligence Centre: Office of National Statistics www.statistics.gov.uk

3 Cancer Information www.isdscotland.org/isd/info3

4 Pukkala E, Kyyronen P, Sankila R, Holli K. *Tamoxifen and Toremifene Treatment of Breast Cancer and Risk of Subsequent Endometrial Cancer: A Population-Based Case-Control Study*. Int J Cancer. 2002 Jul 20; 100(3): 337-41.

5 Møller H, Mellengard A, Linding K, et al. *Obesity and Cancer Risk, A Danish Record-Linkage Study.* Eur J Cancer 1994; 30A: 344-50

15: Cancer of the Ovary (C56)

Key Facts

- **168 new cases each year**
- **99 deaths annually**
- **Survival moderate: 45% survive five-years**
- **Mortality higher in the most affluent females**
- **701 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, cancer of the ovary was the fifth most common cancer in females, with on average 168 cases diagnosed each year, accounting for about 4% of all cancers registered in females.

Age

Given the levels of disease in 2001, the risk of getting ovarian cancer before the age of 75 years was 1 in 68 (Table 15a). Half were diagnosed below 62 years. The average incidence of ovarian cancer peaked at age 65-69 years and then began to decline (Figure 15a). However the age-specific rates remained high.

Prevalence

In Northern Ireland on 31st December 2001, there were 701 females alive who had ovarian cancer diagnosed between 1993 and 2001.

Deaths

Each year on average there were 99 deaths from cancer of the ovary. In 2001, it was the fourth most common cause of cancer mortality in females. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 101 (Table 15b).

Trends

Between 1993 and 2001, there were no statistically significant trends in EASRs for incidence or mortality (Figure 15b).

Table 15a: Incidence of Cancer of the Ovary in 1993 and 2001

	1993	2001
Number of Cases	151	170
Crude Rate per 100,000	18.1	19.7
Cumulative Risk (0-74yrs) (%)	1.5	1.5
(Lifetime risk to 74 years) Odds, 1 in:	69	68
EASR per 100,000 (95% CI)	18.0 (15.1, 21.0)	18.4 (15.6, 21.3)
% of all cancers	4	4

Table 15b: Mortality Due to Cancer of the Ovary in 1993 and 2001

	1993	2001
Number of Deaths	92	117
Crude Rate per 100,000	11.0	13.5
Cumulative Risk (0-74yrs) (%)	0.9	1.0
(Lifetime risk to 74 years) Odds, 1 in:	117	101
EASR per 100,000 (95% CI)	10.2 (8.0, 12.4)	12.0 (9.7, 14.2)
% of all cancers	5	7

Figure 15a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Ovary (averaged over the diagnostic period 1993-2001)

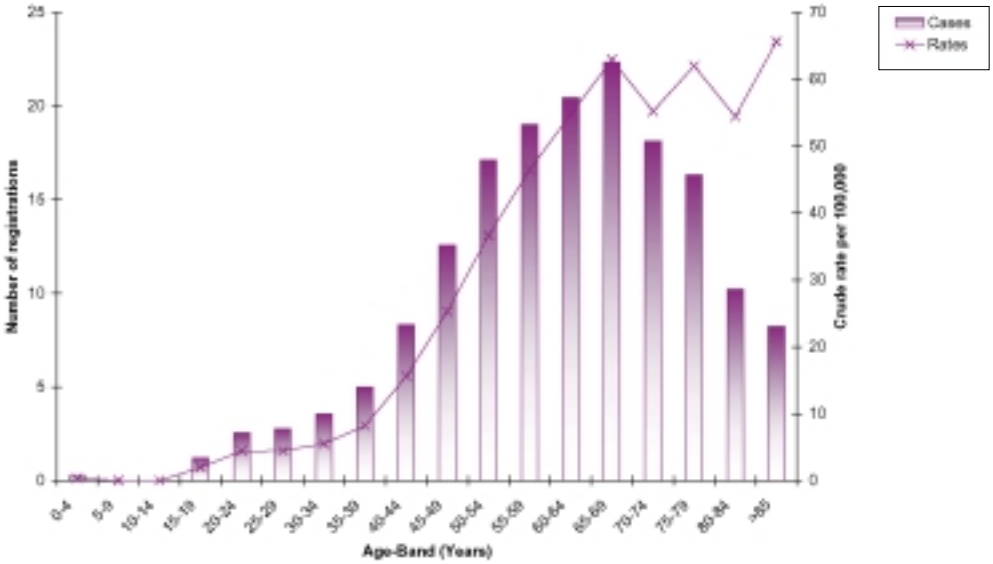
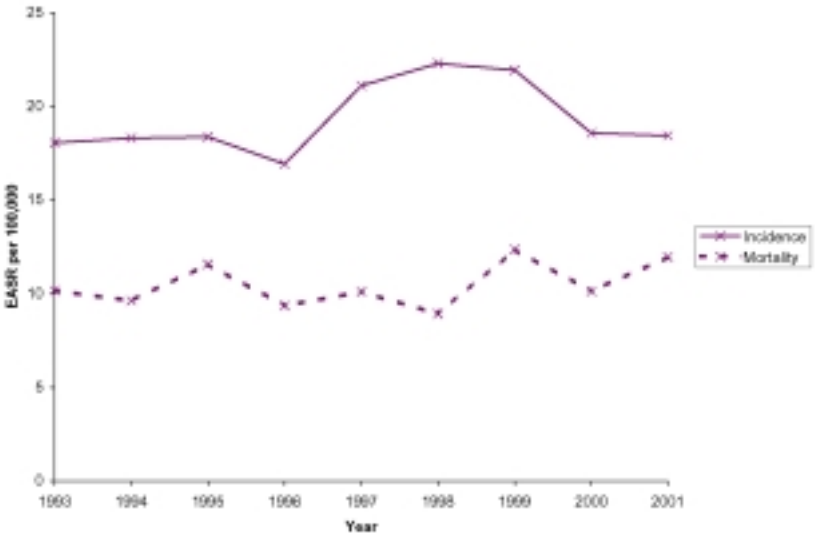


Figure 15b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Ovary (1993-2001) for All Ages

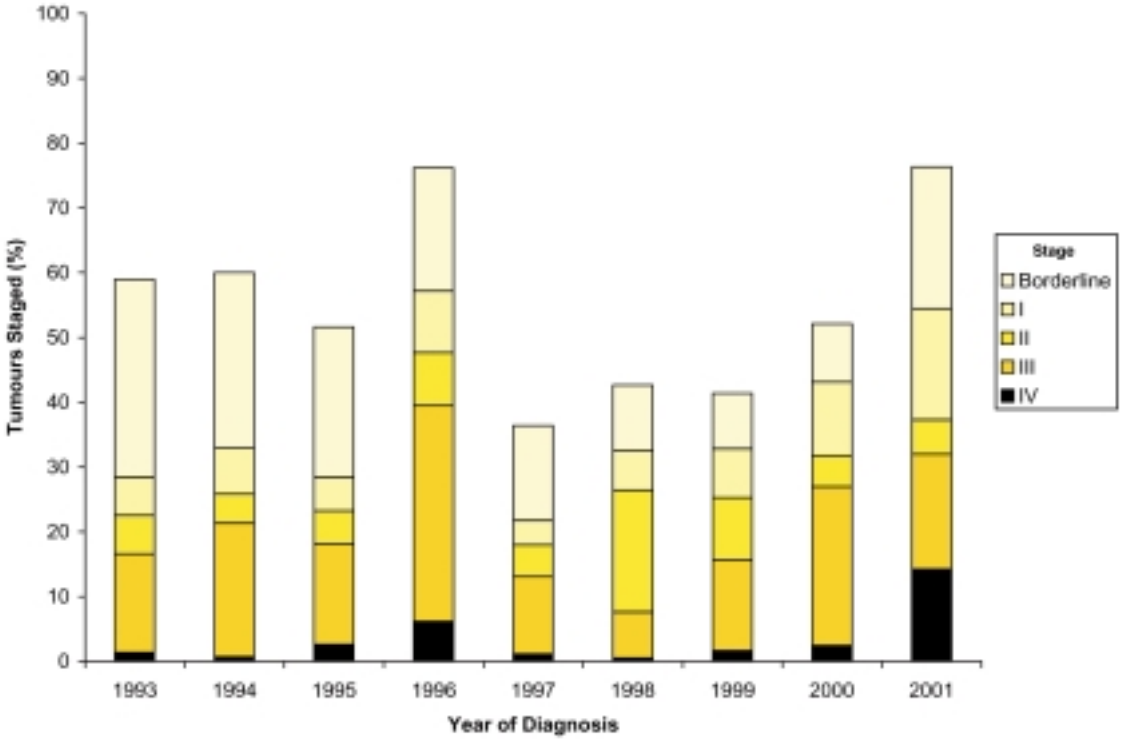


Staging

The classification of ovarian cancer is complicated by whether tumours of borderline malignancy are included or not. Borderline tumours (Stage IA) are normally confined to one ovary and rarely spread. They are the commonest type of ovarian tumour in young women and have excellent prognosis. For the purpose of this Report borderline tumours have been included in the Stage IA category.

On average staging information was available for 54% of the tumours, which were classified in 2001 as borderline (IA) (22%), Stage I (17%), II (5%) , III (18%) or IV (14%) . Staging information was most complete in 1996 and 2001 due to audit projects being carried out for these years (Figure 15c). The greater number of later Stage IV tumours for these two years reflects the access to full clinical notes.

Figure 15c: Percentage of Cancer of the Ovary Cases by Stage and by Year of Diagnosis



Survival

Survival data produced by cancer registries may differ because some include borderline tumours in the analysis, which in turn produces higher survival rates. For this Report, survival estimates were produced with and without borderline ovarian tumours (Table 15c). Overall, there was an improvement in survival with time but this reached significance only for those excluding borderline tumours (Figure 15d). Fewer than half of all females diagnosed with cancer of the ovary, including those with borderline tumours, survived five-years. When patients with borderline ovarian cancer were removed from the analysis, 37% of patients survived five-years in the more recent diagnostic period (1996-99). Although overall survival is relatively poor, the prognosis for those patients presenting with early stage disease was good. The five-year survival rate for Stage I ovarian cancer was 72%, compared to 6% for Stage IV disease (Table 15d, Figure 15e).

Table 15c: One and Five-Year Relative Survival (95% Confidence Interval) for Cancer of the Ovary (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Borderline Ovary	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Included	1993-95	65.1 (60.2, 69.6)	43.1 (38.0, 48.0)
	1996-99	69.2 (65.3, 72.7)	45.1 (40.8, 49.3)
Excluded	1993-95	53.3 (47.5, 58.8)	25.5 (20.4, 30.7)
	1996-99	64.7 (60.4, 68.6)	37.1 (32.6, 41.6)

Figure 15d: Cancer of the Ovary Survival by Period of Diagnosis

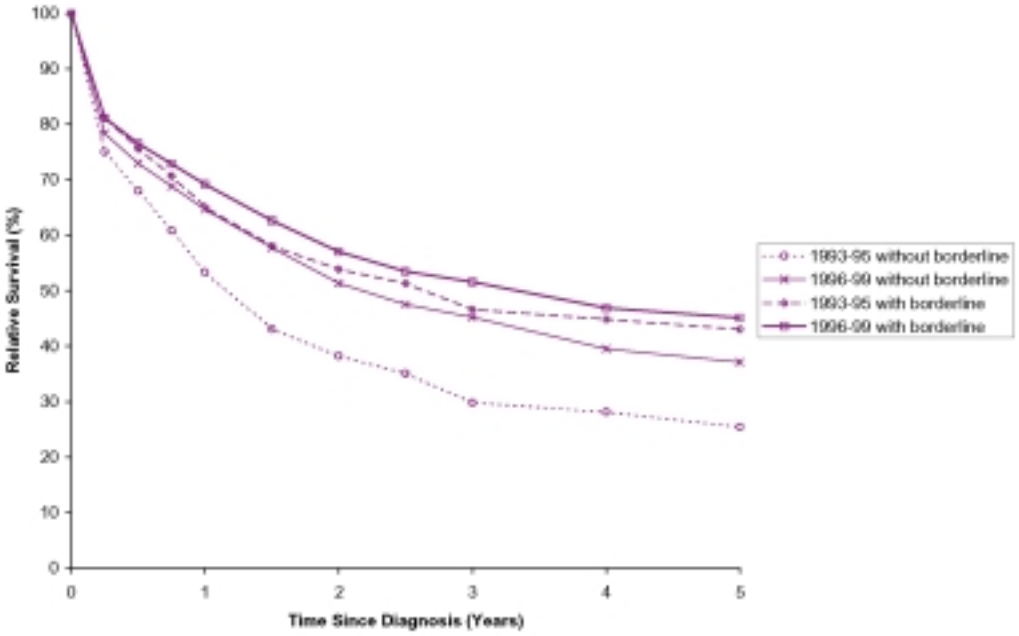
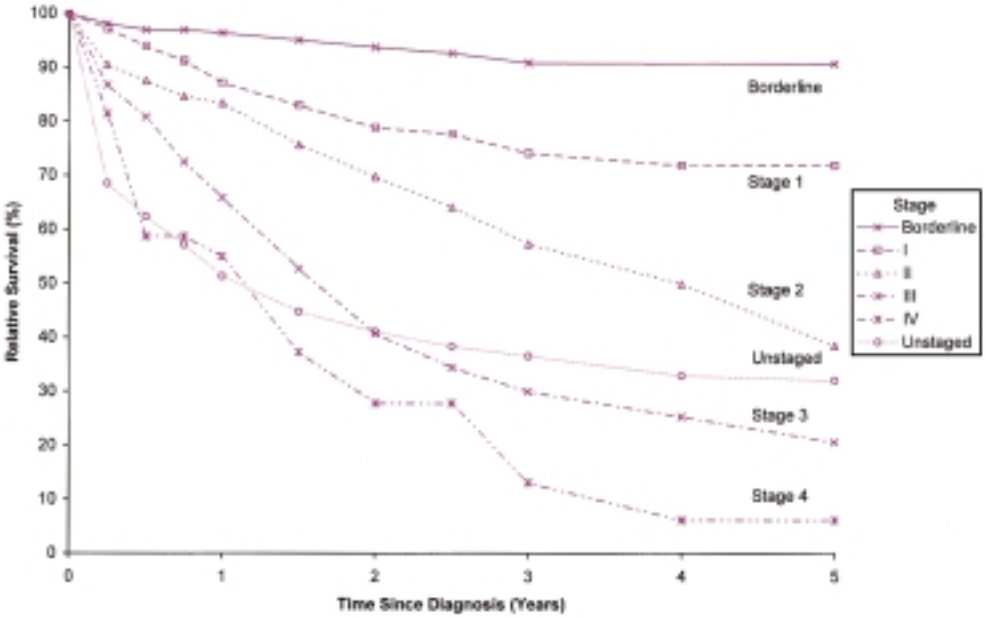


Table 15d: One and Five-year Relative Survival (95% Confidence Interval) for Females with Cancer of the Ovary (15-99 years) Diagnosed in 1993-1999 by Stage

Stage	1-year (95% CI)	5-year (95% CI)
Borderline	96.4 (91.5, 98.5)	90.7 (84.1, 94.7)
I	87.2 (75.1, 93.7)	71.9 (57.9, 82.0)
II	83.4 (73.1, 90.1)	38.6 (26.6, 50.4)
III	65.9 (58.3, 72.5)	20.6 (14.6, 27.4)
IV	55.0 (31.9, 73.1)	6.2 (0.8, 20.2)
Unstaged	51.4 (46.9, 55.7)	32.1 (27.8, 36.6)

Figure 15e: Cancer of the Ovary Survival by Stage



Treatment

Of those females diagnosed in 2001, almost half had chemotherapy, 83% had surgery and 5% radiotherapy (Table 15e). Note patients may have undergone more than one treatment type

Table 15e: Treatment of Cancer of the Ovary Patients Diagnosed in 2001

	No. of cases (%)
Radiotherapy	8 (5%)
Chemotherapy	82 (48%)
Surgery	142 (83%)

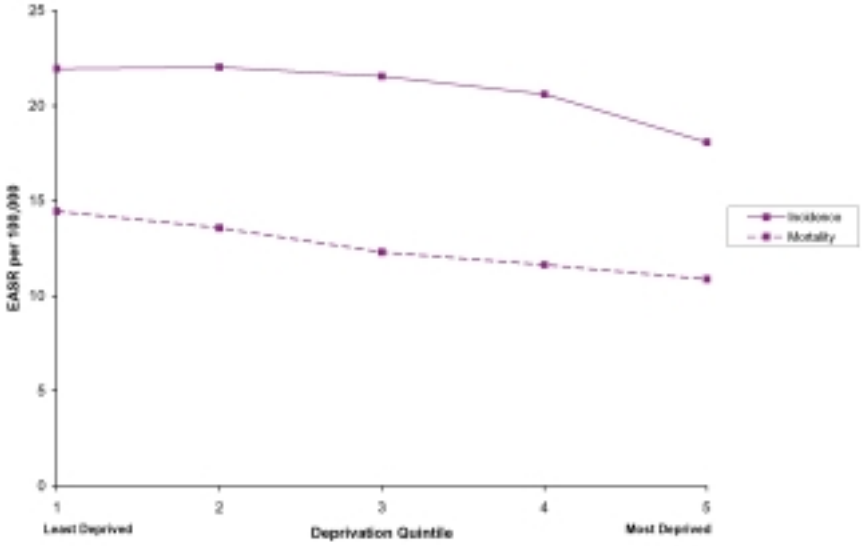
Geographical Variation

There was little variation in the EASRs for incidence between the four Health Boards. Similarly, none of the District Council areas had significantly higher than expected levels of ovarian cancer.

Socioeconomic Trends

There was no statistically significant trend in incidence rates of cancer of the ovary with increasing deprivation (Figure 15f). However, there was a statistically significant downward trend ($P<0.001$) in mortality rates, with females living in the most affluent areas having an EASR of 14.5 which fell to 10.9 per 100,000 for those living in the most deprived areas.

Figure 15f: Age-Standardised Incidence and Mortality Rates of Cancer of the Ovary by Deprivation Quintile



Discussion

Cancer of the ovary is the fifth most common cancer in women and the commonest gynaecological cancer. There was no evidence of a change in incidence or mortality of ovarian cancer over this time period, but the number of cases will probably increase as more women live longer since this cancer is more common with increasing age.

There was no evidence of significant geographical differences in the distribution of this cancer. Mortality rates were lower in females from a more deprived background compared to those from a more affluent background.

The variation in mortality with higher rates in more affluent women has been described previously in population from Mediterranean and South American countries but is not consistent across all populations[1].

Ovarian cancer is a disease in which demographic factors such as older age groups and higher social class play an important role in increasing a woman's risk of developing the disease[2]. A woman's ovulatory history is also thought to be important with the risk decreasing with the number of pregnancies[3] while the use of oral contraception has a protective effect. It is also thought that around 5% of ovarian cancers are due to genetic factors associated with a faulty copy of the gene BRCA1[4].

National screening is not recommended for this type of cancer, but a trial is underway to study the effectiveness of using ultrasound and a blood tumour marker to detect early tumours.

Surgery is the favoured treatment for this type of cancer, and may be the only treatment necessary for early or borderline cancers. In 2001, nearly half of patients had chemotherapy, with radiotherapy being used in a small number of cases.

Survival is quite poor from this cancer with fewer than half surviving after five-years. Survival is however very dependant on the stage of the cancer at presentation. Patients with early borderline tumours (Stage 1A) have an excellent prognosis, whereas patients presenting at a late stage of the disease, have poor prognosis. There are over 700 females living in Northern Ireland with a diagnosis of ovarian cancer. Survival has improved.

References

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16: Cancer of the Prostate (C61)

Key Facts

- **492 cases each year**
- **209 deaths annually**
- **Survival good: 60% survive five-years**
- **Incidence higher in the more affluent males**
- **2,176 males diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, prostate cancer was the third most common cancer in males, with on average, 492 cases diagnosed each year, accounting for about 12% of all cancers registered in males.

Age

Fifty percent of cases were diagnosed below the age of 74 years. Given the levels of disease in 2001, the risk of getting prostate cancer before the age of 75 years was 1 in 20 (Table 16a). The average incidence increased up to age 70-74, after which it began to decline. However, the age-specific rates for the 75 and older age groups continued to increase (Figure 16a).

Prevalence

In Northern Ireland on 31st December 2001, there were 2,176 males alive who had prostate cancer diagnosed between 1993 and 2001.

Deaths

Each year on average there were 209 deaths from prostate cancer. In 2001, it was the second most common cause of cancer mortality in males. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 81 (Table 16b).

Trends

Between 1993 and 2001, there were no statistically significant trends in the EASRs for incidence or mortality (Figure 16b).

Table 16a: Incidence of Cancer of the Prostate in 1993 and 2001

	1993	2001
Number of Cases	472	509
Crude Rate per 100,000	59.1	61.7
Cumulative Risk (0-74yrs) (%)	3.9	5.0
(Lifetime risk to 74 years) Odds, 1 in:	26	20
EASR per 100,000 (95% CI)	63.8 (57.9, 69.6)	63.1 (57.6, 68.7)
% of all cancers	11	12

Table 16b: Mortality Due to Cancer of the Prostate in 1993 and 2001

	1993	2001
Number of Deaths	181	214
Crude Rate per 100,000	22.7	26.0
Cumulative Risk (0-74yrs) (%)	1.0	1.2
(Lifetime risk to 74 years) Odds, 1 in:	102	81
EASR per 100,000 (95% CI)	24.2 (20.6, 27.8)	26.2 (22.6, 29.8)
% of all cancers	10	11

Figure 16a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Prostate (averaged over the diagnostic period 1993-2001)

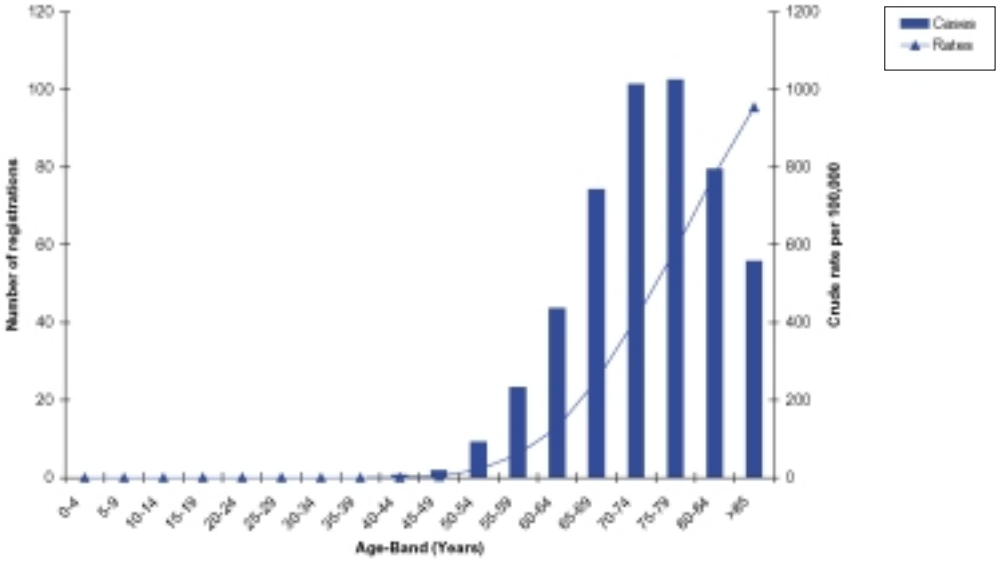
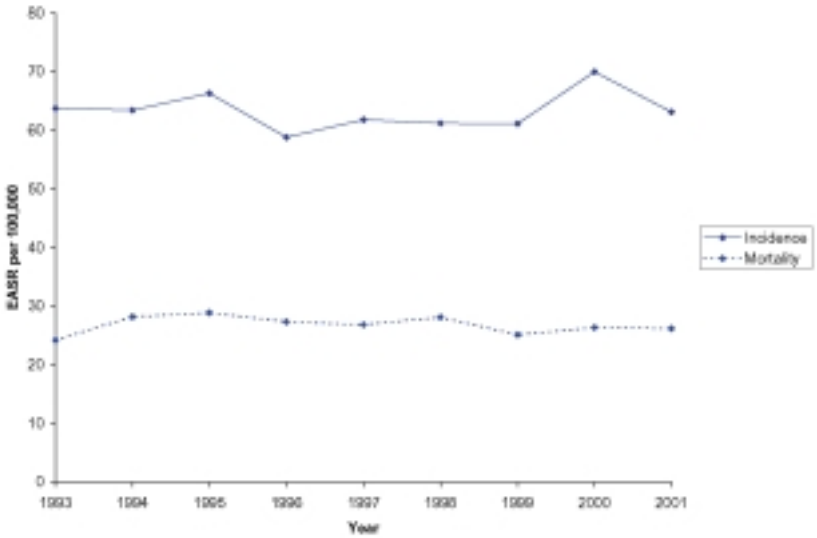


Figure 16b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Prostate (1993-2001) for All Ages



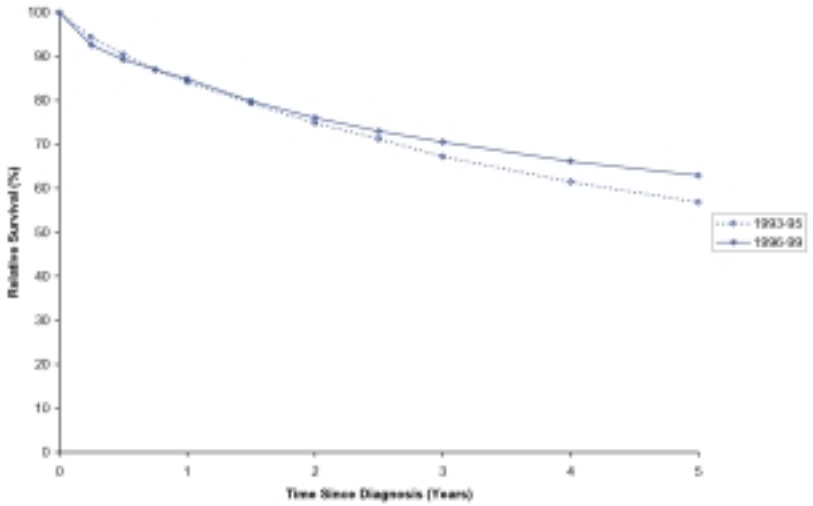
Survival

Survival is good, 84% at one-year and 62% at five-years. There was no significant change in survival over the two time periods analysed (Table 16c, Figure 16c).

Table 16c: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Prostate (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Diagnosis Period	1-year (95% CI)	5-year (95% CI)
1993-95	84.2 (81.6, 86.4)	56.9 (53.0, 60.5)
1996-99	84.9 (82.7, 86.8)	62.9 (59.4, 66.3)

Figure 16c: Cancer of the Prostate Survival by Period of Diagnosis



Geographical Variation

After 1995, the EASRs for incidence of cancer of the prostate were highest in the WHSSB (Figure 16d). On examination of the rates by District Council, Derry, Omagh and Down were found to have significantly high levels of the disease, with SIRs of 133 (95% CI 116, 149), 138 (95% CI 117, 159) and 122 (95% CI 105, 139) respectively (Figure 16e).

Figure 16d: Incidence of Cancer of the Prostate by Health Board

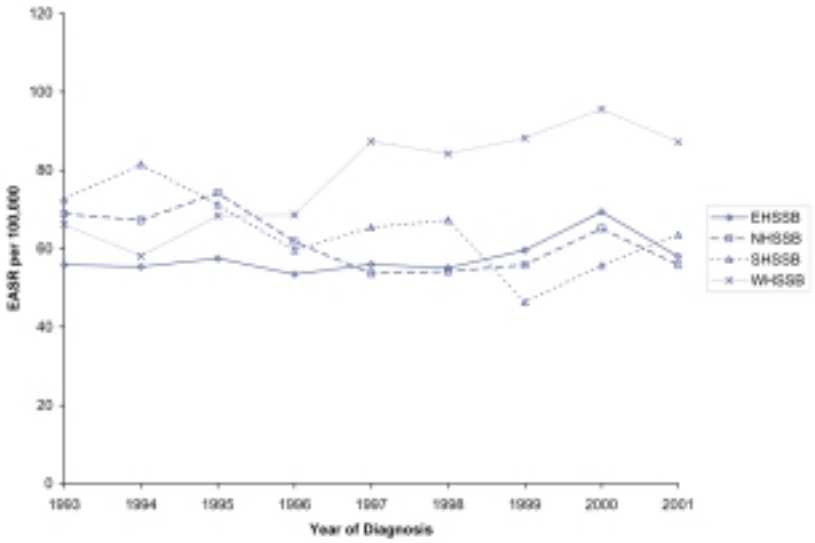
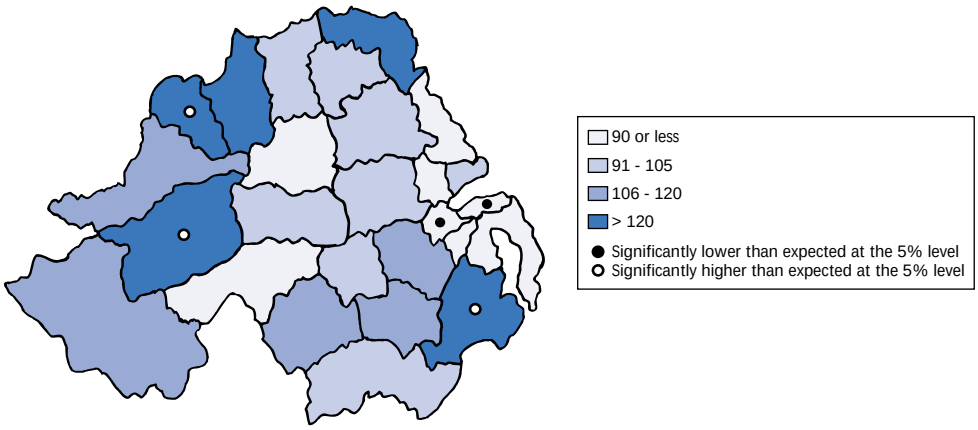


Figure 16e: Age-Standardised Incidence Ratios by District Council (1993-2001), Cancer of the Prostate for All Ages

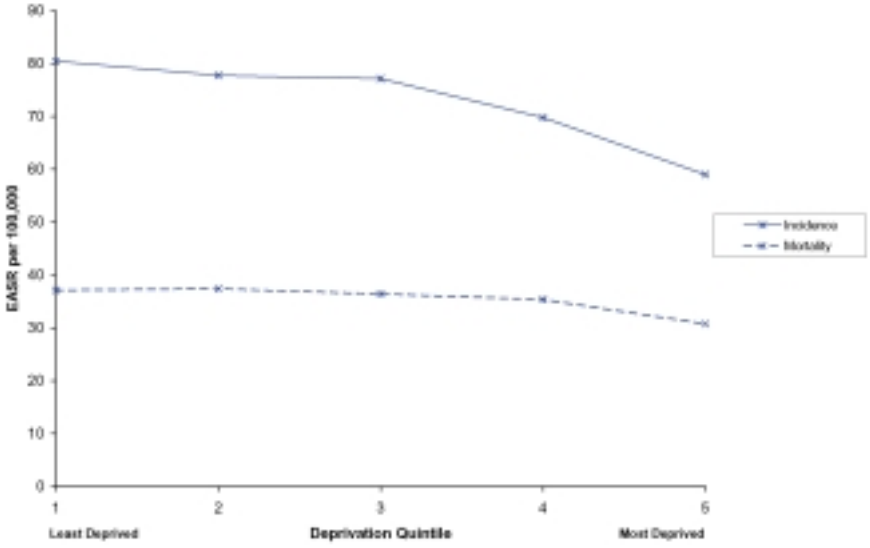


Socioeconomic Trends

There was a statistically significant trend (P<0.05) in EASRs for incidence of prostate cancer with deprivation. Males living in the most affluent areas had an increased EASR of 80.5, which fell to 59.0 per 100,000 for those living in the most deprived areas (Figure 16f).

There was no statistically significant trend in the mortality rates with deprivation.

Figure 16f: Age-Standardised Incidence and Mortality Rates of Cancer of the Prostate by Deprivation Quintile



Discussion

Prostate cancer is the third most commonly diagnosed cancer in males after NMS cancer and lung cancer. It is a disease which increases with age, half of the cases were aged over 74 when diagnosed and few cases occurred under the age of 50. Rates for prostate cancer vary widely internationally, with highest rates occurring in USA and Canada. Rates have increased markedly in many countries with the introduction of Prostate Specific Antigen (PSA) testing. Higher levels in affluent populations than deprived populations have been reported in England and Wales[1] and Scotland[2]. The pattern of rate differences with deprivation for incidence, but not mortality, are similar here to those reported in England, Wales and Scotland. It is not known to what extent the incidence and survival differences reflect true variation in risk by socio-deprivation group or differences in access to PSA testing. Northern Ireland's levels of PSA testing have increased markedly since 1994, so that now over one third of men over 50 years have had a PSA test[3]. Studies are ongoing to determine the impact of this testing on Prostate Cancer Management.

Higher levels are noted in the WHSSB. Previous reports[4] have noted higher levels in the SHSSB which have been correlated with PSA testing levels[3].

Known risk factors for prostate cancer are increasing age, a family history of prostate cancer, ethnic race black, radiation exposure and a diet with high animal fat consumption and low levels of selenium.

Survival is relatively good with almost 60% relative survival at five-years. There are at least 2,200 males living in Northern Ireland who have had a diagnosis of prostate cancer.

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17: Cancer of the Testis (C62)

Key Facts

- **52 new cases each year**
- **3 deaths annually**
- **Survival excellent: almost 95% surviving five-years**
- **437 males diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, testicular cancer was the sixteenth most common cancer in males, with on average 52 cases diagnosed each year, accounting for about 1% of all cancers registered in males.

Age

Fifty percent of cases were diagnosed below 33 years. Given the levels of disease in 2001, the risk of getting testicular cancer before the age of 75 years was 1 in 229 (Table 17a). Testicular cancer is predominantly a disease in younger males. The average incidence peaked in those aged 30-34 years, after which it declined (Figure 17a).

Prevalence

In Northern Ireland on 31st December 2001, there were 437 males alive who had testicular cancer diagnosed between 1993 and 2001.

Deaths

Testicular cancer is not a very common cause of cancer mortality, with about 3 deaths each year. It was the thirty-fourth most common cause of cancer death in 2001. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 3,813 (Table 17b).

Trends

Between 1993 and 2001, there were no statistically significant trends in the EASRs for incidence or mortality (Figure 17b).

Table 17a: Incidence of Cancer of the Testis in 1993 and 2001

	1993	2001
Number of Cases	55	50
Crude Rate per 100,000	6.9	6.1
Cumulative Risk (0-74yrs) (%)	0.5	0.4
(Lifetime risk to 74 years) Odds, 1 in:	207	229
EASR per 100,000 (95% CI)	6.9 (5.0, 8.7)	6.0 (4.3, 7.6)
% of all cancers	1	1

Table 17b: Mortality Due to Cancer of the Testis in 1993 and 2001

	1993	2001
Number of Deaths	3	3
Crude Rate per 100,000	0.4	0.4
Cumulative Risk (0-74yrs) (%)	0.0	0.0
(Lifetime risk to 74 years) Odds, 1 in:	3739	3813
EASR per 100,000 (95% CI)	0.4 (0.0, 0.8)	0.4 (0.0, 0.8)
% of all cancers	<1	<1

Figures 17a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Testis (averaged over the diagnostic period 1993-2001)

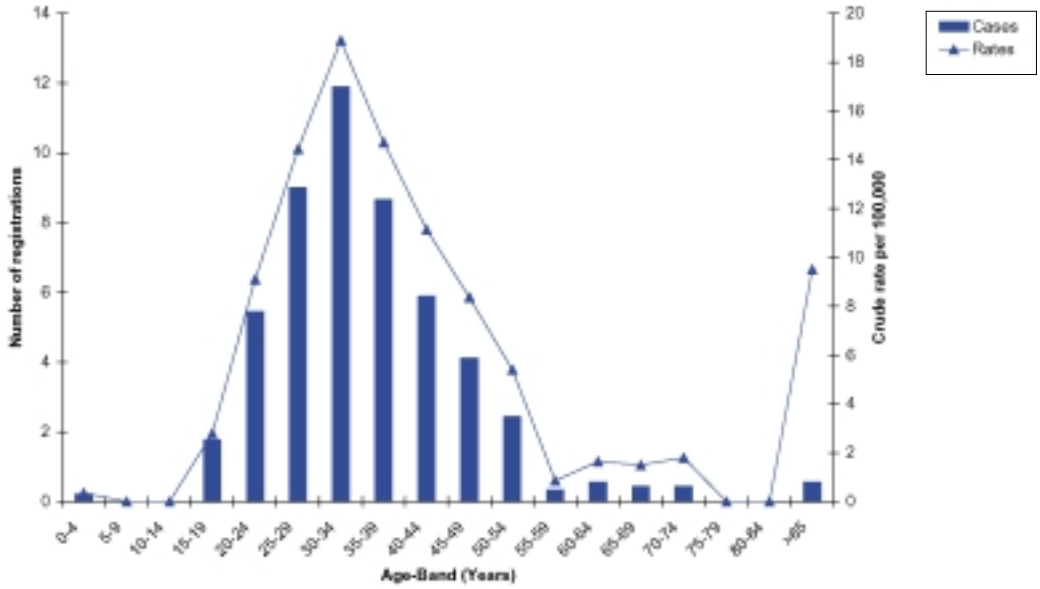
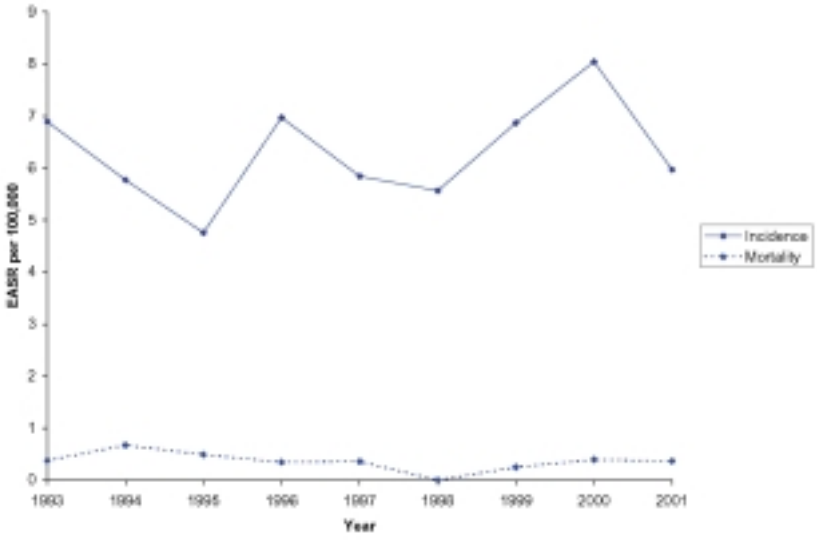


Figure 17b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Testis (1993-2001) for All Ages



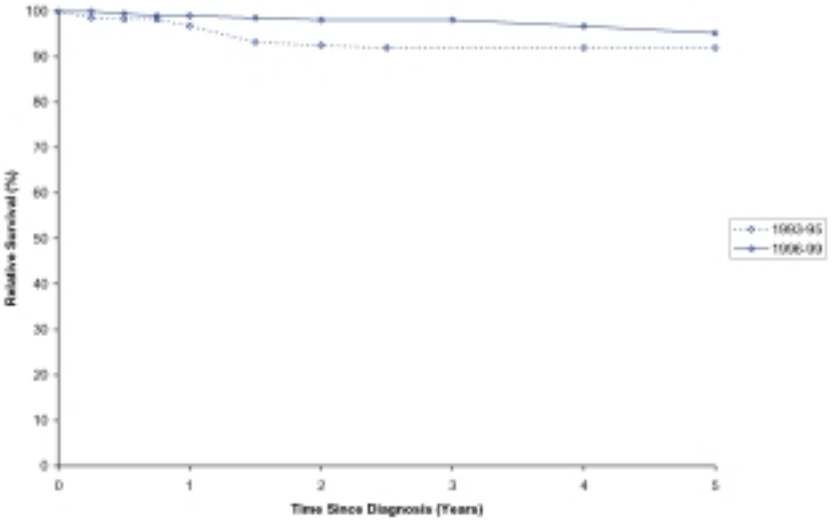
Survival

Survival of males with cancer of the testis was excellent with over 92% surviving five-years (Table 17c). There was no statistically significant change in survival between the two diagnostic periods (Figure 17c).

