

CAWT

Co-operation and Working Together



Population Health Profile of the CAWT Region



Foreword



More than one million people live in the CAWT region of Ireland, which is comprised of the North Eastern and North Western Health Boards in the Republic of Ireland and Southern and Western Health and Social Services Boards in Northern Ireland. As we in CAWT work together for health gain and social well-being, we need detailed, up-to-date information about our residents in order to effectively target resources, both human and financial. What is their state of health, their wider needs and lifestyles? This CAWT Population Health Profile now provides timely answers to many of these questions.

This CAWT Population Health Profile contains a wealth of information, many fascinating tables and graphs along with

detailed core tables which will act as a useful reference source in planning, monitoring and evaluating the work of CAWT. The production of this information has not been straightforward. Our CAWT region spans two different jurisdictions which means different ways of working and the use of often similar and yet not directly comparable data sources. The report also highlights the absence of comprehensive, comparable information about chronic disease and ill-health, lifestyles and wider social and economic factors. I would make a plea that these important comparability issues and gaps be addressed.

Much good work has already been done through CAWT, but there is still more to do. The recommendations from this CAWT Population Health Profile will help to focus and direct our efforts in the future as we in CAWT continue to work together for the good of our population.

A handwritten signature in cursive script that reads "B. P. Cunningham".

B P Cunningham
Chief Executive
Southern Health and Social Services Board

Foreword from the Directors of Public Health

The four Departments of Public Health and associated Information staff in each of the Boards in the CAWT region have worked closely together, along with the Centre for Cross Border Studies, to produce this Population Health Profile.

Because of differences in data reporting in the two jurisdictions, a significant amount of re-working of data was required to produce the profile. For some key issues, no comparable information was available between the four Boards.

While currently we each have data for our own Health (and Social Services) Board

population, this is the first time that such comprehensive data have been available on the CAWT region as a whole.

The report highlights areas of concern such as the rising number of births to teenage mothers and the rates of heart disease which exceed the rest of Ireland.

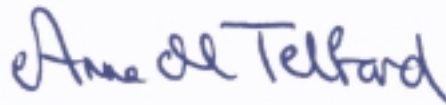
Our hope is that the Population Health Profile of the CAWT region will help to focus the work of CAWT. It should provide a baseline against which progress can be measured in the future.



Dr. Rosaleen Corcoran
Director of Public Health and Planning
North Eastern Health Board



Dr. Sean Denyer
Director of Public Health
North Western Health Board



Dr. Anne-Marie Telford
Director of Public Health
Southern Health and Social Services Board



Dr. W.W.M. McConnell
Director of Public Health
Western Health and Social Services Board

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Working group – (Appendix 1)

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Central Statistics Office (CSO), Republic of Ireland

Department of Health and Children - Public Health Information System (PHIS), Republic of Ireland

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Executive Summary

Co-operation and Working Together (CAWT) was established almost 10 years ago with the aim of working together for health gain and social well-being in the area along both sides of the land border between Northern Ireland and the Republic of Ireland. This Population Health Profile aims to consider the CAWT entity as a discrete region and to identify issues which are common throughout this particular area of Ireland.

The CAWT region has a population of around **1 million** people – **21%** of the total population of Ireland and **25%** of its land area. It covers a wide geographical area with a low population density. Many people live in rural areas with resulting difficulties in provision and accessibility of services. The CAWT region as a whole is more deprived than the rest of Ireland. This is true for unemployment, economic dependency, age dependency, poorer housing and the particular problems of low urbanisation.

The population of the CAWT region has increased by **10%** in the last 20 years. This is slightly higher than the rate of rise in the Republic of Ireland (8.8%) or Northern Ireland (9.6%). The live birth rates show north/south variation. From 1990-1994, live birth rates for all four Health Boards in the CAWT region showed a decrease. This trend was then reversed in the Republic of Ireland with an increase in the live birth rates between 1995 and 1999. Birth rates in Northern Ireland, however, continued to fall throughout the decade. The number of births to teenage mothers in the CAWT region showed a 30% increase between 1995 and 1999. There are

now over 1000 births to teenage mothers in the CAWT region per year. Total Period Fertility Rates (average number of children born per woman) mirror the pattern of live birth rates with the north/south variation. Despite falling family size in Northern Ireland, population projections show an increase in total population for all four Health Boards over the next 10 years.

