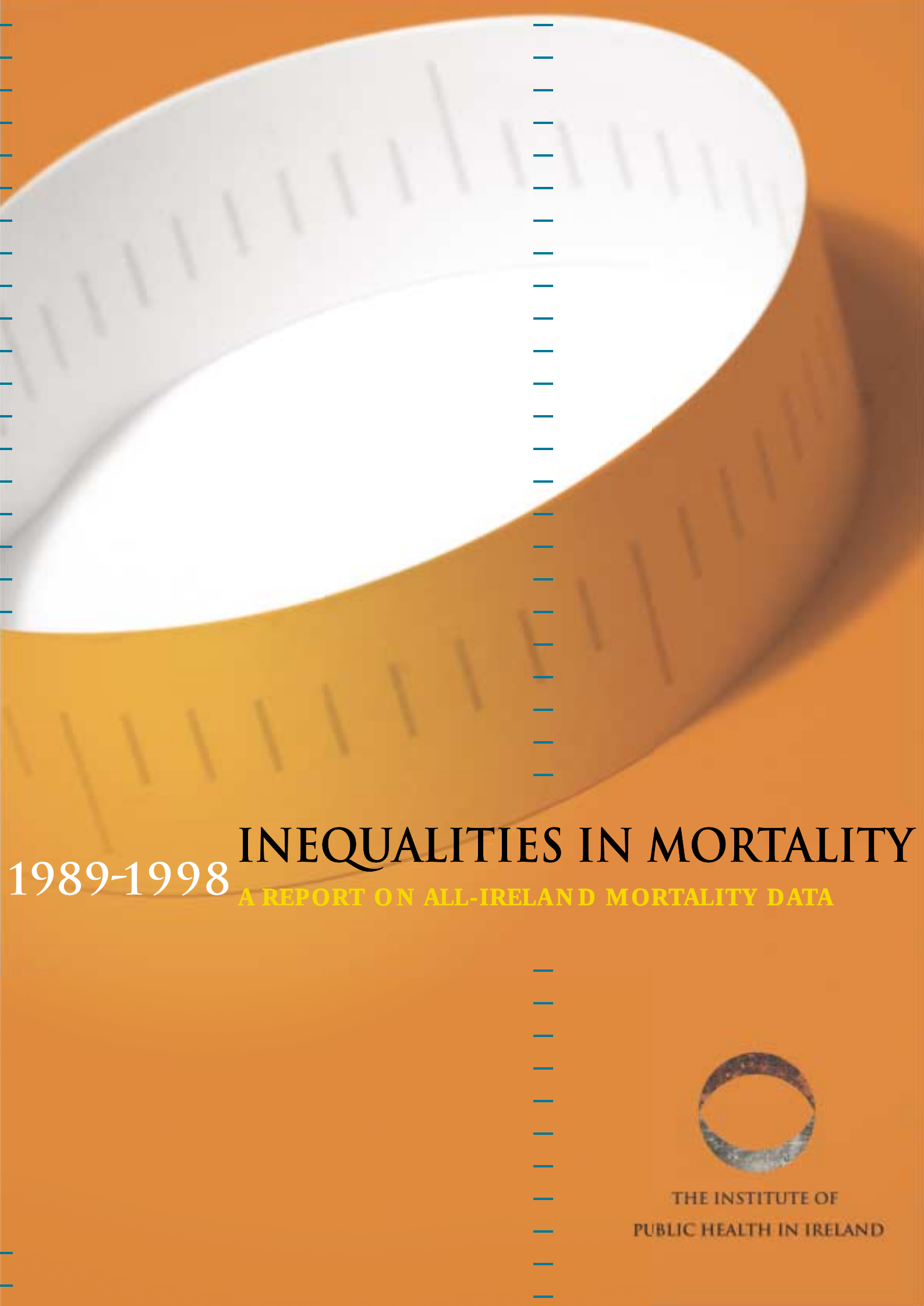

INEQUALITIES IN MORTALITY

1989-1998

A REPORT ON ALL-IRELAND MORTALITY DATA

THE INSTITUTE OF
PUBLIC HEALTH IN IRELAND

1989-1998

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KEVIN P BALANDA AND JANE WILDE

Published by The Institute of Public Health in Ireland.

ISBN 0-9540010-2-8.

Design by Language.

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The full report is also available on the Institute's website www.publichealth.ie.

May 2001

Acknowledgments

This report could not have been written without the assistance of the statistical agencies and health departments in the North and South. In particular the authors would like to thank:

- Máire Rodgers and Robert Beatty of the Northern Ireland Statistics and Research Agency
- Mary Heanue of the Central Statistics Office (Republic of Ireland)
- Hugh Magee of the Department of Health and Children (Republic of Ireland)
- Fergal Bradley of the Department of Health, Social Services and Public Safety (Northern Ireland)

Without the people working behind the scenes, managing the mortality collections and the population censuses in the two jurisdictions, we could not have even contemplated this report. The authors thank them for their help.

The authors would also like to thank the following people involved in the production of the report:

- Paul Walsh of the National Cancer Registry (Ireland) for his advice about presentation of results
- Conor Teljeur of the Small Area Health Statistics Unit, Trinity College Dublin, who produced the maps
- Anne Spellman who collated the population data and assisted with the presentation of results

Finally, a special word of thanks to Aisling Hayden and Úna Hearne for seeing this report to its final form.

Of course, the final responsibility for the content lies with the authors.

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From a letter to the Registrar General on the mortality in the registration of districts of England during the years 1861-1870.

”…children, fathers, mothers, sisters, brothers, sons…each having left memories not easily forgotten; and many having biographies full of complicated incidents. Here, fortunately for this inquiry, they appear divested of all colour, form, character, passion, and the infinite individualities of life: by abstraction they are reduced to mere units undergoing changes as purely physical as the setting stars of astronomy or the decomposing atoms of chemistry; and as in those sciences so in this, the analysis of the elementary facts observed in their various relations to time and place will shed new light on the more complicated phenomena of national life“ William Farr

Registrar General’s Decennial Supplement to the 35th Report, 1861 -1870.
General Register Office,1875.

Introduction

The Institute of Public Health in Ireland has been set up to promote co-operation for public health between Northern Ireland and the Republic of Ireland. Its priority is to reduce inequalities in health.

This report on mortality and mortality data has been produced by the Institute to add to understanding and promote dialogue about what could be done to protect and promote health.

It is based on nearly half a million deaths which occurred on the island of Ireland during 1989-1998. It describes mortality from sixty five causes of death for the whole island, Northern Ireland and the Republic of Ireland, and draws comparisons with the (combined) fifteen countries of the European Union. The report describes age, gender, region and occupational class variations in mortality.

The report is in three sections: Part One includes a brief outline of the key themes and areas for future action, as well as a summary of the methods used and results. Part Two presents, with the aid of figures, tables and maps, directly standardised mortality rates and rate ratios for each of the sixty five causes of death. Part Three makes recommendations about data issues.

This report shows that mortality rates in Ireland, North and South, compare unfavourably to those of our EU neighbours. It highlights profound inequalities in health that pervade the island. These are often overlooked in debate. By outlining common challenges to Public Health, the report makes the case for greater North-South co-operation.

There is a strong tradition of using mortality data to draw attention to the great impact which social and environmental conditions have on health. This report builds on that tradition by presenting the first comprehensive All-Ireland study of mortality for 80 years.

Part One: Summary

1 Summary

1.1 Methods

The report describes mortality on the island of Ireland for the ten year period 1989-1998. Mortality rates are presented for the whole island and the two jurisdictions, and comparisons are made with the (combined) EU-15 countries.

We look at age, gender, regional and occupational class variations in mortality on the island. Regional analyses are based on the health (and social services) board areas together with the major urban centres on the island. Occupational class analyses focus on working age males using a Social Class scale in Northern Ireland and a Socio-economic Group scale in the Republic.

Results are presented for each of the sixty five cause of death categories in the European Shortlist of Cause of Death Categories. For each cause of death category, the Northern Ireland Statistics and Research Agency and the Central Statistics Office in the Republic provided the number of deaths occurring in the period 1989-1998 disaggregated by age, gender, region and occupational class. 1994 population estimates corresponding to the midpoint of the study period were taken as denominators for mortality rates.

Direct standardisation is used to adjust for age differences. The results are expressed as directly standardised (mortality) rates per 100,000 population (DSRs). The standard population was taken to be the World Health Organisation's Standard European Population.

In order to compare the mortality experiences of two populations, we used directly standardised (mortality) rate ratios (DSRRs). These are ratios of directly standardised rates, expressed as a percentage, where the denominator serves as the base for the comparison. For regional analyses, regional DSRs were compared to those for the whole island. For gender comparisons, males were compared to females. In comparisons of the two jurisdictions, the Republic of Ireland was compared to Northern Ireland. In the case of occupational classes, each class was compared to the highest occupational class. In Northern Ireland this was taken as SC 1-2 ('Professionals' and 'Managerial and technical occupations') while in the Republic this was taken as SEG A ('Higher professionals' and 'Lower professionals').

Confidence intervals for directly standardised rates and directly standardised rate ratios were derived using standard formulae. The statistical significance of a difference between two directly standardised rates was assessed by an inspection of the 99% confidence interval (adjusted for multiple comparisons) for the corresponding directly standardised rate ratio.

More details about methods, and definitions and conventions are given in Chapter 3 and Chapter 4.

1.2 Key Themes

Occupational Class Differences

The report establishes the pervasiveness and magnitude of occupational class inequalities on the island.

In both the North and the South the all causes mortality rate in the lowest occupational class was 100%-200% higher than the rate in the highest occupational class.

This was evident for nearly all the main causes of death:

- For circulatory diseases it was over 120% higher
- For cancers it was over 100% higher
- For respiratory diseases it was over 200% higher
- For injuries and poisonings it was over 150% higher

As well as the huge gap in mortality between the poorest and the richest, for many diseases there was a steep gradient running across all social groups. These clear occupational class gradients in mortality were present for circulatory diseases, cancers, respiratory diseases, and injuries and poisonings. This was true in both the North and the South.

Gender Differences

On the island, excess mortality amongst males represents a fundamental inequality in health.

The all causes mortality rate for males was 54% higher than it was for females.

The mortality rates for the main causes of death were also substantially higher for males than they were for females:

- For cancers the rate was 45% higher
- For respiratory diseases the rate was 48% higher
- For circulatory diseases the rate was 61% higher
- For injuries and poisonings the rate was 169% higher

The male excess in mortality was present in both jurisdictions.

Deaths from Homicide/assault and Transport Accidents
Two very different causes of death illustrate the fundamental role of occupational class and gender on the island.

Occupational class played a major role in deaths from homicide/assault and transport accidents:

- In the North, the mortality rate for homicide/assault was 252% higher in the lowest occupational class than it was in the highest
- In the South, the mortality rate from transport accidents was 354% higher in the lowest occupational class than it was in the highest

Both types of death occurred more frequently amongst males:

- The mortality rate for homicide/assault was 457% higher for males than it was for females
- The mortality rate from transport accidents was 193% higher for males

Young men from the lower occupational classes died most often from these causes.

The mortality rate for homicide/assault was 514% higher in the North than it was in the South; the rate for transport accidents was 25% higher in the South.

European Comparisons
During the period 1989-1998 the island compared unfavourably to Europe.

After adjusting for age, the mortality rates from all causes and the main causes of death including circulatory and respiratory diseases were greater on the island than they were for the (combined) EU-15 countries. This was true for both the North and the South.

For smaller cause of death categories such as injuries and poisonings, infectious and parasitic diseases, and digestive diseases, the island compared favourably to the (combined) EU-15 countries.

While mortality rates for the island were generally higher than the rates in the (combined) EU-15 countries, in such comparisons women tended to fare worse than men: the all causes mortality rate on the island was 21% higher for females and 9% higher for males. The most striking example is cancer deaths: the mortality rate for females on the island was 177 per 100,000 compared to 148 per 100,000 for the (combined) EU-15 countries. For males, the mortality rate on the island was 257 per 100,000 compared to 268 per 100,000 for the (combined)

EU-15 countries. Such phenomena mean that the gender differences on the island were not as large as they were in the (combined) EU-15 countries.

North-South Comparisons

The all causes mortality rate in the Republic of Ireland was 6% higher than the rate in Northern Ireland.

This higher mortality rate was observed in most of the main cause of death categories:

- For circulatory diseases it was 5% higher in the South
- For cancers it was 5% higher in the South
- For injuries and poisonings it was 6% higher in the South
- However, for respiratory diseases it was 10% higher in the North

In other cause of death categories, the mortality rate was higher in the South:

- For infectious and parasitic diseases it was 82% higher in the South
- For drug dependence it was 31% higher in the South
- For suicide and intentional self-harm it was 41% higher in the South

In other cause of death categories the mortality rate was higher in the North:

- For alcohol abuse it was 32% higher in the North
- For pneumonia it was 163% higher in the North
- For accidental poisonings it was 138% higher in the North

The mortality collections in the two jurisdictions have much in common. However, there are known differences in data collection protocols, and there is evidence that these methodological differences may explain some of the North-South differences for many specific causes of death. However, they do not account for the 6% all causes mortality excess in the South.

When assessing North-South comparisons it is important to consider the very many factors which influence mortality. These range from socio-economic and environmental factors to lifestyle factors and the provision of health and social services. Deaths in 1989-1998, particularly those from chronic diseases, reflect the factors operating during the period and for a considerable time before.
The decade 1989-1998 was a time of great political, social and economic change; these changes will only be partly reflected in the mortality statistics for this period.

Other Regional Variation

There were complex patterns in the regional mortality rates on the island.

For most causes of death, North-South differences comprised only a small part of the regional variation in mortality on the island. For the main causes of death such as circulatory diseases, cancers, respiratory diseases and injuries and poisonings, the overall regional variation tended to overshadow the difference between the two jurisdictions.

In some cases, the regional variation in mortality closely reflected North-South differences. The clearest examples were deaths from diabetes mellitus, pneumonia, suicides and self-harm, and homicide/assault. In such cases there was evidence that much of the North-South difference in mortality was the result of systematic differences in the data collection procedures and protocols used in the two jurisdictions.

There were often very clear urban-rural differences in both the North and the South. There were urban excesses in mortality from all causes and most main causes of death. A rural excess in mortality was clearest in causes such as influenza and transport accidents.

For other causes of death there was no obvious pattern in the regional directly standardised mortality rates.

Differences in Methodology in the Two Jurisdictions

Caution is needed when interpreting North-South comparisons because of the differences in the data collection protocols and procedures used in the two jurisdictions.

As mentioned above, known differences in data collection protocols and procedures may explain some of the North-South differences in mortality:

- Differences in death certification practices when the deceased is elderly may explain much of the North-South difference in mortality from pneumonia and chronic respiratory diseases
- Differences in the use of other information to establish external cause of death may explain much of the North-South difference in mortality from suicides and self-harm, homicide/assault and accidental poisonings
- Differences in cause of death coding practices may explain much of the North-South difference in mortality rates from asthma and diabetes mellituss

The examples above deal with some known differences in methodology, other important differences might surface if a systematic review of protocols and procedures were undertaken.

These methodological differences may explain some of the North-South differences for specific causes of death. They do not, however, account for the 6% excess in all causes mortality observed in the South.

1.3 Areas for Future Action

Joint Responses to Common Challenges

The common challenges of high mortality rates and underlying occupational class and gender effects offer the opportunity for greater North-South co-operation in public health.

In order to explore these opportunities, a study of areas of potential North-South co-operation should be carried out. It should include a systematic and comprehensive analysis of what currently works well and what could be improved. The study should also look at mechanisms to support North-South co-operation.

Significant opportunities to develop joint work for public health on the island, and with different countries in the British Isles and internationally should be explored. Diseases with particularly high mortality rates on the island such as circulatory diseases and cancer offer the greatest opportunities for public health gain.

Strengthening Mortality Statistics on the Island

The island's mortality collections are valuable sources of information.

The collections within each jurisdiction need to be strengthened, and differences in data collection protocols and procedures reduced, so that North-South data can be combined and compared in a more meaningful way.

In order to enhance the contribution of the mortality collections on the island, North-South co-ordination should be strengthened, and adequate resources allocated to these important sources of information:

- An all Ireland group should be established to advise on the further development of the mortality collections on the island and to co-ordinate these developments in order to maximise comparability. Promotion of international standards would be an important element of the group's work. Further improvements in data quality would follow if issues specific to the island of Ireland were addressed. Attempts to achieve greater co-ordination need to recognise that the mortality collections operate within different legislative and administrative frameworks. The need for consistency between

Northern Ireland collections and United Kingdom protocols is recognised.
- Part Three of this report outlines a number of specific recommendations concerning the data items on the death records, data collection protocols and procedures, population estimates, and analysis and reporting that would greatly increase the contribution of mortality statistics on the island.

The remarkable consistency of occupational class effects for many different causes of death, confirms the importance of occupation and occupational class data on death records and census files. The relatively poor quality of these data items on the mortality, and other official statistics collections, is a fundamental impediment to understanding socio-economic inequalities on the island.

The quality of occupation and occupational class data on the mortality collections should be reviewed and strengthened. Particular focus should be placed on females, those outside the working ages and unemployed people.

Section 5.3 of Part Three outlines a number of specific recommendations that would greatly increase the quality and value of the occupation and occupational class data.

Greater Use of Mortality Data

The mortality collections on the island are under-utilised sources of information.

In order to facilitate international as well as North-South comparisons, the publication of routine mortality reports in each jurisdiction should, as far as practical, be based on standardised analysis and reporting procedures.

The scope of current analyses should be widened. These analyses should include studies focussing on the island of Ireland, and also exploit international comparisons.

Three all Ireland projects which should have high priority are:

- A more detailed analysis of occupational class differences in mortality in order to increase understanding of the socio-economic inequalities on the island
- A comparative study of recent trends in mortality in order to explore the impact of the social, political and economic changes experienced recently in the two jurisdictions
- An in-depth investigation of variation in mortality on the island in order to place the North-South differences into an appropriate context

International studies which should have high priority would be comparative studies designed to exploit international understanding of socio-economic inequalities in mortality.

Learning About Differences

The all causes mortality rate in the South was 6% higher than it was in the North. For several specific causes of death there were important North-South differences. Better understanding of these differences may suggest ways to improve the prevention and treatment of underlying conditions.

Further mortality analyses will provide a clearer picture of the patterns of mortality and provide some insight into possible causes. However, broader studies which go beyond basic socio-demographic factors are needed to increase the understanding of the health inequalities on the island.

Broader public health research looking at a range of socio-economic and environmental factors that influence health and well being should be supported. Studies drawing on the expertise of different disciplines in the health and social sciences would provide a valuable foundation for North-South collaboration in public health research. They should be co-ordinated with the health research programmes of the two jurisdictions so that advances in new knowledge are translated into public health gains on both sides of the border.

Such research should include comparative studies within the island as well as comparisons with different countries in the British Isles and Europe. Much can be learnt from comparing urban and non-urban areas on the island and from comparing the North and South. International studies which should have high priority would be comparative studies which build on international successes in tackling socio-economic inequalities in health.

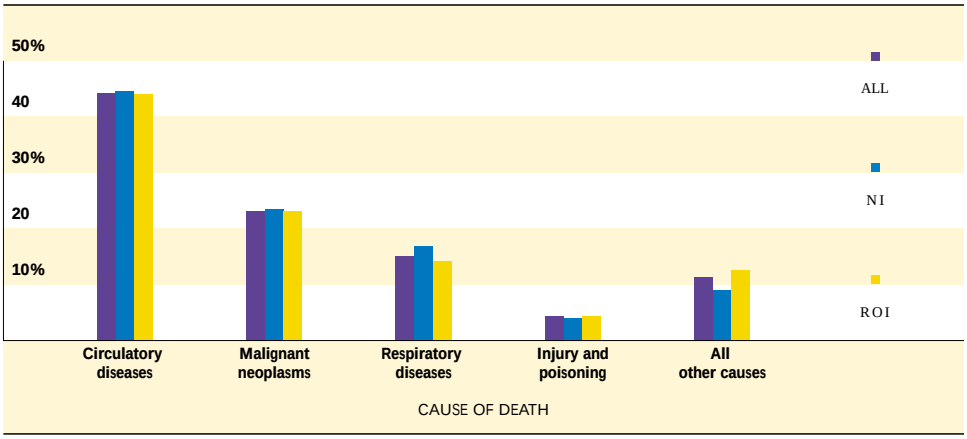
1.4 Summary Mortality Figures and Tables

Main Causes of Death (Figure 1.4.1)

In both jurisdictions, the leading causes of death (in order of the number of deaths) were circulatory diseases (45%), malignant neoplasms (24%), respiratory diseases (15%), and injuries and poisonings (4%).

The percentage of deaths due to diseases of the circulatory system in the North and the South were very similar. The same was true for deaths due to malignant neoplasms, and injury and poisonings. The percentage of all deaths in the South due to respiratory diseases was slightly higher in the North than it was in the South.

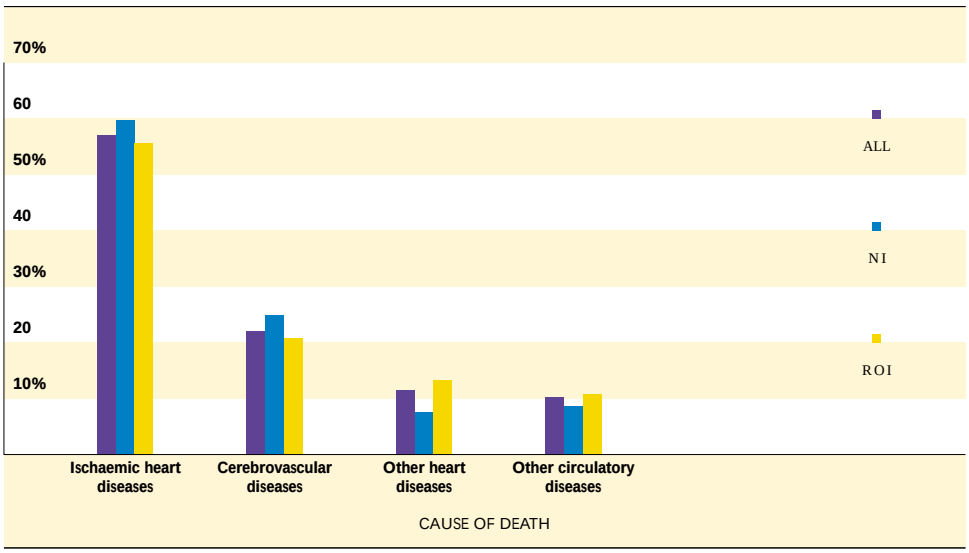
FIGURE 1.4.1
MAIN CAUSES OF DEATH ON THE ISLAND OF IRELAND, BY JURISDICTION (1989-1998)



Circulatory diseases. (Figure 1.4.2)

In both jurisdictions, ischaemic heart disease was responsible for more than half of all deaths from circulatory diseases. Ischaemic heart disease and cerebrovasular disease were responsible for a higher percentage of the deaths from circulatory diseases in the North, while other heart disease and other circulatory diseases were responsible for a higher percentage in the South.

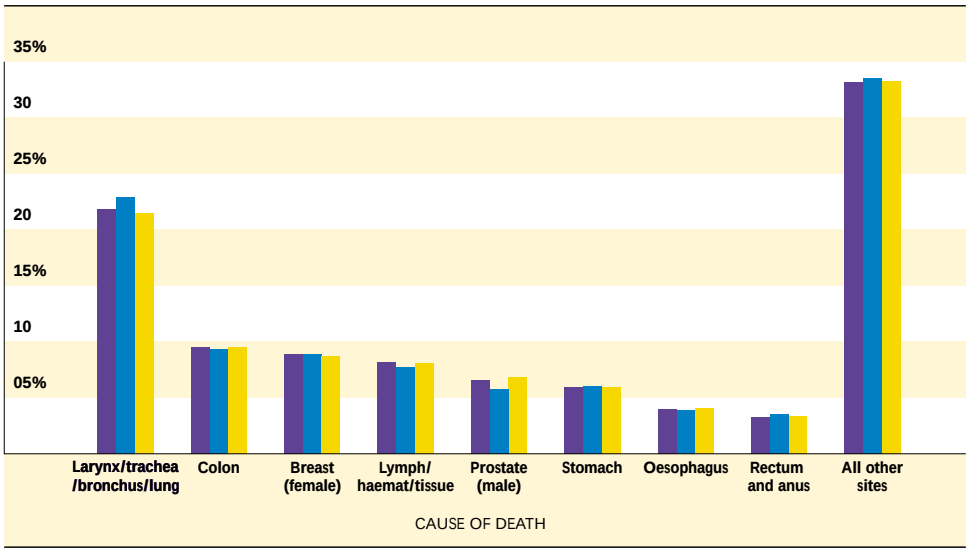
FIGURE 1.4.2
PRINCIPAL CATEGORIES OF DEATHS FROM CIRCULATORY DISEASES ON THE ISLAND OF IRELAND, BY JURISDICTION (1989-1998)



Malignant neoplasms. (Figure 1.4.3)

The largest percentage of fatal cancers occurred in the larynx/trachea/bronchus/lung. They accounted for about one fifth of all cancer deaths, with a slightly higher proportion in the North. This was followed by the colon (9% of all cancer deaths), female breast (9% of all cancer deaths), the lymph/haematopoietic tissue (8%) and the male prostate (6% of all cancer deaths).

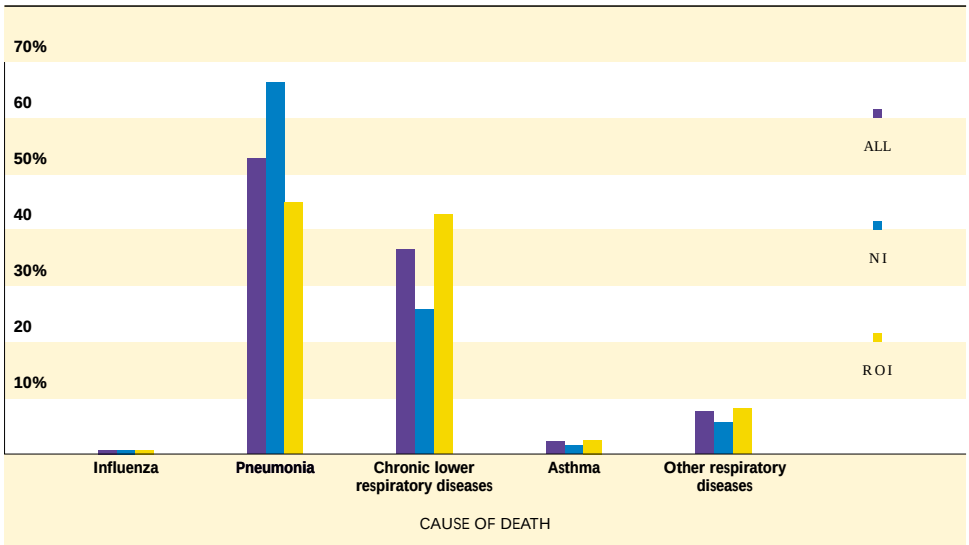
FIGURE 1.4.3
PRINCIPAL SITES OF FATAL MALIGNANT NEOPLASMS ON THE ISLAND OF IRELAND,BY JURISDICTION (1989-1998)



Respiratory diseases. (Figure 1.4.4)

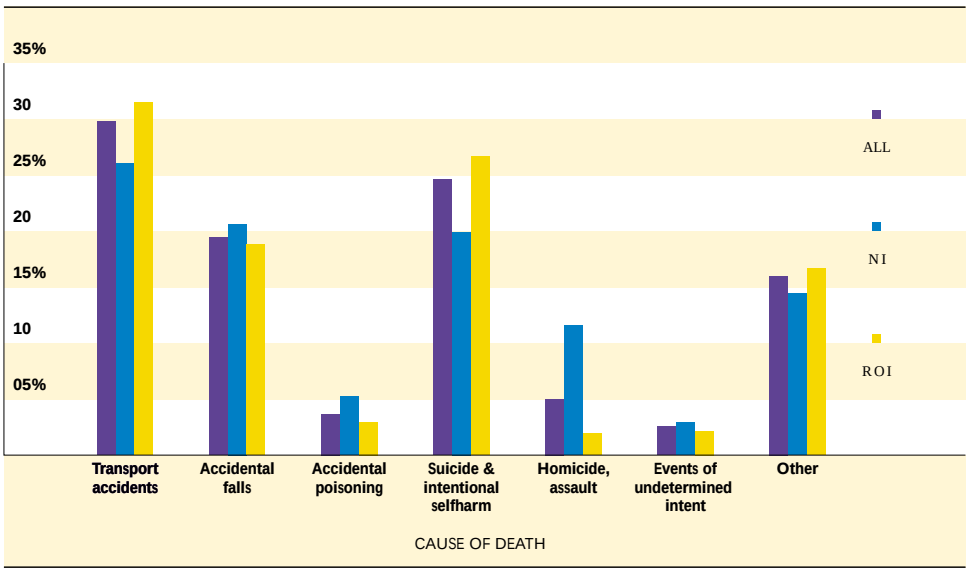
Over half of all deaths from respiratory diseases on the island were due to pneumonia, with the percentage being much higher in the North than it was in the South. Chronic lower respiratory disease accounted for another third of such deaths, with the percentage in the South being much higher than it was in the North.

FIGURE 1.4.4
PRINCIPAL CATEGORIES OF DEATHS FROM RESPIRATORY DISEASES ON THE ISLAND OF IRELAND,BY JURISIDICTION (1989-1998)



Injuries and poisonings. (Figure 1.4.5)
Transport accidents accounted for nearly a third of all injury and poisoning deaths, with the percentage being higher in the South than it was in the North. Similarly, suicide and intentional self harm accounted for a greater percentage of injury and poisoning deaths in the South than they did in the North. Perhaps the most striking difference between the jurisdictions was with respect to violent deaths; homicide/assault accounted for 12% of all injury and poisoning deaths in the North compared to only 2% in the South.

FIGURE 1.4.5
PRINCIPAL EXTERNAL CAUSES OF DEATH ON THE ISLAND OF IRELAND, BY JURISDICTION (1989-1998)



Summary Mortality Tables. (Table 1.4.1 and 1.4.2)

Table 1.4.1 presents the annual directly standardised mortality rates across the island for the sixty five cause of death categories in the European Shortlist. Table 1.4.2 presents the directly standardised mortality rate ratios that allow gender, jurisdiction and occupational effects to be assessed. Full details for these sixty five causes are presented in Part Two.

TABLE 1.4.1 AVERAGE ANNUAL NUMBER OF DEATHS (1989-1998) AND ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000 PERSONS)

		ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
		NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
00	**ALL CAUSES OF DEATH**							
	FEMALES	**22,622**	**680.3**	**7,751**	**661.5**	**14,872**	**691.2**	**562.4**
	MALES	**24,219**	**1,046.4**	**7,509**	**1,007.1**	**16,710**	**1,065.3**	**957.2**
	PERSONS	**46,841**	**841.4**	**15,259**	**808.5**	**31,582**	**859.1**	
01	**INFECTIOUS AND PARASITIC DISEASES**							
	FEMALES	**105**	**3.4**	**24**	**2.2**	**81**	**4.1**	**6.2**
	MALES	**122**	**5.2**	**25**	**3.4**	**97**	**6.1**	**15.3**
	PERSONS	**227**	**4.2**	**49**	**2.7**	**178**	**5.0**	
02	TUBERCULOSIS							
	FEMALES	29	0.9	5	0.4	24	1.2	0.6
	MALES	41	1.8	6	0.9	34	2.2	1.8
	PERSONS	70	1.3	11	0.6	58	1.6	
03	MENINGOCOCCAL INFECTION							
	FEMALES	9	0.4	2	0.3	7	0.4	0.1
	MALES	10	0.4	3	0.3	7	0.4	0.2
	PERSONS	19	0.4	5	0.3	14	0.4	
04	AIDS (HIV-DISEASE)							
	FEMALES	5	0.2	0	0.0	4	0.2	1.7
	MALES	21	0.8	1	0.1	20	1.2	7.9
	PERSONS	26	0.5	1	0.1	24	0.7	
05	VIRAL HEPATITIS							
	FEMALES	4	0.1	1	0.1	3	0.2	0.2
	MALES	5	0.2	1	0.1	5	0.3	0.5
	PERSONS	9	0.2	1	0.1	8	0.2	
06	**NEOPLASMS**							
	FEMALES	**5,199**	**179.3**	**1,752**	**173.9**	**3,447**	**182.4**	**151.8**
	MALES	**5,903**	**260.4**	**1,886**	**257.3**	**4,017**	**261.9**	**273.4**
	PERSONS	**11,102**	**212.7**	**3,638**	**206.7**	**7,464**	**216.0**	

TABLE 1.4.1
AVERAGE ANNUAL NUMBER OF DEATHS (1989-1998) AND ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000 PERSONS)
CONTINUED...

		ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
		NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
07	**MALIGNANT NEOPLASMS**							
	FEMALES	**5,129**	**177.1**	**1,709**	**169.8**	**3,421**	**181.1**	**148.1**
	MALES	**5,839**	**257.6**	**1,847**	**252.1**	**3,992**	**260.2**	**268.0**
	PERSONS	**10,968**	**210.2**	**3,556**	**202.1**	**7,413**	**214.5**	
08	OF THE LIP, ORAL CAVITY, PHARYNX							
	FEMALES	52	1.7	18	1.7	35	1.8	1.6
	MALES	130	5.9	32	4.6	98	6.6	8.6
	PERSONS	183	3.7	50	3.0	133	4.0	
09	OF THE OESOPHAGUS							
	FEMALES	166	5.2	51	4.5	115	5.6	2.0
	MALES	254	11.4	78	10.9	177	11.7	9.0
	PERSONS	420	8.1	129	7.3	292	8.4	
10	OF THE STOMACH							
	FEMALES	253	8.0	85	7.6	168	8.2	8.6
	MALES	37	16.5	121	1.6	252	16.5	18.2
	PERSONS	626	11.8	206	11.5	420	11.9	
11	OF THE COLON							
	FEMALES	501	16.2	174	15.9	327	16.3	13.6
	MALES	530	23.4	157	21.4	373	24.4	19.3
	PERSONS	1,030	19.3	331	18.2	700	19.9	
12	OF THE RECTUM AND ANUS							
	FEMALES	136	4.4	50	4.7	86	4.3	4.8
	MALES	205	9.1	64	8.8	141	9.3	8.7
	PERSONS	341	6.5	115	6.4	226	6.5	
13	OF THE LIVER AND THE INTRAHEPATIC BILE DUCTS							
	FEMALES	80	2.6	31	2.9	49	2.5	3.9
	MALES	102	4.5	33	4.5	69	4.5	11.0
	PERSONS	182	3.4	64	3.6	118	3.4	
14	OF THE PANCREAS							
	FEMALES	252	8.2	79	7.4	173	8.6	7.5
	MALES	261	11.6	76	10.5	185	12.2	11.2
	PERSONS	514	9.7	155	8.7	358	10.3	

		ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
		NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
15	OF THE LARYNX AND TRACHEA/BRONCHUS/LUNG							
	FEMALES	790	27.4	265	26.9	525	27.7	15.0
	MALES	1,606	71.6	545	75.0	1061	70.0	78.3
	PERSONS	2,396	46.7	810	46.9	1586	46.6	
16	OF THE SKIN							
	FEMALES	49	1.7	15	1.5	34	1.9	1.7
	MALES	38	1.7	12	1.6	26	1.7	2.3
	PERSONS	86	1.7	27	1.5	60	1.8	
17	OF THE (FEMALE) BREAST							
		954	36.6	311	34.5	643	37.2	30.5
18	OF THE CERVIX UTERI							
		105	4.2	34	4.0	71	4.3	3.0
19	OF OTHER PARTS OF UTERUS							
		97	3.3	32	2.9	65	3.5	4.7
20	OF THE OVARY							
		302	11.5	90	10.0	212	12.3	8.9
21	OF THE PROSTATE							
		689	29.2	198	26.0	491	30.8	27.8
22	OF THE KIDNEY							
	FEMALES	72	2.5	27	2.7	45	2.4	2.7
	MALES	117	5.3	41	5.7	76	5.1	6.3
	PERSONS	189	3.7	68	4.0	121	3.6	
23	OF THE BLADDER							
	FEMALES	81	2.4	30	2.6	51	2.4	2.5
	MALES	170	7.4	59	7.9	111	7.1	11.5
	PERSONS	252	4.5	90	4.7	162	4.4	
24	OF THE LYMPH/HAEMATOPOIETIC TISSUE							
	FEMALES	385	13.0	123	12.1	263	13.5	11.7
	MALES	473	20.6	143	19.4	330	21.2	18.5
	PERSONS	859	16.4	266	15.2	593	17.0	

TABLE 1.4.1
AVERAGE ANNUAL NUMBER OF DEATHS (1989-1998) AND ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000 PERSONS)
CONTINUED...

		ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
		NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
25	**DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS, IMMUNOLOGICAL DISORDERS**							
	FEMALES	**77**	**2.3**	**16**	**1.4**	**61**	**2.7**	**2.1**
	MALES	**68**	**2.9**	**11**	**1.5**	**57**	**3.6**	**3.1**
	PERSONS	**145**	**2.5**	**28**	**1.4**	**117**	**3.1**	
26	**ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES**							
	FEMALES	**327**	**10.0**	**44**	**4.2**	**283**	**13.2**	**16.9**
	MALES	**313**	**13.5**	**35**	**4.7**	**278**	**17.7**	**18.0**
	PERSONS	**640**	**11.5**	**79**	**4.4**	**562**	**15.2**	
27	DIABETES MELLITUS							
	FEMALES	239	7.1	26	2.4	213	9.8	13.5
	MALES	243	10.5	20	2.7	223	14.3	14.3
	PERSONS	482	8.6	46	2.5	436	11.8	
28	**MENTAL AND BEHAVIOURAL DISORDERS**							
	FEMALES	**189**	**5.5**	**43**	**3.8**	**147**	**6.5**	**9.5**
	MALES	**170**	**7.3**	**40**	**5.7**	**129**	**8.0**	**14.2**
	PERSONS	**359**	**6.5**	**83**	**4.8**	**276**	**7.3**	
29	ALCOHOL ABUSE (INCLUDING ALCOHOLIC PSYCHOSIS)							
	FEMALES	24	1.1	9	1.2	15	1.0	1.1
	MALES	50	2.3	19	2.8	31	2.1	4.9
	PERSONS	73	1.7	28	2.0	46	1.5	
30	DRUG DEPENDENCE, TOXICOMANIA							
	FEMALES	11	0.4	3	0.1	7	0.4	0.4
	MALES	38	1.5	8	1.2	30	1.7	1.7
	PERSONS	49	1.0	12	0.8	37	1.1	
31	**DISEASES OF THE NERVOUS SYSTEM AND THE SENSE ORGANS**							
	FEMALES	**414**	**12.9**	**105**	**9.9**	**310**	**14.6**	**11.2**
	MALES	**392**	**16.6**	**97**	**12.8**	**296**	**18.4**	**15.8**
	PERSONS	**806**	**14.5**	**201**	**11.1**	**605**	**16.3**	
32	MENINGITIS (OTHER THAN MENINGOCOCCAL INFECTION)							
	FEMALES	10	0.4	4	0.5	5	0.3	0.3
	MALES	8	0.3	3	0.4	5	0.3	0.4
	PERSONS	18	0.3	7	0.4	11	0.3	

		ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
		NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
33	**DISEASES OF THE CIRCULATORY SYSTEM**							
	FEMALES	**10,281**	**290.8**	**3,564**	**285.3**	**6,716**	**294.2**	**236.3**
	MALES	**10,732**	**467.3**	**3,357**	**452.9**	**7,375**	**474.2**	**371.2**
	PERSONS	**21,013**	**370.1**	**6,921**	**358.2**	**14,092**	**376.7**	
34	ISCHAEMIC HEART DISEASE							
	FEMALES	5,106	147.3	1,873	153.2	3,233	144.3	81.7
	MALES	6,817	299.7	2,241	304.9	4,576	297.2	170.0
	PERSONS	11,922	215.4	4,114	218.5	7,808	214.0	
35	OTHER HEART DISEASE							
	FEMALES	1,331	35.8	312	23.6	1,019	42.6	47.4
	MALES	1,044	44.6	204	27.0	840	53.0	64.4
	PERSONS	2,375	39.9	516	25.2	1,859	47.6	
36	CEREBROVASCULAR DISEASE							
	FEMALES	2,745	75.9	1,062	81.9	1,683	72.7	70.3
	MALES	1,853	79.9	629	83.2	1,225	77.4	86.4
	PERSONS	4,598	77.9	1,690	83.2	2,908	75.1	
37	**DISEASES OF THE RESPIRATORY SYSTEM**							
	FEMALES	**3,658**	**101.0**	**1,461**	**112.2**	**2,197**	**94.8**	**39.1**
	MALES	**3,530**	**149.9**	**1,183**	**155.5**	**2,347**	**147.3**	**84.0**
	PERSONS	**7,188**	**0.9**	**2,643**	**29.0**	**4,544**	**116.6**	
38	INFLUENZA							
	FEMALES	26	0.7	9	0.7	17	0.7	0.4
	MALES	16	0.7	6	0.7	11	0.7	0.5
	PERSONS	43	0.7	15	0.7	28	0.7	
39	PNEUMONIA							
	FEMALES	2,212	57.8	1,067	77.2	1,145	46.9	18.2
	MALES	1,588	67.0	683	89.1	905	56.4	28.2
	PERSONS	3,800	61.8	1,750	82.1	2,050	51.0	
40	CHRONIC LOWER RESPIRATORY DISEASE							
	FEMALES	1,054	32.1	283	25.7	771	35.6	14.4
	MALES	1,577	67.3	395	52.5	1182	74.4	42.7
	PERSONS	2,631	46.1	678	35.7	1953	51.6	

TABLE 1.4.1
AVERAGE ANNUAL NUMBER OF DEATHS (1989-1998) AND ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000 PERSONS)
CONTINUED...

		ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
		NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
41	ASTHMA							
	FEMALES	89	3.1	27	2.9	63	3.3	2.4
	MALES	79	3.5	18	2.5	61	3.9	3.3
	PERSONS	169	3.3	45	2.7	124	3.6	
42	**DISEASES OF THE DIGESTIVE SYSTEM**							
	FEMALES	**711**	**21.3**	**242**	**20.9**	**469**	**21.7**	**25.6**
	MALES	**620**	**27.1**	**190**	**26.0**	**430**	**27.6**	**45.4**
	PERSONS	**1331**	**24.0**	**432**	**23.3**	**899**	**24.4**	
43	ULCER OF STOMACH, DUODENUM AND JEJUNUM							
	FEMALES	141	3.9	49	3.9	92	4.0	2.4
	MALES	150	6.5	46	6.2	104	6.6	4.3
	PERSONS	291	5.0	95	4.9	196	5.2	
44	CHRONIC LIVER DISEASE							
	FEMALES	84	3.3	35	4.1	49	2.9	9.3
	MALES	102	4.8	38	5.6	64	4.4	22.4
	PERSONS	186	4.0	73	4.9	113	3.6	
45	**DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE**							
	FEMALES	**65**	**1.8**	**21**	**1.6**	**44**	**1.9**	**1.3**
	MALES	**38**	**1.6**	**10**	**1.3**	**28**	**1.8**	**1.0**
	PERSONS	**102**	**1.7**	**30**	**1.5**	**72**	**1.9**	
46	**DISEASES OF THE MUSCULOSKELETAL SYSTEM/CONNECTIVE TISSUE**							
	FEMALES	**151**	**4.5**	**29**	**2.4**	**122**	**5.6**	**3.4**
	MALES	**70**	**3.0**	**12**	**1.7**	**58**	**3.7**	**2.3**
	PERSONS	**221**	**3.9**	**42**	**2.1**	**180**	**4.8**	
47	RHEUMATOID ARTHRITIS AND OSTEOARTHROSIS							
	FEMALES	80	2.3	14	1.1	66	3.0	1.2
	MALES	34	1.5	5	0.7	29	1.8	0.6
	PERSONS	114	2.0	19	0.9	95	2.5	
48	DISEASES OF THE GENITO-URINARY SYSTEM							
	FEMALES	436	12.1	141	11.0	295	12.7	7.5
	MALES	405	17.2	112	14.7	294	18.4	12.4
	PERSONS	841	14.1	253	12.3	589	15.1	

		ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
		NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
49	DISEASES OF THE KIDNEY AND URETER							
	FEMALES	325	9.1	80	8.2	221	9.6	
	MALES	300	12.8	105	10.5	220	13.8	
	PERSONS	625	10.6	185	9.0	441	11.4	
50	**COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND PUERPERIUM (FEMALE)**							
		2	**0.1**	**0**	**0.0**	**2**	**0.1**	**0.1**
51	**CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD**							
	FEMALES	**80**	**3.4**	**30**	**3.8**	**51**	**3.2**	**3.5**
	MALES	**110**	**4.4**	**40**	**4.8**	**71**	**4.2**	**4.6**
	PERSONS	**191**	**3.9**	**69**	**4.3**	**122**	**3.7**	
52	**CONGENITAL MALFORMATIONS AND CHROMOSOMAL ABNORMALITIES**							
	FEMALES	**135**	**5.5**	**37**	**4.6**	**98**	**5.9**	**3.7**
	MALES	**154**	**6.1**	**47**	**5.8**	**107**	**6.3**	**4.3**
	PERSONS	**289**	**5.8**	**84**	**5.2**	**204**	**6.1**	
53	CONGENITAL MALFORMATIONS OF THE NERVOUS SYSTEM							
	FEMALES	28	1.1	7	0.9	21	1.2	0.5
	MALES	27	1.0	6	0.7	20	1.2	0.5
	PERSONS	55	1.1	14	0.8	41	1.2	
54	CONGENITAL MALFORMATIONS OF THE CIRCULATORY SYSTEM							
	FEMALES	44	1.8	13	1.7	31	1.9	1.6
	MALES	56	2.2	19	2.3	37	2.2	2.0
	PERSONS	100	2.0	32	2.0	69	2.0	
55	**SYMPTOMS, SIGNS, ABNORMAL FINDINGS, ILL-DEFINED CAUSES**							
	FEMALES	**156**	**4.6**	**40**	**3.3**	**116**	**5.3**	**18.3**
	MALES	**122**	**5.1**	**24**	**3.1**	**98**	**6.0**	**27.2**
	PERSONS	**278**	**4.9**	**64**	**3.3**	**214**	**5.7**	
56	SUDDEN INFANT DEATH SYNDROME							
	FEMALES	25	1.1	4	0.5	21	1.3	0.8
	MALES	41	1.6	5	0.6	36	2.2	1.3
	PERSONS	66	1.4	9	0.6	57	1.8	
57	UNKNOWN AND UNSPECIFIED CAUSES							
	FEMALES	56	1.6	11	1.0	45	1.9	8.3
	MALES	39	1.7	10	1.3	30	1.9	16.4
	PERSONS	95	1.6	20	1.2	75	1.9	

TABLE 1.4.1
AVERAGE ANNUAL NUMBER OF DEATHS (1989-1998) AND ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000 PERSONS)
CONTINUED...

		ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
		NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
58	**EXTERNAL CAUSES OF INJURY AND POISONING**							
	FEMALES	**633**	**21.6**	**203**	**20.8**	**430**	**22.1**	**25.8**
	MALES	**1,450**	**58.0**	**441**	**56.0**	**1,009**	**59.0**	**64.9**
	PERSONS	**2,083**	**39.6**	**644**	**38.1**	**1,439**	**40.4**	
59	ACCIDENTS							
	FEMALES	498	16.1	157	15.0	341	16.7	17.8
	MALES	919	36.7	262	33.4	657	38.3	40.8
	PERSONS	1417	26.3	419	24.1	998	27.5	
60	TRANSPORT ACCIDENTS							
	FEMALES	161	5.9	46	5.1	115	6.2	6.1
	MALES	454	17.2	121	14.6	333	18.4	19.1
	PERSONS	616	11.4	167	9.8	449	12.3	
61	ACCIDENTAL FALLS							
	FEMALES	223	6.1	72	5.7	151	6.4	7.0
	MALES	178	7.7	60	8.2	118	7.4	9.3
	PERSONS	401	7.0	132	7.0	269	7.1	
62	ACCIDENTAL POISONING							
	FEMALES	24	1.0	12	1.4	13	0.8	0.9
	MALES	52	2.1	22	2.9	30	1.7	1.8
	PERSONS	76	1.5	33	2.1	42	1.2	
63	SUICIDE AND INTENTIONAL SELF-HARM							
	FEMALES	103	4.2	29	3.7	74	4.5	5.8
	MALES	406	16.3	98	12.4	308	18.1	18.5
	PERSONS	509	10.2	127	8.0	382	11.2	
64	HOMICIDE/ASSAULT							
	FEMALES	16	0.6	10	1.1	6	0.4	0.7
	MALES	85	3.3	64	8.0	21	1.2	1.7
	PERSONS	101	2.0	74	4.6	27	0.8	
65	EVENTS OF UNDETERMINED INTENT							
	FEMALES	14	0.5	6	0.7	8	0.5	1.3
	MALES	36	1.5	13	1.7	23	1.4	3.5
	PERSONS	50	1.0	19	1.2	31	0.9	

TABLE 1.4.2
DIRECTLY STANDARDISED MORTALITY RATE RATIOS (1989-1998)

	DISEASE OR EXTERNAL CAUSE	MALE: FEMALE	(PERSONS) ROL:NI	OCCUPATIONAL CLASS[2] (LOWEST:HIGHEST)	
				NI	ROL
00	**ALL CAUSES OF DEATH**	**154%**	**106%**	**235%**	**341%**
01	**INFECTIOUS AND PARASITIC DISEASES**	**152%**	**182%**	**163%**	**472%**
02	TUBERCULOSIS	192%	262%	402%	1204%
03	MENINGOCOCCAL INFECTION	103%	124%	Inadequate number of deaths	
04	AIDS (HIV-DISEASE)	487%	851%		
05	VIRAL HEPATITIS	192%	291%		
06	**NEOPLASMS**	**145%**	**105%**	**214%**	**224%**
07	MALIGNANT NEOPLASMS	146%	106%	217%	223%
08	OF THE LIP, ORAL CAVITY, PHARYNX	341%	134%	273%	248%
09	OF THE OESOPHAGUS	218%	115%	252%	238%
10	OF THE STOMACH	207%	104%	218%	427%
11	OF THE COLON	145%	110%	164%	151%
12	OF THE RECTUM AND ANUS	206%	101%	163%	126%
13	OF THE LIVER AND THE INTRAHEPATIC BILE DUCTS	172%	94%	159%	152%
14	OF THE PANCREAS	142%	118%	207%	165%
15	OF THE LARYNX AND TRACHEA/ BRONCHUS/LUNG	262%	99%	387%	411%
16	OF THE SKIN	96%	116%	70%	134%
17	OF THE (FEMALE) BREAST	N/A	108%	N/A	N/A
18	OF THE CERVIX UTERI	N/A	106%	N/A	N/A
19	OF OTHER PARTS OF UTERUS	N/A	118%	N/A	N/A
20	OF THE OVARY	N/A	123%	N/A	N/A
21	OF THE PROSTATE	N/A	119%	132%	117%
22	OF THE KIDNEY	214%	91%	168%	95%
23	OF THE BLADDER	302%	94%	290%	164%
24	OF THE LYMPH/HAEMATOPOIETIC TISSUE	158%	112%	152%	255%
25	**DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS, IMMUNOLOGICAL DISORDERS**	**127%**	**248%**	**272%**	**205%**
26	**ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES**	**135%**	**345%**	**122%**	**331%**

TABLE 1.4.2
DIRECTLY STANDARDISED MORTALITY RATE RATIOS (1989-1998)
CONTINUED...

	DISEASE OR EXTERNAL CAUSE	MALE: FEMALE	(PERSONS) ROL:NI	OCCUPATIONAL CLASS[2] (LOWEST:HIGHEST)	
				NI	ROL
27	DIABETES MELLITUS	148%	472%	342%	333%
28	**MENTAL AND BEHAVIOURAL DISORDERS**	**131%**	**153%**	**462%**	**1584%**
29	ALCOHOL ABUSE (INCLUDING ALCOHOLIC PSYCHOSIS)	217%	76%	388%	1689%
30	DRUG DEPENDANCE, TOXICOMANIA	344%	131%	697%	1589%
31	**DISEASES OF THE NERVOUS SYSTEM AND THE SENSE ORGANS**	**128%**	**147%**	**172%**	**350%**
32	MENINGITIS (OTHER THAN MENINGOCOCCAL INFECTION)	92%	73%	Inadequate number of deaths	
33	**DISEASES OF THE CIRCULATORY SYSTEM**	**161%**	**105%**	**229%**	**312%**
34	ISCHAEMIC HEART DISEASE	203%	98%	227%	295%
35	OTHER HEART DISEASE	125%	189%	268%	360%
36	CEREBROVASCULAR DISEASE	104%	90%	250%	386%
37	**DISEASES OF THE RESPIRATORY SYSTEM**	**148%**	**91%**	**318%**	**619%**
38	INFLUENZA	99%	95%	Inadequate number of deaths	
39	PNEUMONIA	116%	62%	302%	592%
40	CHRONIC LOWER RESPIRATORY DISEASE	210%	144%	448%	699%
41	ASTHMA	110%	134%	258%	310%
42	**DISEASES OF THE DIGESTIVE SYSTEM**	**127%**	**105%**	**297%**	**518%**
43	ULCER OF STOMACH, DUODENUM AND JEJUNUM	165%	106%	443%	921%
44	CHRONIC LIVER DISEASE	143%	75%	277%	310%
45	**DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE**	**89%**	**126%**	**61%**	**327%**
46	**DISEASES OF THE MUSCULOSKELETAL SYSTEM/CONNECTIVE TISSUE**	**67%**	**222%**	**324%**	**824%**
47	RHEUMATOID ARTHRITIS AND OSTEOARTHROSIS	63%	266%	202%	257%

	DISEASE OR EXTERNAL CAUSE	MALE: FEMALE	(PERSONS) ROL:NI	OCCUPATIONAL CLASS[2] (LOWEST:HIGHEST)	
				NI	ROL
48	**DISEASES OF THE GENITO-URINARY SYSTEM**	**142%**	**123%**	**144%**	**463%**
49	DISEASES OF THE KIDNEY AND URETER	140%	126%	145%	482%
50	**COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND PUERPERIUM (FEMALE)**	**Inadequate number of deaths**			
51	**CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD**	130%	87%	No deaths in SC 1-2	No deaths in SEG A
52	**CONGENITAL MALFORMATIONS AND CHROMOSOMAL ABNORMALITIES**	**112%**	**117%**	**148%**	**1037%**
53	CONGENITAL MALFORMATIONS OF THE NERVOUS SYSTEM	94%	148%	No deaths in SC 1-2	607%
54	CONGENITAL MALFORMATIONS OF THE CIRCULATORY SYSTEM	122%	103%	142%	416%
55	**SYMPTOMS, SIGNS, ABNORMAL FINDINGS, ILL-DEFINED CAUSES**	**111%**	**172%**	**364%**	**478%**
56	SUDDEN INFANT DEATH SYNDROME	153%	310%	N/A	
57	UNKNOWN AND UNSPECIFIED CAUSES	107%	165%	402%	1105%
58	**EXTERNAL CAUSES OF INJURY AND POISONING**	**269%**	**106%**	**263%**	**614%**
59	ACCIDENTS	228%	114%	238%	604%
60	TRANSPORT ACCIDENTS	293%	125%	146%	454%
61	ACCIDENTAL FALLS	125%	101%	619%	739%
62	ACCIDENTAL POISONING	213%	58%	766%	743%
63	SUICIDE AND INTENTIONAL SELF-HARM	386%	141%	278%	553%
64	HOMICIDE/ASSAULT	557%	17%	352%	1,488%
65	EVENTS OF UNDETERMINED INTENT	274%	78%	413%	2574%

1. Cells shaded red represent (statistically) significant high rate ratios while those shaded green represent (statistically) significant low rate ratios.

2. The occupational class (lowest:highest) rate ratios for Northern Ireland and the Republic are not comparable as different occupational class scales are used in their construction. Although the descriptions of the two highest occupational classes are similar, and the descriptions of the two lowest occupational classes are similar, it would be erroneous to directly compare the two rate ratios. They should be compared in only the very broadest sense.

Part Two: Mortality on the Island

2 The European Shortlist of Cause of Death Categories

Explanatory Notes

1 The numbers of deaths reported in Table 2.00.1-Table 2.65.1 are annual numbers of deaths. Calculations were based on the total numbers of deaths for the period 1989-1998, these were ten times (10 x) the numbers in the tables.

2 All mortality rates are annual rates, expressed as number of deaths per 100,000 population per year.

3 In all tables and figures, annual numbers of deaths have been rounded to the nearest unit and rates have been rounded to the first decimal place. Rate ratios used in the text were based on the unrounded values of the two rates, and then rounded to the nearest unit. These are summarised in Table 1.4.2.

4 When interpreting the results presented in Part Two it is important to distinguish between a 'statistically significant' difference and a difference that may be 'practically important' or interesting. See Section 3.3 for further discussion.

5 All directly standardised rates (DSRs) are directly standardised to the WHO's Standard European Population. This report uses five year age groups 0-4 years, ..., 70-74 years with the last age group being 75+ years. See Appendix 4.

6 European rates presented in Table 2.00.1-Table 2.65.1 refer to the directly standardised rates for the (combined) fifteen European countries for the year 1994, the midpoint of the study period 1989-1998. These fifteen countries are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Directly standardised rates were provided by the European Commission (10).

7 In Table 2.00.1-Table 2.65.1, the 'PERSONS' entry in the NUMBER column may not be the sum of the 'FEMALES' and 'MALES' entries because of rounding error.

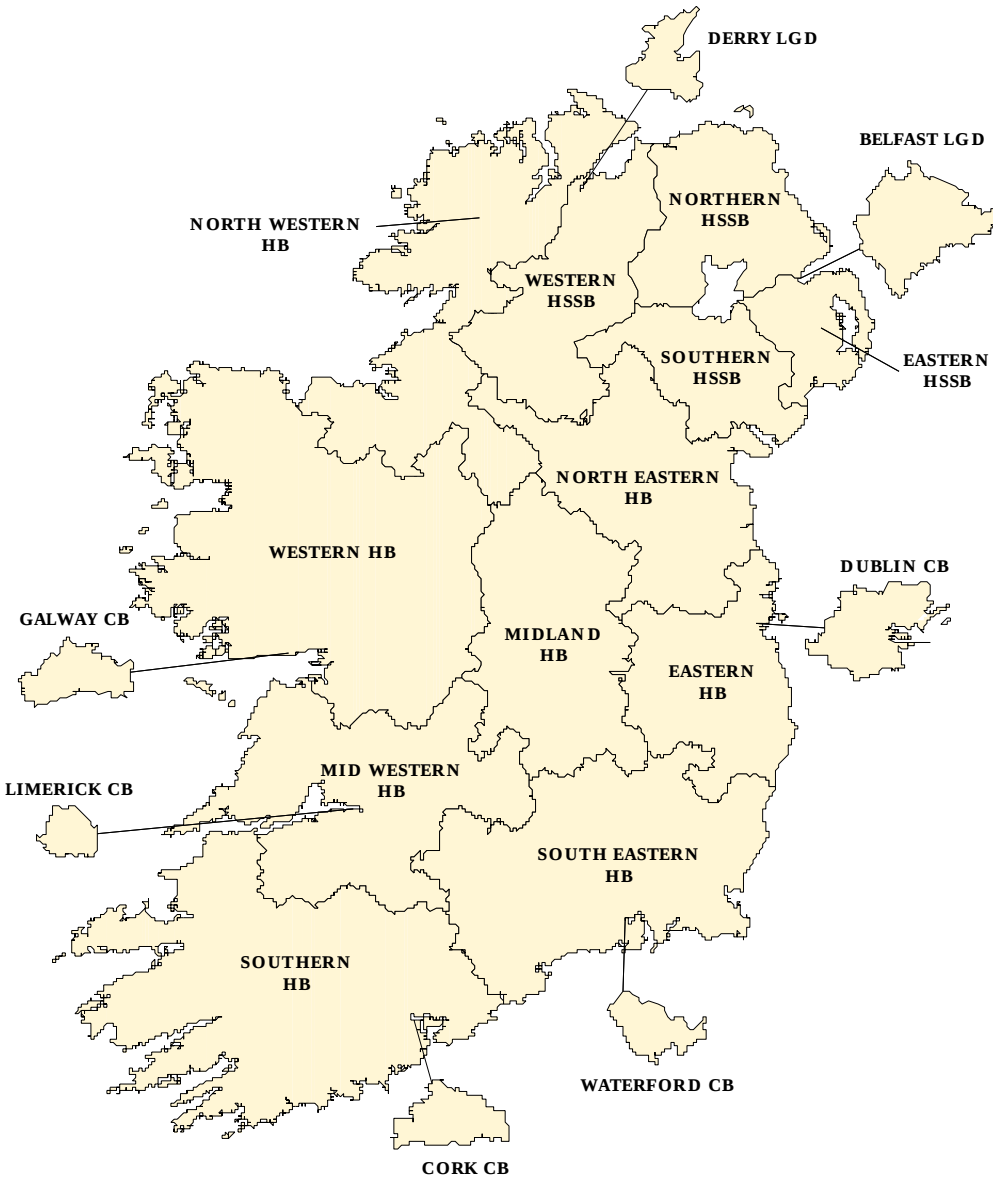
8 Directly standardised rate ratios (DSRRs) presented in Figure 2.00.2-Figure 2.65.2 are the ratio of the DSR for a region to the DSR for the whole island expressed as a percentage. Tests of significance are based on individual confidence intervals (adjusted for multiple comparisons). DSRRs significant at the 1% level are marked on the maps with a dot. The difference between the directly standardised rate for a region shaded the darkest green and a region shaded the darkest red is at least 40% of the rate for the whole island. A detailed map of the study regions in Figure 2.00.2–Figure 2.65.2 is given in Figure 2.1.