Table 17c: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Testis Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Diagnosis Period	1-year (95% CI)	5-year (95% CI)
1993-95	96.8 (91.5, 98.8)	92.0 (85.6, 95.6)
1996-99	99.0 (95.9, 99.8)	95.2 (90.1, 97.7)

Figure 17c: Cancer of the Testis Survival by Period of Diagnosis



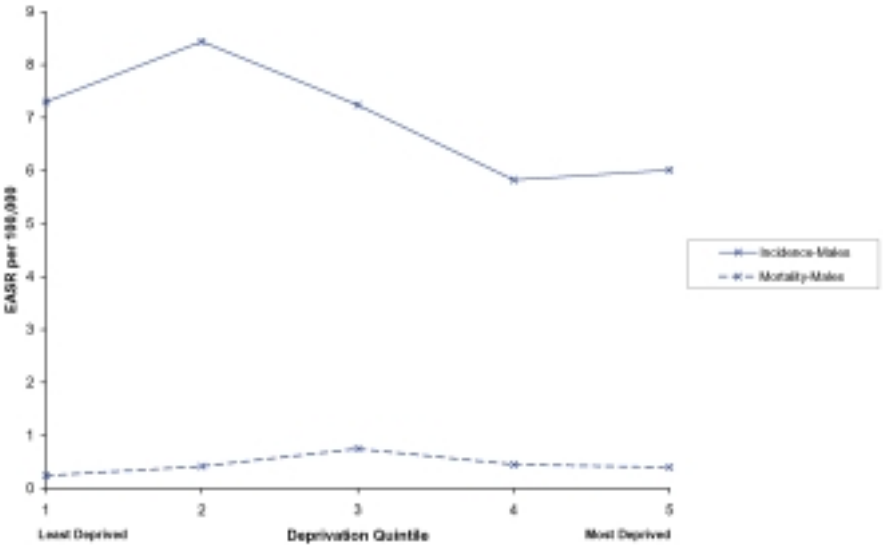
Geographical Variation

There was no variation in the EASRs for incidence between the four Health Boards.

Socioeconomic Trends

There were no statistically significant trends in the EASRs for incidence or mortality with increasing deprivation (Figure 17d).

Figure 17d: European Age-Standardised Incidence and Mortality Rates of Cancer of the Testis by Deprivation Quintile



Discussion

Testicular cancer is relatively rare accounting for 1% of all cancers. It is the commonest cancer in males aged 25-34 years and half of the cases are diagnosed under the age of 33 years.

The majority (95%) of testicular tumours are germ cell tumours, of which about 45% are seminomas, the remainder being teratomas.

The commonest symptom is a painless lump which should be investigated. A history of undescended testes, or a previous testicular tumour predispose to testicular cancer. Survival from testicular cancer is excellent.

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

Key Facts

- **New cases: 99 in males & 65 in females each year**
- **43 males & 28 females die annually**
- **Half of cases survive five-years**
- **411 males & 274 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, cancer of the kidney was the tenth most common cancer in males and the thirteenth commonest in females. On average, 99 males and 65 females were diagnosed as having cancer of the kidney each year, accounting for about 2% of male and 1% of female cancers.

Age

Given the levels of disease in 2001, the risk of getting cancer of the kidney before the age of 75 years was 1 in 85 for males and 1 in 172 for females (Table 18a). Fifty percent of males were diagnosed under the age of 67 years, whilst for females it was 68 years. The average annual incidence for cancer of the kidney rose in males and females up to 70-74 years, with the age-specific rates consistently higher in males (Figure 18a).

Prevalence

In Northern Ireland on 31st December 2001, there were 411 males and 274 females alive who had cancer of the kidney diagnosed between 1993 and 2001.

Deaths

Each year on average 43 males and 28 females died from cancer of the kidney. In 2001, it was the fifteenth and eighteenth most common cause of cancer mortality in males and females respectively. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 227 for males and 1 in 438 for females (Table 18b).

Trends

Between 1993 and 2001, there were no statistically significant trends in the EASRs for incidence or mortality in males or females (Figure 18b).

Table 18a: Incidence of Cancer of the Kidney in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	96	101	70	63
Crude Rate per 100,000	12.0	12.3	8.4	7.3
Cumulative Risk (0-74yrs) (%)	1.2	1.2	0.7	0.6
(Lifetime risk to 74 years) Odds, 1 in:	83	85	153	172
EASR per 100,000 (95% CI)	13.3 (10.6, 16.0)	13.1 (10.5, 15.6)	8.0 (6.0, 9.9)	6.5 (4.8, 8.2)
% of all cancers	2	2	2	1

Table 18b: Mortality from Cancer of the Kidney in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	42	46	28	27
Crude Rate per 100,000	5.3	5.6	3.3	3.1
Cumulative Risk (0-74yrs) (%)	0.5	0.4	0.3	0.2
(Lifetime risk to 74 years) Odds, 1 in:	212	227	368	438
EASR per 100,000 (95% CI)	5.8 (4.0, 7.5)	5.8 (4.1, 7.5)	3.0 (1.8, 4.2)	2.5 (1.5, 3.5)
% of all cancers	2	2	2	2

Figure 18a: Number of New Cases and Age-Specific Incidence Rates per 100,000 for Cancer of the Kidney (averaged over the diagnostic period 1993-2001) by Sex

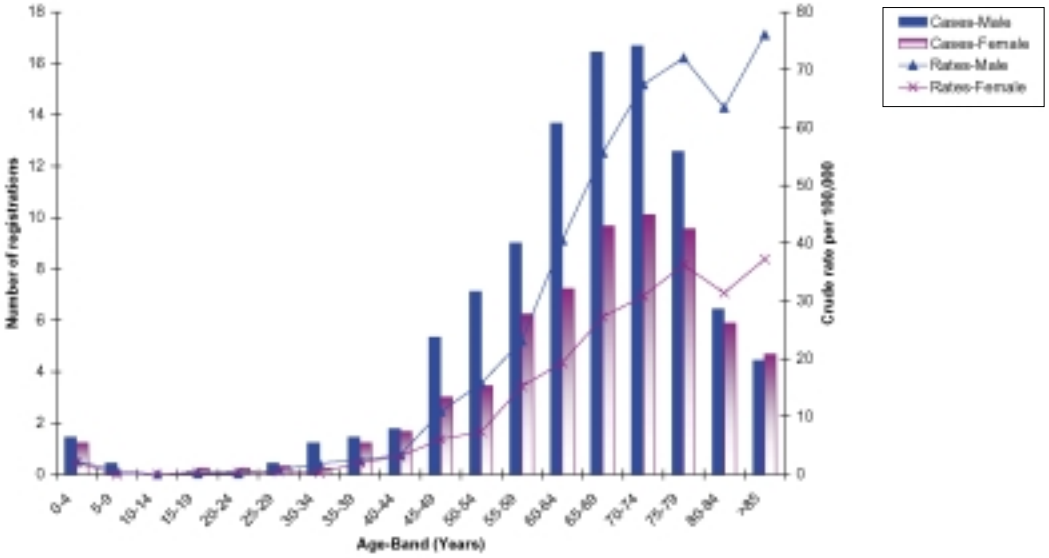
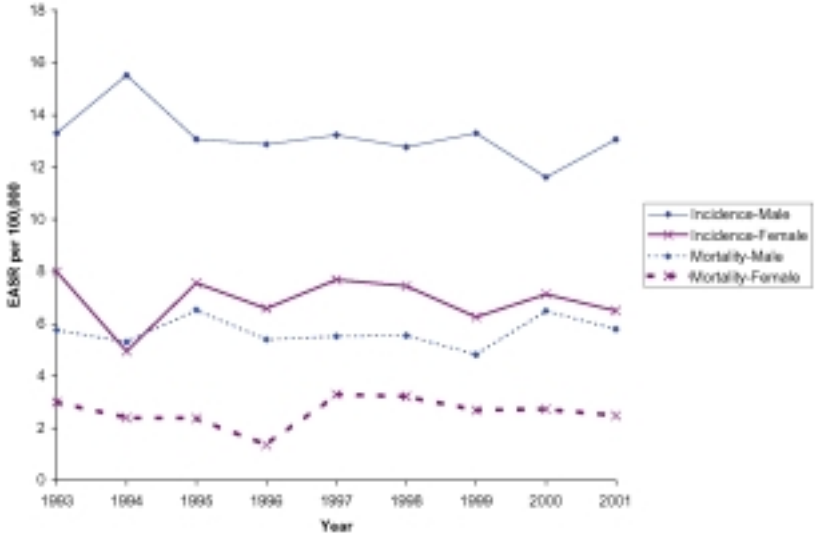


Figure 18b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Kidney (1993-2001) by Sex for All Ages



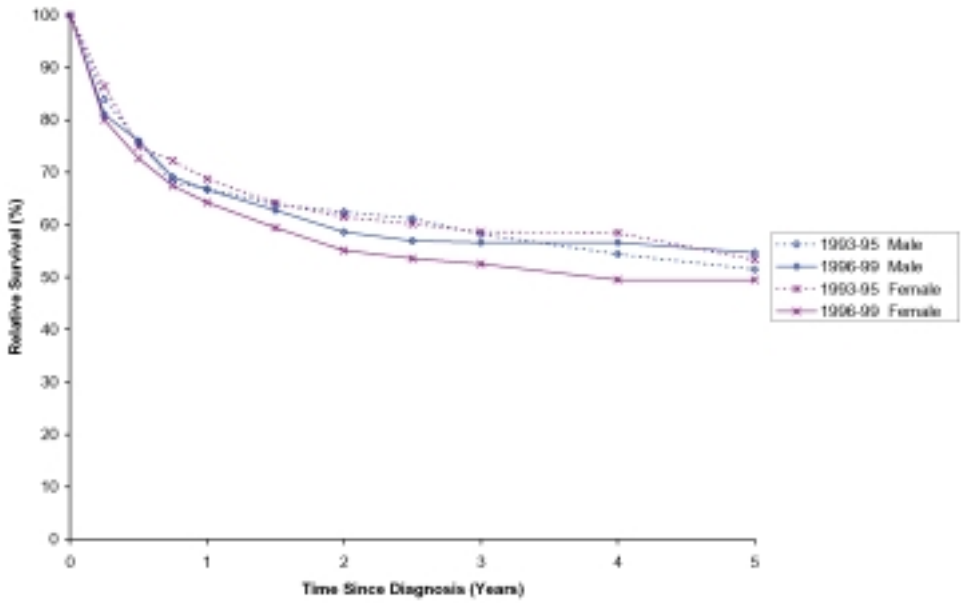
Survival

For patients diagnosed with cancer of the kidney between 1996 and 1999, survival at five-years was about 50% and did not change between the two time periods examined (Table 18c and Figure 18c).

Table 18c: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Kidney Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Males	1993-95	66.9 (60.6, 72.4)	51.5 (44.2, 58.4)
	1996-99	66.7 (61.0, 71.8)	54.7 (47.6, 61.1)
Females	1993-95	68.8 (60.5, 75.6)	53.4 (44.3, 61.6)
	1996-99	64.3 (57.5, 70.2)	49.5 (42.3, 56.3)

Figure 18c: Cancer of the Kidney Survival by Period of Diagnosis and by Sex



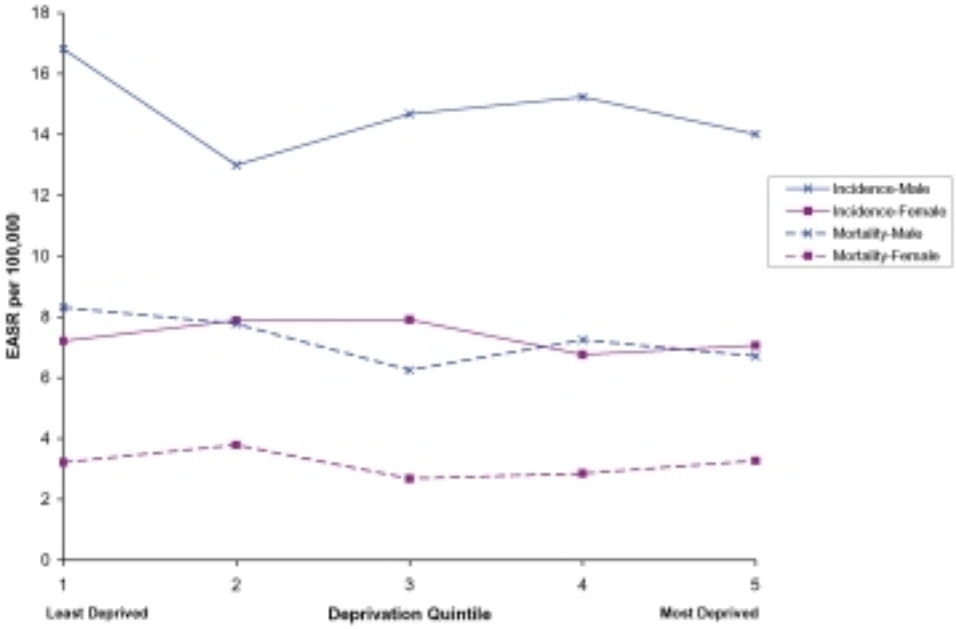
Geographical Variation

There was little difference in the EASRs for incidence of cancer of the kidney amongst the four Health Boards. On examination of incidence by District Council, in males and females combined, Antrim was found to have significantly high levels of this cancer, with an SIR of 139 (95% CI 101,177). However, note the wide confidence interval surrounding this estimate, which is based on average annual incidence of 5.8 cases per year.

Socioeconomic Trends

There were no statistically significant trends in the EASRs for incidence or mortality with increasing deprivation for males or females (Figure 18d).

Figure 18d: European Age-Standardised Incidence and Mortality Rates of Cancer of the Kidney by Deprivation Quintile and by Sex



Discussion

Kidney cancer accounts for between 1% and 2% of all cancers. Men are more likely to be diagnosed and die of kidney cancer than women. It is primarily a disease of older people, with half of all cases diagnosed in those aged over 68 years. No observable trends were significant in either mortality or incidence of kidney cancer. Survival has not changed at about 50% for five years. No significant geographical or socioeconomic trends were observed, except for significantly higher rates in Antrim District Council for this cancer but this was based on small numbers.

Since the mid 1970's the incidence of kidney cancer has been rising in the UK and similar trends have been noted in Europe[1] and USA[2]. The exact reasons for this are unclear, but it has been suggested that increased detection due to advances in imaging techniques may be partly responsible.

Tobacco use and obesity[3] have been shown to be major risk factors for kidney cancer. Surgery is the most effective form of treatment, and prognosis of patients with early disease can be excellent[4].

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19: Cancer of the Bladder (C67)

Key Facts

- **New cases: 146 in males & 62 in females each year**
- **56 males & 34 females die annually**
- **Survival better in males than females**
- **648 males & 207 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, bladder cancer was the seventh most common cancer in males and the fifteenth commonest in females. On average, 146 males and 62 females were diagnosed as having bladder cancer each year, i.e. approximately 3% and 1% respectively of all cancers registered.

Age

Given the level of disease in 2001, the risk of getting bladder cancer before the age of 75 years was 1 in 92 for males and 1 in 286 for females (Table 19a). Fifty percent of males were diagnosed under the age of 71 years, whilst for females it was 74 years. The average annual incidence of bladder cancer peaked at 70-74 years for both males and females, with the age-specific rates in males consistently higher than females (Figure 19a).

Prevalence

In Northern Ireland on 31st December 2001, there were 648 males and 207 females alive who had cancer of the bladder diagnosed between 1993 and 2001.

Deaths

Each year on average, 56 males and 34 females died from bladder cancer. In 2001, it was the eleventh and sixteenth most common cancer in males and females. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 209 for males and 1 in 603 for females (Table 19b).

Trends

Between 1993 and 2001, there were no statistically significant trends in EASRs for incidence or mortality in males or females (Figure 19b).

Table 19a: Incidence of Cancer of the Bladder in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	156	120	50	56
Crude Rate per 100,000	19.5	14.6	6.0	6.5
Cumulative Risk (0-74yrs) (%)	1.7	1.1	0.4	0.3
(Lifetime risk to 74 years) Odds, 1 in:	59	92	260	286
EASR per 100,000 (95% CI)	21.6 (18.1, 25.0)	14.6 (11.9, 17.2)	4.7 (3.3, 6.0)	5.0 (3.6, 6.4)
% of all cancers	4	3	1	1

Table 19b: Mortality Due to Cancer of the Bladder in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	61	57	28	32
Crude Rate per 100,000	7.6	6.9	3.3	3.7
Cumulative Risk (0-74yrs) (%)	0.6	0.5	0.2	0.2
(Lifetime risk to 74 years) Odds, 1 in:	171	209	511	603
EASR per 100,000 (95% CI)	8.5 (6.4, 10.7)	6.9 (5.1, 8.8)	2.6 (1.6, 3.6)	2.6 (1.6, 3.6)
% of all cancers	3	3	2	2

Figure 19a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Bladder (averaged over the diagnostic period 1993-2001) by Sex

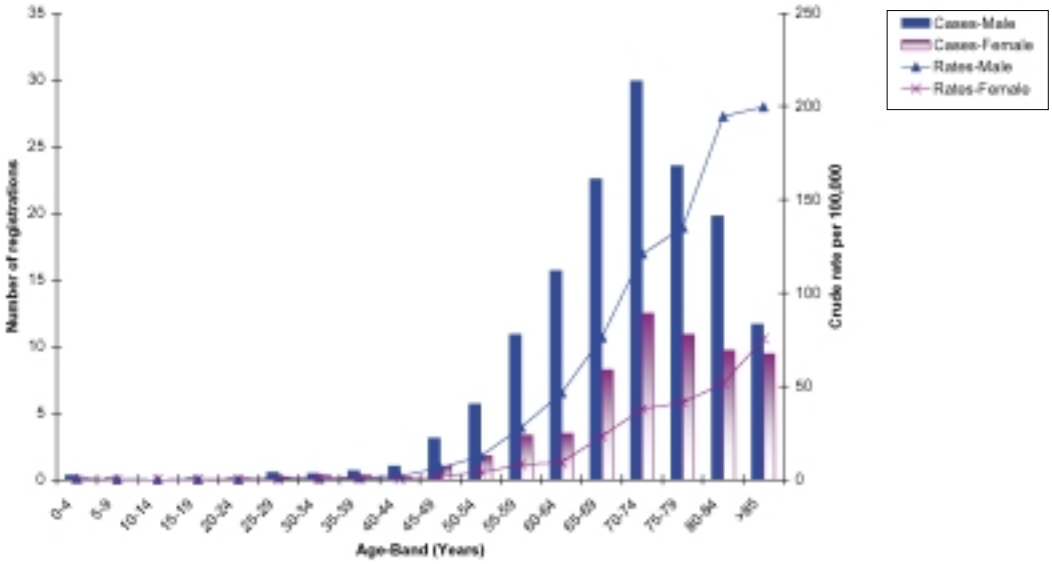
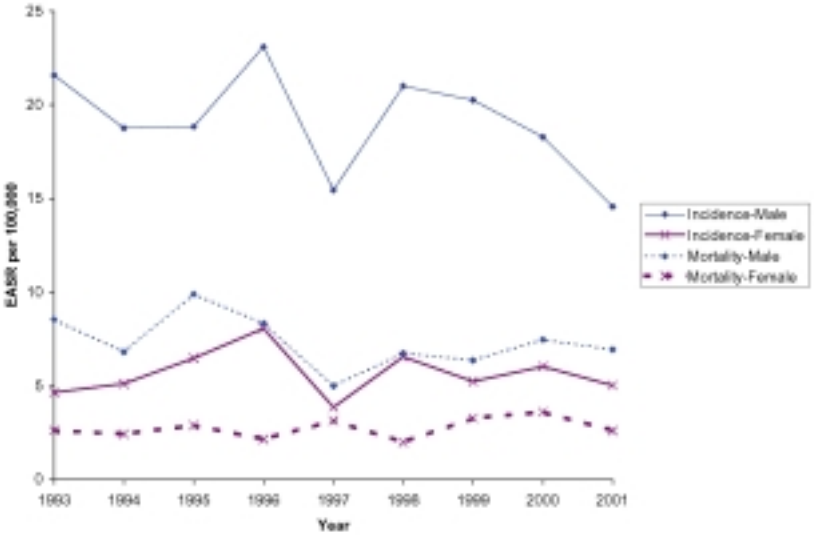


Figure 19b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Bladder (1993-2001) by Sex for All Ages



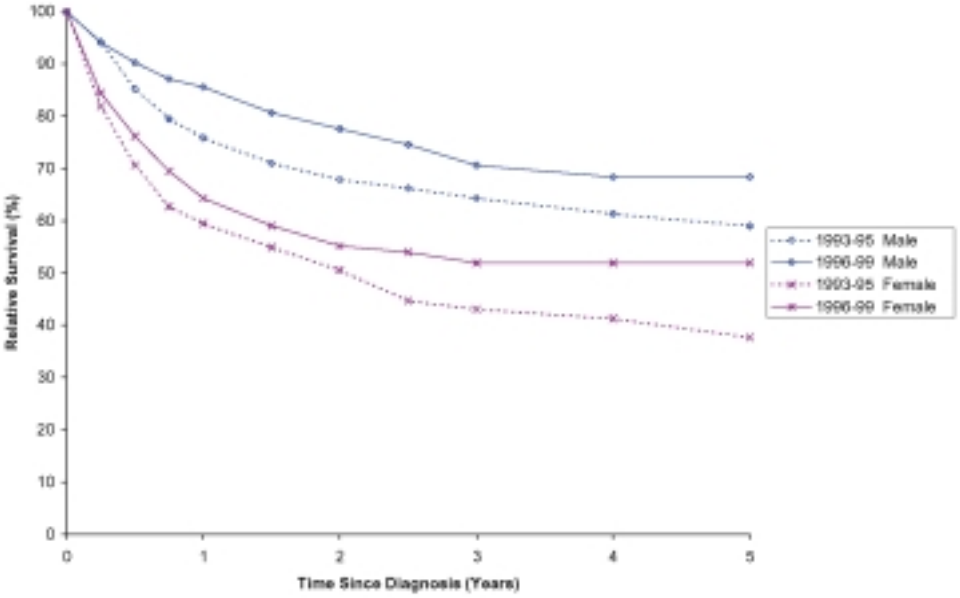
Survival

Unlike most other types of cancer, females with bladder cancer have much poorer survival rates than males (52% and 68% respectively at five-years). Although survival rates appear to have improved between the two periods analysed, this was significant only for males at one year (Table 19c, Figure 19c).

Table 19c: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Bladder Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Males	1993-95	75.9 (70.7, 80.2)	59.0 (52.2, 65.1)
	1996-99	85.5 (81.7, 88.6)	68.3 (62.3, 73.6)
Females	1993-95	59.5 (50.9, 67.0)	37.7 (28.5, 46.8)
	1996-99	64.3 (57.3, 70.4)	51.9 (44.2, 59.0)

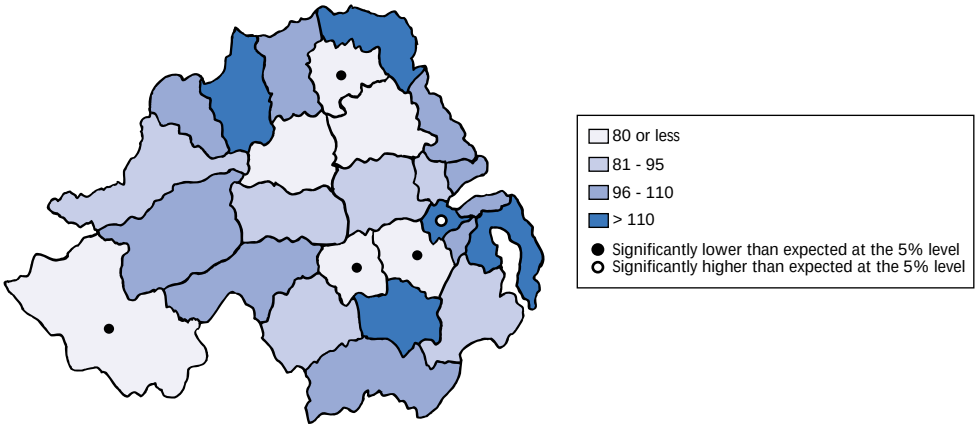
Figure 19c: Cancer of the Bladder Survival by Period of Diagnosis and by Sex



Geographical Variation

The EASRs for incidence of cancer of the bladder in males were highest in the EHSSB. On examination of the incidence by District Council, Belfast was found to have significantly high levels of the cancer in males, with an SIR of 123 (95% CI 109,137) (Figure 19d).

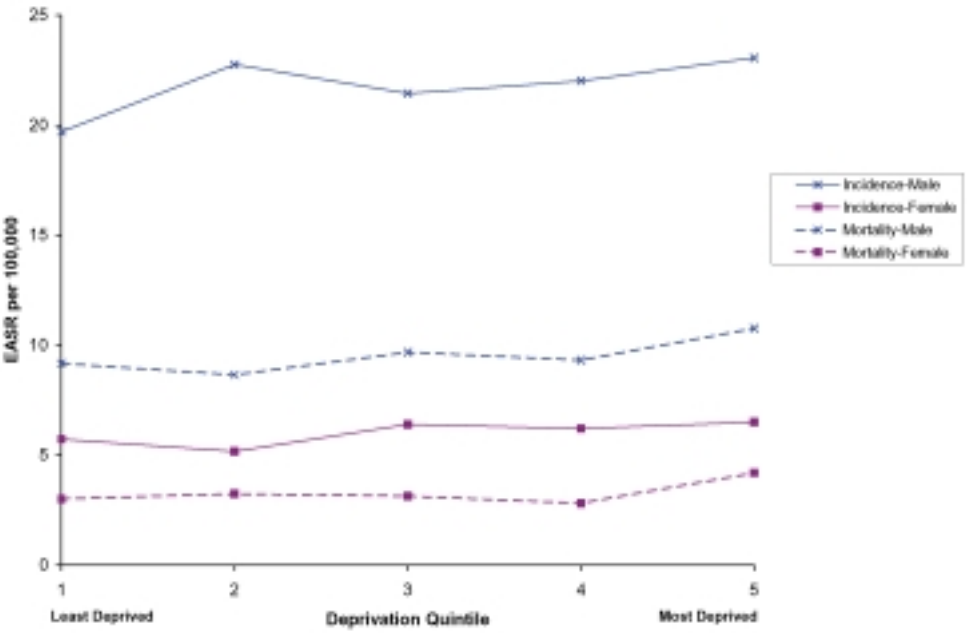
Figure 19d: Age-Standardised Incidence Ratios by District Council (1993-2001), Cancer of the Bladder for All Ages in Males



Socioeconomic Trends

There were no statistically significant trends in the EASRs for incidence or mortality with increasing deprivation in males or females (Figure 19e).

Figure 19e: European Age-Standardised Incidence and Mortality Rates of Cancer of the Bladder by Deprivation Quintile and by Sex



Discussion

Cancer of the bladder is the seventh most common cancer in men and the fifteenth most common in women. Bladder cancer shows no significant changes in either incidence or mortality over the time period considered. There is however a marked difference between the sexes, with nearly three times the number of incident bladder cases in men than in women. Almost twice as many men die from the disease than women. However, women have poorer survival than men.

Comparisons with other parts of the UK and the rest of the world are problematical due to differences in the way that bladder cancer has been recorded in the past. In our data, only those bladder tumours for which there has been a microscopic verification of invasive malignancy or a clinical judgement of full malignancy has been made, are included. Other regions include more benign disease, such as non-invasive tumours of either uncertain (pTa) or *in situ* (pTis) behaviours. Each year there are on average, in addition to those recorded in this chapter, 200 patients diagnosed here with non-invasive bladder tumours. These can recur and patients require careful follow-up as the tumour can transform into a fully invasive bladder cancer.

Tobacco use is the major established risk factor for bladder cancer[1]. The risk has been assessed as 2-6 fold higher in smokers versus non-smokers. Other environmental factors such as exposure to certain aromatic amine dyes[2] and contaminants in drinking water[3] may also increase incidence of bladder cancer. It has also been suggested that a high intake of fluids dilutes potentially harmful substances in the urine. This increases the frequency of urination and decreases the risk of bladder cancer[3]. As with many carcinomas, a diet high in fruit and vegetables has been linked to diminishing cancer risk[4]. In tropical countries, there is an increased incidence of bladder cancer amongst people with infection of the parasite *Schistosoma*.

The major way to prevent bladder cancer is a reduction in tobacco smoking and the promotion of the consumption of fruit and vegetables.

1 Brennan P, Bogillot O, Cordier S, et al. *Cigarette Smoking and Bladder Cancer in Men: A Pooled Analysis of 11 Case Studies*. Int J Cancer 2000; 86: 289-294

2 Negri E, La Vecchia C. *Epidemiology and Prevention of Bladder Cancer. Eur J Cancer* 2001; 10: 7-14

3 Michaud DS, Spiegelman D, Clinton SK, et al. *Fluid Intake and the Risk of Bladder Cancer in Men.* NEJM 1999; 340: 1390-7

4 Steinmaus CM, Nunez S, Smith AH. *Diet and Bladder cancer: A Meta-Analysis of Six Dietary Variables*. Am J Epidemiology 2000; 151: 693-702

20: Cancer of the Brain (C71)

Key Facts

- **New cases: 60 in males & 45 in females each year**
- **44 males & 31 females die annually**
- **Survival poor, but better in females than males (22% vs 14% at 5-years)**
- **Mortality higher in the more affluent population**
- **121 males & 117 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, malignant primary cancer of the brain was the fifteenth most common cancer in males and twentieth commonest in females. On average, 60 males and 45 females were diagnosed as having cancer of the brain each year i.e. approximately 1% of all cancers registered.

Age

The median age at diagnosis was 56 years for males and 57 years for females. Given the levels of disease in 2001, the risk of getting cancer of the brain before the age of 75 years was 1 in 151 for males and 1 in 210 for females (Table 20a). Examination of the age-specific incidence rates show that males twenty years and older had consistently higher levels of this cancer than females (Figure 20a).

Prevalence

In Northern Ireland on 31st December 2001, there were 121 males and 117 females alive who had cancer of the brain diagnosed between 1993 and 2001.

Deaths

Each year on average 44 males and 31 females died from cancer of the brain. In 2001, it was the sixteenth and fifteenth most common cause of cancer mortality in males and females respectively. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 210 for males and 1 in 310 for females (Table 20b)

Trends

There were no statistically significant trends in EASRs for incidence or mortality of cancer of the brain in males or females (Figure 20b).

Table 20a: Incidence of Cancer of the Brain in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	60	66	42	48
Crude Rate per 100,000	7.5	8.0	5.0	5.6
Cumulative Risk (0-74yrs) (%)	0.7	0.7	0.4	0.5
(Lifetime risk to 74 years) Odds, 1 in:	153	151	241	210
EASR per 100,000 (95% CI)	8.2 (6.1, 10.3)	8.2 (6.2, 10.2)	5.2 (3.6, 6.8)	5.3 (3.7, 6.8)
% of all cancers	1	2	1	1

Table 20b: Mortality Due to Cancer of the Brain in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	49	45	29	33
Crude Rate per 100,000	6.1	5.5	3.5	3.8
Cumulative Risk (0-74yrs) (%)	0.6	0.5	0.3	0.3
(Lifetime risk to 74 years) Odds, 1 in:	173	210	363	310
EASR per 100,000 (95% CI)	6.8 (4.8, 8.7)	5.7 (4.0, 7.4)	3.5 (2.2, 4.8)	3.6 (2.4, 4.9)
% of all cancers	3	2	2	2

Figure 20a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Cancer of the Brain (averaged over the diagnostic period 1993-2001) by Sex

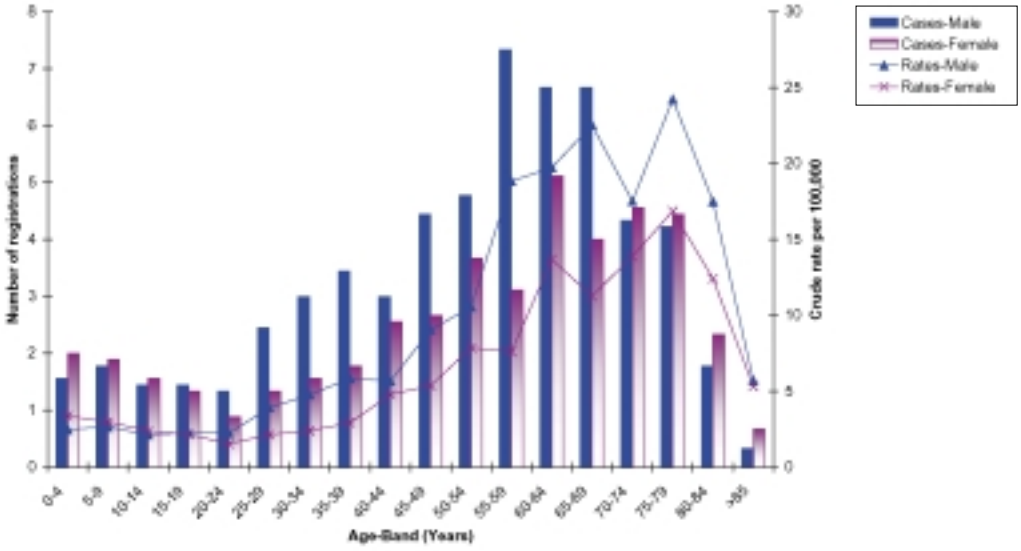
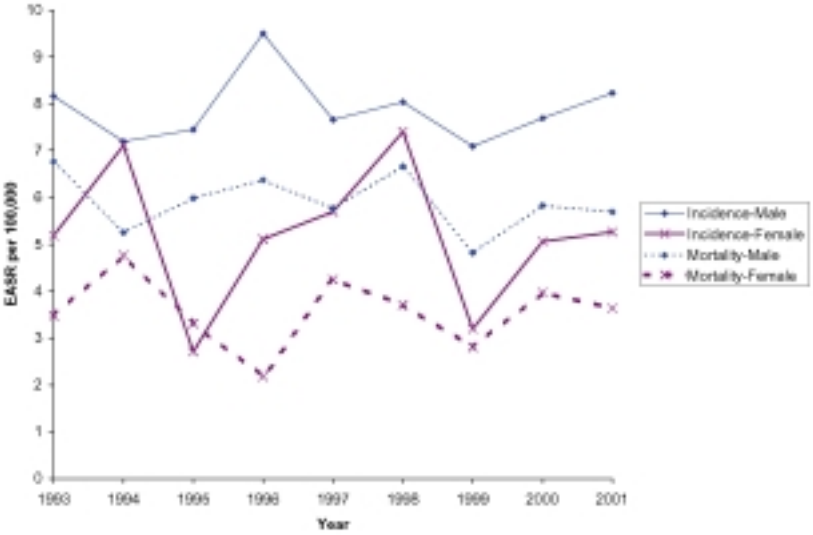


Figure 20b: European Age-Standardised Incidence and Mortality Rates of Cancer of the Brain (1993-2001) by Sex for All Ages



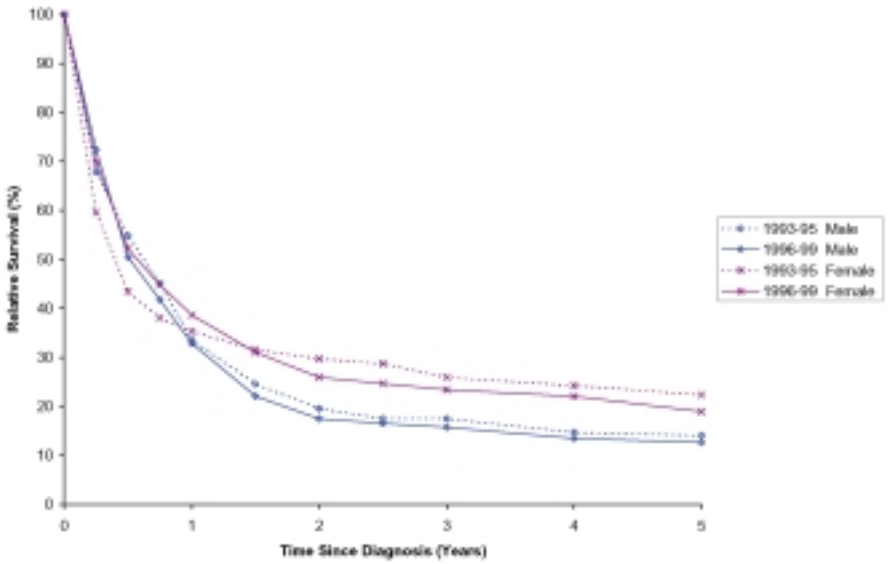
Survival

Survival rates for cancer of the brain are low, with only around one third of patients surviving at one-year. (Table 20c, Figure 20c).

Table 20c: One and Five-year Relative Survival (95% Confidence Interval) for Cancer of the Brain Patients (15-99 years old) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Males	1993-95	33.6 (25.9, 41.5)	14.1 (8.9, 20.4)
	1996-99	32.9 (26.7, 39.1)	12.6 (8.4, 17.8)
Females	1993-95	35.3 (26.2, 44.5)	22.4 (14.8, 30.9)
	1996-99	38.7 (31.0, 46.2)	18.9 (12.9, 25.9)

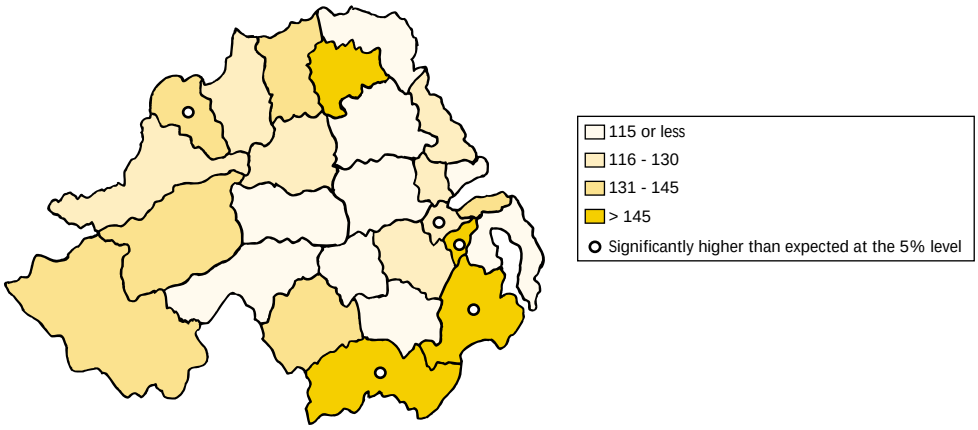
Figure 20c: Cancer of the Brain Survival by Period of Diagnosis and by Sex



Geographical Variation

There was little difference in the EASRs for incidence of cancer of the brain amongst the four Health Boards. On examination of incidence rates by District Council for males and females combined, five were found to have significantly high levels of the disease, i.e. Belfast had a SIR of 128 (95% CI 108, 147), Castlereagh was 162 (95% CI 117, 206), Derry was 138 (95% CI 102, 174), Down was 171 (95% CI 122, 221) and Newry and Mourne was 153 (95% CI 112, 194) (Figure 20d). However, it should be noted that the confidence intervals surrounding these estimates are wide for some of the District Councils, due to the small numbers of cases involved. For example, the average annual incidence in Down was 5.1 cases, whilst in Newry and Mourne it was 6.0.