The dependency ratio represents the number of dependants for every 100 adults of working age, therefore a higher dependency ratio indicates a greater burden on carers and health services. The dependency ratio in the CAWT region is higher than that for either Northern Ireland or the Republic of Ireland. Population projections predict fewer numbers of children and an increasing percentage of older people. This will further increase the dependency ratio. The number of older people (65+ years) in the CAWT region is predicted to rise by 17% by 2011. These figures suggest an increase in health and social care needs for the population of the CAWT region and this should be acknowledged in planning and resourcing services for this area.

A wide range of life circumstances and lifestyle factors also affect health. Any community or organisation seeking to improve health must tackle all these wider determinants of health for maximum health and social gain, in particular the effect of social inequalities on health. This will require partnership working with a range of other statutory, voluntary and community organisations to address the determinants of health and to promote healthy choices.

Chapter 4 compares mortality in the CAWT region with the rest of Ireland and examines some differences within the CAWT region. The four leading causes of death in the CAWT region are **1) Circulatory diseases, 2) Malignant neoplasms, 3) Respiratory diseases and 4) Injuries and poisonings.** Circulatory and respiratory diseases are each **4%** more common in the CAWT region compared to the non-CAWT region, while malignant neoplasms are **4%** less common. Injuries and poisonings are **14%** more common in the CAWT region, largely due to increased transport accidents (**33%** higher in the CAWT region). Premature and preventable deaths within the CAWT region were also discussed.

Chapter 5 considers a range of illnesses and health-related behaviours. This is not an exhaustive list and many more could be included. However, the underlying difficulty when studying morbidity and lifestyles is the lack of robust, comparable data within each jurisdiction and across jurisdictions. This is one major challenge for those involved in CAWT, if progress is to be measured in the future.

Many of the factors which influence health and well-being are amenable to change, while some are not. The Population Health Profile of the CAWT region concludes with recommendations for the future work of CAWT.

Recommendations:

1. There are almost 10,000 deaths in the CAWT region per year. Around 90% of these are from one of four main causes. Efforts must be targeted to reduce deaths from these, namely, cardio- and cerebrovascular disease (stroke), cancer, respiratory disease and injuries and poisonings.
2. New initiatives must be taken to tackle major causes of morbidity, in particular, diabetes. This condition leads to complications such as increased incidence of cardiovascular disease, blindness, renal failure and increased congenital abnormalities and perinatal death in children of diabetic mothers.
3. The number of older people (65+) in the CAWT region is predicted to increase by 17% by 2011. Plans must be made to cope with the increased health and social care needs of this age group.
4. The number of births to teenage mothers in the CAWT region increased by 30% between 1995 and 1999. There are now over 1000 births per year to teenage mothers in the CAWT region. Efforts must be made to work in partnership with other agencies, such as the education sector, to reverse this trend and reduce the disadvantage suffered by these mothers and children.
5. In the light of considerable problems in comparability of data, it is essential to revise data collection methods across both jurisdictions in order to provide comparable and robust data. This information is vital when planning and evaluating programmes to improve health and well-being.
6. The report also highlighted the lack of robust comparable information on lifestyles across the CAWT region. CAWT should conduct a regional lifestyle survey as a basis for future action.
7. The CAWT region has increased levels of deprivation compared to the rest of Ireland. In order to tackle the wider determinants of health, there must be a mechanism for partnership working with other statutory, voluntary and community organisations.
8. A public health network should be established within the CAWT region to facilitate the sharing of information, including models of best practice, and to promote joint working between public health practitioners on areas of common interest and need.

Introduction:

Co-operation and Working Together (CAWT) was established in July 1992 when the North Eastern and North Western Health Boards in the Republic of Ireland and the Southern and Western Health and Social Services Boards in Northern Ireland entered into formal partnership through what became known as the Ballyconnell agreement. The main aim of CAWT is to work together for health gain and social well-being in the border area between Northern Ireland and the Republic of Ireland.

The primary objectives for co-operation and working together (CAWT) are identified as follows:

- To improve the health and social well-being of our resident population
- To identify opportunities for co-operation in the planning and provision of services
- To assist border areas in overcoming the special development problems arising from their relative isolation in national economies and within the European Union as a whole
- To involve other public sector bodies in joint initiatives where this would help fulfil their primary objectives
- To access funding which may be available from the European Union or other third parties
- To exploit opportunities for joint working or sharing of resources where these would be of mutual advantage.

Almost 10 years have passed since the Ballyconnell agreement, and CAWT has developed a range of programmes and initiatives to improve the health and wellbeing of the resident population over these years.