9 In Figure 2.00.2-Figure 2.65.2, if a health (and social services) board area includes an urban centre then the results for the board include those for the centre. For example, the rate in the Eastern HSSB includes deaths that occurred in Belfast LGD.

10 The occupational class results presented in Figure 2.00.3-Figure 2.65.3 are based on Social Class in Northern Ireland and Socio-economic Group in the Republic. SC1-2 is the 'highest' social classes in Northern Ireland while SC 4-5 is the 'lowest'. SEG A is the 'highest' socio-economic group in the Republic while SEG D is the 'lowest'. Further details are given in Table 2.1 and Table 2.2.

FIGURE 2.1

STUDY REGIONS



11 The commentary on Figure 2.00.3 - Figure 2.65.3 provides a lower bound for the excess mortality in the lowest occupational class compared to the highest occupational class. This lower bound is the lower of the occupational class DSRRs for the two jurisdictions (see Table 1.4.2). For example, Section 2.58 states that 'In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 160%) higher than the rate in the highest occupational class.' This means that the excess in mortality was at least 160% in both jurisdictions, being 163% in NI and 514% in the RoI.

TABLE 2.1
SOCIAL CLASS CODING IN NORTHERN IRELAND

MORTALITY COLLECTION		POPULATION CENSUS		FINAL CODES
CODE	DESCRIPTION	CODE	DESCRIPTION	
0	**PROFESSIONAL**	I	Professional, etc occupations	SC 1-2
1	**INTERMEDIATE**	II	Managerial and technical occupations	
2	**SKILLED (NON-MANUAL)**	III(NM)	Skilled-non-manual	SC 3
3	**SKILLED (MANUAL)**	III(M)	Skilled-manual	
4	**PARTLY SKILLED**	IV	Partly skilled occupations	SC 4-5
5	**UNSKILLED**	V	Unskilled occupations	
7	**ARMED FORCES**		Armed forces, inadequately described and no stated occupation	Unassigned
9	**UNOCCUPIED (INCLUDING PERMANENTLY SICK AND UNKNOWN OCCUPATION AND NO OCCUPATION)**		On government employment or training scheme No paid job in the last 10 years	

TABLE 2.2
SOCIO-ECONOMIC GROUP CODING IN THE REPUBLIC OF IRELAND

MORTALITY COLLECTION		POPULATION CENSUS		FINAL CODES
CODE	DESCRIPTION	CODE	DESCRIPTION	
0	**FARMERS**	0	Farmers, farmer's relatives and farm managers	Farmers
1	**FARM LABOURERS**	1	Other agricultural occupations and fishermen	SEG D
2	**HIGHER PROFESSIONALS**	2	Higher professionals	SEG A
3	**LOWER PROFESSIONALS**	3	Lower professionals	
4	**EMPLOYERS AND MANAGERS**	4	Self employed (with employees) and managers	SEG B
5	**SALARIED EMPLOYEES**	5	Salaried employees	
6	**NON-MANUAL WAGE EARNERS**	6	Intermediate non-manual earners	SEG C
7	**OTHER NON-MANUAL WAGE EARNERS**	7	Other non-manual earners	
8	**SKILLED MANUAL WORKERS**	8	Skilled manual workers	
9	**SEMI-SKILLED MANUAL WORKERS**	9	Semi-skilled manual workers	SEG D
X	**UNSKILLED MANUAL WORKERS**	X	Unskilled manual workers	
Y	**UNKNOWN**	Y	Unknown	Unknown

2.00 All causes of death (ICD-9 001-E999) 1989-1998

- During 1989-1998 an average of nearly forty seven thousand people died each year on the island.
- The all Ireland annual directly standardised mortality rate was 841.8/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (54% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (6% higher).
- The effect of the different age profiles of the two jurisdictions is apparent here. The crude mortality rate was higher in NI (928. 7/100,000 persons) than it was in the RoI (880.7/100,000 persons).

FIGURE 2.00.1
ANNUAL MORTALITY RATES (PER 100,000), BY AGE

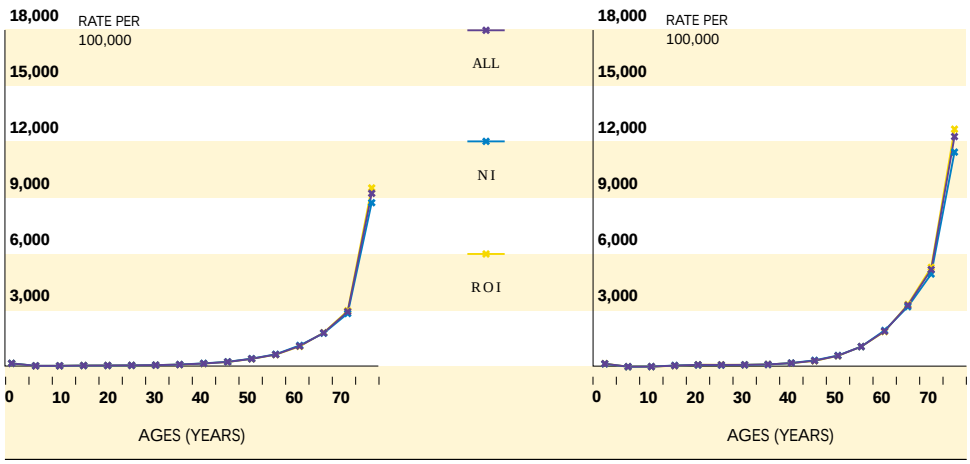
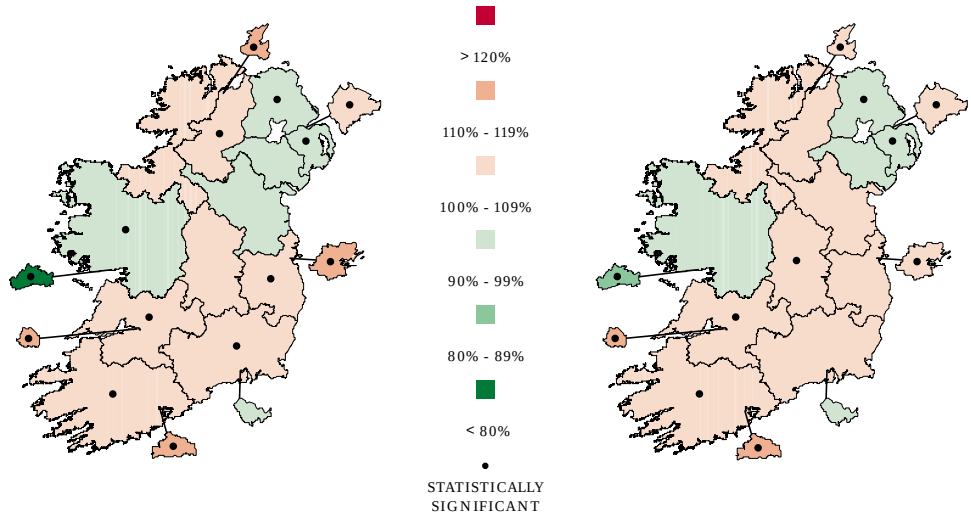


TABLE 2.00.1
ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	22,622	680.3	7,751	661.5	14,872	691.2	562.4
MALES	24,219	1,046.4	7,509	1007.1	16,710	1065.3	957.2
PERSONS	46,841	841.4	15,259	808.5	31,582	859.1	-

Explanatory Notes for these figures and tables are given on pages 33-36.

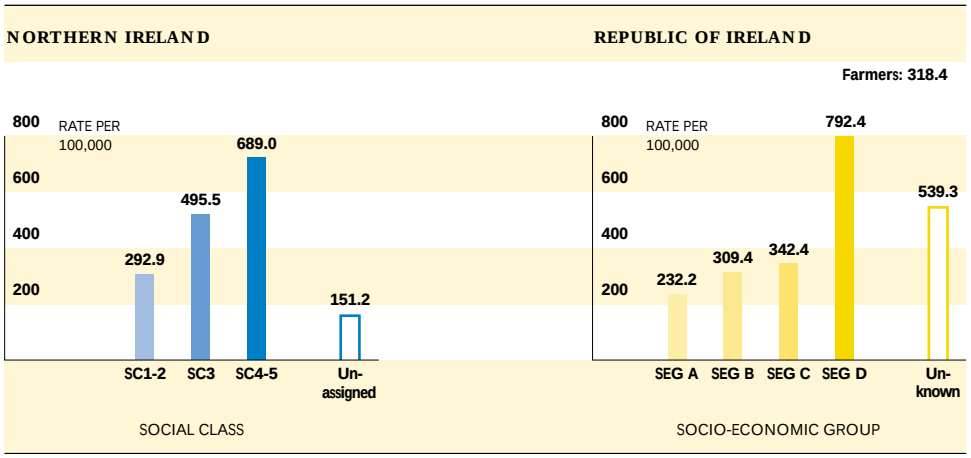
FIGURE 2.00.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- Generally speaking, compared to the whole island the regional directly standardised mortality rates for all causes tended to be higher in the RoI and lower in NI.
- The regional directly standardised mortality rate was significantly higher in most urban centres than it was on the whole island.
- Notable exceptions were Galway CB where the mortality rate was significantly lower, and Waterford CB where there was no significant difference.

- In both NI and the RoI there were clear occupational class gradients in all causes mortality.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 130%) higher than the rate in the highest occupational class.

FIGURE 2.00.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.01 Infectious and parasitic diseases (ICD-9 001-139) 1989-1998

- During 1989-1998 an average of over two hundred people died each year on the island from infectious and parasitic diseases.
- The all Ireland annual directly standardised mortality rate was 4.2/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (52% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (82% higher).

FIGURE 2.01.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

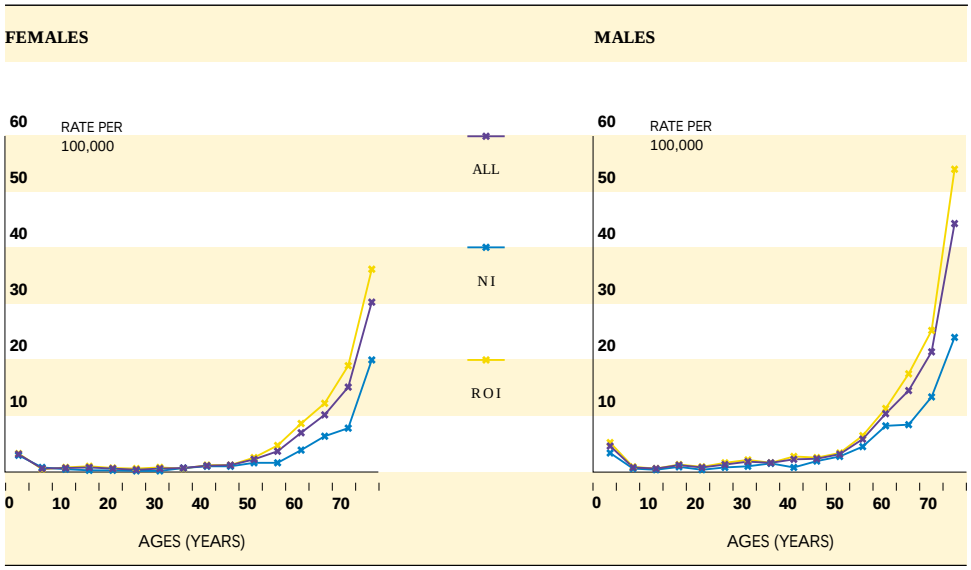
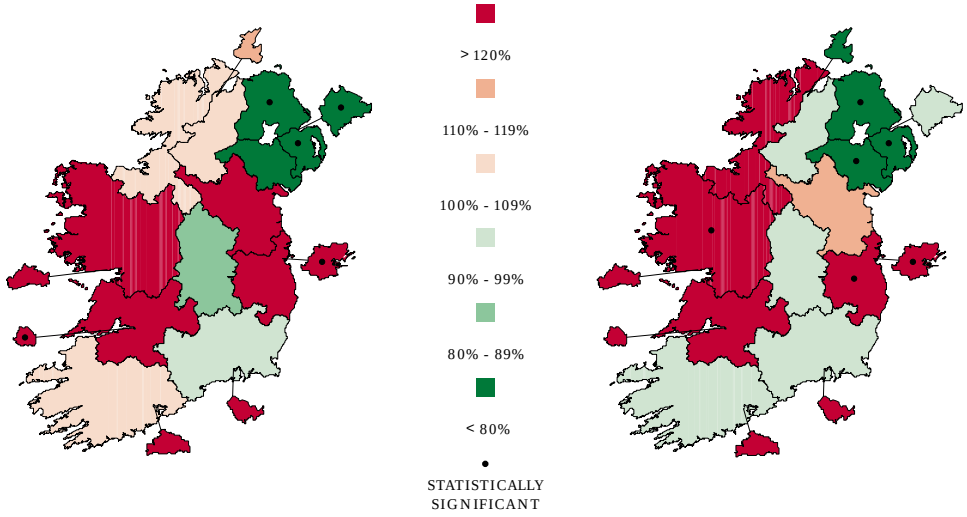


TABLE 2.01.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	105	3.4	24	2.2	81	4.1	6.2
MALES	122	5.2	25	3.4	97	6.1	15.3
PERSONS	227	4.2	49	2.7	178	5.0	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.01.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

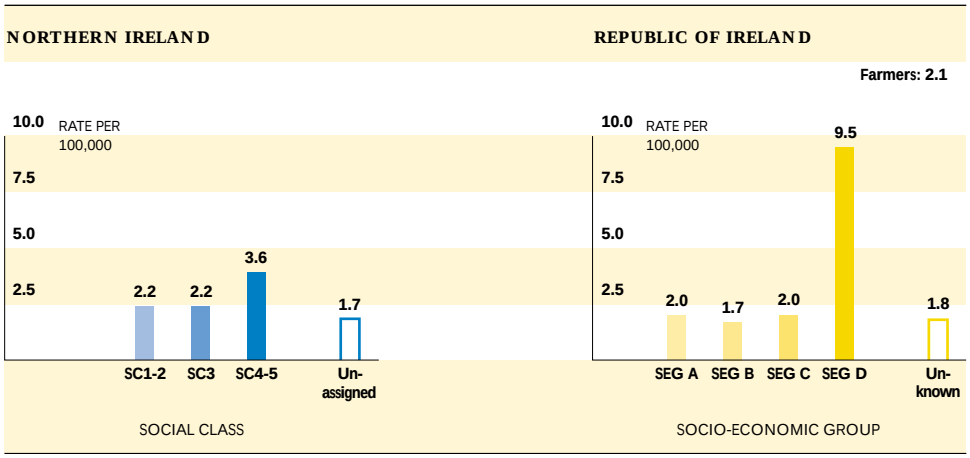


- Generally speaking, the regional directly standardised mortality rates for infectious and parasitic diseases tended to be higher in the RoI than they were in NI.
- The regional directly standardised mortality rate was higher in nearly all urban centres than it was on the whole island, although not always significantly.
- The exception was Belfast LGD where the mortality rate was significantly lower.

- In neither NI nor the RoI was there an occupational class gradient in mortality from infectious and parasitic diseases.
- In the RoI, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 370%) higher than the rate in the highest occupational class.

Coding practices can sometimes influence whether a particular death is attributed to a respiratory disease or an infectious or parasitic disease. Some of the RoI excess in mortality from infectious and parasitic diseases may simply reflect North-South differences in coding practices. See Section 5.3 for further details.

FIGURE 2.01.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.02 Tuberculosis (ICD-9 010-018,137) 1989-1998

- During 1989-1998 an average of seventy people died each year on the island from tuberculosis.
- The all Ireland annual directly standardised mortality rate was 1.3/100,000 persons.
- The all Ireland rate was comparable to the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females was slightly higher, and the rate for persons was lower in NI but higher in the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (92% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (162% higher).

FIGURE 2.02.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

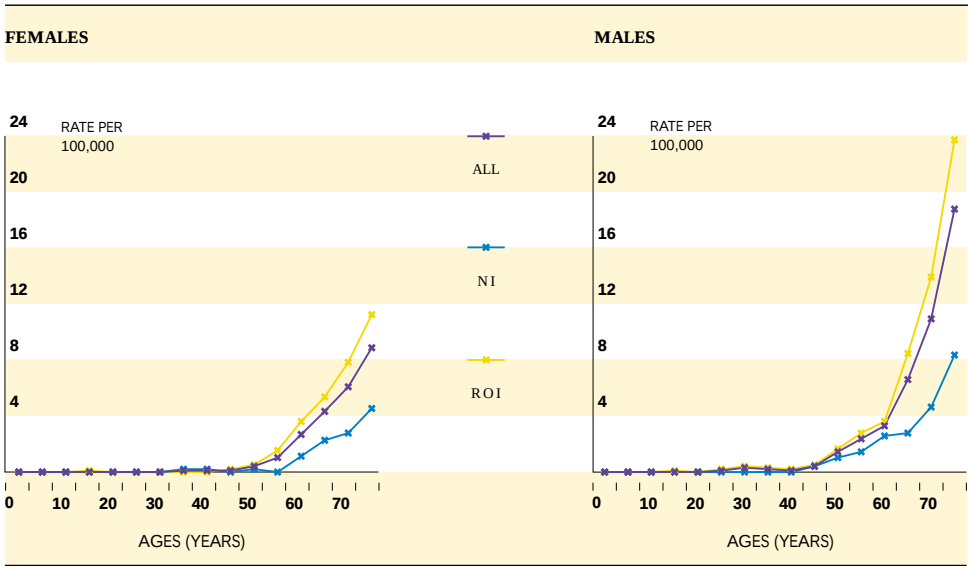
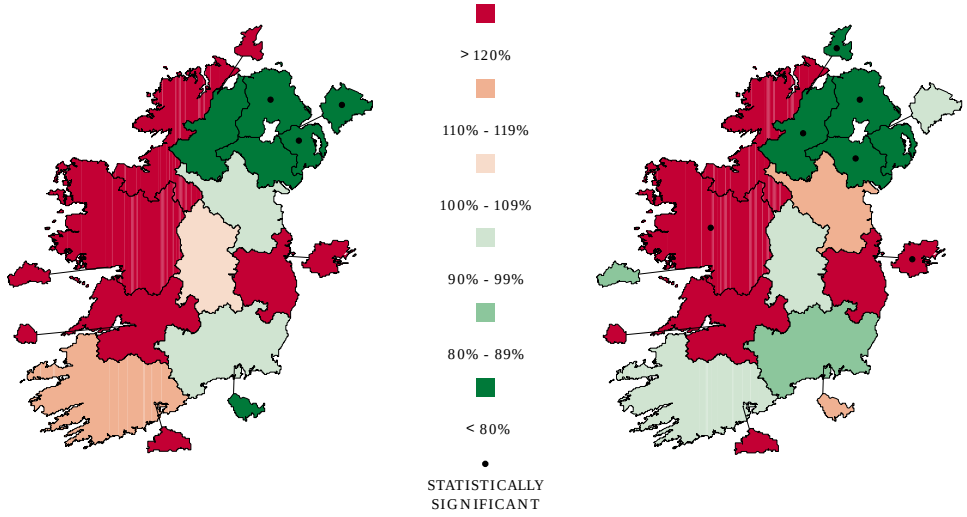


TABLE 2.02.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	29	0.9	5	0.4	24	1.2	0.6
MALES	41	1.8	6	0.9	34	2.2	1.8
PERSONS	70	1.3	11	0.6	58	1.6	-

Explanatory Notes for these figures and tables are given on pages 33-36.

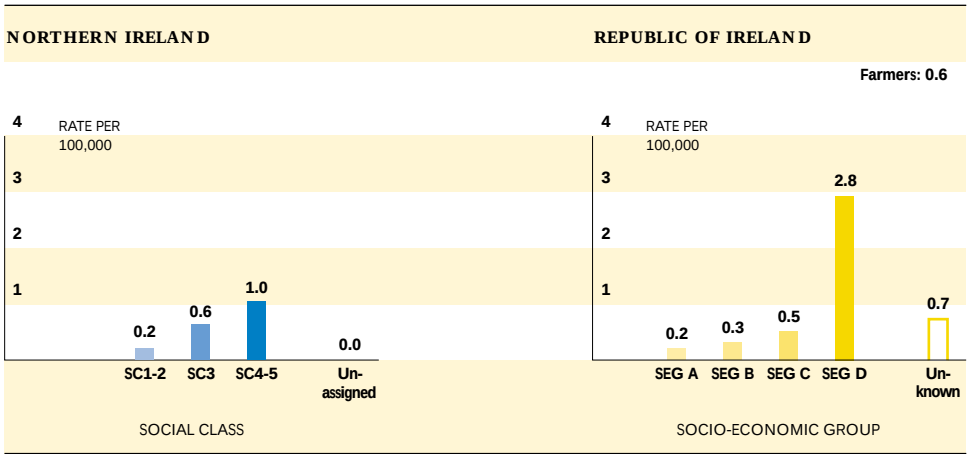
FIGURE 2.02.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- Generally speaking, the regional directly standardised mortality rates for tuberculosis tended to be higher in the RoI and lower in NI.
- The regional directly standardised mortality rate was higher in most urban centres than it was on the whole island, occasionally significantly so.
- Exceptions included Belfast LGD, Derry LGD, Galway CB and Waterford CB where the mortality rate tended to be lower than it was on the whole island.

- In both NI and the RoI there were occupational class gradients in mortality from tuberculosis.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 300%) higher than the rate in the highest occupational class.

FIGURE 2.02.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.03 Meningococcal infection (ICD-9 036) 1989-1998

Because of the small number of deaths involved, particular caution is needed when interpreting these results. In particular, no comments are made about the regional and occupational class variation in mortality. The relatively small number of deaths may also add some 'noise' to the plots of age specific mortality rates in Figure 2.03.1.

- During 1989-1998 an average of twenty people died each year on the island from meningococcal infection.
- The all Ireland annual directly standardised mortality rate was 0.4/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was higher, and the rate for persons was higher in both NI and the RoI.

FIGURE 2.03.1
ANNUAL MORTALITY RATES (PER 100,000), BY AGE

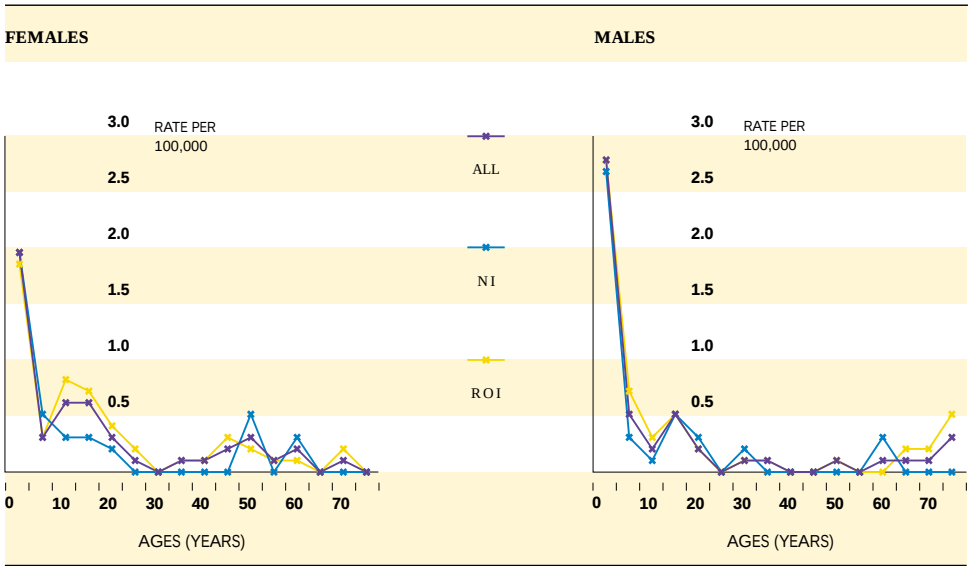


TABLE 2.03.1
ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	9	0.4	2	0.3	7	0.4	0.1
MALES	10	0.4	3	0.3	7	0.4	0.2
PERSONS	19	0.4	5	0.3	14	0.4	-

Explanatory Notes for these figures and tables are given on pages 33-36.

Figures presenting the directly standardised mortality rate ratios by region and the annual directly standardised mortality rates for working aged males have been omitted because of the small number of deaths involved.

2.04 AIDS (HIV-disease) (ICD-9 042-044) 1989-1998

Because of the small number of deaths involved, particular caution is needed when interpreting these results. In particular, no comments are made about the regional and occupational class variation in mortality. The relatively small number of deaths may also add some 'noise' to the plots of age specific mortality rates in Figure 2.04.1.

- During 1989-1998 an average of twenty five people died each year on the island from AIDS (HIV-disease).
- The all Ireland annual directly standardised mortality rate was 0.5/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

FIGURE 2.04.1
ANNUAL MORTALITY RATES (PER 100,000), BY AGE

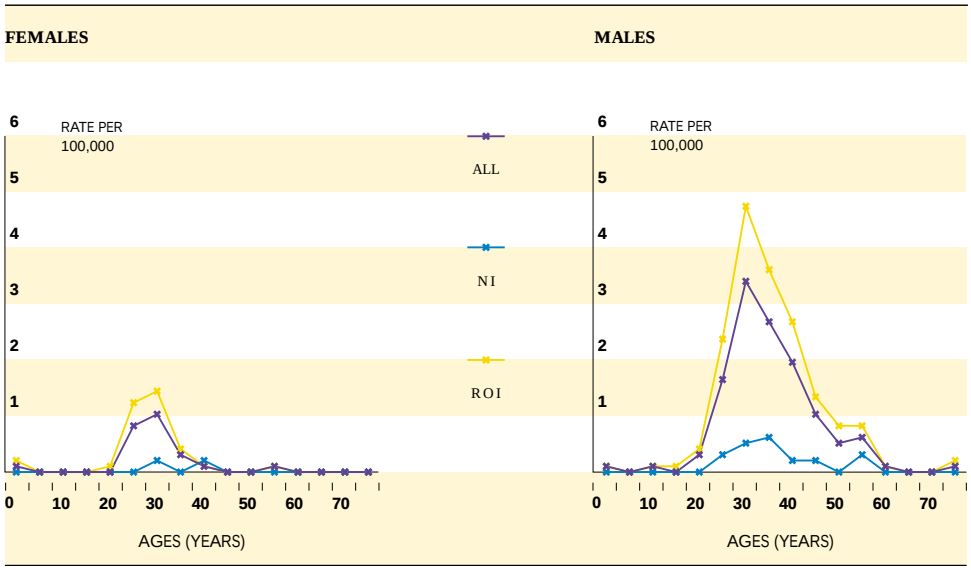


TABLE 2.04.1
ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	5	0.2	0	0.0	4	0.2	1.7
MALES	21	0.8	1	0.1	20	1.2	7.9
PERSONS	26	0.5	1	0.1	24	0.7	-

Explanatory Notes for these figures and tables are given on pages 33-36.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (387% higher).
- This was true in both NI and the RoI. (No such female deaths were recorded in NI during 1989-1998).
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (751% higher).

Figures presenting the directly standardised mortality rate ratios by region and the annual directly standardised mortality rates for working aged males have been omitted because of the small number of deaths involved.

2.05 Viral hepatitis (ICD-9 070) 1989-1998

Because of the small number of deaths involved, extreme caution is needed when interpreting these results. In particular, no comments are made about any variation in mortality on the island. The relatively small number of deaths may also add some 'noise' to the plots of age specific mortality rates in Figure 2.05.1.

- During 1989-1998 an average of ten people died each year on the island from viral hepatitis.
- The all Ireland annual directly standardised mortality rate was 0.2/100,000 persons.
- The all Ireland rate was comparable to the rate in the (combined) EU-15 countries.

FIGURE 2.05.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

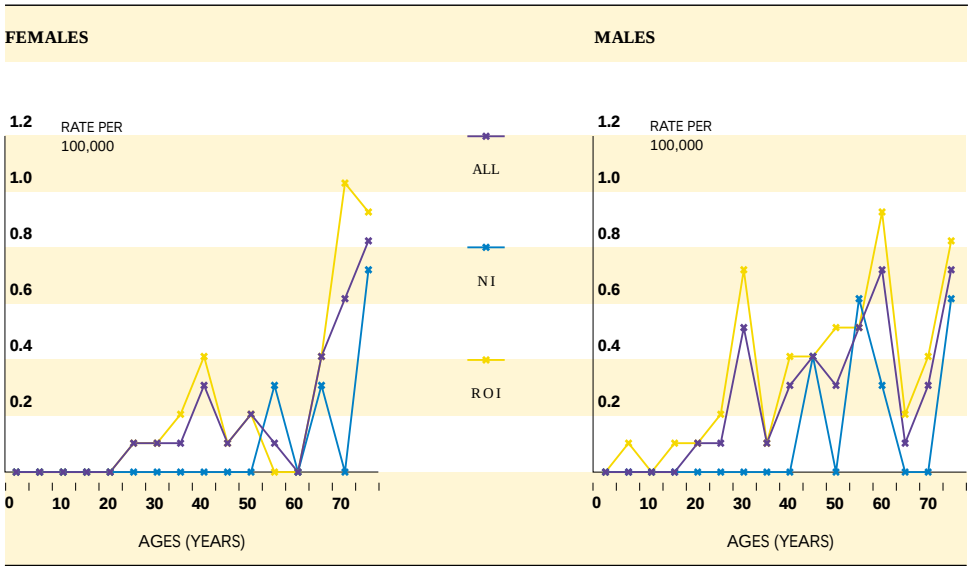


TABLE 2.05.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	4	0.1	1	0.1	3	0.2	0.2
MALES	5	0.2	1	0.1	5	0.3	0.5
PERSONS	9	0.2	1	0.1	8	0.2	-

Explanatory Notes for these figures and tables are given on pages 33-36.

Figures presenting the directly standardised mortality rate ratios by region and the annual directly standardised mortality rates for working aged males have been omitted because of the small number of deaths involved.

2.06 Neoplasms (ICD-9 140-239) 1989-1998

- During 1989-1998 an average of over eleven thousand people died each year on the island from neoplasms.
- The all Ireland annual directly standardised mortality rate was 212.7/100,000 persons.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females was higher, and the all Ireland rate for males was lower.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (45% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (5% higher).

FIGURE 2.06.1
ANNUAL MORTALITY RATES (PER 100,000), BY AGE

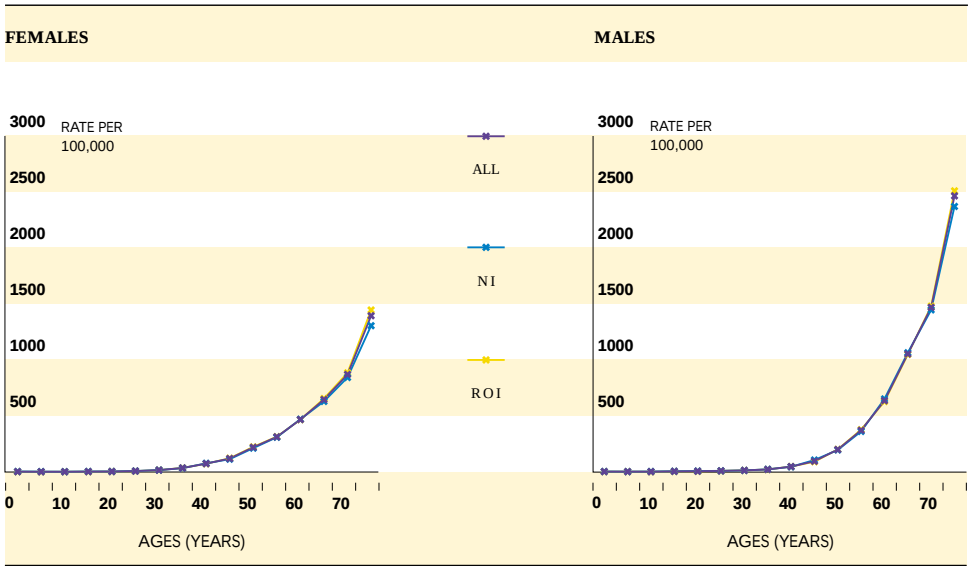
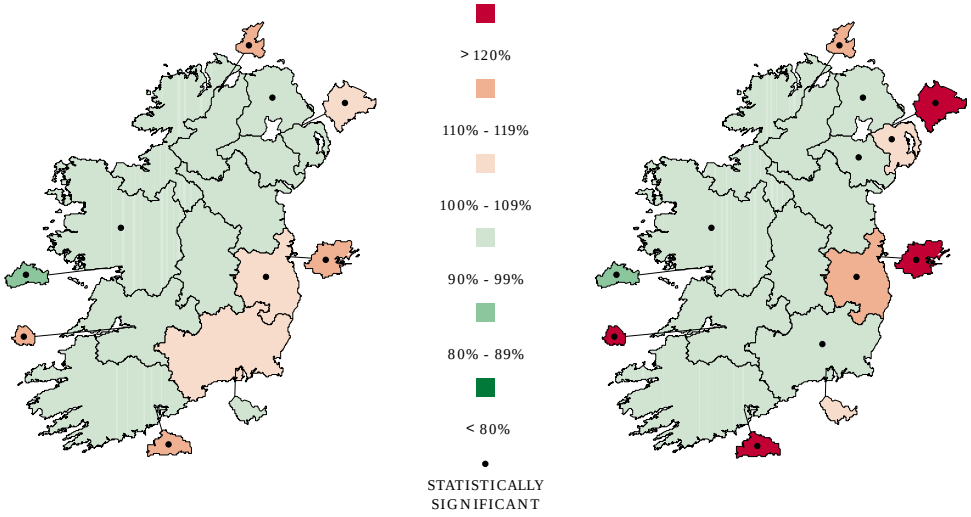


TABLE 2.06.1
ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	5,199	179.3	1,752	173.9	3,447	182.4	151.8
MALES	5,903	260.4	1,886	257.3	4,017	261.9	273.4
PERSONS	11,102	212.7	3,638	206.7	7,464	216.0	-

Explanatory Notes for these figures and tables are given on pages 33-36.

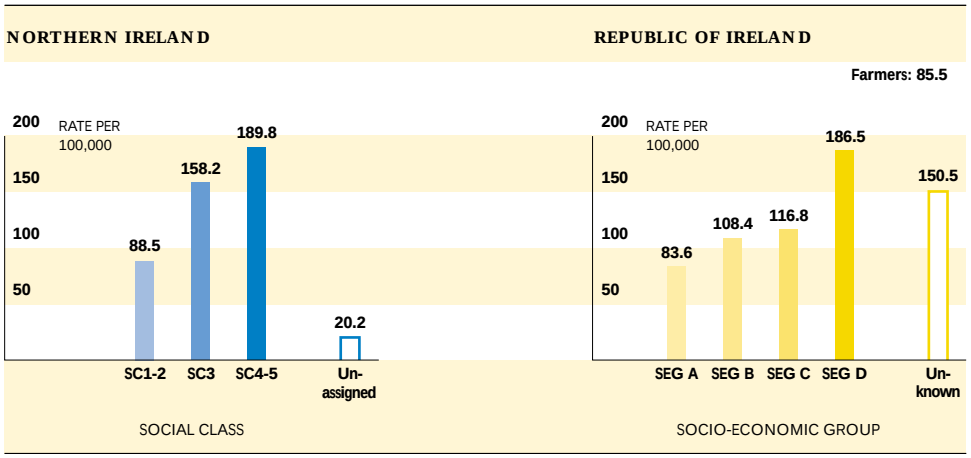
FIGURE 2.06.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The regional directly standardised mortality rate was significantly higher in most urban centres than it was on the whole island.
- Notable exceptions were Galway CB where the mortality rate was significantly lower, and Waterford CB where there was no significant difference.
- These urban differences accounted for most of the regional variation in mortality from neoplasms.

- In both NI and the RoI there were clear occupational class gradients in mortality from neoplasms.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 110%) higher than the rate in the highest occupational class.

FIGURE 2.06.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.07 Malignant neoplasms (ICD-9 140-208) 1989-1998

Because nearly all mortality from neoplasms resulted from malignancies, the results for malignant neoplasm almost exactly mirror those for all neoplasms (see Section 2.06).

- During 1989-1998 an average of nearly eleven thousand people died each year on the island from malignant neoplasms.
- The all Ireland annual directly standardised mortality rate was 210.2/100,000 persons.
- When compared to the (combined) EU-15 countries the all Ireland rate for females was higher, and the all Ireland rate for males was lower.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (46% higher).
- This was true in both NI and the RoI.

FIGURE 2.07.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

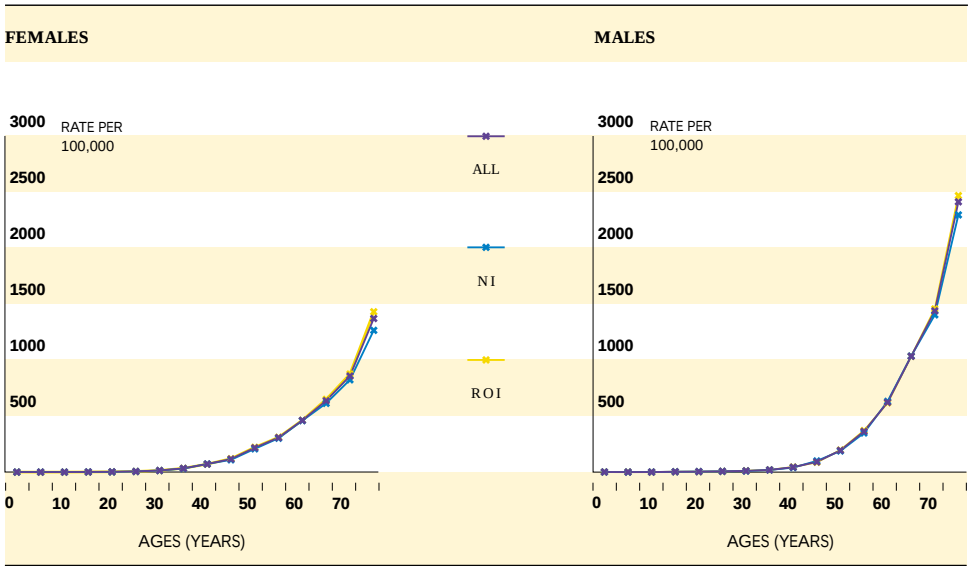
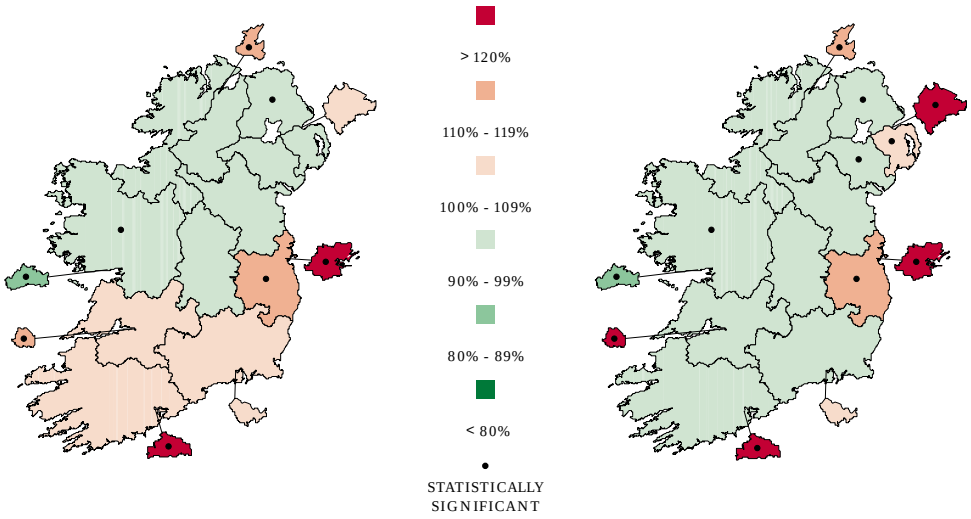


TABLE 2.07.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	5,129	177.1	1,709	169.8	3,421	181.1	148.1
MALES	5,839	257.6	1,847	252.1	3,992	260.2	268.0
PERSONS	10,968	210.2	3,556	202.1	7,413	214.5	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.07.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

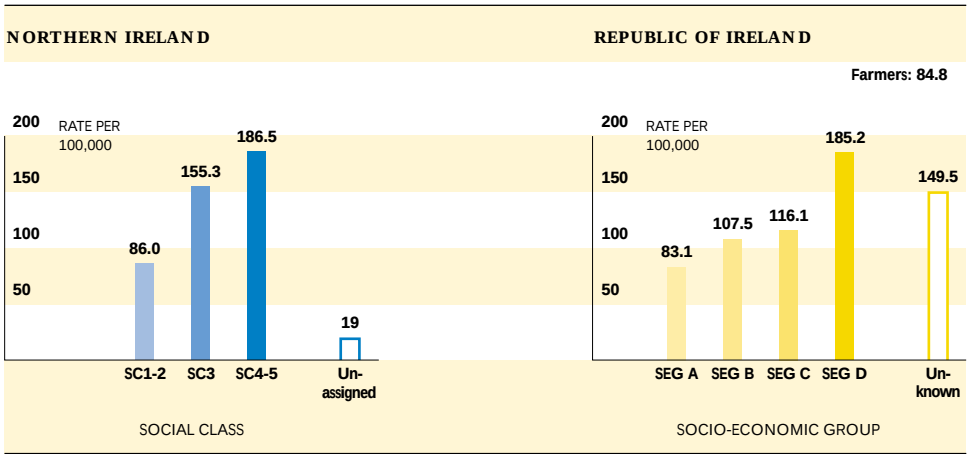


- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (5% higher).

- The regional directly standardised mortality rate was significantly higher in most urban centres than it was on the whole island.
- Notable exceptions were Galway CB where the mortality rate was significantly lower, and Waterford CB where there was no significant difference.
- These urban differences accounted for most of the regional variation in mortality from malignant neoplasms.

- In both NI and the RoI there were clear occupational class gradients in mortality from malignant neoplasms.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 110%) higher than the rate in the highest occupational class.

FIGURE 2.07.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.08 Malignant neoplasms of the lip, oral cavity, pharynx (ICD-9 140-149) 1989-1998

- During 1989-1998 an average of nearly two hundred people died each year on the island from malignant neoplasms of the lip, oral cavity, pharynx.
- The all Ireland annual directly standardised mortality rate was 3.7/100,000 persons.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females was similar, and the all Ireland rate for males was lower.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (241% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (34% higher).

FIGURE 2.08.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

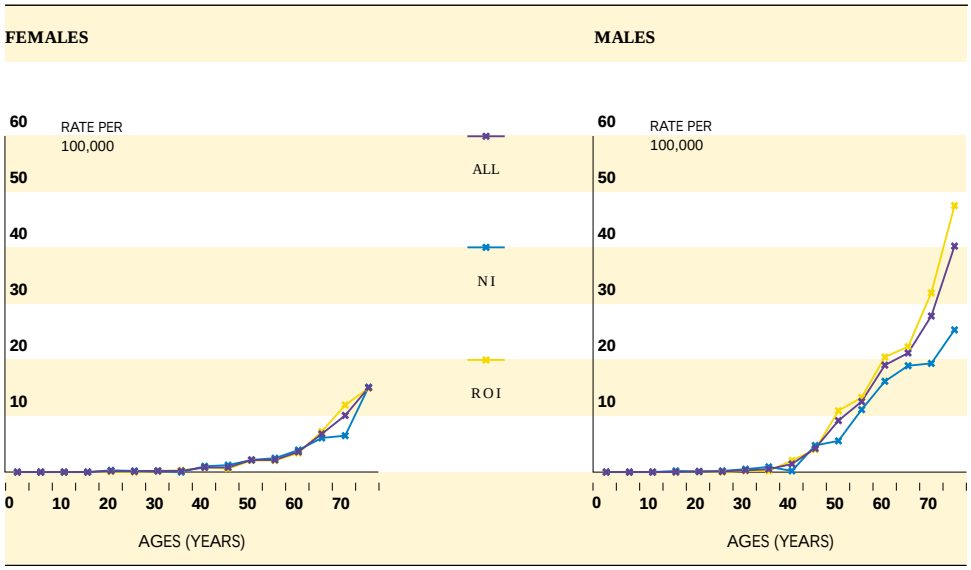
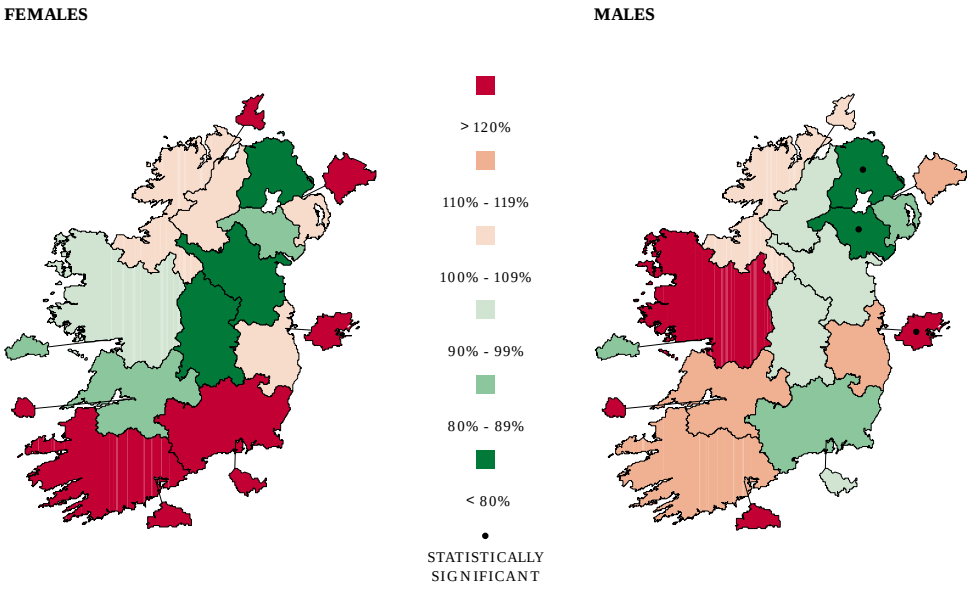


TABLE 2.08.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	52	1.7	18	1.7	35	1.8	1.6
MALES	130	5.9	32	4.6	98	6.6	8.6
PERSONS	183	3.7	50	3.0	133	4.0	-

Explanatory Notes for these figures and tables are given on pages 33-36.

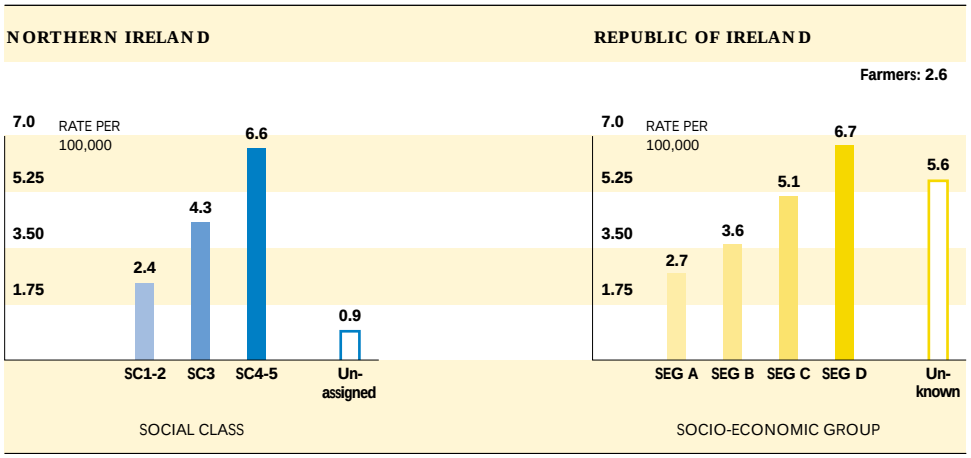
FIGURE 2.08.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The regional directly standardised mortality rate was higher in most urban centres than it was on the whole island, although rarely significantly so.
- Exceptions were Galway CB and Waterford CB where the rate tended to be lower.
- There was no other pattern in the regional variation in mortality from malignant neoplasms of the lip, oral cavity, pharynx.

- In both NI and the RoI there were clear occupational class gradients in mortality from malignant neoplasms of the lip, oral cavity, pharynx.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 140%) higher than the rate in the highest occupational class.

FIGURE 2.08.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.09 Malignant neoplasms of the oesophagus (ICD-9 150) 1989-1998

- During 1989-1998 an average of over four hundred people died each year on the island from malignant neoplasms of the oesophagus.
- The all Ireland annual directly standardised mortality rate was 8.1/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (118% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (15% higher).

FIGURE 2.09.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

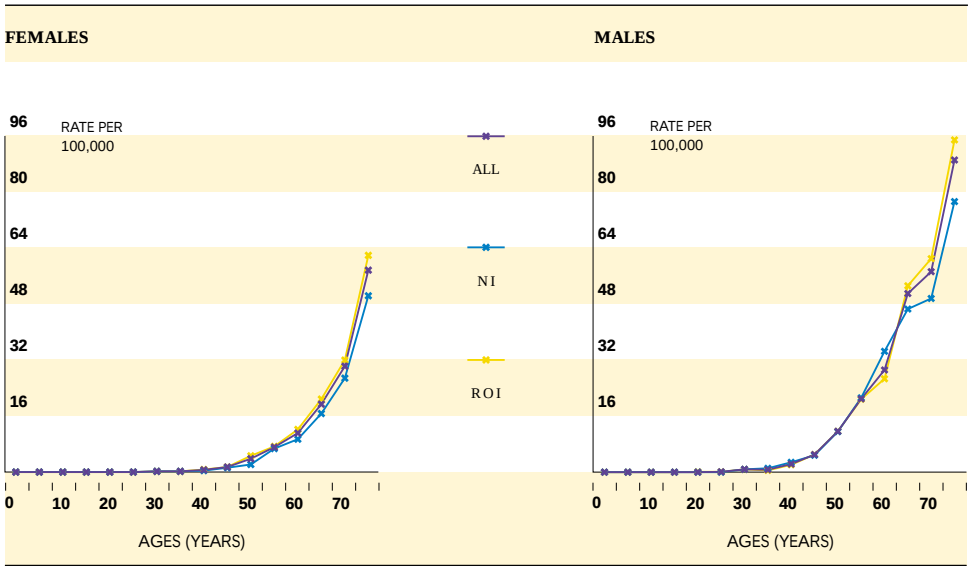
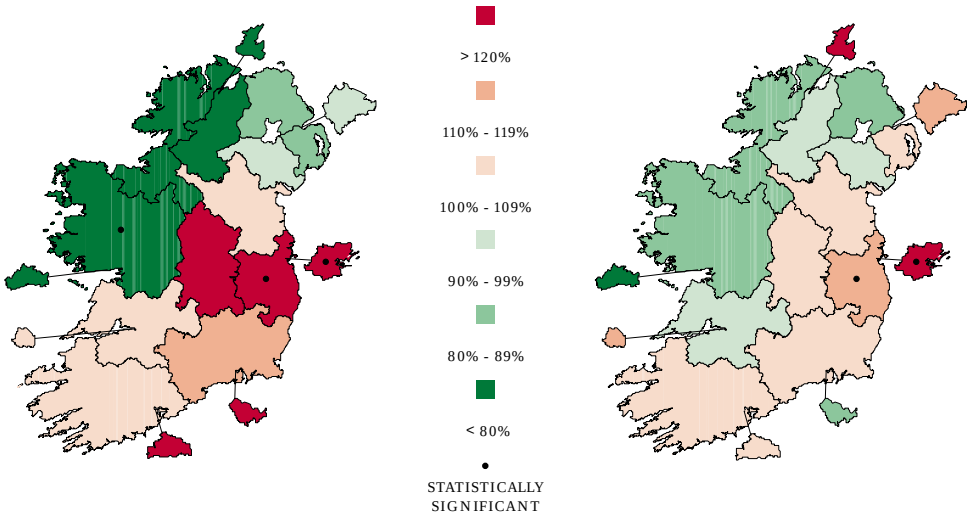


TABLE 2.09.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	166	5.2	51	4.5	115	5.6	2.0
MALES	254	11.4	78	10.9	177	11.7	9.0
PERSONS	420	8.1	129	7.3	292	8.4	-

Explanatory Notes for these figures and tables are given on pages 33-36.

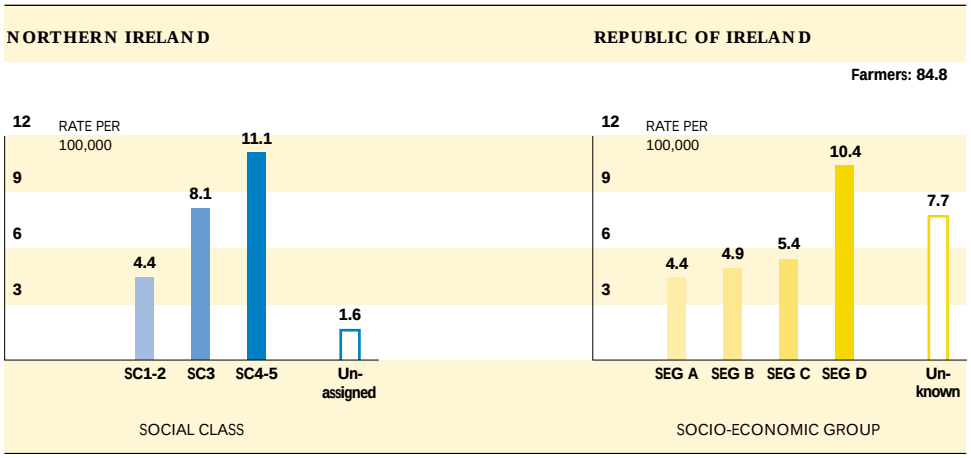
FIGURE 2.09.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- Generally speaking, the regional directly standardised mortality rates for malignant neoplasms of the oesophagus tended to be lower in NI and higher in the RoI.
- The rates also tended to be lower in the western part of the island than they were in the eastern part, although rarely significantly so.
- Urban/non-urban differences were generally consistent with these two patterns.

- In both NI and the RoI there were clear occupational class gradients in mortality from malignant neoplasms of the oesophagus.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 230%) higher than the rate in the highest occupational class.

FIGURE 2.09.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.10 Malignant neoplasms of the stomach (ICD-9 151) 1989-1998

- During 1989-1998 an average of over six hundred people died each year on the island from malignant neoplasms of the stomach.
- The all Ireland annual directly standardised mortality rate was 11.8/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (107% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (4% higher) although the difference was relatively small.

FIGURE 2.10.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

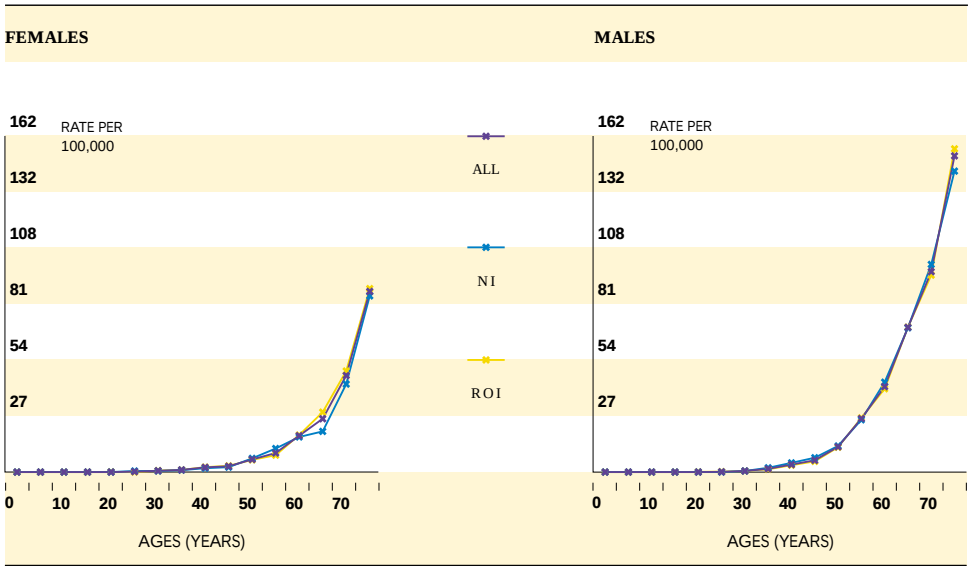
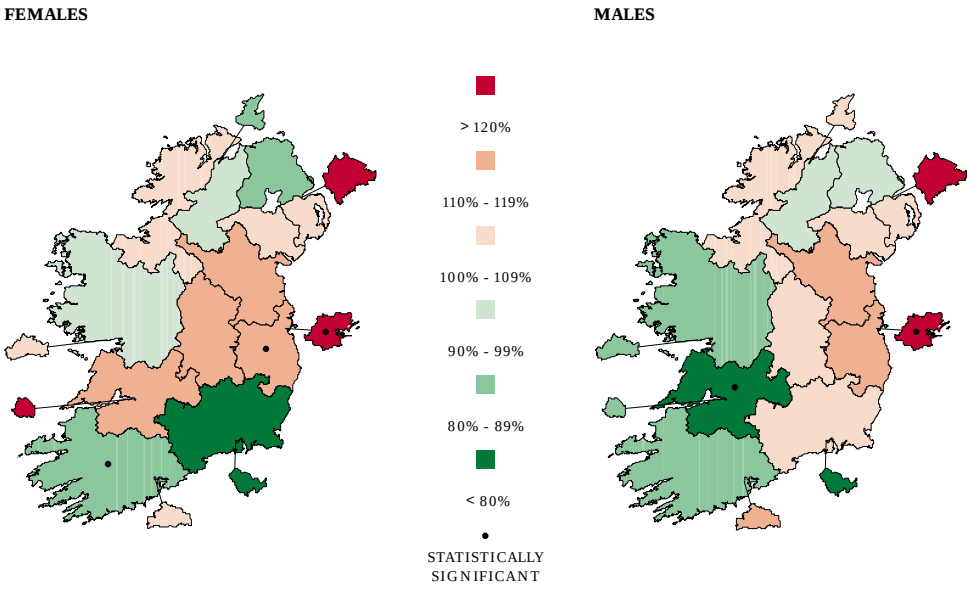


TABLE 2.10.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	253	8.0	85	7.6	168	8.2	8.6
MALES	373	16.5	121	16.6	252	16.5	18.2
PERSONS	626	11.8	206	11.5	420	11.9	-

Explanatory Notes for these figures and tables are given on pages 33-36.