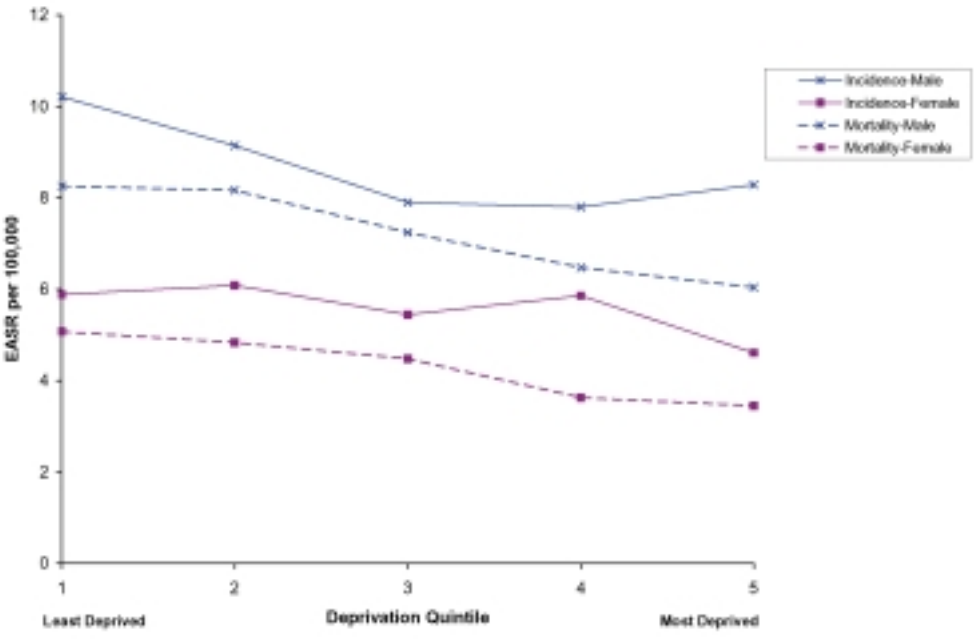
Figure 20d: Age-Standardised Incidence Ratios by District Council (1993-2001), Cancer of the Brain for All Ages in Males and Females Combined



Socioeconomic Trends

There were no statistically significant trends in EASRs for incidence of cancer of the brain with deprivation in either males or females (Figure 20e). However, both males and females exhibited a statistically significant downward trend (P<0.01) in mortality rates with increasing deprivation. Males living in the most affluent areas had an EASR mortality of 8.3 which fell to 6.0 per 100,000 for those in the most deprived areas. The corresponding figures for females were 5.1 and 3.4 per 100,000 respectively.

Figure 20e: Age-Standardised Incidence and Mortality Rates of Cancer of the Brain by Deprivation Quintile and by Sex



Discussion

Malignant primary brain tumours are discussed in this chapter but there are in addition about 50 non-malignant primary brain tumours diagnosed here annually. Unlike other benign tumours, benign brain tumours may cause serious disability and even death due to pressure effects within the enclosed environment of the skull. It should be noted that cancers from other sites may spread to the brain. They are not discussed here.

Primary cancer of the brain is rare. It accounts for only 1% of all cancers diagnosed, accounting for about 100 cancers annually. There are about 200 people living with primary malignant brain tumours.

Brain tumours occur at any age but most malignant brain tumours occur in older adults. After leukaemia, brain cancer is the next most common cancer in childhood and survival is better than in adults. The only environmental factor associated with an increased risk of brain tumours is ionising radiation[1].

None of the following have a proven association; industrial and agricultural chemicals, viruses, bacterial infection, head injury, diet, non-ionising radiation (power lines, mobile phones) or tobacco[2].

References

1 Giles GG, Gonzales MF. *Epidemiology of Brain Tumours and Factors in Prognosis* in Kay AH, Laws ER, Eds *Brain Tumours: An Encyclopaedic Approach*. Churchill Livingstone Edinburgh 1995

2 Cancer Research UK. *CancerStats Brain and Other Central Nervous System Tumours - UK*. February 2003

21: Hodgkin's Disease (C81)

Key Facts

- **New cases: 23 in males & 15 in females each year**
- **6 males & 6 females die annually**
- **69% of males & 83% of females survive five-years**
- **155 males & 105 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, Hodgkin's disease was the eighteenth most common cancer in males and females. On average, 23 males and 15 females were diagnosed as having Hodgkin's disease each year i.e. approximately 1% of all cancers registered in males and less than 1% in females.

Age

Although Hodgkin's disease is one of the more uncommon cancers, half of the males and females diagnosed were less than 40 years and 37 years respectively. Given the levels of disease in 2001, the risk of getting Hodgkin's disease before the age of 75 years was 1 in 420 for males and 1 in 539 for females (Table 21a). Incidence peaked for males aged 40-44 years, after which it began to decline. Incidence was lower in females but peaked for 25-29 year olds (Figure 21a).

Prevalence

In Northern Ireland on 31st December 2001, there were 155 males and 105 females alive who had Hodgkin's disease diagnosed between 1993 and 2001.

Deaths

Mortality due to Hodgkin's disease is relatively low (Table 21b), with on average 6 males and 6 females dying from Hodgkin's disease each year. In 2001, it was the twenty-eighth and forty-first most common cause of cancer mortality in males and females respectively.

Trends

Between 1993 and 2001, there were no statistically significant trends in EASRs for incidence or mortality in males or females (Figure 21b).

Table 21a: Incidence of Hodgkin's Disease in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	31	24	17	20
Crude Rate per 100,000	3.9	2.9	2.0	2.3
Cumulative Risk (0-74yrs) (%)	0.3	0.2	0.1	0.2
Odds, 1 in:	335	420	785	539
EASR per 100,000 (95% CI)	4.0 (2.6, 5.4)	2.9 (1.7, 4.0)	1.9 (1.0, 2.9)	2.3 (1.3, 3.3)
% of all cancers	<1	<1	<1	<1

Table 21b: Mortality Due to Hodgkin's Disease in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	8	5	6	<3
Crude Rate per 100,000	1.0	0.6	0.7	0.1
Cumulative Risk (0-74yrs) (%)	0.1	0.0	0.0	0.0
Odds, 1 in:	1208	3109	2127	-
EASR per 100,000 (95% CI)	1.1 (0.3, 1.8)	0.5 (0.1, 1.0)	0.7 (0.1, 1.2)	0.1 (0.0, 0.2)
% of all cancers	<1	<1	<1	<1

- : Unable to calculate due to small numbers

Figure 21a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Hodgkin's Disease (averaged over the diagnostic period 1993-2001) by Sex

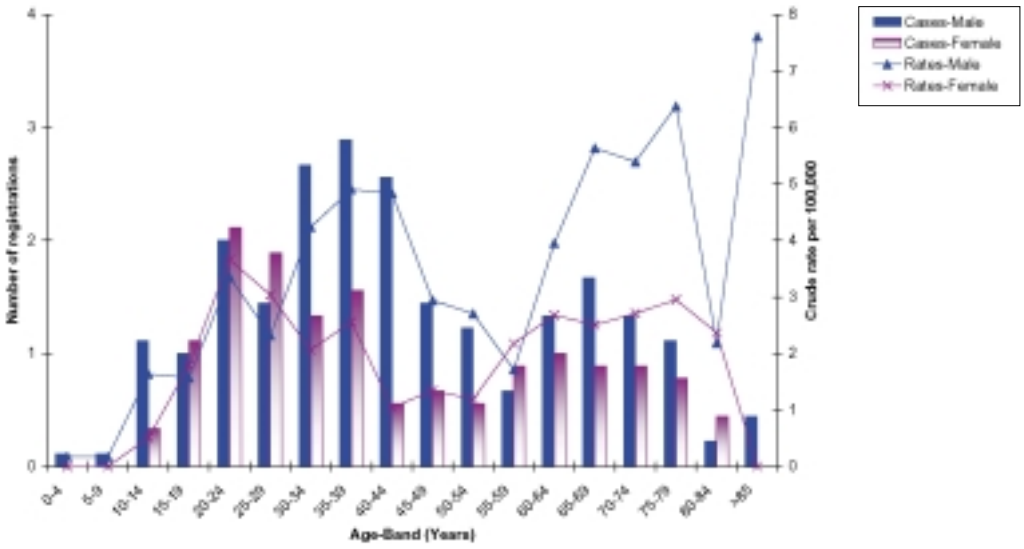
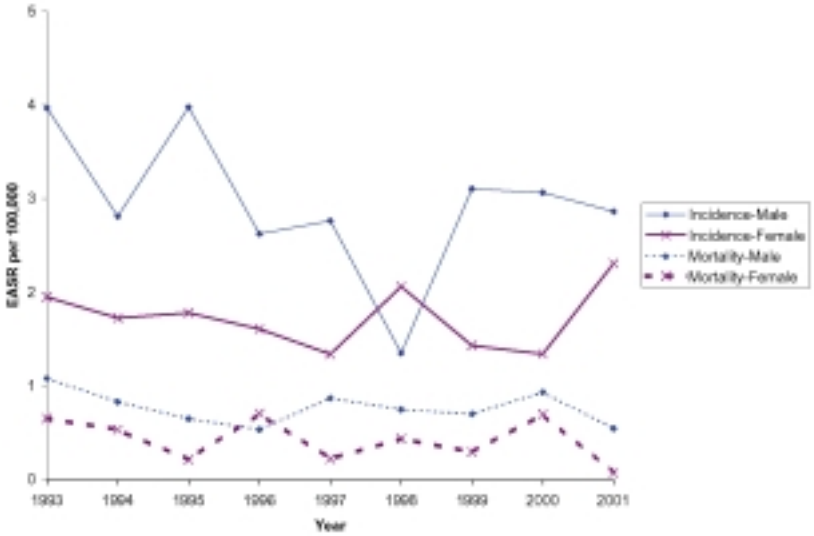


Figure 21b: European Age-Standardised Incidence and Mortality Rates of Hodgkin's Disease (1993-2001) by Sex for All Ages



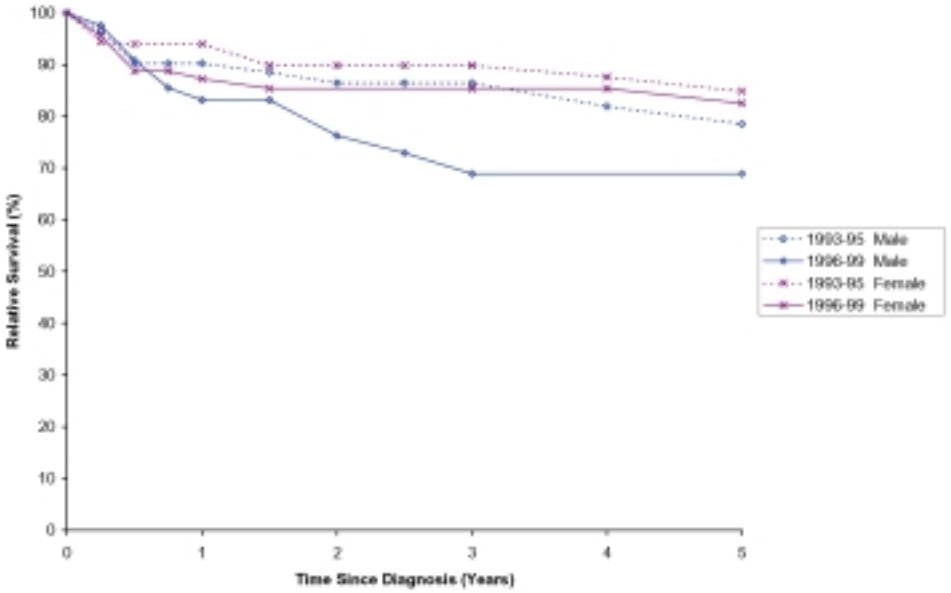
Survival

Survival is good with almost 70% of males and over 80% of females surviving five-years (Table 21c, Figure 21c).

Table 21c: One and Five-year Relative Survival (95% Confidence Interval) for Hodgkin's Disease Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Males	1993-95	90.2 (78.5, 95.7)	78.5 (64.2, 87.6)
	1996-99	83.2 (70.9, 90.6)	68.9 (55.6, 78.9)
Females	1993-95	94.0 (77.7, 98.5)	84.8 (67.2, 93.4)
	1996-99	87.3 (72.9, 94.3)	82.5 (65.8, 91.6)

Figure 21c: Hodgkin's Disease Survival by Period of Diagnosis and by Sex



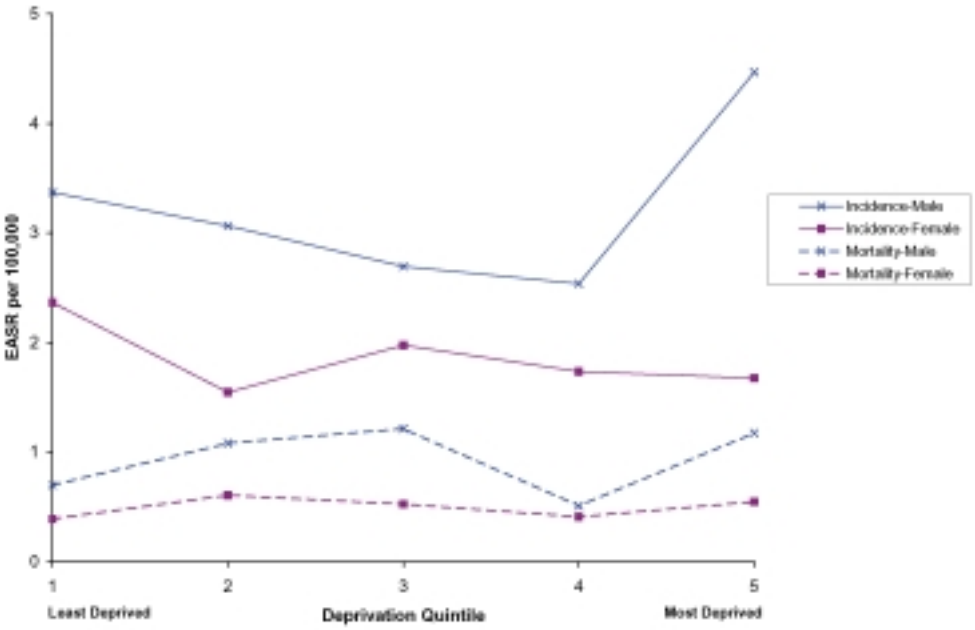
Geographical Variation

The EASRs for incidence of Hodgkin's disease were broadly similar across the four Health Boards. Similarly, none of the District Council areas had higher than expected levels of this cancer.

Socioeconomic Trends

There were no statistically significant trends in EASRs for incidence or mortality with increasing deprivation in males or females (Figure 21d).

Figure 21d: European Age-Standardised Incidence and Mortality Rates of Hodgkin's Disease by Deprivation Quintile and by Sex



Discussion

Hodgkin's disease is a type of malignant lymphoma which is pathologically and clinically distinct from Non-Hodgkin's Lymphoma. It is distinguished by the presence of the Reed-Sternberg cell, seen on microscopy. It is a rare tumour accounting for less than 1% of tumours diagnosed. International rates vary widely, being lowest in the Far East and most common in Europe and America. In all areas there is a male excess. This disease has a typical age distribution, with peak levels amongst young adults, due mainly to the nodular sclerosing subtype. In the US, an increase in rates of Hodgkin's disease in this young adult age group has been reported. In contrast, in the UK, overall rates in males are reported to be falling, with no change in female rates over time. Some of this reduction may be due to changes in classification between Hodgkin's disease and Non-Hodgkin's Lymphoma. The disparity in UK and US trends has not been explained. Survival is good but concerns now focus on the long term effect of therapy.

22: Non-Hodgkin's Lymphoma (C82-C85, C96)

Key Facts

- **New cases: 123 in males & 124 in females each year**
- **63 males & 57 females die annually: deaths rising in females by 3 cases each year**
- **Half of cases survive five-years**
- **515 males & 542 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, Non-Hodgkin's Lymphoma (NHL) was the eighth most common cancer in males and females. On average 123 males and 124 females were diagnosed as having NHL each year, accounting for 3% of all cancers registered.

Age

Given the levels of disease in 2001, the risk of getting NHL before the age of 75 years was 1 in 83 for males and 1 in 98 for females (Table 22a). Fifty percent of males were diagnosed under the age of 64 years, whilst for females it was 69 years. The average annual incidence for NHL rose in males and females up to 70-74 years, with the age-specific rates generally higher in males (Figure 22a).

Prevalence

In Northern Ireland on 31st December 2001, there were 515 males and 542 females alive who had NHL diagnosed between 1993 and 2001.

Deaths

Each year on average 63 males and 57 females died from NHL. In 2001, it was the eighth and ninth most common cause of cancer mortality in males and females respectively. Given the levels of mortality in 2001, the risk of dying from NHL before the age of 75 years was 1 in 149 for males and 1 in 222 for females (Table 22b).

Trends

Between 1993 and 2001, there were no statistically significant trends in the EASRs for incidence in males and females, and for mortality in males (Figure 22b). However, females exhibited a statistically significant upward trend ($P<0.05$) in EASRs for mortality, corresponding to an increase of 0.3 cases per 100,000 per year (Figure 22b).

Table 22a: Incidence of Non-Hodgkin's Lymphoma in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	135	114	105	135
Crude Rate per 100,000	16.9	13.8	12.6	15.7
Cumulative Risk (0-74yrs) (%)	1.4	1.2	0.9	1.0
(Lifetime risk to 74 years) Odds, 1 in:	70	83	108	98
EASR per 100,000 (95% CI)	18.4 (15.3, 21.6)	14.2 (11.6, 16.8)	11.6 (9.2, 13.9)	13.2 (10.9, 15.5)
% of all cancers	3	3	2	3

Table 22b: Mortality Due to Non-Hodgkin's Lymphoma in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	64	74	42	66
Crude Rate per 100,000	8.0	9.0	5.0	7.6
Cumulative Risk (0-74yrs) (%)	0.7	0.7	0.3	0.4
(Lifetime risk to 74 years) Odds, 1 in:	148	149	334	222
EASR per 100,000 (95% CI)	9.0 (6.8, 11.2)	9.1 (6.7, 11.3)	3.9 (2.6, 5.2)	5.9 (4.4, 7.4)
% of all cancers	3	4	2	4

Figure 22a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Non-Hodgkin's Lymphoma (averaged over the diagnostic period 1993-2001) by Sex

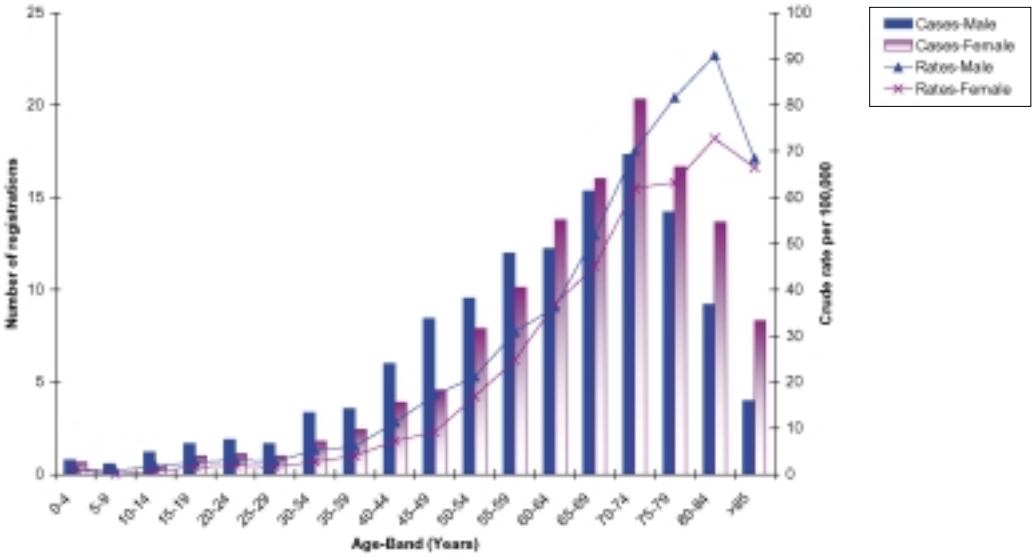
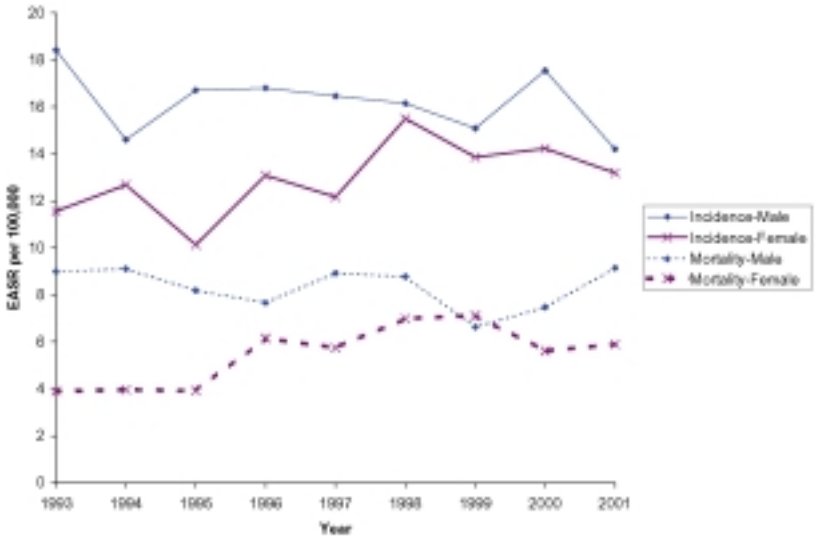


Figure 22b: European Age-Standardised Incidence and Mortality Rates of Non-Hodgkin's Lymphoma (1993-2001) by Sex for All Ages



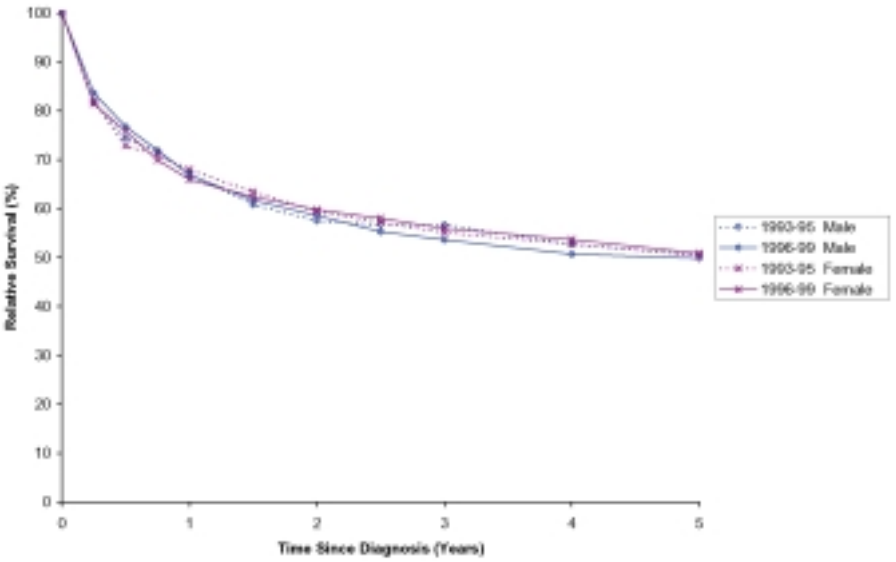
Survival

The five-year survival rates were similar for males and females in both diagnostic periods (1993-1995 and 1996-1999), at about 50% (Table 22c, Figure 22c).

Table 22c: One and Five-year Relative Survival (95% Confidence Interval) for Non-Hodgkin's Lymphoma Patients (15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Males	1993-95	67.0 (61.4, 72.1)	50.5 (44.0, 56.6)
	1996-99	66.9 (62.1, 71.2)	49.9 (44.3, 55.1)
Females	1993-95	68.0 (62.1, 73.3)	50.4 (44.0, 56.6)
	1996-99	66.0 (61.3, 70.2)	50.9 (45.3, 56.2)

Figure 22c: Non-Hodgkin's Lymphoma Survival by Period of Diagnosis and by Sex



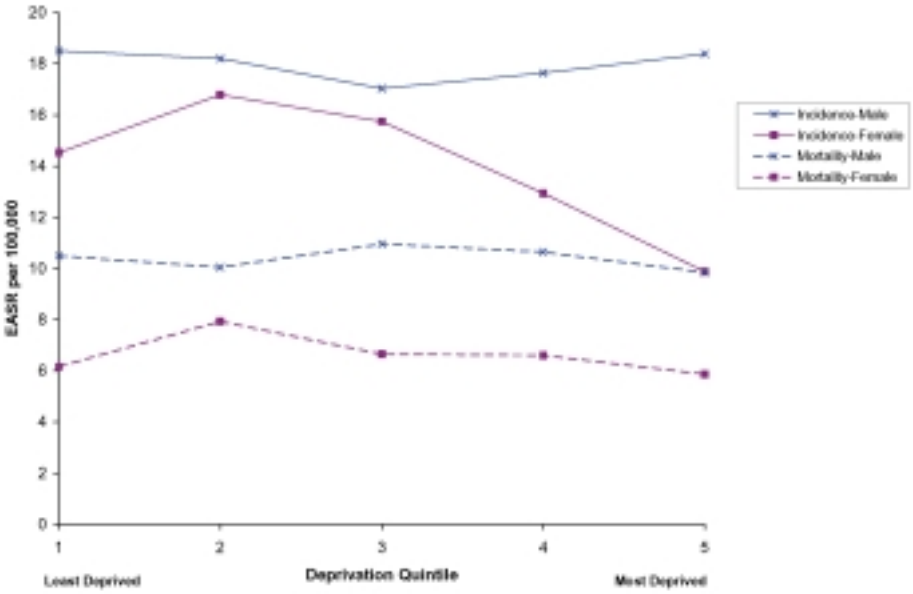
Geographical Variation

There was little variation in the incidence rates of NHL across the Health Boards. This was also found at District Council level, with none exhibiting higher than expected levels of the disease.

Socioeconomic Trends

There were no statistically significant trends in EASRs for incidence or mortality with increasing deprivation in males or females (Figure 22d).

Figure 22d: European Age-Standardised Incidence and Mortality Rates of Non-Hodgkin's Lymphoma by Deprivation Quintile and by Sex



Discussion

Non-Hodgkin's Lymphoma is a diverse group of neoplasms which affect lymphoid tissue including lymph nodes. It accounts for 3% of cancers and generally occurs at an older age than Hodgkin's Lymphoma with half the cases over 64 years at diagnosis. Rates rise with age, with more males than females in all age groups.

Although there was no increase in the rate of cases here, recent reports have suggested an increased incidence of NHL in the UK, mainland Europe and the USA[1,2], where increases have been apparent in most ages apart from the younger age, in whom the condition is rare. Some of the apparent trends can be attributed to improvements in the basic understanding of these conditions, leading to changes in diagnostic practice and subsequent classification of diseases. Changing demographics e.g. ageing population, and more complete investigation of patients with suspicious symptoms are further factors that influence these time trends.

The risk of NHL is increased in patients with HIV infection, although only about 3% of HIV positive patients will develop NHL[3].

Epstein-Barr virus is associated with Burkitt's Lymphoma and *Helicobacter Pylori* is causally linked with primary gastric lymphoma[4].

Risk is also increased by the use of immunosuppression for example in transplant patients.

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4 Wotherspoon AC, Ortiz-Hidalgo C, Falzon MR, et al. *Helicobacter Pylori – Associated Gastritis and Primary B-cell Gastric Lymphoma.* Lancet 1991; 338: 1175-1176

23: Leukaemia (C91-C95)

Key Facts

- **New cases: 92 in males & 65 in females each year**
- **53 males & 40 females die annually**
- **Under a third of patients survive five-years**
- **294 males & 208 females diagnosed 1993-2001, still alive end of 2001**

Incidence

In 2001, leukaemia was the fourteenth most common cancer in males and sixteenth commonest in females. On average 92 males and 65 females were diagnosed as having leukaemia each year, accounting for about 2% of male and 1% of female cancers.

Age

Given the levels of disease in 2001, the risk of getting leukaemia before the age of 75 years was 1 in 161 for males and 1 in 361 for females (Table 23a). Fifty percent of males were diagnosed under the age of 68 years, whilst for females it was 69 years. The average annual incidence of leukaemia was highest in 70-74 year old males and females, with higher age-specific rates in males than females (Figure 23a).

Prevalence

In Northern Ireland on 31st December 2001, there were 294 males and 208 females alive who had leukaemia diagnosed between 1993 and 2001.

Deaths

Each year on average 53 males and 40 females died from leukaemia. In 2001, it was the twelfth and thirteenth most common cause of cancer mortality in males and females. Given the levels of mortality in 2001, the risk of dying from this cancer before the age of 75 years was 1 in 278 for males and 1 in 583 for females (Table 23b).

Trends

Between 1993 and 2001, there were no statistically significant trends in the EASRs for incidence or mortality in males or females (Figure 23b).

Table 23a: Incidence of Leukaemia in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Cases	93	78	66	51
Crude Rate per 100,000	11.7	9.5	7.9	5.9
Cumulative Risk (0-74yrs) (%)	1.0	0.6	0.5	0.3
(Lifetime risk to 74 years) Odds, 1 in:	105	161	189	361
EASR per 100,000 (95% CI)	12.4 (9.8, 14.9)	9.7 (7.6, 11.9)	7.2 (5.4, 9.0)	4.9 (3.5, 6.2)
% of all cancers	2	2	2	1

Table 23b: Mortality Due to Leukaemia in 1993 and 2001

	Males		Females	
	1993	2001	1993	2001
Number of Deaths	41	48	42	40
Crude Rate per 100,000	5.1	5.8	5.0	4.6
Cumulative Risk (0-74yrs) (%)	0.4	0.4	0.3	0.2
(Lifetime risk to 74 years) Odds, 1 in:	232	278	316	583
EASR per 100,000 (95% CI)	5.4 (3.7, 7.1)	6.0 (4.2, 7.7)	4.4 (3.0, 5.8)	3.3 (2.2, 4.4)
% of all cancers	2	3	2	2

Figure 23a: Number of New Cases and Age-Specific Incidence Rates per 100,000 of Leukaemia, (averaged over the diagnostic period 1993-2001) by Sex

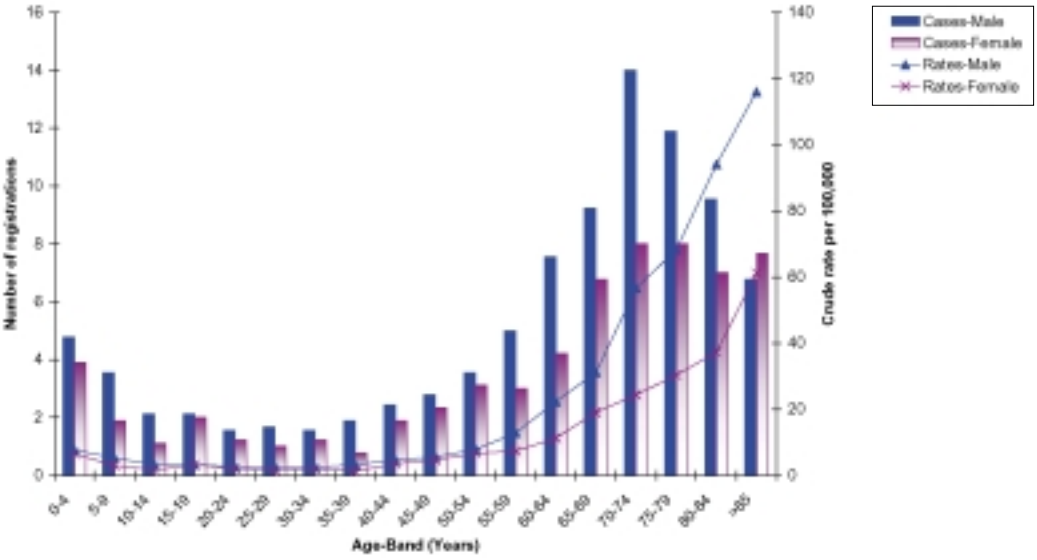


Figure 23b: European Age-Standardised Incidence and Mortality Rates of Leukaemia (1993-2001) by Sex for All Ages

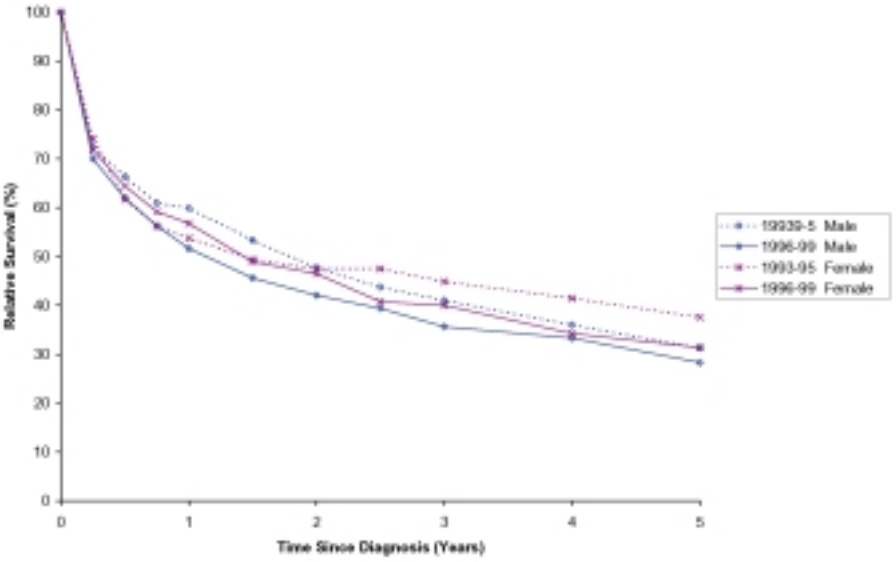
Survival

Overall, survival was poor and did not change between the time periods examined, with approximately one third of adult patients surviving five-years (Table 23c, Figure 23c).

Table 23c: One and Five-year Relative Survival (95% Confidence Interval) for Leukaemia Patients (aged 15-99 years) Diagnosed in 1993-1995 and 1996-1999

Sex	Diagnosis Period	1-year (95% CI)	5-year (95% CI)
Males	1993-95	59.9 (52.8, 66.3)	31.3 (24.6, 38.2)
	1996-99	51.7 (45.6, 57.4)	28.3 (22.2, 34.8)
Females	1993-95	53.8 (45.5, 61.4)	37.6 (29.1, 46.1)
	1996-99	56.8 (49.9, 63.1)	31.4 (24.4, 38.6)

Figure 23c: Leukaemia Survival by Period of Diagnosis and by Sex



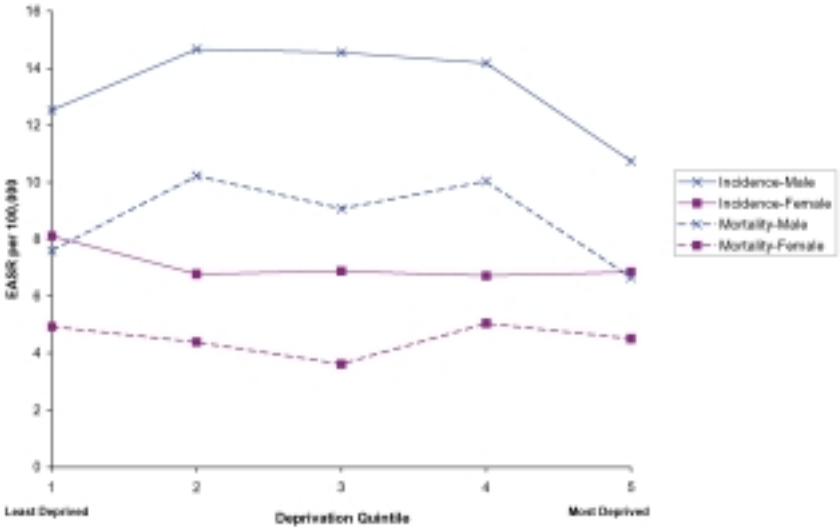
Geographical Variation

There was little variation in the EASRs for incidence of leukaemia across the Health Boards or at District Council level, with none exhibiting higher than expected levels of the disease.

Socioeconomic Trends

There were no statistically significant trends in the EASRs for incidence or mortality with increasing deprivation in males or females (Figure 23d).

Figure 23d: European Age-Standardised Incidence and Mortality Rates of Leukaemia by Deprivation Quintile and by Sex



Discussion

Leukaemia refers to a group of diseases where white blood cells or their precursor cells multiply out of control preventing the bone marrow producing other essential cells such as red blood cells, platelets and normal white blood cells.

The haematological malignancies pose a number of difficulties for cancer registries. Because they are relatively rare, diverse, haematological conditions they tend to be grouped together to facilitate statistical analyses. Also, cancer registration systems use the International Classification of Diseases (ICD) codes. These codes do not reflect clinical entities that are recognised among the haematological malignancies, and despite several changes, still do not reflect current clinico-pathological groupings. The NICR has linked with the Northern Ireland Leukaemia Lymphoma Registry to enhance data quality and timeliness.

There are four major categories but a number of less common forms also can occur.

The major leukaemias are categorised as follows[1]:-

Acute lymphoblastic leukaemia. This leukaemia is caused by an increase in immature lymphoid cells of either B or T cell origin. This is the most common leukaemia of childhood with highest levels among 2-7 year olds. Males are more often affected than females. Worldwide reported incidence varies widely, but is highest in developed countries. Although reported childhood rates increased prior to the 1970's, probably due to improved diagnosis, there is no convincing evidence of a change in reported rates for any age group in more recent years.

Chronic lymphocytic leukaemia. This leukaemia is caused by an increase in mature lymphocytes (a type of white blood cell). It is mainly a disease of old age, but no reliable data exist for incidence or trends as there is wide variation in presentation – some have no symptoms and it is often an incidental finding. It accounts for about 35% of all leukaemias.

Acute myeloid leukaemia. This group includes all leukaemias of myeloid origin and accounts for about 30% of cases. Reported incidence varies widely throughout the world. It is rare in children and young adults, but the levels rise with increasing age. There is a slight male excess of cases. Worldwide there appears to be a slow fall in the numbers of cases over time but our numbers are too small to show any trends.

Chronic myeloid leukaemia. This leukaemia which accounts for about 10% of cases is characterised by the presence of a genetic change, the Philadelphia chromosome. It is more common in males and is rare in childhood, with the highest levels occurring in the 40-50 year old age group.