In the year 2000, Dr. Patricia Clarke and Dr. Jim Jamison undertook external evaluation of the work of CAWT. Their report, entitled 'From Concept to Realisation: An evaluation of Co-operation and Working Together', was launched on 17th May 2001 at the Centre for Cross Border Studies in Armagh. The following comment was made in the report; **'In order to provide a clearer focus on health there should be a greater emphasis on population needs assessment'**.

This Population Health Profile of the CAWT region acts on this recommendation. It draws on existing sources of data including Health Board and Director of Public Health Annual Reports, the Inequalities in Mortality report produced by the Institute of Public Health in Ireland and information from statistical organisations in both jurisdictions. It will help to inform CAWT, assist in planning for the future and act as a baseline against which to evaluate future programmes to improve health and social well-being throughout the CAWT region.

Chapter 1

Geography of the CAWT Region

The origins of Co-operation and Working Together (CAWT), almost 10 years ago, have been described in the introduction to this report. CAWT covers the region on both sides of the border between Northern Ireland and the Republic of Ireland. Four Health Boards make up this area – The North Eastern Health Board and North Western Health Board in the Republic of Ireland, and the Southern Health and Social Services Board and Western Health and Social Services Board in Northern Ireland. Also included in CAWT are seven Health and Social Services Trusts, which are the provider organisations in Northern Ireland. The Southern Health and Social Services Board area covers the four Trusts of Craigavon Hospital, Craigavon and Banbridge Community, Armagh and Dungannon, and Newry and Mourne. The Western Health and Social Services Board area includes Altnagelvin Hospital, Sperrin Lakeland and Foyle trusts. Fig. 1.1 shows the CAWT region on a map of Ireland, while Fig 1.2 shows the CAWT region in more detail with the four Health Board areas shaded on the map.

Fig 1.1: Map of Ireland illustrating the CAWT region

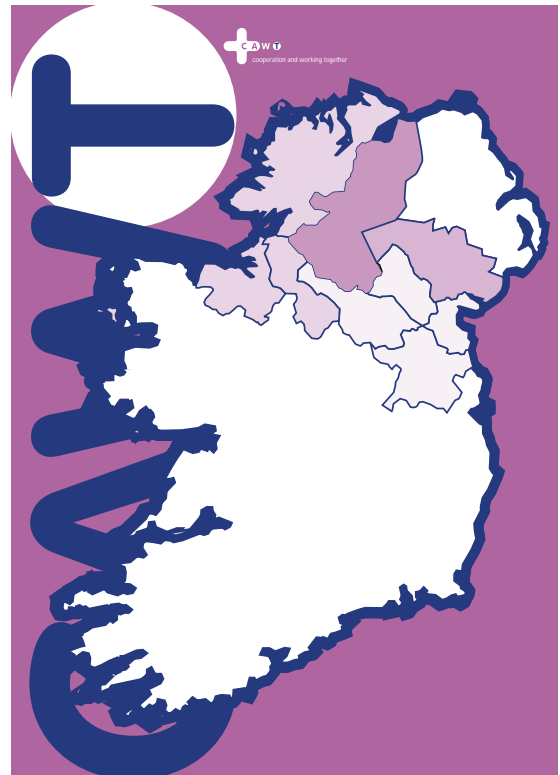
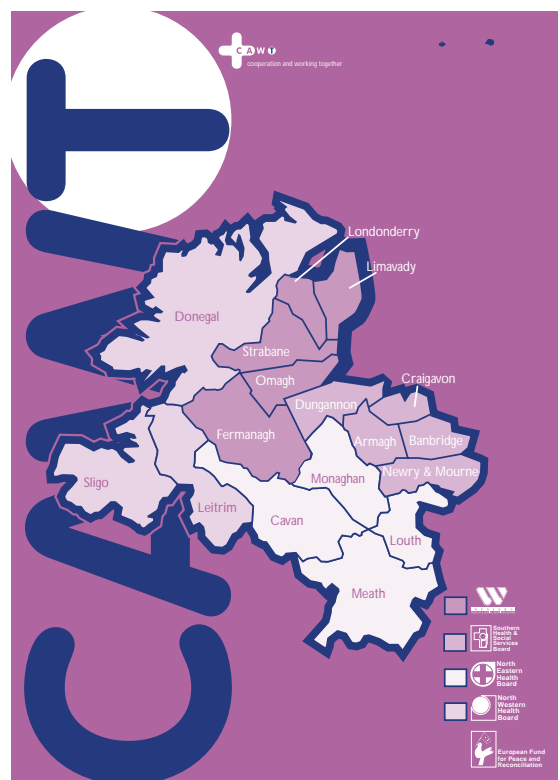


Fig 1.2: Map of CAWT region showing the four Health Boards



The CAWT region has a population of around **1 million** people – **21%** of the total population of Ireland and **25%** of its land area. Table 1.1 lists the four Health Boards, the area and population which they cover, and their percentage of the CAWT region. The table also shows the population density of each Health Board. While this provides a useful indicator of the average population density of each Health Board area, it masks considerable variation within that area. For the purposes of this report each Health Board will be considered as a single entity but some initial background information is provided below to set the scene.