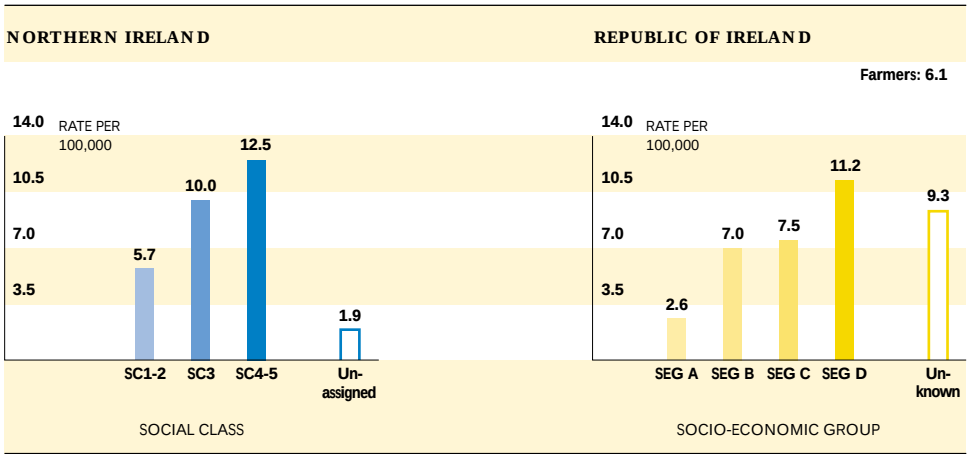
FIGURE 2.10.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- There was no obvious pattern in the regional directly standardised mortality rates for malignant neoplasms of the stomach.
- The rate tended to be higher in urban centres than it was on the whole island, although it was only significantly so in Dublin CB.

- In both NI and the RoI there were clear occupational class gradients in mortality from malignant neoplasms of the stomach.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 110%) higher than the rate in the highest occupational class.

FIGURE 2.10.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.11 Malignant neoplasms of the colon (ICD-9 153) 1989-1998

- During 1989-1998 an average of over one thousand people died each year on the island from malignant neoplasms of the colon.
- The all Ireland annual directly standardised mortality rate was 19.3/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (45% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (10% higher).

FIGURE 2.11.1
ANNUAL MORTALITY RATES (PER 100,000), BY AGE

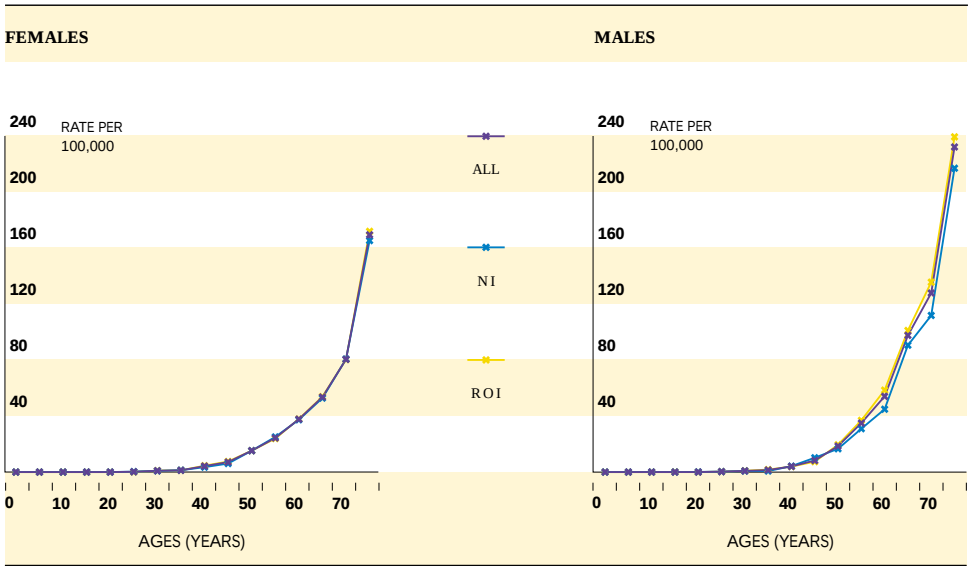
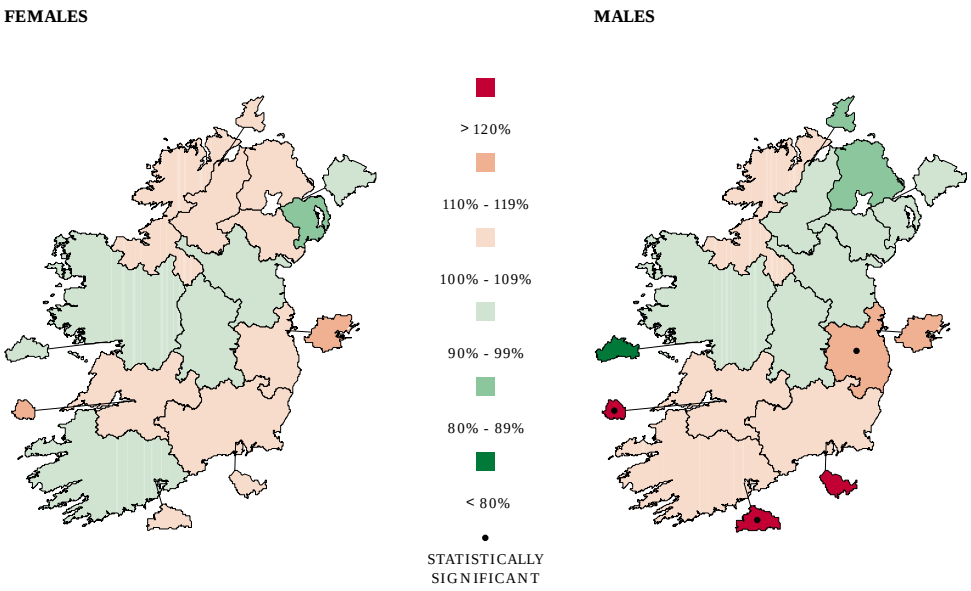


TABLE 2.11.1
ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	501	16.2	174	15.9	327	16.3	13.6
MALES	530	23.4	157	21.4	373	24.4	19.3
PERSONS	1,030	19.3	331	18.2	700	19.9	-

Explanatory Notes for these figures and tables are given on pages 33-36.

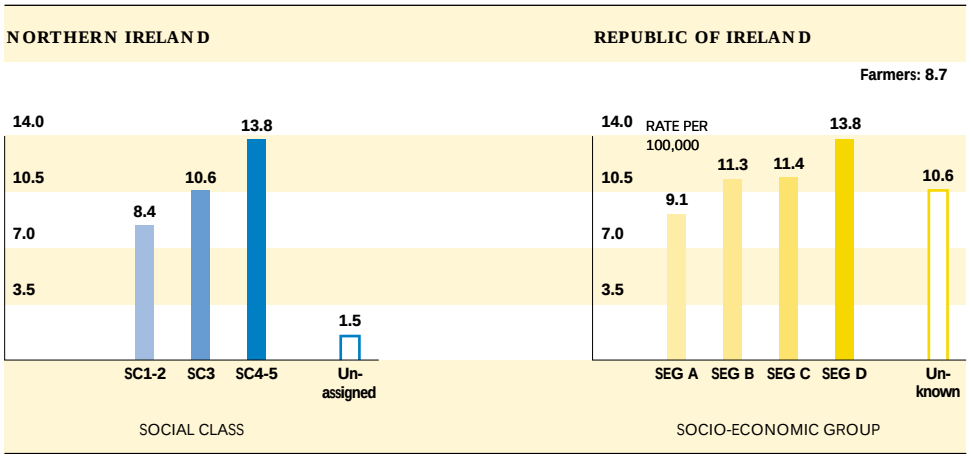
FIGURE 2.11.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The regional directly standardised mortality rate for malignant neoplasms of the colon tended to be higher in urban centres than it was on the whole island, although it was only significantly so in Dublin CB.
- There was no other obvious pattern in the regional directly standardised mortality rates.

- In both NI and the RoI there were clear occupational class gradients in mortality from malignant neoplasms of the colon.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 50%) higher than the rate in the highest occupational class.

FIGURE 2.11.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.12 Malignant neoplasms of the rectum and anus (ICD-9 154) 1989-1998

- During 1989-1998 an average of nearly three hundred and fifty people died each year on the island from malignant neoplasms of the rectum and anus.
- The all Ireland annual directly standardised mortality rate was 6.5/100,000 persons.
- The all Ireland rate was comparable to the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate was similar for both females and males, and the rate for persons was similar for both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (106% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (1% higher) although the difference was small.

FIGURE 2.12.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

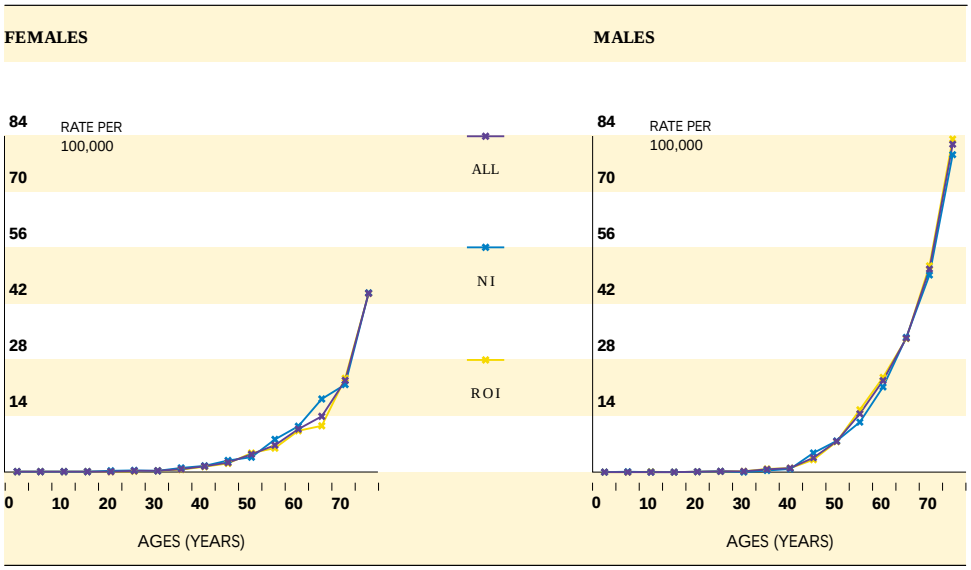
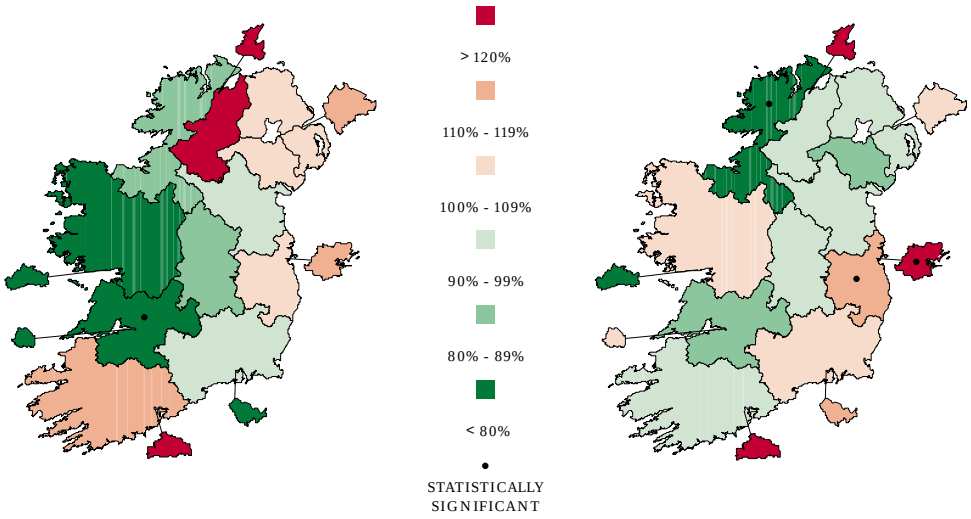


TABLE 2.12.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	136	4.4	50	4.7	86	4.3	4.8
MALES	205	9.1	64	8.8	141	9.3	8.7
PERSONS	341	6.5	115	6.4	226	6.5	-

Explanatory Notes for these figures and tables are given on pages 33-36.

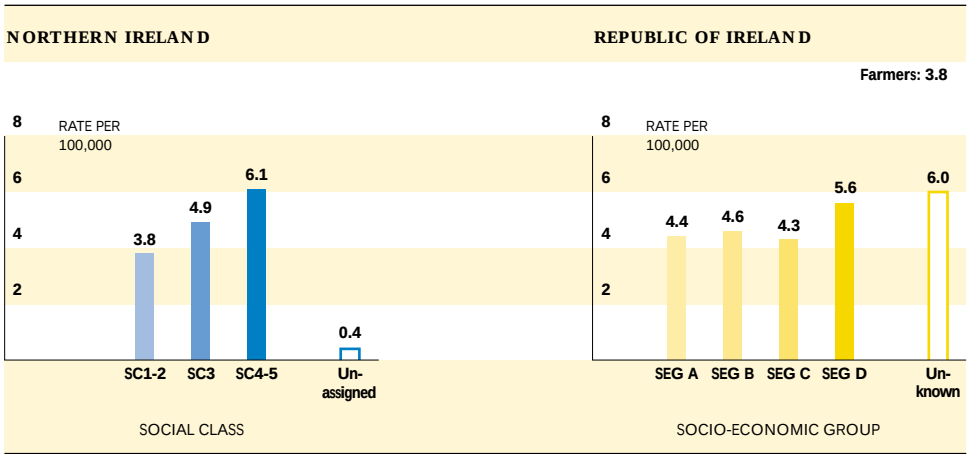
FIGURE 2.12.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The regional directly standardised mortality rate for malignant neoplasms of the rectum and anus tended to be higher in urban centres than it was on the whole island, although it was only significantly so in Dublin CB.
- There was no other obvious pattern in the regional directly standardised mortality rates.

- Only in NI was there a clear occupational class gradient in mortality from malignant neoplasms of the rectum and anus.
- In NI the annual directly standardised mortality rate in the lowest occupational class was significantly (over 60%) higher than the rate in the highest occupational class.

FIGURE 2.12.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.13 Malignant neoplasms of the liver and the intrahepatic bile ducts (ICD-9 155) 1989-1998

- During 1989-1998 an average of nearly two hundred people died each year on the island from malignant neoplasms of the liver and intrahepatic bile ducts.
- The all Ireland annual directly standardised mortality rate was 3.4/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower for both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (72% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (6% lower).

FIGURE 2.13.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

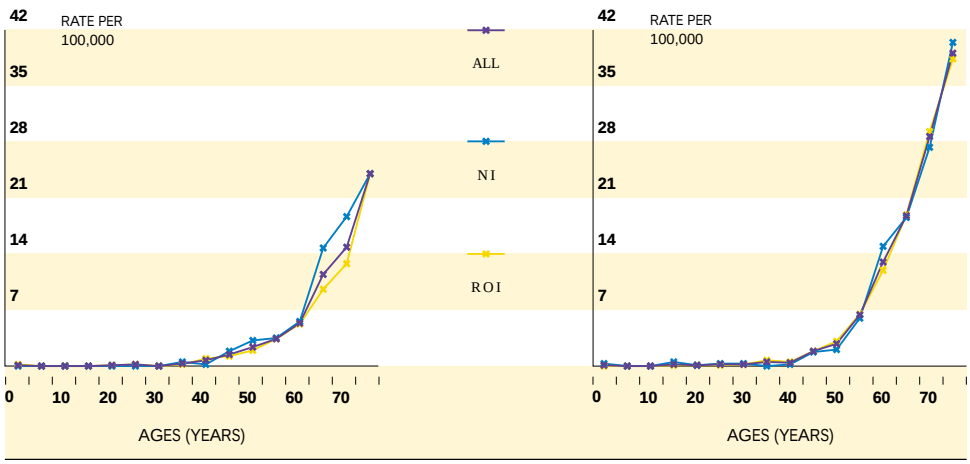
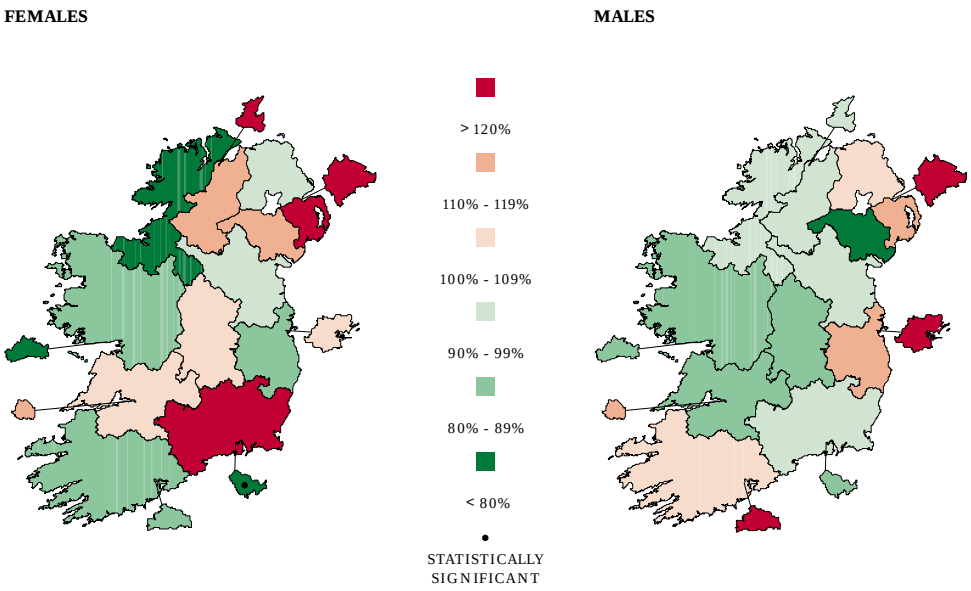


TABLE 2.13.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	80	2.6	31	2.9	49	2.5	3.9
MALES	102	4.5	33	4.5	69	4.5	11.0
PERSONS	182	3.4	64	3.6	118	3.4	-

Explanatory Notes for these figures and tables are given on pages 33-36.

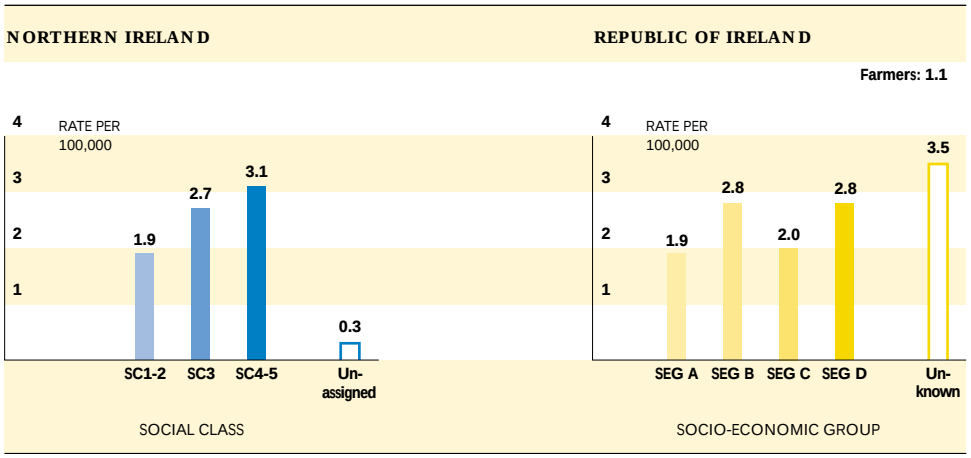
FIGURE 2.13.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- There was little significant variation in the regional directly standardised mortality rates for malignant neoplasms of the liver and intrahepatic bile ducts.
- The rate tended to be higher in urban centres than it was on the whole island.

- Only in NI was there a clear occupational class gradient in mortality from malignant neoplasms of the liver and intrahepatic bile ducts.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was non significantly (over 50%) higher than the rate in the highest occupational class.

FIGURE 2.13.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.14 Malignant neoplasms of the pancreas (ICD-9 157) 1989-1998

- During 1989-1998 an average of five hundred people died each year on the island from malignant neoplasms of the pancreas.
- The all Ireland annual directly standardised mortality rate was 9.7/100,000 persons.
- The all Ireland rate was comparable to the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate was similar for both females and males, and the rate for persons was similar in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (42% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (18% higher).

FIGURE 2.14.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

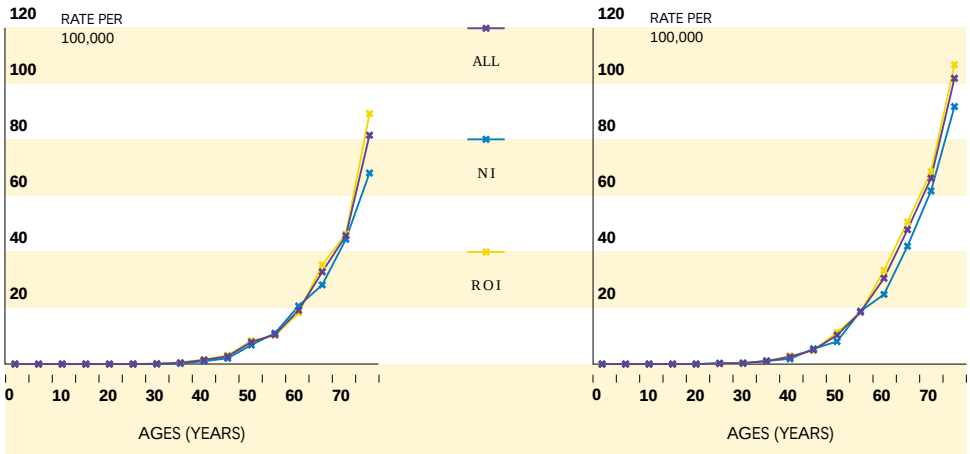
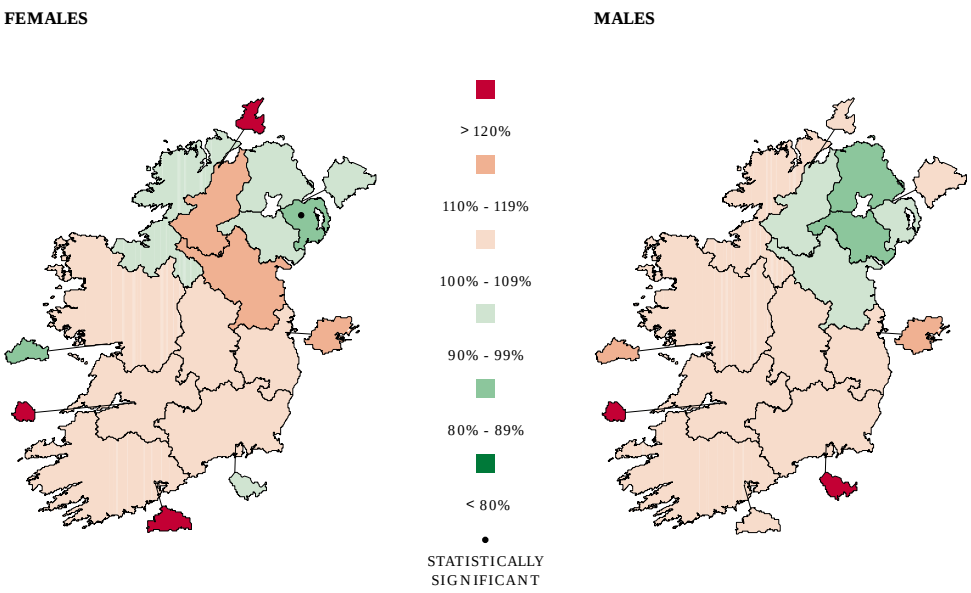


TABLE 2.14.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	252	8.2	79	7.4	173	8.6	7.5
MALES	261	11.6	76	10.5	185	12.2	11.2
PERSONS	514	9.7	155	8.7	358	10.3	-

Explanatory Notes for these figures and tables are given on pages 33-36.

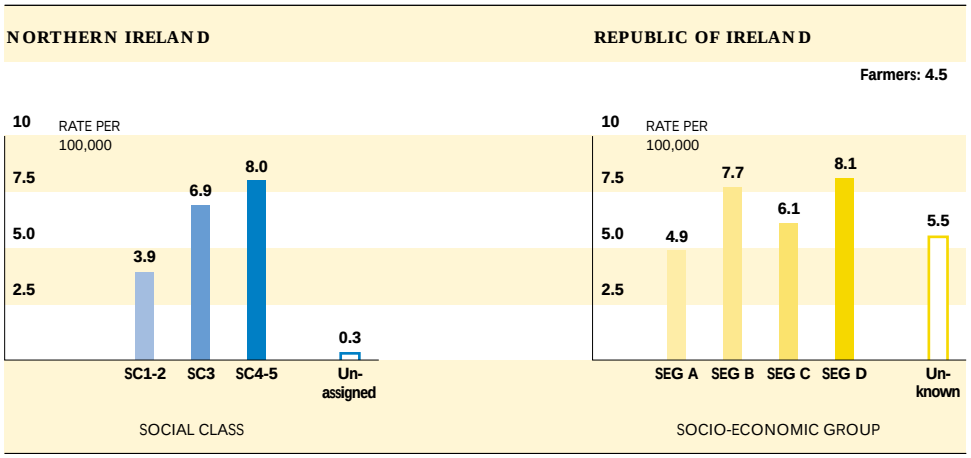
FIGURE 2.14.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The regional directly standardised mortality rates for malignant neoplasms of the pancreas tended to be lower in NI and higher in the RoI.
- The rate was generally higher in urban centres than it was on the whole island, although not significantly so.

- Only in NI was there a clear occupational class gradient in mortality from malignant neoplasms of the pancreas.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 60%) higher than the rate in the highest occupational class.

FIGURE 2.14.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.15 Malignant neoplasms of the larynx and trachea/bronchus/lung (ICD-9 161-162) 1989-1998

- During 1989-1998 an average of nearly two thousand four hundred people died each year on the island from malignant neoplasms of the larynx and trachea/bronchus/ lung.
- The all Ireland annual directly standardised mortality rate was 46.7/100,000 persons.
- When compared to the (combined) EU-15 countries, the all Ireland rate was higher for females and lower for males.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (162% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons in the RoI was only slightly (1%) lower than it was in NI, although this was significant because of the large number of deaths involved.

FIGURE 2.15.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

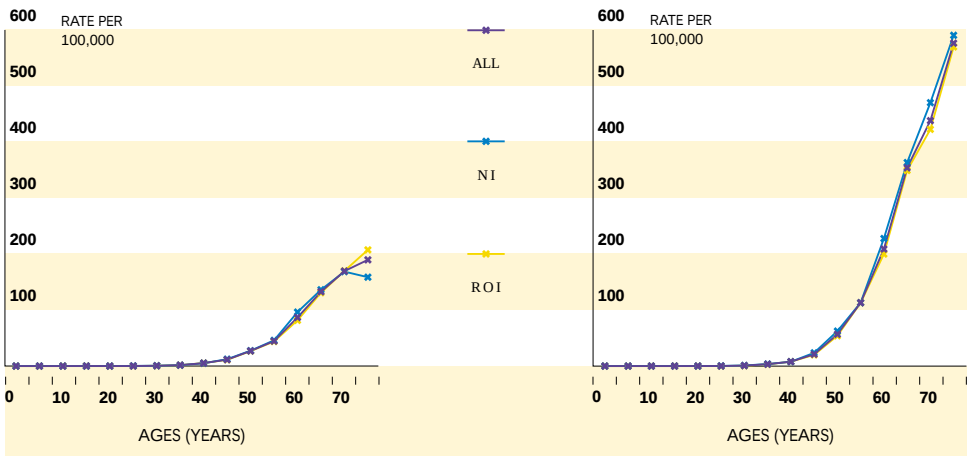
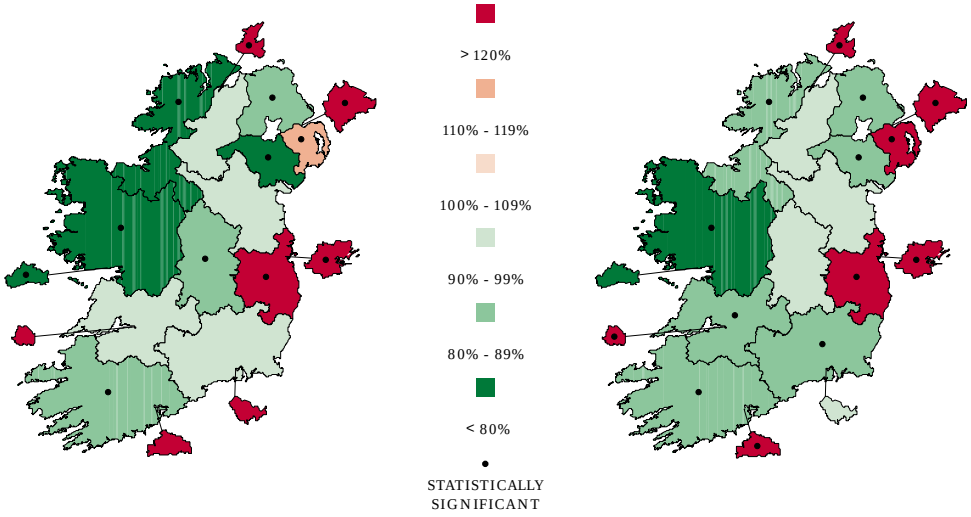


TABLE 2.15.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	790	27.4	265	26.9	525	27.7	15.0
MALES	1,606	71.6	545	75.0	1,061	70.0	78.3
PERSONS	2,396	46.7	810	46.9	1,586	46.6	-

Explanatory Notes for these figures and tables are given on pages 33-36.

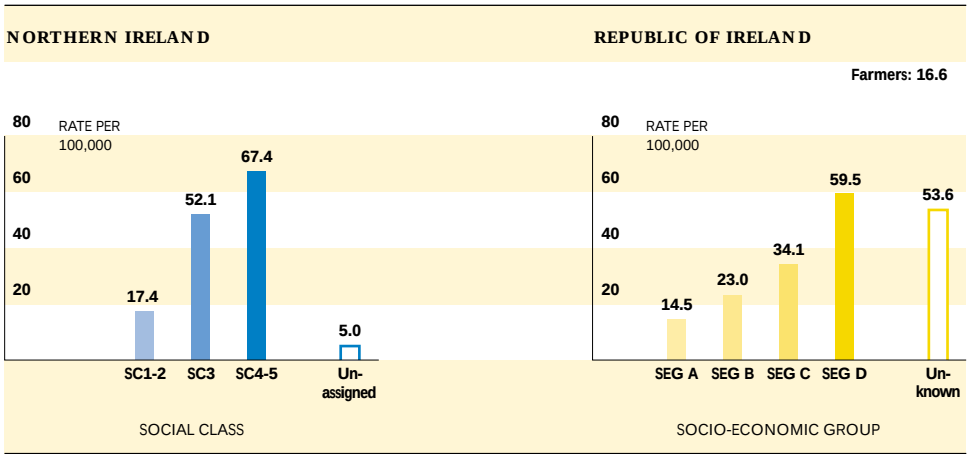
FIGURE 2.15.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The regional directly standardised mortality rate for malignant neoplasms of the larynx and trachea/bronchus/lung was significantly higher in most urban centres than it was on the whole island.
- Notable exceptions were Galway CB where the mortality rate was significantly lower.
- This urban excess and non-urban deficit accounted for most of the variation in regional directly standardised mortality rates.

- In both NI and the RoI there were clear occupational class gradients in mortality from malignant neoplasms of the larynx and trachea/bronchus/lung.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 280%) higher than the rate in the highest occupational class.

FIGURE 2.15.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.16 Malignant neoplasms of the skin (ICD-9 172) 1989-1998

- During 1989-1998 an average of nearly one hundred people died each year on the island from malignant neoplasms of the skin.
- The all Ireland annual directly standardised mortality rate was 1.7/100,000 persons.
- The all Ireland rate was comparable to the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate was similar for both females and males, and the rate for persons was similar in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly lower amongst males (4% lower), although the difference was small.
- This was true only in the RoI.
- The directly standardised mortality rates for persons in the RoI was significantly higher than it was in NI (16% higher).

- There was no obvious pattern in the regional directly standardised mortality rates.

FIGURE 2.16.1
ANNUAL MORTALITY RATES (PER 100,000), BY AGE

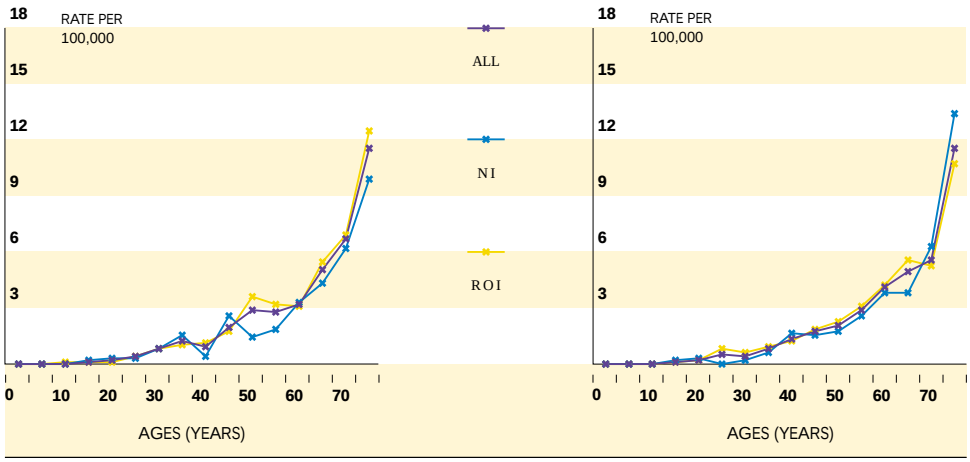
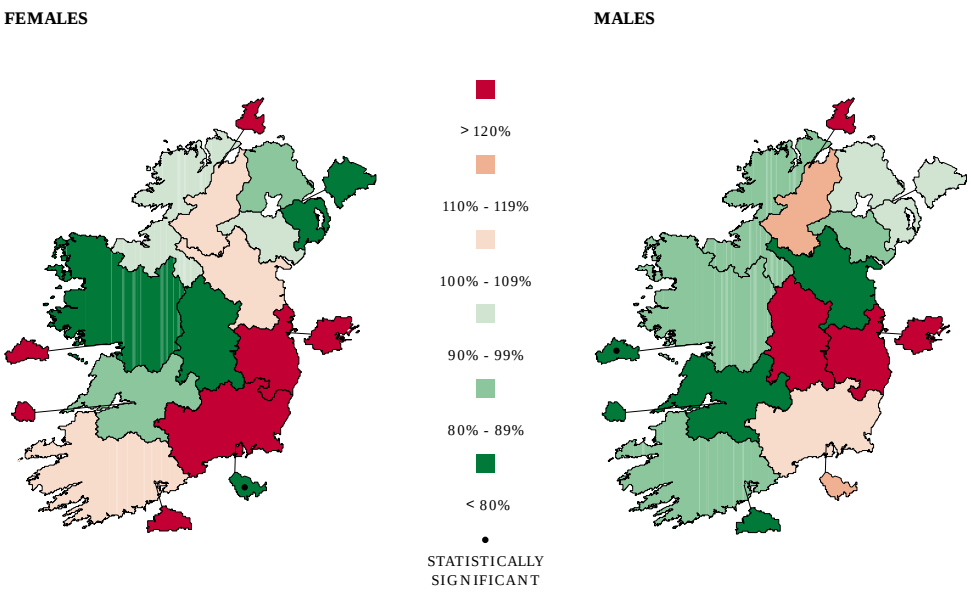


TABLE 2.16.1
ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	49	1.7	15	1.5	34	1.9	1.7
MALES	38	1.7	12	1.6	26	1.7	2.3
PERSONS	86	1.7	27	1.5	60	1.8	-

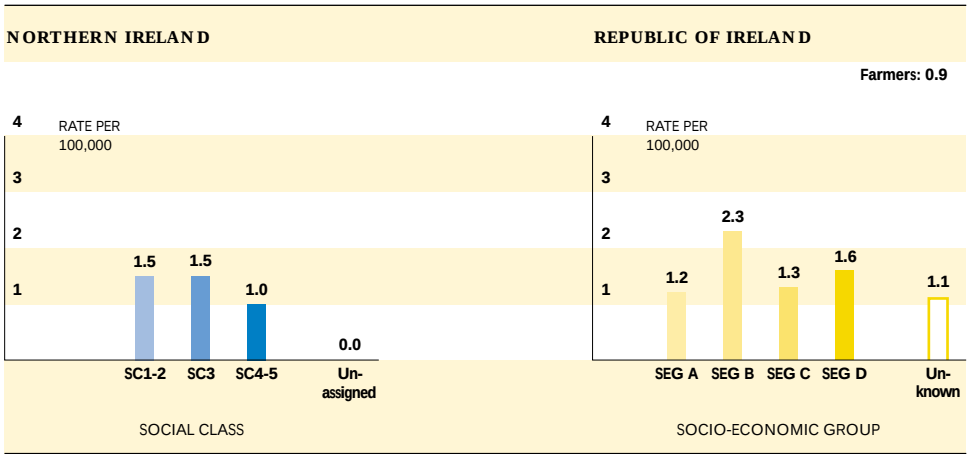
Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.16.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- In neither NI nor the RoI was there a clear occupational class gradient in mortality from malignant neoplasms of the skin.
- In neither jurisdiction was there a significant difference in the annual directly standardised mortality rate in the highest and lowest occupational classes.

FIGURE 2.16.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.17 Malignant neoplasms of the (female) breast (ICD-9 174) 1989-1998

- During 1989-1998 an average of nearly one thousand women died each year on the island from malignant neoplasms of the breast.
- The all Ireland annual directly standardised mortality rate was 36.6/100,000 females.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate was higher in both NI and the RoI.

- The directly standardised mortality rate was significantly higher in the RoI than it was in NI (8% higher).

FIGURE 2.17.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

FEMALES

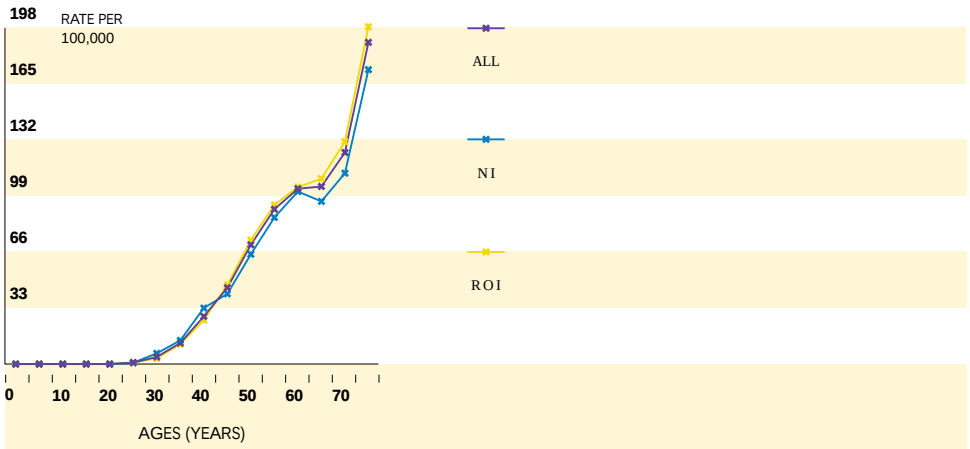


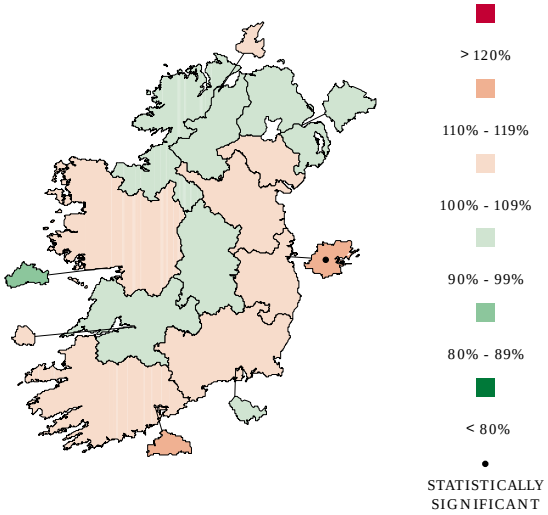
TABLE 2.17.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	954	36.3	311	34.5	643	37.2	30.5

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.17.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

FEMALES



- Generally speaking, when compared to the whole island the regional directly standardised mortality rates tended to be higher in the RoI and lower in NI.
- There was, however, little significant regional variation.
- The one exception was a significantly higher rate in Dublin CB.

Occupational class differences in mortality from malignant neoplasms of the (female) breast were not assessed because of general problems associated with occupation coding for women. See Section 5.3 for further details.

The drop in the age specific mortality rate in the 65-69 years age group in NI is noteworthy.

2.18 Malignant neoplasms of the cervix uteri (ICD-9 180) 1989-1998

- During 1989-1998 an average of one hundred women died each year on the island from malignant neoplasms of the cervix uteri.
- The all Ireland annual directly standardised mortality rate was 4.2/100,000 females.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate was higher in both NI and the RoI.

- The directly standardised mortality rate was significantly higher in the RoI than it was in NI (6% higher).

FIGURE 2.18.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

FEMALES

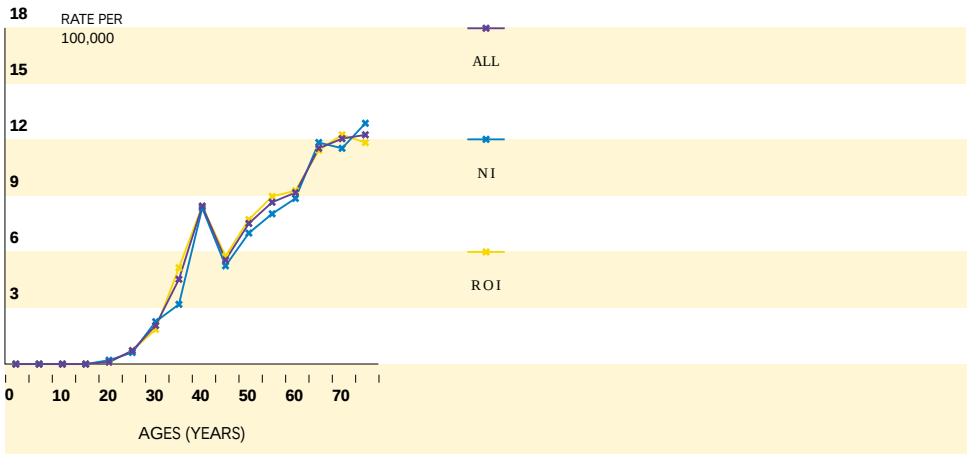


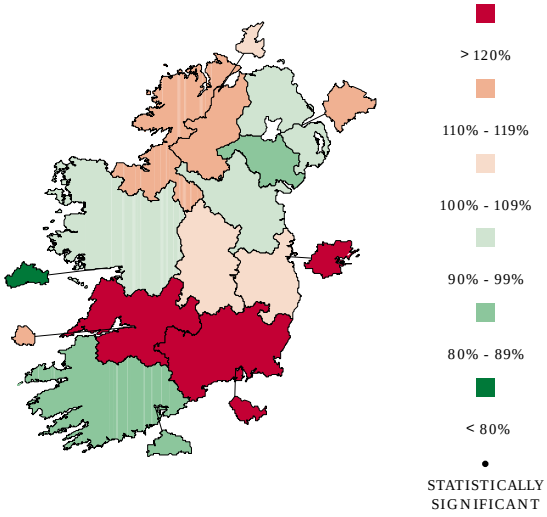
TABLE 2.18.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	105	4.2	34	4.0	71	4.3	3.0

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.18.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

FEMALES



- The regional directly standardised mortality rate for malignant neoplasms of the cervix uteri tended to be higher in urban centres than on the whole island, although not significantly.
- The exceptions were Galway CB and Cork CB where the rate was non-significantly lower than it was the whole island.

Occupational class differences in mortality from malignant neoplasms of the cervix uteri were not assessed because of general problems associated with occupation coding for women. See Section 5.3 for further details.

2.19 Malignant neoplasms of other parts of uterus (ICD-9 179,182) 1989-1998

- During 1989-1998 an average of one hundred women died each year on the island from malignant neoplasms of other parts of the uterus.
- The all Ireland annual directly standardised mortality rate was 3.3/100,000 females.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate was lower in both NI and the RoI.

- The directly standardised mortality rate was significantly higher in the RoI than it was in NI (18% higher).

FIGURE 2.19.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

FEMALES

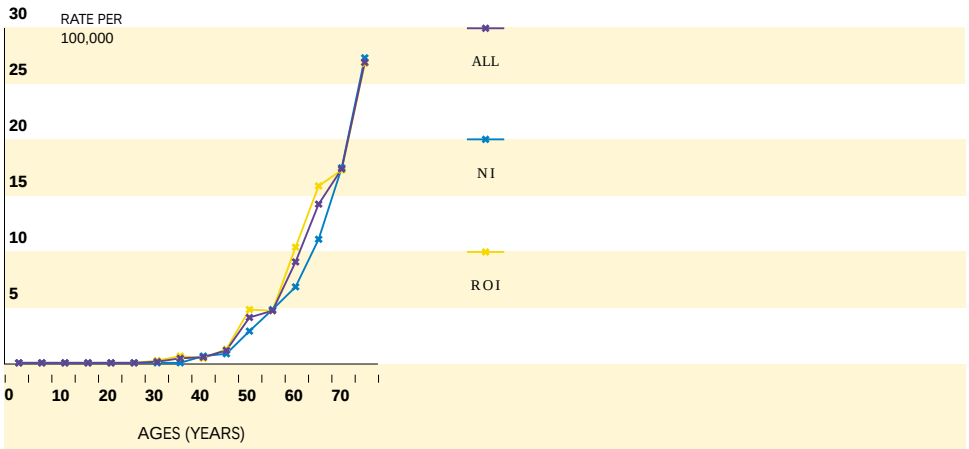


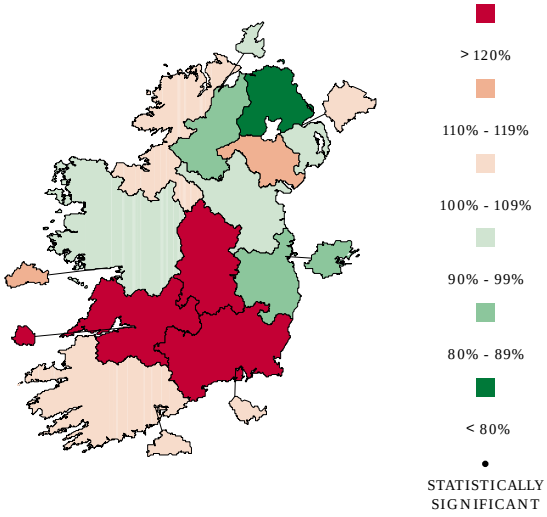
TABLE 2.19.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	97	3.3	32	2.9	65	3.5	4.7

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.19.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

FEMALES



- The regional directly standardised mortality rate for malignant neoplasms of other parts of the uterus tended to be higher in urban centres than on the whole island, although not significantly.
- The exceptions were Dublin CB and Derry LGD where the rate was non-significantly lower than the whole island.

Occupational class differences in mortality from malignant neoplasms of other parts of the uterus were not assessed because of general problems associated with occupation coding for women. See Section 5.3 for further details.

2.20 Malignant neoplasms of the ovary (ICD-9 183.0) 1989-1998

- During 1989-1998 an average of three hundred women died each year on the island from malignant neoplasms of the ovary.
- The all Ireland annual directly standardised mortality rate was 11.5/100,000 females.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate was higher in both NI and the RoI.

- The directly standardised mortality rate was significantly higher in the RoI than it was in NI (23% higher)

FIGURE 2.20.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

FEMALES

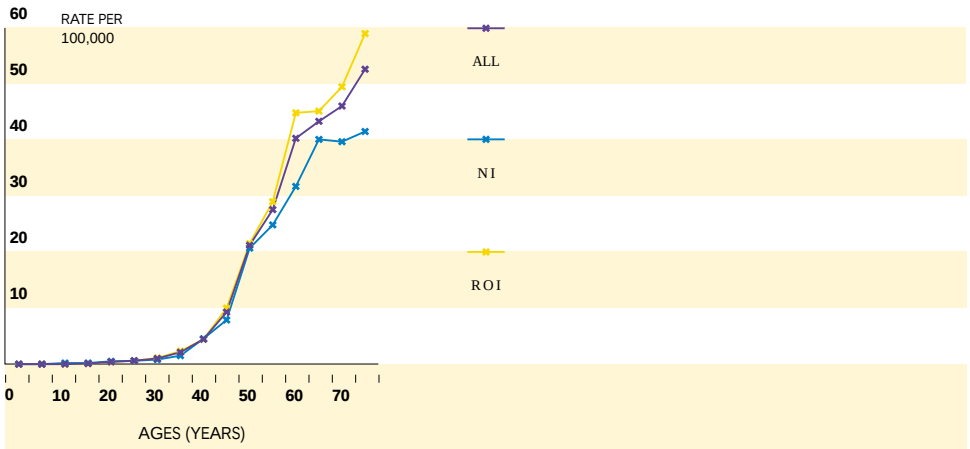


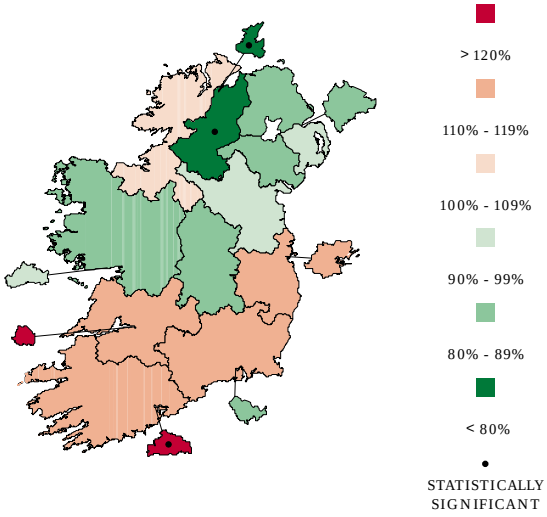
TABLE 2.20.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	302	11.5	90	10.0	212	12.3	8.9

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.20.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

FEMALES



- When compared to the whole island, the regional directly standardised mortality rate for malignant neoplasms of the ovary tended to be higher in the southern part of the island and lower in the northern part of the island. This variation was mostly non-significant.

  Occupational class differences in mortality from malignant neoplasms of the ovary were not assessed because of general problems associated with occupation coding for women. See Section 5.3 for further details.

2.21 Malignant neoplasms of the prostate (ICD-9 185) 1989-1998

- During 1989-1998 an average of nearly seven hundred men died each year on the island from malignant neoplasms of the prostate.
- The all Ireland annual directly standardised mortality rate was 29.2/100,000 males.
- The all Ireland rate was slightly higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate was lower in NI but higher in the RoI.

- The directly standardised mortality rate was significantly higher in the RoI than it was in NI (19% higher).

FIGURE 2.21.1
ANNUAL MORTALITY RATES (PER 100,000), BY AGE

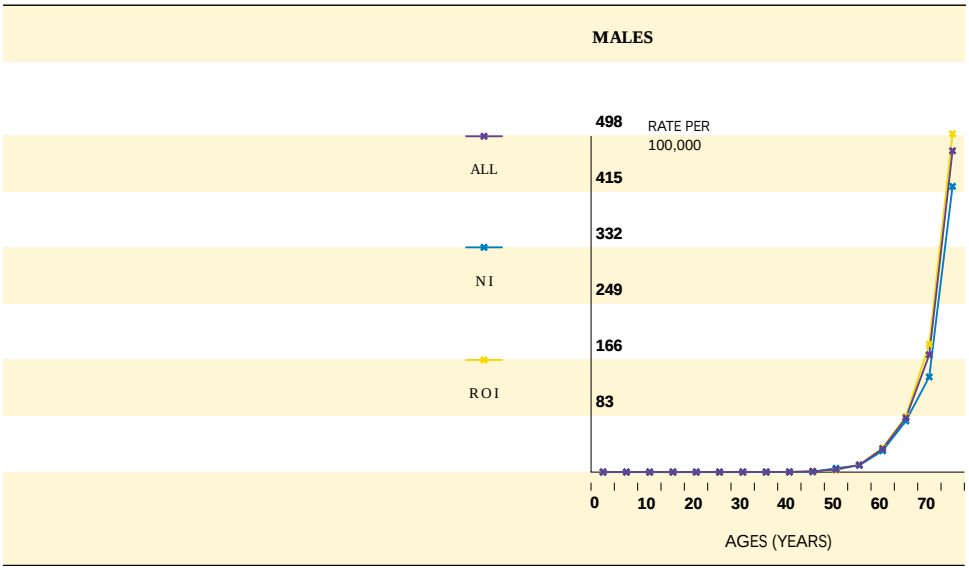
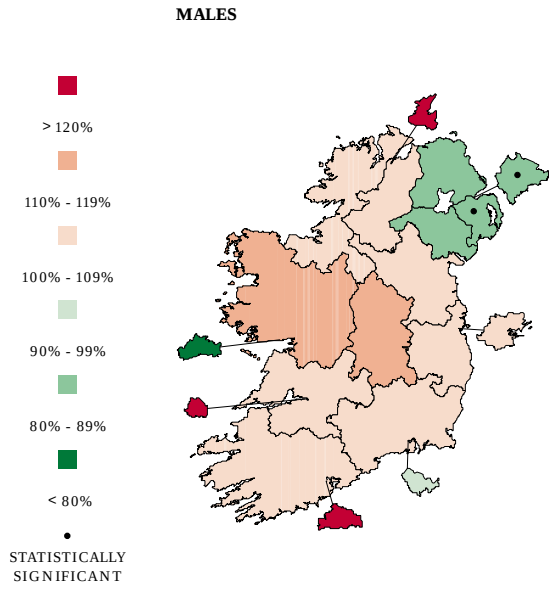


TABLE 2.21.1
ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
MALES	689	29.2	198	26.0	491	30.8	27.8

Explanatory Notes for these figures and tables are given on pages 33-36.

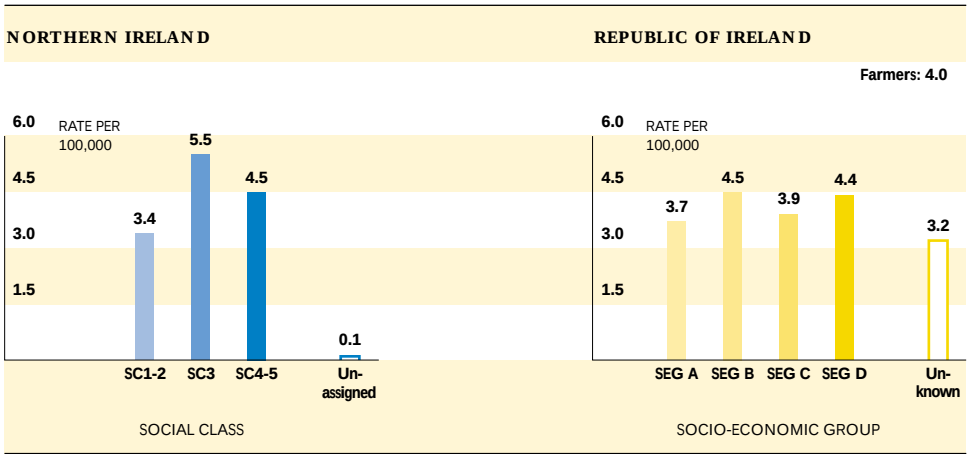
FIGURE 2.21.2
DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The regional directly standardised mortality rate for malignant neoplasms of the prostate tended to be lower in NI, and higher in the RoI, than it was on the whole island.
- There was no other obvious pattern in the regional directly standardised mortality rates.

- In neither NI nor the RoI was there an occupational class gradient in mortality from malignant neoplasms of the prostate.
- In neither jurisdiction was there a significant difference in the annual directly standardised mortality rate of the highest and lowest occupational classes.

FIGURE 2.21.3
ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.22 Malignant neoplasms of the kidney (ICD-9 189.0) 1989-1998

- During 1989-1998 an average of nearly two hundred people died each year on the island from malignant neoplasms of the kidney.
- The all Ireland annual directly standardised mortality rate was 3.7/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (114% higher).
- This was true in both NI and the RoI.
- There was no significant difference in the directly standardised mortality rate for persons in NI and the RoI.

FIGURE 2.22.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

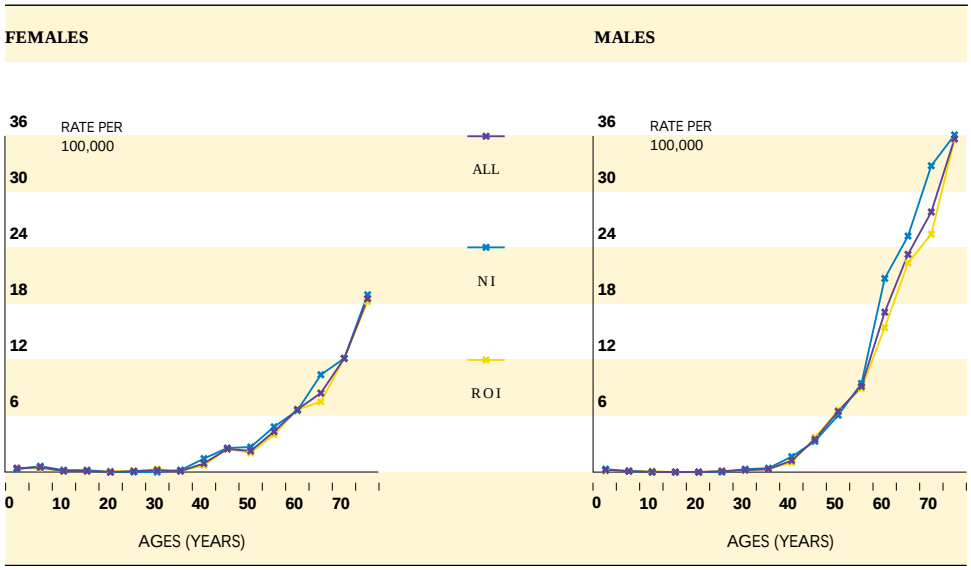
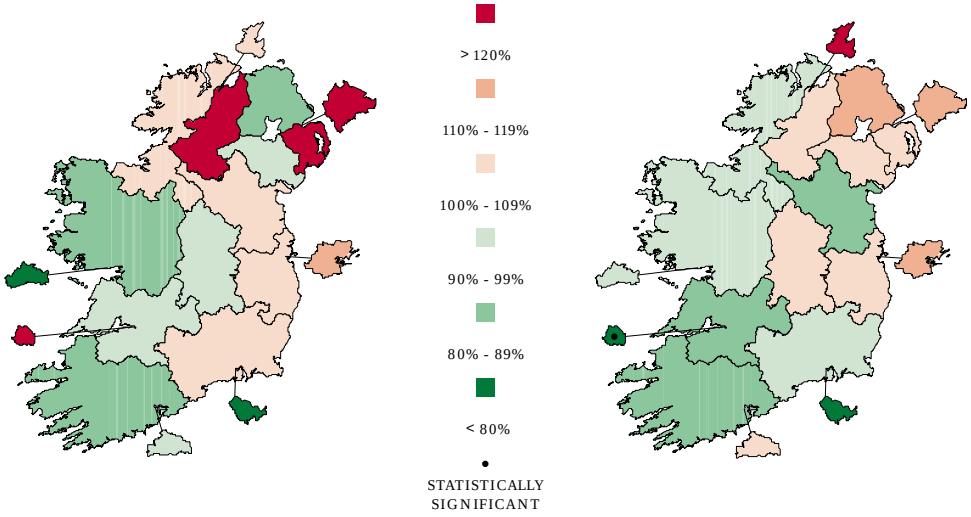


TABLE 2.22.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	72	2.5	27	2.7	45	2.4	2.7
MALES	117	5.3	41	5.7	76	5.1	6.3
PERSONS	189	3.7	68	4.0	121	3.6	-

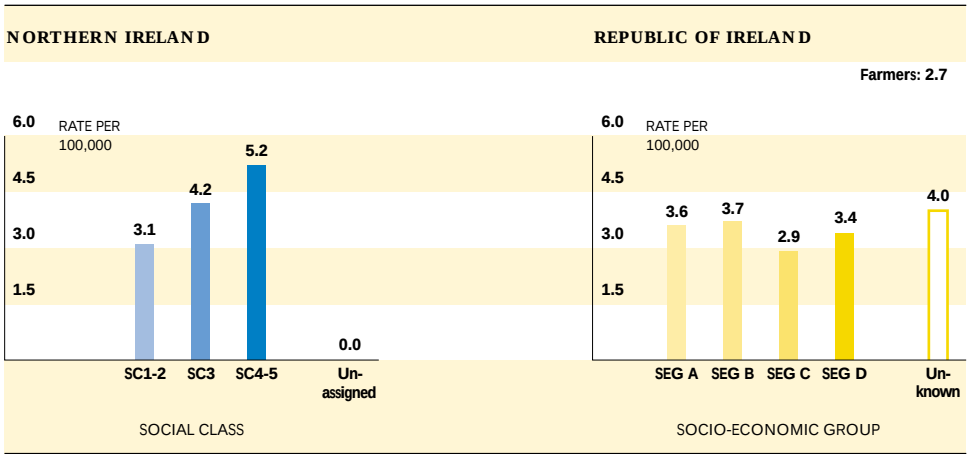
Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.22.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- There was no obvious pattern in the regional directly standardised mortality rates.
- Only in NI was there a clear occupational class gradient in mortality from malignant neoplasms of the kidney.
- In NI the annual directly standardised mortality rate in the lowest occupational class was significantly (over 60%) higher than the rate in the highest occupational class.