There have been dramatic improvements in the survival of children with leukaemia so that now 80% survive five-years (see Chapter 24). Adult survival has however shown moderate improvement and is lower overall at 30%. Smoking is causally related to myeloid leukaemia in adults[2].

Benzene, previous chemotherapy, aplastic anaemia, myelodysplastic syndrome and Down's syndrome are all independent risk factors[3].

References

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2 IARC. *Tobacco Smoke and Involuntary Smoking,* Vol.83, (www.iarc.fr). Brownson RC, Novotny TE, Perry HC. *Cigarette Smoking and Adult Leukaemia,* A Meta Analysis. Arch Intern Med 1993; 153: 469-75.

3 Cancer Research UK. *CancerStats Leukaemia – UK*. December 2003

24: Childhood Cancer (C00-C97 in 0-14 year olds)

Key Facts

- **New cases: 28 in boys & 22 in girls each year**
- **Leukaemia is the most common childhood cancer**
- **8 boys & 4 girls die annually**
- **Survival good: 80% at five-years**
- **195 boys & 154 girls diagnosed 1993-2001, still alive end of 2001**

Incidence

On average 28 boys and 22 girls aged below 15 years were diagnosed as having cancer each year. The rates of childhood cancer were higher in boys than in girls (Table 24a). Leukaemia accounts for over a third of all cancers diagnosed in children, with cancer of the brain being the second most commonly diagnosed cancer in boys and girls (Figure 24a).

Prevalence

In Northern Ireland on 31st December 2001, there were 195 boys and 154 girls alive who had cancer diagnosed between 1993 and 2001.

Deaths

Each year on average 8 boys and 4 girls died from cancer (Table 24b).

Trends

Between 1993 and 2001, there were no statistically significant trends in the EASRs for incidence or mortality in boys or girls (Figure 24b).

Table 24a: Incidence of Childhood Cancer in 1993 and 2001

	Boys		Girls	
	1993	2001	1993	2001
Number of Cases	28	18	26	20
Crude Rate per 100,000	13.9	9.5	13.5	11.1
EASR per 100,000 (95% CI)	14.4 (9.1, 19.7)	9.7 (5.2, 14.2)	14.2 (8.7, 19.7)	11.1 (6.3, 16.1)

Table 24b: Mortality Due to Childhood Cancer in 1993 and 2001

	Boys		Girls	
	1993	2001	1993	2001
Number of Deaths	10	8	9	<3
Crude Rate per 100,000	5.0	4.2	4.7	0.6
EASR per 100,000 (95% CI)	5.2 (2.0, 8.4)	4.1 (1.3, 7.0)	4.6 (1.6, 7.6)	0.5 (0.0, 1.5)

Figure 24a: Most Common Childhood Cancer in Children over the Diagnostic Period 1993-2001

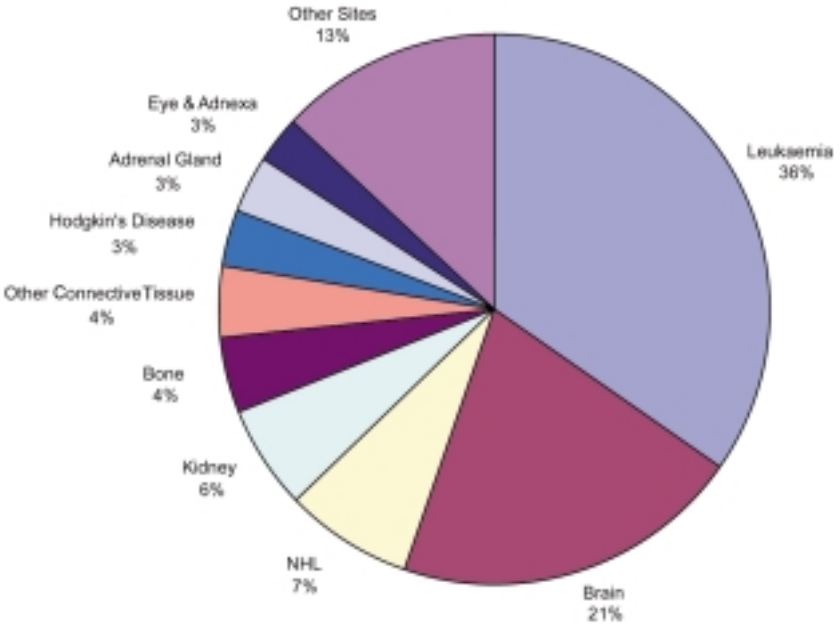
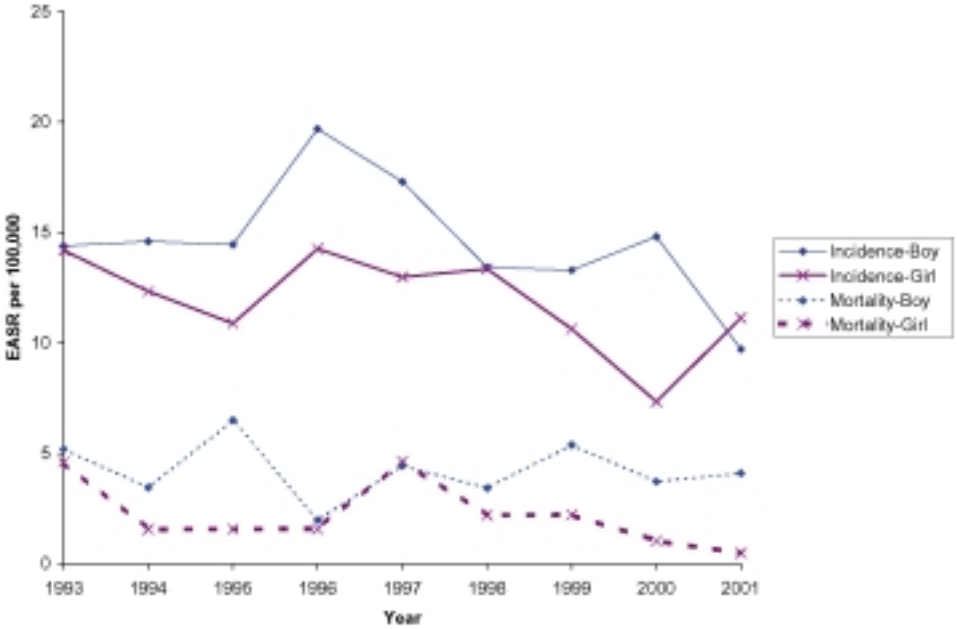


Figure 24b: European Age-Standardised Incidence and Mortality Rates of Childhood Cancer (1993-2001) by Sex



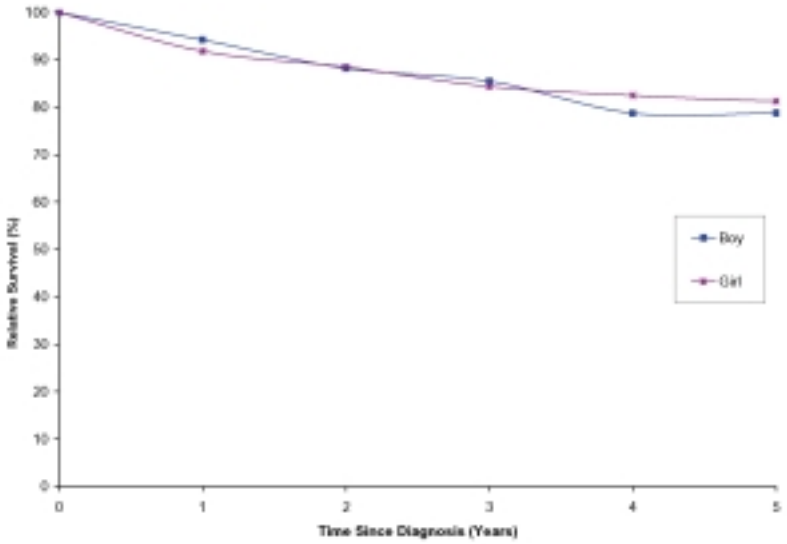
Survival

Boys and girls had similar survival rates, with around 80% of children diagnosed with cancer surviving five-years (Table 24c and Figure 24c).

Table 24c: One and Five-year Relative Survival (95% Confidence Interval) for Childhood Cancer Patients (0-14 years) Diagnosed in 1993-1996 by Cancer Site.

Sex	Cancer Site (ICD10)	1-year (95% CI)	5-year (95% CI)
Boys	All Cancers (C00-97)	94 (90, 98)	79 (72, 86)
Girls	All Cancers (C00-97)	92 (87, 97)	81 (74, 88)
Boys	Leukaemia (C91-95)	100	83 (71, 95)
Girls	Leukaemia (C91-95)	89 (79, 99)	74 (59, 89)

Figure 24c: Childhood Cancer Survival by Sex



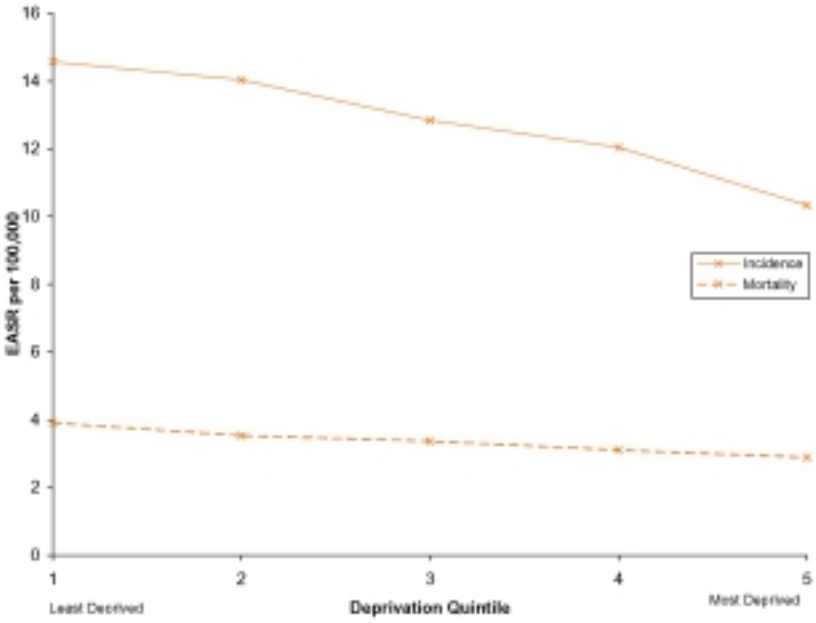
Geographical Variation

There was little variation in the EASRs for incidence of cancer across the Health Boards. This was also found at District Council level, with none of the District Council areas exhibiting higher than expected levels of the disease.

Socioeconomic Trends

There were no statistically significant trends in the EASRs for incidence or mortality with increasing deprivation for boys or girls. However, when boys and girls were combined to give higher numbers, statistically significant ($P<0.001$) decreasing trends were seen in the EASRs for both incidence and mortality with deprivation (Figure 24d). For incidence in children, those living in the most affluent areas had an EASR of 14.6 which fell to 10.3 cases per 100,000 for those living in the most deprived areas. The corresponding figures for mortality were 3.9 and 2.9 cases per 100,000 respectively.

Figure 24d: European Age-Standardised Incidence and Mortality Rates of Childhood Cancer by Deprivation Quintile



Discussion

Cancer in childhood is rare accounting for about 50 cases per year. Leukaemia and brain tumours together account for over half of all childhood cancers.

Many of the tumours are embryonal in origin and rarely occur in adults.

There was no trend in Northern Ireland for the period 1993 to 2001. This is similar to that seen in Britain over 30 years of observation[1].

Before the introduction of combination chemotherapy in the late 1960's and early 1970's very few childhood cancers could be treated effectively[2]. Survival rates are now high with 80% surviving five-years.

There are about 350 people living here who have had a diagnosis of childhood cancer between 1993 and 2001. Many others are living who were successfully treated before 1993.

The association of childhood malignancies with affluence has been described before in our population for acute lymphoblastic leukaemia[3].

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2 Cancer Research Campaign (CRC). *Childhood Cancer – UK* Factsheet 15.2 1995.

3 Murray L, McCarron P, Bailie K, Middleton R, Davey Smith G, Dempsey S, McCarthy A, Gavin A. *Association of Early Life Factors and Acute Lymphoblastic Leukaemia in Childhood: Historical Cohort Study*. Br J Cancer 2002; 86: 356-61

A. Statistical Terms and Methods

Incident Cases – newly diagnosed cases of cancer.

Crude Rate - the number of incident cases per 100,000 of population calculated as:

$$C = \frac{R}{N} \times 100{,}000$$

where:

R is the total number of incident cases;
N is the total number of person-years of observation.

Age Specific Rates - the rates per 100,000 specific to particular age groups (0-4, 5-9, …, 80-84, 85+) calculated as:

$$a_i = \frac{r_i}{n_i} \times 100{,}000$$

where:

a_i is the age-specific rate;
r_i is the number of incident cases in age group i;
n_i is the number of person-years.

Cumulative Risk - generally expressed as a percentage, this measure represents the risk an individual would have of developing the disease in question over a given life span if no other causes of death were in operation. For childhood cancers the ages of 0-14 is used; for overall lifespan the appropriate measure is taken as 0-74 years. It is defined as:

Cumulative Risk = 100 x [1 – exp(-cumulative rate / 100)]

Where:

The cumulative rate = $\sum_{i=1}^{A} a_i t_i$

and a_i is the age specific incidence rate in the ith class which is t_i years long (generally five years);

A is the number of age categories

Odds (1 in …) - the odds of being diagnosed with or dying from a disease is simply calculated by dividing 100 by the cumulative risk, e.g. for a disease with cumulative risk (0-74yrs) of 20%, the odds of being diagnosed with or dying from the disease would be:

$$\frac{100}{20} = 5$$

i.e. **Odds = “1 in 5”**

Age Standardised Rates - rates used to permit international comparisons by adjusting for differences in national population age structures by adopting a notional standard population. Reported as a rate per 100,000. The direct method employed here calculates theoretical rates which would apply if the age specific rates for Northern Ireland applied in the standard population. The standard populations used are the World and European Populations. The World population has a younger age structure. The purpose of the standard populations is to provide an accepted standard set of population 'weights' which permit national and international comparisons to be made by taking account of variation in age structure between diverse populations. They are calculated as follows:

$$\text{ASR} = \frac{\sum_{i=1}^{G} a_i w_i}{\sum_{i=1}^{G} w_i}$$

where:

a_i is the age-specific rate in age class *i*;

w_i is the standard population is age class *i*;

G represents the number of age intervals.

Standardised Incidence Ratios (SIRs) – the ratio is calculated by comparing observed and expected numbers of cases. The expected number of cases is calculated by applying a standard set of age-specific rates (a_i) to the population of interest:

$$\sum_{i=1}^{A} e_i = \sum_{i=1}^{A} a_i n_i / 100{,}000$$

where e_i, the number of cases expected in age class *i*, is the product of the 'standard rate', and the number of persons in age class *i* in the population of interest.

The standardised ratio *(M)* can now be calculated by comparing the observed number of cases ($\sum r_i$) with that expected.

$$M = \frac{\sum_{i=1}^{A} r_i}{\sum_{i=1}^{A} e_i} = \frac{\sum_{i=1}^{A} r_i}{\sum_{i=1}^{A} a_i n_i / 100{,}000}$$

This is generally expressed as a percentage by multiplying by 100. When applied to incidence data it is commonly known as the standardised incidence ratio (SIR).

B. ABBREVIATIONS

ASR	Age Standardised Rate
CI	Confidence Interval
DCO	Death Certificate Only
DHSSPSNI	Department of Health, Social Services & Public Safety Northern Ireland
DIS	Directorate of Information Systems
EASR	European Age Standardised Rate
ED	Enumeration District
EHSSB	Eastern Health & Social Services Board
GRO	General Register Office
HNPCC	Hereditary Non-Polyposis Colorectal Cancer
HRT	Hormone Replacement Therapy
ICD 10	International Classification of Disease 10 th Revision
ICD 9	International Classification of Disease 9 th Revision
NCRI	National Cancer Registry Ireland
NHL	Non Hodgkin's Lymphoma
NHSSB	Northern Health & Social Services Board
NICR	Northern Ireland Cancer Registry
NISRA	Northern Ireland Statistics & Research Agency
NMS	Non Melanoma Skin
NMV	No Microscopic Verification
OSNI	Ordnance Survey Northern Ireland
PAS	Patient Administration System
PSA	Prostate Specific Antigen
RSR	Relative Survival Rate
SHSSB	Southern Health & Social Services Board
SIR S	tandardised Incidence Rate
UCF	Ulster Cancer Foundation
WASR	World Age Standardised Rate
WHSSB	Western Health & Social Services Board

Appendices

Appendix 1a: Incidence and Data Quality in Males by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

Lip, Oral Cavity & Pharynx (C00-14)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	108	107	101	103	108	84	92	82	90
Crude Rate per 100,000	13.5	13.3	12.6	12.7	13.2	10.3	11.2	10.0	10.9
EASR [1] per 100,000	15.4	14.7	14.4	14.2	14.9	11.1	12.2	10.6	11.7
EASR [1] - 95% Confidence Intervals	12.4, 18.3	11.8, 17.5	11.6, 17.3	11.4, 17.0	12.1, 17.8	8.7, 13.5	9.7, 14.7	8.3, 12.9	9.3, 14.1
WASR [2] per 100,000	10.8	10.1	10.2	10.1	10.6	7.4	8.4	7.4	8.3
WASR [2] - 95% Confidence Intervals	8.7, 12.9	8.2, 12.1	8.1, 12.2	8.1, 12.1	8.5, 12.6	5.8, 9.1	6.6, 10.2	5.8, 9.1	6.6, 10.1
Cumulative Risk (0-74yrs) (%)	1.3	1.3	1.2	1.2	1.2	0.9	0.9	0.8	1.0
Odds, 1 in :	79	78	82	82	81	112	107	118	101
% of all cancers	2.6	2.5	2.5	2.4	2.6	2.0	2.2	1.9	2.1
%DCO [3]	2.8	0.0	1.0	1.0	0.9	0.0	0.0	0.0	0.0
%MV [4]	92.6	91.6	93.1	97.1	94.4	94.0	93.5	84.1	95.6

Oesophagus (C15)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	89	99	95	87	98	101	94	71	102
Crude Rate per 100,000	11.1	12.3	11.8	10.7	12.0	12.3	11.5	8.7	12.4
EASR [1] per 100,000	12.3	13.9	13.4	11.3	13.4	13.6	12.3	9.1	13.0
EASR [1] - 95% Confidence Intervals	9.7, 14.9	11.1, 16.7	10.7, 16.1	8.9, 13.7	10.8, 16.1	10.9, 16.3	9.8, 14.8	7.0, 11.2	10.4, 15.5
WASR [2] per 100,000	8.5	9.4	9.5	7.5	9.3	9.3	8.4	6.1	8.6
WASR [2] - 95% Confidence Intervals	6.7, 10.3	7.5, 11.3	7.5, 11.5	5.8, 9.1	7.4, 11.2	7.4, 11.2	6.6, 10.1	4.6, 7.6	6.9, 10.4
Cumulative Risk (0-74yrs) (%)	1.1	1.1	1.1	0.9	1.2	1.2	1.0	0.7	0.9
Odds, 1 in :	92	90	88	114	86	86	105	146	111
% of all cancers	2.2	2.4	2.3	2.0	2.3	2.4	2.2	1.7	2.4
%DCO [3]	3.4	3.0	2.1	2.3	0.0	2.0	1.1	0.0	1.0
%MV [4]	91.0	83.8	83.2	83.9	90.8	90.1	87.2	91.5	90.2

Stomach (C16)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	151	168	154	170	141	176	160	143	149
Crude Rate per 100,000	18.9	20.9	19.2	21.0	17.3	21.5	19.5	17.4	18.1
EASR [1] per 100,000	20.9	22.7	21.1	22.8	18.6	23.2	20.3	18.1	17.8
EASR [1] - 95% Confidence Intervals	17.5, 24.3	19.2, 26.1	17.7, 24.5	19.4, 26.3	15.5, 21.7	19.7, 26.7	17.1, 23.5	15.1, 21.1	15.0, 20.7
WASR [2] per 100,000	14.1	15.1	13.9	15.0	12.3	15.7	13.4	11.9	11.7
WASR [2] - 95% Confidence Intervals	11.8, 16.4	12.7, 17.4	11.6, 16.1	12.7, 17.3	10.2, 14.4	13.3, 18.1	11.2, 15.5	9.9, 13.9	9.7, 13.7
Cumulative Risk (0-74yrs) (%)	1.8	2.0	1.6	1.7	1.4	2.0	1.6	1.4	1.5
Odds, 1 in :	56	50	64	57	70	50	63	73	69
% of all cancers	3.7	4.0	3.8	4.0	3.4	4.1	3.8	3.3	3.5
%DCO [3]	2.6	2.4	3.9	1.2	0.7	0.6	1.9	2.1	0.0
%MV [4]	81.5	85.7	81.8	86.5	88.7	88.6	90.6	93.0	95.3

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1a: Incidence and Data Quality in Males by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

Colon (C18)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	290	307	315	316	299	305	288	276	314
Crude Rate per 100,000	36.3	38.3	39.2	39.0	36.7	37.3	35.2	33.6	38.1
EASR [1] per 100,000	40.5	42.2	42.7	42.8	38.8	39.8	37.1	34.9	38.9
EASR [1] - 95% Confidence Intervals	35.8, 45.2	37.5, 47.0	37.9, 47.4	38.0, 47.5	34.3, 43.2	35.3, 44.3	32.8, 41.5	30.7, 39.0	34.5, 43.2
WASR [2] per 100,000	26.3	28.0	27.5	28.5	25.0	26.2	24.6	23.1	25.8
WASR [2] - 95% Confidence Intervals	23.2, 29.4	24.8, 31.2	24.3, 30.6	25.3, 31.8	22.1, 28.0	23.2, 29.3	21.7, 27.6	20.3, 25.9	22.8, 28.7
Cumulative Risk (0-74yrs) (%)	3.0	3.4	3.1	3.2	2.8	3.1	2.8	2.8	2.9
Odds, 1 in :	33	30	32	31	36	33	35	35	35
% of all cancers	7.0	7.3	7.7	7.4	7.1	7.2	6.8	6.5	7.3
%DCO [3]	3.8	1.3	3.8	1.9	1.3	1.0	2.1	1.1	1.3
%MV [4]	82.4	86.0	79.4	88.3	88.0	86.9	86.5	84.1	88.5

Rectum, Rectosigmoid Junction & Anus (C19-21)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	184	177	169	188	154	184	164	186	199
Crude Rate per 100,000	23.1	22.1	21.0	23.2	18.9	22.5	20.0	22.7	24.1
EASR [1] per 100,000	25.7	24.1	23.1	24.8	20.4	23.9	20.9	23.7	24.8
EASR [1] - 95% Confidence Intervals	21.9, 29.5	20.5, 27.7	19.5, 26.6	21.2, 28.4	17.2, 23.7	20.4, 27.4	17.7, 24.1	20.3, 27.2	21.4, 28.3
WASR [2] per 100,000	17.7	16.3	15.5	16.7	13.6	15.9	14.1	16.0	16.9
WASR [2] - 95% Confidence Intervals	15.0, 20.3	13.8, 18.7	13.1, 17.9	14.2, 19.2	11.4, 15.9	13.5, 18.3	11.9, 16.4	13.7, 18.4	14.4, 19.3
Cumulative Risk (0-74yrs) (%)	2.1	2.1	1.8	2.1	1.6	1.9	1.8	2.0	2.2
Odds, 1 in :	47	49	56	49	62	53	55	50	46
% of all cancers	4.5	4.2	4.1	4.4	3.7	4.3	3.9	4.4	4.6
%DCO [3]	1.1	0.6	0.0	0.5	0.6	0.0	0.6	0.5	0.0
%MV [4]	91.3	87.0	91.7	94.1	93.5	95.7	93.9	93.5	98.5

Liver & Intrahepatic Bile Ducts (C22)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	31	25	32	33	31	26	21	34	25
Crude Rate per 100,000	3.9	3.1	4.0	4.1	3.8	3.2	2.6	4.1	3.0
EASR [1] per 100,000	4.3	3.6	4.4	4.4	3.8	3.3	2.9	4.2	3.2
EASR [1] - 95% Confidence Intervals	2.8, 5.9	2.2, 5.0	2.9, 6.0	2.9, 6.0	2.5, 5.2	2.0, 4.6	1.7, 4.2	2.8, 5.6	1.9, 4.4
WASR [2] per 100,000	2.8	2.3	3.1	3.1	2.6	2.4	2.2	2.9	2.0
WASR [2] - 95% Confidence Intervals	1.8, 3.8	1.4, 3.3	2.0, 4.2	2.0, 4.2	1.6, 3.5	1.4, 3.3	1.2, 3.2	1.9, 3.9	1.2, 2.8
Cumulative Risk (0-74yrs) (%)	0.3	0.2	0.3	0.4	0.3	0.2	0.2	0.3	0.2
Odds, 1 in :	376	446	316	274	308	430	405	308	504
% of all cancers	0.8	0.6	0.8	0.8	0.7	0.6	0.5	0.8	0.6
%DCO [3]	6.5	12.0	6.3	6.1	0.0	7.7	0.0	5.9	0.0
%MV [4]	48.4	44.0	50.0	45.5	32.3	53.8	52.4	50.0	40.0

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1a: Incidence and Data Quality in Males by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

Pancreas (C25)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	90	62	58	90	80	72	65	66	94
Crude Rate per 100,000	11.3	7.7	7.2	11.1	9.8	8.8	7.9	8.0	11.4
EASR [1] per 100,000	12.1	8.5	7.7	11.6	10.5	9.5	8.5	8.5	11.8
EASR [1] - 95% Confidence Intervals	9.6, 14.6	6.4, 10.7	5.7, 9.7	9.2, 14.1	8.2, 12.9	7.3, 11.7	6.4, 10.6	6.4, 10.5	9.4, 14.2
WASR [2] per 100,000	8.1	5.7	4.9	7.4	6.9	6.4	5.5	5.4	7.8
WASR [2] - 95% Confidence Intervals	6.3, 9.8	4.3, 7.2	3.6, 6.2	5.8, 9.0	5.3, 8.4	4.9, 7.9	4.1, 6.9	4.1, 6.8	6.2, 9.5
Cumulative Risk (0-74yrs) (%)	1.2	0.7	0.5	0.8	0.9	0.8	0.6	0.6	1.0
Odds, 1 in :	81	153	197	127	116	131	161	170	102
% of all cancers	2.2	1.5	1.4	2.1	1.9	1.7	1.5	1.5	2.2
%DCO [3]	3.3	0.0	5.2	4.4	3.8	4.2	3.1	4.5	5.3
%MV [4]	18.9	16.1	22.4	31.1	42.5	33.3	38.5	34.8	37.2

Trachea, Bronchus & Lung (C33, 34)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	567	624	553	538	563	573	523	522	544
Crude Rate per 100,000	71.0	77.8	68.8	66.4	69.0	70.0	63.9	63.6	66.0
EASR [1] per 100,000	78.2	87.3	74.2	70.9	74.2	73.2	66.5	66.2	67.2
EASR [1] - 95% Confidence Intervals	71.7, 84.7	80.4, 94.2	68.0, 80.5	64.9, 76.9	68.0, 80.4	67.1, 79.2	60.8, 72.3	60.5, 71.9	61.5, 72.9
WASR [2] per 100,000	52.5	59.1	49.5	47.1	49.6	48.6	43.7	44.0	45.1
WASR [2] - 95% Confidence Intervals	48.0, 56.9	54.3, 63.9	45.3, 53.8	42.9, 51.2	45.3, 53.8	44.5, 52.8	39.9, 47.6	40.1, 47.9	41.2, 49.0
Cumulative Risk (0-74yrs) (%)	6.5	7.2	6.3	6.2	6.1	6.1	5.5	5.4	5.9
Odds, 1 in :	15	14	16	16	16	16	18	18	17
% of all cancers	13.7	14.9	13.5	12.6	13.5	13.5	12.4	12.2	12.7
%DCO [3]	4.6	2.6	2.7	1.9	0.9	1.2	2.9	2.5	0.7
%MV [4]	60.5	64.1	62.7	70.6	70.2	72.3	69.4	58.8	74.1

Malignant Melanoma (C43)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	59	70	71	69	65	64	70	72	85
Crude Rate per 100,000	7.4	8.7	8.8	8.5	8.0	7.8	8.6	8.8	10.3
EASR [1] per 100,000	8.5	9.5	9.7	9.4	8.6	8.4	8.9	9.4	10.6
EASR [1] - 95% Confidence Intervals	6.3, 10.7	7.2, 11.7	7.4, 12.0	7.1, 11.6	6.5, 10.7	6.3, 10.4	6.8, 11.0	7.2, 11.5	8.3, 12.8
WASR [2] per 100,000	6.3	7.4	7.1	7.3	6.3	6.1	6.4	7.3	8.1
WASR [2] - 95% Confidence Intervals	4.7, 8.0	5.6, 9.2	5.4, 8.8	5.5, 9.0	4.7, 7.9	4.6, 7.7	4.9, 8.0	5.5, 9.0	6.3, 9.8
Cumulative Risk (0-74yrs) (%)	0.7	0.8	0.8	0.7	0.6	0.6	0.6	0.7	0.8
Odds, 1 in :	152	130	129	139	170	156	157	139	121
% of all cancers	1.4	1.7	1.7	1.6	1.6	1.5	1.7	1.7	2.0
%DCO [3]	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	1.2
%MV [4]	100.0	98.6	98.6	100.0	96.9	96.9	100.0	98.6	98.8

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1a: Incidence and Data Quality in Males by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

Non-Melanoma Skin Cancer (C44)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	1006	1102	1047	1103	1147	1137	1207	1165	1133
Crude Rate per 100,000	126.0	137.4	130.2	136.1	140.6	138.9	147.5	142.0	137.4
EASR [1] per 100,000	140.1	151.6	143.1	147.5	151.6	148.2	153.8	147.4	140.6
EASR [1] - 95% Confidence Intervals	131.3, 148.9	142.5, 160.7	134.3, 151.9	138.7, 156.3	142.7, 160.4	139.5, 156.9	145.1, 162.5	138.9, 155.9	132.3, 148.9
WASR [2] per 100,000	92.4	100.1	95.2	98.2	99.6	97.0	100.7	96.7	92.0
WASR [2] - 95% Confidence Intervals	86.5, 98.3	94.0, 106.2	89.2, 101.1	92.2, 104.2	93.6, 105.6	91.1, 102.8	94.8, 106.6	91.0, 102.5	86.5, 97.6
Cumulative Risk (0-74yrs) (%)	9.8	10.7	10.4	10.5	10.5	10.1	10.7	10.7	9.8
Odds, 1 in :	10	9	10	10	10	10	9	9	10
% of all cancers	24.4	26.3	25.6	25.9	27.4	26.7	28.6	27.3	26.4
%DCO [3]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%MV [4]	93.8	94.2	96.4	98.5	97.5	94.5	95.5	98.4	98.7

Prostate (C61)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	472	478	505	451	481	484	484	562	509
Crude Rate per 100,000	59.1	59.6	62.8	55.7	59.0	59.1	59.1	68.5	61.7
EASR [1] per 100,000	63.8	63.4	66.3	58.8	61.8	61.2	61.1	70.0	63.1
EASR [1] - 95% Confidence Intervals	57.9, 69.6	57.7, 69.2	60.4, 72.2	53.3, 64.3	56.2, 67.4	55.7, 66.7	55.6, 66.6	64.1, 75.8	57.6, 68.7
WASR [2] per 100,000	38.9	38.7	39.6	36.1	37.4	37.5	38.4	44.7	40.8
WASR [2] - 95% Confidence Intervals	35.3, 42.6	35.1, 42.3	36.0, 43.2	32.7, 39.6	33.9, 40.8	34.0, 41.0	34.9, 42.0	40.9, 48.5	37.2, 44.5
Cumulative Risk (0-74yrs) (%)	3.9	4.2	4.0	3.8	3.8	3.9	4.4	5.3	5.0
Odds, 1 in :	26	24	25	26	26	26	23	19	20
% of all cancers	11.4	11.4	12.3	10.6	11.5	11.4	11.5	13.2	11.9
%DCO [3]	5.5	2.3	2.4	3.1	1.2	0.6	0.8	1.4	0.0
%MV [4]	72.5	71.3	69.9	75.2	69.2	70.7	76.7	79.0	87.6

Testis (C62)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	55	47	39	57	48	46	56	68	50
Crude Rate per 100,000	6.9	5.9	4.9	7.0	5.9	5.6	6.8	8.3	6.1
EASR [1] per 100,000	6.9	5.8	4.8	7.0	5.8	5.6	6.9	8.0	6.0
EASR [1] - 95% Confidence Intervals	5.0, 8.7	4.1, 7.4	3.3, 6.3	5.1, 8.8	4.2, 7.5	3.9, 7.2	5.1, 8.7	6.1, 10.0	4.3, 7.6
WASR [2] per 100,000	6.3	5.4	4.6	6.4	5.5	5.2	6.3	7.6	5.5
WASR [2] - 95% Confidence Intervals	4.6, 8.0	3.8, 7.0	3.1, 6.0	4.7, 8.1	3.9, 7.1	3.7, 6.7	4.6, 7.9	5.7, 9.4	3.9, 7.0
Cumulative Risk (0-74yrs) (%)	0.5	0.4	0.3	0.5	0.4	0.4	0.5	0.6	0.4
Odds, 1 in :	207	237	290	208	237	255	192	175	229
% of all cancers	1.3	1.1	1.0	1.3	1.1	1.1	1.3	1.6	1.2
%DCO [3]	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%MV [4]	98.2	100.0	97.4	96.5	97.9	95.7	96.4	98.5	96.0

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1a: Incidence and Data Quality in Males by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

Kidney (C64-C66, C68)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	96	113	95	93	100	98	101	91	101
Crude Rate per 100,000	12.0	14.1	11.8	11.5	12.3	12.0	12.3	11.1	12.3
EASR [1] per 100,000	13.3	15.5	13.1	12.9	13.2	12.8	13.3	11.6	13.1
EASR [1] - 95% Confidence Intervals	10.6, 16.0	12.6, 18.4	10.4, 15.7	10.2, 15.5	10.6, 15.8	10.2, 15.3	10.7, 15.9	9.2, 14.0	10.5, 15.6
WASR [2] per 100,000	9.4	11.1	9.3	9.0	9.6	9.3	9.1	7.9	9.1
WASR [2] - 95% Confidence Intervals	7.4, 11.3	9.0, 13.2	7.3, 11.2	7.1, 10.9	7.6, 11.6	7.4, 11.2	7.3, 11.0	6.2, 9.6	7.3, 11.0
Cumulative Risk (0-74yrs) (%)	1.2	1.4	1.1	1.0	1.1	1.0	1.1	0.9	1.2
Odds, 1 in :	83	74	89	99	90	96	92	106	85
% of all cancers	2.3	2.7	2.3	2.2	2.4	2.3	2.4	2.1	2.4
%DCO [3]	7.3	0.0	1.1	1.1	0.0	0.0	2.0	1.1	1.0
%MV [4]	74.0	77.9	75.8	69.9	77.0	75.5	72.3	72.5	76.2

Bladder (C67)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	156	136	142	177	118	162	159	145	120
Crude Rate per 100,000	19.5	17.0	17.7	21.8	14.5	19.8	19.4	17.7	14.6
EASR [1] per 100,000	21.6	18.8	18.8	23.1	15.5	21.0	20.2	18.3	14.6
EASR [1] - 95% Confidence Intervals	18.1, 25.0	15.6, 22.0	15.7, 22.0	19.7, 26.5	12.6, 18.3	17.7, 24.3	17.1, 23.4	15.3, 21.3	11.9, 17.2
WASR [2] per 100,000	14.1	12.2	12.3	14.9	10.1	13.6	13.4	12.1	9.4
WASR [2] - 95% Confidence Intervals	11.8, 16.4	10.1, 14.3	10.2, 14.4	12.6, 17.1	8.2, 12.0	11.4, 15.8	11.2, 15.6	10.0, 14.1	7.6, 11.2
Cumulative Risk (0-74yrs) (%)	1.7	1.5	1.4	1.8	1.2	1.6	1.7	1.4	1.1
Odds, 1 in :	59	69	72	57	82	63	60	72	92
% of all cancers	3.8	3.2	3.5	4.2	2.8	3.8	3.8	3.4	2.8
%DCO [3]	2.6	0.0	1.4	1.1	1.7	0.0	0.0	1.4	0.0
%MV [4]	23.1	27.9	35.2	87.0	89.0	82.7	75.5	82.1	96.7

Brain (C71)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	60	53	54	72	58	61	55	61	66
Crude Rate per 100,000	7.5	6.6	6.7	8.9	7.1	7.5	6.7	7.4	8.0
EASR [1] per 100,000	8.2	7.2	7.5	9.5	7.7	8.0	7.1	7.7	8.2
EASR [1] - 95% Confidence Intervals	6.1, 10.3	5.2, 9.2	5.4, 9.5	7.3, 11.7	5.7, 9.7	6.0, 10.1	5.2, 9.0	5.7, 9.6	6.2, 10.2
WASR [2] per 100,000	7.1	5.7	6.2	7.9	5.9	6.5	5.8	6.5	6.3
WASR [2] - 95% Confidence Intervals	5.2, 8.9	4.1, 7.3	4.5, 7.9	6.0, 9.7	4.3, 7.4	4.8, 8.1	4.3, 7.4	4.8, 8.2	4.8, 7.9
Cumulative Risk (0-74yrs) (%)	0.7	0.5	0.6	0.9	0.6	0.6	0.6	0.6	0.7
Odds, 1 in :	153	186	155	113	163	155	163	170	151
% of all cancers	1.5	1.3	1.3	1.7	1.4	1.4	1.3	1.4	1.5
%DCO [3]	3.3	1.9	5.6	0.0	0.0	0.0	1.8	1.6	1.5
%MV [4]	63.3	64.2	53.7	72.2	56.9	72.1	70.9	59.0	51.5

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1a: Incidence and Data Quality in Males by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

Hodgkin's Disease (C81)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	31	21	30	21	21	11	26	25	24
Crude Rate per 100,000	3.9	2.6	3.7	2.6	2.6	1.3	3.2	3.0	2.9
EASR [1] per 100,000	4.0	2.8	4.0	2.6	2.8	1.4	3.1	3.1	2.9
EASR [1] - 95% Confidence Intervals	2.6, 5.4	1.6, 4.0	2.5, 5.4	1.5, 3.8	1.6, 4.0	0.5, 2.2	1.9, 4.3	1.9, 4.3	1.7, 4.0
WASR [2] per 100,000	3.5	2.3	3.3	2.2	2.3	1.2	2.8	2.6	2.7
WASR [2] - 95% Confidence Intervals	2.3, 4.8	1.3, 3.3	2.1, 4.5	1.3, 3.2	1.3, 3.3	0.5, 2.0	1.7, 3.9	1.6, 3.7	1.6, 3.8
Cumulative Risk (0-74yrs) (%)	0.3	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.2
Odds, 1 in :	335	434	346	426	518	881	441	435	420
% of all cancers	0.8	0.5	0.7	0.5	0.5	0.3	0.6	0.6	0.6
%DCO [3]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%MV [4]	83.9	95.2	93.3	90.5	90.5	90.9	92.3	68.0	75.0