Health Board	Population	% of total population in the CAWT region	Area (sq. kms)	% of total population in the CAWT region	Population density (persons per sq. km)
NEHB	306,155 ¹		6,498	30	47
NWHB	212,075 ¹	28	6,734	31	31
SHSSB	303,000 ²	19	3,189	15	95
WHSSB	275,200 ²	28	5,000	23	55
CAWT	1,096,430 ¹	25	21,421	100	47

Table 1.1: Population, area and population density of each Health Board

¹Based on 1996 census for Republic of Ireland

²1996 mid year estimates in Northern Ireland

Each Health and Social Services Board in Northern Ireland consists of a number of Local Government Districts (LGD), while Health Boards in the Republic of Ireland can be subdivided into counties.

The Southern Health and Social Services Board consists of the five Local Government

Districts of Armagh, Banbridge, Craigavon, Dungannon and South Tyrone, and Newry and Mourne. The geography of the area is varied, ranging from the Mountains of Mourne to the lowland area of Craigavon, which is the most densely populated area. Craigavon is within easy travelling distance of Belfast with the M1 motorway providing rapid and convenient access. However, the remote border areas of South Armagh and Tyrone often have poor roads and infrequent public transport. The residents in these areas may regard some of the towns in the Republic of Ireland as their main centre for shopping and services.

The Western Health and Social Services Board consists of five LGDs: Derry City, Limavady, Strabane, Omagh and Fermanagh. Once again this Board covers a diverse geographical area, with the sparsely populated Sperrin mountains, the Atlantic coastline in the north and the lakes of Fermanagh to the south. Londonderry/Derry, with a population of 79,309, is the major centre of population in the Board area and is also the second largest city in Northern Ireland. The population density of the Board is 55 persons per sq.km, ranging from 276 in the city of L/Derry to 31 in Fermanagh. The population has more young people and fewer older people than Northern Ireland in general, however, many of these older people live in isolated rural areas.

The North Eastern Health Board in the Republic of Ireland comprises the counties of Louth, Meath, Monaghan and Cavan (excluding part of West Cavan). The area covers a total of 6,498 sq. kilometres, extending from the Fermanagh and Armagh borders in the north to the north Dublin boundary in the south. To

the east there is a considerable length of coastline and to the west, a shared border with counties whose health services are provided by the North Western and Midland Health Boards. Sparsely populated areas of Cavan contrast with large centres of population and industry around the main Dublin to Belfast road.

The North Western Health Board is composed of counties Donegal, Sligo, Leitrim and part of west Cavan. This Board has one of the lowest population densities in Ireland and is a predominantly rural area, far removed from either Belfast or Dublin with their concentration of major services. The size of the region and the mountain ranges, particularly in Central and North Donegal and North Sligo/Leitrim, present particular challenges of isolation, access and service delivery. While the main access routes are being upgraded, the extensive road network is difficult to maintain and internal public transport is poor.

Table 1.2 lists the four largest towns in each Health Board in the CAWT region. Only 5 towns have populations over 20,000, illustrating the rural nature of the area and the difficulty of providing services to many small, discrete but widely dispersed communities.

Table 1.2 Four largest towns in each Health Board in the CAWT region

TOWN	POPULATION ¹
Dundalk	25,762
Drogheda	24,460
Navan	12,810
Monaghan town	5,843

NEHB

¹1996 census figures

NWHB

TOWN	POPULATION ¹
Sligo	18,509
Letterkenny	12,000
Buncrana	4,805
Ballybofey	3,047

¹1996 census figures

SHSSB

TOWN	POPULATION ²
Newry	25,045
Portadown	22,207
Lurgan	19,636
Armagh	11,731

² NISRA Ward population 2001

WHSSB

TOWN	POPULATION ³
Derry city	79,309
Enniskillen	17,528
Omagh	15,346
Strabane	11,160

³ NISRA Ward population based on 1991 census.

The recurring themes of rurality and difficulties of access provide a common bond for these four Health Board areas and a desire to work together to improve the health and well-being of their resident population.