FIGURE 2.22.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.23 Malignant neoplasms of the bladder (ICD-9 188) 1989-1998

- During 1989-1998 an average of two hundred and fifty people died each year on the island from malignant neoplasms of the bladder.
- The all Ireland annual directly standardised mortality rate was 4.5/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (202% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (6% lower).

FIGURE 2.23.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

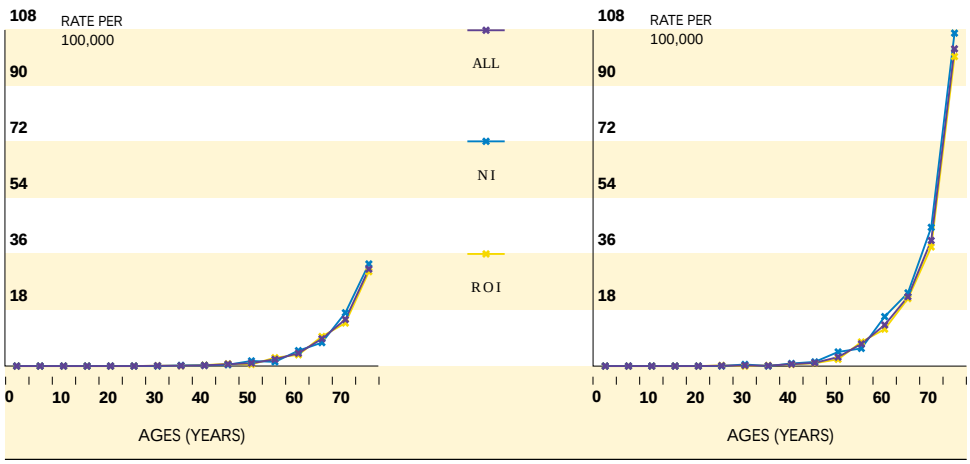
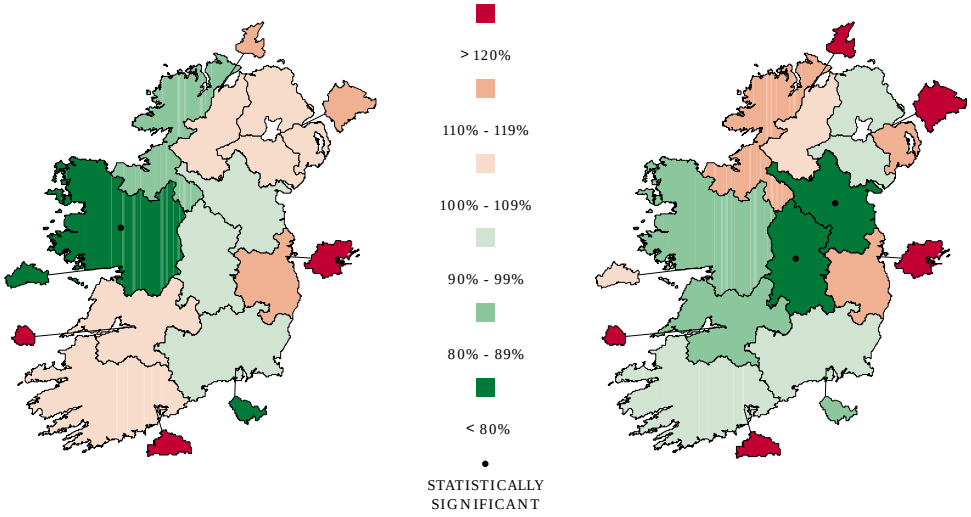


TABLE 2.23.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	81	2.4	30	2.6	51	2.4	2.5
MALES	170	7.4	59	7.9	111	7.1	11.5
PERSONS	252	4.5	90	4.7	162	4.4	-

Explanatory Notes for these figures and tables are given on pages 33-36.

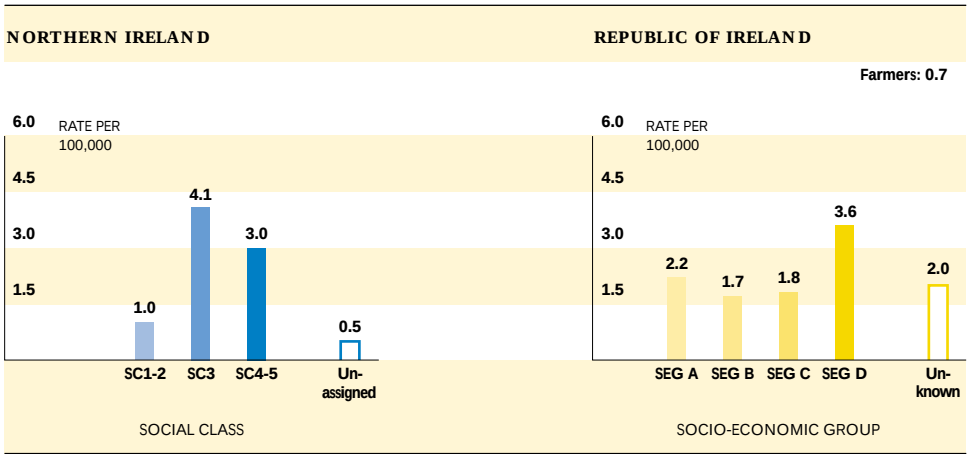
FIGURE 2.23.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The regional directly standardised mortality rate for malignant neoplasms of the bladder tended to be higher in urban centres than it was on the whole island, although not significantly so.
- Exceptions were Galway CB and Waterford CB.
- There was no other obvious pattern in the regional directly standardised mortality rates.

- In neither NI nor the RoI was there a clear occupational class gradient in mortality from malignant neoplasms of the bladder.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 60%) higher than the rate in the highest occupational class.

FIGURE 2.23.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.24 Malignant neoplasms of the lymph/haematopoietic tissue (ICD-9 200-208) 1989-1998

- During 1989-1998 an average of eight hundred and fifty people died each year on the island from malignant neoplasms of the lymph/haematopoietic tissue.
- The all Ireland annual directly standardised mortality rate was 16.4/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (58% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (12% higher).

FIGURE 2.24.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

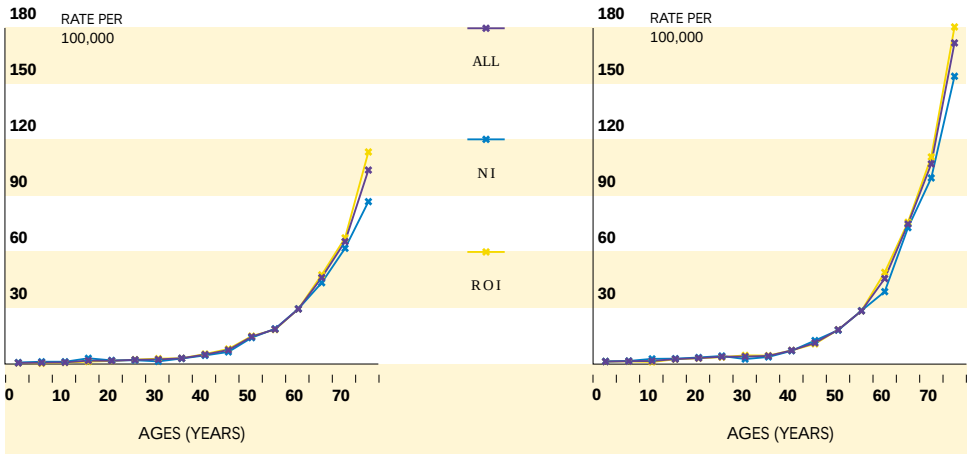
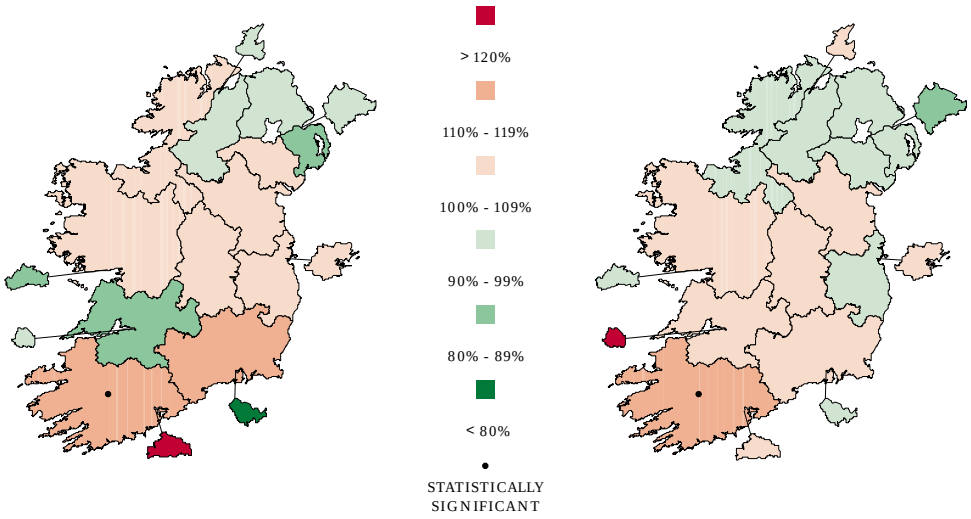


TABLE 2.24.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	385	13.0	123	12.1	263	13.5	11.7
MALES	473	20.6	143	19.4	330	21.2	18.5
PERSONS	859	16.4	266	15.2	593	17.0	-

Explanatory Notes for these figures and tables are given on pages 33-36.

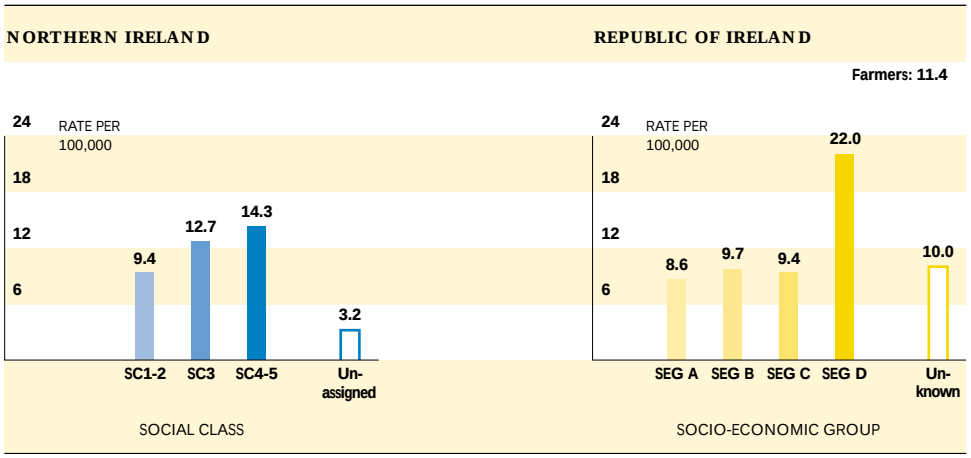
FIGURE 2.24.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- When compared to the whole island, the regional directly standardised mortality rates for malignant neoplasms of the lymph/haematopoietic tissue tended to be higher in the southern parts of the island and lower in the northern parts. Only the excess mortality in the Southern HB in the RoI was statistically significant.
- There was no other obvious pattern in the regional directly standardised mortality rates.

- In neither NI nor the RoI was there a clear occupational class gradient in mortality from malignant neoplasms of the lymph/haematopoietic tissue.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 50%) higher than the rate in the highest occupational class.

FIGURE 2.24.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.25 Diseases of the blood and blood-forming organs, immunological disorders (ICD-9 279-289) 1989-1998

- During 1989-1998 an average of one hundred and fifty people died each year on the island from diseases of the blood and blood-forming organs, immunological disorders.
- The all Ireland annual directly standardised mortality rate was 2.5/100,000 persons.
- The all Ireland rate was similar to the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was similar, and the rate for persons was lower in NI and higher in the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (27% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (148% higher).

FIGURE 2.25.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

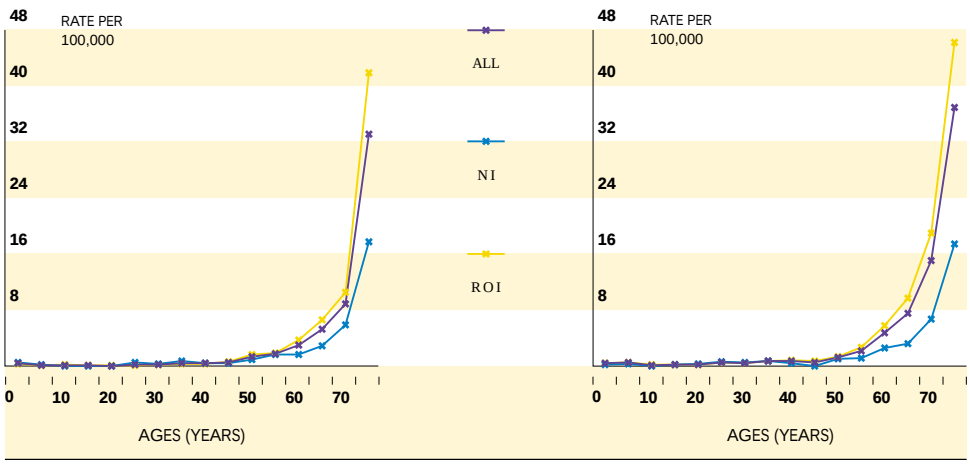
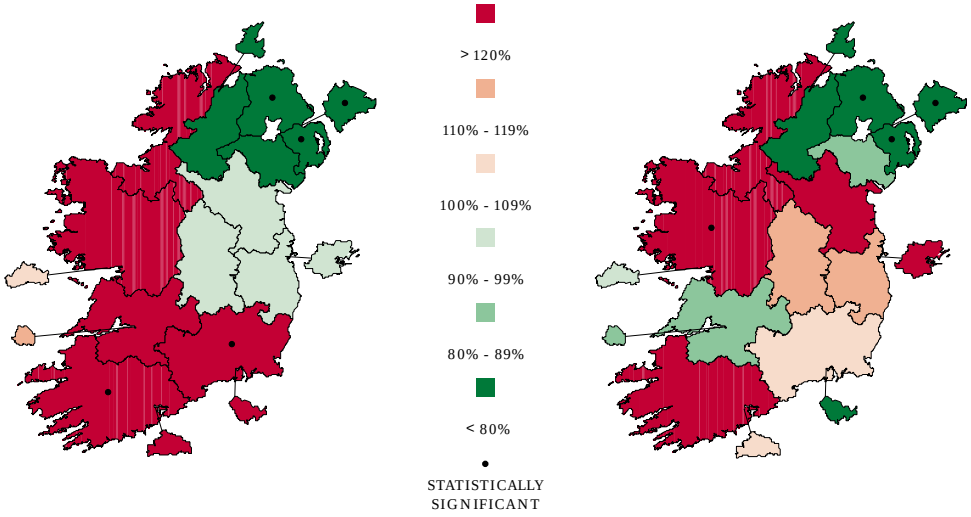


TABLE 2.25.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	77	2.3	16	1.4	61	2.7	2.1
MALES	68	2.9	11	1.5	57	3.6	3.1
PERSONS	145	2.5	28	1.4	117	3.1	-

Explanatory Notes for these figures and tables are given on pages 33-36.

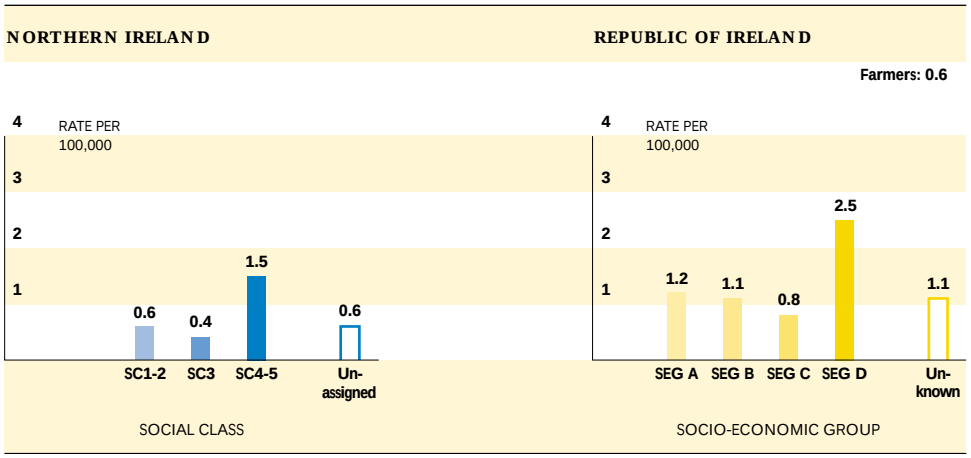
FIGURE 2.25.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- When compared to the whole island, the regional directly standardised mortality rates for diseases of the blood and blood-forming organs, immunological disorders tended to be higher in the southern parts of the island and lower in the northern parts, sometimes significantly so.
- Mortality in urban centres tended to follow this pattern.

- In neither NI nor the RoI was there a clear occupational class gradient in mortality from diseases of the blood and blood-forming organs, immunological disorders.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 100%) higher than the rate in the highest occupational class.

FIGURE 2.25.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.26 Endocrine, nutritional and metabolic diseases (ICD-9 240-278) 1989-1998

- During 1989-1998 an average of six hundred and forty people died each year on the island from endocrine, nutritional and metabolic diseases.
- The all Ireland annual directly standardised mortality rate was 11.5/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (35% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (245% higher).

FIGURE 2.26.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

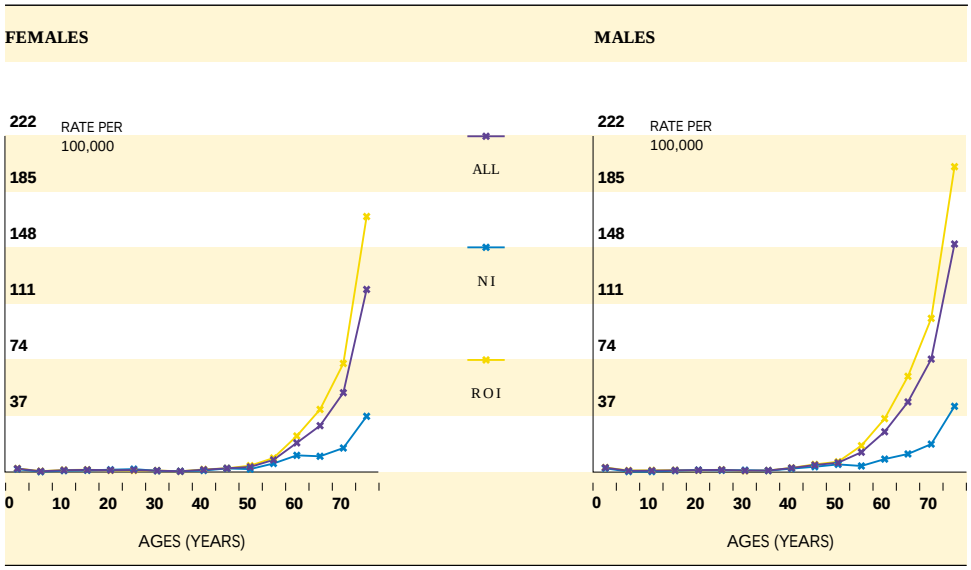
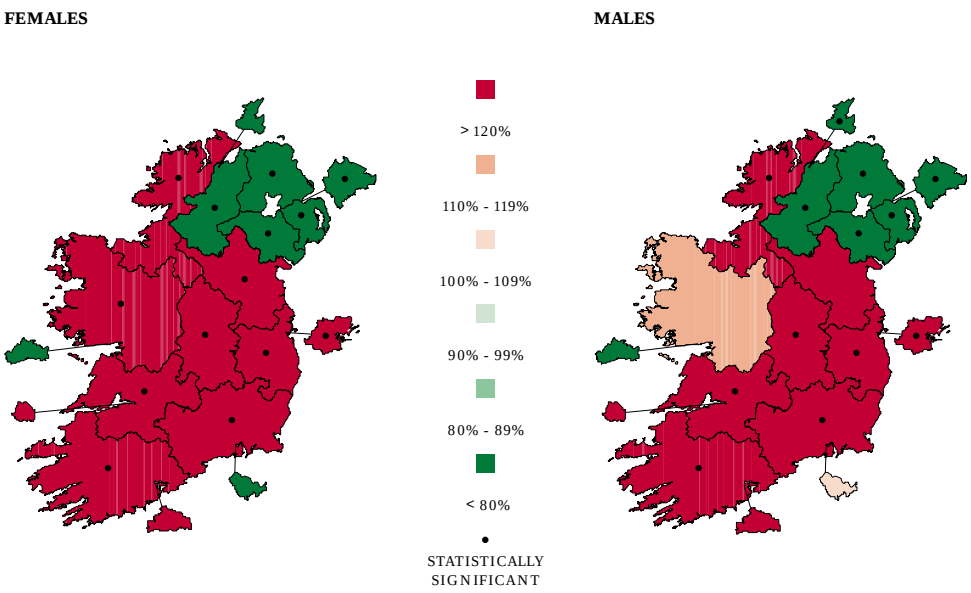


TABLE 2.26.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	327	10.1	44	4.2	283	13.2	16.9
MALES	313	13.5	35	4.7	278	17.7	18.0
PERSONS	640	11.5	79	4.4	562	15.2	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.26.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

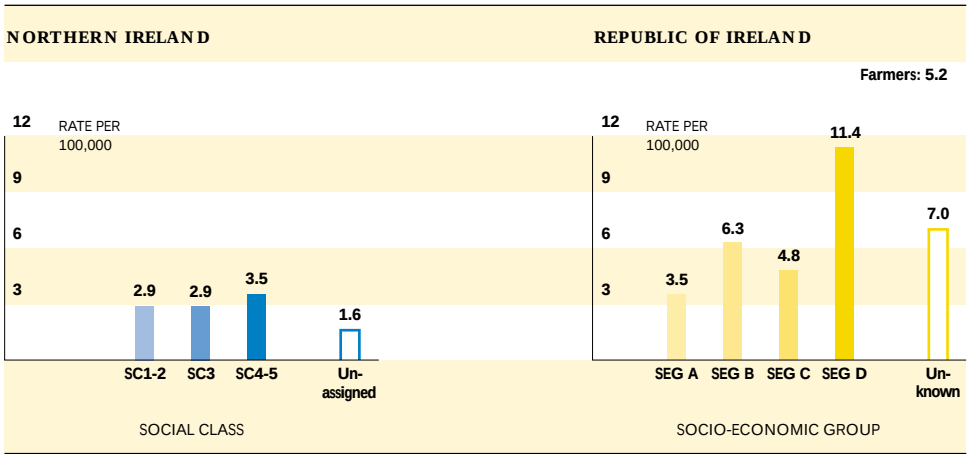


- When compared to the whole island, the regional directly standardised mortality rates for endocrine, nutritional and metabolic diseases were significantly lower in NI and significantly higher in the RoI.
- Mortality rates in urban centres tended to follow this pattern. Exceptions were Galway CB and Waterford CB.

- In neither NI or the RoI was there a clear occupational class gradient in mortality from endocrine, nutritional and metabolic diseases.
- In the RoI the annual directly standardised mortality rate in the lowest occupational class was significantly (over 230%) higher than the rate in the highest occupational class.

The cautionary comments made in Section 2.27 about the effects of North-South differences in data collection protocols and procedures on diabetes mellitus mortality, also apply to 'endocrine, nutritional and metabolic diseases'.

FIGURE 2.26.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.27 Diabetes mellitus (ICD-9 250) 1989-1998

- During 1989-1998 an average of four hundred and eighty people died each year on the island from diabetes mellitus.
- The all Ireland annual directly standardised mortality rate was 8.6/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (48% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (372% higher).

- The difference between the jurisdictions was reflected at the regional level. When compared to the whole island, the regional directly standardised mortality rates

FIGURE 2.27.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

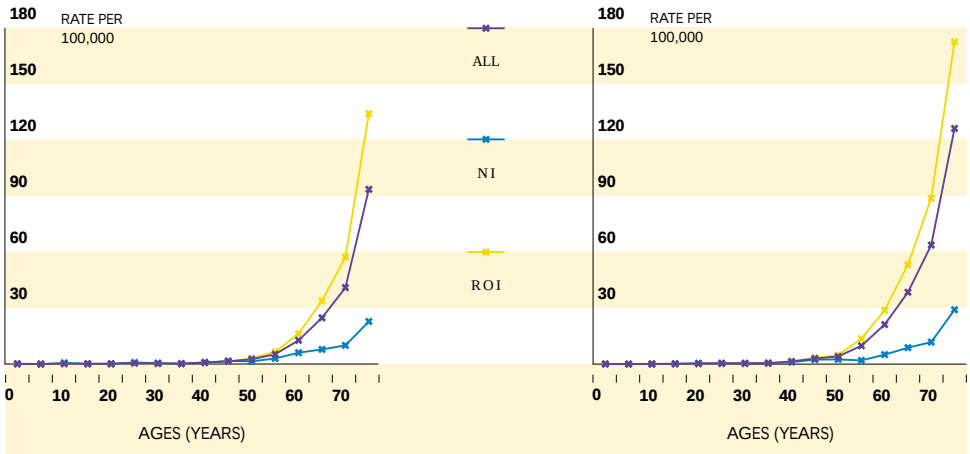
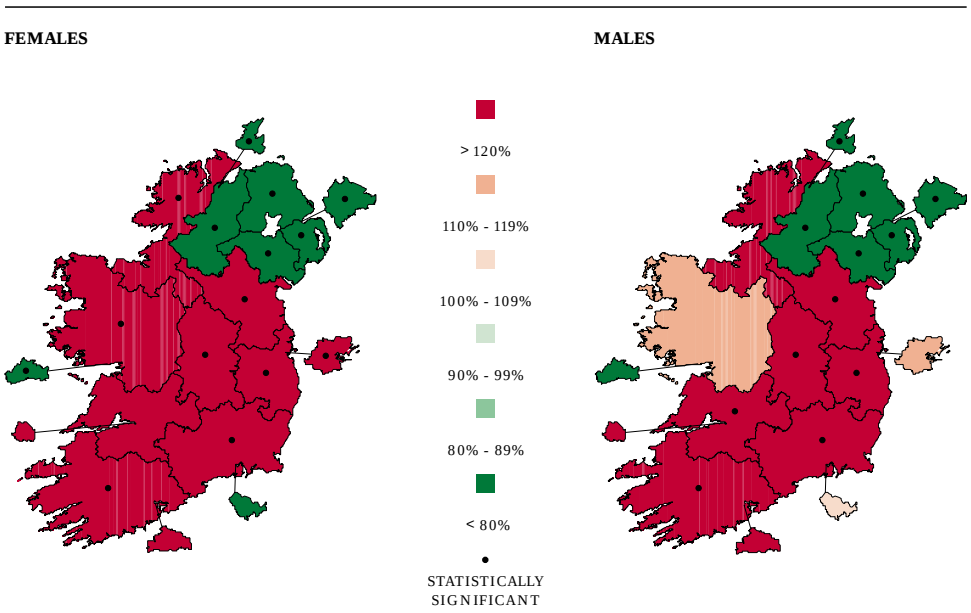


TABLE 2.27.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	239	7.1	26	2.4	213	9.8	13.5
MALES	243	10.5	20	2.7	223	14.3	14.3
PERSONS	482	8.6	46	2.5	436	11.8	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.27.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



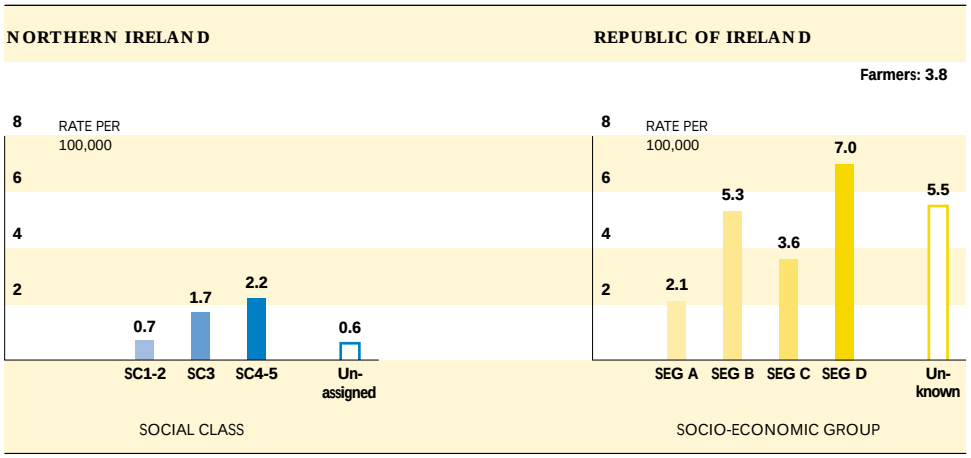
were lower in all regions in NI and higher in nearly all regions in the RoI. Most of these differences were statistically significant.

- The only exceptions were Galway CB where the rate was lower than on the whole island, and Waterford CB where it was lower amongst females.

- Only in NI was there a clear occupational class gradient in mortality from diabetes mellitus.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 230%) higher than the rate in the highest occupational class.

North-South differences in protocols used to identify diabetes mellitus as the primary cause of death may account for much of the higher mortality rate observed in the RoI. See Section 5.3 for further details.

FIGURE 2.27.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.28 Mental and behavioural disorders (ICD-9 290-319) 1989-1998

- During 1989-1998 an average of three hundred and fifty people died each year on the island from mental and behavioural disorders.
- The all Ireland annual directly standardised mortality rate was 6.5/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (31% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (53% higher).

- The regional directly standardised mortality rates for mental and behavioural disorders tended to be higher in the urban centres than they were on the whole island.

FIGURE 2.28.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

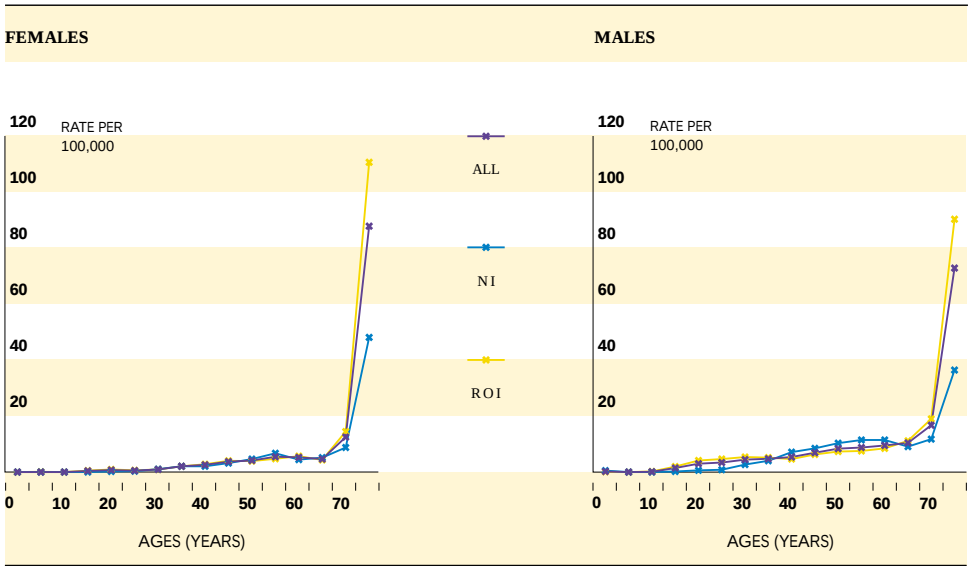
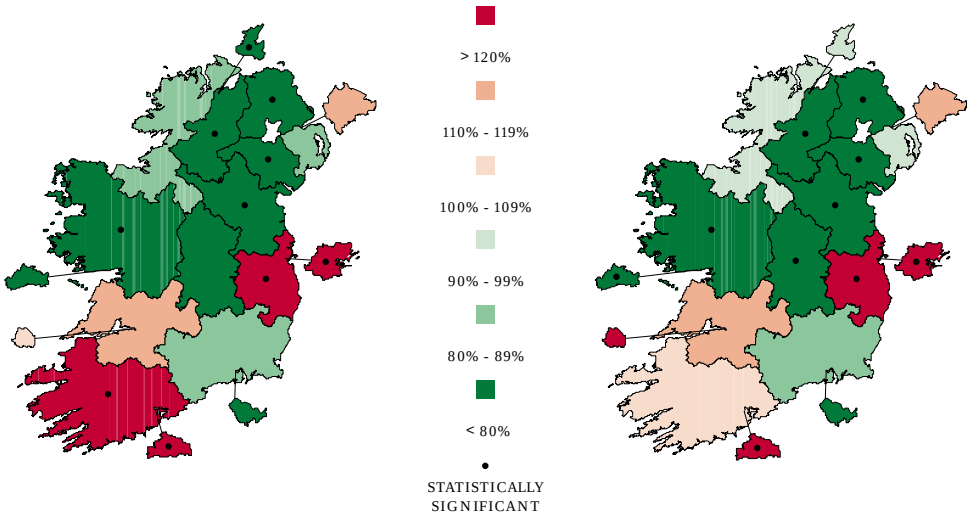


TABLE 2.28.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	189	5.5	43	3.8	147	6.5	9.5
MALES	170	7.3	40	5.7	129	8.0	14.2
PERSONS	359	6.5	83	4.8	276	7.3	-

Explanatory Notes for these figures and tables are given on pages 33-36.

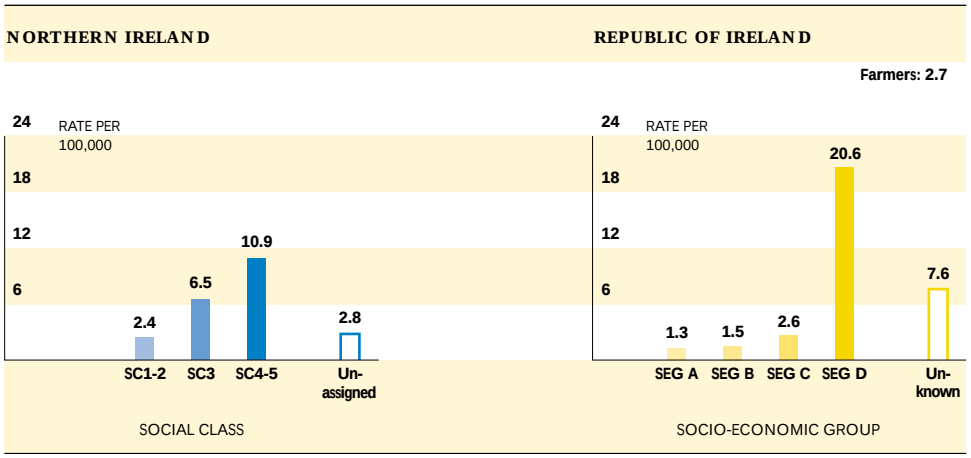
FIGURE 2.28.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- Notable exceptions were Galway CB, Derry LGD and Waterford CB.
- In comparison to the whole island, regional directly standardised mortality rates for non-urban regions tended to be lower. Sometimes these differences were significant.

- In both NI and the RoI there were clear occupational class gradients in mortality from mental and behavioural disorders.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 360%) higher than the rate in the highest occupational class.

FIGURE 2.28.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.29 Alcohol abuse (including alcoholic psychosis) (ICD-9 291,303) 1989-1998

- During 1989-1998 an average of approximately seventy people died each year on the island from alcohol abuse (including alcoholic psychosis).
- The all Ireland annual directly standardised mortality rate was 1.7/100,000 persons.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females was similar, and the all Ireland rate for males was lower.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (117% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (24% lower).

FIGURE 2.29.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

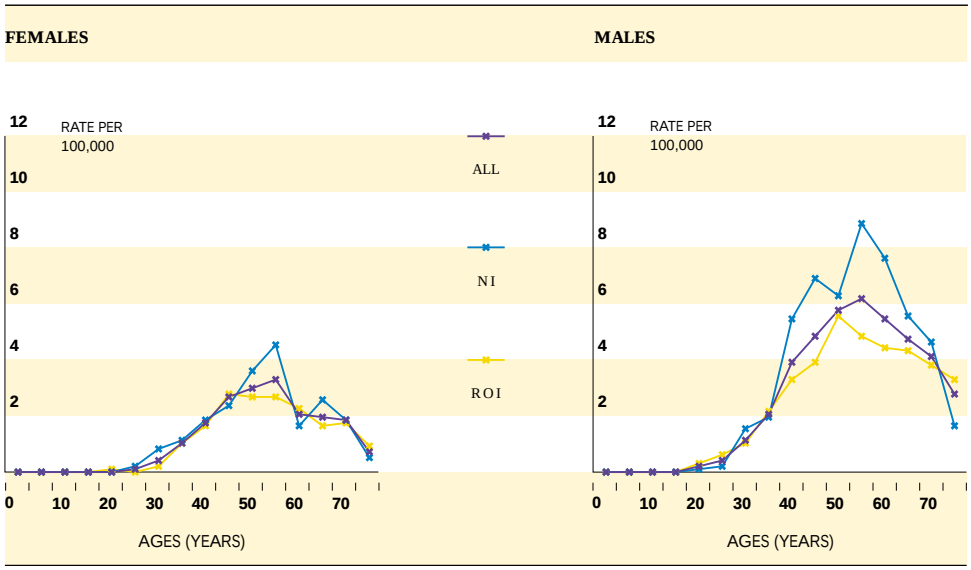
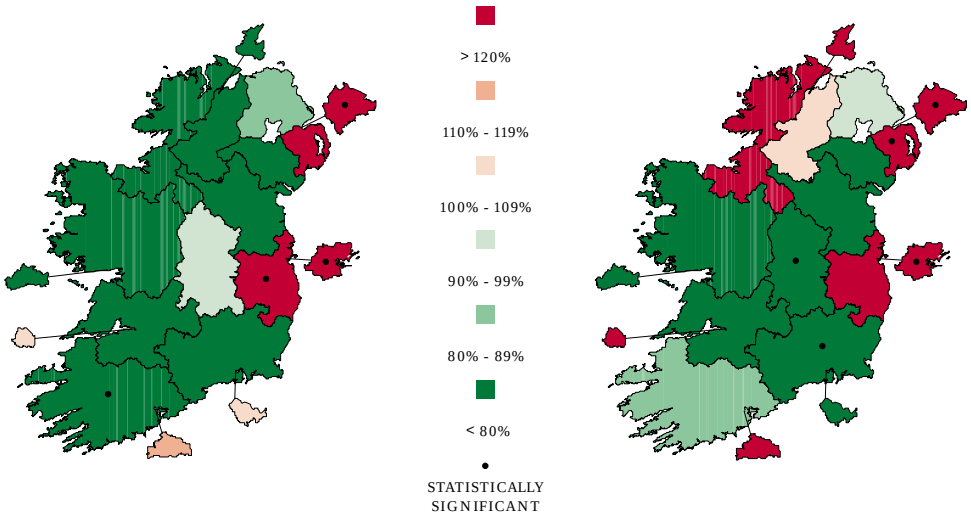


TABLE 2.29.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	24	1.1	9	1.2	15	1.0	1.1
MALES	50	2.3	19	2.8	31	2.1	4.9
PERSONS	73	1.7	28	2.0	46	1.5	-

Explanatory Notes for these figures and tables are given on pages 33-36.

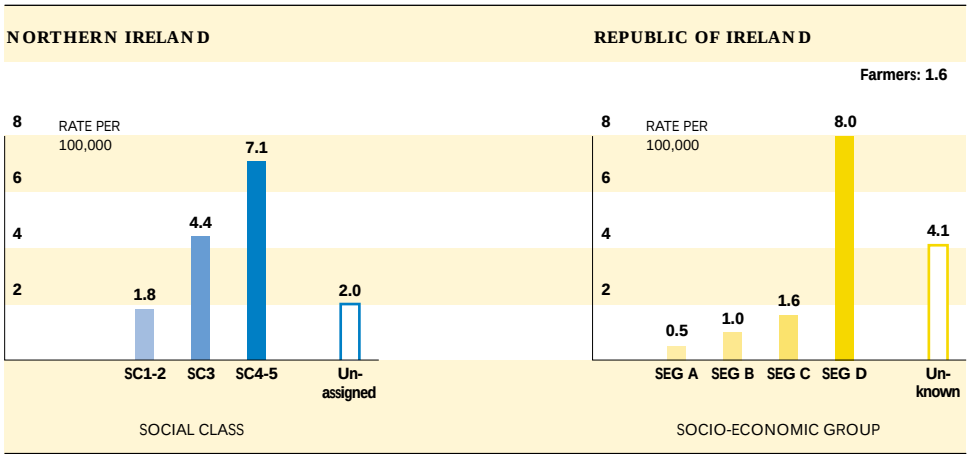
FIGURE 2.29.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The regional directly standardised mortality rate for alcohol abuse (including alcoholic psychosis) tended to be higher in urban centres than it was on the whole island.
- Notable exceptions were Galway CB and, to a lesser degree, Waterford CB and Derry LGD.
- In comparison to the whole island, regional directly standardised mortality rates in most non-urban regions were lower. Sometimes these differences were significant.

- In both NI and the RoI there were clear occupational class gradients in mortality from alcohol abuse (including alcoholic psychosis).
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 280%) higher than the rate in the highest occupational class.

FIGURE 2.29.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.30 Drug dependence, toxicomania (ICD-9 304-305) 1989-1998

Because of the small number of deaths involved, particular caution is needed when interpreting these results.

- During 1989-1998 an average of approximately fifty people died each year on the island from drug dependence, toxicomania.
- The all Ireland annual directly standardised mortality rate was 1.0/100,000 persons.
- The all Ireland rate was comparable to the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was similar, and the rate for persons was similar in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (244% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (31% higher).

FIGURE 2.30.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

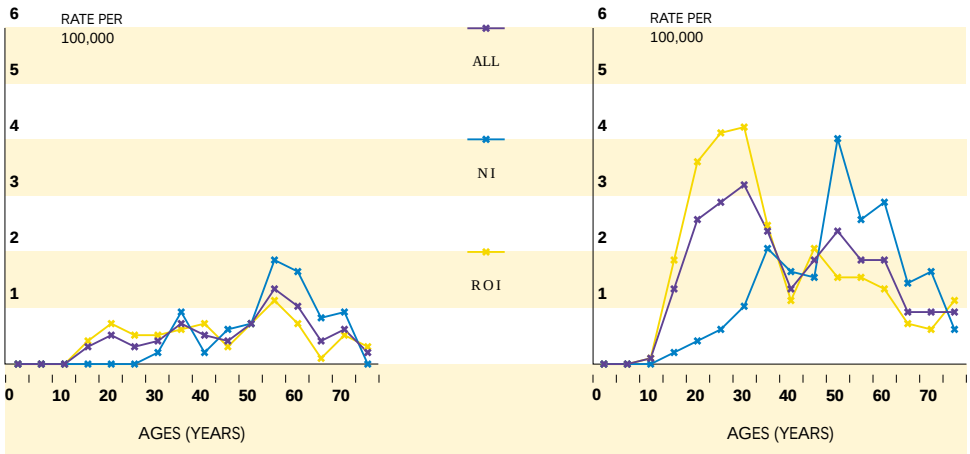
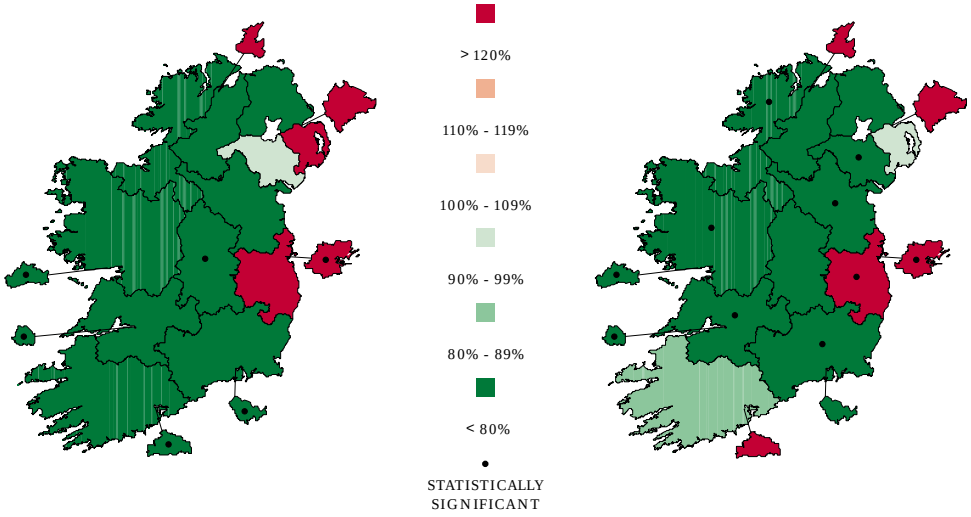


TABLE 2.30.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	11	0.4	3	0.4	7	0.4	0.4
MALES	38	1.5	8	1.2	30	1.7	1.7
PERSONS	49	1.0	12	0.8	37	1.1	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.30.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

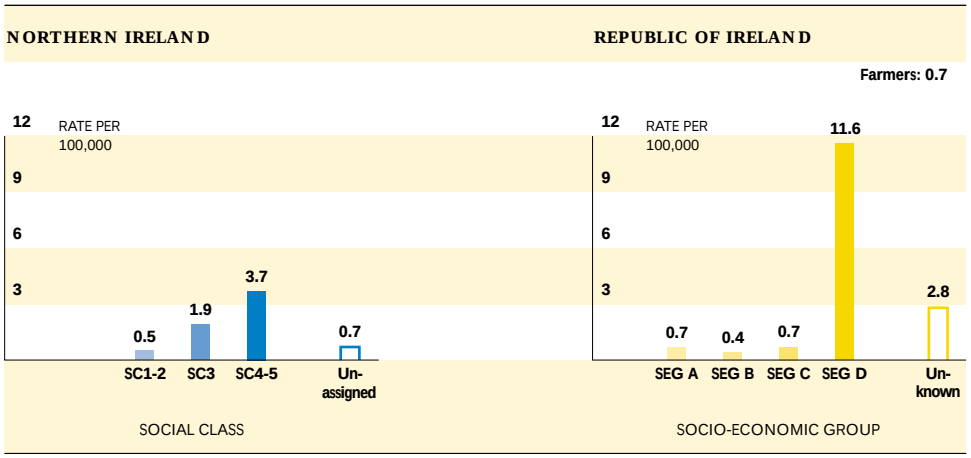


- In nearly all non-urban regions the regional directly standardised mortality rate for drug dependence, toxicomania was significantly lower than it was for the whole island.
- When compared to the whole island, the regional directly standardised mortality rate was higher in both urban centres in NI and in Dublin CB. In the remaining urban centres it was lower than it was on the whole island.

- Only in NI was there a clear occupational class gradient in mortality from alcohol abuse, toxicomania.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 590%) higher than the rate in the highest occupational class.

The plot of the age specific mortality rates for males shows a dramatic rise in deaths amongst males starting in the teenage years.

FIGURE 2.30.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.31 Diseases of the nervous system and the sense organs (ICD-9 320-389) 1989-1998

- During 1989-1998 an average of eight hundred people died each year on the island from diseases of the nervous system and the sense organs.
- The all Ireland annual directly standardised mortality rate was 14.5/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females and males was higher, and the rate for persons was lower in NI but higher in the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (28% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (47% higher).

FIGURE 2.31.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

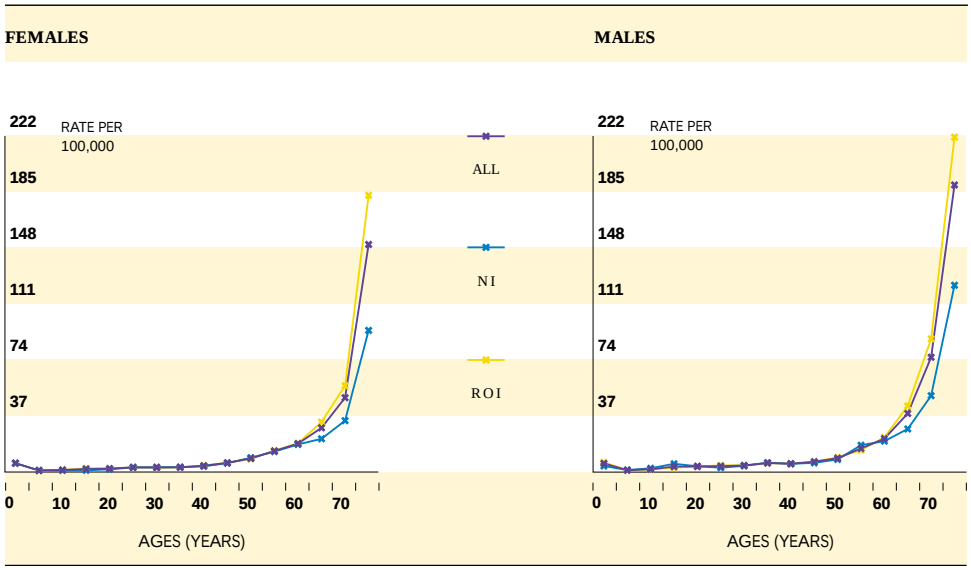
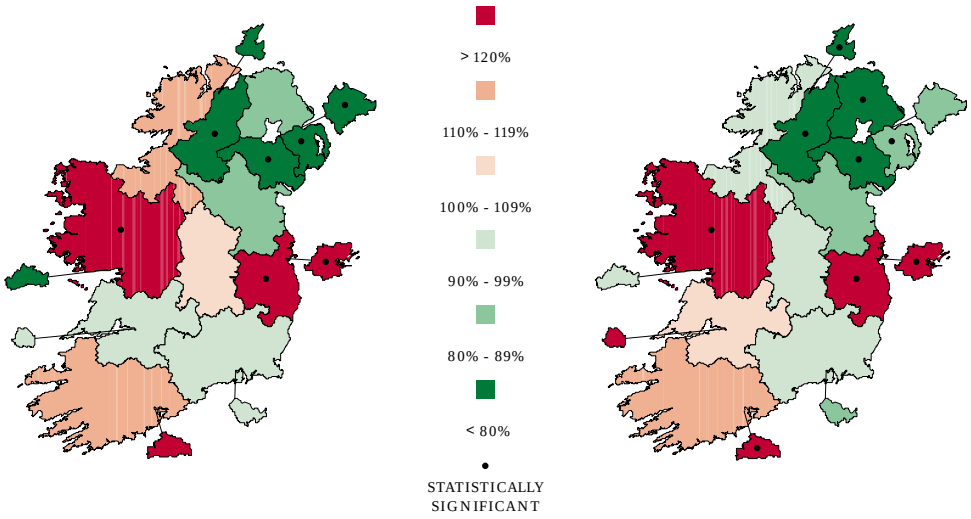


TABLE 2.31.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	414	12.9	105	9.9	310	14.6	11.2
MALES	392	16.6	97	12.8	296	18.4	15.8
PERSONS	806	14.5	201	11.1	605	16.3	-

Explanatory Notes for these figures and tables are given on pages 33-36.

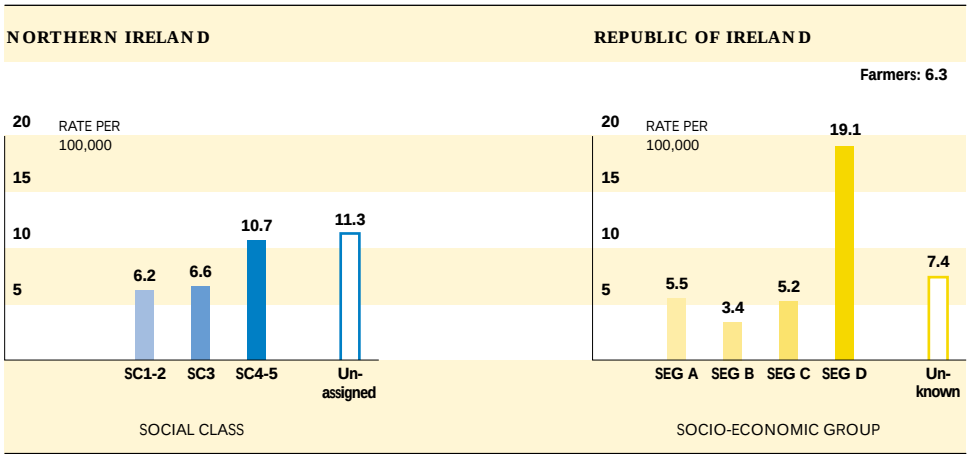
FIGURE 2.31.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- When compared to the whole island, the regional directly standardised mortality rates for diseases of the nervous system and the sense organs were lower in all regions in NI and generally higher in the regions in the RoI. Some of these differences were statistically significant.
- Notable exceptions were Galway CB and Waterford CB.

- Only in NI was there an occupational class gradient in mortality from diseases of the nervous system and the sense organs.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 70%) higher than the rate in the highest occupational class.

FIGURE 2.31.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.32 Meningitis (other than meningococcal infection) (ICD-9 320-322) 1989-1998

Because of the small number of deaths involved, particular caution is needed when interpreting these results. In particular, no comment is made about regional and occupational class variation in mortality. The relatively small number of deaths may also add some 'noise' to the plots of age specific mortality rates in Figure 2.32.1.

- During 1989-1998 an average of twenty people died each year on the island from meningitis (other than meningococcal infection).
- The all Ireland annual directly standardised mortality rate was 0.3/100,000 persons.
- The all Ireland rate was comparable to the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females and males was similar, and the rate for persons was similar in both NI and the RoI.

FIGURE 2.32.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

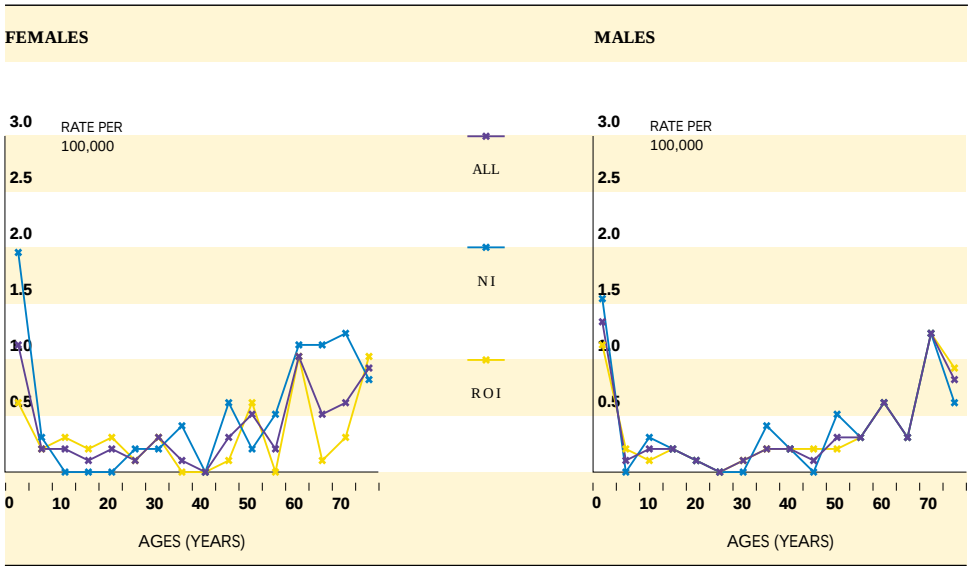


TABLE 2.32.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	10	0.4	4	0.5	5	0.3	0.3
MALES	8	0.3	3	0.4	5	0.3	0.4
PERSONS	18	0.3	7	0.4	11	0.3	-

Explanatory Notes for these figures and tables are given on pages 33-36.

- The all Ireland annual directly standardised mortality rate was lower for males than it was for females (8% lower).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (27% lower).

Figures presenting the directly standardised mortality rate ratios by region and the annual directly standardised mortality rates for working aged males have been omitted because of the small number of deaths involved.

2.33 Diseases of the circulatory system (ICD-9 390-459) 1989-1998

- During 1989-1998 an average of twenty one thousand people died each year on the island from diseases of the circulatory system.
- The all Ireland annual directly standardised mortality rate was 370.1/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (61% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (5% higher).

FIGURE 2.33.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

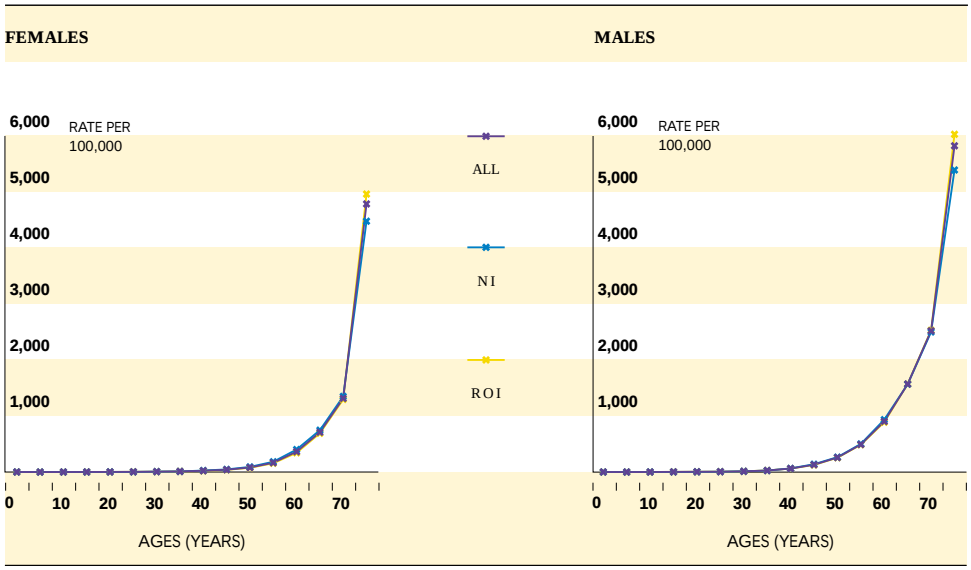
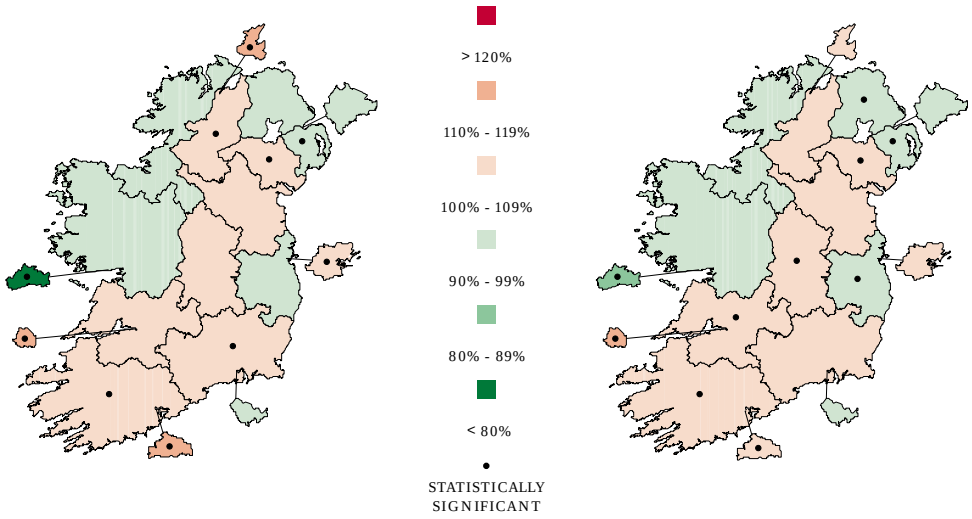


TABLE 2.33.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	10,281	290.8	3,564	285.3	6,716	294.2	236.3
MALES	10,732	467.3	3,357	452.9	7,375	474.2	371.2
PERSONS	21,013	370.1	6,921	358.2	1,4092	376.7	-

Explanatory Notes for these figures and tables are given on pages 33-36.