Non-Hodgkin's Lymphoma (C82-85, 96)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	135	106	121	127	126	122	118	138	114
Crude Rate per 100,000	16.9	13.2	15.0	15.7	15.5	14.9	14.4	16.8	13.8
EASR [1] per 100,000	18.4	14.6	16.7	16.8	16.5	16.2	15.1	17.6	14.2
EASR [1] - 95% Confidence Intervals	15.3, 21.6	11.8, 17.4	13.7, 19.7	13.8, 19.8	13.6, 19.4	13.3, 19.0	12.3, 17.8	14.6, 20.5	11.6, 16.8
WASR [2] per 100,000	13.6	10.7	11.9	12.1	11.8	11.8	11.1	12.9	10.3
WASR [2] - 95% Confidence Intervals	11.2, 15.9	8.6, 12.8	9.7, 14.1	9.9, 14.3	9.7, 14.0	9.6, 14.0	9.1, 13.2	10.6, 15.1	8.4, 12.3
Cumulative Risk (0-74yrs) (%)	1.4	1.1	1.3	1.4	1.3	1.4	1.2	1.4	1.2
Odds, 1 in :	70	88	78	72	79	73	83	70	83
% of all cancers	3.3	2.5	3.0	3.0	3.0	2.9	2.8	3.2	2.7
%DCO [3]	1.5	0.0	0.8	0.0	0.0	1.6	0.0	0.7	0.9
%MV [4]	88.9	84.9	93.4	87.4	89.7	94.3	92.4	84.8	86.8

Leukaemia (C91-95)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	93	102	91	76	103	101	88	96	78
Crude Rate per 100,000	11.7	12.7	11.3	9.4	12.6	12.3	10.8	11.7	9.5
EASR [1] per 100,000	12.4	13.5	11.9	9.8	13.2	12.6	11.2	11.8	9.7
EASR [1] - 95% Confidence Intervals	9.8, 14.9	10.8, 16.1	9.4, 14.3	7.6, 12.1	10.6, 15.7	10.1, 15.1	8.8, 13.6	9.4, 14.2	7.6, 11.9
WASR [2] per 100,000	9.6	10.8	8.8	7.4	10.4	9.3	8.6	8.9	7.2
WASR [2] - 95% Confidence Intervals	7.6, 11.7	8.6, 13.0	6.9, 10.8	5.6, 9.2	8.3, 12.5	7.4, 11.3	6.7, 10.5	7.0, 10.8	5.5, 8.9
Cumulative Risk (0-74yrs) (%)	1.0	0.9	0.8	0.7	1.1	0.9	0.9	0.9	0.6
Odds, 1 in :	105	114	124	151	91	111	117	111	161
% of all cancers	2.3	2.4	2.2	1.8	2.5	2.4	2.1	2.2	1.8
%DCO [3]	3.2	1.0	2.2	3.9	0.0	1.0	0.0	0.0	0.0
%MV [4]	71.0	80.4	82.4	68.4	64.1	85.1	81.8	63.5	56.4

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1a: Incidence and Data Quality in Males by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

All Sites Exc NMS (C00-C97 exc C44)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	3125	3096	3047	3152	3036	3123	3013	3106	3153
Crude Rate per 100,000	391.5	386.1	379.0	389.0	372.3	381.5	368.1	378.6	382.4
EASR [1] per 100,000	430.4	422.8	410.7	417.1	398.0	403.4	385.6	392.5	391.6
EASR [1] - 95% Confidence Intervals	415.2, 445.5	407.8, 437.7	396.1, 425.4	402.4, 431. 7	383.8, 412.2	389.2, 417.5	371.8, 399.4	378.7, 406.3	377.9, 405.3
WASR [2] per 100,000	292.4	287.3	277.3	283.4	269.1	272.2	261.7	268.4	267.4
WASR [2] - 95% Confidence Intervals	281.9, 303.0	276.9, 297.7	267.1, 287.4	273.2, 293.6	259.2, 279.0	262.3, 282.1	252.1, 271.4	258.6, 278.1	257.8, 277.1
Cumulative Risk (0-74yrs) (%)	28.8	28.5	27.2	28.0	26.6	27.1	26.1	27.0	27.6
Odds, 1 in :	3	4	4	4	4	4	4	4	4
% of all cancers	75.6	73.7	74.4	74.1	72.6	73.3	71.4	72.7	73.6
%DCO [3]	4.2	1.9	2.4	1.8	1.0	0.9	1.6	1.4	0.9
%MV [4]	69.0	71.9	71.6	76.8	76.0	78.4	77.9	74.9	79.9

All Sites (C00-C97)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	4131	4198	4094	4255	4183	4260	4220	4271	4286
Crude Rate per 100,000	517.5	523.5	509.2	525.1	512.9	520.4	515.6	520.6	519.9
EASR [1] per 100,000	570.5	574.4	553.8	564.5	549.6	551.5	539.4	539.9	532.2
EASR [1] - 95% Confidence Intervals	553.0, 587.9	557.0, 591.8	536.8, 570.8	547.6, 581.5	533.0, 566.3	535.0, 568.1	523.1, 555.6	523.7, 556.1	516.3, 548.1
WASR [2] per 100,000	384.8	387.4	372.4	381.6	368.7	369.2	362.4	365.1	359.5
WASR [2] - 95% Confidence Intervals	372.8, 396.9	375.3, 399.4	360.7, 384.1	369.8, 393.5	357.2, 380.2	357.7, 380.6	351.2, 373.7	353.8, 376.4	348.4, 370.6
Cumulative Risk (0-74yrs) (%)	35.8	36.2	34.7	35.5	34.3	34.5	34.0	34.8	34.6
Odds, 1 in :	3	3	3	3	3	3	3	3	3
% of all cancers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
%DCO [3]	3.2	1.4	1.8	1.4	0.7	0.6	1.1	1.1	0.7
%MV [4]	75.1	77.7	77.9	82.4	81.9	82.7	83.0	81.3	84.9

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1b: Incidence and Data Quality in Females by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

Lip, Oral Cavity & Pharynx (C00-14)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	54	49	51	51	44	44	56	43	41
Crude Rate per 100,000	6.5	5.8	6.1	6.0	5.2	5.1	6.5	5.0	4.8
EASR [1] per 100,000	5.4	5.2	5.8	5.3	4.5	4.5	6.1	4.7	4.1
EASR [1] - 95% Confidence Intervals	3.8, 6.9	3.6, 6.7	4.1, 7.4	3.7, 6.8	3.1, 5.9	3.1, 5.8	4.4, 7.7	3.3, 6.2	2.8, 5.3
WASR [2] per 100,000	3.7	3.6	4.2	3.8	3.3	3.0	4.2	3.4	2.8
WASR [2] - 95% Confidence Intervals	2.6, 4.8	2.5, 4.8	3.0, 5.4	2.6, 4.9	2.2, 4.3	2.1, 4.0	3.0, 5.3	2.3, 4.5	1.8, 3.7
Cumulative Risk (0-74yrs) (%)	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.3
Odds, 1 in :	257	262	193	257	265	261	191	275	317
% of all cancers	1.3	1.2	1.2	1.1	1.0	1.0	1.3	1.0	1.0
%DCO [3]	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	2.4
%MV [4]	92.6	93.9	90.2	96.1	95.5	95.5	89.3	86.0	90.2

Oesophagus (C15)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	56	53	55	65	74	53	61	69	61
Crude Rate per 100,000	6.7	6.3	6.5	7.7	8.7	6.2	7.1	8.0	7.1
EASR [1] per 100,000	5.4	4.9	5.2	6.0	6.6	4.6	5.8	6.4	5.5
EASR [1] - 95% Confidence Intervals	3.9, 6.9	3.5, 6.3	3.7, 6.6	4.4, 7.5	5.0, 8.2	3.3, 6.0	4.3, 7.4	4.8, 7.9	4.1, 6.9
WASR [2] per 100,000	3.5	3.1	3.3	3.7	4.1	2.9	3.8	4.1	3.5
WASR [2] - 95% Confidence Intervals	2.5, 4.5	2.2, 4.0	2.3, 4.3	2.7, 4.7	3.1, 5.2	2.0, 3.8	2.7, 4.8	3.1, 5.2	2.5, 4.5
Cumulative Risk (0-74yrs) (%)	0.3	0.4	0.4	0.4	0.5	0.3	0.4	0.5	0.4
Odds, 1 in :	288	285	250	230	210	312	224	197	251
% of all cancers	1.3	1.3	1.3	1.5	1.7	1.2	1.4	1.5	1.4
%DCO [3]	0.0	11.3	3.6	4.6	0.0	0.0	3.3	0.0	0.0
%MV [4]	85.7	73.6	80.0	78.5	85.1	79.2	88.5	87.0	93.4

Stomach (C16)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	105	96	85	119	100	101	108	95	103
Crude Rate per 100,000	12.6	11.5	10.1	14.0	11.7	11.8	12.6	11.1	12.0
EASR [1] per 100,000	9.9	9.2	8.5	11.0	9.2	9.5	9.9	8.6	8.6
EASR [1] - 95% Confidence Intervals	7.9, 11.9	7.2, 11.1	6.6, 10.4	8.9, 13.0	7.3, 11.0	7.6, 11.5	7.9, 11.8	6.8, 10.4	6.9, 10.3
WASR [2] per 100,000	6.3	5.8	5.9	7.2	5.9	6.2	6.3	5.6	5.4
WASR [2] - 95% Confidence Intervals	4.9, 7.6	4.5, 7.2	4.5, 7.2	5.8, 8.7	4.6, 7.2	4.8, 7.5	5.0, 7.6	4.3, 6.8	4.2, 6.6
Cumulative Risk (0-74yrs) (%)	0.6	0.6	0.6	0.8	0.7	0.7	0.7	0.6	0.6
Odds, 1 in :	158	179	156	129	139	142	142	165	161
% of all cancers	2.4	2.3	2.0	2.7	2.3	2.3	2.4	2.1	2.4
%DCO [3]	4.8	4.2	7.1	7.6	5.0	5.9	4.6	1.1	1.9
%MV [4]	79.0	75.0	76.5	71.4	77.0	80.2	84.3	84.2	85.4

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1b: Incidence and Data Quality in Females by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

Colon (C18)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	321	315	348	311	310	329	336	267	268
Crude Rate per 100,000	38.5	37.6	41.4	36.7	36.4	38.5	39.2	31.1	31.1
EASR [1] per 100,000	32.1	32.2	34.4	30.5	29.3	32.9	31.2	25.6	24.6
EASR [1] - 95% Confidence Intervals	28.4, 35.8	28.5, 35.9	30.6, 38.2	26.9, 34.1	25.9, 32.7	29.2, 36.6	27.7, 34.7	22.4, 28.8	21.5, 27.6
WASR [2] per 100,000	21.1	21.2	22.7	20.1	19.2	22.2	20.5	16.8	16.1
WASR [2] - 95% Confidence Intervals	18.6, 23.7	18.6, 23.8	20.0, 25.4	17.6, 22.6	16.8, 21.6	19.6, 24.8	18.1, 23.0	14.6, 19.1	13.9, 18.2
Cumulative Risk (0-74yrs) (%)	2.4	2.4	2.4	2.3	2.1	2.6	2.2	1.9	1.8
Odds, 1 in :	42	42	41	44	48	39	45	54	54
% of all cancers	7.5	7.5	8.2	7.0	7.0	7.4	7.6	6.0	6.3
%DCO [3]	6.9	3.5	4.6	1.6	2.9	1.5	2.7	1.9	0.4
%MV [4]	74.8	81.6	79.3	86.8	82.3	86.6	81.3	87.6	89.9

Rectum, Rectosigmoid Junction & Anus (C19-21)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	128	122	150	156	146	122	126	151	151
Crude Rate per 100,000	15.4	14.6	17.8	18.4	17.1	14.3	14.7	17.6	17.5
EASR [1] per 100,000	13.1	12.2	15.2	15.2	14.1	12.4	12.1	15.0	15.3
EASR [1] - 95% Confidence Intervals	10.7, 15.6	10.0, 14.5	12.7, 17.8	12.7, 17.7	11.7, 16.6	10.1, 14.7	9.9, 14.3	12.5, 17.5	12.8, 17.9
WASR [2] per 100,000	8.8	8.1	10.1	10.2	9.4	8.5	8.1	10.3	10.6
WASR [2] - 95% Confidence Intervals	7.1, 10.5	6.5, 9.7	8.3, 11.9	8.4, 11.9	7.7, 11.0	6.9, 10.1	6.6, 9.7	8.5, 12.1	8.7, 12.4
Cumulative Risk (0-74yrs) (%)	0.9	0.8	1.1	1.2	1.0	1.0	1.0	1.2	1.2
Odds, 1 in :	109	123	94	84	96	96	100	85	85
% of all cancers	3.0	2.9	3.6	3.5	3.3	2.7	2.8	3.4	3.5
%DCO [3]	3.1	1.6	0.7	0.6	0.0	2.5	0.0	0.7	0.7
%MV [4]	79.7	83.6	91.3	91.0	94.5	91.0	95.2	96.7	93.4

Liver & Intrahepatic Bile Ducts (C22)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	33	29	16	30	27	20	32	30	19
Crude Rate per 100,000	4.0	3.5	1.9	3.5	3.2	2.3	3.7	3.5	2.2
EASR [1] per 100,000	3.3	2.8	1.7	2.7	2.2	2.0	2.7	2.9	1.8
EASR [1] - 95% Confidence Intervals	2.1, 4.4	1.7, 3.8	0.8, 2.6	1.7, 3.7	1.3, 3.1	1.1, 3.0	1.7, 3.6	1.8, 4.0	1.0, 2.6
WASR [2] per 100,000	2.1	1.8	1.2	1.8	1.4	1.4	1.6	2.0	1.2
WASR [2] - 95% Confidence Intervals	1.3, 2.9	1.1, 2.5	0.6, 1.8	1.1, 2.5	0.8, 2.0	0.8, 2.1	1.0, 2.3	1.2, 2.8	0.6, 1.8
Cumulative Risk (0-74yrs) (%)	0.3	0.2	0.1	0.3	0.1	0.2	0.2	0.3	0.2
Odds, 1 in :	374	480	684	395	925	477	536	387	623
% of all cancers	0.8	0.7	0.4	0.7	0.6	0.4	0.7	0.7	0.4
%DCO [3]	18.2	6.9	0.0	6.7	0.0	0.0	9.4	10.0	0.0
%MV [4]	21.2	24.1	62.5	46.7	25.9	50.0	37.5	36.7	42.1

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1b: Incidence and Data Quality in Females by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

Pancreas (C25)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	84	78	67	74	82	69	58	79	74
Crude Rate per 100,000	10.1	9.3	8.0	8.7	9.6	8.1	6.8	9.2	8.6
EASR [1] per 100,000	8.1	7.7	6.2	7.1	7.5	6.3	5.2	7.8	6.1
EASR [1] - 95% Confidence Intervals	6.3, 9.9	5.9, 9.5	4.7, 7.8	5.4, 8.8	5.8, 9.3	4.8, 7.9	3.8, 6.6	6.0, 9.6	4.6, 7.5
WASR [2] per 100,000	5.3	5.1	4.1	4.4	4.9	4.1	3.3	5.3	3.7
WASR [2] - 95% Confidence Intervals	4.0, 6.6	3.9, 6.3	3.0, 5.2	3.3, 5.5	3.7, 6.1	3.0, 5.2	2.3, 4.2	4.0, 6.6	2.8, 4.7
Cumulative Risk (0-74yrs) (%)	0.6	0.7	0.5	0.5	0.5	0.4	0.3	0.7	0.4
Odds, 1 in :	170	147	211	219	188	242	310	149	246
% of all cancers	2.0	1.9	1.6	1.7	1.9	1.5	1.3	1.8	1.7
%DCO [3]	7.1	2.6	9.0	6.8	4.9	4.3	5.2	3.8	0.0
%MV [4]	19.0	15.4	16.4	20.3	29.3	33.3	32.8	31.6	25.7

Trachea, Bronchus & Lung (C33, 34)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	318	311	335	295	325	335	363	349	302
Crude Rate per 100,000	38.1	37.1	39.8	34.8	38.2	39.2	42.4	40.7	35.1
EASR [1] per 100,000	34.5	33.0	35.1	31.2	32.6	33.0	36.2	35.5	30.1
EASR [1] - 95% Confidence Intervals	30.5, 38.4	29.2, 36.8	31.1, 39.0	27.5, 34.9	29.0, 36.3	29.3, 36.7	32.3, 40.1	31.6, 39.3	26.6, 33.7
WASR [2] per 100,000	24.0	22.9	23.8	21.4	22.4	22.3	24.4	24.4	20.6
WASR [2] - 95% Confidence Intervals	21.2, 26.9	20.1, 25.7	21.0, 26.6	18.8, 24.1	19.7, 25.0	19.7, 24.9	21.6, 27.1	21.6, 27.1	18.0, 23.1
Cumulative Risk (0-74yrs) (%)	3.2	3.0	3.1	2.8	2.9	2.9	3.0	3.2	2.5
Odds, 1 in :	31	33	33	36	34	35	33	32	40
% of all cancers	7.4	7.4	7.9	6.6	7.4	7.5	8.2	7.8	7.1
%DCO [3]	5.3	3.9	2.4	1.7	2.5	2.1	3.9	2.9	1.0
%MV [4]	61.9	57.9	56.7	69.8	65.2	64.8	67.2	57.3	70.5

Malignant Melanoma (C43)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	126	113	102	109	93	122	112	111	126
Crude Rate per 100,000	15.1	13.5	12.1	12.9	10.9	14.3	13.1	12.9	14.6
EASR [1] per 100,000	14.3	13.1	11.7	12.7	10.6	13.3	12.6	12.1	13.4
EASR [1] - 95% Confidence Intervals	11.7, 16.9	10.6, 15.6	9.4, 14.1	10.3, 15.2	8.4, 12.8	10.8, 15.7	10.2, 15.0	9.8, 14.4	11.0, 15.8
WASR [2] per 100,000	11.8	10.4	9.3	10.1	8.8	10.0	10.2	9.2	10.3
WASR [2] - 95% Confidence Intervals	9.6, 14.0	8.3, 12.4	7.4, 11.2	8.1, 12.1	6.9, 10.7	8.1, 11.9	8.2, 12.2	7.4, 11.1	8.4, 12.2
Cumulative Risk (0-74yrs) (%)	1.1	0.9	0.9	1.0	0.8	0.9	1.0	0.9	1.0
Odds, 1 in :	95	106	106	95	122	106	105	106	96
% of all cancers	2.9	2.7	2.4	2.5	2.1	2.7	2.5	2.5	3.0
%DCO [3]	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
%MV [4]	100.0	100.0	99.0	99.1	97.8	97.5	99.1	96.4	100.0

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1b: Incidence and Data Quality in Females by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

Non-Melanoma Skin Cancer (C44)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	1101	1062	1043	1172	1099	1101	1071	1048	1031
Crude Rate per 100,000	132.1	126.7	124.0	138.3	129.1	128.8	125.1	122.1	119.8
EASR [1] per 100,000	110.9	106.2	103.2	114.0	105.8	105.6	103.5	99.2	96.6
EASR [1] - 95% Confidence Intervals	104.1, 117.8	99.5, 112.9	96.6, 109.7	107.1, 120.8	99.3, 112.4	99.1, 112.2	97.0, 109.9	92.9, 105.4	90.4, 102.7
WASR [2] per 100,000	74.0	71.2	68.5	75.1	70.6	70.9	69.1	66.1	63.9
WASR [2] - 95% Confidence Intervals	69.1, 78.8	66.5, 76.0	63.9, 73.1	70.3, 79.9	65.9, 75.2	66.2, 75.5	64.5, 73.7	61.6, 70.5	59.6, 68.3
Cumulative Risk (0-74yrs) (%)	7.9	7.2	7.3	7.5	7.3	7.5	7.1	6.9	6.8
Odds, 1 in :	13	14	14	13	14	13	14	14	15
% of all cancers	25.7	25.4	24.7	26.4	25.0	24.7	24.1	23.5	24.2
%DCO [3]	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
%MV [4]	91.5	92.8	95.2	97.3	97.3	91.8	94.1	96.9	98.5

Breast (C50)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	761	817	872	842	862	915	944	967	913
Crude Rate per 100,000	91.3	97.5	103.7	99.4	101.2	107.0	110.2	112.7	106.1
EASR [1] per 100,000	92.6	100.0	104.2	100.0	101.5	106.5	106.9	109.5	103.8
EASR [1] - 95% Confidence Intervals	85.8, 99.5	92.9, 107.1	97.0, 111.4	93.0, 107.0	94.6, 108.5	99.4, 113.6	99.9, 113.9	102.4, 116.6	96.9, 110.7
WASR [2] per 100,000	67.3	72.5	75.2	73.0	73.8	77.7	77.0	79.9	75.6
WASR [2] - 95% Confidence Intervals	62.2, 72.4	67.2, 77.8	69.9, 80.5	67.7, 78.2	68.6, 79.0	72.4, 83.1	71.8, 82.2	74.5, 85.2	70.4, 80.8
Cumulative Risk (0-74yrs) (%)	7.1	7.5	8.0	7.6	7.7	8.2	8.1	8.4	8.0
Odds, 1 in :	14	13	12	13	13	12	12	12	12
% of all cancers	17.7	19.6	20.7	19.0	19.6	20.5	21.3	21.7	21.4
%DCO [3]	3.4	1.6	1.7	0.5	0.3	0.3	1.6	1.2	0.1
%MV [4]	89.1	91.8	92.2	95.7	96.4	95.7	94.8	94.9	97.8

Cervix Uteri (C53)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	83	74	80	93	87	83	80	100	70
Crude Rate per 100,000	10.0	8.8	9.5	11.0	10.2	9.7	9.3	11.6	8.1
EASR [1] per 100,000	10.4	9.1	10.2	11.4	10.2	9.8	9.5	11.5	8.0
EASR [1] - 95% Confidence Intervals	8.1, 12.7	7.0, 11.2	8.0, 12.5	9.0, 13.7	8.0, 12.4	7.7, 11.9	7.4, 11.6	9.2, 13.8	6.1, 9.8
WASR [2] per 100,000	8.0	7.4	8.1	9.1	8.2	8.0	7.6	9.3	6.7
WASR [2] - 95% Confidence Intervals	6.2, 9.8	5.6, 9.1	6.3, 9.9	7.2, 11.0	6.4, 10.0	6.3, 9.8	5.8, 9.3	7.4, 11.2	5.1, 8.3
Cumulative Risk (0-74yrs) (%)	0.8	0.7	0.8	0.9	0.8	0.8	0.7	0.9	0.6
Odds, 1 in :	132	144	120	109	129	132	137	111	157
% of all cancers	1.9	1.8	1.9	2.1	2.0	1.9	1.8	2.2	1.6
%DCO [3]	4.8	1.4	0.0	0.0	0.0	0.0	1.3	0.0	0.0
%MV [4]	94.0	94.6	93.8	94.6	96.6	96.4	93.8	96.0	98.6

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1b: Incidence and Data Quality in Females by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

Corpus Uteri (C54)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	90	105	92	99	118	110	119	144	144
Crude Rate per 100,000	10.8	12.5	10.9	11.7	13.9	12.9	13.9	16.8	16.7
EASR [1] per 100,000	10.7	11.9	10.7	11.5	13.9	12.4	13.5	16.1	15.9
EASR [1] - 95% Confidence Intervals	8.4, 13.0	9.5, 14.3	8.5, 13.0	9.1, 13.8	11.3, 16.4	10.0, 14.8	11.0, 16.0	13.4, 18.8	13.2, 18.6
WASR [2] per 100,000	7.5	8.4	7.4	8.1	9.9	8.6	9.6	11.6	11.4
WASR [2] - 95% Confidence Intervals	5.9, 9.2	6.6, 10.1	5.8, 9.0	6.4, 9.8	8.0, 11.7	6.8, 10.3	7.8, 11.4	9.6, 13.6	9.4, 13.4
Cumulative Risk (0-74yrs) (%)	0.9	1.0	0.9	0.9	1.3	1.0	1.2	1.4	1.4
Odds, 1 in :	112	97	107	106	78	97	87	70	72
% of all cancers	2.1	2.5	2.2	2.2	2.7	2.5	2.7	3.2	3.4
%DCO [3]	2.2	1.0	1.1	3.0	0.8	0.0	0.0	0.0	0.0
%MV [4]	93.3	95.2	94.6	92.9	98.3	96.4	98.3	97.2	97.2

Ovary (C56)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	151	155	155	147	184	197	186	167	170
Crude Rate per 100,000	18.1	18.5	18.4	17.4	21.6	23.0	21.7	19.5	19.7
EASR [1] per 100,000	18.0	18.3	18.4	16.9	21.1	22.3	21.9	18.6	18.4
EASR [1] - 95% CI	15.1, 21.0	15.3, 21.3	15.4, 21.3	14.1, 19.7	17.9, 24.2	19.1, 25.5	18.7, 25.2	15.7, 21.5	15.6, 21.3
WASR [2] per 100,000	13.3	13.4	13.5	12.4	15.5	16.6	16.6	13.5	14.0
WASR [2] - 95% CI	11.0, 15.6	11.2, 15.7	11.3, 15.8	10.2, 14.5	13.1, 17.9	14.1, 19.1	14.1, 19.1	11.3, 15.7	11.7, 16.2
Cumulative Risk (0-74yrs) (%)	1.5	1.5	1.6	1.5	1.8	1.8	1.8	1.6	1.5
Odds, 1 in :	69	67	63	69	57	56	56	64	68
% of all cancers	3.5	3.7	3.7	3.3	4.2	4.4	4.2	3.7	4.0
%DCO	4.6	1.3	0.6	0.7	0.0	0.5	0.5	1.2	0.6
%MV	74.8	74.2	77.4	88.4	89.1	83.2	90.3	80.2	90.0

Kidney (C64-66, 68)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	70	46	67	64	72	76	58	68	63
Crude Rate per 100,000	8.4	5.5	8.0	7.6	8.5	8.9	6.8	7.9	7.3
EASR [1] per 100,000	8.0	4.9	7.6	6.6	7.7	7.4	6.3	7.1	6.5
EASR [1] - 95% Confidence Intervals	6.0, 9.9	3.5, 6.4	5.7, 9.4	4.9, 8.3	5.8, 9.5	5.7, 9.2	4.6, 7.9	5.4, 8.9	4.8, 8.2
WASR [2] per 100,000	5.9	3.4	5.3	4.7	5.6	5.3	4.4	5.2	4.7
WASR [2] - 95% Confidence Intervals	4.4, 7.4	2.4, 4.5	4.0, 6.7	3.4, 6.0	4.2, 7.1	3.9, 6.6	3.2, 5.7	3.8, 6.5	3.4, 6.0
Cumulative Risk (0-74yrs) (%)	0.7	0.4	0.7	0.5	0.6	0.6	0.5	0.6	0.6
Odds, 1 in :	153	239	142	184	169	178	193	169	172
% of all cancers	1.6	1.1	1.6	1.4	1.6	1.7	1.3	1.5	1.5
%DCO [3]	4.3	0.0	1.5	1.6	0.0	0.0	3.4	2.9	0.0
%MV [4]	74.3	58.7	82.1	68.8	81.9	67.1	58.6	77.9	79.4

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1b: Incidence and Data Quality in Females by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

Bladder (C67)	1993	1994	1995	1996	1997*	1998	1999	2000	2001
Incidence Cases	50	59	66	84	42	72	58	67	56
Crude Rate per 100,000	6.0	7.0	7.8	9.9	4.9	8.4	6.8	7.8	6.5
EASR [1] per 100,000	4.7	5.1	6.5	8.1	3.9	6.6	5.2	6.0	5.0
EASR [1] - 95% Confidence Intervals	3.3, 6.0	3.8, 6.5	4.8, 8.1	6.3, 9.9	2.6, 5.1	5.0, 8.1	3.8, 6.6	4.5, 7.5	3.6, 6.4
WASR [2] per 100,000	3.0	3.2	4.3	5.2	2.5	4.2	3.3	3.8	3.4
WASR [2] - 95% Confidence Intervals	2.1, 3.9	2.3, 4.1	3.2, 5.4	4.0, 6.5	1.7, 3.4	3.1, 5.2	2.4, 4.3	2.8, 4.8	2.3, 4.4
Cumulative Risk (0-74yrs) (%)	0.4	0.4	0.6	0.6	0.3	0.5	0.4	0.4	0.3
Odds, 1 in :	260	285	180	180	328	188	248	224	286
% of all cancers	1.2	1.4	1.6	1.9	1.0	1.6	1.3	1.5	1.3
%DCO [3]	2.0	3.4	3.0	1.2	2.4	0.0	1.7	1.5	0.0
%MV [4]	20.0	20.3	28.8	81.0	88.1	76.4	79.3	85.1	92.9

*** Note: 1997 bladder incidences is particularly low. This is under investigation and the information should be treated with caution.**

Brain (C71)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	42	59	25	45	50	66	28	46	48
Crude Rate per 100,000	5.0	7.0	3.0	5.3	5.9	7.7	3.3	5.4	5.6
EASR [1] per 100,000	5.2	7.1	2.7	5.1	5.7	7.4	3.2	5.1	5.3
EASR [1] - 95% Confidence Intervals	3.6, 6.8	5.3, 9.0	1.6, 3.8	3.6, 6.6	4.1, 7.3	5.6, 9.2	2.0, 4.4	3.6, 6.6	3.7, 6.8
WASR [2] per 100,000	4.9	6.2	2.2	4.7	4.8	6.1	2.9	3.9	4.3
WASR [2] - 95% Confidence Intervals	3.3, 6.4	4.5, 7.9	1.2, 3.2	3.2, 6.2	3.4, 6.2	4.5, 7.6	1.7, 4.0	2.7, 5.2	3.0, 5.6
Cumulative Risk (0-74yrs) (%)	0.4	0.6	0.2	0.4	0.5	0.6	0.2	0.4	0.5
Odds, 1 in :	241	177	592	239	197	168	431	250	210
% of all cancers	1.0	1.4	0.6	1.0	1.1	1.5	0.6	1.0	1.1
%DCO [3]	2.4	0.0	4.0	0.0	2.0	0.0	3.6	0.0	0.0
%MV [4]	57.1	55.9	40.0	60.0	62.0	59.1	71.4	43.5	52.1

Hodgkin's Disease (C81)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	17	15	15	14	11	19	13	11	20
Crude Rate per 100,000	2.0	1.8	1.8	1.7	1.3	2.2	1.5	1.3	2.3
EASR [1] per 100,000	1.9	1.7	1.8	1.6	1.3	2.1	1.4	1.3	2.3
EASR [1] - 95% Confidence Intervals	1.0, 2.9	0.8, 2.6	0.9, 2.7	0.8, 2.5	0.5, 2.1	1.1, 3.0	0.6, 2.2	0.5, 2.1	1.3, 3.3
WASR [2] per 100,000	1.9	1.7	1.5	1.5	1.3	1.8	1.4	1.2	2.0
WASR [2] - 95% Confidence Intervals	1.0, 2.8	0.8, 2.5	0.7, 2.4	0.7, 2.3	0.5, 2.1	0.9, 2.6	0.6, 2.2	0.5, 1.9	1.1, 2.9
Cumulative Risk (0-74yrs) (%)	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2
Odds, 1 in :	785	683	715	717	932	644	980	843	539
% of all cancers	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.2	0.5
%DCO [3]	0.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0
%MV [4]	100.0	100.0	100.0	85.7	90.9	100.0	92.3	63.6	95.0

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1b: Incidence and Data Quality in Females by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

Non-Hodgkin's Lymphoma (C82-C85, C96)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	105	115	97	127	118	143	138	135	135
Crude Rate per 100,000	12.6	13.7	11.5	15.0	13.9	16.7	16.1	15.7	15.7
EASR [1] per 100,000	11.6	12.7	10.1	13.1	12.2	15.5	13.9	14.2	13.2
EASR [1] - 95% Confidence Intervals	9.2, 13.9	10.3, 15.1	8.0, 12.2	10.7, 15.4	9.9, 14.5	12.9, 18.1	11.5, 16.3	11.7, 16.7	10.9, 15.5
WASR [2] per 100,000	8.4	9.0	7.0	9.3	8.5	11.7	9.6	10.4	9.2
WASR [2] - 95% Confidence Intervals	6.6, 10.2	7.2, 10.7	5.5, 8.5	7.5, 11.1	6.8, 10.2	9.6, 13.8	7.9, 11.4	8.5, 12.3	7.5, 10.9
Cumulative Risk (0-74yrs) (%)	0.9	1.1	0.9	1.1	1.0	1.2	1.1	1.3	1.0
Odds, 1 in :	108	94	113	89	98	83	88	79	98
% of all cancers	2.4	2.8	2.3	2.9	2.7	3.2	3.1	3.0	3.2
%DCO [3]	0.0	1.7	2.1	0.8	0.8	0.7	2.2	0.0	0.0
%MV [4]	91.4	91.3	887.6	84.3	89.0	92.3	89.9	85.9	82.2

Leukaemia (C91-C95)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	66	53	75	73	89	61	55	63	51
Crude Rate per 100,000	7.9	6.3	8.9	8.6	10.5	7.1	6.4	7.3	5.9
EASR [1] per 100,000	7.2	5.6	7.8	8.0	9.2	6.3	5.3	6.2	4.9
EASR [1] - 95% Confidence Intervals	5.4, 9.0	4.0, 7.1	6.0, 9.7	6.1, 9.8	7.2, 11.2	4.6, 7.9	3.8, 6.7	4.6, 7.8	3.5, 6.2
WASR [2] per 100,000	6.0	4.8	6.1	6.7	7.6	5.1	4.2	5.0	3.7
WASR [2] - 95% Confidence Intervals	4.4, 7.6	3.3, 6.3	4.6, 7.7	4.9, 8.4	5.8, 9.4	3.6, 6.5	2.8, 5.5	3.6, 6.4	2.5, 4.9
Cumulative Risk (0-74yrs) (%)	0.5	0.4	0.6	0.6	0.6	0.5	0.4	0.5	0.3
Odds, 1 in :	189	253	167	163	156	201	259	205	361
% of all cancers	1.5	1.3	1.8	1.6	2.0	1.4	1.2	1.4	1.2
%DCO [3]	3.0	1.9	4.0	4.1	1.1	0.0	0.0	0.0	2.0
%MV [4]	75.8	79.2	70.7	65.8	67.4	93.4	81.8	57.1	47.1

All Sites Exc NMS (C00-C97 exc C44)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	3188	3116	3176	3267	3299	3363	3371	3410	3232
Crude Rate per 100,000	382.4	371.8	377.6	385.6	387.4	393.4	393.7	397.2	375.4
EASR [1] per 100,000	349.9	343.0	347.0	349.6	348.4	356.6	352.0	357.6	331.9
EASR [1] - 95% Confidence Intervals	337.3, 362.6	330.5, 355.6	334.4, 359.5	337.2, 362.1	336.0, 360.7	344.1, 369.1	339.6, 364.3	345.2, 370.0	320.0, 343.7
WASR [2] per 100,000	250.0	244.2	245.9	248.2	247.5	254.7	249.0	254.5	236.0
WASR [2] - 95% Confidence Intervals	240.5, 259.5	234.8, 253.5	236.6, 255.2	238.9, 257.5	238.2, 256.7	245.3, 264.1	239.8, 258.2	245.3, 263.7	227.1, 244.8
Cumulative Risk (0-74yrs) (%)	24.0	23.5	24.2	24.2	23.9	24.7	24.1	25.1	23.0
Odds, 1 in :	4	4	4	4	4	4	4	4	4
% of all cancers	74.3	74.6	75.3	73.6	75.0	75.3	75.9	76.5	75.8
%DCO [3]	4.5	2.6	3.0	1.9	1.7	1.2	2.5	1.6	0.8
%MV [4]	74.5	76.0	77.6	80.2	82.0	82.8	82.8	80.9	83.5

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 1b: Incidence and Data Quality in Females by Cancer Site (ICD10) and Year of Diagnosis (1993-2001)

All Sites (C00-C97)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Incidence Cases	4289	4178	4219	4439	4398	4464	4442	4458	4263
Crude Rate per 100,000	514.5	498.6	501.6	523.9	516.5	522.2	518.7	519.3	495.2
EASR [1] per 100,000	460.9	449.2	450.1	463.6	454.2	462.2	455.4	456.7	428.5
EASR [1] - 95% Confidence Intervals	446.5, 475.3	435.0, 463.4	436.0, 464.3	449.4, 477.8	440.3, 468.2	448.2, 476.3	441.5, 469.3	442.9, 470.6	415.2, 441.8
WASR [2] per 100,000	324.0	315.4	314.4	323.2	318.0	325.6	318.1	320.6	299.9
WASR [2] - 95% Confidence Intervals	313.4, 334.6	304.9, 325.9	304.0, 324.7	312.8, 333.7	307.7, 328.4	315.1, 336.0	307.9, 328.3	310.3, 330.8	290.1, 309.7
Cumulative Risk (0-74yrs) (%)	30.0	29.0	29.8	29.9	29.5	30.3	29.5	30.3	28.2
Odds, 1 in :	3	3	3	3	3	3	3	3	4
% of all cancers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
%DCO [3]	3.4	2.0	2.2	1.4	1.3	0.9	1.9	1.3	0.6
%MV [4]	78.9	80.3	81.9	84.7	85.8	85.1	85.5	84.6	87.1

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

3 Death Certificate Only

4 Microscopically Verified

Appendix 2a: Mortality in Males by Cancer Site (ICD-9) and Year of Death (1993-2001)

Lip, Oral Cavity & Pharynx (140-149)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	38	29	29	35	36	36	28	27	35
Crude Rate per 100,000	4.8	3.6	3.6	4.3	4.4	4.4	3.4	3.3	4.2
EASR [1] per 100,000	5.4	4.3	4.0	4.8	5.0	4.8	3.7	3.4	4.5
EASR [1] - 95% Confidence Intervals	3.6, 7.1	2.7, 5.8	2.5, 5.5	3.2, 6.4	3.4, 6.6	3.2, 6.3	2.3, 5.0	2.1, 4.7	3.0, 6.0
WASR [2] per 100,000	3.8	2.9	2.8	3.5	3.5	3.3	2.4	2.2	3.1
WASR [2] - 95% Confidence Intervals	2.5, 5.0	1.9, 4.0	1.7, 3.8	2.3, 4.7	2.3, 4.6	2.2, 4.4	1.5, 3.4	1.3, 3.0	2.0, 4.1
Cumulative Risk (0-74yrs) (%)	0.5	0.4	0.3	0.5	0.4	0.4	0.3	0.2	0.3
Odds, 1 in :	205	274	312	205	266	231	355	413	318
% of all cancers	2	2	2	2	2	2	1	1	2

Oesophagus (150)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	76	87	72	91	92	93	98	97	90
Crude Rate per 100,000	9.5	10.8	9.0	11.2	11.3	11.4	12.0	11.8	10.9
EASR [1] per 100,000	10.8	12.0	9.5	12.4	12.4	12.2	12.7	12.4	11.1
EASR [1] - 95% Confidence Intervals	8.3, 13.3	9.4, 14.5	7.3, 11.7	9.8, 15.0	9.9, 15.0	9.7, 14.7	10.2, 15.3	9.9, 14.9	8.8, 13.5
WASR [2] per 100,000	7.0	8.0	6.4	8.3	8.4	8.1	8.4	8.3	7.3
WASR [2] - 95% Confidence Intervals	5.4, 8.7	6.3, 9.7	4.8, 7.9	6.5, 10.1	6.6, 10.2	6.4, 9.8	6.7, 10.2	6.6, 10.0	5.7, 8.9
Cumulative Risk (0-74yrs) (%)	0.8	1.0	0.8	1.0	1.0	0.9	1.0	0.9	0.8
Odds, 1 in :	121	103	132	97	103	107	97	112	128
% of all cancers	4	5	4	5	5	5	5	5	5

Stomach (151)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	126	129	98	111	101	119	119	115	97
Crude Rate per 100,000	15.8	16.1	12.2	13.7	12.4	14.5	14.5	14.0	11.8
EASR [1] per 100,000	17.2	18.0	13.2	14.9	13.3	15.8	15.0	14.3	11.8
EASR [1] - 95% Confidence Intervals	14.1, 20.2	14.8, 21.1	10.6, 15.9	12.1, 17.7	10.7, 16.0	12.9, 18.6	12.3, 17.8	11.7, 17.0	9.4, 14.2
WASR [2] per 100,000	11.2	11.7	8.6	9.5	8.6	10.5	9.5	9.3	7.8
WASR [2] - 95% Confidence Intervals	9.2, 13.3	9.6, 13.8	6.8, 10.3	7.7, 11.4	6.9, 10.4	8.6, 12.5	7.8, 11.3	7.5, 11.0	6.2, 9.5
Cumulative Risk (0-74yrs) (%)	1.4	1.4	1.0	1.1	1.0	1.2	1.1	1.1	0.9
Odds, 1in :	71	74	98	91	105	83	88	91	118
% of all cancers	7	7	5	6	5	6	6	6	5

Colon (153)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	170	156	182	151	138	179	135	145	143
Crude Rate per 100,000	21.3	19.5	22.6	18.6	16.9	21.9	16.5	17.7	17.3
EASR [1] per 100,000	23.7	21.5	24.7	20.0	17.8	22.9	17.4	18.5	17.7
EASR [1] - 95% Confidence Intervals	20.1, 27.4	18.1, 24.9	21.0, 28.3	16.8, 23.3	14.8, 20.8	19.5, 26.3	14.4, 20.4	15.4, 21.5	14.8, 20.6
WASR [2] per 100,000	15.2	14.1	15.7	12.8	11.1	14.4	11.1	11.9	11.3
WASR [2] - 95% Confidence Intervals	12.8, 17.6	11.8, 16.4	13.3, 18.0	10.7, 14.9	9.2, 13.1	12.2, 16.6	9.2, 13.1	9.9, 13.9	9.4, 13.2
Cumulative Risk (0-74yrs) (%)	1.6	1.5	1.6	1.4	1.2	1.5	1.3	1.3	1.2
Odds, 1 in :	62	66	61	71	81	66	79	75	83
% of all cancers	9	8	10	8	7	9	7	8	7

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate
- Unable to calculate due to small numbers

Appendix 2a: Mortality in Males by Cancer Site (ICD-9) and Year of Death (1993-2001)

Rectum, Rectosigmoid Junction & Anus (154)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	68	60	54	63	53	66	66	60	76
Crude Rate per 100,000	8.5	7.5	6.7	7.8	6.5	8.1	8.1	7.3	9.2
EASR [1] per 100,000	9.7	8.4	7.3	8.4	6.9	8.6	8.2	7.6	8.9
EASR [1] - 95% Confidence Intervals	7.4, 12.1	6.2, 10.5	5.3, 9.2	6.3, 10.5	5.0, 8.8	6.5, 10.6	6.2, 10.2	5.7, 9.6	6.8, 10.9
WASR [2] per 100,000	6.3	5.6	4.6	5.5	4.4	5.6	5.2	4.9	5.5
WASR [2] - 95% Confidence Intervals	4.8, 7.9	4.1, 7.0	3.3, 5.9	4.1, 6.9	3.2, 5.7	4.2, 7.0	3.9, 6.6	3.6, 6.2	4.2, 6.8
Cumulative Risk (0-74yrs) (%)	0.7	0.6	0.5	0.6	0.4	0.6	0.5	0.5	0.6
Odds, 1 in :	134	169	200	156	264	158	196	197	171

Liver & Intrahepatic Bile Ducts (155)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	34	38	40	37	31	49	46	45	42
Crude Rate per 100,000	4.3	4.7	5.0	4.6	3.8	6.0	5.6	5.5	5.1
EASR [1] per 100,000	4.7	5.4	5.2	5.0	4.0	6.3	6.0	5.7	5.2
EASR [1] - 95% Confidence Intervals	3.1, 6.3	3.7, 7.2	3.6, 6.8	3.3, 6.6	2.6, 5.4	4.5, 8.1	4.3, 7.8	4.0, 7.3	3.6, 6.8
WASR [2] per 100,000	3.1	3.5	3.6	3.2	2.7	4.2	4.1	3.6	3.3
WASR [2] - 95% Confidence Intervals	2.0, 4.2	2.4, 4.7	2.4, 4.7	2.1, 4.2	1.7, 3.7	2.9, 5.4	2.9, 5.4	2.5, 4.7	2.3, 4.4
Cumulative Risk (0-74yrs) (%)	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.3
Odds, 1 in :	347	252	229	269	278	200	209	260	298
% of all cancers	2	2	2	2	2	3	2	2	2

Pancreas (157)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	72	69	70	79	80	88	75	81	90
Crude Rate per 100,000	9.0	8.6	8.7	9.7	9.8	10.7	9.2	9.9	10.9
EASR [1] per 100,000	9.8	9.1	9.5	10.3	10.4	11.6	9.8	10.1	11.1
EASR [1] - 95% Confidence Intervals	7.5, 12.1	7.0, 11.3	7.2, 11.7	8.0, 12.7	8.1, 12.7	9.1, 14.0	7.5, 12.0	7.9, 12.4	8.8, 13.5
WASR [2] per 100,000	6.4	6.2	6.0	6.6	6.8	7.7	6.4	6.6	7.1
WASR [2] - 95% Confidence Intervals	4.8, 7.9	4.7, 7.7	4.5, 7.4	5.1, 8.1	5.2, 8.3	6.0, 9.3	4.9, 7.9	5.1, 8.1	5.6, 8.6
Cumulative Risk (0-74yrs) (%)	0.9	0.8	0.7	0.7	0.8	0.9	0.7	0.7	0.8
Odds, 1 in :	113	125	151	143	121	108	134	146	123
% of all cancers	4	4	4	4	4	5	4	4	5

Trachea, Bronchus & Lung (162)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	540	518	490	508	500	491	511	477	507
Crude Rate per 100,000	67.7	64.6	60.9	62.7	61.3	60.0	62.4	58.1	61.5
EASR [1] per 100,000	74.2	71.1	65.7	66.9	65.3	62.0	64.5	59.9	62.3
EASR [1] - 95% Confidence Intervals	67.9, 80.6	65.0, 77.3	59.8, 71.6	61.0, 72.8	59.5, 71.0	56.5, 67.5	58.8, 70.1	54.5, 65.3	56.9, 67.8
WASR [2] per 100,000	49.3	47.2	43.6	43.8	42.8	40.3	42.3	38.9	40.7
WASR [2] - 95% Confidence Intervals	45.0, 53.6	43.0, 51.4	39.6, 47.5	39.9, 47.8	38.9, 46.7	36.6, 44.0	38.5, 46.1	35.3, 42.5	37.0, 44.4
Cumulative Risk (0-74yrs) (%)	6.1	5.8	5.4	5.3	5.2	5.0	5.2	4.8	4.9
Odds, 1 in :	16	17	18	19	19	20	19	21	20
% of all cancers	29	28	27	27	27	25	27	26	26

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate
- Unable to calculate due to small numbers

Appendix 2a: Mortality in Males by Cancer Site (ICD-9) and Year of Death (1993-2001)

Malignant Melanoma (172)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	7	14	9	11	12	13	17	14	20
Crude Rate per 100,000	0.9	1.7	1.1	1.4	1.5	1.6	2.1	1.7	2.4
EASR [1] per 100,000	1.0	2.0	1.2	1.6	1.6	1.7	2.1	1.9	2.5
EASR [1] - 95% Confidence Intervals	0.2, 1.7	0.9, 3.1	0.4, 2.0	0.7, 2.6	0.7, 2.5	0.8, 2.6	1.1, 3.1	0.9, 2.9	1.4, 3.6
WASR [2] per 100,000	0.7	1.3	0.9	1.1	1.0	1.1	1.4	1.4	1.9
WASR [2] - 95% Confidence Intervals	0.2, 1.2	0.6, 2.1	0.3, 1.5	0.4, 1.8	0.4, 1.6	0.5, 1.7	0.7, 2.0	0.7, 2.2	1.0, 2.7
Cumulative Risk (0-74yrs) (%)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Odds, 1 in :	1356	920	1102	825	929	1033	780	728	504
% of all cancers	0	1	0	1	1	1	1	1	1

Non-Melanoma Skin (173)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	3	9	3	9	9	7	9	8	5
Crude Rate per 100,000	0.4	1.1	0.4	1.1	1.1	0.9	1.1	1.0	0.6
EASR [1] per 100,000	0.4	1.3	0.4	1.2	1.1	1.0	1.2	1.0	0.7
EASR [1] - 95% Confidence Intervals	0.0, 0.8	0.4, 2.1	0.0, 1.0	0.4, 2.0	0.4, 1.8	0.2, 1.7	0.4, 2.0	0.3, 1.7	0.1, 1.2
WASR [2] per 100,000	0.2	0.8	0.2	0.7	0.6	0.6	0.7	0.7	0.4
WASR [2] - 95% Confidence Intervals	0.0, 0.4	0.3, 1.4	0.0, 0.5	0.2, 1.2	0.2, 1.0	0.1, 1.0	0.2, 1.2	0.2, 1.2	0.0, 0.7
Cumulative Risk (0-74yrs) (%)	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.0
Odds, 1 in :	-	819	7365	1446	2683	2871	1683	935	3193
% of all cancers	0	0	0	0	0	0	0	0	0

Prostate (185)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	181	211	219	207	208	222	205	214	214
Crude Rate per 100,000	22.7	26.3	27.2	25.5	25.5	27.1	25.0	26.1	26.0
EASR [1] per 100,000	24.2	28.2	28.9	27.4	26.8	28.1	25.1	26.4	26.2
EASR [1] - 95% Confidence Intervals	20.6, 27.8	24.3, 32.1	25.0, 32.8	23.6, 31.2	23.1, 30.6	24.4, 31.9	21.6, 28.6	22.8, 29.9	22.6, 29.8
WASR [2] per 100,000	13.8	16.4	16.3	15.9	15.5	15.8	14.4	15.3	15.1
WASR [2] - 95% Confidence Intervals	11.7, 15.9	14.1, 18.7	14.0, 18.5	13.7, 18.2	13.3, 17.6	13.6, 17.9	12.4, 16.5	13.1, 17.4	13.0, 17.2
Cumulative Risk (0-74yrs) (%)	1.0	1.3	1.2	1.4	1.4	1.0	1.2	1.2	1.2
Odds, 1 in :	102	76	81	73	71	99	86	87	81
% of all cancers	10	11	12	11	11	12	11	12	11

Testis (186)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	3	5	4	3	3	0	2	3	3
Crude Rate per 100,000	0.4	0.6	0.5	0.4	0.4	0.0	0.2	0.4	0.4
EASR [1] per 100,000	0.4	0.7	0.5	0.3	0.4	0.0	0.2	0.4	0.4
EASR [1] - 95% Confidence Intervals	0.0, 0.8	0.1, 1.3	0.0, 1.0	0.0, 0.7	0.0, 0.8	0.0, 0.0	0.0, 0.6	0.0, 0.8	0.0, 0.8
WASR [2] per 100,000	0.4	0.5	0.5	0.3	0.3	0.0	0.2	0.3	0.4
WASR [2] - 95% Confidence Intervals	0.0, 0.8	0.1, 1.0	0.0, 1.0	0.0, 0.7	0.0, 0.7	0.0, 0.0	0.0, 0.6	0.0, 0.7	0.0, 0.8
Cumulative Risk (0-74yrs) (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Odds, 1 in :	3739	2567	2856	4050	3888	-	3413	2354	3813
% of all cancers	0	0	0	0	0	0	0	0	0

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate
- Unable to calculate due to small numbers

Appendix 2a: Mortality in Males by Cancer Site (ICD-9) and Year of Death (1993-2001)

Kidney (189)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	42	38	48	39	42	42	38	50	46
Crude Rate per 100,000	5.3	4.7	6.0	4.8	5.2	5.1	4.6	6.1	5.6
EASR [1] per 100,000	5.8	5.3	6.5	5.4	5.5	5.6	4.8	6.5	5.8
EASR [1] - 95% Confidence Intervals	4.0, 7.5	3.6, 7.0	4.7, 8.4	3.7, 7.1	3.8, 7.2	3.9, 7.2	3.3, 6.4	4.7, 8.3	4.1, 7.5
WASR [2] per 100,000	3.8	3.8	4.5	3.7	3.9	3.6	3.1	4.5	3.7
WASR [2] - 95% Confidence Intervals	2.6, 5.1	2.5, 5.0	3.2, 5.8	2.5, 5.0	2.7, 5.1	2.5, 4.8	2.1, 4.1	3.2, 5.8	2.6, 4.8
Cumulative Risk (0-74yrs) (%)	0.5	0.5	0.5	0.4	0.5	0.4	0.3	0.6	0.4
Odds, 1 in :	212	209	188	228	201	245	328	178	227
% of all cancers	2	2	3	2	2	2	2	3	2

Bladder (188)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	61	52	75	63	39	52	49	60	57
Crude Rate per 100,000	7.6	6.5	9.3	7.8	4.8	6.4	6.0	7.3	6.9
EASR [1] per 100,000	8.5	6.8	9.9	8.3	5.0	6.8	6.4	7.5	6.9
EASR [1] - 95% Confidence Intervals	6.4, 10.7	4.9, 8.7	7.6, 12.2	6.2, 10.4	3.4, 6.6	4.9, 8.6	4.6, 8.2	5.6, 9.4	5.1, 8.8
WASR [2] per 100,000	5.3	4.1	6.0	4.9	2.9	4.3	4.0	4.4	4.2
WASR [2] - 95% Confidence Intervals	4.0, 6.7	2.9, 5.2	4.6, 7.4	3.6, 6.2	1.9, 3.8	3.1, 5.4	2.8, 5.1	3.3, 5.6	3.1, 5.4
Cumulative Risk (0-74yrs) (%)	0.6	0.4	0.6	0.4	0.2	0.5	0.4	0.4	0.5
Odds, 1 in :	171	251	156	260	480	216	243	233	209
% of all cancers	3	3	4	3	2	3	3	3	3

Brain (191)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	49	38	43	47	44	50	37	45	45
Crude Rate per 100,000	6.1	4.7	5.3	5.8	5.4	6.1	4.5	5.5	5.5
EASR [1] per 100,000	6.8	5.3	6.0	6.4	5.8	6.7	4.8	5.8	5.7
EASR [1] - 95% Confidence Intervals	4.8, 8.7	3.6, 6.9	4.2, 7.8	4.5, 8.2	4.0, 7.5	4.8, 8.5	3.3, 6.4	4.1, 7.5	4.0, 7.4
WASR [2] per 100,000	5.8	4.0	4.6	5.0	4.8	5.3	3.7	4.4	4.2
WASR [2] - 95% Confidence Intervals	4.1, 7.5	2.7, 5.3	3.2, 6.0	3.5, 6.4	3.4, 6.3	3.8, 6.8	2.4, 4.9	3.0, 5.7	2.9, 5.4
Cumulative Risk (0-74yrs) (%)	0.6	0.4	0.5	0.6	0.5	0.5	0.4	0.5	0.5
Odds, 1 in :	173	222	201	159	206	188	238	210	210
% of all cancers	3	2	2	3	2	3	2	2	2

Hodgkin's Disease (201)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	8	6	5	4	7	6	6	7	5
Crude Rate per 100,000	1.0	0.7	0.6	0.5	0.9	0.7	0.7	0.9	0.6
EASR [1] per 100,000	1.1	0.8	0.7	0.5	0.9	0.8	0.7	0.9	0.5
EASR [1] - 95% Confidence Intervals	0.3, 1.8	0.2, 1.5	0.1, 1.2	0.0, 1.1	0.2, 1.5	0.1, 1.4	0.1, 1.3	0.2, 1.6	0.1, 1.0
WASR [2] per 100,000	0.9	0.6	0.4	0.3	0.7	0.5	0.5	0.7	0.4
WASR [2] - 95% Confidence Intervals	0.3, 1.5	0.1, 1.2	0.0, 0.8	0.0, 0.7	0.2, 1.2	0.1, 0.9	0.1, 1.0	0.2, 1.3	0.0, 0.7
Cumulative Risk (0-74yrs) (%)	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0
Odds, 1 in :	1208	1563	1953	1968	960	2513	1600	1228	3109
% of all cancers	0	0	0	0	0	0	0	0	0

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate
- Unable to calculate due to small numbers

Appendix 2a: Mortality in Males by Cancer Site (ICD-9) and Year of Death (1993-2001)

Non-Hodgkin's Lymphoma (200,202)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	64	68	60	57	67	68	52	58	74
Crude Rate per 100,000	8.0	8.5	7.5	7.0	8.2	8.3	6.4	7.1	9.0
EASR [1] per 100,000	9.0	9.1	8.2	7.7	8.9	8.8	6.6	7.5	9.1
EASR [1] - 95% Confidence Intervals	6.8, 11.2	6.9, 11.3	6.1, 10.3	5.7, 9.7	6.8, 11.1	6.7, 10.9	4.8, 8.5	5.5, 9.4	7.0, 11.3
WASR [2] per 100,000	6.2	6.3	5.5	5.3	6.1	6.0	4.7	5.0	6.3
WASR [2] - 95% Confidence Intervals	4.7, 7.8	4.8, 7.9	4.1, 7.0	3.9, 6.7	4.6, 7.6	4.5, 7.5	3.4, 6.0	3.7, 6.3	4.8, 7.8
Cumulative Risk (0-74yrs) (%)	0.7	0.8	0.6	0.7	0.8	0.6	0.5	0.6	0.7
Odds, 1 in :	148	133	182	134	126	157	182	178	149
% of all cancers	3	4	3	3	4	4	3	3	4

Leukaemia (204-208)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	41	58	51	46	54	57	67	57	48
Crude Rate per 100,000	5.1	7.2	6.3	5.7	6.6	7.0	8.2	6.9	5.8
EASR [1] per 100,000	5.4	7.8	6.6	5.9	6.9	7.5	8.3	7.2	6.0
EASR [1] - 95% Confidence Intervals	3.7, 7.1	5.8, 9.8	4.7, 8.4	4.2, 7.6	5.0, 8.7	5.5, 9.5	6.3, 10.3	5.3, 9.1	4.2, 7.7
WASR [2] per 100,000	3.8	5.4	5.0	3.9	5.0	5.3	5.8	4.8	4.1
WASR [2] - 95% Confidence Intervals	2.6, 5.0	3.9, 6.8	3.5, 6.4	2.7, 5.1	3.6, 6.4	3.9, 6.8	4.3, 7.3	3.5, 6.1	2.9, 5.3
Cumulative Risk (0-74yrs) (%)	0.4	0.5	0.5	0.3	0.6	0.6	0.5	0.5	0.4
Odds, 1 in :	232	195	220	299	156	168	185	196	278
% of all cancers	2	3	3	2	3	3	4	3	3

All Sites Exc NMS (140-208 exc 173)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	1881	1849	1842	1841	1841	1923	1858	1832	1912
Crude Rate per 100,000	235.7	230.6	229.1	227.2	225.7	234.9	227.0	223.3	231.9
EASR [1] per 100,000	259.4	253.5	247.2	245.0	240.4	247.2	235.7	230.8	234.5
EASR [1] - 95% Confidence Intervals	247.6, 271.3	241.8, 265.2	235.8, 258.6	233.7, 256.2	229.3, 251.4	236.1, 258.3	224.9, 246.4	220.2, 241.5	223.9, 245.1
WASR [2] per 100,000	169.9	166.6	161.6	158.9	156.7	159.8	153.7	149.6	151.9
WASR [2] - 95% Confidence Intervals	162.0, 177.8	158.7, 174.4	153.9, 169.2	151.4, 166.4	149.3, 164.1	152.4, 167.2	146.4, 160.9	142.5, 156.7	144.8, 158.9
Cumulative Risk (0-74yrs) (%)	17.8	17.1	16.7	16.6	16.4	16.3	16.0	15.4	15.5
Odds, 1 in :	6	6	6	6	6	6	6	6	6
% of all cancers	100	100	100	100	100	100	100	100	100

All Sites (140-208)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	1884	1858	1845	1850	1850	1930	1867	1840	1917
Crude Rate per 100,000	236.0	231.7	229.5	228.3	226.8	235.7	228.1	224.3	232.5
EASR [1] per 100,000	259.8	254.8	247.6	246.1	241.4	248.2	236.9	231.9	235.2
EASR [1] - 95% Confidence Intervals	248.0, 271.7	243.1, 266.5	236.2, 259.0	234.8, 257.4	230.3, 252.5	237.0, 259.3	226.1, 247.7	221.2, 242.5	224.6, 245.8
WASR [2] per 100,000	170.1	167.4	161.8	159.6	157.3	160.4	154.4	150.3	152.2
WASR [2] - 95% Confidence Intervals	162.2, 178.0	159.5, 175.3	154.2, 169.5	152.1, 167.1	149.9, 164.7	153.0, 167.8	147.2, 161.7	143.2, 157.4	145.1, 159.3
Cumulative Risk (0-74yrs) (%)	17.8	17.2	16.7	16.7	16.4	16.4	16.1	15.5	15.6
Odds, 1 in :	6	6	6	6	6	6	6	6	6
% of all cancers	100	100	100	100	100	100	100	100	100

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate
- Unable to calculate due to small numbers

Appendix 2b: Mortality in Females by Cancer Site (ICD-9) and Year of Death (1993-2001)

Lip, Oral Cavity & Pharynx (140-149)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	9	19	17	27	22	19	30	23	20
Crude Rate per 100,000	1.1	2.3	2.0	3.2	2.6	2.2	3.5	2.7	2.3
EASR [1] per 100,000	0.8	1.6	1.5	2.5	1.8	1.8	2.7	2.5	1.9
EASR [1] - 95% Confidence Intervals	0.2, 1.3	0.8, 2.4	0.8, 2.3	1.5, 3.6	1.0, 2.6	1.0, 2.7	1.7, 3.8	1.4, 3.6	1.0, 2.9
WASR [2] per 100,000	0.5	1.1	1.0	1.8	1.2	1.2	1.8	1.7	1.3
WASR [2] - 95% Confidence Intervals	0.1, 0.9	0.5, 1.7	0.5, 1.5	1.0, 2.5	0.6, 1.7	0.6, 1.9	1.1, 2.6	1.0, 2.5	0.7, 2.0
Cumulative Risk (0-74yrs) (%)	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1
Odds, 1 in :	1478	852	1059	502	1149	708	516	432	692
% of all cancers	1	1	1	2	1	1	2	1	1

Oesophagus (150)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	50	59	48	52	57	60	60	65	60
Crude Rate per 100,000	6.0	7.0	5.7	6.1	6.7	7.0	7.0	7.5	6.9
EASR [1] per 100,000	4.4	5.3	4.2	4.5	4.8	5.1	5.1	5.3	5.3
EASR [1] - 95% Confidence Intervals	3.1, 5.7	3.8, 6.7	2.9, 5.4	3.2, 5.8	3.5, 6.1	3.7, 6.5	3.7, 6.5	3.9, 6.7	3.9, 6.7
WASR [2] per 100,000	2.7	3.4	2.6	2.9	3.0	3.2	3.2	3.3	3.4
WASR [2] - 95% Confidence Intervals	1.9, 3.5	2.4, 4.4	1.8, 3.5	2.0, 3.7	2.1, 3.9	2.2, 4.1	2.3, 4.1	2.4, 4.2	2.4, 4.3
Cumulative Risk (0-74yrs) (%)	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.5
Odds, 1 in :	336	271	337	315	301	295	249	290	218
% of all cancers	3	3	3	3	3	3	3	4	3

Stomach (151)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	67	72	73	86	68	96	80	64	77
Crude Rate per 100,000	8.0	8.6	8.6	10.1	7.9	11.2	9.3	7.4	8.9
EASR [1] per 100,000	5.9	6.5	6.4	7.7	5.2	8.0	6.6	5.9	6.2
EASR [1] - 95% Confidence Intervals	4.4, 7.4	4.9, 8.1	4.8, 7.9	5.9, 9.4	3.9, 6.5	6.3, 9.7	5.0, 8.1	4.4, 7.4	4.7, 7.7
WASR [2] per 100,000	3.7	4.1	4.0	5.0	3.2	5.0	4.1	3.9	4.0
WASR [2] - 95% Confidence Intervals	2.7, 4.6	3.0, 5.2	2.9, 5.1	3.8, 6.3	2.3, 4.0	3.9, 6.1	3.1, 5.1	2.8, 4.9	3.0, 5.0
Cumulative Risk (0-74yrs) (%)	0.4	0.4	0.4	0.5	0.3	0.6	0.4	0.4	0.5
Odds, 1 in :	273	250	241	196	309	162	249	230	215
% of all cancers	4	4	4	5	4	6	4	3	4

Colon (153)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	181	168	173	150	172	156	168	164	125
Crude Rate per 100,000	21.6	20.0	20.5	17.6	20.1	18.2	19.5	19.0	14.5
EASR [1] per 100,000	16.3	15.6	15.7	13.3	15.0	13.0	13.6	14.2	9.9
EASR [1] - 95% Confidence Intervals	13.8, 18.9	13.1, 18.2	13.2, 18.2	11.0, 15.6	12.6, 17.4	10.9, 15.2	11.4, 15.8	11.9, 16.5	8.1, 11.7
WASR [2] per 100,000	10.5	10.2	10.2	8.6	9.6	8.1	8.5	9.2	6.1
WASR [2] - 95% Confidence Intervals	8.7, 12.2	8.4, 11.9	8.5, 12.0	7.0, 10.2	8.0, 11.2	6.7, 9.6	7.0, 10.0	7.6, 10.8	4.9, 7.4
Cumulative Risk (0-74yrs) (%)	1.1	1.1	1.0	0.9	1.0	0.9	0.9	1.0	0.6
Odds, 1 in :	89	87	97	112	98	108	115	98	163
% of all cancers	10	10	10	9	10	9	9	9	7

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate
- Unable to calculate due to small numbers

Appendix 2b: Mortality in Females by Cancer Site (ICD-9) and Year of Death (1993-2001)

Rectum, Rectosigmoid Junction & Anus (154)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	55	57	46	52	49	49	40	57	55
Crude Rate per 100,000	6.6	6.8	5.4	6.1	5.7	5.7	4.6	6.6	6.4
EASR [1] per 100,000	4.7	4.9	4.2	4.7	4.6	4.6	3.5	4.8	4.6
EASR [1] - 95% Confidence Intervals	3.4, 6.1	3.6, 6.3	2.9, 5.5	3.3, 6.0	3.2, 6.0	3.3, 6.0	2.3, 4.6	3.4, 6.1	3.3, 5.9
WASR [2] per 100,000	2.9	3.1	2.7	3.1	3.1	3.2	2.2	3.0	2.9
WASR [2] - 95% Confidence Intervals	2.0, 3.8	2.2, 4.0	1.8, 3.6	2.1, 4.0	2.1, 4.1	2.2, 4.2	1.4, 2.9	2.1, 3.9	2.1, 3.8
Cumulative Risk (0-74yrs) (%)	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.3	0.3
Odds, 1 in :	292	342	388	295	320	270	543	324	292

Liver & Intrahepatic Bile Ducts (155)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	37	39	26	28	39	35	33	44	26
Crude Rate per 100,000	4.4	4.6	3.1	3.3	4.6	4.1	3.8	5.1	3.0
EASR [1] per 100,000	3.8	3.6	2.5	2.4	3.3	3.0	2.9	3.9	2.1
EASR [1] - 95% Confidence Intervals	2.5, 5.0	2.4, 4.7	1.5, 3.5	1.5, 3.4	2.2, 4.4	2.0, 4.1	1.9, 3.9	2.7, 5.2	1.3, 3.0
WASR [2] per 100,000	2.4	2.4	1.6	1.6	2.1	2.0	1.9	2.6	1.4
WASR [2] - 95% Confidence Intervals	1.6, 3.3	1.5, 3.2	0.9, 2.3	0.9, 2.3	1.4, 2.9	1.2, 2.7	1.2, 2.6	1.8, 3.5	0.8, 2.0
Cumulative Risk (0-74yrs) (%)	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.2
Odds, 1 in :	296	386	471	442	416	389	424	318	590
% of all cancers	2	2	2	2	2	2	2	2	1

Pancreas (157)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	83	80	71	74	81	68	64	88	87
Crude Rate per 100,000	9.9	9.5	8.4	8.7	9.5	7.9	7.4	10.2	10.1
EASR [1] per 100,000	7.6	7.6	6.5	6.4	7.1	5.8	5.4	8.2	7.3
EASR [1] - 95% Confidence Intervals	5.8, 9.3	5.8, 9.3	5.0, 8.1	4.9, 8.0	5.4, 8.7	4.4, 7.3	4.0, 6.8	6.4, 10.1	5.7, 9.0
WASR [2] per 100,000	5.0	5.0	4.2	4.1	4.5	3.8	3.5	5.5	4.7
WASR [2] - 95% Confidence Intervals	3.8, 6.2	3.8, 6.1	3.1, 5.3	3.0, 5.1	3.4, 5.6	2.7, 4.8	2.5, 4.4	4.2, 6.8	3.6, 5.8
Cumulative Risk (0-74yrs) (%)	0.6	0.7	0.5	0.5	0.5	0.4	0.4	0.7	0.6
Odds, 1 in :	178	149	183	217	195	283	272	149	178
% of all cancers	5	5	4	4	5	4	4	5	5

Trachea, Bronchus & Lung (162)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	268	263	269	277	275	303	307	339	269
Crude Rate per 100,000	32.0	31.2	31.8	32.5	32.1	35.3	35.7	39.3	31.1
EASR [1] per 100,000	28.6	25.9	27.8	27.6	26.6	29.1	28.6	32.4	25.9
EASR [1] - 95% Confidence Intervals	25.0, 32.2	22.6, 29.2	24.3, 31.2	24.2, 31.1	23.3, 29.9	25.7, 32.5	25.2, 32.0	28.8, 36.0	22.7, 29.1
WASR [2] per 100,000	20.0	17.4	19.1	18.6	17.9	19.7	19.0	21.8	17.7
WASR [2] - 95% Confidence Intervals	17.4, 22.6	15.0, 19.7	16.6, 21.5	16.2, 21.0	15.6, 20.2	17.3, 22.2	16.6, 21.4	19.3, 24.3	15.4, 20.0
Cumulative Risk (0-74yrs) (%)	2.8	2.2	2.4	2.3	2.3	2.7	2.2	2.9	2.3
Odds, 1 in :	36	46	41	44	43	37	46	34	43
% of all cancers	15	15	16	16	16	17	17	19	15

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate
- Unable to calculate due to small numbers

Appendix 2b: Mortality in Females by Cancer Site (ICD-9) and Year of Death (1993-2001)

Malignant Melanoma (172)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	20	21	16	16	14	18	19	21	15
Crude Rate per 100,000	2.4	2.5	1.9	1.9	1.6	2.1	2.2	2.4	1.7
EASR [1] per 100,000	2.1	2.3	1.5	1.4	1.5	1.7	1.9	2.1	1.5
EASR [1] - 95% Confidence Intervals	1.2, 3.1	1.3, 3.3	0.7, 2.3	0.7, 2.2	0.7, 2.3	0.8, 2.5	1.0, 2.8	1.2, 3.1	0.7, 2.2
WASR [2] per 100,000	1.6	1.7	1.0	1.0	1.1	1.2	1.3	1.5	1.0
WASR [2] - 95% Confidence Intervals	0.8, 2.3	0.9, 2.4	0.4, 1.6	0.5, 1.6	0.5, 1.7	0.6, 1.8	0.7, 1.9	0.8, 2.3	0.4, 1.5
Cumulative Risk (0-74yrs) (%)	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1
Odds, 1 in :	568	586	1033	870	827	890	630	673	912
% of all cancers	1	1	1	1	1	1	1	1	1

Non-Melanoma Skin (173)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	8	2	4	3	4	5	4	3	15
Crude Rate per 100,000	1.0	0.2	0.5	0.4	0.5	0.6	0.5	0.3	1.7
EASR [1] per 100,000	0.9	0.1	0.3	0.2	0.3	0.4	0.4	0.2	1.0
EASR [1] - 95% Confidence Intervals	0.3, 1.6	0.0, 0.3	0.0, 0.6	0.0, 0.5	0.0, 0.7	0.0, 0.7	0.0, 0.8	0.0, 0.4	0.5, 1.6
WASR [2] per 100,000	0.6	0.1	0.2	0.1	0.2	0.2	0.3	0.1	0.6
WASR [2] - 95% Confidence Intervals	0.2, 1.1	0.0, 0.2	0.0, 0.4	0.0, 0.3	0.0, 0.4	0.0, 0.5	0.0, 0.6	0.0, 0.2	0.3, 0.9
Cumulative Risk (0-74yrs) (%)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Odds, 1 in :	1208	-	7179	7156	7396	10865	2449	-	2466
% of all cancers	0	0	0	0	0	0	0	0	1

Breast (174)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	328	338	327	305	259	299	298	285	315
Crude Rate per 100,000	39.2	40.2	38.7	35.8	30.3	34.8	34.6	33.0	36.4
EASR [1] per 100,000	37.9	37.1	35.5	31.8	26.9	31.3	30.6	29.2	31.0
EASR [1] - 95% Confidence Intervals	33.6, 42.2	32.9, 41.3	31.5, 39.6	28.0, 35.5,	23.4, 30.3	27.6, 35.0	27.0, 34.3	25.7, 32.8	27.4, 34.5
WASR [2] per 100,000	27.0	26.1	25.3	22.3	18.7	21.7	21.5	20.5	21.5
WASR [2] - 95% Confidence Intervals	23.8, 30.1	23.0, 29.1	22.3, 28.3	19.5, 25.0	16.2, 21.2	19.0, 24.4	18.8, 24.2	17.9, 23.1	18.8, 24.1
Cumulative Risk (0-74yrs) (%)	3.0	2.8	2.8	2.5	2.0	2.4	2.4	2.3	2.4
Odds, 1 in :	34	36	36	40	49	41	42	43	42
% of all cancers	19	19	20	18	15	17	17	16	18

Uterine Cervix (180)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	34	37	20	44	27	33	35	32	24
Crude Rate per 100,000	4.1	4.4	2.4	5.2	3.2	3.8	4.1	3.7	2.8
EASR [1] per 100,000	3.9	4.5	2.4	4.8	3.0	3.4	3.7	3.8	2.6
EASR [1] - 95% Confidence Intervals	2.5, 5.2	3.0, 6.0	1.3, 3.4	3.3, 6.3	1.9, 4.2	2.2, 4.6	2.4, 4.9	2.4, 5.1	1.5, 3.6
WASR [2] per 100,000	2.9	3.2	1.8	3.6	2.3	2.5	2.7	2.8	2.0
WASR [2] - 95% Confidence Intervals	1.8, 3.9	2.1, 4.3	1.0, 2.6	2.5, 4.7	1.4, 3.2	1.5, 3.4	1.7, 3.6	1.8, 3.9	1.1, 2.8
Cumulative Risk (0-74yrs) (%)	0.3	0.3	0.2	0.4	0.3	0.2	0.3	0.3	0.2
Odds, 1 in :	312	331	491	259	369	436	337	356	532
% of all cancers	2	2	1	3	2	2	2	2	1

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate
- Unable to calculate due to small numbers

Appendix 2b: Mortality in Females by Cancer Site (ICD-9) and Year of Death (1993-2001)

Uterine Corpus (182)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	6	17	9	13	13	13	10	19	22
Crude Rate per 100,000	0.7	2.0	1.1	1.5	1.5	1.5	1.2	2.2	2.5
EASR [1] per 100,000	0.5	1.7	0.9	1.1	1.3	1.3	0.9	1.8	1.9
EASR [1] - 95% Confidence Intervals	0.1, 0.9	0.9, 2.6	0.3, 1.5	0.4, 1.7	0.5, 2.0	0.6, 2.0	0.3, 1.6	0.9, 2.6	1.0, 2.7
WASR [2] per 100,000	0.3	1.2	0.6	0.7	0.8	0.9	0.6	1.2	1.2
WASR [2] - 95% Confidence Intervals	0.0, 0.5	0.6, 1.8	0.2, 1.0	0.3, 1.2	0.3, 1.3	0.3, 1.4	0.2, 1.0	0.6, 1.8	0.6, 1.7
Cumulative Risk (0-74yrs) (%)	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Odds, 1 in :	3425	600	1437	1425	1040	942	1545	745	716
% of all cancers	0	1	1	1	1	1	1	1	1

Ovary (183)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	92	90	99	89	96	89	116	102	117
Crude Rate per 100,000	11.0	10.7	11.7	10.5	11.2	10.4	13.5	11.8	13.5
EASR [1] per 100,000	10.2	9.6	11.6	9.3	10.1	8.9	12.4	10.1	12.0
EASR [1] - 95% Confidence Intervals	8.0, 12.4	7.5, 11.7	9.2, 13.9	7.3, 11.4	8.0, 12.2	7.0, 10.9	10.0, 14.7	8.1, 12.2	9.7, 14.2
WASR [2] per 100,000	7.2	6.7	8.2	6.5	7.1	6.1	8.8	6.9	8.2
WASR [2] - 95% ConfidenceIntervals	5.6, 8.8	5.2, 8.2	6.5, 9.9	5.0, 8.0	5.5, 8.6	4.7, 7.5	7.1, 10.6	5.4, 8.4	6.6, 9.8
Cumulative Risk (0-74yrs) (%)	0.9	0.9	1.0	0.8	0.8	0.8	1.1	0.7	1.0
Odds 1 in :	117	117	98	127	118	129	91	142	101
% of all cancers	5	5	6	5	5	5	7	6	7

Kidney (189)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	28	22	24	16	36	36	30	37	27
Crude Rate per 100,000	3.3	2.6	2.8	1.9	4.2	4.2	3.5	4.3	3.1
EASR [1] per 100,000	3.0	2.4	2.4	1.4	3.3	3.2	2.7	2.7	2.5
EASR [1] - 95% Confidence Intervals	1.8, 4.2	1.3, 3.5	1.4, 3.4	0.7, 2.1	2.1, 4.4	2.1, 4.3	1.7, 3.7	1.8, 3.6	1.5, 3.5
WASR [2] per 100,000	2.2	1.7	1.6	0.8	2.1	2.1	1.7	1.7	1.7
WASR [2] - 95% Confidence Intervals	1.3, 3.1	0.9, 2.5	0.9, 2.3	0.4, 1.3	1.3, 2.9	1.3, 2.9	1.0, 2.4	1.0, 2.3	1.0, 2.4
Cumulative Risk (0-74yrs) (%)	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2
Odds, 1 in :	368	515	538	859	508	470	462	863	438
% of all cancers	2	1	1	1	2	2	2	2	2