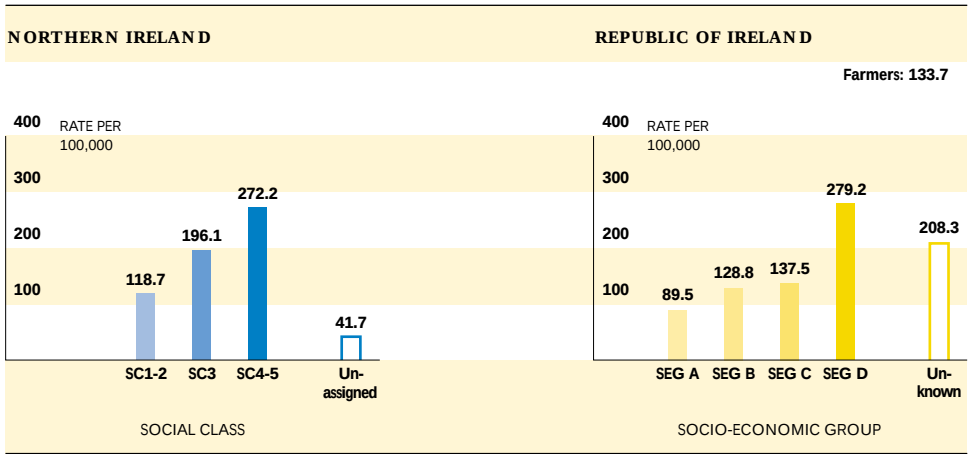
FIGURE 2.33.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- Although sometimes statistically significant, most regional directly standardised mortality rates for diseases of the circulatory system were not largely different from the rate for the whole island.
- Notable exceptions were Galway CB where the mortality rate for both females and males was significantly lower and Limerick CB, and Cork CB where the mortality rate for both females and males was significantly higher.

- In both NI and the RoI there were occupational class gradients in mortality from diseases of the circulatory system.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 120%) higher than the rate in the highest occupational class.

FIGURE 2.33.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.34 Ischaemic heart disease (ICD-9 410-414) 1989-1998

- During 1989-1998 an average of nearly twelve thousand people died each year on the island from ischaemic heart disease.
- The all Ireland annual directly standardised mortality rate was 215.4/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (103% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (2% lower) although the difference was small.

FIGURE 2.34.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

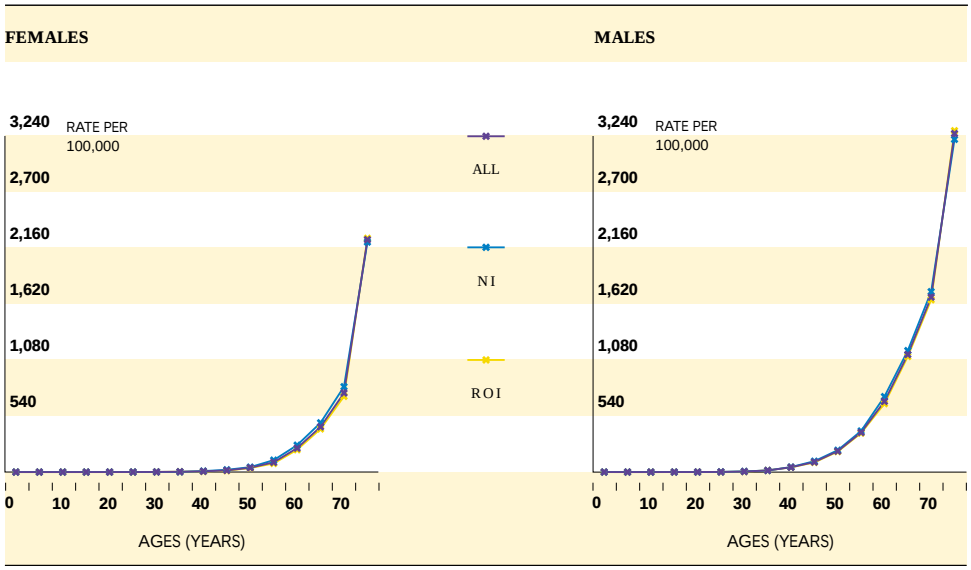
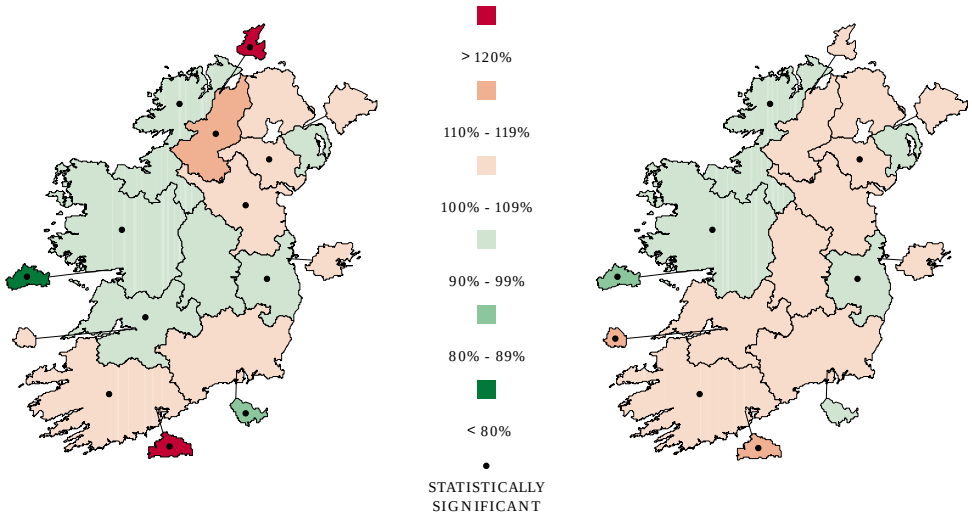


TABLE 2.34.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	5,106	147.3	1,873	153.2	3,233	144.3	81.7
MALES	6,817	299.7	2,241	304.9	4,576	297.2	170.0
PERSONS	11,922	215.4	4,114	218.5	7,808	214.0	-

Explanatory Notes for these figures and tables are given on pages 33-36.

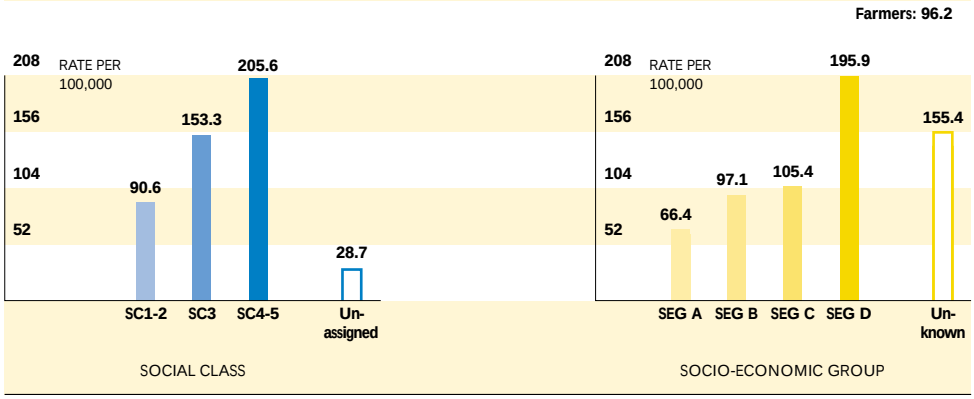
FIGURE 2.34.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The regional directly standardised mortality rate for ischaemic heart disease tended to be higher in urban centres than it was for the whole island. This was particularly the case in Cork CB where the urban excess was also significant.
- Notable exceptions to this urban excess were Galway CB and Waterford CB where the mortality rate was significantly lower.
- There was no other obvious pattern in the regional directly standardised mortality rates.

- In both NI and the RoI there were clear occupational class gradients in mortality from ischaemic heart disease.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 120%) higher than the rate in the highest occupational class.

FIGURE 2.34.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.35 Other heart disease (ICD-9 420-423,425-429) 1989-1998

- During 1989-1998 an average of nearly two thousand four hundred people died each year on the island from other heart disease.
- The all Ireland annual directly standardised mortality rate was 39.9/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (25% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (89% higher).

- When compared to the whole island the regional directly standardised mortality rates for other heart disease tended to be higher in the RoI and lower in NI.

FIGURE 2.35.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

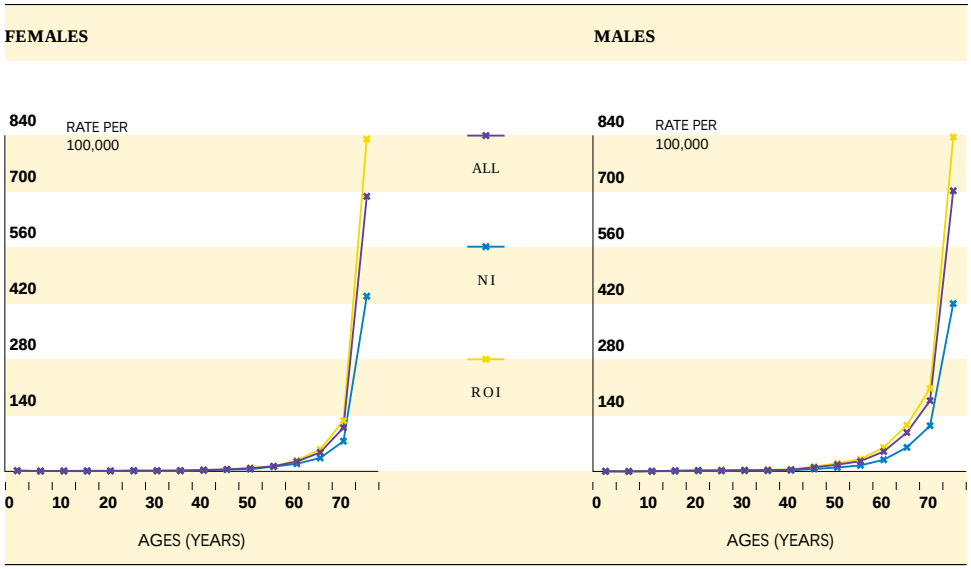
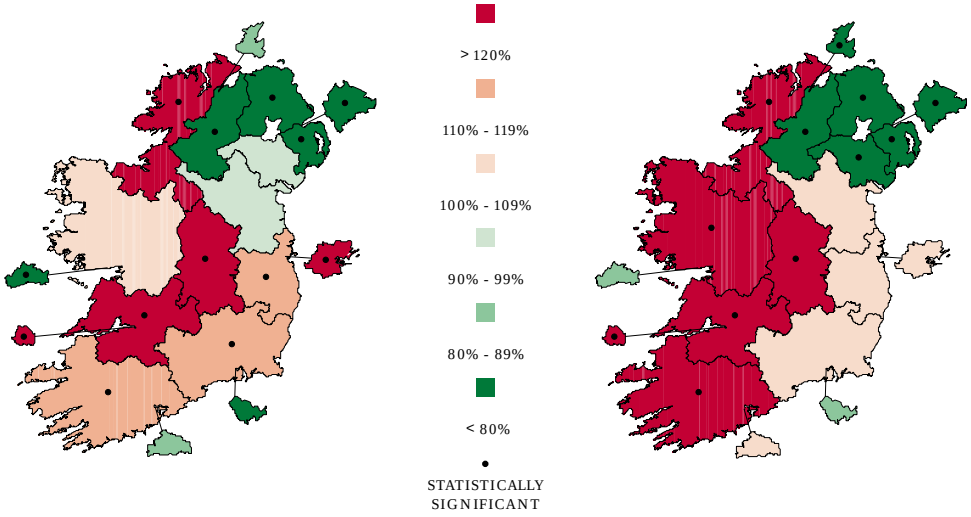


TABLE 2.35.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	1,331	35.8	312	23.6	1,019	42.6	47.4
MALES	1,044	44.6	204	27.0	840	53.0	64.4
PERSONS	2,375	39.9	516	25.2	1,859	47.6	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.35.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

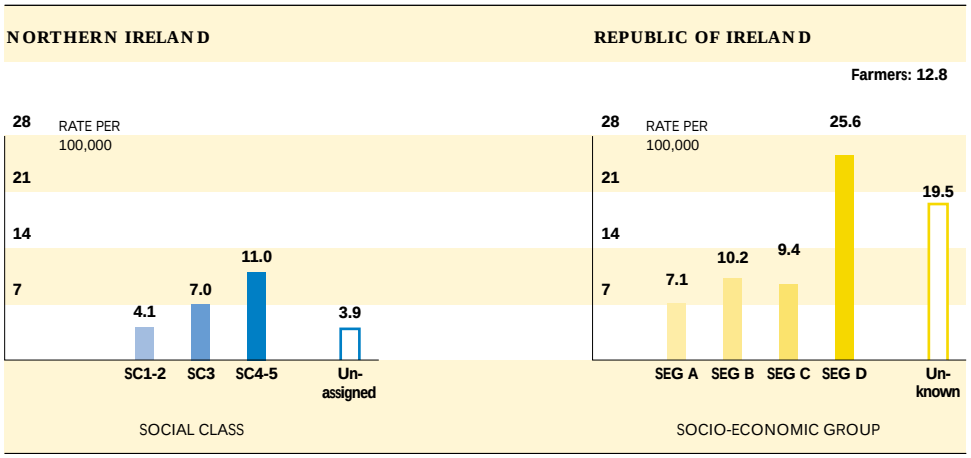


- The regional directly standardised mortality rate tended to be lower in urban centres than it was on the whole island.
- Notable exceptions were Limerick CB and Dublin CB where the mortality rates were usually significantly higher.

- Only in NI was there a clear occupational class gradient in mortality from other heart disease.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 160%) higher than the rate in the highest occupational class.

When there is a strong North-South dimension to the regional patterns of mortality, differences in coding practices might explain some of the North-South differences in mortality. For example, deaths in the RoI attributed to this cause may have been attributed to a different type of circulatory disease had they occurred in NI.

FIGURE 2.35.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.36 Cerebrovascular disease (ICD-9 430-438) 1989-1998

- During 1989-1998 an average of four thousand six hundred people died each year on the island from cerebrovascular disease.
- The all Ireland annual directly standardised mortality rate was 77.9/100,000 persons.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females was higher and the all Ireland rate for males was lower.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (4% higher) although the difference was small.
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (10% lower).

FIGURE 2.36.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

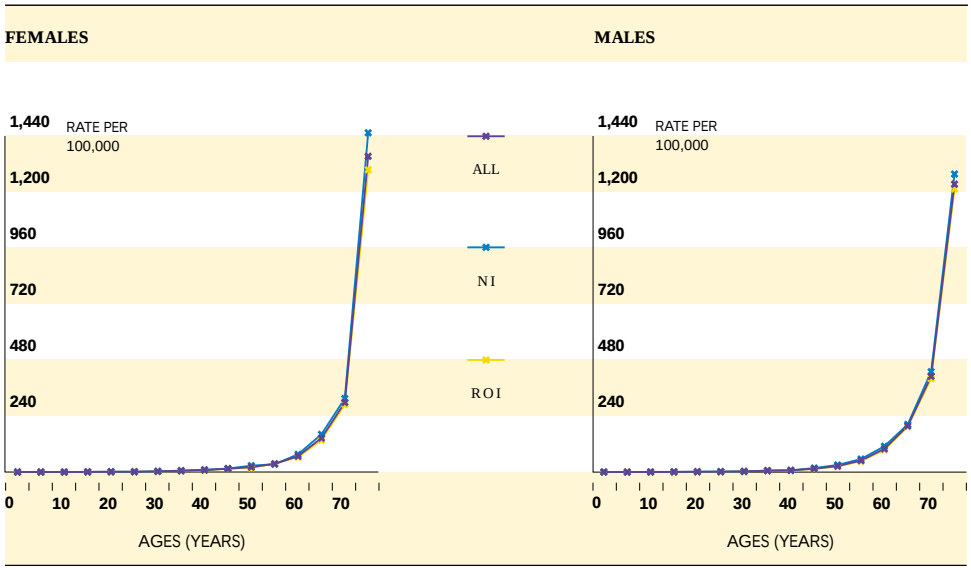
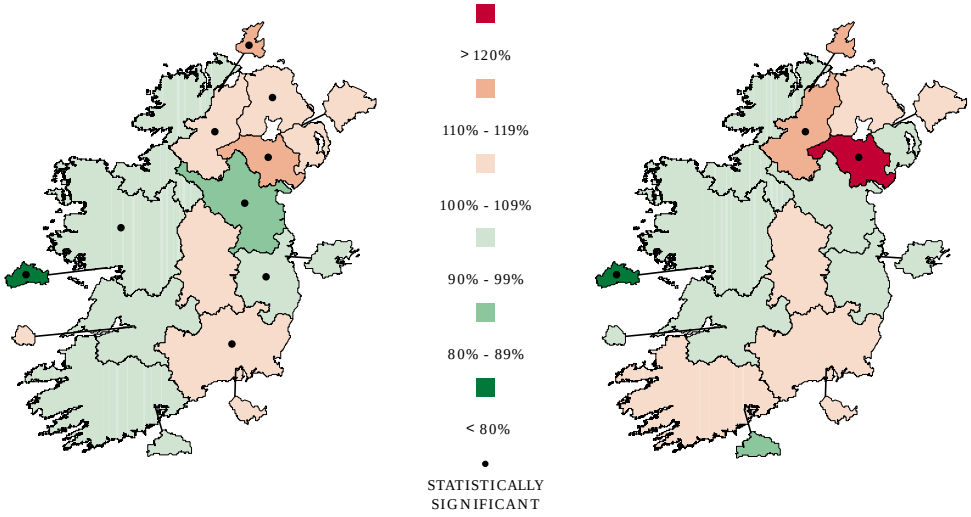


TABLE 2.36.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	2,745	75.9	1,062	81.9	1,683	72.7	70.3
MALES	1,853	79.3	629	83.2	1,225	77.4	86.4
PERSONS	4,598	77.9	1,690	83.2	2,908	75.1	-

Explanatory Notes for these figures and tables are given on pages 33-36.

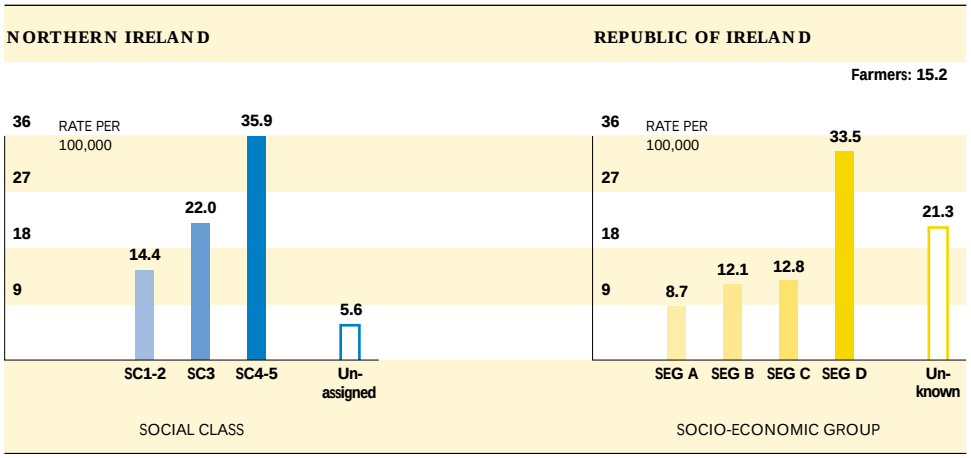
FIGURE 2.36.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- Generally speaking, when compared to the whole island the regional directly standardised mortality rates for cerebrovascular disease tended to be higher in NI and lower in the RoI.
- There were no other obvious patterns in the regional directly standardised mortality rates.

- In both NI and the RoI there were occupational class gradients in mortality from cerebrovascular disease.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 150%) higher than the rate in the highest occupational class.

FIGURE 2.36.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.37 Diseases of the respiratory system (ICD-9 460-519) 1989-1998

- During 1989-1998 an average of seven thousand two hundred people died each year on the island from diseases of the respiratory system.
- The all Ireland annual directly standardised mortality rate was 120.9/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (48% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (9% lower).

- In general, there was no consistent urban/non-urban pattern in mortality from diseases of the respiratory system.

FIGURE 2.37.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

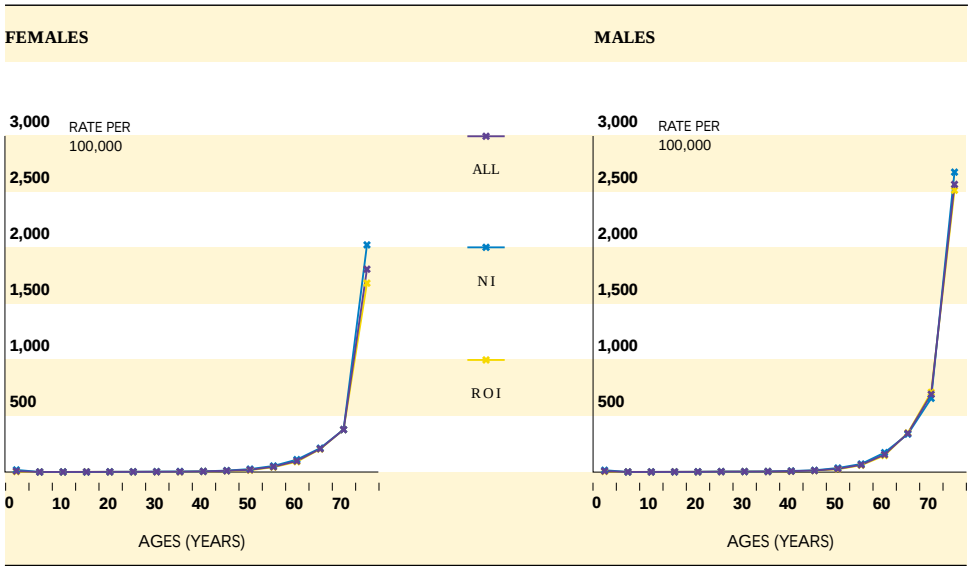
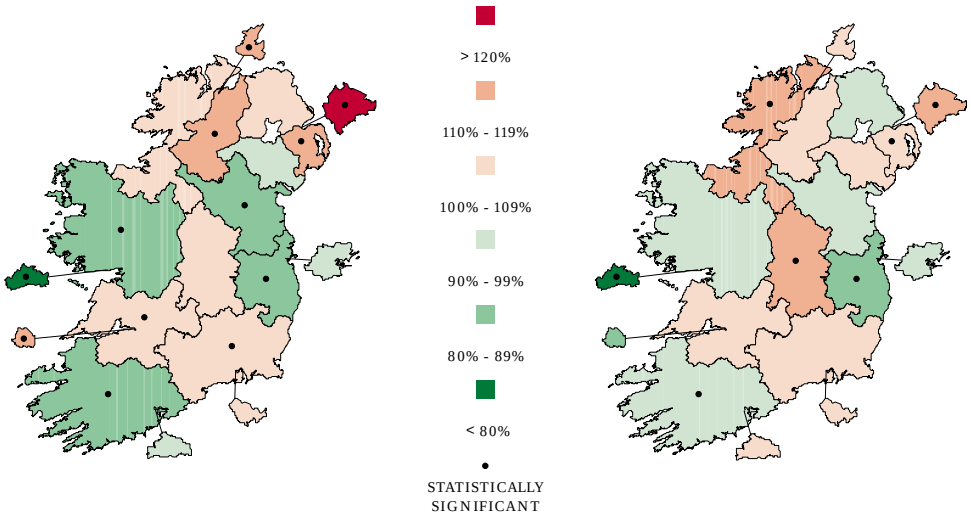


TABLE 2.37.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	3,658	101.0	1,461	112.2	2,197	94.8	39.1
MALES	3,530	149.9	1,183	155.5	2,347	147.3	84.0
PERSONS	7,188	120.9	2,643	129.0	4,544	116.6	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.37.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

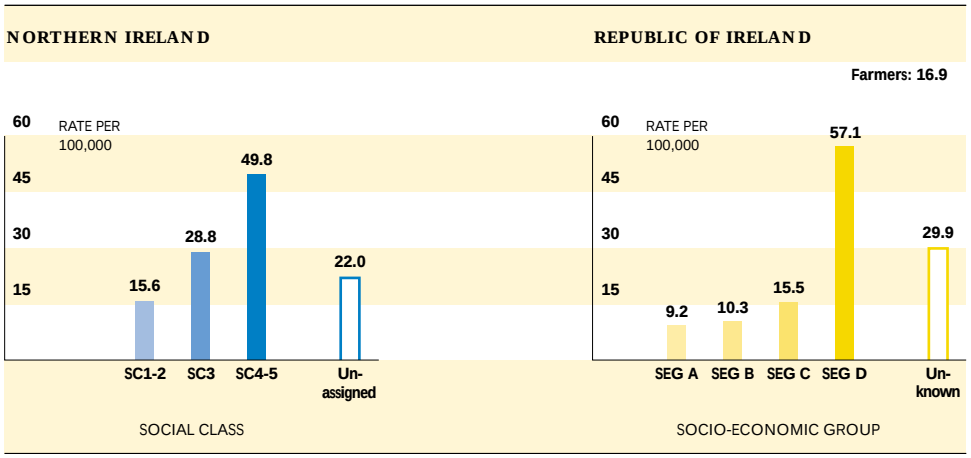


- In Galway CB the regional directly standardised mortality rate for both females and males was significantly lower than it was on the whole island.
- In Belfast LGD the regional directly standardised mortality rate for both females and males was significantly higher than it was for the whole island.

- In both NI and the RoI there were clear occupational class gradients in mortality from diseases of the respiratory system.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 210%) higher than the rate in the highest occupational class.

Coding practices may sometimes influence whether a particular death is attributed to a respiratory disease or an infectious or parasitic disease. Some of the NI excess in mortality from respiratory diseases may reflect North-South differences in coding practices. See Section 5.3 for further details.

FIGURE 2.37.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.38 Influenza (ICD-9 487) 1989-1998

Because of the small number of deaths involved, particular caution is needed when interpreting these results. The relatively small number of deaths may also add some 'noise' to the plots of age specific mortality rates in Figure 2.38.1.

- During 1989-1998 an average of nearly fifty people died each year on the island from influenza.
- The all Ireland annual directly standardised mortality rate was 0.7/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females and males was higher, and the rate for persons was higher in both NI and the RoI.

FIGURE 2.38.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

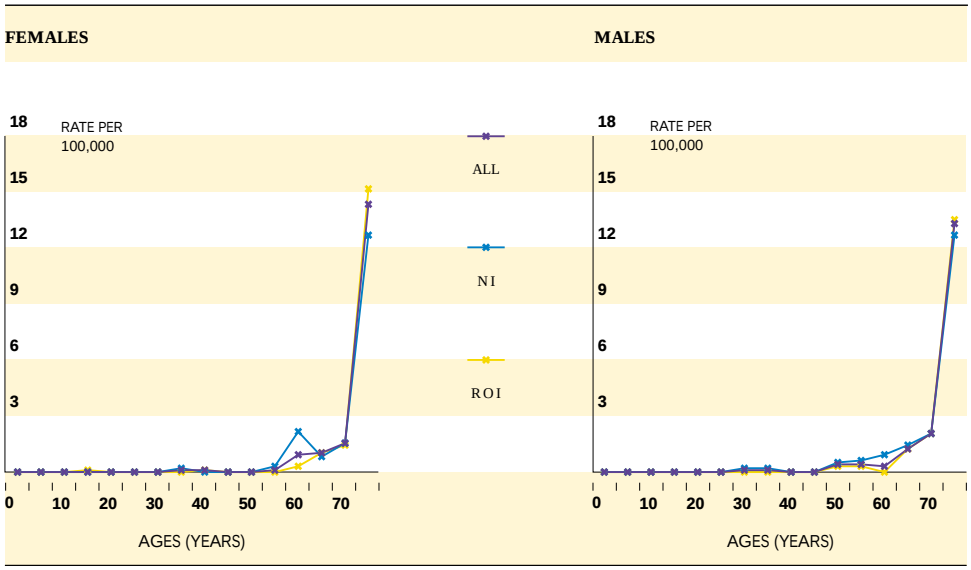
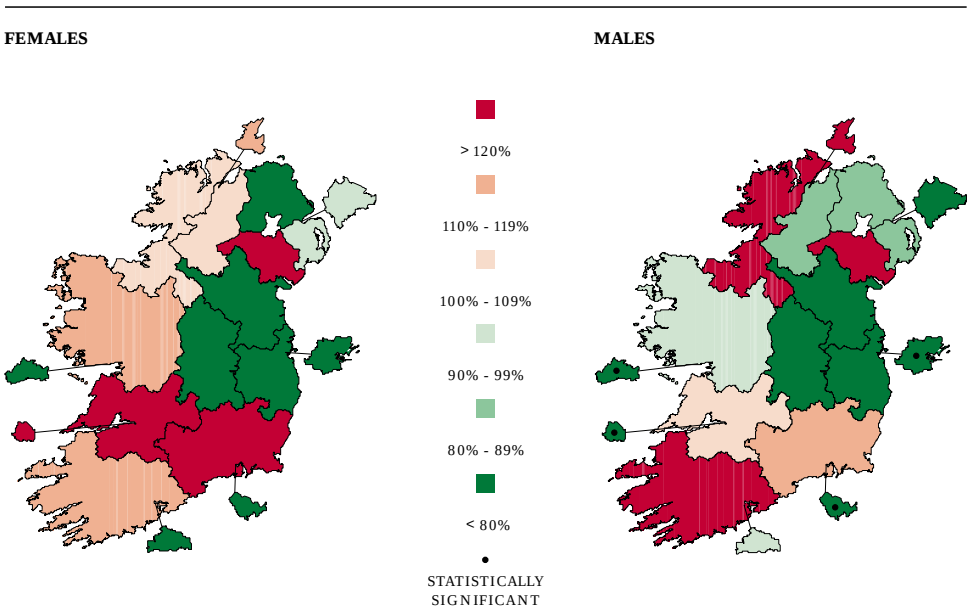


TABLE 2.38.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	26	0.7	9	0.7	17	0.7	0.4
MALES	16	0.7	6	0.7	11	0.7	0.5
PERSONS	43	0.7	15	0.7	28	0.7	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.38.2
DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

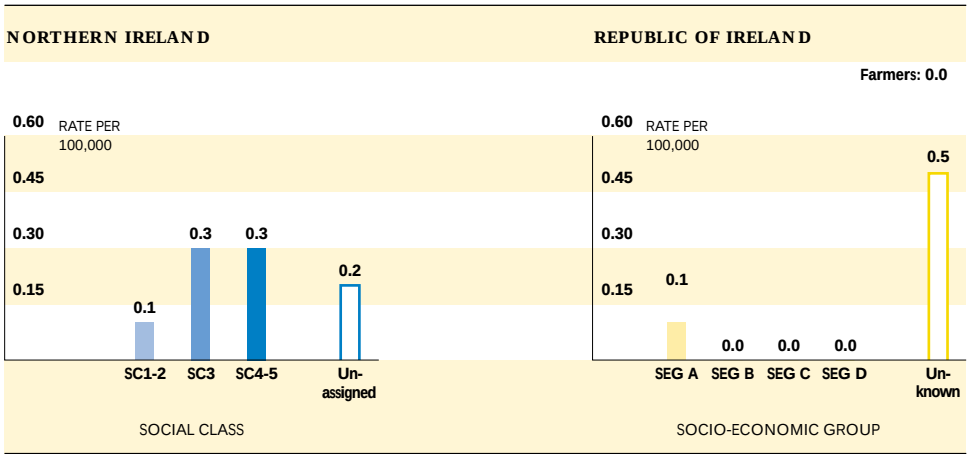


- There was little difference in the all Ireland annual directly standardised mortality rate for females and males.
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (9% lower) although the difference was small.

- Generally speaking, when compared to the whole island the regional directly standardised mortality rate for influenza tended to be lower in urban centres.
- An exception was Derry LGD where the mortality rate was higher although not significantly so.

- There was little occupational class variation in mortality from influenza.

FIGURE 2.38.3
ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.39 Pneumonia (ICD-9 480-486) 1989-1998

- During 1989-1998 an average of three thousand eight hundred people died each year on the island from pneumonia.
- The all Ireland annual directly standardised mortality rate was 61.8/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (16% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (38% lower).

- The difference between the jurisdictions was reflected at the regional level. The regional directly standardised mortality rates for pneumonia tended to be higher in

FIGURE 2.39.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

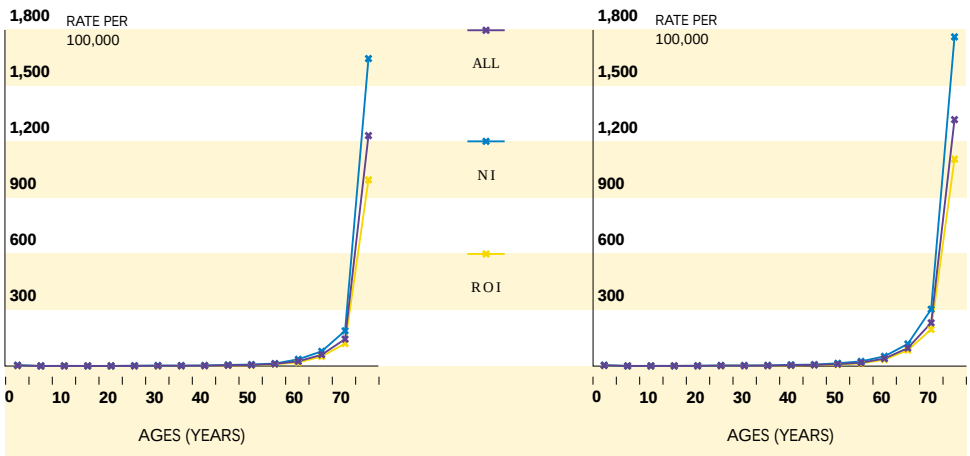
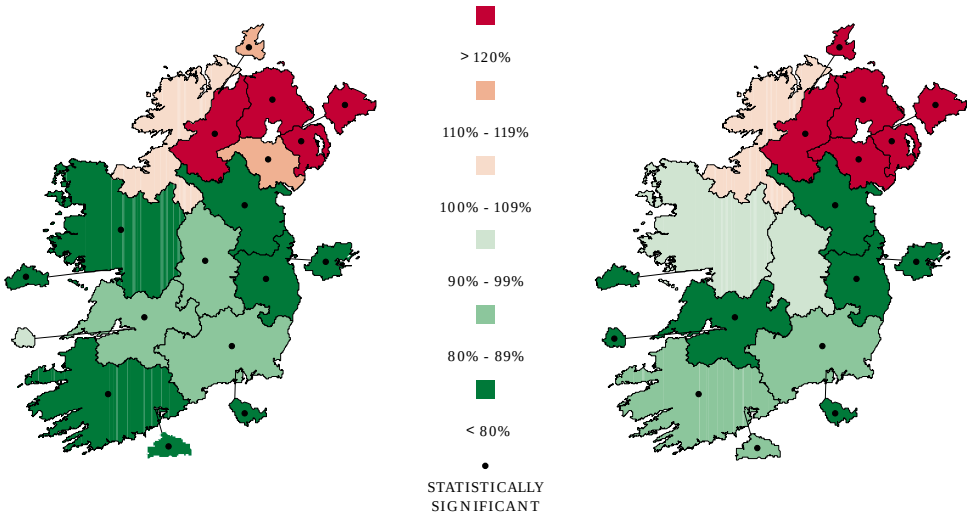


TABLE 2.39.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	2,212	57.8	1,067	77.2	1,145	46.9	18.2
MALES	1,588	67.0	683	89.1	905	56.4	28.2
PERSONS	3,800	61.8	1,750	82.1	2,050	51.0	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.39.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



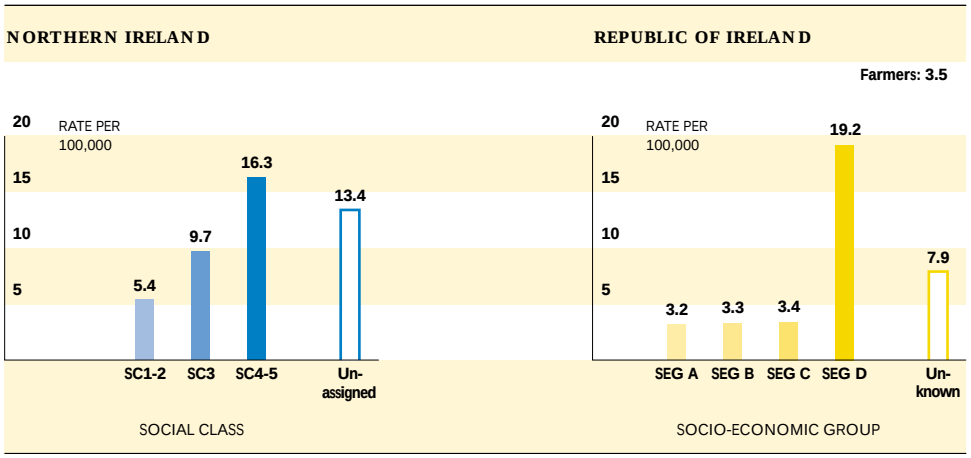
NI and lower in the RoI. Most of these differences were significant.

- An exception was the North Western HB in the RoI where, for both females and males, the regional directly standardised mortality rate was higher (albeit non-significantly) than it was on the whole island.
- These differences accounted for the regional variation in the mortality rates.

- Only in NI was there a clear occupational class gradient in mortality from pneumonia.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 200%) higher than the rate in the highest occupational class.

Differences in the use of pneumonia as the primary cause of death amongst the elderly may explain much of the higher mortality rate in NI. Different coding practices in relation to 'pneumonia' and 'chronic lower respiratory diseases' may also play a role. See Section 5.3 for further details.

FIGURE 2.39.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.40 Chronic lower respiratory disease (ICD-9 490-494,496) 1989-1998

- During 1989-1998 an average of over two thousand six hundred people died each year on the island from chronic lower respiratory disease.
- The all Ireland annual directly standardised mortality rate was 46.1/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (110% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (44% higher).

- The regional directly standardised mortality rates tended to be lower in NI and higher in the RoI, and many of these differences were significant.

FIGURE 2.40.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

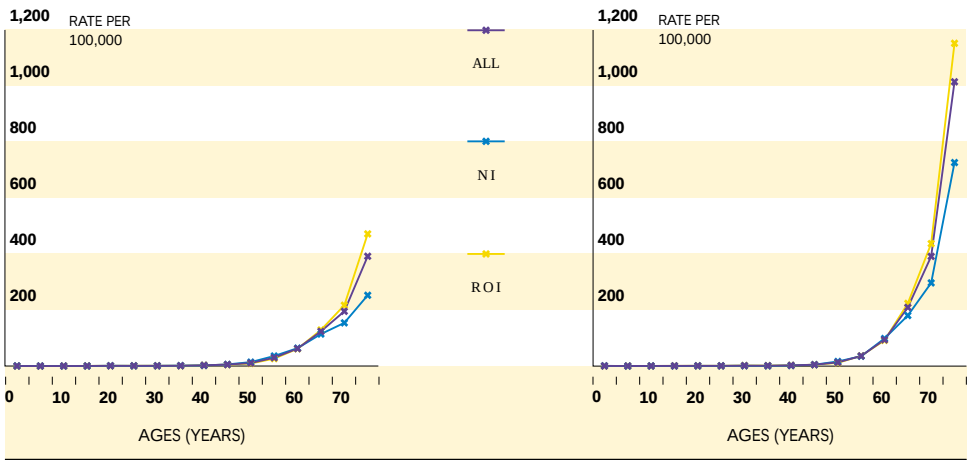
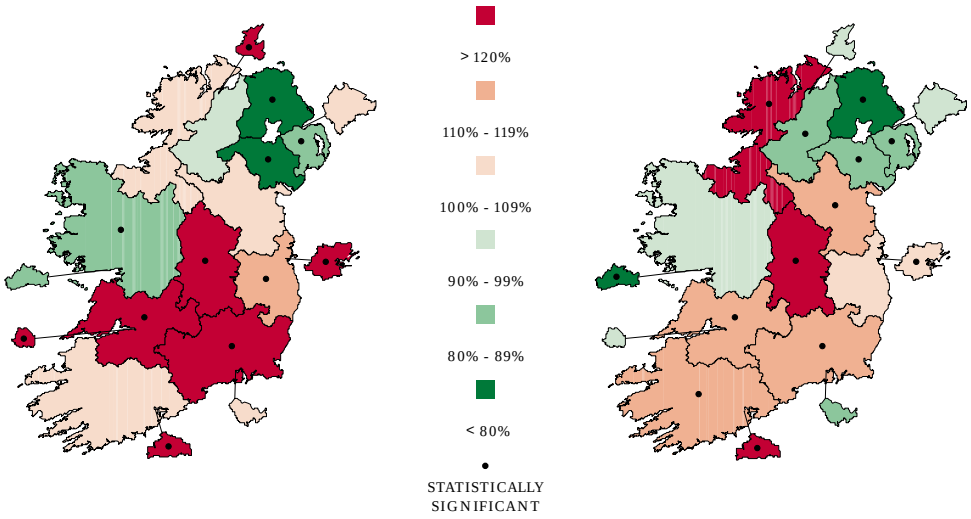


TABLE 2.40.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	1,054	32.1	283	25.7	771	35.6	14.4
MALES	1,577	67.3	395	52.5	1,182	74.4	42.7
PERSONS	2,631	46.1	678	35.7	1,953	51.6	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.40.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

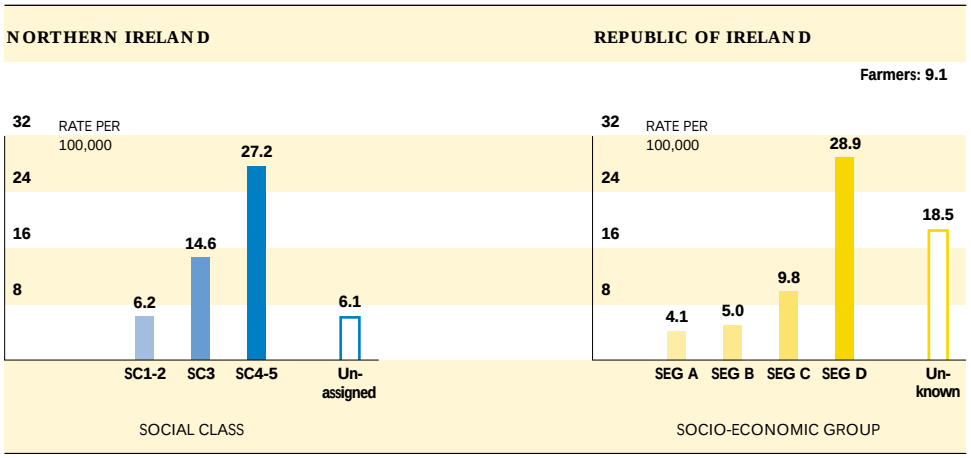


- Notable exceptions were the Western HSSB area in NI where the mortality rate was significantly higher for males, and Galway CB and Western HB areas in the RoI where the mortality rate was lower for both females and males.
- These differences accounted for the variation in the regional directly standardised mortality rates.

- In both NI and the RoI there were clear occupational class gradients in mortality from chronic lower respiratory disease.
- In both jurisdictions the mortality rate in the lowest occupational class was significantly (over 340%) higher than the rate in the highest occupational class.

Differences in coding practices in relation to 'pneumonia' and 'chronic lower respiratory disease' may explain some of the North-South differences in mortality from these causes. See Section 5.3 for further details.

FIGURE 2.40.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.41 Asthma (ICD-9 493) 1989-1998

- During 1989-1998 an average of over one hundred and fifty people died each year on the island from asthma.
- The all Ireland annual directly standardised mortality rate was 3.3/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was higher, and the rate for persons was higher in the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (10% higher).
- This was true in the RoI but not in NI where the rate for males was lower than the rate for females.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (34% higher).

FIGURE 2.41.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

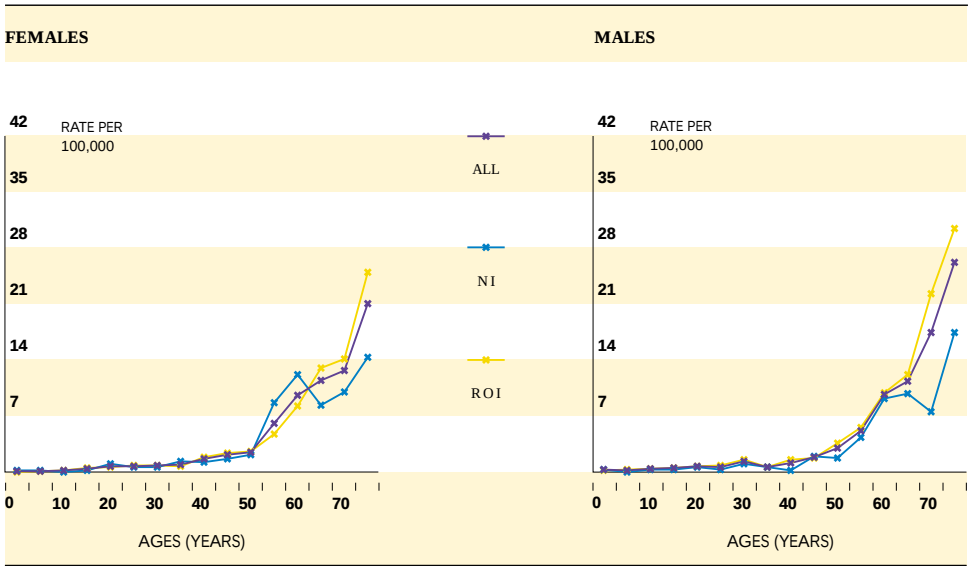
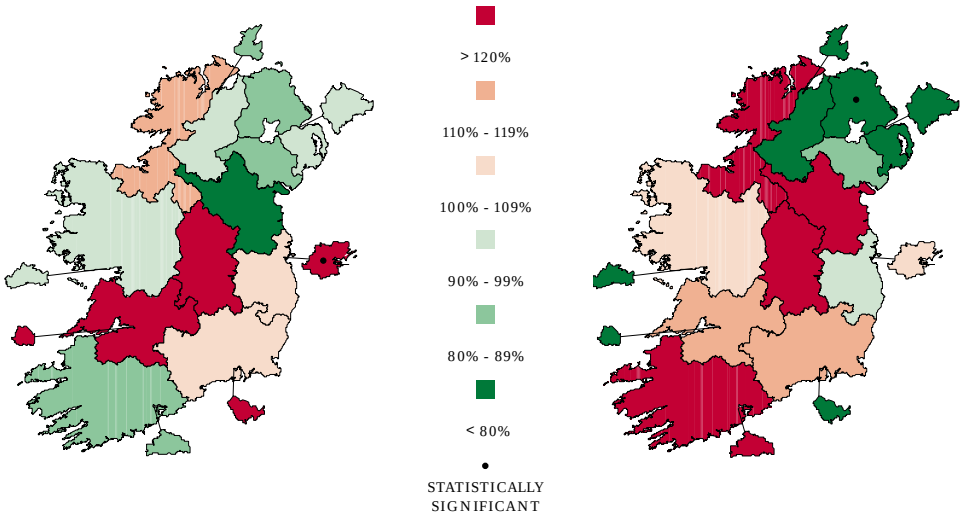


TABLE 2.41.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	89	3.1	27	2.9	63	3.3	2.4
MALES	79	3.5	18	2.5	61	3.9	3.3
PERSONS	169	3.3	45	2.7	124	3.6	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.41.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

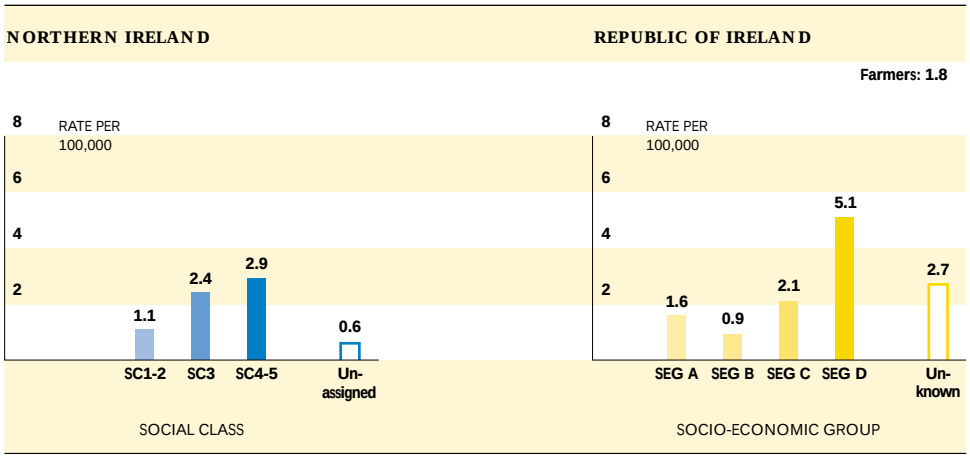


- Generally speaking, the regional directly standardised mortality rates for asthma tended to be lower in NI and higher in the RoI, although few of these differences were significant.
- There was no other obvious pattern in the regional directly standardised mortality rates.

- Only in NI was there a clear occupational class gradient in mortality from asthma.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 150%) higher than the rate in the highest occupational class.

Differences in protocols used to identify asthma as the primary cause of death may account for much of the North-South difference in mortality. See Section 5.3 for further details.

FIGURE 2.41.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.42 Diseases of the digestive system (ICD-9 520-579) 1989-1998

- During 1989-1998 an average of one thousand three hundred people died each year on the island from diseases of the digestive system.
- The all Ireland annual directly standardised mortality rate was 24.0/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (27% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (5% higher) although the difference was small.

FIGURE 2.42.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

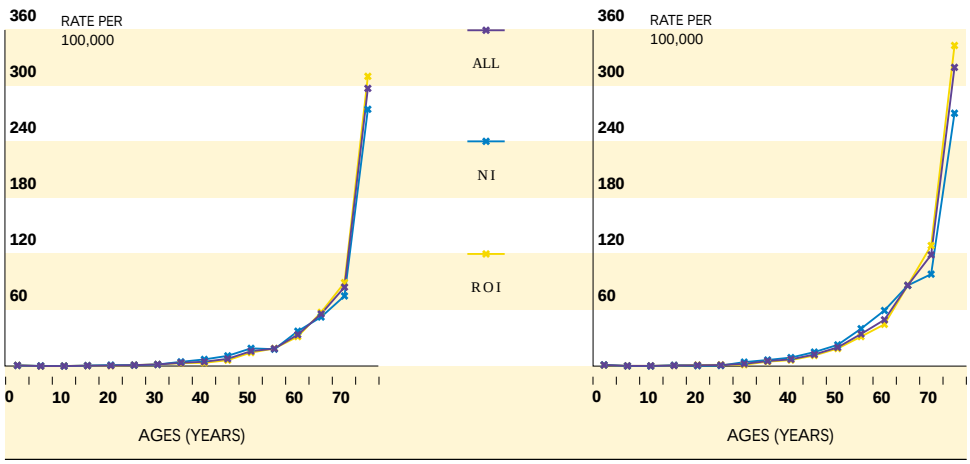
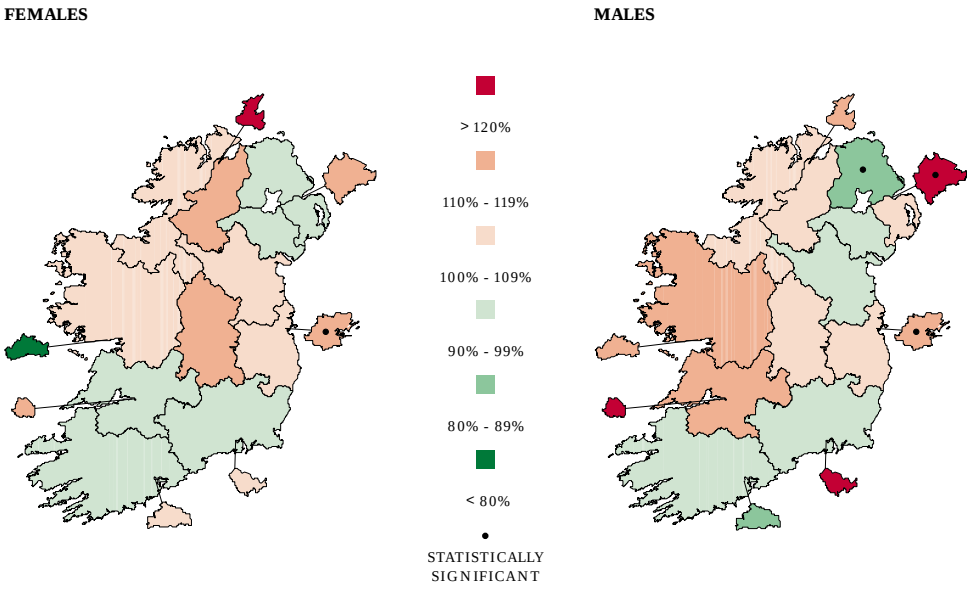


TABLE 2.42.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	711	21.3	242	20.9	469	21.7	25.6
MALES	620	27.1	190	26.0	430	27.6	45.4
PERSONS	1,331	24.0	432	23.3	899	24.4	-

Explanatory Notes for these figures and tables are given on pages 33-36.

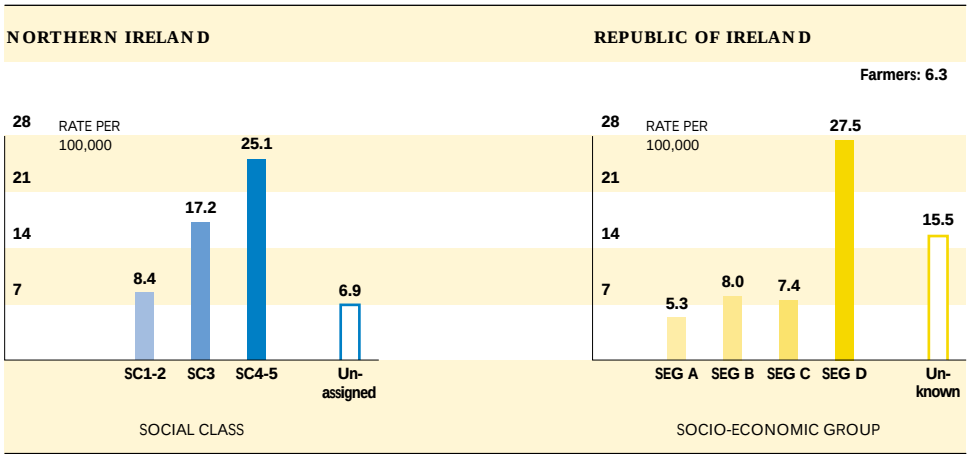
FIGURE 2.42.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The regional directly standardised mortality rate for diseases of the digestive system tended to be higher in urban centres than it was on the whole island.
- There was no other obvious pattern in the regional directly standardised mortality rates.

- Only in NI was there a clear occupational class gradient in mortality from diseases of the digestive system.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 190%) higher than the rate in the highest occupational class.

FIGURE 2.42.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.43 Ulcer of stomach, duodenum and jejunum (ICD-9 531-534) 1989-1998

- During 1989-1998 an average of nearly three hundred people died each year on the island from ulcer of the stomach, duodenum and jejunum.
- The all Ireland annual directly standardised mortality rate was 5.0/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (65% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (6% higher) although the difference was small.

FIGURE 2.43.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

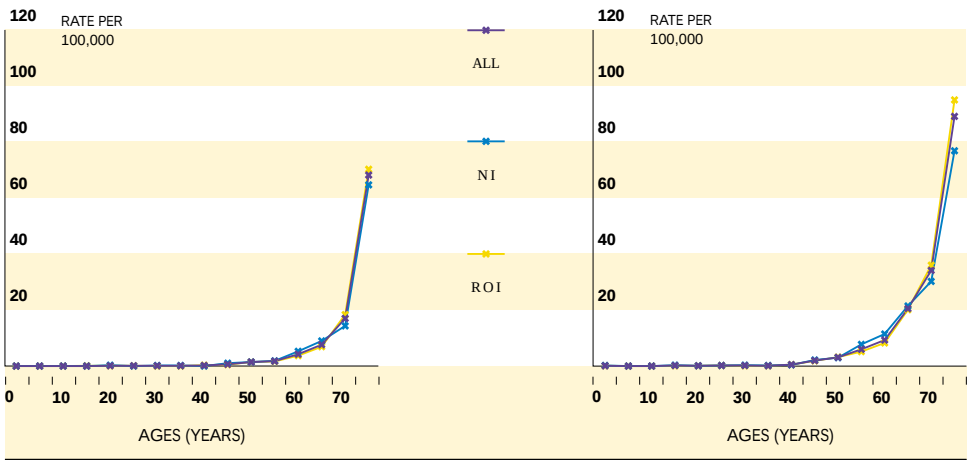
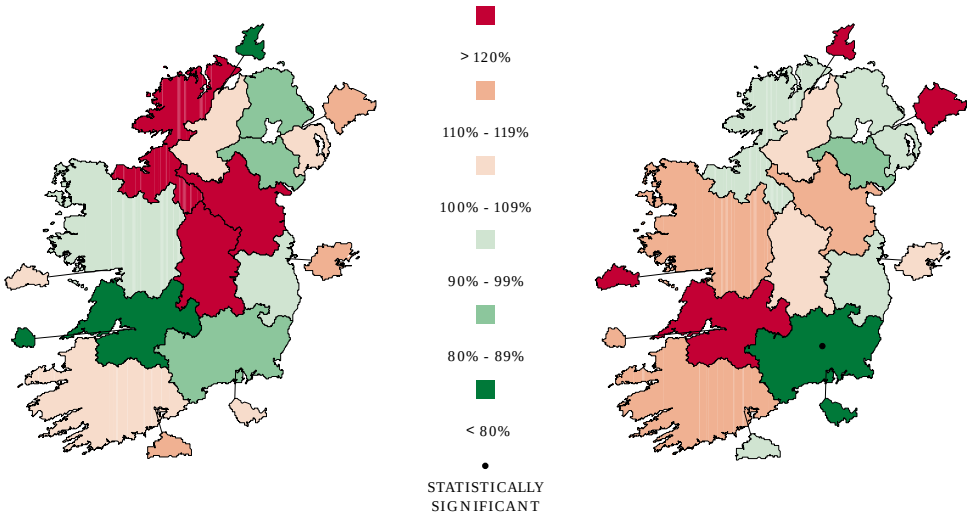


TABLE 2.43.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	141	3.9	49	3.9	92	4.0	2.4
MALES	150	6.5	46	6.2	104	6.6	4.3
PERSONS	291	5.0	95	4.9	196	5.2	-

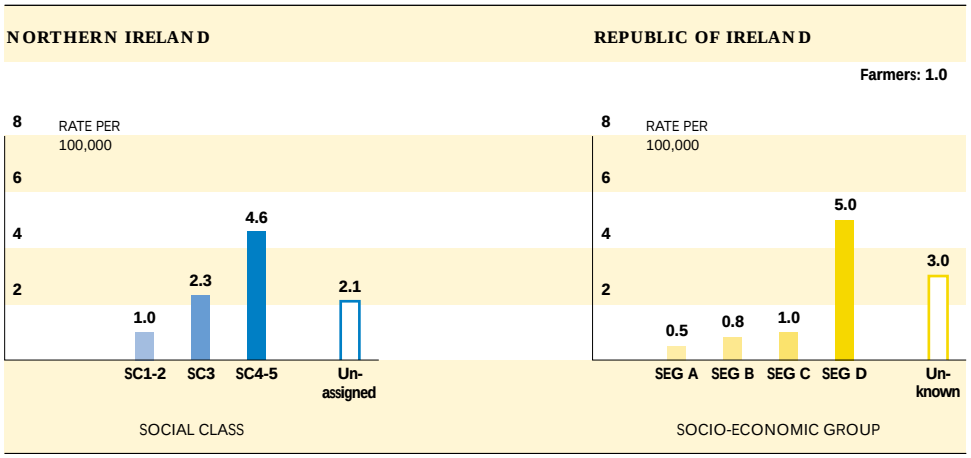
Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.43.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- There was no obvious pattern in the regional directly standardised mortality rates.
- Only in NI was there a clear occupational class gradient in mortality from ulcer of the stomach, duodenum and jejunum.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 340%) higher than the rate in the highest occupational class.