Bladder (188)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	28	32	34	28	39	27	44	43	32
Crude Rate per 100,000	3.3	3.8	4.0	3.3	4.6	3.1	5.1	5.0	3.7
EASR [1] per 100,000	2.6	2.4	2.9	2.2	3.1	2.0	3.3	3.6	2.6
EASR [1] - 95% Confidence Intervals	1.6, 3.6	1.6, 3.3	1.9, 3.9	1.3, 3.0	2.1, 4.2	1.2, 2.8	2.3, 4.3	2.5, 4.8	1.6, 3.6
WASR [2] per 100,000	1.7	1.5	1.8	1.3	1.9	1.2	1.9	2.3	1.7
WASR [2] - 95% Confidence Intervals	1.0, 2.3	0.9, 2.0	1.1, 2.4	0.7, 1.8	1.2, 2.6	0.7, 1.7	1.3, 2.6	1.5, 3.1	1.0, 2.3
Cumulative Risk (0-74yrs) (%)	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.3	0.2
Odds, 1 in :	511	693	509	1016	523	748	591	353	603
% of all cancers	2	2	2	2	2	2	2	2	2

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate
- Unable to calculate due to small numbers

Appendix 2b: Mortality in Females by Cancer Site (ICD-9) and Year of Death (1993-2001)

Brain (191)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	29	37	30	20	39	33	26	36	33
Crude Rate per 100,000	3.5	4.4	3.5	2.3	4.6	3.8	3.0	4.2	3.8
EASR [1] per 100,000	3.5	4.8	3.3	2.2	4.2	3.7	2.8	4.0	3.6
EASR [1] - 95% Confidence Intervals	2.2, 4.8	3.2, 6.3	2.1, 4.6	1.2, 3.2	2.9, 5.6	2.4, 5.0	1.7, 3.9	2.6, 5.3	2.4, 4.9
WASR [2] per 100,000	2.8	3.8	2.4	1.8	3.2	2.8	2.4	3.1	2.7
WASR [2] - 95% Confidence Intervals	1.7, 4.0	2.5, 5.1	1.5, 3.4	0.9, 2.7	2.1, 4.2	1.7, 3.8	1.4, 3.4	2.0, 4.1	1.7, 3.7
Cumulative Risk (0-74yrs) (%)	0.3	0.4	0.3	0.2	0.4	0.3	0.2	0.3	0.3
Odds, 1 in :	363	245	389	462	279	336	431	301	310
% of all cancers	2	2	2	1	2	2	1	2	2

Hodgkin's Disease (201)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	6	5	3	6	2	5	4	6	1
Crude Rate per 100,000	0.7	0.6	0.4	0.7	0.2	0.6	0.5	0.7	0.1
EASR [1] per 100,000	0.7	0.5	0.2	0.7	0.2	0.4	0.3	0.7	0.1
EASR [1] - 95% Confidence	0.1, 1.2	0.1, 1.0	0.0, 0.5	0.1, 1.3	0.0, 0.5	0.0, 0.9	0.0, 0.6	0.1, 1.3	0.0, 0.2
Intervals WASR 2 per 100,000	0.6	0.4	0.2	0.6	0.2	0.3	0.2	0.5	0.0
WASR [2] - 95% Confidence Intervals	0.1, 1.1	0.0, 0.8	0.0, 0.4	0.1, 1.2	0.0, 0.5	0.0, 0.6	0.0, 0.4	0.1, 1.0	0.0, 0.1
Cumulative Risk (0-74yrs) (%)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
Odds, 1 in :	2127	2129	12714	1368	4549	5470	7063	1675	-
% of all cancers	0	0	0	0	0	0	0	0	0

Non-Hodgkin's Lymphoma (200,202)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	42	43	40	64	58	72	73	58	66
Crude Rate per 100,000	5.0	5.1	4.7	7.5	6.8	8.4	8.5	6.7	7.6
EASR [1] per 100,000	3.9	4.0	3.9	6.2	5.7	7.0	7.1	5.6	5.9
EASR [1] - 95% Confidence Intervals	2.6, 5.2	2.7, 5.2	2.7, 5.2	4.6, 7.7	4.2, 7.3	5.3, 8.7	5.4, 8.8	4.1, 7.1	4.4, 7.4
WASR [2] per 100,000	2.6	2.6	2.6	4.1	4.1	4.8	4.9	3.9	3.9
WASR [2] - 95% Confidence Intervals	1.7, 3.5	1.7, 3.5	1.7, 3.5	3.0, 5.3	2.9, 5.3	3.5, 6.0	3.7, 6.2	2.8, 5.0	2.9, 5.0
Cumulative Risk (0-74yrs) (%)	0.3	0.3	0.3	0.6	0.5	0.6	0.6	0.5	0.4
Odds, 1 in :	334	299	289	171	213	178	180	202	222
% of all cancers	2	2	2	4	3	4	4	3	4

Leukaemia (204-208)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	42	36	34	41	56	35	39	35	40
Crude Rate per 100,000	5.0	4.3	4.0	4.8	6.5	4.1	4.5	4.1	4.6
EASR [1] per 100,000	4.4	3.8	3.4	4.1	5.4	3.3	3.4	3.1	3.3
EASR [1] - 95% Confidence Intervals	3.0, 5.8	2.5, 5.1	2.2, 4.6	2.8, 5.5	3.9, 6.9	2.1, 4.4	2.3, 4.6	2.0, 4.2	2.2, 4.4
WASR [2] per 100,000	3.2	2.9	2.6	3.1	4.1	2.6	2.2	2.1	2.2
WASR [2] - 95% Confidence Intervals	2.1, 4.3	1.9, 4.0	1.6, 3.6	2.0, 4.2	2.9, 5.4	1.6, 3.6	1.4, 3.1	1.3, 2.9	1.4, 3.0
Cumulative Risk (0-74yrs) (%)	0.3	0.3	0.2	0.3	0.4	0.2	0.2	0.2	0.2
Odds, 1 in :	316	364	405	348	265	432	463	445	583
% of all cancers	2	2	2	2	3	2	2	2	2

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate
- Unable to calculate due to small numbers

Appendix 2b: Mortality in Females by Cancer Site (ICD-9) and Year of Death (1993-2001)

All Sites Exc NMS (140-208 exc 173)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	1736	1755	1644	1681	1742	1733	1780	1827	1732
Crude Rate per 100,000	207.3	208.5	194.5	197.4	203.6	201.7	206.9	211.8	200.3
EASR [1] per 100,000	175.5	172.6	162.3	160.3	164.0	161.3	164.2	171.0	156.7
EASR [1] - 95% Confidence Intervals	166.8, 184.3	164.0, 181.1	154.0, 170.6	152.2, 168.4	155.9, 172.1	153.3, 169.3	156.2, 172.3	162.8, 179.3	148.9, 164.5
WASR [2] per 100,000	119.9	117.1	110.1	108.3	110.3	108.0	109.7	115.1	104.8
WASR [2] - 95% Confidence Intervals	113.6, 126.2	110.9, 123.2	104.1, 116.0	102.5, 114.1	104.5, 116.1	102.3, 113.7	104.0, 115.5	109.2, 120.9	99.3, 110.3
Cumulative Risk (0-74yrs) (%)	13.0	12.4	11.9	11.8	11.7	11.8	11.4	12.5	11.4
Odds, 1 in :	8	8	8	9	9	8	9	8	9
% of all cancers	100	100	100	100	100	100	100	100	99

All Sites (140-208)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of Deaths	1744	1757	1648	1684	1746	1738	1784	1830	1747
Crude Rate per 100,000	208.3	208.7	195.0	197.8	204.0	202.3	207.3	212.2	202.0
EASR 1 per 100,000	176.4	172.7	162.6	160.6	164.3	161.7	164.6	171.2	157.8
EASR 1 - 95% Confidence Intervals	167.7, 185.2	164.1, 181.2	154.3, 170.9	152.5, 168.7	156.2, 172.5	153.7, 169.7	156.6, 172.7	163.0, 179.5	150.0, 165.6
WASR 2 per 100,000	120.5	117.2	110.3	108.5	110.5	108.2	110.0	115.1	105.4
WASR 2 - 95% Confidence Intervals	114.2, 126.8	111.0, 123.3	104.3, 116.2	102.6, 114.3	104.7, 116.4	102.5, 113.9	104.2, 115.8	109.3, 121.0	99.8, 110.9
Cumulative Risk (0-74yrs) (%)	13.1	12.4	11.9	11.8	11.8	11.8	11.5	12.5	11.4
Odds, 1 in :	8	8	8	8	9	8	9	8	9
% of all cancers	100	100	100	100	100	100	100	100	100

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate
- Unable to calculate due to small numbers

Appendix 3a: Average Annual Incidence (1993-2001), Rank and Rates for Males by Cancer Site

Site (ICD10 Code)	Average Annual No. of Cases	% of All Cancers	Rank	Crude rate per 100,000	EASR [1] per 100,000	WASR [2] per 100,000
Lip (C00)	19	0.45	27	2.34	2.50	1.65
Base of Tongue (C01)	3	0.07	62	0.34	0.39	0.28
Other & Unspecified Parts of Tongue (C02)	16	0.39	28	2.00	2.19	1.52
Gum (C03)	4	0.10	55	0.52	0.58	0.40
Floor of Mouth (C04)	8	0.18	38	0.93	1.05	0.76
Palate (C05)	4	0.10	56	0.51	0.57	0.41
Other & Unspecified Parts of Mouth (C06)	6	0.15	45	0.75	0.86	0.61
Parotid Gland (C07)	6	0.14	46	0.72	0.77	0.53
Other & Unspecified Major Salivary Glands (C08)	3	0.06	63	0.33	0.35	0.27
Tonsil (C09)	5	0.12	49	0.64	0.75	0.52
Oropharynx (C10)	3	0.07	61	0.38	0.44	0.30
Nasopharynx (C11)	5	0.11	53	0.56	0.60	0.48
Pyriform sinus (C12)	5	0.11	52	0.59	0.67	0.46
Hypopharynx (C13)	4	0.09	57	0.49	0.56	0.40
Other & Ill-Defined Sites in the Lip, Oral Cavity & Pharynx (C14)	7	0.17	40	0.86	0.94	0.66
Oesophagus (C15)	93	2.21	9	11.43	12.48	8.50
Stomach (C16)	157	3.73	5	19.31	20.59	13.65
Small Intestine (C17)	13	0.32	32	1.65	1.78	1.24
Colon (C18)	301	7.15	4	37.06	39.65	26.07
Rectosigmoid Junction (C19)	33	0.77	22	4.01	4.24	2.85
Rectum (C20)	140	3.32	7	17.23	18.46	12.47
Anus & Anal Canal (C21)	6	0.14	48	0.71	0.79	0.54
Liver & Intrahepatic Bile Ducts (C22)	29	0.68	23	3.53	3.78	2.58
Gallbladder (C23)	2	0.06	64	0.29	0.31	0.20
Other & Unspecified Parts of Bilary Tract (C24)	15	0.36	30	1.89	2.06	1.38
Pancreas (C25)	75	1.79	12	9.26	9.88	6.47
Other & Ill-Defined Sites within the Digestive Organs and Peritoneum (C26)	9	0.20	37	1.05	1.13	0.70
Nasal Cavity & Middle Ear (C30)	5	0.12	51	0.62	0.67	0.44
Accessory Sinuses (C31)	2	0.05	66	0.27	0.30	0.21
Larynx (C32)	54	1.27	15	6.61	7.36	5.18
Trachea (C33)	2	0.04	71	0.22	0.24	0.17
Bronchus & Lung (C34)	555	13.17	2	68.26	72.68	48.51
Thymus (C37)	1	0.02	74	0.08	0.09	0.07
Heart, Mediastinum & Pleura (C38)	2	0.05	66	0.27	0.29	0.21
Other & Ill-Defined Sites in the Respiratory System & Intrathoracic Organs (C39)	0.0	0.00	79	0.00	0.00	0.00
Bone & Articular Cartilage of Limbs (C40)	4	0.11	54	0.55	0.52	0.56
Bone & Articular Cartilage, Other & Unspecified Sites (C41)	4	0.09	59	0.46	0.50	0.42
Malignant Melanoma (C43)	69	1.65	13	8.55	9.19	6.90
Non-melanoma Skin Cancer (C44)	1116	26.51	1	137.40	147.08	96.85
Mesothelioma (C45)	34	0.81	21	4.21	4.54	3.05
Kaposi's Sarcoma (C46)	0.4	0.01	76	0.05	0.05	0.05
Peripheral Nerves & Autonomic Nervous System (C47)	0.3	0.01	77	0.04	0.04	0.03
Retroperitoneum & Peritoneum (C48)	1	0.03	72	0.16	0.17	0.15

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate

Appendix 3a: Average Annual Incidence (1993-2001), Rank and Rates for Males by Cancer Site

Site (ICD10 Code)	Average Annual No. of Cases	% of All Cancers	Rank	Crude rate per 100,000	EASR [1] per 100,000	WASR [2] per 100,000
Other Connective Tissue (C49)	23	0.55	25	2.83	2.98	2.39
Breast (C50)	7	0.16	42	0.83	0.90	0.58
Penis (C60)	13	0.30	33	1.57	1.71	1.18
Prostate (C61)	492	11.68	3	60.53	63.26	39.15
Testis (C62)	52	1.23	17	6.37	6.31	5.86
Other & Unspecified Male Genital Organs (C63)	2	0.06	64	0.29	0.33	0.21
Kidney Excluding Renal Pelvis (C64)	76	1.80	11	9.31	10.16	7.24
Renal Pelvis (C65)	6	0.15	43	0.78	0.83	0.57
Ureter (C66)	6	0.15	43	0.78	0.86	0.60
Bladder (C67)	146	3.47	6	17.98	19.04	12.41
Other & Unspecified Urinary Organs (C68)	10	0.25	34	1.27	1.35	0.90
Eye & Adnexa (C69)	7	0.17	40	0.86	0.89	0.71
Meninges (C70)	1	0.01	75	0.07	0.07	0.06
Brain (C71)	60	1.42	14	7.39	7.90	6.43
Spinal Cord, Cranial Nerves & Other Parts of Central Nervous System (C72)	2	0.05	69	0.25	0.26	0.21
Thyroid Gland (C73)	14	0.33	31	1.72	1.84	1.39
Adrenal Gland (C74)	4	0.09	57	0.49	0.54	0.49
Other Endocrine Glands & Related Structures (C75)	3	0.08	60	0.40	0.42	0.31
Other & Ill-Defined Sites (C76)	6	0.14	46	0.72	0.78	0.56
Secondary & Unspecified Malignant Neoplasm of Lymph Nodes (C77)	7	0.18	39	0.92	1.01	0.68
Secondary Malignant Neoplasm of Respiratory & Digestive Organs (C78)	39	0.92	20	4.77	5.07	3.33
Secondary Malignant Neoplasm of Other Sites (C79)	21	0.51	26	2.64	2.81	1.87
Malignant Neoplasm without Specification of Site (C80)	100	2.36	8	12.25	12.86	8.15
Hodgkin's Disease (C81)	23	0.55	24	2.87	2.93	2.55
Follicular (nodular) Non-Hodgkin's Lymphoma (C82)	9	0.22	35	1.16	1.29	0.94
Diffuse Non-Hodgkin's lymphoma (C83)	16	0.37	29	1.91	2.04	1.56
Peripheral and Cutaneous T-cell Lymphomas (C84)	9	0.21	36	1.08	1.16	0.84
Other & Unspecified Types of Non-Hodgkin's Lymphoma (C85)	89	2.11	10	10.95	11.68	8.43
Immunoproliferative Diseases (C88)	2	0.05	69	0.25	0.25	0.15
Multiple Myeloma & Malignant Plasma Cell Neoplasms (C90)	53	1.26	16	6.51	6.96	4.59
Lymphoid Leukaemia (C91)	44	1.06	18	5.47	5.63	4.60
Myeloid Leukaemia (C92)	39	0.93	19	4.80	5.04	3.62
Monocytic Leukaemia (C93)	2	0.05	68	0.26	0.27	0.21
Other Leukaemias of Specified Cell Type (C94)	1	0.03	73	0.15	0.15	0.10
Leukaemia of Unspecified Cell Type (C95)	5	0.12	49	0.64	0.68	0.47
Other & Unspecified Malignant Neoplasms of Lymphoid, Haematopoietic & Related Tissue (C96)	0.2	0.01	78	0.03	0.03	0.03
Independent (primary) Multiple Sites (C97)	0.0	0.00	79	0.00	0.00	0.00

1 EASR: European Age-Standardised Rate

2 WASR: World Age-Standardised Rate

Appendix 3b: Average Annual Incidence (1993-2001), Rank and Rates for Females by Cancer Site

Site (ICD10 Code)	Average Annual No. of Cases	% of All Cancers	Rank	Crude rate per 100,000	EASR [1] per 100,000	WASR [2] per 100,000
Lip (C00)	4	0.09	48	0.46	1.48	1.14
Base of Tongue (C01)	1	0.03	69	0.17	0.16	0.11
Other & Unspecified Parts of Tongue (C02)	8	0.19	40	0.98	0.88	0.63
Gum (C03)	4	0.08	53	0.42	0.34	0.22
Floor of Mouth (C04)	4	0.08	53	0.42	0.38	0.25
Palate (C05)	3	0.07	58	0.35	0.34	0.25
Other & Unspecified Parts of Mouth (C06)	5	0.11	44	0.59	0.50	0.33
Parotid Gland (C07)	4	0.09	48	0.46	0.41	0.31
Other & Unspecified Major Salivary Glands (C08)	2	0.05	64	0.24	0.21	0.16
Tonsil (C09)	2	0.04	66	0.22	0.22	0.16
Oropharynx (C10)	1	0.02	72	0.12	0.11	0.08
Nasopharynx (C11)	3	0.06	60	0.33	0.32	0.25
Pyriform Sinus (C12)	1	0.02	76	0.09	0.09	0.07
Hypopharynx (C13)	3	0.08	55	0.39	0.34	0.23
Other & Ill-Defined Sites in the Lip, Oral Cavity & Pharynx (C14)	4	0.08	51	0.43	0.39	0.27
Oesophagus (C15)	61	1.40	15	7.16	5.60	3.57
Stomach (C16)	101	2.33	10	11.93	9.35	6.06
Small Intestine (C17)	12	0.28	35	1.41	1.21	0.83
Colon (C18)	312	7.16	4	36.71	30.23	19.95
Rectosigmoid Junction (C19)	23	0.53	25	2.70	2.34	1.60
Rectum (C20)	107	2.46	9	12.59	10.53	7.02
Anus & Anal Canal (C21)	9	0.21	38	1.10	0.97	0.70
Liver & Intrahepatic Bile Ducts (C22)	26	0.60	24	3.09	2.45	1.61
Gallbladder (C23)	14	0.32	30	1.64	1.40	0.95
Other & Unspecified Parts of Bilary Tract (C24)	13	0.30	31	1.56	1.22	0.77
Pancreas (C25)	74	1.70	13	8.70	6.89	4.46
Other & Ill-Defined Sites within the Digestive Organs and Peritoneum (C26)	12	0.28	33	1.44	1.03	0.61
Nasal Cavity & Middle Ear (C30)	4	0.09	47	0.47	0.38	0.26
Accessory Sinuses (C31)	1	0.03	70	0.14	0.13	0.09
Larynx (C32)	13	0.29	32	1.50	1.43	1.01
Trachea (C33)	2	0.05	63	0.26	0.24	0.18
Bronchus & Lung (C34)	324	7.44	3	38.12	33.24	22.73
Thymus (C37)	0.3	0.01	80	0.04	0.05	0.04
Heart, Mediastinum & Pleura (C38)	1	0.02	72	0.12	0.12	0.11
Other & Ill-Defined Sites in the Respiratory System & Intrathoracic Organs (C39)	0.1	0.00	81	0.01	0.01	0.01
Bone & Articular Cartilage of Limbs (C40)	2	0.04	66	0.22	0.21	0.21
Bone & Articular Cartilage, Other & Unspecified Sites (C41)	3	0.07	56	0.37	0.32	0.30
Malignant Melanoma (C43)	113	2.59	8	13.27	12.66	10.01
Non-Melanoma Skin Cancer (C44)	1081	24.85	1	127.30	104.88	69.86
Mesothelioma (C45)	4	0.09	50	0.44	0.44	0.31
Kaposi's Sarcoma (C46)	0.1	0.00	81	0.01	0.01	0.01
Peripheral Nerves & Autonomic Nervous System (C47)	1	0.02	78	0.08	0.07	0.07
Retroperitoneum & Peritoneum (C48)	1	0.02	72	0.12	0.12	0.10

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate

Appendix 3b: Average Annual Incidence (1993-2001), Rank and Rates for Females by Cancer Site

Site (ICD10 Code)	Average Annual No. of Cases	% of All Cancers	Rank	Crude rate per 100,000	EASR [1] per 100,000	WASR [2] per 100,000
Other Connective Tissue (C49)	17	0.39	27	2.00	1.80	1.40
Breast (C50)	877	20.16	2	103.28	102.92	74.76
Vulva (C51)	22	0.51	26	2.62	2.16	1.44
Vagina (C52)	9	0.21	39	1.07	0.98	0.68
Cervix Uteri (C53)	83	1.92	12	9.81	9.97	8.02
Corpus Uteri (C54)	113	2.61	7	13.36	12.98	9.18
Uterus, Part Unspecified (C55)	12	0.28	34	1.43	1.27	0.85
Ovary (C56)	168	3.86	5	19.79	19.32	14.30
Other & Unspecified Female Genital Organs (C57)	6	0.14	42	0.73	0.64	0.44
Placenta (C58)	0.1	0.00	0	0.01	0.01	0.01
Kidney Excluding Renal Pelvis (C64)	56	1.28	16	6.58	6.01	4.35
Renal Pelvis (C65)	2	0.05	62	0.27	0.22	0.14
Ureter (C66)	4	0.08	51	0.43	0.33	0.21
Bladder (C67)	62	1.42	14	7.25	5.67	3.66
Other & Unspecified Urinary Organs (C68)	3	0.07	58	0.35	0.32	0.23
Eye & Adnexa (C69)	5	0.10	46	0.54	0.47	0.39
Meninges (C70)	1	0.02	76	0.09	0.08	0.05
Brain (C71)	45	1.04	18	5.35	5.21	4.45
Spinal Cord, Cranial Nerves & Other Parts of Central Nervous System (C72)	2	0.04	68	0.21	0.22	0.22
Thyroid Gland (C73)	34	0.77	20	3.95	3.92	3.17
Adrenal Gland (C74)	3	0.06	61	0.30	0.33	0.35
Other Endocrine Glands & Related Structures (C75)	3	0.07	56	0.37	0.38	0.31
Other & Ill-Defined Sites (C76)	8	0.18	41	0.93	0.71	0.47
Secondary & Unspecified Malignant Neoplasm of Lymph Nodes (C77)	11	0.24	36	1.24	1.10	0.76
Secondary Malignant Neoplasm of Respiratory & Digestive Organs (C78)	45	1.03	19	5.26	4.32	2.88
Secondary Malignant Neoplasm of Other Sites (C79)	28	0.64	23	3.26	2.78	1.90
Malignant Neoplasm without Specification of Site (C80)	118	2.72	6	13.94	10.58	6.67
Hodgkin's Disease (C81)	15	0.34	28	1.77	1.73	1.59
Follicular (Nodular) Non-Hodgkin's Lymphoma (C82)	10	0.22	37	1.13	1.12	0.82
Diffuse Non-Hodgkin's Lymphoma (C83)	15	0.34	29	1.75	1.56	1.12
Peripheral and Cutaneous T-cell Lymphomas (C84)	5	0.13	43	0.64	0.62	0.48
Other & Unspecified Types of Non-Hodgkin's Lymphoma (C85)	93	2.14	11	10.97	9.59	6.75
Immunoproliferative Diseases (C88)	2	0.05	64	0.24	0.19	0.13
Multiple Myeloma & Malignant Plasma Cellneoplasms (C90)	46	1.07	17	5.46	4.44	2.94
Lymphoid Leukaemia (C91)	28	0.64	22	3.27	2.83	2.49
Myeloid Leukaemia (C92)	30	0.70	21	3.57	3.15	2.37
Monocytic Leukaemia (C93)	1	0.03	71	0.13	0.12	0.13
Other Leukaemias of Specified Cell Type (C94)	1	0.02	72	0.12	0.11	0.10
Leukaemia of Unspecified Cell Type (C95)	5	0.11	45	0.58	0.49	0.36
Other & Unspecified Malignant Neoplasms of Lymphoid, Haematopoietic & Related Tissue (C96)	1	0.02	78	0.08	0.07	0.08
Independent (primary) Multiple Sites (C97)	0.1	0.00	81	0.01	0.01	0.00

1 EASR: European Age-Standardised Rate
2 WASR: World Age-Standardised Rate

Appendix 4a: Total Incidence (1993-2001) in Males by Key Cancer Site (ICD10) and Age-group

	Age Group (Years)															
Cancer Site (ICD10)	**0-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**45-49**	**50-54**	**55-59**	**60-64**	**65-69**	**70-74**	**75-79**	**80-84**	**85+**
Lip, Oral Cavity & Pharynx (C00-14)	<5	<5	<5	5	9	10	26	47	98	101	116	146	118	82	67	42
Oesophagus (C15)	0	<5	0	<5	<5	8	18	36	69	82	126	132	127	106	79	47
Stomach (C16)	0	<5	<5	<5	<5	8	24	44	69	124	162	220	284	218	162	87
Colon (C18)	0	<5	<5	<5	13	18	36	87	132	213	307	463	466	432	331	209
Rectum, Rectosigmoid Junction & Anus (C19-21)	0	0	0	6	7	12	24	71	94	138	217	250	310	242	164	70
Liver & Intrahepatic Bile Ducts (C22)	<5	<5	0	<5	<5	<5	<5	10	13	24	41	33	32	45	29	15
Pancreas (C25)	0	0	0	0	<5	7	6	13	30	53	91	96	138	112	79	50
Trachea, Bronchus & Lung (C33, 34)	<5	0	<5	5	8	29	36	120	253	383	640	925	1094	783	496	233
Malignant Melanoma (C43)	<5	8	14	29	41	38	43	50	47	58	60	62	57	51	35	30
Non-Melanoma Skin Cancer (C44)	0	6	16	38	83	121	217	341	549	823	1108	1371	1700	1622	1220	832
Prostate (C61)	0	0	0	0	0	0	6	17	82	209	392	668	912	923	715	502
Testis (C62)	<5	16	49	81	107	78	53	37	22	<5	5	<5	<5	0	0	5
Kidney (C64-66, 68)	17	<5	<5	<5	11	13	16	48	64	81	123	148	150	113	58	40
Bladder (C67)	<5	<5	<5	5	<5	6	9	28	51	98	141	203	269	212	178	105
Brain (C71)	43	13	12	22	27	31	27	40	43	66	60	60	39	38	16	<5
Hodgkin's Disease (C81)	12	9	18	13	24	26	23	13	11	6	12	15	12	10	<5	<5
Non-Hodgkin's Lymphoma (C82-85, 96)	23	15	17	15	30	32	54	76	86	108	110	138	156	128	83	36
Leukaemia (C91-95)	94	19	14	15	14	17	22	25	32	45	68	83	126	107	86	61
All sites (C00-C97)	**254**	**124**	**164**	**269**	**441**	**517**	**745**	**1266**	**1989**	**2933**	**4237**	**5608**	**6693**	**5812**	**4207**	**2639**

Note: In order to protect the confidentiality of the NICR data, any age-group that had between 1 and 4 cases registered over the diagnostic period 1993 to 2001 is represented by <5.

Appendix 4b: Total Incidence (1993-2001) in Females by Key Cancer Site (ICD10) and Age-group

	Age Group (Years)															
Cancer Site (ICD10)	**0-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**45-49**	**50-54**	**55-59**	**60-64**	**65-69**	**70-74**	**75-79**	**80-84**	**85+**
Lip, Oral Cavity & Pharynx (C00-14)	<5	<5	5	5	5	9	11	16	34	43	40	54	64	49	50	44
Oesophagus (C15)	0	0	0	0	<5	<5	<5	6	14	34	49	58	101	86	96	97
Stomach (C16)	<5	0	0	<5	5	11	17	18	24	52	66	99	151	158	165	142
Colon (C18)	0	<5	<5	<5	7	21	52	80	133	200	266	317	442	477	424	381
Rectum, Rectosigmoid Junction & Anus (C19-21)	0	0	<5	<5	7	17	31	45	64	97	132	145	185	212	179	134
Liver & Intrahepatic Bile Ducts (C22)	0	0	0	0	<5	0	<5	5	6	8	18	42	47	37	37	32
Pancreas (C25)	0	0	0	<5	0	<5	5	15	23	33	58	85	112	119	111	101
Trachea, Bronchus & Lung (C33, 34)	0	0	<5	<5	6	17	33	92	158	230	351	500	607	463	305	167
Malignant Melanoma (C43)	<5	9	53	74	81	69	57	59	71	88	78	74	89	67	57	86
Non-Melanoma Skin Cancer (C44)	6	12	25	33	82	158	215	308	489	593	823	1100	1392	1539	1418	1535
Breast (C50)	0	<5	5	40	157	315	467	749	1099	1011	886	745	728	674	510	506
Cervix Uteri (C53)	0	<5	13	50	89	94	86	68	65	63	52	48	45	38	14	23
Corpus Uteri (C54)	0	0	0	<5	8	12	18	48	104	159	159	153	130	100	73	54
Ovary (C56)	<5	11	23	25	32	45	75	113	154	171	184	201	163	147	92	74
Kidney (C64-66, 68)	11	<5	<5	<5	<5	11	15	27	31	56	65	87	91	86	53	42
Bladder (C67)	<5	0	<5	<5	<5	<5	<5	9	16	30	31	74	112	98	87	85
Brain (C71)	49	12	8	12	14	16	23	24	33	28	46	36	41	40	21	6
Hodgkin's Disease (C81)	<5	10	19	17	12	14	5	6	5	8	9	8	8	7	<5	0
Non-Hodgkin's Lymphoma (C82-85, 96)	10	9	10	9	16	22	35	41	71	91	124	144	183	150	123	75
Leukaemia (C91-95)	62	18	11	9	11	7	17	21	28	27	38	61	72	72	63	69
All Sites (C00-C07)	**194**	**106**	**213**	**321**	**597**	**935**	**1263**	**1886**	**2818**	**3277**	**3808**	**4499**	**5333**	**5218**	**4446**	**4236**

Note: In order to protect the confidentiality of the NICR data, any age-group that had between 1 and 4 cases registered over the diagnostic period 1993 to 2001 is represented by <5.

Appendix 5a: Average Incidence (1993-2001) and Crude Rate per 100,000 in Males by Key Cancer Site (ICD10), Health Board and District Council

Health Board	District Council	Lip, Oral Cavity & Pharynx (C00-14) n (cr)	Oesophagus (C15) n (cr)	Stomach (C16) n (cr)	Colon (C18) n (cr)	Rectum, Rectosigmold Junction & Anus (C19-21) n (cr)	Liver & Intrahepatic Bile Ducts (C22) n (cr)	Pancreas (C25) n (cr)	Trachea, Bronchus & Lung (C33, C34) n (cr)	Malignant Melanoma (C43) n (cr)	Non-Melanoma Skin Cancer (C44) n (cr)
EHSSB	Ards	3.4	4.2	6.6	12.9	7.2	0.7	3.7	25.1	2.3	43.2
		(10.1)	(12.4)	(19.2)	(37.8)	(21.2)	(2.0)	(10.7)	(73.6)	(6.8)	(126.7)
	Belfast	21.9	20.1	32.0	57.0	35.4	8.3	15.9	148.3	11.7	160.6
		(16.3)	(15.0)	(23.8)	(42.4)	(26.4)	(6.2)	(11.8)	(110.5)	(8.7)	(119.6)
	Castlereagh	3.8	4.0	8.3	13.1	7.1	1.3	3.2	25.9	3.8	35.2
		(12.1)	(12.8)	(26.7)	(42.0)	(22.8)	(4.3)	(10.3)	(83.0)	(12.1)	(112.9)
	Down	3.2	4.3	5.0	11.6	7.9	0.9	1.2	21.8	3.1	39.8
		(10.4)	(14.0)	(16.1)	(37.3)	(25.5)	(2.9)	(3.9)	(70.3)	(10.0)	(128.3)
	Lisburn	4.6	5.9	7.7	15.4	10.1	1.4	4.1	27.4	5.1	60.4
		(8.6)	(11.2)	(14.5)	(29.3)	(19.2)	(2.7)	(7.8)	(52.0)	(9.7)	(114.6)
	North Down	3.9	5.0	6.3	16.0	9.7	1.3	4.0	22.8	4.7	54.1
		(10.7)	(13.7)	(17.4)	(43.9)	(26.5)	(3.7)	(11.0)	(62.5)	(12.8)	(148.5)
	Totals	**41.4**	**43.6**	**66.0**	**126.4**	**77.9**	**14.1**	**32.1**	**272.0**	**30.8**	**393.8**
		(12.9)	**(13.6)**	**(20.6)**	**(39.5)**	**(24.4)**	**(4.4)**	**(10.0)**	**(85.0)**	**(9.6)**	**(123.1)**
NHSSB	Antrim	1.8	2.1	2.4	7.4	3.6	0.9	1.6	13.9	1.3	25.3
		(7.3)	(8.7)	(10.0)	(30.5)	(14.6)	(3.6)	(6.4)	(56.9)	(5.5)	(103.8)
	Ballymena	2.8	3.2	6.6	10.9	5.1	1.2	2.1	16.2	1.1	35.6
		(9.8)	(11.3)	(23.1)	(38.3)	(18.0)	(4.3)	(7.4)	(57.0)	(3.9)	(125.0)
	Ballymoney	1.0	1.9	1.8	5.8	2.6	0.7	1.6	7.0	1.0	14.6
		(7.9)	(14.9)	(14.0)	(45.6)	(20.2)	(5.3)	(12.3)	(55.3)	(7.9)	(114.9)
	Carrickfergus	1.7	2.6	3.6	4.2	3.1	0.4	1.0	13.2	1.9	22.6
		(9.5)	(14.5)	(20.2)	(24.0)	(17.7)	(2.5)	(5.7)	(75.1)	(10.7)	(128.1)
	Coleraine	3.4	3.0	4.6	10.6	5.7	1.6	2.1	15.4	2.6	30.2
		(13.1)	(11.4)	(17.3)	(40.2)	(21.6)	(5.9)	(8.0)	(58.8)	(9.7)	(115.0)
	Cookstown	2.1	0.8	2.3	4.6	2.6	0.0	1.3	8.9	1.2	19.1
		(13.3)	(4.9)	(14.7)	(28.7)	(16.1)	(0.0)	(8.4)	(56.1)	(7.7)	(120.5)
	Larne	2.0	1.4	2.3	6.9	4.7	0.6	1.8	10.9	1.8	20.3
		(13.4)	(9.7)	(15.6)	(46.1)	(31.2)	(3.7)	(11.9)	(72.9)	(11.9)	(136.1)
	Magherafelt	2.0	1.3	2.9	5.8	3.6	0.8	1.7	8.9	1.1	20.8
		(10.4)	(6.9)	(15.0)	(30.0)	(18.5)	(4.0)	(8.7)	(46.1)	(5.8)	(107.9)
	Moyle	0.8	0.6	1.2	3.6	0.9	0.0	1.2	5.0	0.7	10.8
		(10.2)	(7.3)	(16.0)	(46.7)	(11.7)	(0.0)	(16.0)	(65.6)	(8.8)	(141.5)
	Newtownabbey	4.4	4.4	7.7	16.4	9.4	1.9	4.9	25.4	3.6	43.8
		(11.6)	4(11.6)	(20.1)	(43.1)	(24.7)	(4.9)	(12.8)	(66.7)	(9.3)	(114.7)
	Totals	**22.3**	**21.3**	**35.4**	**76.3**	**41.3**	**8.0**	**19.3**	**125.0**	**16.2**	**244.6**
		(10.9)	**(10.4)**	**(17.3)**	**(37.2)**	**(20.1)**	**(3.9)**	**(9.4)**	**(60.9)**	**(7.9)**	**(119.2)**
SHSSB	Armagh	3.0	2.7	5.1	7.6	5.3	0.6	2.0	13.9	2.7	38.4
		(11.3)	(10.1)	(19.3)	(28.6)	(20.2)	(2.1)	(7.6)	(52.5)	(10.1)	(145.4)
	Banbridge	1.2	2.7	3.0	5.2	3.7	0.4	1.1	9.1	1.3	29. 0
		(6.3)	(13.8)	(15.5)	(27.0)	(19.0)	(2.3)	(5.7)	(47.1)	(6.9)	(150.0)
	Craigavon	3.7	4.6	6.9	12.3	9.0	1.2	2.7	22.7	2.9	57.7
		(9.5)	(11.8)	(17.9)	(32.0)	(23.4)	(3.2)	(6.9)	(58.8)	(7.5)	(149.7)
	Dungannon	2.4	1.2	3.9	7.0	3.2	0.4	1.8	12.8	1.8	32.8
		(10.5)	(5.2)	(16.7)	(30.0)	(13.8)	(1.9)	(7.6)	(54.7)	(7.6)	(140.4)
	Newry & Mourne	4.2	3.7	11.9	16.8	9.8	0.4	4.1	23.7	3.2	70.0
		(10.1)	(8.7)	(28.3)	(40.0)	(23.3)	(1.1)	(9.8)	(56.4)	(7.7)	(166.7)
	Totals	**14.7**	**14.9**	**30.8**	**48.9**	**31.0**	**3.1**	**11.7**	**82.2**	**11.9**	**230.0**
		(9.8)	**(9.9)**	**(20.6)**	**(32.7)**	**(20.7)**	**(2.1)**	**(7.8)**	**(54.9)**	**(7.9)**	**(153.7)**
WHSSB	Fermanagh	4.9	3.0	6.1	11.2	7.3	1.0	3.8	16.6	2.3	33.7
		(17.2)	(10.6)	(21.6)	(39.6)	(25.9)	(3.5)	(13.3)	(58.4)	(8.2)	(118.8)
	Limavady	2.3	1.0	3.2	4.7	2.0	0.3	1.2	6.4	0.8	12.7
		(14.4)	(6.2)	(19.9)	(28.9)	(12.4)	(2.1)	(7.6)	(39.9)	(4.8)	(78.3)
	Derry	6.2	4.9	8.1	15.2	9.3	1.1	3.9	32.3	2.3	38.8
		(12.2)	(9.6)	(15.9)	(29.9)	(18.4)	(2.2)	(7.6)	(63.6)	(4.6)	(76.2)
	Omagh	3.0	1.9	3.0	9.6	4.6	0.6	1.6	10.3	1.3	21.8
		(12.6)	(7.9)	(12.6)	(40.2)	(19.2)	(2.3)	(6.5)	(43.5)	(5.6)	(91.6)
	Strabane	2.2	1.4	3.4	6.6	3.3	0.3	1.7	10.6	1.0	17.6
		(11.9)	(7.8)	(18.5)	(35.2)	(17.9)	(1.8)	(9.0)	(56.8)	(5.4)	(94.4)
	Totals	**18.9**	**12.7**	**24.0**	**47.3**	**26.7**	**3.4**	**12.1**	**76.6**	**7.9**	**126.9**
		(13.7)	**(9.2)**	**(17.4)**	**(34.4)**	**(19.4)**	**(2.5)**	**(8.8)**	**(55.6)**	**(5.7)**	**(92.1)**

Appendix 5a: Average Incidence (1993-2001) and Crude Rate per 100,000 in Males by Key Cancer Site (ICD10), Health Board and District Council