FIGURE 2.43.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.44 Chronic liver disease (ICD-9 571.0-571.9) 1989-1998

- During 1989-1998 an average of nearly two hundred people died each year on the island from chronic liver disease.
- The all Ireland annual directly standardised mortality rate was 4.0/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (43% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (25% lower).

FIGURE 2.44.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

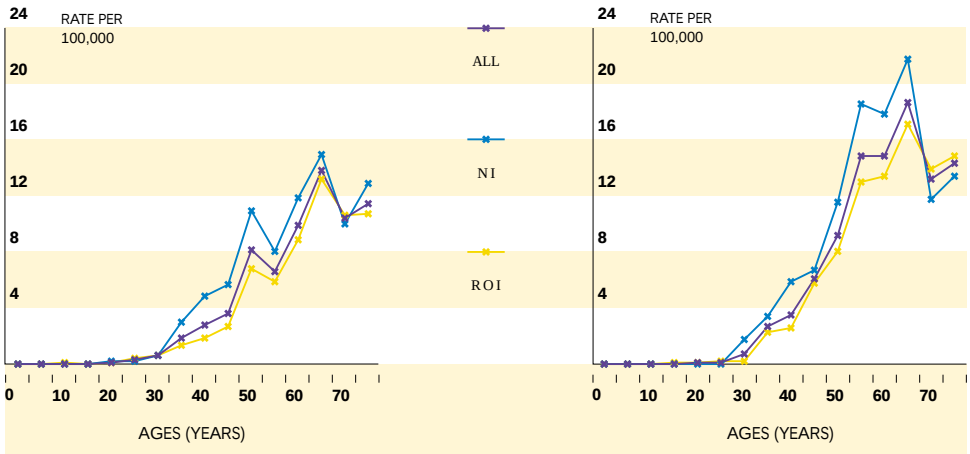
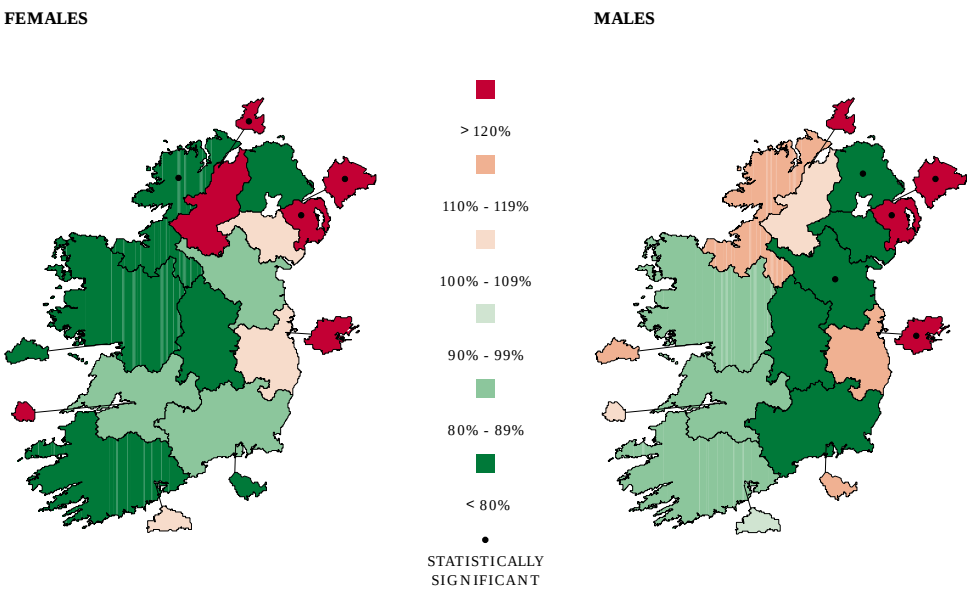


TABLE 2.44.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	84	3.3	35	4.1	49	2.9	9.3
MALES	102	4.8	38	5.6	64	4.4	22.4
PERSONS	186	4.0	73	4.9	113	3.6	-

Explanatory Notes for these figures and tables are given on pages 33-36.

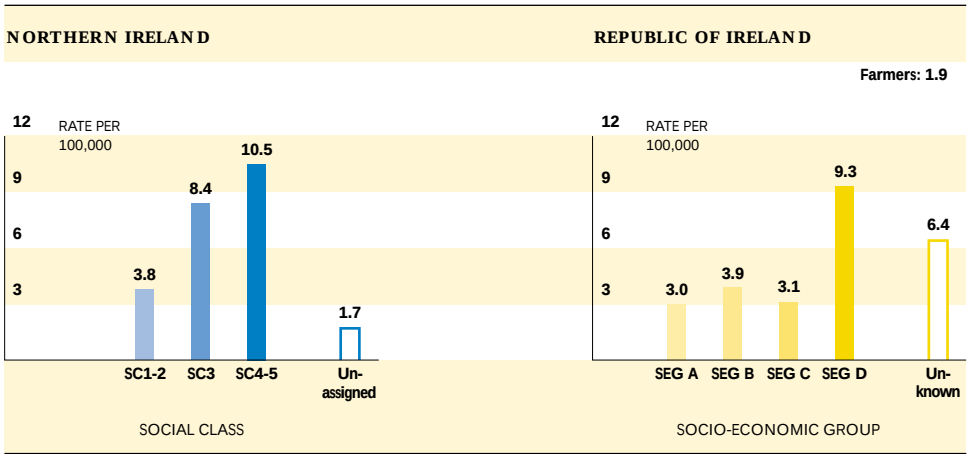
FIGURE 2.44.2
DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- Generally speaking, the regional directly standardised mortality rates for chronic liver disease tended to be lower in the RoI and higher in NI, and a number of these differences were significant.
- The notable exceptions were an elevated mortality rate in Dublin CB and a reduced rate in the Northern HSSB area in NI.

- Only in NI was there a clear occupational class gradient in mortality from chronic liver disease.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 170%) higher than the rate in the highest occupational class.

FIGURE 2.44.3
ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.45 Diseases of the skin and subcutaneous tissue (ICD-9 680-709) 1989-1998

- During 1989-1998 an average of one hundred people died each year on the island from diseases of the skin and subcutaneous tissue.
- The all Ireland annual directly standardised mortality rate was 1.7/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly lower for males than it was for females (11% lower).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (26% higher).

FIGURE 2.45.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

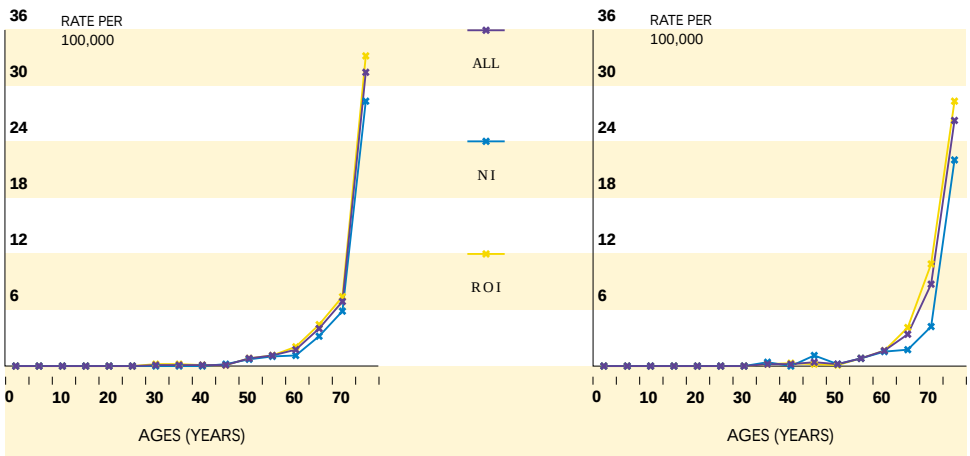
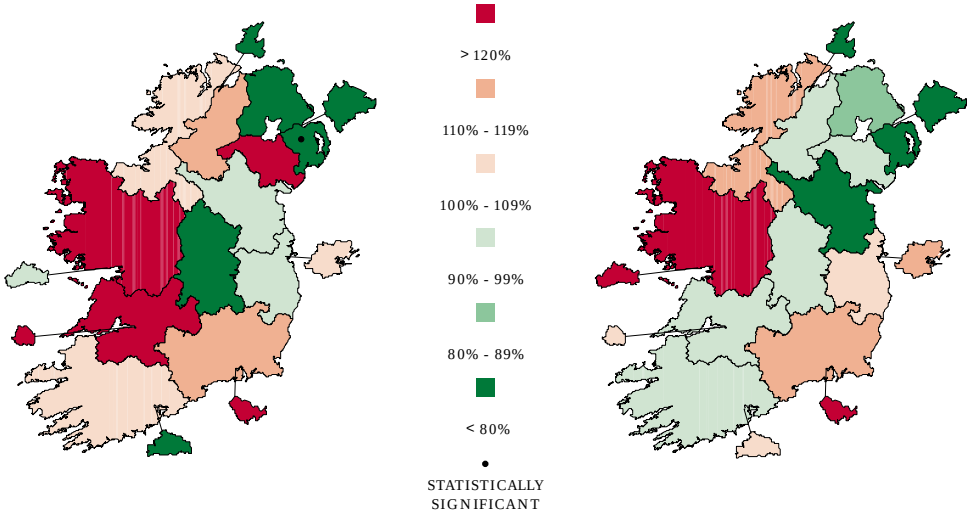


TABLE 2.45.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	65	1.8	21	1.6	44	1.9	1.3
MALES	38	1.6	10	1.3	28	1.8	1.0
PERSONS	102	1.7	30	1.5	72	1.9	-

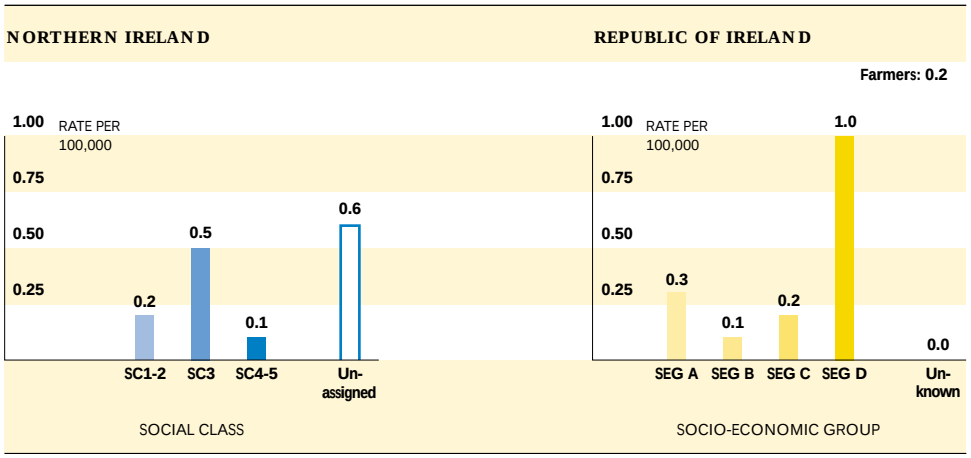
Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.45.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- There was no obvious pattern in the regional directly standardised mortality rates.
- In neither NI nor the RoI was there any clear occupational class variation in mortality from diseases of the skin and subcutaneous tissue.
- In the RoI the annual directly standardised mortality rate in the lowest occupational class was significantly (over 220%) higher than the rate in the highest occupational class.

FIGURE 2.45.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.46 Diseases of the musculoskeletal system/connective tissue (ICD-9 710-739) 1989-1998

- During 1989-1998 an average of over two hundred people died each year on the island from diseases of the musculoskeletal system/connective tissue.
- The all Ireland annual directly standardised mortality rate was 3.9/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was higher, and the rate for persons was lower in NI but higher in the RoI.

- The all Ireland annual directly standardised mortality rate was significantly lower for males than it was for females (33% lower).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (122% higher).

FIGURE 2.46.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

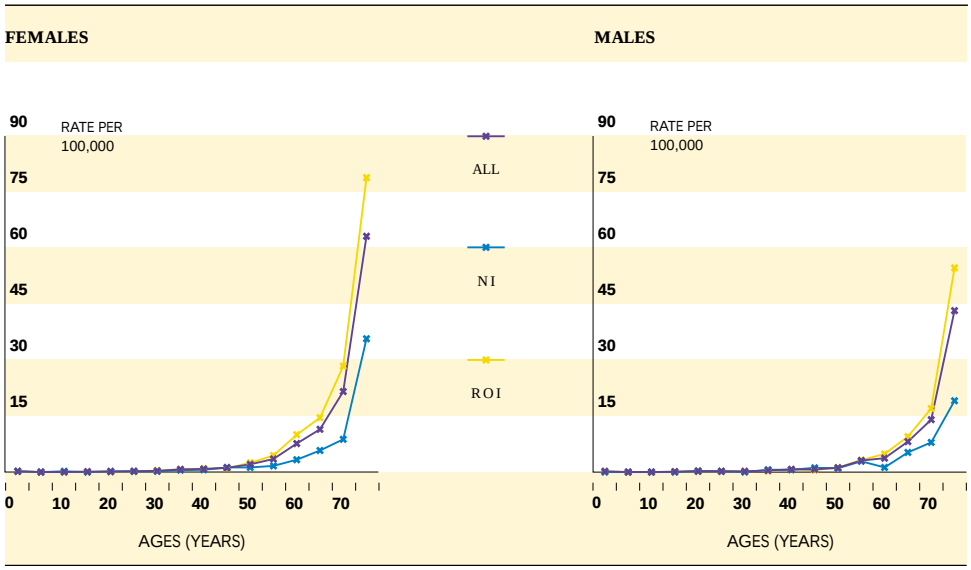
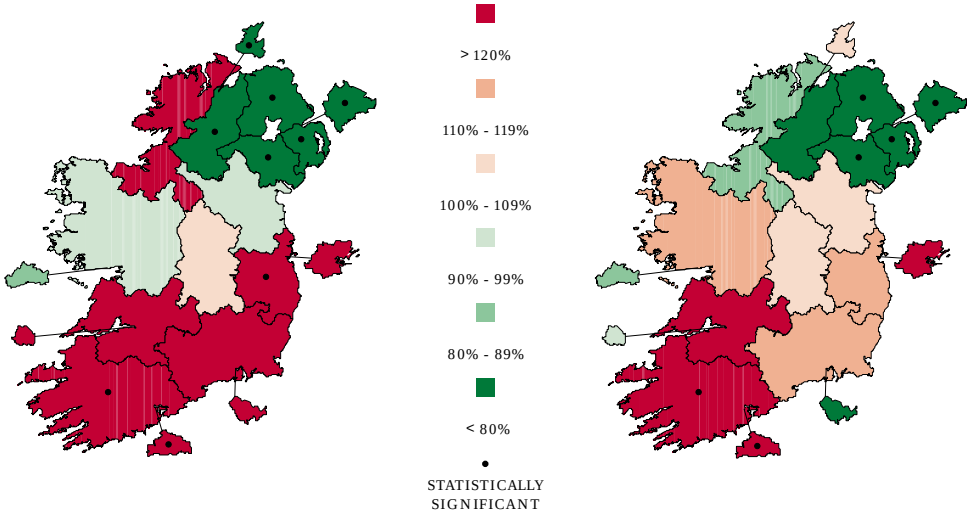


TABLE 2.46.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	151	4.5	29	2.4	122	5.6	3.4
MALES	70	3.0	12	1.7	58	3.7	2.3
PERSONS	221	3.9	42	2.1	180	4.8	-

Explanatory Notes for these figures and tables are given on pages 33-36.

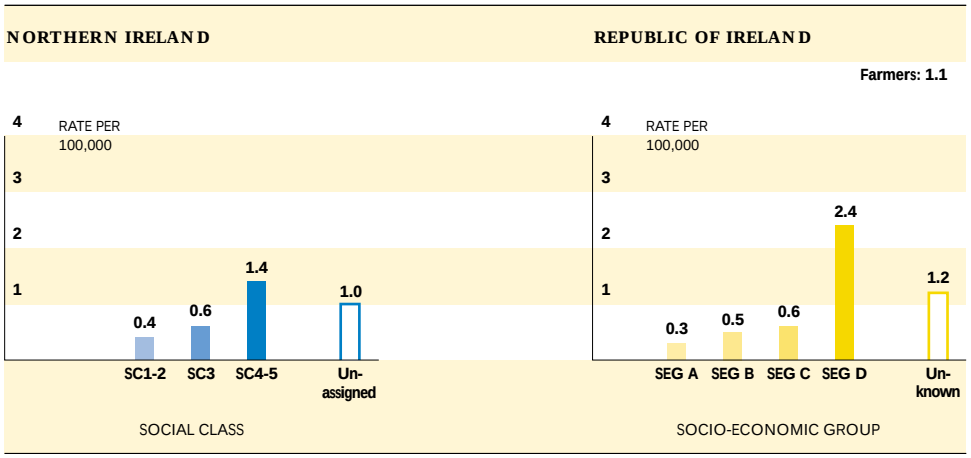
FIGURE 2.46.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- Generally speaking, when compared to the whole island, the regional directly standardised mortality rates for diseases of the musculoskeletal system/connective tissue tended to be higher in the RoI and lower in NI.
- The mortality rates in urban centres tended to conform to this pattern.

- In both NI and the RoI there were occupational class gradients in mortality from diseases of the musculoskeletal/connective tissue.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 220%) higher than the rate in the highest occupational class.

FIGURE 2.46.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.47 Rheumatoid arthritis and osteoarthrosis (ICD-9 714-715) 1989-1998

- During 1989-1998 an average of over a hundred people died each year on the island from rheumatoid arthritis and osteoarthritis.
- The all Ireland annual directly standardised mortality rate was 2.0/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was higher, and the rate for persons was similar in NI but higher in the RoI.

- The all Ireland annual directly standardised mortality rate was significantly lower for males than it was for females (37% lower).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (166% higher).

FIGURE 2.47.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

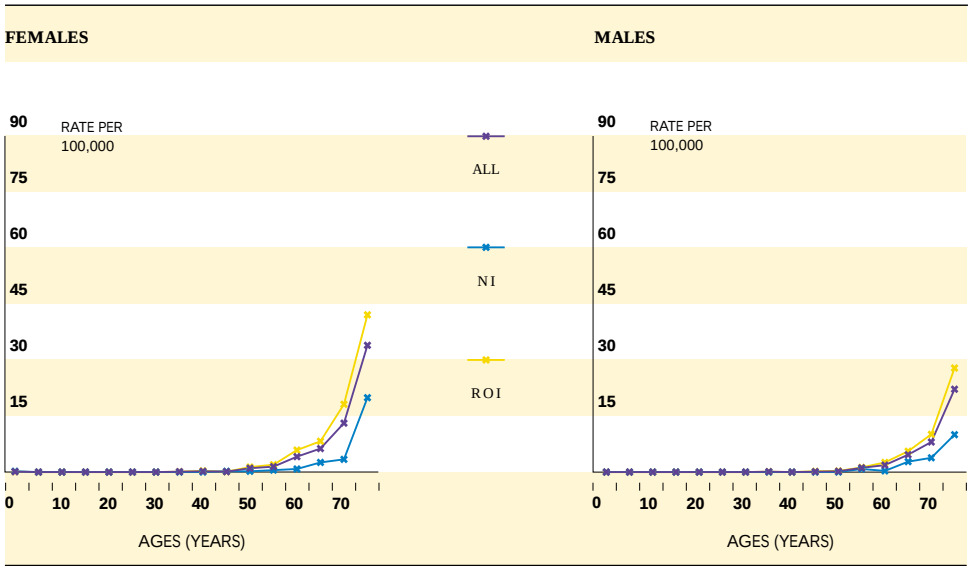
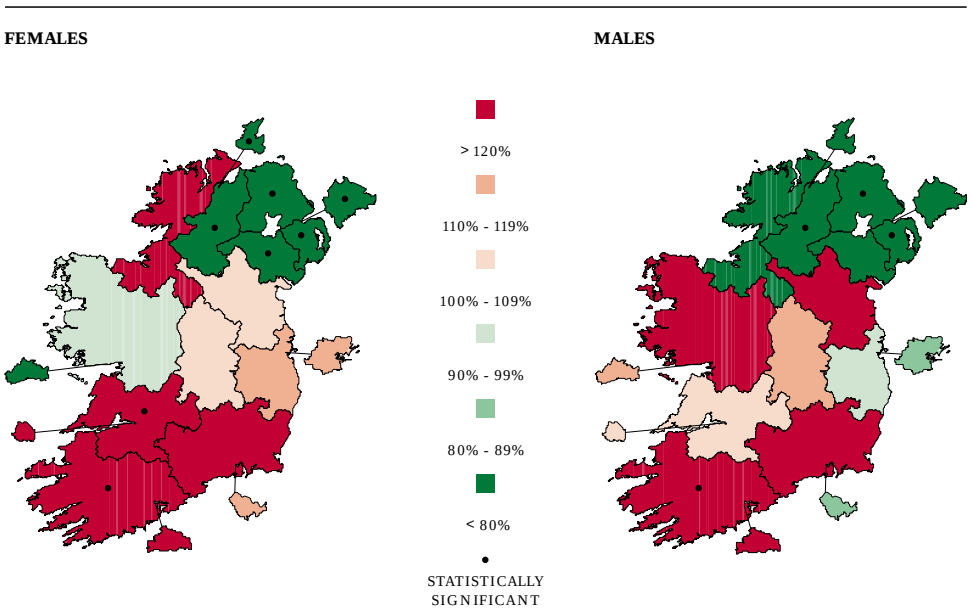


TABLE 2.47.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	80	2.3	14	1.1	66	3.0	1.2
MALES	34	1.5	5	0.7	29	1.8	0.6
PERSONS	114	2.0	19	0.9	95	2.5	-

Explanatory Notes for these figures and tables are given on pages 33-36.

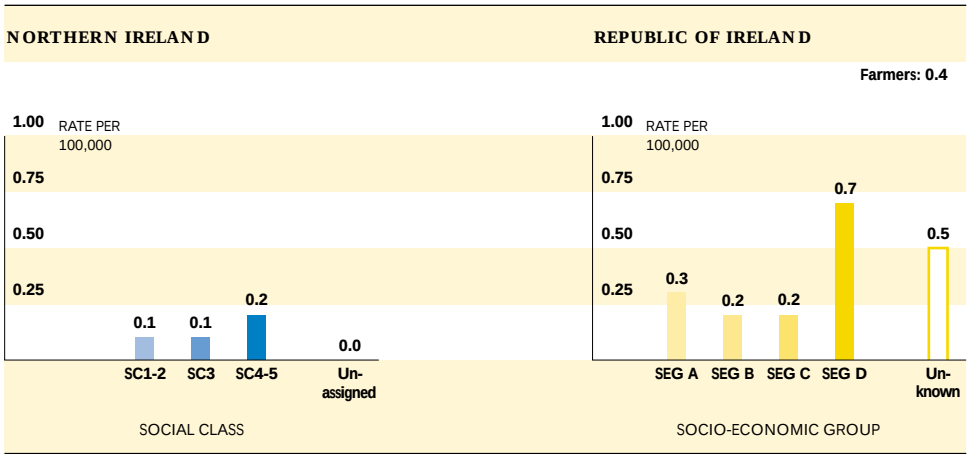
FIGURE 2.47.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- Generally speaking, when compared to the whole island, the regional directly standardised mortality rates for rheumatoid arthritis and osteoarthritis tended to be lower in NI and higher in the RoI.
- The mortality rates in urban centres tended to conform to this pattern.

- In neither NI nor the RoI was there any clear occupational class variation in mortality from rheumatoid arthritis and osteoarthritis.

FIGURE 2.47.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.48 Diseases of the genito-urinary system (ICD-9 580-629) 1989-1998

- During 1989-1998 an average of nearly eight hundred and fifty people died each year on the island from diseases of the genito-urinary system.
- The all Ireland annual directly standardised mortality rate was 14.1/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (42% higher).
- This was true in both NI and the RoI.
- The effects of the differences in the age-specific mortality rates for females and males is apparent here. The crude mortality rate was higher for females (16.5/100,000) than it was for males (15.7/100,000).

FIGURE 2.48.1
ANNUAL MORTALITY RATES (PER 100,000), BY AGE

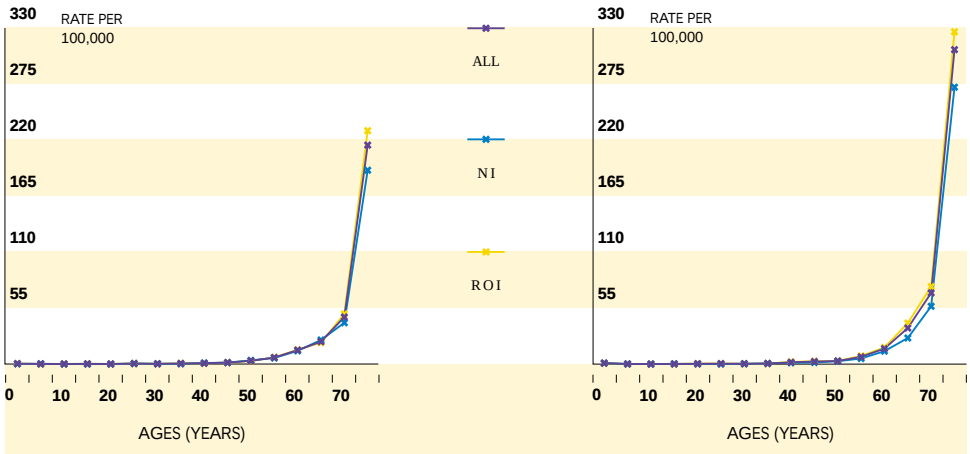
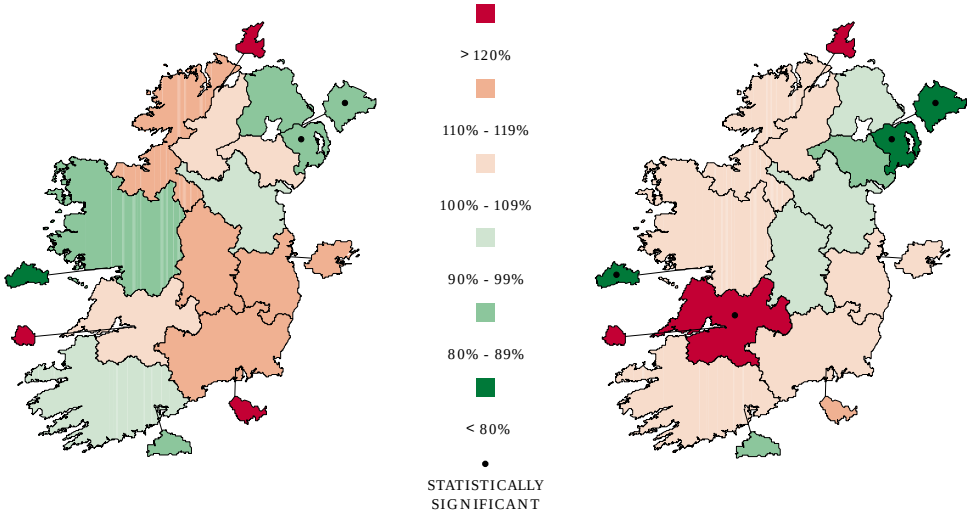


TABLE 2.48.1
ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	436	12.1	141	11.0	295	12.7	7.5
MALES	405	17.2	112	14.7	294	18.4	12.4
PERSONS	841	14.1	253	12.3	589	15.1	-

Explanatory Notes for these figures and tables are given on pages 33-36.

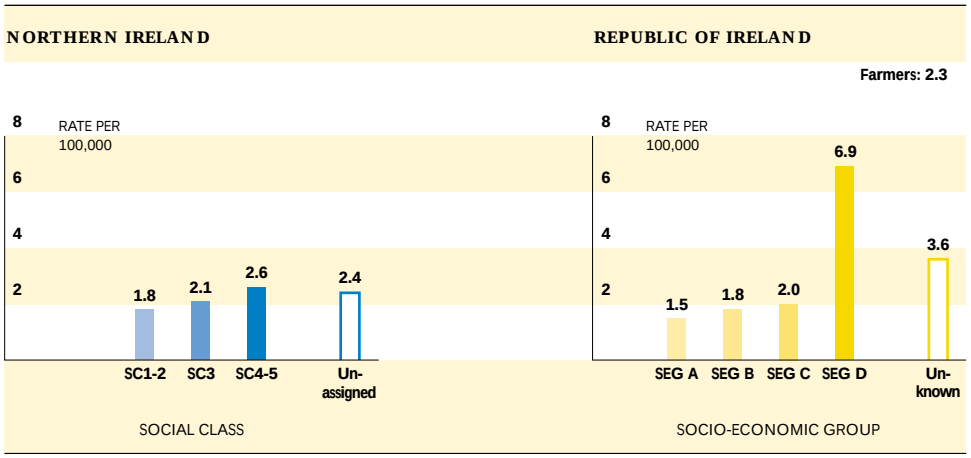
FIGURE 2.48.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (23% higher).
- There was no obvious pattern in the regional directly standardised mortality rates.

- In both NI and the RoI there were occupational class gradients in mortality from diseases of the genito-urinary system.
- In the RoI the annual directly standardised mortality rate in the lowest occupational class was significantly (over 360%) higher than the rate in the highest occupational class.

FIGURE 2.48.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.49 Diseases of the kidney and ureter (ICD-9 580-594) 1989-1998

- During 1989-1998 an average of over six hundred people died each year on the island from diseases of the kidney and ureter.
- The all Ireland annual directly standardised mortality rate was 10.6/100,000 persons.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (40% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rates for persons in NI and the RoI were not statistically different.

FIGURE 2.49.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

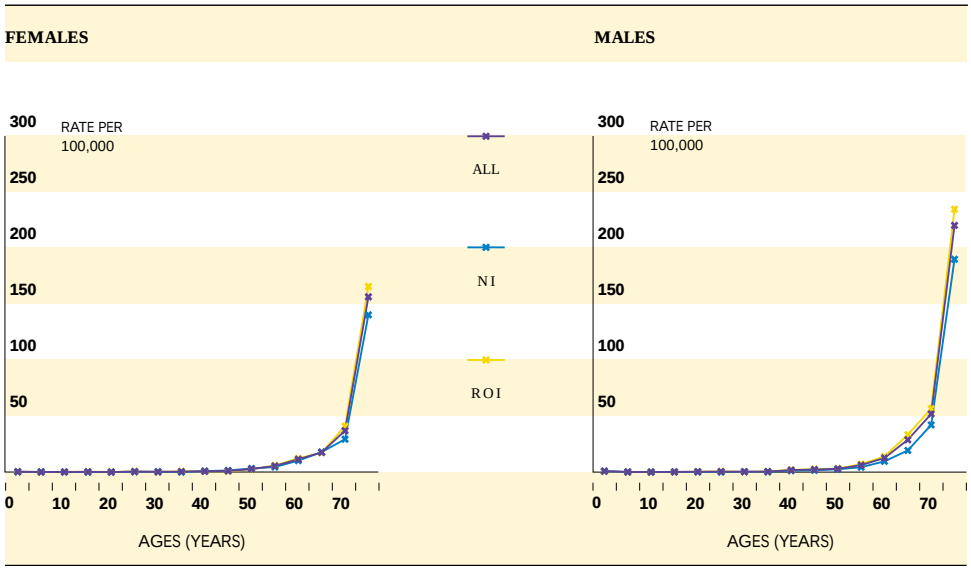
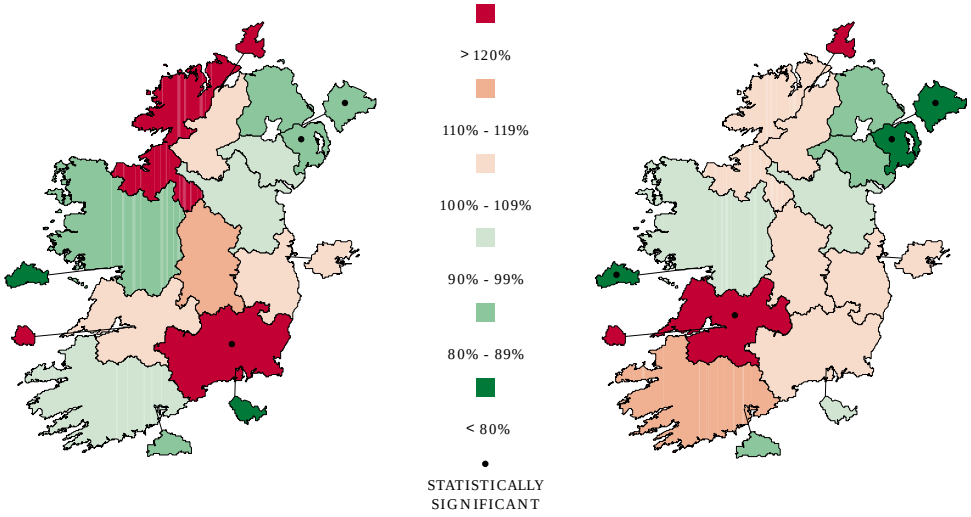


TABLE 2.49.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	325	9.1	105	8.2	221	9.6	-
MALES	300	12.8	80	10.5	220	13.8	-
PERSONS	625	10.6	185	9.0	441	11.4	-

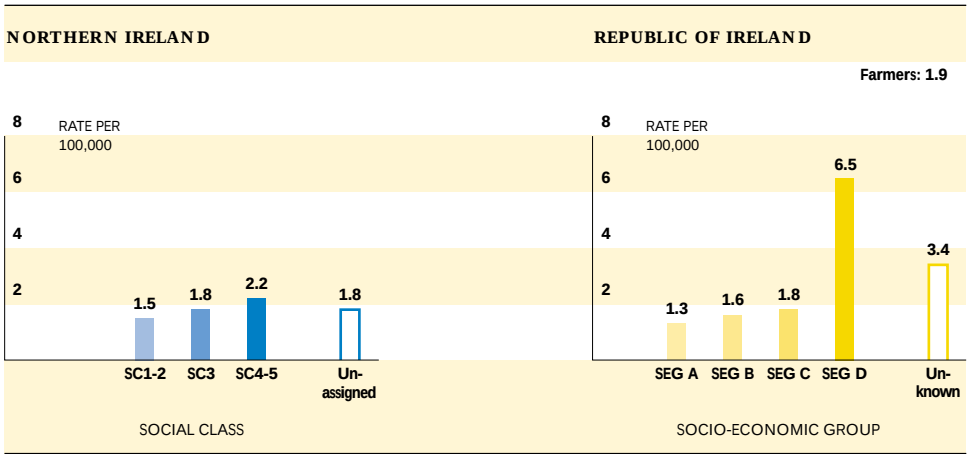
Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.49.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- There was no obvious pattern in the regional directly standardised mortality rates.
- In both NI and the RoI there were occupational class gradients in mortality from diseases of the kidney and ureter.
- In the RoI the annual directly standardised mortality rate in the lowest occupational class was significantly (over 380%) higher than the rate in the highest occupational class.

FIGURE 2.49.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.50 Complications of pregnancy, childbirth and puerperium (ICD-9 630-676) 1989-1998

Because of the very small number of deaths involved, no comment is made about any variation in mortality on the island. The relatively small number of deaths may also add some 'noise' to the plots of age specific mortality rates in Figure 2.50.1.

- During 1989-1998 an average of two women died each year on the island from complications of pregnancy, childbirth and puerperium.
- The all Ireland directly standardised morality rate was 0.1/100,000 females.
- This all Ireland mortality rate was similar to the rate in the (combined) EU-15 countries.

FIGURE 2.50.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

FEMALES

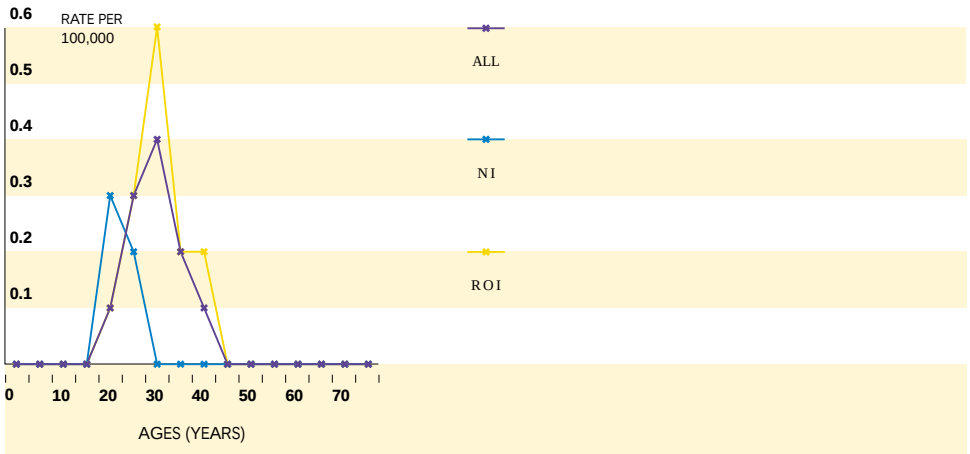


TABLE 2.50.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	2	0.1	0	0.0	2	0.1	0.1

Explanatory Notes for these figures and tables are given on pages 33-36.

Figures presenting the directly standardised mortality rate ratios by region and the annual directly standardised mortality rates for working aged males have been omitted because of the small number of deaths involved.

Age standardisation using all ages is perhaps not appropriate for this cause of death. The age specific annual mortality rate rose to 0.4/100,000 females in the 30-34 years age group in the RoI, and 0.3/100,000 females in the 25-29 years age group in NI.

2.51 Certain conditions originating in the perinatal period (ICD-9 760-779) 1989-1998

- During 1989-1998 an average of nearly two hundred people died each year on the island from certain conditions originating in the perinatal period.
- The all Ireland annual directly standardised mortality rate was 3.9/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland mortality rate for both females and males was slightly lower, and the rate for persons was higher in NI and slightly lower in the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (30% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (13% lower).

FIGURE 2.51.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

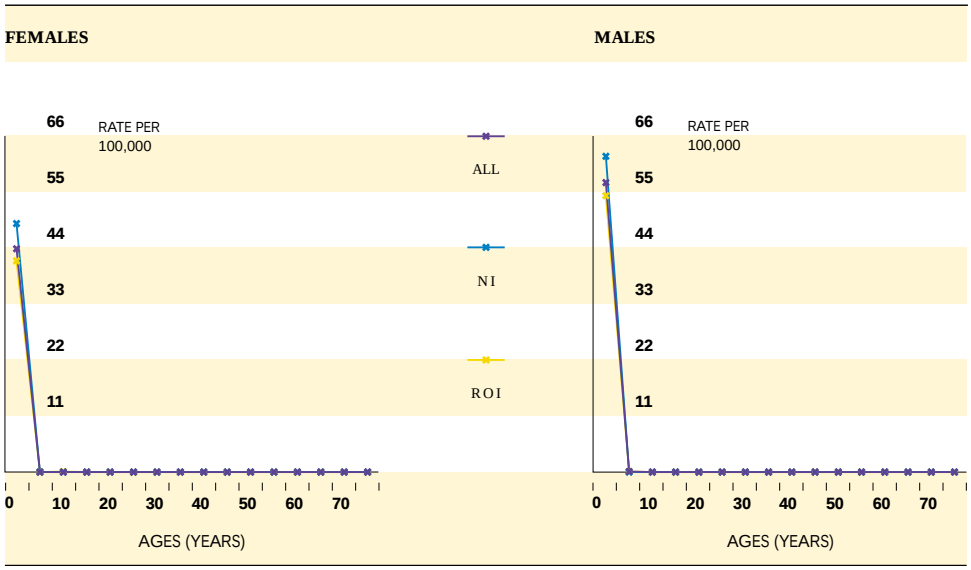
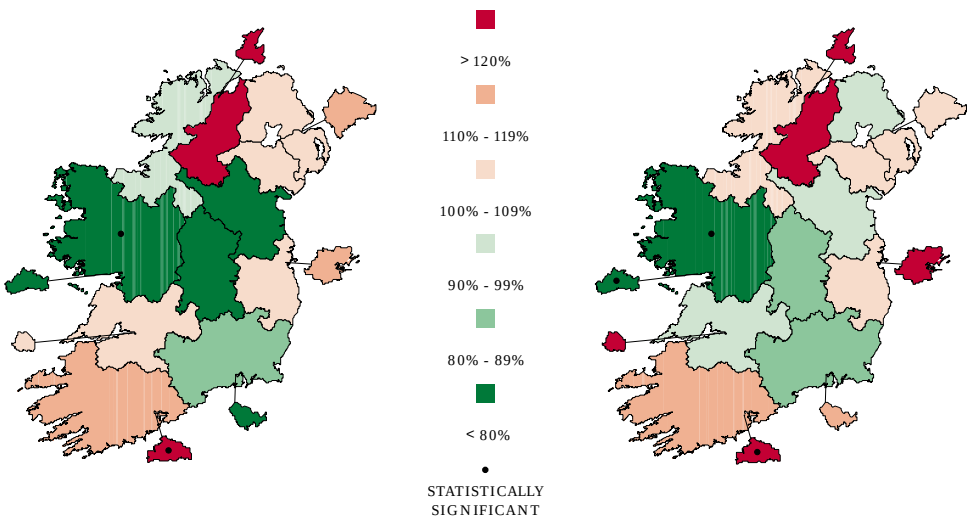


TABLE 2.51.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	80	3.4	30	3.8	51	3.2	3.5
MALES	110	4.4	40	4.8	71	4.2	4.6
PERSONS	191	3.9	69	4.3	122	3.7	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.51.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The regional directly standardised mortality rate for certain conditions originating in the perinatal period tended to be higher in the urban centres than it was on the whole island.
- Notable exceptions were Galway CB and Waterford CB (females only).
- There was no other obvious pattern in the regional directly standardised mortality rates.

Nearly all of the deaths occurred before 5 years, precluding a standard occupational class analysis. We note that a link with occupational class was present because no death from this cause occurred in the highest occupational class.

Age standardisation using all age groups is clearly inappropriate for this cause of death. The age specific annual mortality rate was 42.5/100,000 females, and 55.1/100,000 males, in the 0-4 years age group.

2.52 Congenital malformations and chromosomal abnormalities (ICD-9 740-759) 1989-1998

- During 1989-1998 an average of nearly three hundred people died each year on the island from congenital malformations and chromosomal abnormalities.
- The all Ireland annual directly standardised mortality rate was 5.8/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (12% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (17% higher).

FIGURE 2.52.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

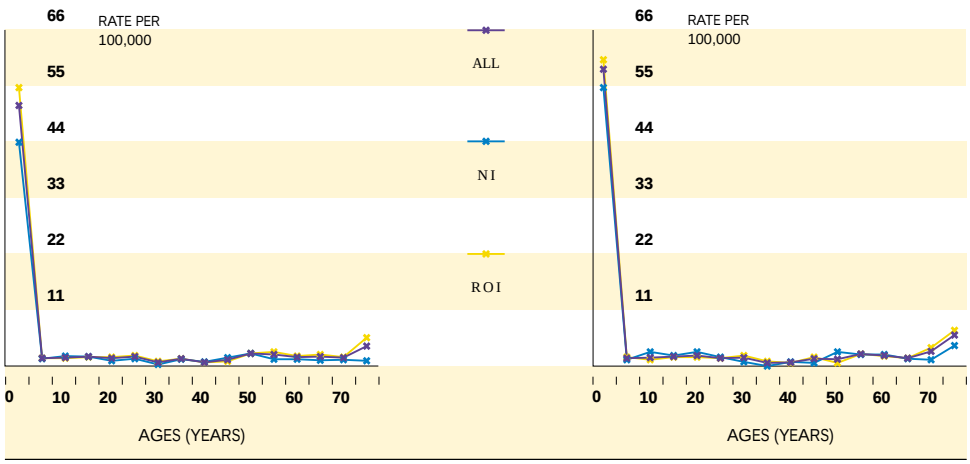
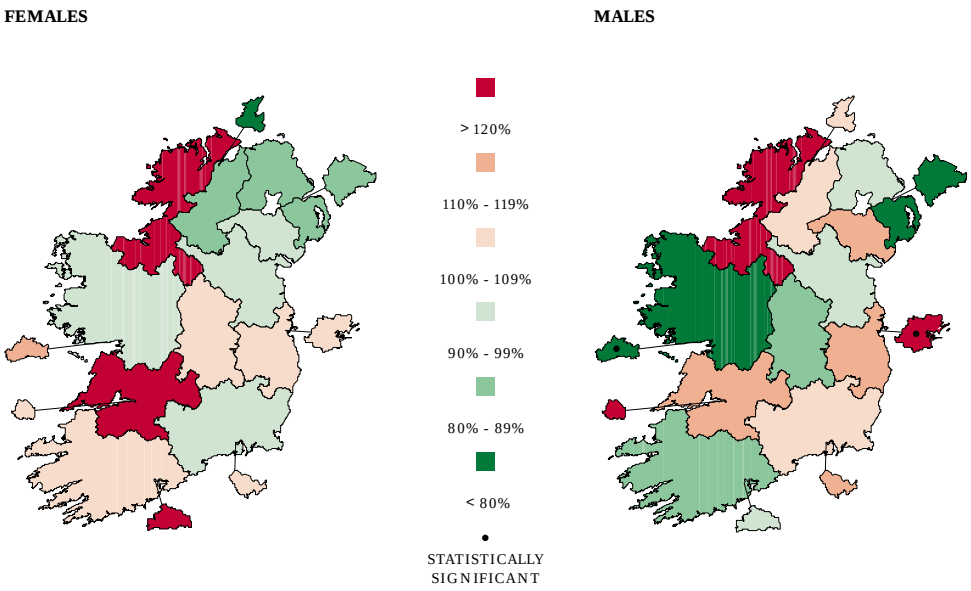


TABLE 2.52.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	135	5.5	37	4.6	98	5.9	3.7
MALES	154	6.1	47	5.8	107	6.3	4.3
PERSONS	289	5.8	84	5.2	204	6.1	-

Explanatory Notes for these figures and tables are given on pages 33-36.

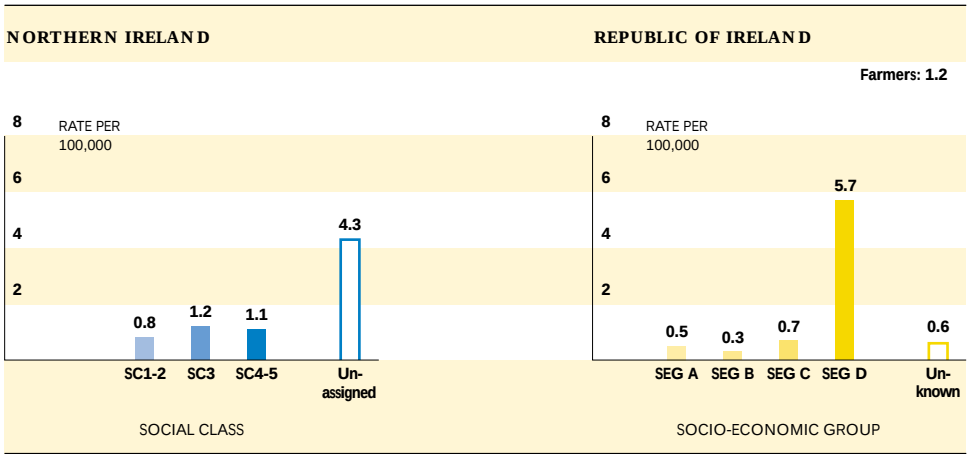
FIGURE 2.52.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- There was no obvious pattern in the regional directly standardised mortality rates.
- In neither NI nor the RoI was there any occupational class gradient in mortality from congenital malformations and chromosomal abnormalities.
- In the RoI, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 930%) higher than the rate in the highest occupational class.

Age standardisation using all age groups is perhaps not appropriate for this cause of death. The age specific annual mortality rate from this cause is very small after the 0-4 years age group (where it was 49.6/1000,000 males and 56.5/100,000 females), although it exhibits a small increase in the 75+ years age group.

FIGURE 2.52.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.53 Congenital malformations of the nervous system (ICD-9 740-742) 1989-1998

- During 1989-1998 an average of over fifty people died each year on the island from congenital malformations of the nervous system.
- The all Ireland annual directly standardised mortality rate was 1.1/100,000 persons.
- The all Ireland mortality rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly lower for males than it was for females (6% lower).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (48% higher).

FIGURE 2.53.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

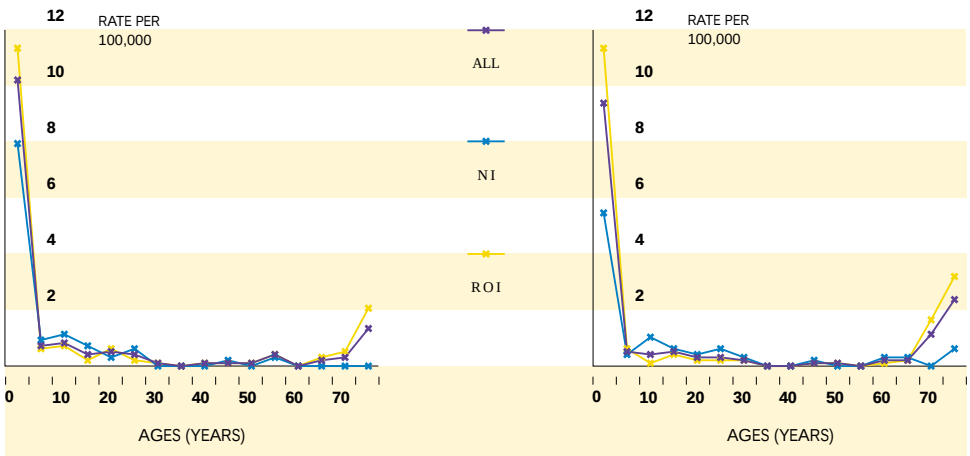
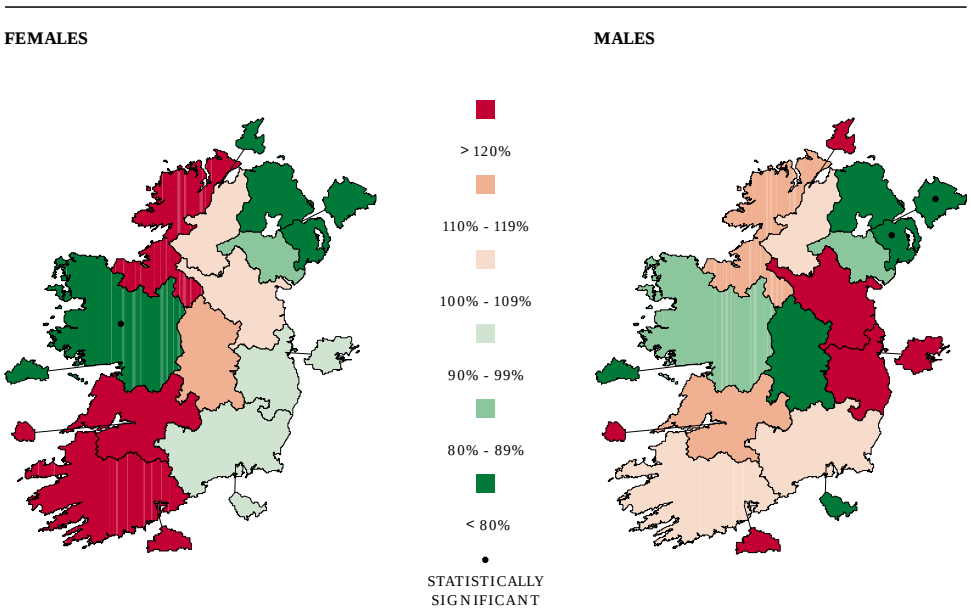


TABLE 2.53.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	28	1.1	7	0.9	21	1.2	0.5
MALES	27	1.0	6	0.7	20	1.2	0.5
PERSONS	55	1.1	14	0.8	41	1.2	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.53.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

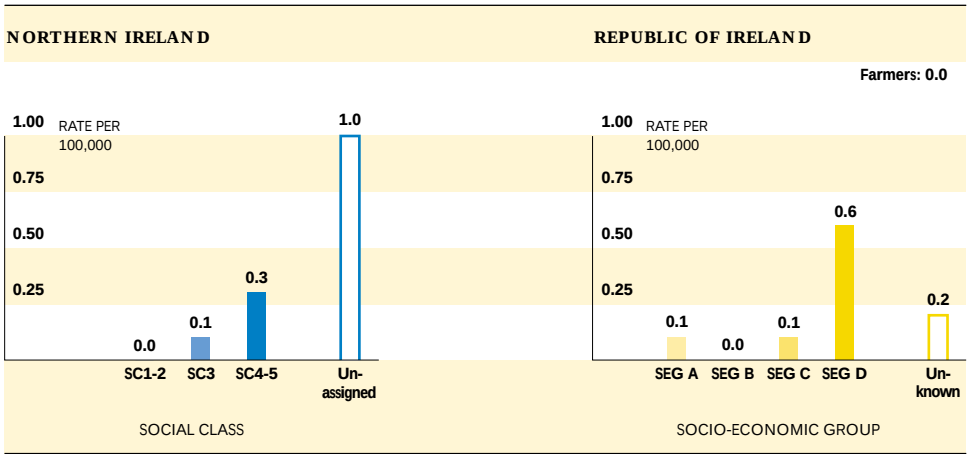


- There was no obvious pattern in the regional directly standardised mortality rates.

- Only in NI was there a clear occupational class gradient in mortality from congenital malformations of the nervous system.
- In the RoI the annual directly standardised mortality rate in the lowest occupational class was significantly (over 500%) higher than the rate in the highest occupational class.
- In NI we note a link with occupational class was present because no death occurred in the highest occupational class.

Age standardisation using all age groups is perhaps not appropriate for this cause of death. The age specific annual mortality rate from this cause is small after the 0-4 years age group (where it was 9.9/1000,000 females and 9.1/100,000 males), although it exhibits an increase in the 75+ years age group.

FIGURE 2.53.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.54 Congenital malformations of the circulatory system (ICD-9 745-747) 1989-1998

- During 1989-1998 an average of one hundred people died each year on the island from congenital malformations of the circulatory system.
- The all Ireland annual directly standardised mortality rate was 2.0/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females and males was higher, and the rate for persons was higher in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (22% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (3% higher) although the difference was very small.

FIGURE 2.54.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

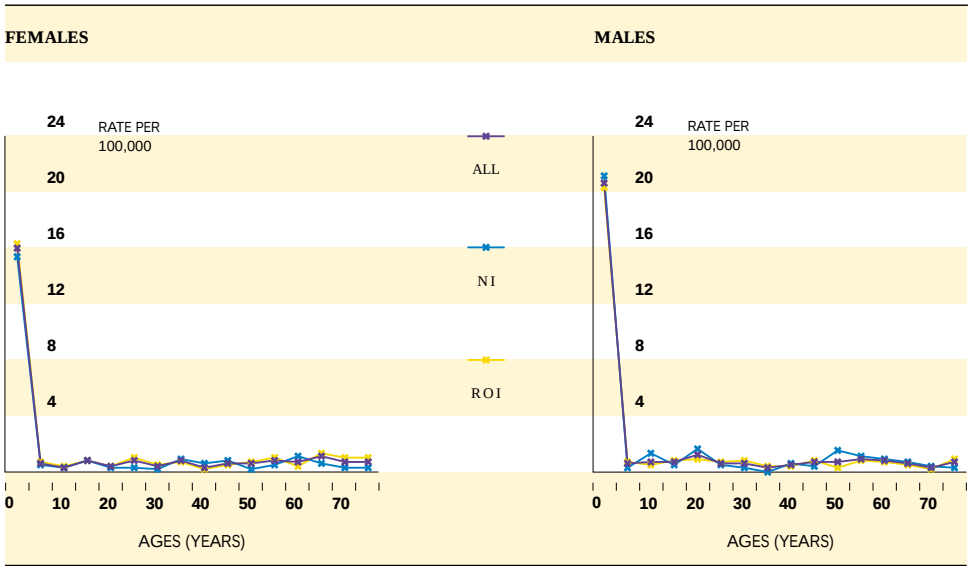
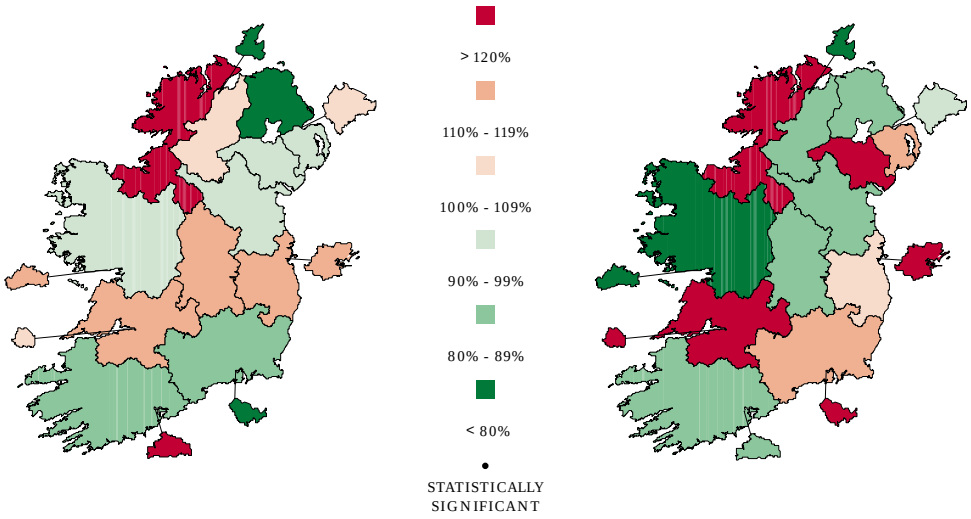


TABLE 2.54.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	44	1.8	13	1.7	31	1.9	1.6
MALES	56	2.2	19	2.3	37	2.2	2.0
PERSONS	100	2.0	32	2.0	69	2.0	-

Explanatory Notes for these figures and tables are given on pages 33-36.

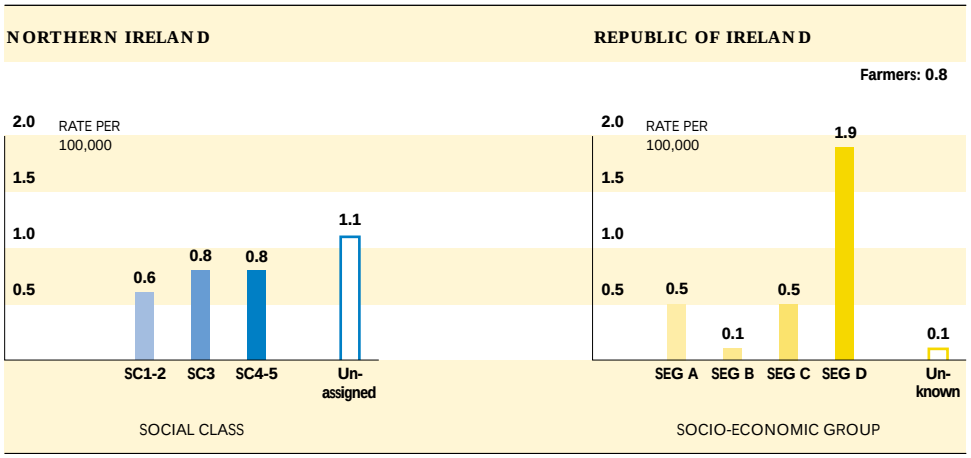
FIGURE 2.54.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- There was no obvious pattern in the regional directly standardised mortality rates.
- In neither NI nor the RoI was there an occupational class gradient in mortality from congenital malformations of the circulatory system.
- In the RoI, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 310%) higher than the rate in the highest occupational class.

Age standardisation using all age groups is perhaps not appropriate for this cause of death. The age specific annual mortality rate from this cause was small after the 0-4 years age group (where it was 15.5/1000,000 females and 20.0/100,000 males).

FIGURE 2.54.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.55 Symptoms, signs, abnormal findings, ill-defined causes (ICD-9 780-799) 1989-1998

- During 1989-1998 an average of nearly three hundred people died each year on the island from symptoms, signs, abnormal findings, ill-defined causes.
- The all Ireland directly standardised mortality rate was 4.9/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (11% higher).
- This was true in the RoI but not in NI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (72% higher).

FIGURE 2.55.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

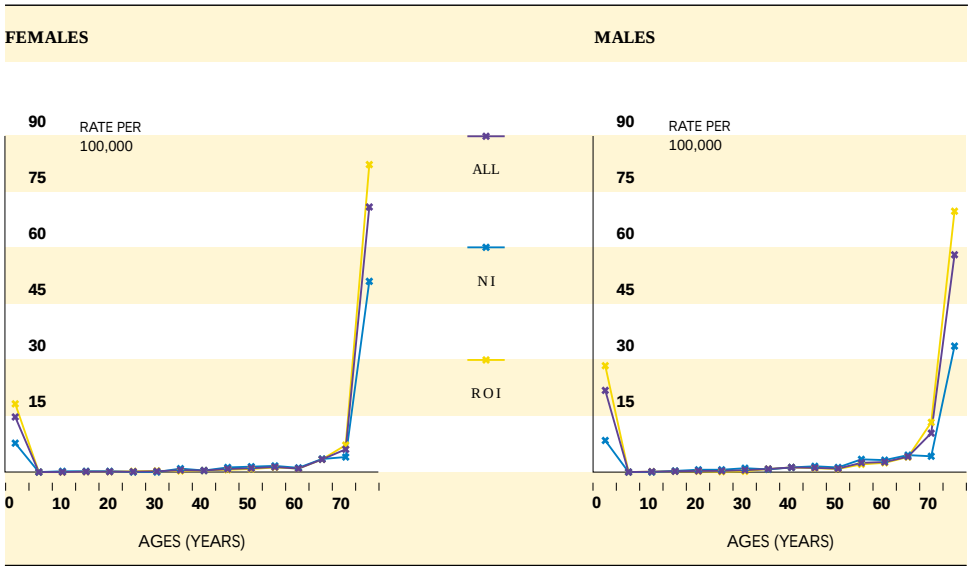
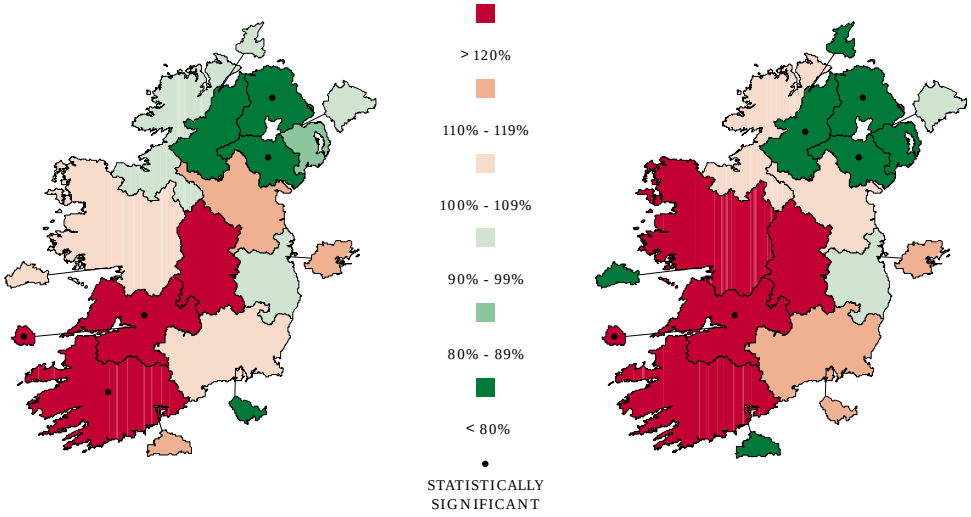


TABLE 2.55.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	156	4.6	40	3.3	116	5.3	18.3
MALES	122	5.1	24	3.1	98	6.0	27.2
PERSONS	278	4.9	64	3.3	214	5.7	-

Explanatory Notes for these figures and tables are given on pages 33-36.

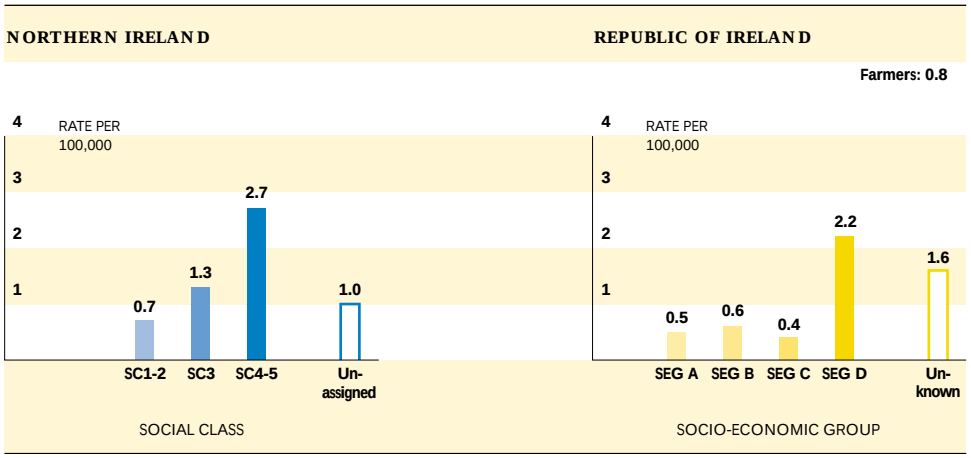
FIGURE 2.55.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- Compared to the whole island, the regional directly standardised mortality rates were all lower in NI and tended to be higher in the RoI.
- There was no other obvious pattern in the regional directly standardised mortality rates.

- Only in NI was there a clear occupational class gradient in mortality from symptoms, signs, abnormal findings and ill-defined causes.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 260%) higher than the rate in the highest occupational class.

FIGURE 2.55.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.56 Sudden infant death syndrome (ICD-9 798.0) 1989-1998

- During 1989-1998 an average of over sixty people died each year on the island from sudden infant death syndrome.
- The all Ireland directly standardised mortality rate was 1.4/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was higher, and the rate for persons was lower in NI and higher in the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (53% higher).
- This was true in the RoI but not in NI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (210% higher).

FIGURE 2.56.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

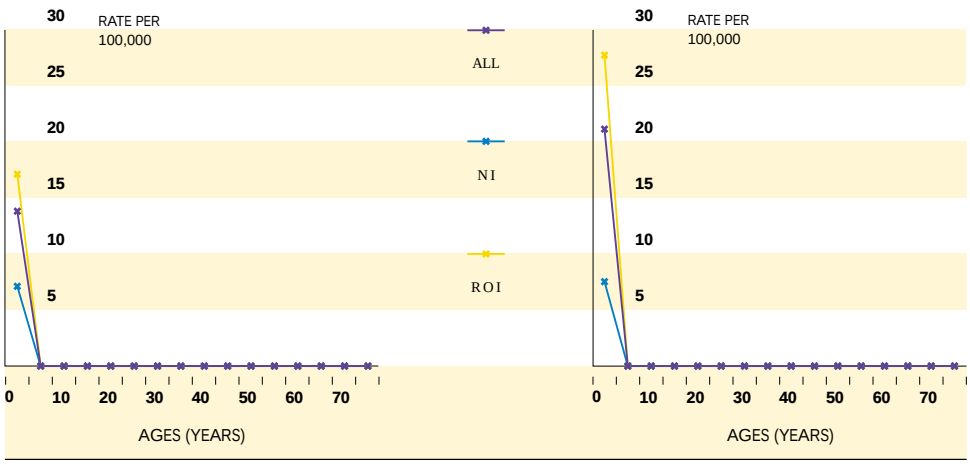
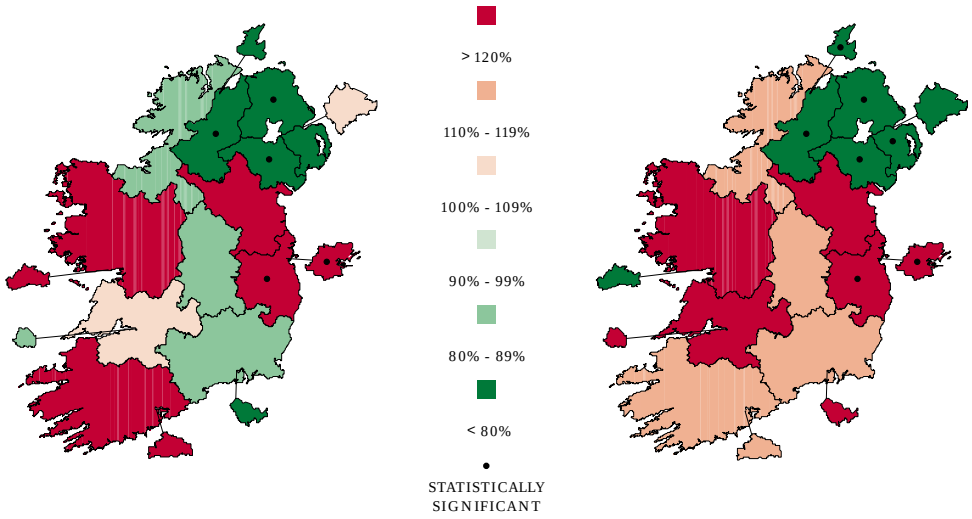


TABLE 2.56.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	25	1.1	4	0.5	21	1.3	0.8
MALES	41	1.6	5	0.6	36	2.2	1.3
PERSONS	66	1.4	9	0.6	57	1.8	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.56.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- Compared to the whole island, the regional directly standardised mortality rates were lower in NI and tended to be higher in the RoI.
- There was no other obvious pattern in the regional directly standardised mortality rates.

All deaths occurred before age 15 years precluding a standardised occupational class analysis. Age standardisation using all age groups is clearly inappropriate for this cause of death. The age specific annual mortality rates were 13.4/100,000 females and 20.5/100,000 males in the 0-4 years age group.

2.57 Unknown and unspecified causes (ICD-9 798.1-9,799) 1989-1998

- During 1989-1998 an average of one hundred people died each year on the island from unknown and unspecified causes.
- The all Ireland directly standardised mortality rate was 1.6/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (7% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (65% higher).

FIGURE 2.57.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

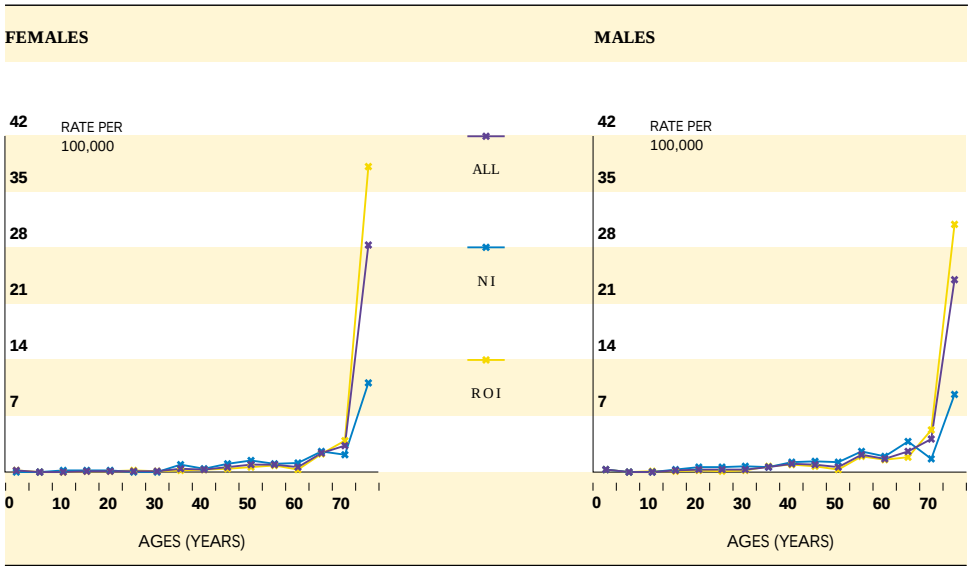
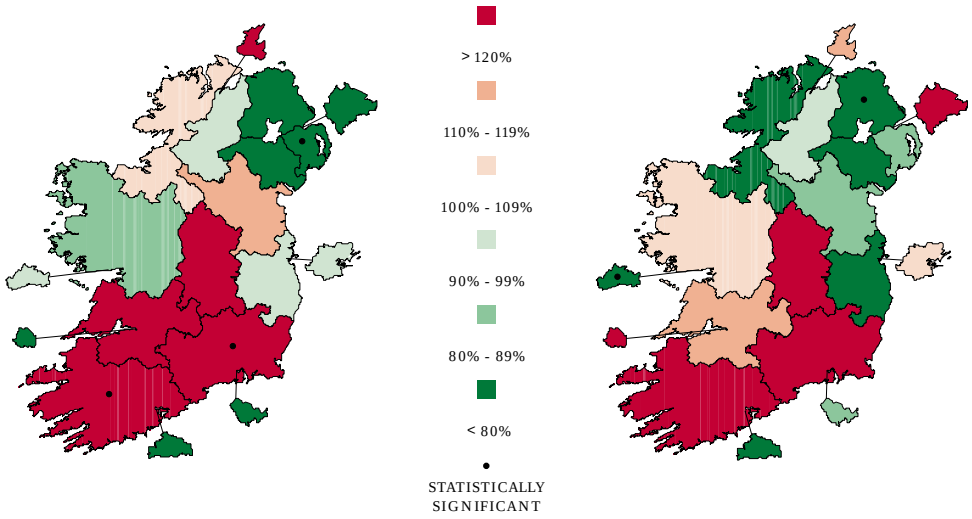


TABLE 2.57.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	56	1.6	11	1.0	45	1.9	8.3
MALES	39	1.7	10	1.3	30	1.9	16.4
PERSONS	95	1.6	20	1.2	75	1.9	-

Explanatory Notes for these figures and tables are given on pages 33-36.

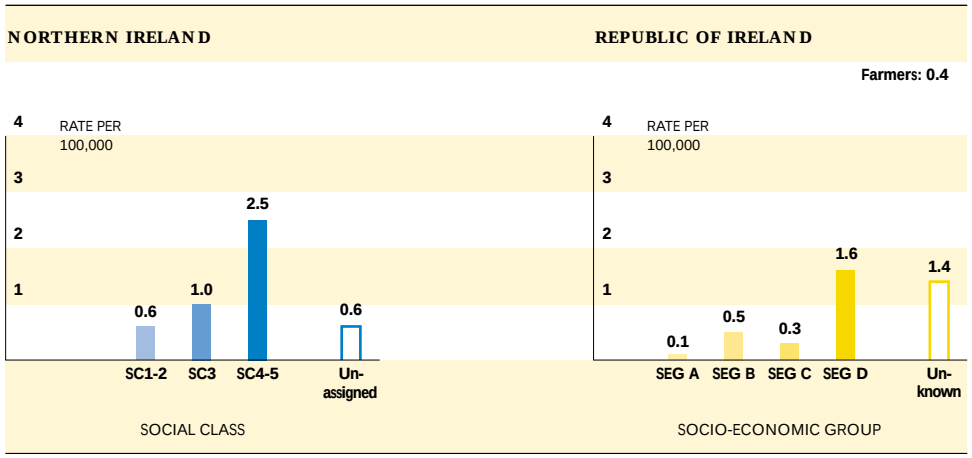
FIGURE 2.57.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- There was no obvious pattern in the regional directly standardised mortality rates.
- Only in NI was there a clear occupational class gradient in mortality from unknown and unspecified causes.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 300%) higher than the rate in the highest occupational class.

These results stand in contrast to those for external 'uncertain' causes of death (see Section 2.65). The use of the internal 'uncertain' cause of death codes here is far more common amongst the oldest age group, particularly in the RoI. This might be related to the difficulties associated with identifying a primary cause of death amongst this age group. See Section 5.3 for further details.

FIGURE 2.57.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.58 External causes of injury and poisoning (ICD-9 E800-E999) 1989-1998

- During 1989-1998 an average of two thousand one hundred people died each year on the island from external causes of injury and poisoning.
- The all Ireland annual directly standardised mortality rate was 39.6/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (169% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (6% higher).

- The regional directly standardised mortality rate for external causes of injury and poisoning tended to be lower in urban centres than it was on the whole island.

FIGURE 2.58.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

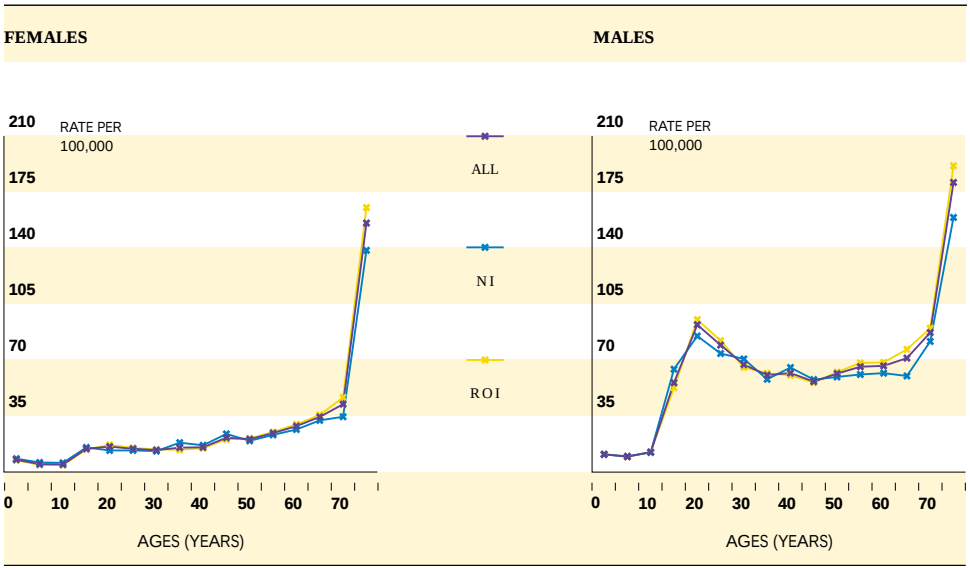
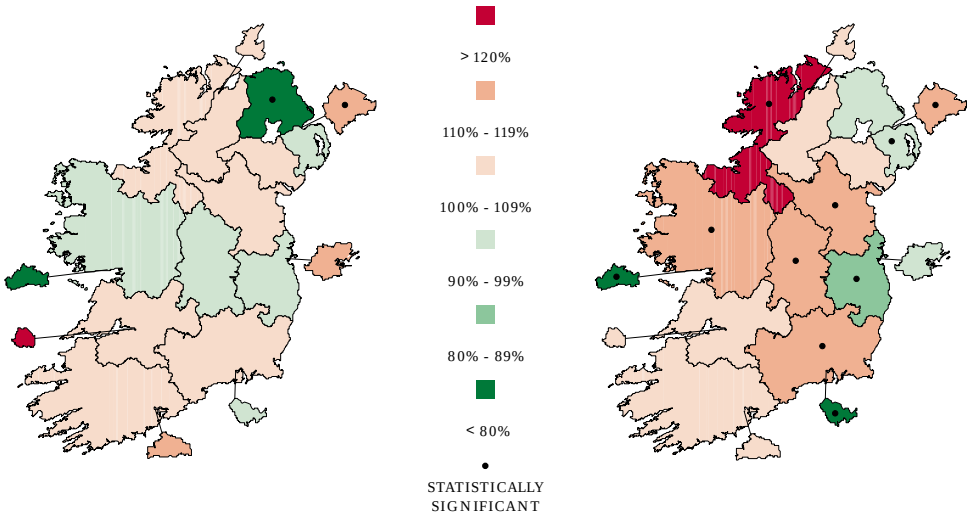


TABLE 2.58.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	633	21.6	203	20.8	430	22.1	25.8
MALES	1,450	58.0	441	56.0	1,009	59.0	64.9
PERSONS	2,083	39.6	644	38.1	1,439	40.4	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.58.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

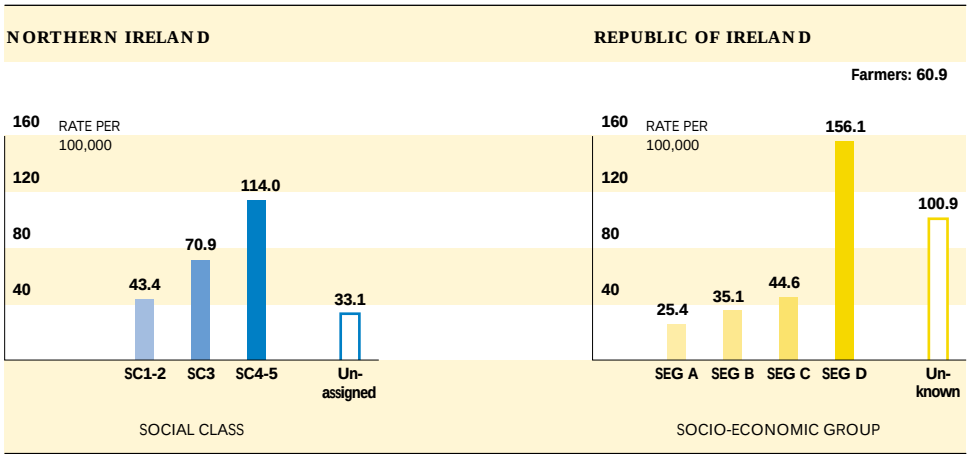


- A notable exception was Belfast LGD, where the rate was significantly higher for both males and females.
- Outside urban centres, the regional directly standardised mortality rate was generally higher than it was on the whole island, with the rates for males often being significantly so.

- In both NI and the RoI there were clear occupational class gradients in mortality from external causes of injury and poisoning.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 160%) higher than the rate in the highest occupational class.

The plot of the age specific mortality rates for males clearly shows a dramatic rise starting in the teenage years and continuing until the mid twenties. This phenomenon is not apparent in the plot for females.

FIGURE 2.58.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.59 Accidents (ICD-9 E800-E929) 1989-1998

- During 1989-1998 an average of one thousand four hundred people died each year on the island from accidents.
- The all Ireland annual directly standardised mortality rate was 26.3/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (128% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (14% higher).

FIGURE 2.59.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

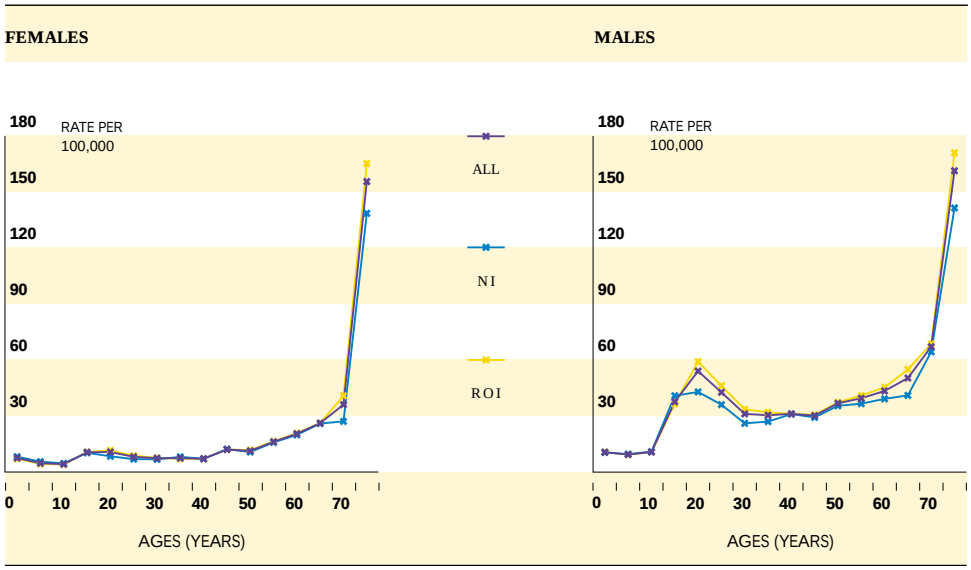
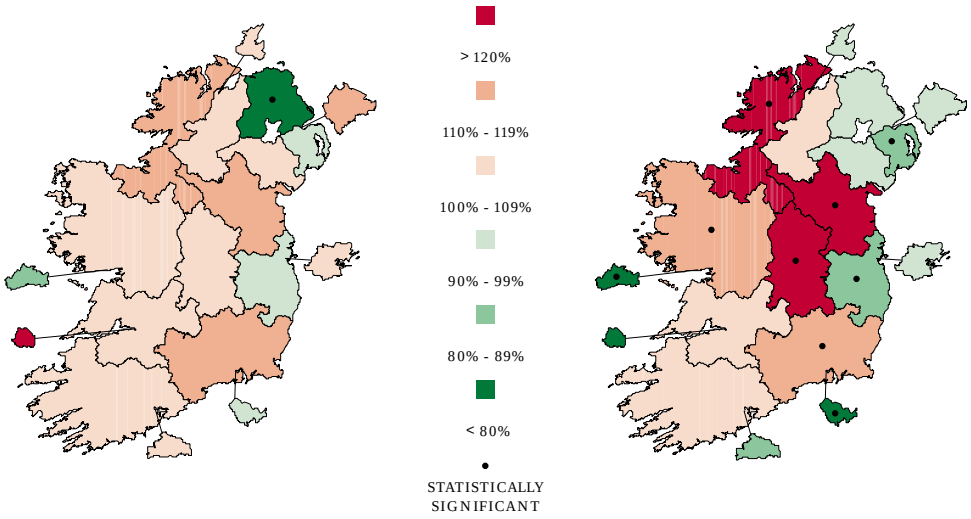


TABLE 2.59.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	498	16.1	157	15.0	341	16.7	17.8
MALES	919	36.7	262	33.4	657	38.3	40.8
PERSONS	1,417	26.3	419	24.1	998	27.5	-

Explanatory Notes for these figures and tables are given on pages 33-36.

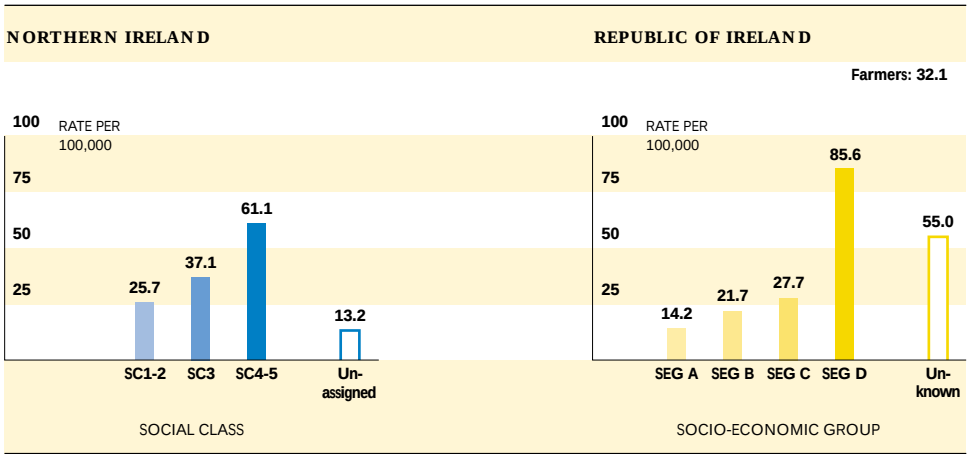
FIGURE 2.59.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- The regional directly standardised mortality rate for accidents tended to be lower in urban centres than it was on the whole island.
- Outside the urban centres, the regional directly standardised mortality rates were generally higher than they were for the whole island, with the excess mortality often being significant for males.

- In both NI and the RoI there were clear occupational class gradients in mortality from accidents.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 130%) higher than the rate in the highest occupational class.

FIGURE 2.59.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.60 Transport accidents (ICD-9 E800-E848) 1989-1998

- During 1989-1998 an average of six hundred people died each year on the island from transport accidents.
- The all Ireland annual directly standardised mortality rate was 11.4/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (193% higher). This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (25% higher).

- The regional directly standardised mortality rate for transport accidents tended to be lower in urban centres than it was on the whole island.

FIGURE 2.60.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

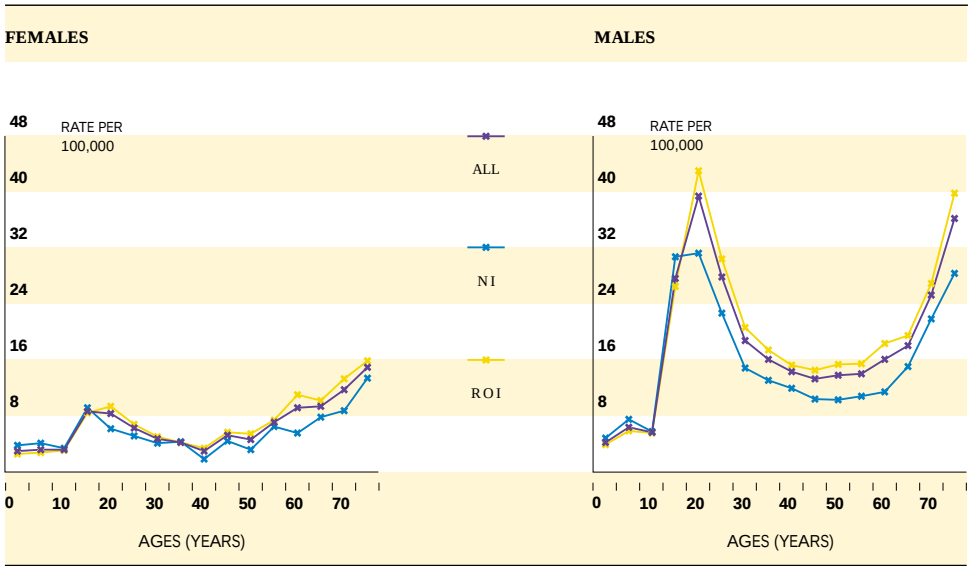
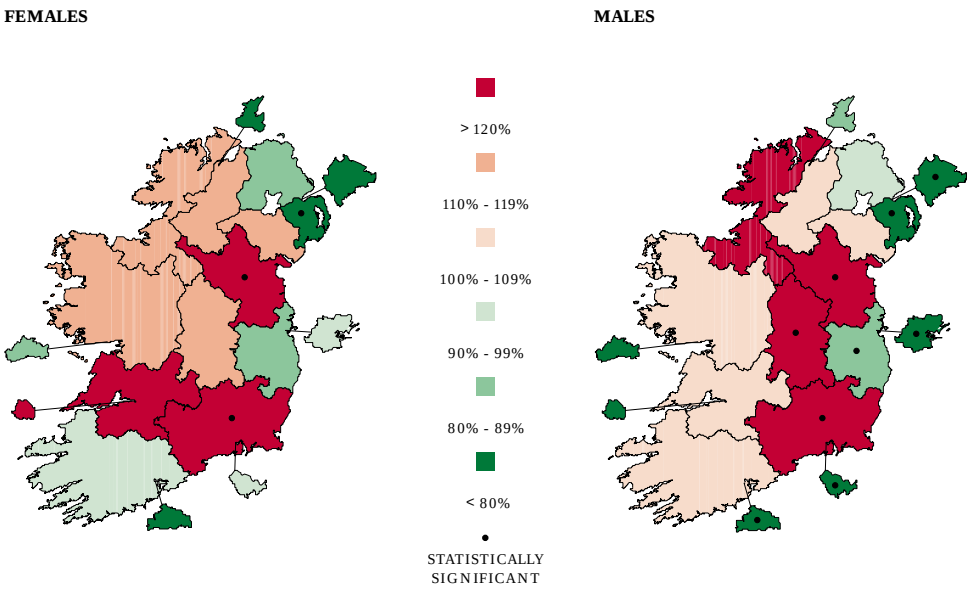


TABLE 2.60.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	161	5.9	46	5.1	115	6.2	6.1
MALES	454	17.2	121	14.6	333	18.4	19.1
PERSONS	616	11.4	167	9.8	449	12.3	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.60.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

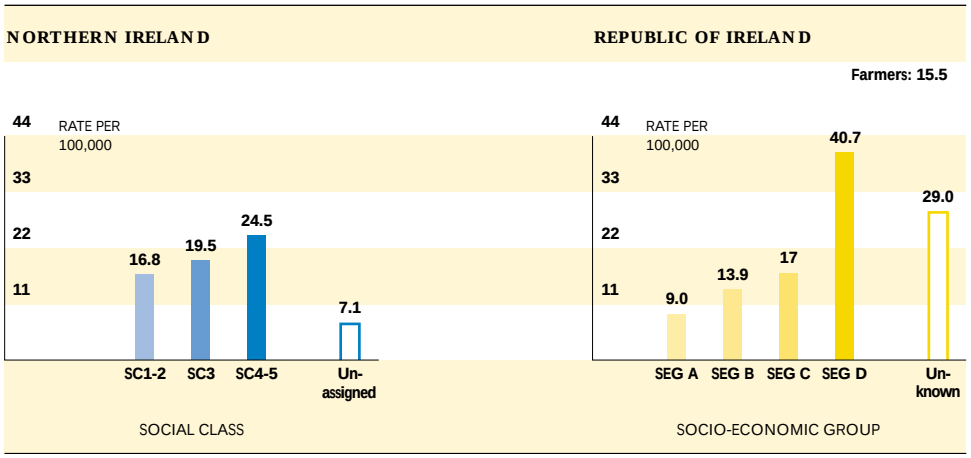


- In regions without urban centres, the regional directly standardised mortality rate was generally higher than it was on the whole island.
- These differences accounted for most of the variation in the regional directly standardised mortality rates.

- In both NI and the RoI there were clear occupational class gradients in mortality from transport accidents.
- In both jurisdictions the mortality rate in the lowest occupational class was significantly (over 40%) higher than the rate in the highest occupational class.

The plot of the age specific mortality rates for males clearly shows a dramatic rise starting in the teenage years and continuing until the mid twenties. This phenomenon is not apparent in the plot for females.

FIGURE 2.60.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.61 Accidental falls (ICD-9 E880-E888) 1989-1998

- During 1989-1998 an average of four hundred people died each year on the island from accidental falls.
- The all Ireland annual directly standardised mortality rate was 7.0/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (25% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (1% higher) although the excess was very small.

FIGURE 2.61.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

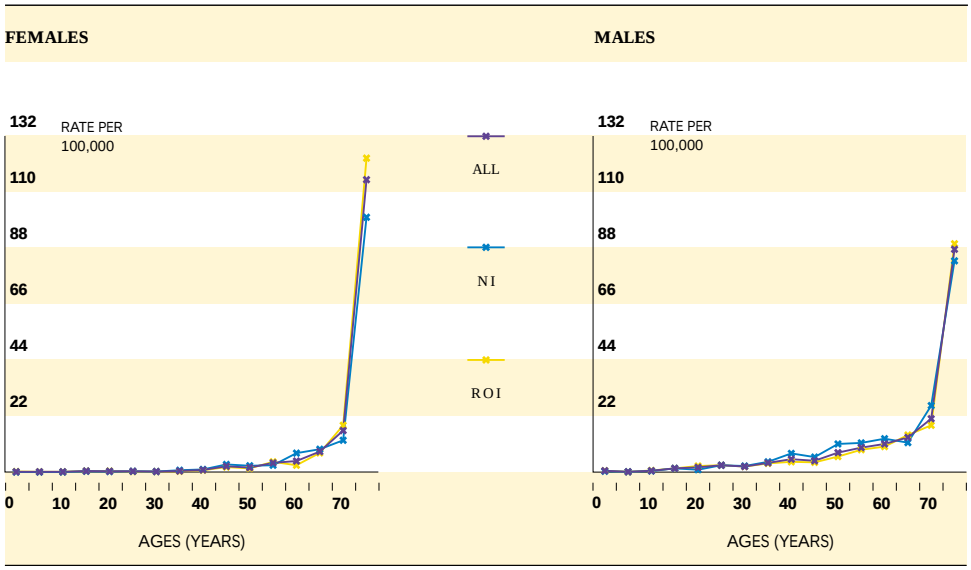
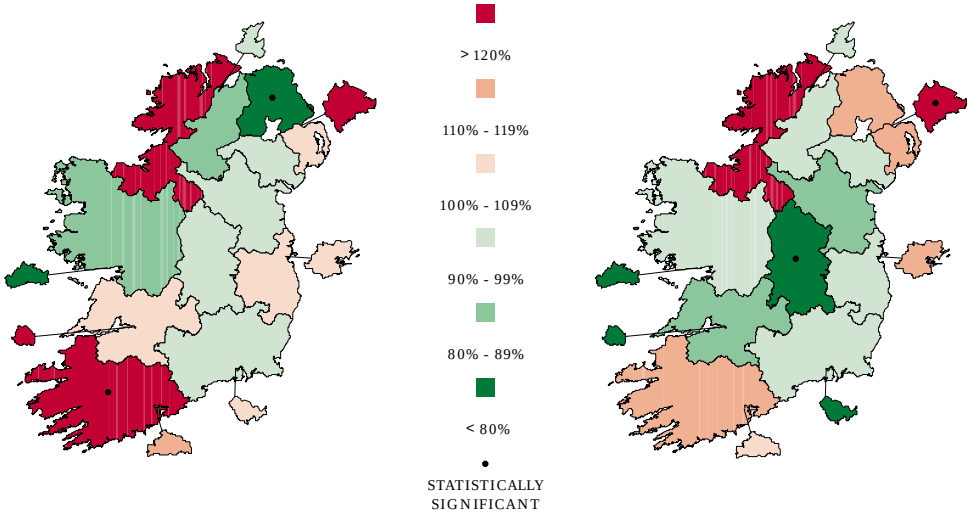


TABLE 2.61.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	223	6.1	72	5.7	151	6.4	7.0
MALES	178	7.7	60	8.2	118	7.4	9.3
PERSONS	401	7.0	132	7.0	269	7.1	-

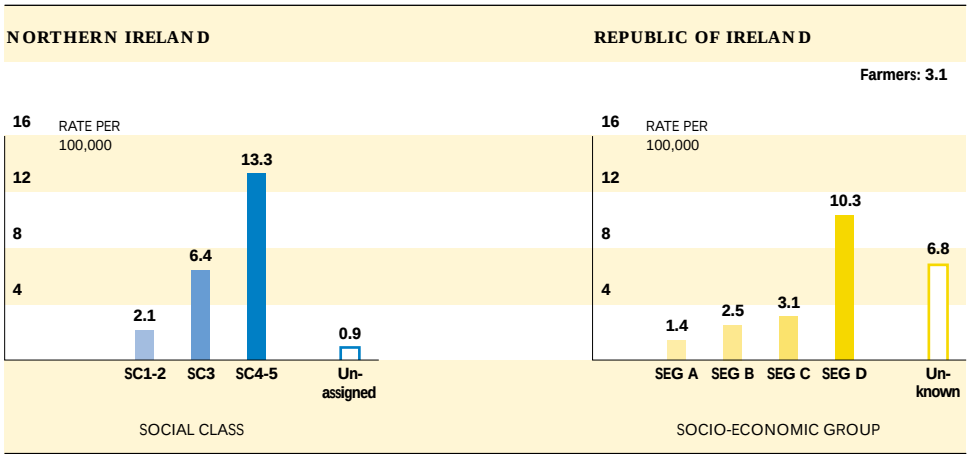
Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.61.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- There was no obvious pattern in the regional directly standardised mortality rates.
- In both NI and the RoI there were clear occupational class gradients in mortality from accidental falls.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 510%) higher than the rate in the highest occupational class.

FIGURE 2.61.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.62 Accidental poisoning (ICD-9 E850-E869) 1989-1998

- During 1989-1998 an average of seventy five people died each year on the island from accidental poisoning.
- The all Ireland annual directly standardised mortality rate was 1.5/100,000 persons.
- The all Ireland rate was higher than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was higher, and the rate for persons was higher in NI and lower in the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (113% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (42% lower).

FIGURE 2.62.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

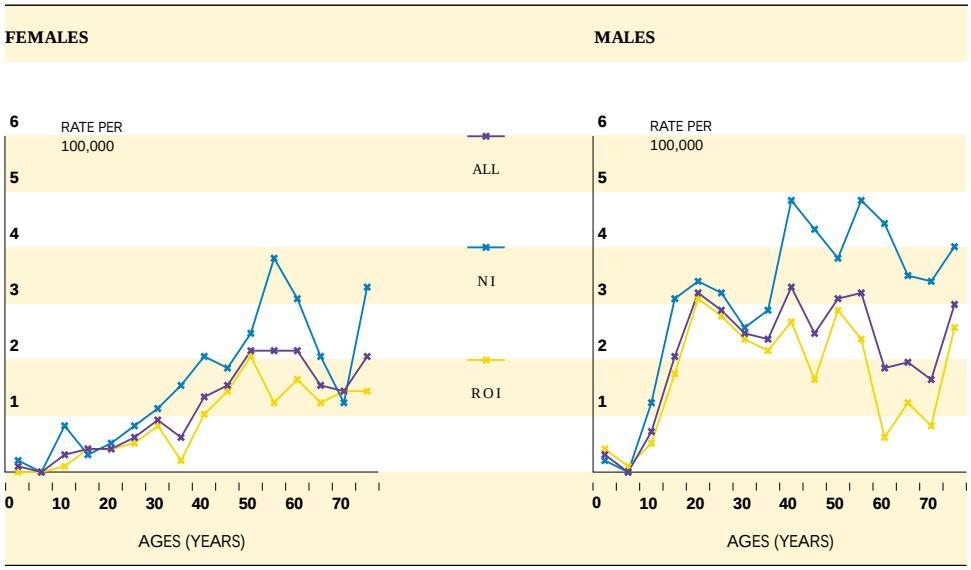
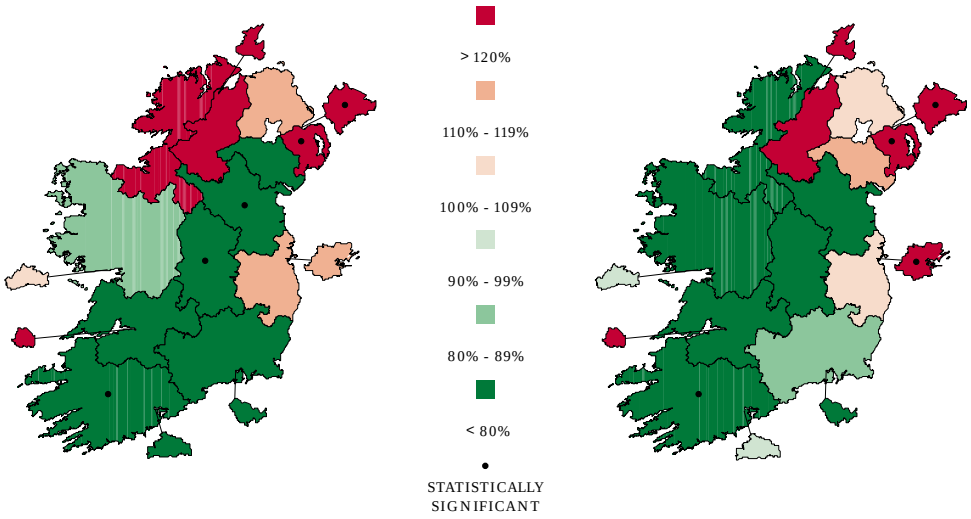


TABLE 2.62.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	24	1.0	12	1.4	13	0.8	0.9
MALES	52	2.1	22	2.9	30	1.7	1.8
PERSONS	76	1.5	33	2.1	42	1.2	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.62.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

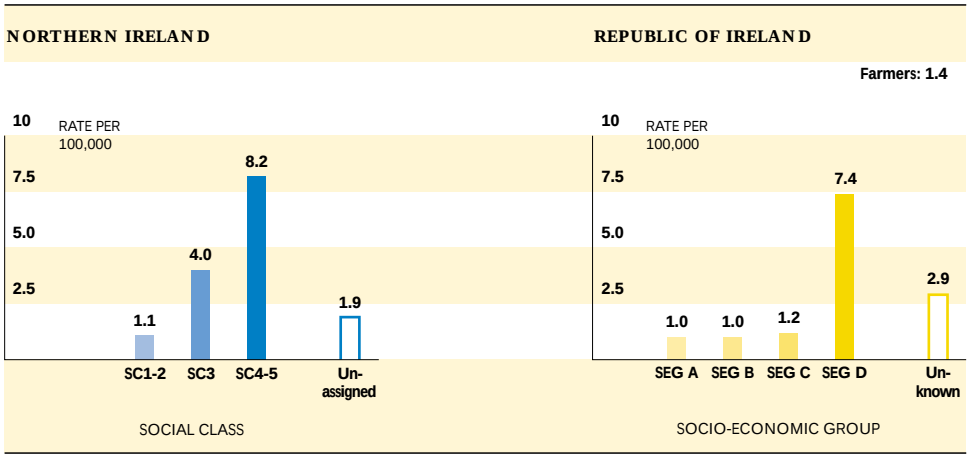


- Compared to the whole island, the regional directly standardised mortality rate for accidental poisonings was higher in the northern parts of the island and lower in the southern parts.
- Exceptions were Dublin CB and the South Eastern HB area, where the rate tended to be higher than it was on the whole island.

- Only in NI was there a clear occupational class gradient in mortality from accidental poisoning.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 640%) higher than the rate in the highest occupational class.

North-South differences in the use of other information in cases where the death certificate is unclear may account for some of the North-South difference in mortality observed here. See Section 5.3 for further details.

FIGURE 2.62.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.63 Suicide and intentional self-harm (ICD-9 E950-E959) 1989-1998

- During 1989-1998 an average of over five hundred people died each year on the island from suicide and intentional self-harm.
- The all Ireland annual directly standardised mortality rate was 10.2/100,000 persons.
- The all Ireland rate was slightly lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was slightly lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (286% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly higher in the RoI than it was in NI (41% higher).

FIGURE 2.63.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

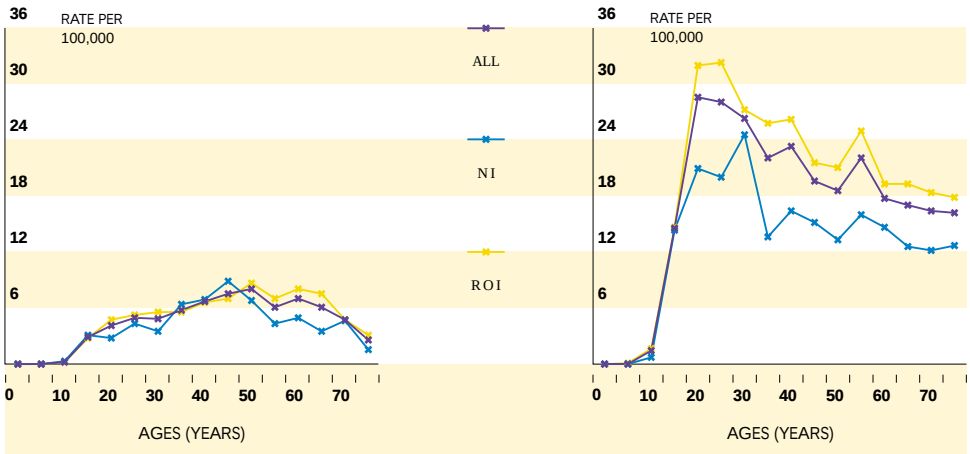
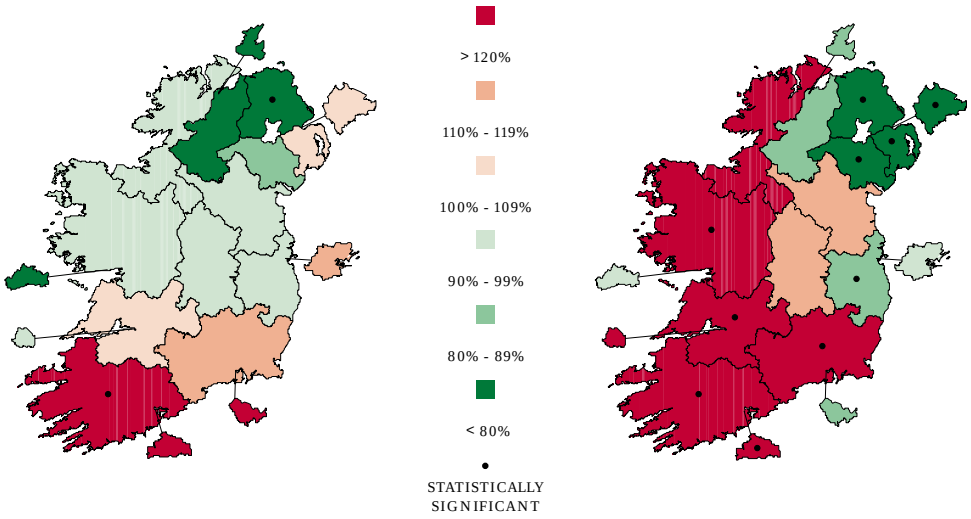


TABLE 2.63.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	103	4.2	29	3.7	74	4.5	5.8
MALES	406	16.3	98	12.4	308	18.1	18.5
PERSONS	509	10.2	127	8.0	382	11.2	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.63.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)

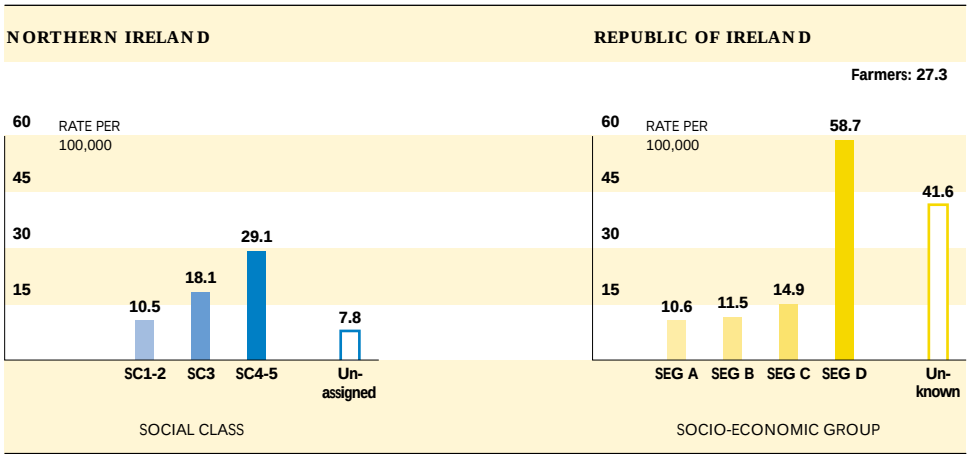


- Generally speaking, the regional directly standardised mortality rates for suicide and intentional self-harm tended to be higher in the RoI and lower in NI.
- Compared to the whole island, the regional directly standardised mortality rates for males in the RoI tended to be higher in the non-urban regions. They also tended to be higher in the western and southern parts of the island.

- In both NI and the RoI there were clear occupational class gradients in mortality from suicide and intentional self-harm.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 170%) higher than the rate in the highest occupational class.

North-South differences in the use of other information in cases where the death certificate is unclear may account for some of the North-South difference in mortality observed here. See Section 5.3 for further details.

FIGURE 2.63.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.64 Homicide/assault (ICD-9 E960-E969) 1989-1998

- During 1989-1998 an average of one hundred people died each year on the island from homicide/assault.
- The all Ireland annual directly standardised mortality rate was 2.0/100,000 persons.
- When compared to the (combined) EU-15 countries, the all Ireland rate for females was lower and the all Ireland rate for males was higher.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (457% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (83% lower).

- The difference between the jurisdictions was reflected at the regional level. Almost universally, the regional directly standardised mortality rates for homicide/assault

FIGURE 2.64.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

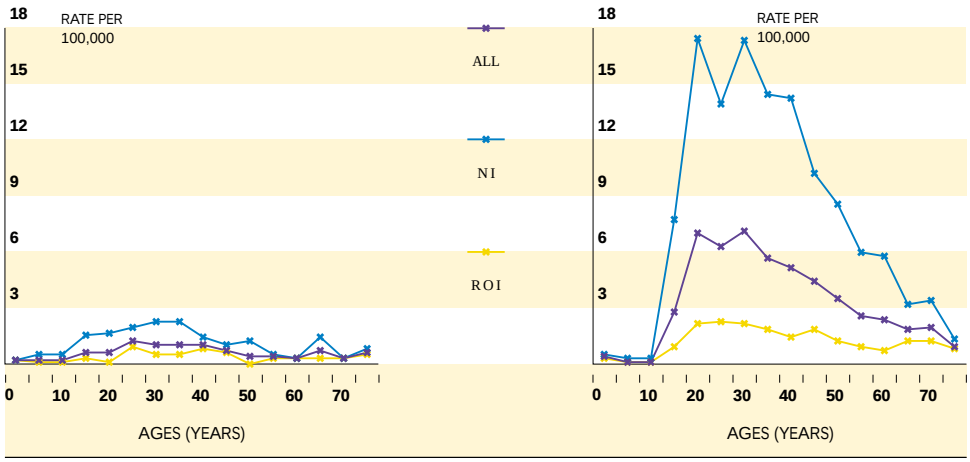
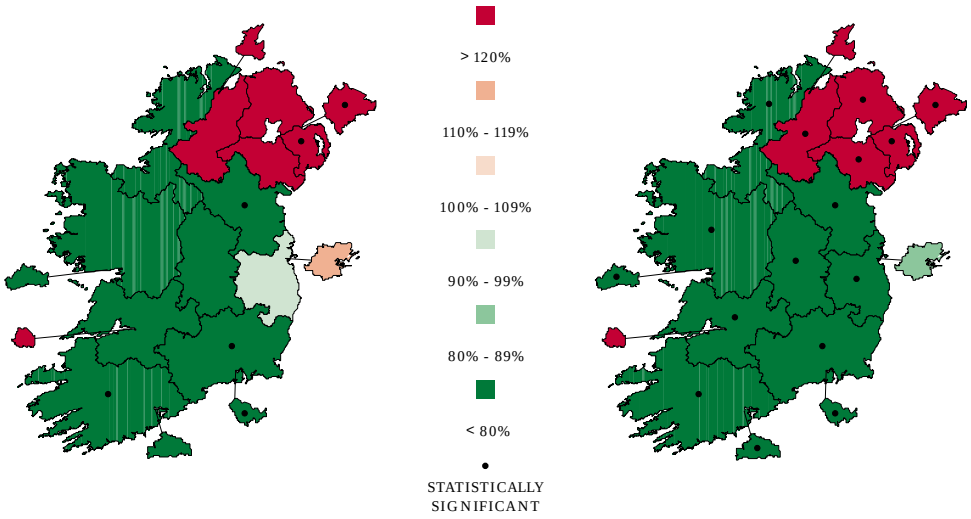


TABLE 2.64.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	16	0.6	10	1.1	6	0.4	0.7
MALES	85	3.3	64	8.0	21	1.2	1.7
PERSONS	101	2.0	74	4.6	27	0.8	-

Explanatory Notes for these figures and tables are given on pages 33-36.

FIGURE 2.64.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



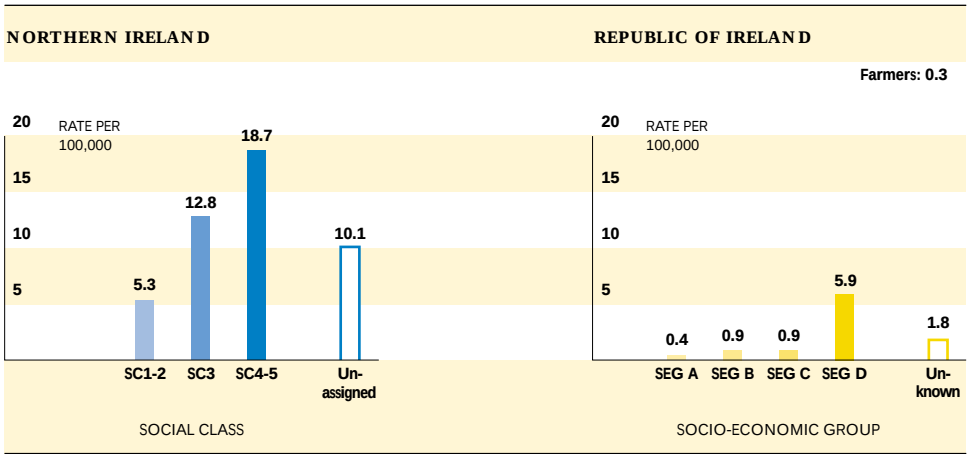
tended to be lower in the RoI and higher in NI. For males, these differences were often statistically significant.

- The only exceptions were mortality rates in Dublin CB (females) and Limerick CB (both females and males).

- Only in NI was there a clear occupational class gradient in mortality from homicide/assault.
- In both jurisdictions, the annual directly standardised mortality rate in the lowest occupational class was significantly (over 250%) higher than the rate in the highest occupational class.

These results reflect some of the burden experienced by people in Northern Ireland because of the Troubles. North-South differences in the use of other information in cases where the death certificate is unclear may account for some of the North-South difference in mortality observed here. See Section 5.3 for further details.

FIGURE 2.64.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



2.65 Events of undetermined intent (ICD-9 E980-E989) 1989-1998

- During 1989-1998 an average of fifty people died each year on the island from events of undetermined intent.
- The all Ireland directly standardised mortality rate was 1.0/100,000 persons.
- The all Ireland rate was lower than the rate in the (combined) EU-15 countries.
- When compared to the (combined) EU-15 countries, the all Ireland rate for both females and males was lower, and the rate for persons was lower in both NI and the RoI.

- The all Ireland annual directly standardised mortality rate was significantly higher for males than it was for females (174% higher).
- This was true in both NI and the RoI.
- The directly standardised mortality rate for persons was significantly lower in the RoI than it was in NI (22% lower).