Health Board	District Council	Prostate (C61) n (cr)	Testis (C62) n (cr)	Kidney (C64-C66, C68) n (cr)	Bladder (C67) n (cr)	Brain (C71) n (cr)	Hodgkin's Disease (C81) n (cr)	Non Hodgkin's Lymphoma (C82-(C85, C96) n (cr)	Leukaemia (C91-C95) n (cr)	All exc NMS (C00-C97, exc C44) n (cr)	All (C00-C97) n (cr)	Childhood (C00-C97) n (cr)
EHSSB	Ards	19.7	1.8	3.3	8.4	2.1	1.1	5.0	4.0	130.6	173.8	1.6
		(57.6)	(5.2)	(9.8)	(24.7)	(6.2)	(3.3)	(14.7)	(11.7)	(382.6)	(509.2)	(20.8)
	Belfast	73.8	8.2	17.9	33.0	10.9	3.9	23.7	16.1	637.0	797.6	4.4
		(54.9)	(6.1)	(13.3)	(24.6)	(8.1)	(2.9)	(17.6)	(12.0)	(474.3)	(593.9)	(14.2)
	Castlereagh	21.3	3.1	4.0	7.3	2.9	0.7	5.4	3.8	138.6	173.8	0.9
		(68.4)	(10.0)	(12.8)	(23.5)	(9.3)	(2.1)	(17.5)	(12.1)	(444.2)	(557.2)	(13.4)
	Down	22.2	1.6	3.3	5.1	2.6	0.7	4.6	3.1	116.9	156.7	0.9
		(71.7)	(5.0)	(10.8)	(16.5)	(8.2)	(2.2)	(14.7)	(10.0)	(377.1)	(505.4)	(11.4)
	Lisburn	30.3	3.8	5.2	5.9	3.6	1.3	5.8	6.1	166.4	226.9	1.6
		(57.5)	(7.2)	(9.9)	(11.2)	(6.7)	(2.5)	(11.0)	(11.6)	(315.5)	(430.0)	(11.7)
	North Down	22.6	2.0	3.9	8.2	2.8	0.4	6.0	4.3	147.4	201.6	0.6
		(61.9)	(5.5)	(10.7)	(22.6)	(7.6)	(1.2)	(16.5)	(11.9)	(404.5)	(553.0)	(7.4)
	Totals	**190.6**	**19.4**	**37.7**	**68.4**	**24.8**	**8.1**	**50.8**	**37.4**	**1341.4**	**1735.2**	**9.9**
		(59.6)	**(6.1)**	**(11.8)**	**(21.4)**	**(7.7)**	**(2.5)**	**(15.9)**	**(11.7)**	**(419.4)**	**(542.6)**	**(13.4)**
NHSSB	Antrim	11.3	1.9	4.0	3.4	1.3	1.0	1.8	2.3	71.9	97.2	0.8
		(46.4)	(7.7)	(16.4)	(14.1)	(5.5)	(4.1)	(7.3)	(9.6)	(294.6)	(398.4)	(13.8)
	Ballymena	19.0	1.4	3.4	4.2	1.7	1.1	3.4	2.9	102.2	137.8	1.0
		(66.8)	(5.1)	(12.1)	(14.8)	(5.9)	(3.9)	(12.1)	(10.2)	(359.5)	(484.5)	(15.5)
	Ballymoney	7.7	0.9	1.1	1.4	1.6	0.8	1.9	1.4	45.4	60.0	0.2
		(60.5)	(7.0)	(8.8)	(11.4)	(12.3)	(6.1)	(14.9)	(11.4)	(358.7)	(473.6)	(7.3)
	Carrickfergus	10.4	1.9	2.9	3.0	1.1	1.0	2.4	1.6	65.9	88.4	0.3
		(59.3)	(10.7)	(16.4)	(17.0)	(6.3)	(5.7)	(13.9)	(8.8)	(374.2)	(502.3)	(8.1)
	Coleraine	18.0	1.4	4.3	5.4	2.6	0.4	4.2	3.0	101.4	131.7	1.3
		(68.5)	(5.5)	(16.5)	(20.7)	(9.7)	(1.7)	(16.1)	(11.4)	(386.1)	(501.1)	(22.4)
	Cookstown	9.4	0.4	1.2	2.4	0.9	0.2	1.9	2.0	50.4	69.6	0.3
		(59.6)	(2.8)	(7.7)	(15.4)	(5.6)	(1.4)	(11.9)	(12.6)	(318.1)	(438.7)	(8.1)
	Larne	8.4	1.0	2.6	3.2	1.1	0.3	1.9	1.6	61.8	82.1	0.4
		(56.5)	(6.7)	(17.1)	(21.6)	(7.4)	(2.2)	(12.6)	(10.4)	(413.4)	(549.4)	(13.6)
	Magherafelt	9.4	1.6	2.1	2.4	1.1	0.7	2.2	1.7	59.3	80.1	0.3
		(49.0)	(8.1)	(11.0)	(12.7)	(5.8)	(3.5)	(11.5)	(8.7)	(308.0)	(415.9)	(6.6)
	Moyle	6.7	0.3	1.1	2.1	0.6	0.1	1.7	1.1	33.3	44.1	0.4
		(87.5)	(4.4)	(14.6)	(27.7)	(7.3)	(1.5)	(21.9)	(14.6)	(437.6)	(579.1)	(24.5)
	Newtownabbey	20.6	2.6	5.6	6.1	2.3	1.6	5.2	4.6	150.8	194.6	1.3
		(53.9)	(6.7)	(14.6)	(16.0)	(6.1)	(4.1)	(13.7)	(11.9)	(395.0)	(509.7)	(15.7)
	Totals	**121.6**	**12.8**	**28.6**	**34.0**	**14.2**	**7.2**	**26.7**	**22.1**	**745.1**	**989.7**	**6.6**
		(59.2)	**(6.2)**	**(13.9)**	**(16.6)**	**(6.9)**	**(3.5)**	**(13.0)**	**(10.8)**	**(363.0)**	**(482.2)**	**(13.7)**
SHSSB	Armagh	16.2	1.9	3.8	3.8	2.1	1.0	5.2	3.4	92.0	130.4	1.2
		(61.3)	(7.1)	(14.3)	(14.3)	(8.0)	(3.8)	(19.7)	(13.0)	(347.9)	(493.3)	(18.3)
	Banbridge	13.4	1.6	2.4	3.9	1.2	1.1	3.4	1.2	66.0	95.0	0.8
		(69.5)	(8.0)	(12.6)	(20.1)	(6.3)	(5.7)	(17.8)	(6.3)	(341.4)	(491.4)	(16.8)
	Craigavon	22.1	2.9	4.0	4.4	2.2	1.1	7.1	4.2	134.7	192.3	1.1
		(57.4)	(7.5)	(10.4)	(11.5)	(5.8)	(2.9)	(18.5)	(11.0)	(349.6)	(499.3)	(11.3)
	Dungannon	11.7	1.8	2.8	4.0	1.3	0.4	4.1	2.7	75.8	108.6	0.8
		(50.0)	(7.6)	(11.9)	(17.1)	(5.7)	(1.9)	(17.6)	(11.4)	(324.5)	(464.8)	(12.7)
	Newry & Mourne	22.3	3.1	5.6	6.7	3.3	1.3	6.4	4.0	152.8	222.8	1.8
		(53.2)	(7.4)	(13.2)	(15.9)	(7.9)	(3.2)	(15.3)	(9.5)	(363.8)	(530.5)	(15.5)
	Totals	**86.2**	**11.0**	**18.7**	**22.9**	**10.2**	**5.0**	**26.6**	**15.6**	**522.7**	**752.7**	**5.7**
		(57.6)	**(7.4)**	**(12.5)**	**(15.3)**	**(6.8)**	**(3.3)**	**(17.7)**	**(10.6)**	**(349.3)**	**(503.0)**	**(14.6)**
WHSSB	Fermanagh	22.6	1.9	3.8	4.0	2.6	0.6	4.4	3.9	114.0	147.7	1.4
		(79.6)	(6.7)	(13.3)	(14.1)	(9.0)	(2.0)	(15.7)	(13.7)	(402.2)	(521.0)	(20.7)
	Limavady	9.1	0.8	1.1	2.7	1.2	0.6	1.1	1.7	45.6	58.2	0.4
		(56.3)	(4.8)	(6.9)	(16.5)	(7.6)	(3.4)	(6.9)	(10.3)	(281.7)	(360.0)	(10.8)
	Derry	28.6	3.9	4.4	6.8	3.7	1.3	7.0	4.9	164.6	203.3	2.6
		(56.1)	(7.6)	(8.7)	(13.3)	(7.2)	(2.6)	(13.8)	(9.6)	(323.6)	(399.8)	(17.8)
	Omagh	18.6	1.1	2.7	4.0	1.8	0.1	3.0	3.4	80.8	102.6	0.8
		(78.0)	(4.7)	(11.2)	(16.8)	(7.5)	(0.5)	(12.6)	(14.5)	(339.7)	(431.3)	(12.6)
	Strabane	11.2	0.7	1.6	2.7	1.4	0.4	2.4	2.9	62.9	80.4	0.8
		(60.3)	(3.6)	(8.4)	(14.3)	(7.8)	(2.4)	(13.1)	(15.5)	(338.1)	(432.5)	(16.1)
	Totals	**90.9**	**8.2**	**13.6**	**20.2**	**10.7**	**3.0**	**18.3**	**16.9**	**471.1**	**598 .0**	**6.0**
		(66.0)	**(6.0)**	**(9.8)**	**(14.7)**	**(7.7)**	**(2.2)**	**(13.3)**	**(12.3)**	**(342.0)**	**(434.1)**	**(16.5)**

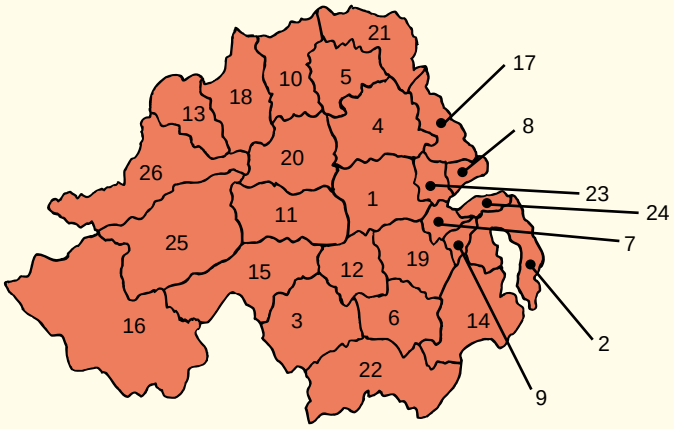
Appendix 5b: Average Incidence (1993-2001) and Crude Rate per 100,000 in Females by Key Cancer Site (ICD10), Health Board and District Council

Health Board	District Council	Lip, Oral Cavity & Pharynx (C00-14) n (cr)	Oesophagus (C15) n (cr)	Stomach (C16) n (cr)	Colon (C18) n (cr)	Rectum, Rectosigmold Junction & Anus (C19-C21) n (cr)	Liver & Intrahepatic Bile Ducts (C22) n (cr)	Pancreas (C25) n (cr)	Tracheas, Bronchus & Lung (C33, C34) n (cr)	Malignant Melanoma (C43) n (cr)	Non-Melanoma Skin Cancer (C44) n (cr)
EHSSB	Ards	1.8	3.0	3.2	11.7	6.7	1.0	4.1	14.0	6.3	42.1
		(4.9)	(8.3)	(8.9)	(32.4)	(18.5)	(2.8)	(11.4)	(38.9)	(17.6)	(116.9)
	Belfast	10.9	14.4	25.4	56.8	30.3	6.7	14.6	97.3	18.8	193.7
		(7.2)	(9.5)	(16.7)	(37.3)	(20.0)	(4.4)	(9.6)	(64.0)	(12.4)	(127.4)
	Castlereagh	2.2	3.0	4.8	12.9	5.6	1.1	3.0	16.9	6.0	38.8
		(6.5)	(8.8)	(14.0)	(37.7)	(16.3)	(3.3)	(8.8)	(49.4)	(17.6)	(113.4)
	Down	1.7	1.8	3.6	10.6	5.2	1.2	2.2	11.8	2.9	42.1
		(5.3)	(5.7)	(11.3)	(33.7)	(16.7)	(3.9)	(7.1)	(37.6)	(9.2)	(134.4)
	Lisburn	2.8	3.7	4.8	17.3	9.0	1.3	3.9	19.8	7.7	63.8
		(5.0)	(6.7)	(8.7)	(31.5)	(16.4)	(2.4)	(7.1)	(35.9)	(13.9)	(115.9)
	North Down	2.6	3.7	5.2	19.3	7.2	1.0	4.3	15.0	7.1	63.6
		(6.5)	(9.4)	(13.3)	(49.3)	(18.4)	(2.6)	(11.1)	(38.3)	(18.1)	(162.1)
	Totals	**22.1**	**29.7**	**47.2**	**128.9**	**64 .0**	**12.3**	**32.4**	**175.4**	**49.2**	**445.3**
		(6.4)	**(8.5)**	**(13.6)**	**(37.1)**	**(18.4)**	**(3.5)**	**(9.4)**	**(50.4)**	**(14.2)**	**(128.0)**
NHSSB	Antrim	0.9	1.3	1.6	7.9	2.4	0.8	1.8	7.9	3.0	19.0
		(3.7)	(5.6)	(6.6)	(33.3)	(10.3)	(3.3)	(7.5)	(33.3)	(12.7)	(80.1)
	Ballymena	1.6	2.3	3.3	12.9	5.1	0.6	2.7	7.2	3.6	28.3
		(5.2)	(7.9)	(11.2)	(43.4)	(17.2)	(1.9)	(9.0)	(24.3)	(12.0)	(95.4)
	Ballymoney	0.7	0.4	1.4	5.4	1.7	0.7	1.0	2.4	1.0	13.1
		(5.2)	(3.4)	(11.2)	(42.1)	(12.9)	(5.2)	(7.7)	(18.9)	(7.7)	(101.4)
	Carrickfergus	1.0	2.6	1.8	5.9	3.6	0.9	1.4	7.9	1.4	24.8
		(5.3)	(13.6)	(9.5)	(31.4)	(18.9)	(4.7)	(7.7)	(42.0)	(7.7)	(132.0)
	Coleraine	1.9	1.6	3.4	11.3	4.8	0.9	2.9	9.0	4.2	30.6
		(6.6)	5.4)	(12.0)	(39.5)	(16.6)	(3.1)	(10.1)	(31.4)	(14.7)	(106.4)
	Cookstown	0.6	1.1	2.9	5.0	1.9	0.4	1.6	3.8	1.3	13.9
		(3.4)	(6.9)	(17.9)	(31.0)	(11.7)	(2.8)	(9.7)	(23.4)	(8.3)	(86.2)
	Larne	0.7	1.1	1.7	6.7	3.2	0.8	1.1	5.4	2.9	16.4
		(4.3)	(7.1)	(10.7)	(42.7)	(20.6)	(5.0)	(7.1)	(34.8)	(18.5)	(105.2)
	Magherafelt	1.0	1.2	1.7	6.8	2.4	0.6	1.4	3.8	1.8	17.9
		(5.2)	(6.4)	(8.7)	(35.5)	(12.8)	(2.9)	(7.6)	(19.8)	(9.3)	(93.6)
	Moyle	0.9	0.7	0.8	3.3	1.0	0.1	0.4	3.2	1.6	9.1
		(11.3)	(8.5)	(9.9)	(42.3)	(12.7)	(1.4)	(5.6)	(40.9)	(19.8)	(115.7)
	Newtownabbey	2.6	2.6	3.9	15.8	7.3	1.2	3.6	16.8	4.6	47.1
		(6.2)	(6.2)	(9.5)	(38.5)	(17.9)	(3.0)	(8.7)	(41.0)	(11.1)	(115.1)
	Totals	**11.8**	**14.9**	**22.4**	**81 .1**	**33.6**	**6.9**	**17.9**	**67.8**	**25.6**	**221.3**
		(5.5)	**(7.0)**	**(10.5)**	**(38.0)**	**(15.7)**	**(3.2)**	**(8.4)**	**(31.7)**	**(12.0)**	**(103.7)**
SHSSB	Armagh	1.7	1.8	2.1	8.6	3.8	0.4	2.3	6.7	4.3	35.7
		(6.2)	(6.6)	(7.9)	(31.8)	(14.0)	(1.7)	(8.7)	(24.8)	(16.1)	(132.6)
	Banbridge	1.3	1.3	2.6	6.6	2.4	0.4	1.7	4.7	3.8	28.0
		(6.8)	(6.8)	(13.1)	(33.6)	(12.5)	(2.3)	(8.5)	(23.9)	(19.4)	(143.5)
	Craigavon	1.4	2.4	3.0	12.6	5.7	1.0	2.8	12.4	6.2	57.6
		(3.6)	(6.1)	(7.5)	(31.3)	(14.1)	(2.5)	(6.9)	(31.1)	(15.5)	(143.6)
	Dungannon	0.7	1.3	2.2	10.3	3.6	0.3	1.9	4.7	3.8	29.7
		(2.8)	(5.6)	(9.4)	(43.7)	(15.0)	(1.4)	(8.0)	(19.7)	(6.0)	(125.5)
	Newry & Mourne	2.0	2.3	6.3	17.0	6.6	1.4	3.8	12.2	6.1	65.8
		(4.7)	(5.4)	(14.8)	(39.6)	(15.3)	(3.4)	(8.8)	(28.5)	(14.2)	(153.2)
	Totals	**7.1**	**9.2**	**16.3**	**55.4**	**22.0**	**3.8**	**12.4**	**40.8**	**24.3**	**218.9**
		(4.6)	**(6.0)**	**(10.7)**	**(36.2)**	**(14.4)**	**(2.5)**	**(8.1)**	**(26.6)**	**(15.9)**	**(143.0)**
WHSSB	Fermanagh	1.0	1.2	3.1	9.8	3.9	0.7	3.1	6.0	2.8	26.1
		(3.6)	(4.3)	(11.1)	(34.8)	(13.8)	(2.4)	(11.1)	(21.4)	(9.9)	(92.9)
	Limavady	0.8	1.3	1.0	4.0	2.4	0.2	1.2	3.7	0.8	13.7
		(5.1)	(8.7)	(6.5)	(26.0)	(15.9)	(1.4)	(7.9)	(23.8)	(5.1)	(88.7)
	Derry	2.8	2.1	5.9	16.8	6.7	1.1	4.7	21.3	5.1	43.0
		(5.2)	(4.0)	(11.1)	(31.6)	(12.6)	(2.1)	(8.8)	(40.2)	(9.6)	(81.0)
	Omagh	1.6	1.0	2.8	7.3	3.2	0.4	1.0	5.4	1.6	21.8
		(6.6)	(4.2)	(11.8)	(31.1)	(13.7)	(1.9)	(4.2)	(23.1)	(6.6)	(92.4)
	Strabane	0.9	1.2	1.9	6.4	2.7	0.7	1.1	5.0	1.6	18.3
		(4.8)	(6.6)	(10.1)	(34.6)	(14.3)	(3.6)	(6.0)	(26.8)	(8.3)	(98.4)
	Totals	**7.1**	**6.9**	**14.9**	**44.4**	**19.1**	**3.2**	**11.1**	**41.8**	**11.9**	**125.6**
		(5.1)	**(5.0)**	**(10.7)**	**(32.0)**	**(13.8)**	**(2.3)**	**(8.0)**	**(30.1)**	**(8.6)**	**(90.5)**

Appendix 5b: Average Incidence (1993-2001) and Crude Rate per 100,000 in Females by Key Cancer Site (ICD10), Health Board and District Council

Health Board	District Council	Breast (C50) n (cr)	Cervix (C53) n (cr)	Uterus (C54) n (cr)	Ovary (C56) n (cr)	Kidney (C64-C66, C68) n (cr)	Bladder (C67) n (cr)	Brain (C71) n (cr)	Hodgkin's Disease (C81) n (cr)	Non Hodgkin's Lymphoma (C82, C85,C96) n (cr)	Leukaemia (C91-C95) n (cr)	All exc NMS (C00-C97, exc C44) n (cr)	All (C00-C97) n (cr)	Child hood (C00-C97) n (cr)
EHSSB	Ards	40.0 (111.0)	4.6 (12.6)	4.2 (11.7)	7.3 (20.4)	2.8 (7.7)	2.2 (6.2)	1.9 (5.2)	0.4 (1.2)	5.1 (14.2)	2.7 (7.4)	142.0 (394.1)	184.1 (510.9)	1.1 (15.7)
	Belfast	158.0 (103.9)	18.2 (12.0)	21.3 (14.0)	31.3 (20.6)	12.1 (8.0)	15.3 (10.1)	7.4 (4.9)	1.8 (1.2)	23.0 (15.1)	12.2 (8.0)	666.2 (438.2)	859.9 (565.6)	2.4 (8.1)
	Castlereagh	40.7 (119.0)	3.4 (10.1)	5.4 (15.9)	6.9 (20.2)	3.2 (9.4)	3.1 (9.1)	2.8 (8.1)	1.2 (3.6)	6.8 (19.8)	3.7 (10.7)	151.9 (444.4)	190.7 (557.8)	1.1 (17.4)
	Down	30.3 (96.8)	1.8 (5.7)	4.6 (14.5)	7.7 (24.5)	2.4 (7.8)	1.3 (4.3)	2.6 (8.2)	0.6 (1.8)	5.6 (17.7)	2.6 (8.2)	116.7 (372.3)	158.8 (506.7)	1.1 (14.9)
	Lisburn	47.9 (87.0)	5.4 (9.9)	7.3 (13.3)	9.8 (17.8)	3.2 (5.9)	2.2 (4.0)	3.1 (5.7)	1.1 (2.0)	7.2 (13.1)	5.0 (9.1)	187.6 (340.8)	251.3 (456.7)	1.0 (8.0)
	North Down	49.2 (125.6)	4.1 (10.5)	4.8 (12.2)	8.9 (22.7)	3.1 (7.9)	3.9 (9.9)	2.7 (6.8)	0.4 (1.1)	6.2 (15.9)	3.2 (8.2)	176.7 (450.6)	240.2 (612.7)	0.7 (9.3)
	Totals	**367.4 (105.6)**	**37.7 (10.8)**	**47.7 (13.7)**	**72 .1 (20.7)**	**26.9 (7.7)**	**28.2 (8.1)**	**20.4 (5.9)**	**5.6 (1.6)**	**54.1 (15.6)**	**29.4 (8.5)**	**1446.0 (415.7)**	**1891.3 (543.8)**	**7.4 (10.5)**
NHSSB	Antrim	20.4 (86.2)	2.1 (8.9)	3.0 (12.7)	4.2 (17.8)	1.8 (7.5)	1.6 (6.6)	1.2 (5.2)	0.4 (1.9)	2.2 (9.4)	1.0 (4.2)	75.9 (320.0)	94.9 (400.2)	0.6 (10.4)
	Ballymena	31.7 (106.6)	2.8 (9.4)	3.8 (12.7)	7.0 (23.6)	2.8 (9.4)	2.2 (7.5)	1.4 (4.9)	0.7 (2.2)	5.1 (17.2)	2.7 (9.0)	116.2 (391.2)	144.6 (486.6)	0.9 (14.5)
	Ballymoney	12.1 (93.7)	0.9 (6.9)	2.1 (16.3)	3.7 (28.4)	2.0 (15.5)	1.0 (7.7)	0.6 (4.3)	0.3 (2.6)	1.4 (11.2)	0.3 (2.6)	46.3 (358.4)	59.4 (459.8)	0.6 (19.3)
	Carrickfergus	18.9 (100.6)	2.7 (14.2)	2.4 (13.0)	3.8 (20.1)	1.7 (8.9)	1.2 (6.5)	0.8 (4.1)	0.0 (0.0)	4.0 (21.3)	2.0 (10.7)	73.0 (388.9)	97.8 (521.0)	0.6 (14.1)
	Coleraine	31.7 (110.3)	2.8 (9.7)	4.6 (15.9)	5.4 (19.0)	2.3 (8.1)	1.6 (5.4)	1.2 (4.3)	0.8 (2.7)	4.3 (15.1)	1.6 (5.4)	110.2 (384.0)	140.8 (490.4)	0.9 (15.7)
	Cookstown	11.6 (71.7)	1.4 (9.0)	1.2 (7.6)	1.9 (11.7)	1.1 (6.9)	0.8 (4.8)	0.8 (4.8)	0.2 (1.4)	1.4 (9.0)	1.3 (8.3)	47.9 (297.2)	61.8 (383.3)	0.7 (16.7)
	Larne	18.0 (115.2)	1.8 (11.4)	2.8 (17.8)	4.1 (26.3)	1.7 (10.7)	1.6 (10.0)	0.8 (5.0)	0.4 (2.8)	2.2 (14.2)	1.7 (10.7)	67.8 (433.6)	84.2 (538.8)	0.2 (7.1)
	Magherafelt	18.8 (98.2)	1.6 (8.1)	2.0 (10.5)	4.7 (24.4)	1.6 (8.1)	0.6 (2.9)	1.2 (6.4)	0.4 (2.3)	1.6 (8.1)	2.1 (11.0)	63.9 (334.2)	81.8 (427.8)	0.8 (16.0)
	Moyle	9.3 (118.5)	0.4 (5.6)	1.2 (15.5)	1.7 (21.2)	1.0 (12.7)	0.4 (5.6)	0.3 (4.2)	0.6 (7.1)	1.4 (18.3)	0.2 (2.8)	33.9 (430.3)	43.0 (546.0)	0.0 (0.0)
	Newtownabbey	45.3 (110.7)	3.9 (9.5)	5.0 (12.2)	8.1 (19.8)	2.3 (5.7)	3.4 (8.4)	2.4 (6.0)	0.4 (1.1)	6.8 (16.6)	2.9 (7.1)	160.0 (390.8)	207.1 (505.9)	0.9 (11.0)
	Totals	**218.3 (102.3)**	**20.3 (9.5)**	**28 .2 (13.2)**	**44.6 (20.9)**	**18.2 (8.5)**	**14.4 (6.8)**	**10.8 (5.0)**	**4.3 (2.0)**	**30.6 (14.3)**	**15.8 (7.4)**	**796.8 (373.2)**	**1018.1 (476.9)**	**6.0 (13.1)**
SHSSB	Armagh	26.1 (97.1)	1.7 (6.2)	2.9 (10.7)	4.3 (16.1)	2.3 (8.7)	2.2 (8.3)	1.3 (5.0)	0.2 (0.8)	5.1 (19.0)	1.7 (6.2)	95.0 (353.3)	130.7 (485.9)	0.3 (5.2)
	Banbridge	21.3 (109.3)	1.7 (8.5)	3.6 (18.2)	3.4 (17.7)	1.0 (5.1)	1.6 (8.0)	0.8 (4.0)	0.4 (2.3)	3.1 (15.9)	1.1 (5.7)	73.3 (375.9)	101.3 (519.4)	0.3 (7.9)
	Craigavon	39.7 (99.0)	4.7 (11.6)	5.0 (12.5)	7.0 (17.5)	3.2 (8.0)	2.8 (6.9)	2.0 (5.0)	0.7 (1.7)	5.6 (13.9)	3.6 (8.9)	140.4 (350.5)	198.0 (494.2)	1.2 (13.3)
	Dungannon	24.2 (102.5)	1.9 (8.0)	3.7 (15.5)	6.2 (26.3)	1.4 (6.1)	1.6 (6.6)	1.0 (4.2)	0.4 (1.9)	3.8 (16.0)	1.2 (5.2)	85.8 (362.9)	115.4 (488.4)	1.1 (18.9)
	Newry & Mourne	43.3 (100.9)	3.7 (8.5)	5.9 (13.7)	9.0 (21.0)	1.9 (4.4)	2.2 (5.2)	2.7 (6.2)	0.9 (2.1)	5.3 (12.4)	3.0 (7.0)	157.2 (366.2)	223.0 (519.4)	1.1 (10.2)
	Totals	**155.0 (101.3)**	**13.6 (8.9)**	**21.0 (13.7)**	**30.1 (19.7)**	**9.9 (6.5)**	**10.3 (6.8)**	**7.8 (5.1)**	**2.7 (1.7)**	**23.0 (15.0)**	**10.6 (6.9)**	**553.7 (361.8)**	**772.6 (504.8)**	**4.1 (11.2)**
WHSSB	Fermanagh	29.0 (103.2)	2.4 (8.7)	4.8 (17.0)	4.7 (16.6)	2.7 (9.5)	1.8 (6.3)	1.4 (5.1)	0.6 (2.0)	4.0 (14.2)	1.7 (5.9)	99.9 (355.5)	126.0 (448.4)	0.6 (8.4)
	Limavady	15.9 (103.2)	1.4 (9.4)	2.2 (14.4)	2.6 (16.6)	1.2 (7.9)	1.0 (6.5)	0.4 (2.9)	0.1 (0.7)	2.3 (15.2)	0.8 (5.1)	51.6 (334.8)	65.2 (423.5)	0.6 (14.5)
	Derry	50.2 (94.6)	4.4 (8.4)	4.7 (8.8)	7.7 (14.4)	3.4 (6.5)	3.2 (6.1)	2.6 (4.8)	1.0 (1.9)	5.0 (9.4)	4.7 (8.8)	178.0 (335.3)	221.0 (416.3)	1.9 (13.8)
	Omagh	22.1 (93.8)	2.1 (9.0)	2.4 (10.4)	3.2 (13.7)	0.9 (3.8)	1.3 (5.7)	1.2 (5.2)	0.4 (1.9)	2.8 (11.8)	1.4 (6.1)	73.1 (310.1)	94.9 (402.4)	0.4 (7.5)
	Strabane	15.6 (83.5)	1.2 (6.6)	2.2 (11.9)	2.6 (13.7)	1.6 (8.3)	0.9 (4.8)	0.8 (4.2)	0.2 (1.2)	1.7 (8.9)	0.8 (4.2)	57.0 (306.0)	75.3 (404.4)	0.4 (9.6)
	Totals	**134.4 (96.9)**	**11.8 (8.5)**	**16.6 (11.9)**	**20.9 (15.0)**	**9.8 (7.0)**	**8.3 (6.0)**	**6.4 (4.6)**	**2.4 (1.8)**	**15.9 (11.4)**	**9.3 (6.7)**	**463.7 (334.1)**	**589.2 (424.5)**	**3.9 (11.2)**

Appendix 6: Key to District Councils in Northern Ireland



Code	Health Board [1]	District Council	2001 Census Population [2]
1	N	ANTRIM	48,761
2	E	ARDS	73,435
3	S	ARMAGH	54,462
4	N	BALLYMENA	58,801
5	N	BALLYMONEY	27,007
6	S	BANBRIDGE	41,549
7	E	BELFAST	277,170
8	N	CARRICKFERGUS	37,730
9	E	CASTLEREAGH	66,533
10	N	COLERAINE	56,408
11	N	COOKSTOWN	32,712
12	S	CRAIGAVON	80,931
13	W	DERRY	105,335
14	E	DOWN	64,147
15	S	DUNGANNON	47,849
16	W	FERMANAGH	57,687
17	N	LARNE	30,811
18	W	LIMAVADY	32,639
19	E	LISBURN	108,997
20	N	MAGHERAFELT	39,891
21	N	MOYLE	15,961
22	S	NEWRY and MOURNE	87,399
23	N	NEWTOWNABBEY	80,144
24	E	NORTH DOWN	76,578
25	W	OMAGH	48,109
26	W	STRABANE	38,273

1 N = Northern Health and Social Services Board
S = Southern Health and Social Services Board
E = Eastern Health and Social Services Board
W = Western Health and Social Services Board

2 Source: Census 2001, NISRA

Appendix 7: World and European Standard Populations, and the Northern Ireland Population in 2001 by Sex

Age Group	World [1]	European [1]	N.Ireland Males [2]	N.Ireland Females [2]
0-4	12000	8000	59075	55674
5-9	10000	7000	63019	59834
10-14	9000	7000	67891	64551
15-19	9000	7000	66037	63833
20-24	8000	7000	55557	54835
25-29	8000	7000	56958	57906
30-34	6000	7000	62965	64984
35-39	6000	7000	63911	66319
40-44	6000	7000	57642	60159
45-49	6000	7000	51843	51051
50-54	5000	7000	48423	49814
55-59	4000	6000	43862	45491
60-64	4000	5000	35474	38245
65-69	3000	4000	30487	35016
70-74	2000	3000	25090	32762
75-79	1000	2000	18650	28000
80-84	500	1000	11181	19356
85 and over	500	1000	6364	17060
All Ages	100000	100000	824429	864890

1 Numbers in each age group per 100,000
2 Source: General Registrar Office Mid-Year Estimates, NISRA

Appendix 8: Staging

The stage of a tumour is a measure of how far a malignancy has spread in the body. The higher the stage the greater the disease has spread and so the less favourable prognosis for the patient.

Staging is carried out using a number of laboratory and clinical tests at diagnosis. A number of staging classifications for different cancer sites have been developed over the years, but broadly speaking they all include the extent of the primary tumour (T), the absence or presence of lymph node metastasis (N) and the absence or presence of distant metastasis (M). The most used staging system combines these three elements to produce an overall TNM stage for the tumour. The ways of arriving at the overall TNM stage differs slightly from site to site[1]. For statistical analysis these are usually combined into four stages, ranging from early tumours Stage I to Stage IV tumours that have distant metastasis. The two gynaecological cancers for which we have staging – cervix and ovary, are given a fifth category where very early tumours are given the Stage IA.

Please note that for the purposes of this report overall Stage has been calculated using the SEER rules[2] for estimating extent of disease. These are slightly less stringent in the classification "NX" and "MX" and enable more tumours to be staged. The major impact is on breast and colorectal tumours. This differs from our previous report[3] where AJCC rules were used.

In addition to the TNM system, a number of site specific staging systems are frequently in use. A comparison of the different coding systems and the stages used in this report is shown below. For a more detailed description see ref [1].

Colorectal

Stage I	T1	N0	M0	DUKES A
	T2	N0	M0	Early tumour does not extend through muscle, no nodal involvement or metastatic spread to distant sites.
Stage II	T3	N0	M0	DUKES B
	T4	N0	M0	Tumour extends through muscle, no nodal involvement or metastatic spread to distant sites.
Stage III	Any T	Any N	M0	DUKES C Tumour with nodal involvement, no spread to distant metastatic sites.
Stage IV	Any T	Any N	M1	DUKES D Metastatic spread to distant sites

Melanoma

Stage I	Tis	N0	M0	Clark's Level I Very early *in-situ* tumour, no nodal involvement or metastatic spread.
Stage II	T1	N0	M0	Clark's Level II Tumour invades papillary dermis, no nodal involvement or metastatic spread.

Appendix 8: Staging

Stage III	T2	N0	M0	Clark's Level III Tumour invades papillary-reticular interface, no nodal involvement or metastatic spread.
Stage IV	T3	N0	M0	Clark's Level IV Tumour invades reticular dermis, no nodal involvement or metastatic spread.
Stage V	T4	N0	M0	Clark's Level V
	Any T	N1	M0	Tumour invades subcutaneous tissue or
	Any T	Any N	M1	any metastatic spread elsewhere.

Breast

Stage I	T1	N0	M0	Early tumour, no nodal involvement or metastatic spread to distant sites.
Stage II	T0	N1	M0	Tumour and in some cases nodal involvement
	T1	N1	M0	but no metastatic spread to distant sites.
	T2	N0	M0	
	T2	N1	M0	
	T3	N0	M0	
Stage III	T0	N2	M0	Tumour with nodes but no metastases to
	T1	N2	M0	distant sites
	T2	N2	M0	
	T3	N1	M0	
	T3	N2	M0	
	T4	Any N	M0	
Stage IV	Any T	Any N	M1	Metastatic spread to distant sites

Where,
T0 – No evidence of primary tumour
T1 – Tumour 2 cm or less in greatest dimension
T2 – Tumour more than 2 cm but not more than 5 cm in greatest dimension
T3 - Tumour more than 5cm in greatest dimension
T4 – Tumour of any size with direct extension to chest wall or skin

Cervix

FIGO refers to categories accepted by the Federation International de Gynecologie et d'Obstetrique

Stage IA	T1a	N0	M0	FIGO IA
Stage I	T1	N0	M0	FIGO I (B or C) Tumour confined to uterus, no nodal involvement or metastatic spread to distant sites.

Appendix 8: Staging

Stage II	T2	N0	M0	FIGO II (A,B or C) Tumour invades beyond uterus, no nodal involvement or metastatic spread to distant sites.
Stage III	T3 T1 T2	Any N N1 N1	M0 M0 M0	FIGO III (A,B or C) Tumour extends to pelvic wall, or nodal involvement, but no metastatic spread to distant sites.
Stage IV	T4 Any T	Any N Any N	M0 M1	FIGO IV Metastatic spread to distant sites

Note that any cervical cancers with nodal involvement automatically are classified as "Stage III" regardless of the FIGO stage.

Ovary

FIGO refers to categories accepted by the Federation International de Gynecologie et d'Obstetrique. (Note nodal involvement is not usually associated with ovarian cancer)

Stage IA	T1a	N0	M0	FIGO IA Borderline ovary tumours with a low malignant potential
Stage I	T1	N0	M0	FIGO I (A,B or C) Tumour limited to ovaries, no metastatic spread to distant sites.
Stage II	T2	N0	M0	FIGO II (A,B or C) Ovarian tumour with pelvic extension, no metastatic spread to distant sites.
Stage III	T3 Any T	N0 N1	M0 M0	FIGO III (A,B or C) Tumour with spread outside the pelvis, no metastatic spread to distant sites.
Stage IV	Any T	Any N	M1	FIGO IV Metastatic spread to distant sites

References

1. Hermack P, Hutter RVP, Sobin LH et al. UICC TNM Atlas 4th Edition Second Printing Springer 1999.

2. SEER Extent of Disease 1988, Codes and Coding Instructions (3rd Edition) 1998

3. Fitzpatrick DA and Gavin AT. *Survival of Cancer Patients in Northern Ireland 1993 -1996.* N.Ireland Cancer Registry, Belfast 2001

Appendix 9: European Code Against Cancer and Scientific Justification: Third Version 2003

Many aspects of general health can be improved, and certain cancers avoided, if you adopt a healthier lifestyle.

Do no smoke; if you smoke, stop doing so. If you fail to stop, do not smoke in the presence of non-smokers.

Avoid Obesity.

Undertake some brisk, physical activity every day.

Increase your daily intake and variety of vegetables and fruits: eat at least five servings daily. Limit your intake of foods containing fats from animal sources.

If you drink alcohol, whether beer, wine or spirits, moderate your consumption to two drinks per day if you are a man, and one drink per day if you are a woman.

Care must be taken to avoid excessive sun exposure. It is specifically important to protect children and adolescents. For individuals who have a tendency to burn in the sun active protective measures must be taken throughout life.

Apply strictly regulations aimed at preventing any exposure to known cancer causing substances. Follow all health and safety instructions on substances which may cause cancer. Follow advice of national radiation protection offices.

There are public health programmes that could prevent cancers developing or increase the probability that a cancer may be cured:

- Women from 25 years of age should participate in cervical screening. This should be within programmes with quality control procedures in compliance with European Union Guidelines for Quality Assurance in Cervical Screening.

- Women from 50 years of age should participate in breast screening. This should be within programmes with quality control procedures in compliance with European Union Guidelines for Quality Assurance Mammography Screening.

- Men and women from 50 years of age should participate in colorectal screening where available. This should be within programmes with built-in quality assurance procedures when indicated.

- Participate in vaccination programmes against Hepatitis B Virus infection.

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