FIGURE 2.65.1 ANNUAL MORTALITY RATES (PER 100,000), BY AGE

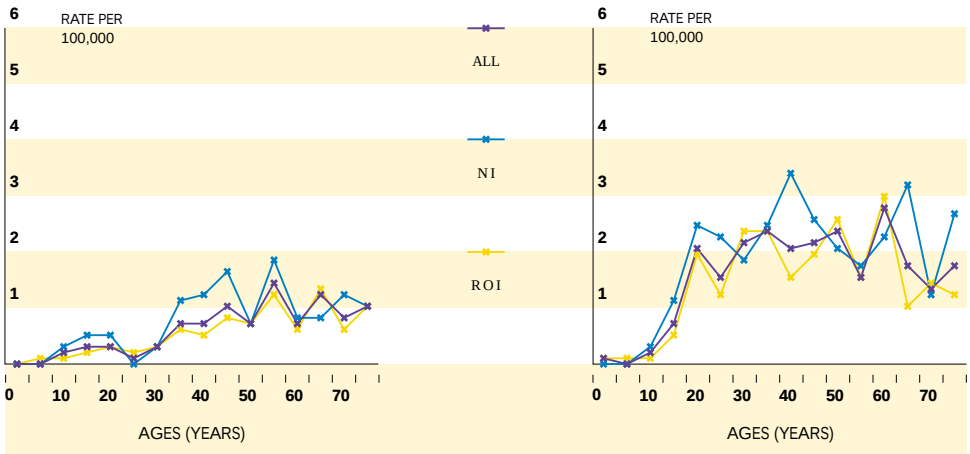
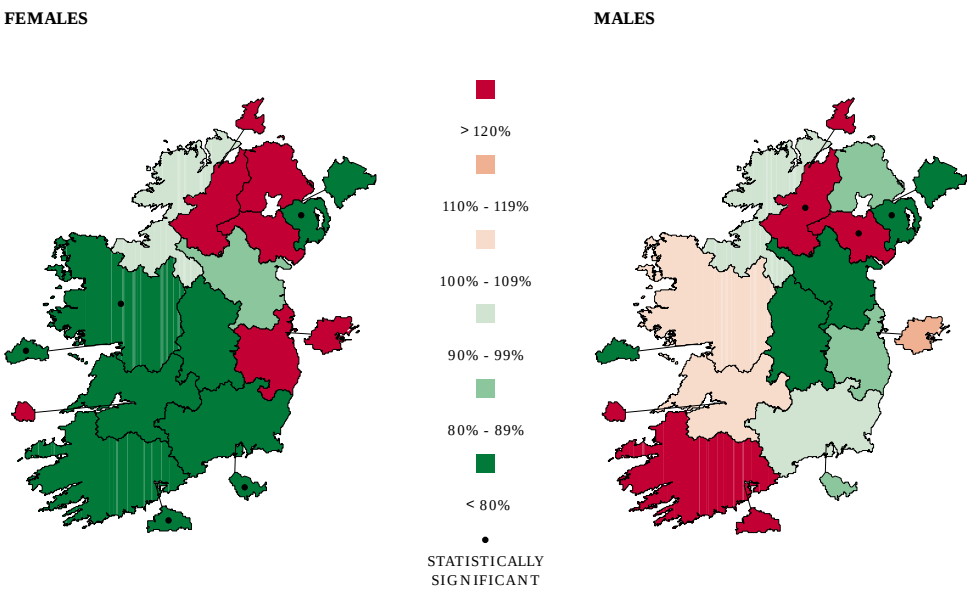


TABLE 2.65.1 ANNUAL NUMBER OF DEATHS AND DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000)

	ALL IRELAND (ALL)		NORTHERN IRELAND (NI)		REPUBLIC OF IRELAND (ROI)		EU-15 COUNTRIES
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	RATE
FEMALES	14	0.5	6	0.7	8	0.5	1.3
MALES	36	1.5	13	1.7	23	1.4	3.5
PERSONS	50	1.0	19	1.2	31	0.9	-

Explanatory Notes for these figures and tables are given on pages 33-36.

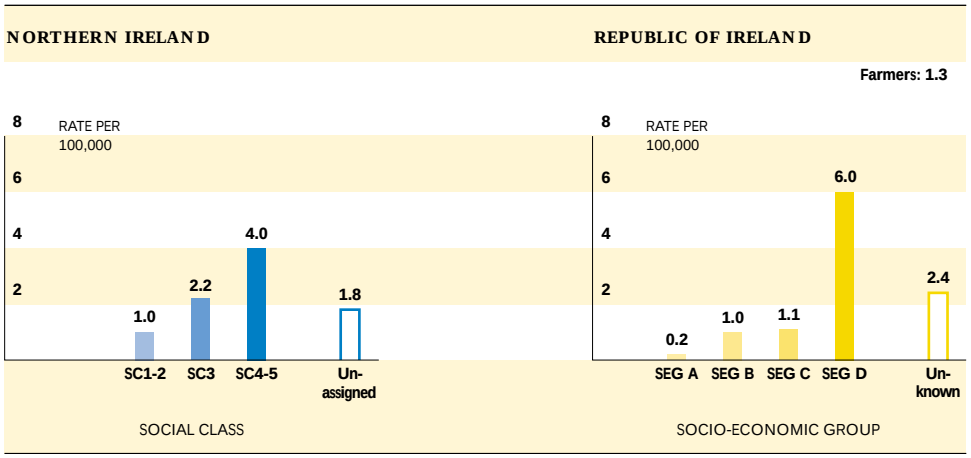
FIGURE 2.65.2 DIRECTLY STANDARDISED MORTALITY RATE RATIOS, BY REGION (ALL IRELAND = 100%)



- There was no obvious pattern in the regional directly standardised mortality rates.
- In neither NI nor the RoI was there a clear occupational class gradient in mortality for events of undetermined intent.
- In both jurisdictions the annual directly standardised mortality rate in the lowest occupational class was significantly (over 310%) higher than the rate in the highest occupational class.

These results stand in contrast to those for internal 'uncertain' causes of death (see Section 2.57). The use of the external 'uncertain' cause of death codes here is more common amongst younger age males. This might be related to North-South differences in the use other of information in cases where the death certificate is unclear.

FIGURE 2.65.3 ANNUAL DIRECTLY STANDARDISED MORTALITY RATES (PER 100,000) FOR WORKING AGE MALES, BY OCCUPATIONAL CLASS



Part Three: Data Considerations

3 Statistical Methods

3.1 Overview

In Northern Ireland, the Northern Ireland Statistics and Research Agency (NISRA) manages the mortality collection and undertakes the principal analyses for the Department of Health, Social Services and Public Safety. A population census is undertaken by NISRA every ten years, the last one was conducted in 2001.

In the Republic, the Central Statistics Office (CSO) manages the mortality collection and undertakes the principal analyses for the Department of Health and Children. The Department also holds all raw data from 1980 and undertakes further analyses. A population census is undertaken by the CSO every five years.

The European Shortlist of Cause of Death Categories (1), comprising sixty five causes of death categories, forms the basis of this report. These are the cause of death categories adopted by Eurostat to facilitate comparisons between the member states of the European Union, and each jurisdiction provides data to Eurostat on this basis. Further details are given in Appendix 1.

Deaths for the calendar period 1989-1998 were analysed. The year 1998 was the latest year for which data were available when the request was made. The inclusion of ten years of statistics allowed regional directly standardised mortality rates to be calculated with some confidence, for males and females and for each of the sixty five cause of death categories.

Regional analyses were based on Health and Social Services Board areas (HSSBs) in the North and Health Board areas (HBs) in the South, together with the major urban centres in the two jurisdictions. These centres are, the Belfast and Derry Local Government Districts (LGDs) in Northern Ireland, and the five County Boroughs (CBs) in the Republic (Cork, Dublin, Galway, Limerick and Waterford). These regions were chosen to provide relevant data to the health authorities and to facilitate broad urban-rural comparisons. Further details are given in Figure 2.1 and Section 4.2.

Occupational class analyses focus on working age males (aged 16-64 years in Northern Ireland and 15-64 years in the Republic). Occupation data for working age males is more complete and may be more useful than it is for females, children or retired people. Occupational class is represented differently in the two jurisdictions. In Northern Ireland occupational class is measured by a Social Class scale, in the Republic it is measured by a Socio-economic Group scale. It was not possible to identify a single scale on death records and population census files in both jurisdictions that could be used confidently in an all Ireland occupational class analysis. Further details are given in Table 2.1 and Table 2.2 and Section 4.3.

For each of the sixty five cause of death categories, the Northern Ireland Statistics and Research Agency and the Central Statistics Office in the Republic provided the total number of deaths occurring in the period 1989-1998 disaggregated by age, gender, region and occupational class (2,3).

1994 population estimates, corresponding to the midpoint of the study period, were taken as denominators for mortality rates. Further details are given in Section 4.4.

3.2 Age Standardisation

A simple comparison of two crude mortality rates can be misleading if the age structures of the two populations are different and mortality varies with age.

In this report procedures to adjust for age differences are based on the direct method of standardisation. With this type of standardisation the observed age specific mortality rates are applied to some standard (possibly theoretical) population. The results are expressed as directly standardised (mortality) rates per 100,000 population (DSRs) (6). In this report we calculate a directly standardised rate for each gender, region and occupational class. The standard population is taken to be the World Health Organisation's Standard European Population (7) (see Appendix 4). Directly standardised mortality rates are presented in Table 2.00.1-Table 2.65.1 and Figure 2.00.3-Figure 2.65.3.

In order to compare the mortality experiences of two genders, two regions, or two occupational classes, directly standardised (mortality) rate ratios (DSRRs) are used (6). These are simply ratios of two directly standardised rates, expressed as a percentage, where the denominator serves as the base for the comparison. For example, the DSRR for any region of the island is the ratio of that region's directly standardised (mortality) rate to the rate for the whole island, expressed as a percentage. If it is 125% (say) this means that, after adjusting for age differences, the mortality rate observed in the region was 25% higher than the rate for the whole island. Directly standardised mortality rate ratios are presented in Figure 2.00.2-Figure 2.65.2.

For gender comparisons, females are used as the base. In comparisons of the two jurisdictions Northern Ireland is used as the base. In the case of occupational classes, each class was compared to the highest occupational class category. In Northern Ireland this was SC 1-2 ('Professionals' and 'Managerial and technical occupations') while in the Republic it was SEG A ('Higher professionals' and 'Lower professionals').

3.3 Statistical Significance and Practical Importance

When interpreting the results presented in Part Two it is important to distinguish between a 'statistically significant' difference and a difference that may be 'practically important' or interesting. This distinction was a key factor in determining the presentation of the regional variation in mortality. For example, suppose the directly standardised mortality rate for a region is 3% higher than the rate for the whole island. If cell sizes (reflecting the numbers of deaths and population sizes) were large, as was often the case here, then this excess mortality could well be statistically significant. This excess mortality may or may not be of practical importance or interest. This assessment is affected by many other factors, and in mapping these rate ratios somewhat arbitrary conventions had to be adopted. In Figure 2.00.2-Figure 2.65.2, DSRRs have been grouped into six categories then represented by colour coding. Categories were based on ten percentage point excesses and ten percentage points deficits in mortality. These categories reflect a broad subjective assessment of differences which may be of practical importance or interest. A dot is used to indicate a statistically significant excess or deficit.

3.4 Statistical Procedures

The number of deaths reported in Table 2.00.1-Table 2.65.1 are annual number of deaths. Calculations were based on the total number of deaths for the period 1989-1998, these are ten times (10 x) the annual numbers reported in the tables.

Confidence intervals for directly standardised rates and directly standardised rate ratios were derived using standard formulae (6). The statistical significance of a directly standardised rate ratio was based on an inspection of its 99% confidence interval.

The appearance of spuriously significant results is a statistical problem commonly associated with studies which include a large number of hypothesis tests. In such studies there is a high likelihood that some differences will be labelled 'statistically significant' when in fact they are simply due to chance variation. There are numerous methods for dealing with this problem, none of which are completely satisfactory. In this report we attempted to control the overall error rate by adjusting the Z score used in the construction of confidence intervals (8).

Statistical analyses were undertaken at the Institute of Public Health using the statistical programming package SAS (9).

3.5 Limitations

Underlying limitations in the data used have certainly affected death counts and mortality rates. Until the methodological issues described in Part Three are better understood, some of the results presented here are best interpreted cautiously. The decade 1989-1998 was a period of great social, political and economic change throughout the island. The pooling of ten years data, while increasing the number of deaths involved, means that any temporal trends in mortality are ignored. The choice of health (and social services) board areas and urban centres for regional analyses means that variation within these regions is not reflected in the results. Small area analysis of mortality statistics is not considered and nothing is reported about special groups such as Travellers and minority ethnic groups.

Finally, we should recognise that patterns in mortality reflect not only underlying disease and disability in a population, but also the care seeking behaviours of its members, the way it locates and operates its health care services, the practices of its health care workers, its methods of death registration, and patterns of internal migration. Consideration of these and other issues is required when interpreting, for example, regional differences in mortality.

4 Definitions and Conventions

4.1 Mortality Records

In Northern Ireland and in the Republic, a death registration is completed by the Registrar using details supplied by an 'informant', and the medical certificate of cause of death or Coroner's certificate.

Stillbirths are not included in this report. Mortality data includes deaths of non-residents while deaths of usual residents occurring outside a jurisdiction are excluded. The Ninth Revision of the International Classification of Diseases (11) was used to classify deaths in both Northern Ireland and the Republic during the whole period 1989-1998. Mortality data used here is based on date of registration in Northern Ireland and date of death in the Republic. In both jurisdictions, regional analyses are based on place of usual residence except for deaths of non-residents in which case place of death is used.

4.2 Geography

In Northern Ireland there are four Health and Social Services Boards (HSSBs) comprising 26 Local Government Districts (LGDs). LGDs aggregate to HSSBs and are key administrative regions. In the Republic there are eight Health Boards (HBs) comprising 25 complete counties and two sections of Co Tipperary. These aggregate to HBs and are key administrative regions. There are five major urban centres in the Republic corresponding to the five County Boroughs (CBs): Cork, Dublin, Galway, Limerick, and Waterford. The two major urban centres in Northern Ireland are both LGDs: Belfast and Derry.

Regional analyses are based on the nineteen regions (four health and social services boards, eight health boards and seven urban centres) described in Table 4.2.1 below and Figure 2.1 in Part Two.

TABLE 4.2.1
STUDY
REGIONS

HEALTH AND SOCIAL SERVICES BOARDS	URBAN CENTRES
REGIONS WITHIN NORTHERN IRELAND (N=6)	
Eastern Health and Social Services Board	Belfast Local Government District
Northern Health and Social Services Board	
Southern Health and Social Services Board	
Western Health and Social Services Board	Derry Local Government District
REGIONS WITH THE REPUBLIC OF IRELAND (N=13)	
Eastern Health Board	Dublin County Borough
Mid Western Health Board	Limerick County Borough
Midlands Health Board	
North Eastern Health Board	
North Western Health Board	
South Eastern Health Board	Waterford County Borough
Southern Health Board	Cork County Borough
Western Health Board	Galway County Borough

Mortality analysis by health (and social services) boards is not completely satisfactory because of the large variation in circumstances within some boards. Counties (in the Republic) and LGDs (in Northern Ireland), would be more appropriate because they are administratively relevant and, because they aggregate to whole boards, they provide a description of some of the within board variation. Unfortunately, however, many of these have such small populations that regional analyses based on them would be inappropriate except for the largest cause of death categories.

4.3 Occupational Class

Occupational class in Northern Ireland

For childhood deaths (persons aged under 15 years), occupation is coded to the occupation of the 'guardian' stated on the death certificate. If the deceased is retired (aged 65 or over for males, and aged 60 years or over for females) this is noted and their previous occupation is coded. If a woman is not in paid employment, occupation is coded to the husband's occupation.

Social Class is coded to an eight point scale on the death records and a nine point scale on the population census files. In the population census files, a Social Class is not assigned to three of the occupational categories. (See Table 2.1 in Part Two).

Northern Ireland uses the United Kingdom's Statistical Occupation Classification (UK SOC 1990) which is based on the International Standard Classification of

Occupations (European variant) (ISCO 88 COM) to code occupation (12). The death certificate in Northern Ireland includes a description of the occupation and employment status of the deceased. A 3-digit UK SOC code and an Employment Status code are stored on the death record. Both these codes are needed to assign a Social Class code, which is also stored on the death record. UK SOC 1990 was recently updated to UK SOC 2000 and the United Kingdom recently published the National Statistics Socio-economic Classification (NS-SEC). Both the UK SOC 1990 and UK SOC 2000 can be mapped onto ISCO 88COM.

In Northern Ireland the Social Class codes and coding practices in the mortality collection and the population census are identical.

Occupational class in the Republic

For childhood deaths (persons aged under 16 years), occupation is coded to the occupation of the 'guardian' stated on the death certificate. If the deceased was retired (aged 65 or over for males, and aged 60 years or over for females) this is noted and their previous occupation is coded. If the deceased was a 'married, widowed or separated woman, not gainfully employed', occupation is coded to the husband's occupation.

Socio-Economic Group is coded on a twelve point scale on both the death records and population census files. (See Table 2.2 in Part Two).

The population census in the Republic uses an adaptation of the UK SOC 1990 system to code occupation. Irish classifications for Socio-economic Group are based on these codes and employment status. An Occupation code and Employment Status code, available in the population census files, are needed to code Socio-economic Group. However, only the description of the occupation of the deceased provided by the informant is included on the death certificate. In the mortality collection, this description alone is directly coded to a one digit Socio-Economic Group code. This code, but no Occupation code, is stored on the death record.

Farmers have been excluded from the occupational class analyses presented in Figure 2.00.3-2.65.3. This is because the questions in the 1991 Census did not take into account either the size or value of the farm, the nature of the farming activity, or the income generated by the farm. Consequently, 'Farmers' is a very heterogeneous category and its inclusion in the occupational class analysis would have greatly distorted occupational class patterns in the Republic. These 1991 Census questions were changed for the 1996 Census but remained in use in the mortality collection for the whole of the period 1989-1998.

In the Republic, Socio-economic Group codes in the mortality collection and the population census are identical. However, the coding practices are very different.

Occupation class coding used in this report

A single coding suitable for the whole island was not identified. Social Class was used in Northern Ireland and Socio-economic Group in the Republic. The final codes for Northern Ireland are given in Table 2.1 and for the Republic they are given in Table 2.2 in Part Two.

4.4 Population Estimates

Population estimates for the age, gender, and regional analyses refer to 1994, the approximate mid-point of the period 1989-1998. These estimates were derived from official population estimates provided by the Northern Ireland Statistics and Research Agency (4) and the Central Statistics Office in the Republic (5). For Northern Ireland, they were taken as the average of the official 30 June 1993 and 30 June 1994 population estimates. These correspond to 1 January 1994 – the exact midpoint of the 1989-1998 calendar period. For Health Board areas in the Republic, population estimates for 1994 were taken from the Department of Health and Children's Public Health Information System (PHIS). These are obtained from linear interpolation of 1991 Census and 1994 Census estimates with a pro-rata adjustment to ensure that national totals by age group and gender agree with official intercensal estimates. Population estimates for County Boroughs in the Republic were interpolated from the 1991 Census and 1996 Census estimates. These correspond to 30 April 1994. See Appendix 2 for full population estimates.

The population estimates used in the occupational class analyses were obtained by applying the occupational class profiles observed in the 1991 Census (13,14) to the region-sex-age counts described above. It was not possible to use the 1996 Census in the calculations for the Republic because the questions relating to occupation were changed for that Census (see Section 4.3). See Appendix 3 for full occupational class profile estimates.

The statistical agencies in the two jurisdictions do not produce the population estimates required for this report. The 1994 population estimates used here, disaggregated by gender, region and occupational class are not official estimates of the respective statistical agencies.

5 Recommendations on Data Issues

5.1 Co-ordination

The island's mortality collections are valuable sources of information. While each jurisdiction participates in international efforts to improve the quality of mortality statistics, there are few all Ireland initiatives to strengthen such efforts. These initiatives would address factors affecting data quality, specific to the island.

Recommendations

In order to enhance the contribution of mortality statistics on the island, appropriate management structures should be put in place for, and adequate resources allocated to, these important sources of information. An all Ireland group should be established to advise on the further development of the mortality collections on the island and to co-ordinate these developments in order to maximise comparability. Promotion of international standards would be an important element of the group's work. Further improvements in data quality would also follow if other issues, specific to the island of Ireland, were also addressed. Attempts to achieve greater co-ordination need to recognise that Northern Ireland collections have to take cognizance of United Kingdom protocols

The group's Terms of Reference should address:

- A common set of core data items to be included on death records
- Co-ordination of data collection protocols and procedures
- Analysis of mortality data
- Dissemination of the results of such analyses

The specific recommendations below would provide a useful basis for the development of a work plan for the group.

5.2 Data Items on the Death Records

Deaths included

Overseas deaths and deaths of non-residents

In both Northern Ireland and the Republic, the death of a resident that occurs outside their jurisdiction is not included in the mortality collection. Deaths of non-residents that occur in a jurisdiction, however, are included in that jurisdiction's death counts.

The approach adopted to these deaths varies. For example, the Swedish mortality collection only includes Swedish residents, whether the death occurs in Sweden or abroad. The same is true for the other Nordic countries (Finland, Iceland and Norway) except for Denmark. Denmark's mortality collection includes only those deaths of Danish residents that occur in Denmark. This means, for example, that a

Swedish resident who dies on the island of Ireland is counted in the island's as well as the Swedish mortality statistics. A resident of the island who dies in Sweden, however, is not included in either mortality statistics.

Unfortunately, obtaining comprehensive data on the deaths of residents on the island who die overseas is difficult, and coverage may be incomplete. In the Annual Report of the Registrar General in Northern Ireland some details are given in the Summary (Tables 1.4, 1.6 and 1.7) (2). In 1998, for example, 0.7% (100/14,993) of all deaths registered in Northern Ireland involved non-residents. Both jurisdictions make the assumption that the under and over recording cancel each other out. This is common practice and similar assumptions are made for example, in Scotland, Wales and England.

Stillbirths

There are differences, relating mainly to birth weight and gestation, in the definitions of 'stillbirth' used in the two jurisdictions. Prior to 1 October 1992, the term 'stillbirth' in Northern Ireland only related to events occurring after the 28th week of pregnancy. The Stillbirth (Definition) Act 1992 then redefined a stillbirth (from 1 October 1992) as a child which had issued forth from its mother after the 24th week of pregnancy and which did not breathe or show any other sign of life. In the Republic, prior to 1995 'stillbirths' were not registered. Since 1995, however, 'stillbirth' refers to the death of a foetus weighing 500 grams or more, or at a gestational age of 24 weeks or more.

While not directly affecting this report which deals with selected causes of death rather than deaths in selected age groups, these definitional differences mean that the calculation of numerators and denominators for stillbirth and perinatal mortality rates in the North and the South are not strictly comparable.

Late death registrations and inquests

In Northern Ireland deaths have to be registered within seven days; in the Republic they have to be registered within a year. In the Republic, deaths where no inquest has been held which have not been registered within one year of their occurrence can be registered only on the authority of the Registrar General. These are excluded from official death counts. In Northern Ireland late death registrations are included in the official death counts for the year they were registered.

Date and place

Date and place can refer to either the death itself or the registration of the death. In the case of place, the deceased's place of usual residence is another possibility. The actual date or place used for an analysis depends on its purpose. It might be quite important, for example, in investigations of seasonal patterns in mortality to use date of death rather than date of registration. The manner in which the corresponding population estimates are calculated also plays a role.

Age

Full date of birth is included on the death records in Northern Ireland. On the death records in the Republic only age at death, and not full date of birth, is recorded. This could be a significant limitation in any studies that required data linkages with other information.

Recommendations

The inclusion criterion for the mortality collections of Northern Ireland and the Republic should be reviewed and, if necessary, revised in order to maximise comparability between the jurisdictions. In particular, the review should consider:

- Mechanisms to identify deaths of usual residents that occur outside their jurisdiction (at least those that occur on the island)
- Mechanisms to identify deaths of non-residents (at least those of the other jurisdiction on the island)
- Procedures for dealing with these deaths
- The definition of a stillbirth
- The definition of and procedures for handling 'late registrations'

In order to facilitate a wider range of mortality analyses, the availability in both jurisdictions of a common set of core data items on the death records should be considered. The discussion above suggests that the set should include:

- Date of death and date of registration
- Place of death and place of usual residence
- Full date of birth (for inclusion in the Republic)

Later discussion in this chapter also suggests the common set of data items should include:

- Secondary as well as primary causes of death (for inclusion in the Republic)
- Occupation code and employment status code
- Selected occupational class codes
- Other items such as ethnicity or country of origin
- Basis of coding cause of death

5.3 Data Collection Protocols and Procedures

Cause of death

Investigations for coding external causes

Both the General Registrar's Office in Northern Ireland and the Central Statistics Office in the Republic deal directly with the Registrars or Coroners who complete death registration forms. In the Republic further information (such as Garda notes) is sought for coding in cases of unclear death certificates. It is estimated that this occurs for approximately 30% of all certificates. In Northern Ireland, however, only information on the death certificate or the Coroner's forms is coded. Coding of external causes of death in the North and South may therefore differ because the amount of information available varies. In particular, mortality rates for events of undetermined intent would be inflated in the North or deflated in the South, and mortality rates for other external causes such as suicide and self-harm, accidental poisonings and transport accidents would be similarly affected.

Cause of death amongst the elderly

The concept of a 'primary cause of death' may not be totally appropriate for older people. Until the mid 1950s, 'old age' was an allowable cause of death. In recent years, if 'old age' is given as cause of death on a death certificate, and the person is aged over 80 years in the North (or over 85 years in the South), then it is coded as ICD 797 'Senility without mention of psychosis'. If the deceased is aged over 80 years in the North (or over 85 years in the South), no further details are sought. If the deceased is aged below these respective cut-offs then, in both jurisdictions, an effort is made to gather further details.

It has been suggested that, in the North, doctors tend to give 'bronchial pneumonia' as the cause of death when the deceased is elderly and there is some uncertainty about the primary cause. This would lead to an inflation of the mortality rate from pneumonia in the North. Differences in coding practices regarding 'pneumonia' and 'chronic lower respiratory disease' may also play a role, and be related to the excess mortality from chronic lower respiratory diseases in the South and pneumonia in the North.

Secondary causes of death

Both the primary cause of death and up to four secondary causes of death are coded to ICD-9 and included on Northern Ireland death records. In the Republic only the primary cause of death is coded to ICD-9 and stored on the death record. No secondary causes of death are coded even though up to three can be recorded on the death certificate. The absence of secondary causes in the Republic can seriously limit investigation of certain causes of death and the role of co-morbidities.

Selection of the primary cause
Protocols for identifying the primary cause of death in the two jurisdictions occasionally differ. For example, in the Republic diabetes mellitus, cancers and asthma can be coded as the primary cause of death when they occur in Part 2 of the death certificate and certain circulatory disease are alone in Part 1. This may explain some of the North-South differences in mortality from these causes.

Occupation and occupational class
Northern Ireland uses the United Kingdom's Statistical Occupation Classification (UK SOC 1990) which is based on the International Standard Classification of Occupations (European variant) (ISCO 88 COM) to code occupation (11). The Republic uses an adaptation of the UK SOC 1990 system as the basis of its Socio-economic Group coding.

In Northern Ireland the Social Class scale used in the mortality collection, and the information available on the death certificate for coding, exactly match that used in the jurisdiction's Census. The Socio-economic Group scale used in the mortality collection of the Republic exactly matches the scale used in the jurisdiction's Census. However, only some of the information needed to do the coding is available in the mortality collection: employment status is missing from the death certificate. This has a particular effect on the Socio-economic Group codes 0 and 4 (see Table 2.2 in Part Two). The Census in the Republic uses a Social Class scale similar to the one used in the Northern Ireland Census.

In Northern Ireland occupation is first assigned a three digit UK SOC 1990 code and then, on the basis of this code and the deceased's employment status, allocated to a Social Class category using the same methods used in the Census. In the Republic, however, the description on the death certificate alone is coded directly to a Socio-economic Group code.

The mortality collections in the two jurisdictions also differ in the procedures used to allocate occupation codes or occupational class codes to particular population subgroups:

- In Northern Ireland the working years are assumed to start at age 16 years while in the Republic they are assumed to start at age 15 years
- People currently not employed are assigned an 'Unoccupied' Social class code in Northern Ireland. In the Republic they are coded on the basis of their previous occupation. In each case, the code they are assigned to includes some who are employed, making it difficult to look at the unemployed as a separate group
- In Northern Ireland, the Social Class code 'On government employment or training scheme' is used in the Census but not in the mortality collection. In

the mortality collection, if sufficient extra details are provided the occupation code for the future profession is used. Otherwise the death is allocated the 'Unoccupied' code

- In Northern Ireland, the Social class code assigned to a male aged 65 years or over (or a female aged 60 years or over) on population census files depends on the time since they were last in paid employment. If they were in paid employment in the last 10 years that last occupation is used. If not, they are assigned a 'No job in last 10 years' code. In the mortality collection their previous occupation is used
- In the Republic the 'Farmers' category in the Census did not take into account either the size or value of the farm, the nature of the farming activity, or the income generated by the farm. An attempt was made to rectify this in the 1996 Census

The percentage of death records in the Republic with a Socio-economic Group code 'Unknown' is quite large. This difficulty has been noted by other researchers attempting to interpret socio-economic patterns of mortality (14,15). While the percentage of death records in Northern Ireland with Social Class coded as 'Unoccupied' is small, the total percentage of records in the mortality collection and population census files which are not allocated a Social Class code is considerably larger. They include 'Armed forces, inadequately described or no stated occupation', 'On a government employment or training scheme' and 'No paid job in the last 10 years'. (See Table 2.1 in Part Two). They cannot be incorporated into occupational class analyses.

Only in Northern Ireland is the occupation code included on the death record.

In conclusion, the poor quality of occupation data on death records on the island, particularly amongst people outside the working years and amongst females, severely limits our ability to explore the relationship between socio-economic circumstances and mortality. The absence of other data items such as ethnicity and country of origin imposes further limitations.

Data validation procedures

Routine quality control procedures are essential if the conclusions of mortality analyses are to be valid. Each mortality collection has in place procedures to ensure that information recorded on a death certificate is accurately transferred to the official death record. Of course, these need to be continually reviewed. Procedures to ensure that the circumstances of the death and the deceased are accurately recorded on the death certificate also make a vital contribution to the validity of mortality data. The introduction of automatic ICD-10 coding into the mortality collections will focus attention on these procedures.

Recommendations

In order to maximise comparability between Northern Ireland and the Republic, procedures to ascertain and code the causes of death should be reviewed and, if necessary, revised. In particular, the review should consider:

- Practices of certifying doctors when recording cause of death on the death certificate
- Appropriate training for these doctors to standardise certifying practices
- The use of other information such as police notes to establish external cause of death
- Procedures to ascertain cause of death amongst the elderly, particularly the use of 'pneumonia' and 'lower chronic respiratory diseases'
- Appropriate training for coders to standardise coding practices
- The inclusion of secondary causes of death on the death records in the Republic

No recommendations have been made regarding the coding of specific causes of death. In these cases, advice should be sought from relevant national and international experts.

Occupation data on death records should be reviewed. In particular, attention should focus on:

- A common shared classification system for occupation
- A common set of occupational class scales, based on the occupation codes
- The information required on the death certificate to undertake associated occupation coding (including employment status in the Republic)
- Appropriate procedures and support for those who capture the information on the death certificate are needed. The role of 'informants' requires particular attention in both jurisdictions
- Inclusion of occupation and employment status codes on death records (in the Republic)
- Occupation data for deaths of females and people outside the working ages
- The comparability of occupation data on death records and population census files

While no explicit recommendations are made with regard to data validation procedures, the vital role of adequate procedures cannot be overstated.

5.4 Population Estimates

Population estimates provide the denominators for rate calculations. As such they need to be constructed in a manner that is consistent with the way that death counts, which provide the numerators, are calculated.

Two broad types of population estimates can be calculated. Census counts ('defacto' population estimates) tend to be more appropriate in studies of certain types of accidental causes of death while place of usual residence estimates ('dejour' population estimates) tend to be useful in studies of the health effects of long term exposures to environmental hazards. The different estimates arise, to a large degree, from the way that absent residents and visitors on Census night are handled. These correspond to the way that the death of a resident that occurs outside a jurisdiction, and the death of a non-resident that occurs in the jurisdiction, are handled in the death counts.

Northern Ireland principally uses a place of usual residence approach, while the Republic principally uses a census counts approach. In Northern Ireland adjustment is also made for underestimation, this is not done in the Republic. Both jurisdictions, however, include non-residents in death counts and exclude deaths of usual residents that occur outside their jurisdiction.

Recommendations

The impact of the different types of population estimates on mortality rates, in the North and South, should be assessed. The assessment should consider main causes of deaths and the impact on temporal and regional patterns in mortality.

If the impact appears significant, then population estimates calculated using the appropriate method should be incorporated into routine mortality analyses.

5.5 Analysis and Reporting

The extent and nature of the analysis of mortality data is largely determined by the demand expressed for such analyses and the resources available to undertake them.

Extent of reporting

Frequency and timeliness

In routine publications in Northern Ireland, date of registration data is used. In the routine publications of the Republic, annual reports are based on date of death data while quarterly reports are based on date of registration. In Northern Ireland, the 1999 annual report (based on date of registration) was published in November 2000. At the beginning of April 2001, the most recent annual report (based on date of death) available in the Republic was for 1997, with 1998 soon to be published. The report for the third quarter in 2000 (based on date of registration data) was also available.

Breadth of analysis undertaken
In both jurisdictions, routine reports present standard analyses such as death counts and directly standardised mortality rates, disaggregated by region and gender. A far wider investigation of mortality analyses would contribute greatly to policy and service development, and research.

Age standardisation procedures
The NISRA recently held a seminar on standardisation methods used throughout Northern Ireland and concluded that different methods were appropriate in different circumstances. As noted for particular causes of death, the use of 'all ages' is sometimes not appropriate.

Standard populations for (directly) standardised mortality rates
In Northern Ireland and the Republic, the government statistical agencies use the current population of their jurisdiction for directly standardised mortality rates. This confounds the interpretation of temporal trends in mortality in a given jurisdiction if that jurisdiction's population is changing. Moreover, it precludes comparisons of Northern Ireland and the Republic, and other international comparisons. In Northern Ireland, the WHO Standard European Population is used in mortality reports for the HSSBs. In the Republic it is used in the Public Health Information System (PHIS).

Reference mortality experience for (indirectly) standardised mortality ratios (SMRs)
In Northern Ireland and the Republic, the current mortality experience of the total population of the jurisdiction is taken as the reference mortality experience for SMRs. Such SMRs from different jurisdictions cannot be compared. Moreover, they make the interpretation of temporal trends in SMRs within a jurisdiction difficult.

Sparse data
Missing data
If the date of birth is missing from a death certificate in Northern Ireland, the age of the deceased is estimated and a matching date of birth is entered onto the death record.

Small cell sizes
On occasion, 15-year age groups are used in standardisation procedures if cell sizes are small or if analyses are restricted to particular causes or particular regions. There are legislative guidelines, North and South, to deal with these issues.

Recommendations

In both jurisdictions, resources should be allocated to enable the timely publication of both routine and special analyses of patterns of mortality on the island. Procedures and conventions used in the routine mortality publications of the two jurisdictions should be reviewed and, if necessary, revised. In particular the review should consider:

- A common core set of cause of death categories (the European Shortlist is a candidate)
- Agreed age standardisation procedures including the age range and age groups used, the standard populations used for directly standardised rates, and the reference mortality experience for SMRs
- Protocols for handling sparse data (missing data and small cell sizes)
- Use of both date of registration and date of death as the basis for reporting

The use of such standardised procedures does not, of course, preclude the conduct of other analyses for different purposes.

The scope of current analyses should be expanded substantially for the full potential of the mortality collections to be realised. Three particular projects should have high priority:

- A more detailed analysis of occupational class differences in mortality to increase understanding of socio-economic inequalities in mortality on the island
- A comparative study of recent trends in mortality to explore the impact of the social, political and economic changes experienced recently in the two jurisdictions
- An in-depth investigation of variation in mortality on the island in order to place the North-South differences into an appropriate context

By their very nature these are multi-disciplinary projects and it would be useful to identify key areas of responsibility and develop the necessary collaborative partnerships.

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Appendices

Appendix 1
The European Shortlist of Cause of Death Categories

THE EUROPEAN SHORTLIST OF CAUSE OF DEATH CATEGORIES

NO	DISEASE OR EXTERNAL CAUSE	ICD-9 CODES
00	**ALL CAUSES OF DEATH**	**001-E999**
01	**INFECTIOUS AND PARASITIC DISEASES**	**001-139**
02	TUBERCULOSIS	010-018,137
03	MENINGOCOCCAL INFECTION	036
04	AIDS (HIV-DISEASE)	042-044
05	VIRAL HEPATITIS	070
06	**NEOPLASMS**	**140-239**
07	MALIGNANT NEOPLASMS	140-208
08	MALIGNANT NEOPLASMS OF THE LIP, ORAL CAVITY, PHARYNX	140-149
09	MALIGNANT NEOPLASMS OF THE OESOPHAGUS	150
10	MALIGNANT NEOPLASMS OF THE STOMACH	151
11	MALIGNANT NEOPLASMS OF THE COLON	153
12	MALIGNANT NEOPLASMS OF THE RECTUM AND ANUS	154
13	MALIGNANT NEOPLASMS OF THE LIVER AND THE INTRAHEPATIC BILE DUCTS	155
14	MALIGNANT NEOPLASMS OF THE PANCREAS	157
15	MALIGNANT NEOPLASMS OF THE LARYNX AND TRACHEA/BRONCHUS/LUNG	161-162
16	MALIGNANT NEOPLASMS OF THE SKIN	172
17	MALIGNANT NEOPLASMS OF THE (FEMALE) BREAST	174
18	MALIGNANT NEOPLASMS OF THE CERVIX UTERI	180
19	MALIGNANT NEOPLASMS OF OTHER PARTS OF UTERUS	179,182
20	MALIGNANT NEOPLASMS OF THE OVARY	183.0
21	MALIGNANT NEOPLASMS OF THE PROSTATE	185
22	MALIGNANT NEOPLASMS OF THE KIDNEY	189.0
23	MALIGNANT NEOPLASMS OF THE BLADDER	188
24	MALIGNANT NEOPLASMS OF THE LYMPH/HAEMATOPOIETIC TISSUE	200-208
25	**DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS, IMMUNOLOGICAL DISORDERS**	**279-289**
26	**ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES**	**240-278**
27	DIABETES MELLITUS	250
28	**MENTAL AND BEHAVIOURAL DISORDERS**	**290-319**
29	ALCOHOL ABUSE (INCLUDING ALCOHOLIC PSYCHOSIS)	291,303
30	DRUG DEPENDENCE, TOXICOMANIA	304-305

NO	DISEASE OR EXTERNAL CAUSE	ICD-9 CODES
31	**DISEASES OF THE NERVOUS SYSTEM AND THE SENSE ORGANS**	**320-389**
32	MENINGITIS (OTHER THAN MENINGOCOCCAL INFECTION)	320-322
33	**DISEASES OF THE CIRCULATORY SYSTEM**	**390-459**
34	ISCHAEMIC HEART DISEASE	410-414
35	OTHER HEART DISEASE	420-423,425-429
36	CEREBROVASCULAR DISEASE	430-438
37	**DISEASES OF THE RESPIRATORY SYSTEM**	**460-519**
38	INFLUENZA	487
39	PNEUMONIA	480-486
40	CHRONIC LOWER RESPIRATORY DISEASE	490-494,496
41	ASTHMA	493
42	**DISEASES OF THE DIGESTIVE SYSTEM**	**520-579**
43	ULCER OF STOMACH, DUODENUM AND JEJUNUM	531-534
44	CHRONIC LIVER DISEASE	571.0-571.9
45	**DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE**	**680-709**
46	**DISEASES OF THE MUSCULOSKELETAL SYSTEM/CONNECTIVE TISSUE**	**710-739**
47	RHEUMATOID ARTHRITIS AND OSTEOARTHROSIS	714-715
48	**DISEASES OF THE GENITO-URINARY SYSTEM**	**580-629**
49	DISEASES OF THE KIDNEY AND URETER	580-594
50	**COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND PUERPERIUM (FEMALE)**	**630-676**
51	**CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD**	**760-779**
52	**CONGENITAL MALFORMATIONS AND CHROMOSOMAL ABNORMALITIES**	**740-759**
53	CONGENITAL MALFORMATIONS OF THE NERVOUS SYSTEM	740-742
54	CONGENITAL MALFORMATIONS OF THE CIRCULATORY SYSTEM	745-747

THE EUROPEAN SHORTLIST OF CAUSE OF DEATH CATEGORIES

CONTINUED...

NO	DISEASE OR EXTERNAL CAUSE	ICD-9 CODES
55	**SYMPTOMS, SIGNS, ABNORMAL FINDINGS, ILL-DEFINED CAUSES**	**780-799**
56	SUDDEN INFANT DEATH SYNDROME	798.0
57	UNKNOWN AND UNSPECIFIED CAUSES	798.1-9,799
58	**EXTERNAL CAUSES OF INJURY AND POISONING**	**E800-E999**
59	ACCIDENTS	E800-E929
60	TRANSPORT ACCIDENTS	E800-E848
61	ACCIDENTAL FALLS	E880-E888
62	ACCIDENTAL POISONING	E850-E869
63	SUICIDE AND INTENTIONAL SELF-HARM	E950-E959
64	HOMICIDE/ASSAULT	E960-E969
65	EVENTS OF UNDETERMINED INTENT	E980-E989

Appendix 2
Population Estimates (1994)

Estimated Population by sex, quinary age group and region were derived from the Northern Ireland Statistics and Research Agency (4) and the Central Statistics Office in the Republic (5). (See Section 4.4).

It is estimated there were over one and a half million (1,643,000) persons living in Northern Ireland and over three and half million (3,586,000) in the Republic of Ireland during 1994, giving a total population of over five and a quarter million (5,229,000).

The island's population was relatively young with just under half the (male and female) population aged under 30 years and less than ten percent aged 70 years or over.

While the two jurisdictions had similar percentages of people in the youngest age groups, Northern Ireland had relatively more people in the oldest age groups. This affirmed the need to consider directly standardised, rather than crude, mortality rates. On the island, and in both jurisdictions, the male age profile was relatively younger than the female age profile.

In 1994, the four Health and Social Services Boards in Northern Ireland had populations that ranged in size from just over a quarter of a million persons (Western HSSB) to nearly three quarters of a million persons (Eastern HSSB). In the Republic, the North Western HB and Midlands HB had the smallest populations (around two hundred thousand persons) while the former Eastern HB had the largest population (over one and a quarter million persons).

POPULATIONS ESTIMATES (1994)

REGION	GENDER	AGE (IN YEARS)						
		0-4	5-9	10-14	15-19	20-24	25-29	30-34
ALL IRELAND								
ALL IRELAND	**FEMALE**	188,823	207,966	231,698	222,703	203,154	188,325	194,071
TOTAL	**MALE**	199,845	219,111	245,073	233,388	216,252	187,602	186,389
NORTHERN IRELAND								
BELFAST LGD	**FEMALE**	10,891	10,931	9,866	10,278	12,637	12,398	11,648
	MALE	11,277	11,271	10,363	10,105	12,362	11,627	10,246
ALL OF	**FEMALE**	24,231	24,544	23,395	22,752	24,889	26,649	26,193
EASTERN HSSB	**MALE**	25,177	25,636	24,721	23,506	26,358	25,905	24,460
NORTHERN	**FEMALE**	15,018	15,654	15,664	15,454	16,097	16,103	15,285
HSSB	**MALE**	15,817	16,692	16,341	16,241	17,063	16,132	15,196
SOUTHERN HSSB	**FEMALE**	12,034	12,591	12,861	11,316	10,729	11,290	10,946
	MALE	12,940	13,210	13,255	12,310	12,230	11,946	11,150
DERRY LGD	**FEMALE**	4,645	4,789	4,802	4,370	4100	4,119	3,986
	MALE	4742	5,171	4,974	4,686	4,452	3,990	3,684
ALL OF	**FEMALE**	11,342	12,179	12,579	11,383	10,241	10,083	9,849
WESTERN HSSB	**MALE**	11,911	13,073	12,959	12,131	11,700	10,520	9,781
NORTHERN	**FEMALE**	62,624	64,967	64,498	60,905	61,954	64,124	62,272
IRELAND TOTAL	**MALE**	65,844	68,611	67,275	64,187	67,351	64,503	60,586

AGE (IN YEARS)									
35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75	ALL AGES
ALL IRELAND									
179,330	165,814	155,157	126,126	111,832	106,148	103,155	96,009	162,382	2,642,689
176,354	166,635	157,043	127,887	110,441	100,305	88,894	75,533	95,560	2,586,308
NORTHERN IRELAND									
9,462	7,728	7,698	7,268	7,352	7,692	7,688	7,424	13,793	154,751
8,677	7,546	7,226	6,720	6,400	6,352	5,839	4,998	6,168	137,172
22,469	19,728	20,053	17,590	16,226	16,482	16,293	15,369	28,345	345,204
21,513	19,370	19,211	16,717	14,825	13,763	12,752	10,951	13,370	318,231
13,816	12,752	12,732	11,220	9,863	9,334	8,622	7,878	13,986	209,474
13,679	12,767	12,328	10,943	9,442	8,309	7,431	6,058	7,587	202,023
9,568	8,818	8,661	7,417	6,745	6,335	5,950	5,431	9,281	149,969
9,805	8,883	8,492	7,231	6,417	5,603	4,999	4,039	5,190	147,696
3,361	2,982	2,631	22,79	1,962	1,853	1,687	1,489	2,408	51,459
3,129	2,868	2,614	2,169	1,931	1,612	1,347	993	1,200	49,557
8,778	8,014	7,413	6,200	5,400	5,099	4,,890	4,431	7,567	135,444
8,757	8,116	7,512	6,099	5,357	4,730	4,213	3,486	4,713	135,054
54,630	49,311	48,857	42,427	38,234	37,250	35,754	33,108	59,179	840,090
53,753	49,135	47,542	40,989	36,041	32,404	29,394	24,533	30,859	803,003

POPULATIONS ESTIMATES (1994) CONTINUED...

REGION	GENDER	AGE (IN YEARS)						
		0-4	5-9	10-14	15-19	20-24	25-29	30-34
REPUBLIC OF IRELAND								
NORTH EASTERN	FEMALE	11,173	13,216	15,385	13,644	9,962	9,408	10,699
HB	MALE	11,820	13,814	16,363	14,682	11,533	9,750	10,389
DUBLIN CB	FEMALE	14,320	14,371	15,559	20,578	28,739	24,002	18,807
	MALE	14,935	15,051	16,536	19,811	25,639	22,651	17,877
ALL	FEMALE	44,813	48,279	54,827	57,636	61,164	52,867	52,341
EASTERN HB	MALE	47,876	50,710	58,774	58,939	59,253	49,489	47,774
WATERFORD CB	FEMALE	1,518	1,569	1,743	2,076	1,998	1,718	1,586
	MALE	1,555	1,655	1,814	2,109	1,942	1,664	1,523
ALL SOUTH	FEMALE	13,969	16,050	18,915	17,334	12,994	12,422	13,695
EASTERN HB	MALE	14,714	16,875	20,126	18,675	14,971	12,772	13,462
CORK	FEMALE	3,882	4,317	4,936	6,377	7,169	5,242	4,566
COUNTY CB	MALE	4,170	4,563	5,178	6,241	6,691	5,058	4,296
ALL	FEMALE	18,518	21,223	25,313	24,095	20,209	17,738	19,172
SOUTHERN HB	MALE	19,642	22,348	26,610	25,373	22,032	18,145	18,949
LIMERICK CB	FEMALE	1,759	1,853	2,132	2,657	2,687	2,122	1,808
	MALE	1,854	1,915	2,181	2,580	2,524	2,074	1,795
ALL MID-	FEMALE	10,950	12,610	15,252	14,525	11,482	9,716	10,778
WESTERN HB	MALE	11,614	13,351	16,029	15,236	12,973	10,107	10,714
MIDLANDS HB	FEMALE	7,481	8,736	10,436	9,276	6,527	6,158	6,976
	MALE	7,850	9,140	11,077	10,117	7,675	6,543	7,077
GALWAY CB	FEMALE	1,806	1,903	2,115	3,124	4,068	2,538	2,214
	MALE	1,927	2,051	2,232	2,827	3,327	2,234	1,931
ALL WESTERN HB	FEMALE	11,860	14,123	16,831	15,812	12,025	9,879	11,364
	MALE	12,570	14,980	17,904	16,434	12,970	10,158	10,943
NORTH	FEMALE	7,435	8,762	10,241	9,476	6,837	6,013	6,774
WESTERN HB	MALE	7,915	9,282	10,915	9,745	7,494	6,135	6,495
REPUBLIC OF	FEMALE	126,199	142,999	167,200	161,798	141,200	124,201	131,799
IRELAND TOTAL	MALE	134,001	150,500	177,798	169,201	148,901	123,099	125,803

AGE (IN YEARS)									
35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75	ALL AGES
REPUBLIC OF IRELAND									
10,544	9,854	9,009	6,822	5,842	5,533	5,547	5,320	8,371	150,329
10,674	10,397	9,577	7,445	6,121	5,664	5,142	4,558	5,539	153,468
15,369	13,715	12,803	12,082	11,981	11,920	11,642	10,087	17,126	253,100
14,636	12,967	12,107	11,131	10,643	9,946	8,803	6,704	7,932	227,368
46,857	42,954	39,027	30,833	26,910	24,180	22,437	19,799	32,202	657,126
43,822	40,604	37,554	29,653	24,915	21,601	17,571	13,857	16,031	618,423
1,368	1,239	1,147	1,035	934	846	759	656	1,102	21,294
1,298	1,245	1,160	1,040	924	783	612	467	570	20,361
13,095	12,193	11,272	9,062	8,010	7,636	7,449	7,060	11,075	192,231
13,278	12,863	12,014	9,721	8,429	7,834	7,028	5,951	7,227	195,940
3,951	3,629	3,452	3,290	3,155	2,884	2,695	2,395	3,983	65,923
3,828	3,536	3,334	3,153	2,944	2,626	2,197	1,622	1,854	61,291
18,385	17,345	15,996	12,743	11,405	10,744	10,604	10,002	16,753	270,245
18,546	17,939	16,855	13,459	11,680	10,710	9,439	8,215	10,696	270,638
1,591	1,526	1,450	1,320	1,228	1,174	1,116	942	1,510	26,874
1,562	1,495	1,384	1,252	1,199	1,076	893	673	726	25,182
10,531	10,227	9,455	7,377	6,298	5,942	6,000	5,618	9,129	155,890
10,863	10,599	9,968	7,873	6,749	6,263	5,531	4,750	6,060	158,680
6,857	6,417	5,714	4,524	4,046	3,979	4,009	3,762	5,654	10,552
7,079	6,711	6,096	4,826	4,308	4,151	3,795	3,426	4,104	103,975
1,950	1,697	1,470	1,210	967	870	828	726	1,302	28,790
1,735	1,539	1,351	1,170	931	771	631	521	717	25,896
11,666	10,965	9,844	7,663	6,841	6,852	7,127	7,079	12,495	172,426
11,621	11,603	1,0856	8,630	7,625	7,302	6,849	6,369	9,377	176,191
6,765	6,548	5,983	4,675	4,246	4,032	4,228	4,261	7,524	103,800
6,718	6,784	6,581	5,291	4,573	4,376	4,145	3,874	5,667	105,990
124,700	116,503	106,300	83,699	73,598	68,898	67,401	62,901	103,203	1,802,599
122,601	117,500	109,501	86,898	74,400	67,901	59,500	51,000	6,4701	1,783,305

Appendix 3
Occupational Class Profiles (1994)

OCCUPATIONAL CLASS PROFILES (1994)

GENDER	OCCUPATIONAL CLASS	AGE (IN YEARS)				
		0-4	5-9	10-14	15-19	20-24
NORTHERN IRELAND SOCIAL CLASS (SC)						
FEMALES	Professional				7	753
	Managerial & technical				2,080	8,669
	Skilled non-manual				20,554	25,962
	Skilled manual				5,583	5,316
	Partly skilled		Not requested		13,848	13,398
	Unskilled				742	1,414
	Armed forces etc.				1,220	1,385
	Government employ/training				8,006	920
	No paid job 10 years				8,866	4,138
MALES	Professional				0	1,262
	Managerial & technical				1,733	6,309
	Skilled non-manual				4,749	8,180
	Skilled manual				19,071	22,076
	Partly skilled		Not requested		9,102	11,348
	Unskilled				2,623	4,343
	Armed forces etc.				3,163	4,787
	Government employ/training				13,018	1,672
	No paid job 10 years				10,726	7,373

	AGE (YEARS)											
	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75	ALL AGES
	2,932	3,028	3,011	2,634	2,310	1,857	1,735	1,466	1,027	594	307	22,162
	10,601	12,960	14,119	13,627	13,253	11,174	9,507	8,309	5,442	3,270	1,199	111,503
	8,128	7,039	5,247	4,438	4,163	3,550	3,098	2,711	1,921	1,164	405	54,791
	20,460	19,750	16,689	14,973	14,171	11,759	9,616	7,437	5,397	2,716	483	164,597
	9,423	7,360	6,114	5,502	5,973	5,717	5,261	4,773	3,777	2,475	743	77,569
	4,013	3,323	2,524	2,266	2,342	2,339	2,163	2,078	1,628	844	172	30,658
	3,268	2,363	1,679	1,222	1,052	801	622	477	346	184	64	20,028
	673	432	310	250	217	137	98	54	6	1	5	16,873
	5,007	4,331	4,060	4,224	4,061	3,655	3,942	5,100	9,849	13,284	27,481	103,093
	1,853	1,550	1,101	671	506	379	336	207	161	59	33	7,615
	16,883	19,032	18,035	14,435	12,936	10,901	8,568	5,264	3,139	1,247	451	121,638
	24,617	21,935	16,596	14,248	13,350	10,563	9,189	6,508	4,182	1,367	448	169,519
	4,319	3,174	2,725	2,745	3,171	2,884	2,717	1,940	1,361	524	194	36,655
	9,855	8,722	7,782	7,915	8,413	7,389	6,497	4,794	2,788	932	308	92,638
	2,202	3,891	5,128	6,135	7,355	7,259	6,387	4,727	2,652	840	239	48,969
	855	782	579	577	535	485	415	299	124	49	27	7,332
	613	527	460	374	271	224	129	27	6	2	3	11,560
	2,928	2,658	2,225	2,210	2,320	2,343	3,997	13,486	21,340	28,090	57,476	152,077

OCCUPATIONAL CLASS PROFILES (1994) CONTINUED...

GENDER	OCCUPATIONAL CLASS	AGE (IN YEARS)				
		0-4	5-9	10-14	15-19	20-24
REPUBLIC OF IRELAND SOCIO-ECONOMIC GROUP (SEG)						
FEMALES	Farmers, farmers' relatives & farm managers	10,976	14,246	19,848	16,330	2,126
	Other agricultural occupations & fishermen	3,484	3,585	3,778	2,942	1,576
	Higher professional	5,399	5,748	6,210	4,735	3,634
	Lower professional	7,347	8,093	8,882	7,945	13,490
	Employers & managers	9,412	11,510	14,027	11,173	5,419
	Salaried employees	3,432	3,912	4,471	3,647	1,919
	Intermediate non-manual workers	16,855	17,428	18,941	26,283	49,422
	Other non-manual workers	13,975	16,623	20,025	21,176	18,105
	Skilled manual workers	27,961	31,457	34,642	24,591	8,860
	Semi-skilled manual workers	5,930	6,473	7,493	9,670	12,679
	Unskilled manual workers	9,685	11,688	13,514	9,673	4,205
	Unknown	11,745	12,236	15,369	23,634	19,764
MALES	Farmers, farmers' relatives & farm managers	11,480	15,222	21,005	17,158	9,673
	Other agricultural occupations & fishermen	3,588	3,795	3,954	4,460	5,159
	Higher professional	5,902	6,131	6,400	4,827	5,363
	Lower professional	7,932	8,590	9,261	6,717	6,743
	Employers & managers	10,242	12,208	14,601	11,240	6,251
	Salaried employees	3,712	4,103	4,617	3,879	3,898
	Intermediate non-manual workers	17,706	18,338	20,479	21,372	24,514
	Other non-manual workers	15,060	17,527	21,643	18,155	14,366
	Skilled manual workers	29,292	33,126	36,776	35,657	32,322
	Semi-skilled manual workers	6,386	6,710	7,835	8,659	9,191
	Unskilled manual workers	10,335	12,131	14,418	13,223	12,427
	Unknown	12,365	12,619	16,810	23,854	18,994

AGE (YEARS)											
25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75	ALL AGES
8,969	9,948	11,005	13,040	14,168	13,755	14,435	15,532	15,211	14,453	20,219	225,272
4,242	3,914	3,382	3,191	2,830	2,466	2,246	2,269	2,913	3,048	4,388	55,843
5,998	6,408	6,800	6,149	5,646	3,956	3,329	2,687	2,183	1,891	1,962	75,631
6,973	7,426	7,628	6,946	5,733	3,860	2,933	2,323	1,431	1,167	1,540	87,202
7,286	10,144	11,173	11,081	11,155	7,643	5,742	4,519	3,314	2,566	2,684	131,848
4,100	4,199	3,798	3,473	3,507	2,611	2,185	1,720	1,530	1,192	1,266	49,787
19,411	17,817	15,559	12,679	11,318	8,653	7,379	6,220	5,033	4,030	4,982	215,490
13,510	14,800	14,101	13,849	14,718	11,315	8,684	6,939	5,832	4,227	4,337	199,062
29,195	29,463	28,374	25,807	21,357	15,454	12,244	9,854	8,913	7,454	8,071	363,358
6,271	5,562	4,948	4,751	4,247	3,589	2,813	2,411	1,686	1,206	1,183	77,447
10,147	10,721	10,611	10,782	9,247	7,746	6,368	6,028	6,599	5,624	6,757	153,164
6,998	5,403	5,222	5,754	5,576	5,850	6,043	7,401	4,856	4,142	7,316	149,201
2,468	4,950	7,575	9,796	10,967	10,775	11,145	11,096	10,458	9,149	13,268	165,174
1,803	2,090	2,004	1,940	1,754	1,418	1,338	1,458	1,599	1,351	1,541	33,660
3,845	4,487	4,866	4,640	4,373	3,279	2,781	2,329	2,177	1,966	2,917	63,385
16,137	17,280	15,979	12,780	10,701	7,998	5,958	4,647	4,046	3,609	6,077	150,967
6,459	8,560	9,506	9,589	9,015	6,147	4,857	3,697	2,863	2,118	2,648	116,998
1,980	2,465	2,524	2,625	2,461	1,907	1,613	1,285	980	747	793	36,759
41,621	35,304	25,521	19,847	17,363	12,729	10,951	9,897	8,821	7,318	9,976	328,275
14,129	14,661	14,016	14,907	14,328	10,820	8,731	7,312	6,482	5,063	7,532	207,882
11,725	17,406	18,743	17,568	14,771	10,843	8,845	7,409	6,241	4,823	5,622	251,507
10,111	8,703	7,444	7,066	6,250	4,929	3,908	3,332	2,796	2,268	2,691	101,741
4,694	6,109	6,664	6,560	5,783	4,775	4,431	4,408	4,412	3,546	3,933	104,080
9,231	9,784	9,860	9,186	8,536	8,080	9,040	12,030	16,528	20,943	46,205	242,171

In Northern Ireland 17.2% of all working age males were in the 'Unassigned' Social Class category, comprising 3.8% in the Armed forces, 3.3% in Government employment and training, and 10.2% in 'No paid job in the last ten years' category. In the Republic of Ireland, 11.1% were assigned to the 'Unknown' Socio-economic Group category.

In Northern Ireland Social Class was grouped into three categories, in the Republic four categories were used for Socio-economic Groups. These arose from attempts to use analogous categorizations in the two jurisdictions although their sizes were highly skewed.

Appendix 4
Who Standard European Population

AGE (IN YEARS)	EUROPEAN STANDARD POPULATION
0-4	8,000
5-9	7,000
10-14	7,000
15-19	7,000
20-24	7,000
25-29	7,000
30-34	7,000
35-39	7,000
40-44	7,000
45-49	7,000
50-54	7,000
55-59	6,000
60-64	5,000
65-69	4,000
70-74	3,000
75+	4,000
TOTAL	100,000

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ISBN 0-9540010-2-8
PRICE €30 STG £18