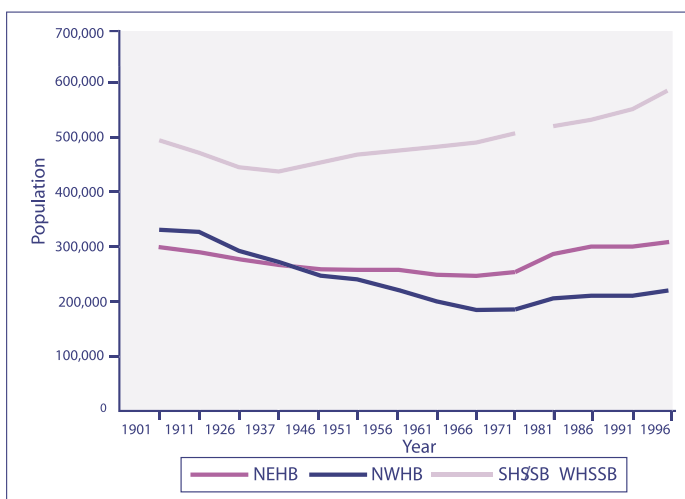
Chapter 2

Population Statistics and Trends

Historical trends

Chapter one described the geography of the CAWT region, its population density and listed the major towns. To further build up the health profile of the region, Fig 2.1 shows the historical trends in total population for NEHB and NWHB, 1901-1999. Figures for SHSSB and WHSSB are available from 1981 onwards. The total population of the four border counties in Northern Ireland (Londonderry, Tyrone, Fermanagh and Armagh) has been used as an approximation for the combined SHSSB and WHSSB population before 1981.

Fig 2.1 Population trends in NEHB, NWHB and four border counties/SHSSB+WHSSB (1901- 1999)



Over the last century, the population of the both the NEHB and NWHB decreased until the late 1960s/early 1970s and then increased. The total population count in both Boards has remained fairly stable over the past 15 years. The population of the four border counties in Northern Ireland decreased in the first part of the twentieth century, but has shown a steady increase since the Second World War.

Although total population of SHSSB and WHSSB has been combined in the graph, both Boards show a similar steady increase in numbers since data became available at Health Board level in 1981. Over the last twenty years, the overall population of the CAWT region has increased by **10%**. This is slightly greater than the rate of increase for the Republic of Ireland (8.8%) or Northern Ireland (9.6%). The population of the CAWT region was estimated at **1,122,900** in 1999.

Within the Republic of Ireland, the population in eastern counties has increased at a much greater rate than western counties, which have seen either a decrease or very modest increase. In Northern Ireland, the population density in eastern counties is higher than in the west. The imbalance in population between west and east results in the east drawing a larger share of resources and improved services. This in turn may attract people to move there because of increased employment opportunities and a better standard of living. Acknowledgement of the special difficulties of rural and isolated areas needs to be made. CAWT is one such organisation which has developed in response to this need.

Life expectancy

At the turn of the last century (1900-02), life expectancy in Northern Ireland was 47 years for both males and females. By 1925-27 this had increased to 55 years for males and 56 for females. The corresponding figures in the Republic of Ireland at that time were 57 and 58 years respectively. The latest figures show that people both north and south of the border now expect to live much longer lives with a life expectancy of around 74 years for males and 79 years for females.

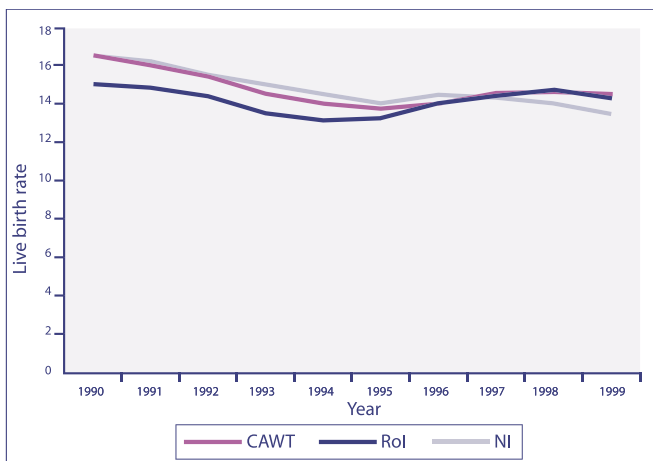
Changes in population

While population trends over the last century are of historical interest, it is necessary to look more closely at the recent past and use this information to predict what might happen in the future. The population of an area is increased by births and inward migration and decreased by deaths and emigration. The balance is constantly changing and best estimates must be made for planning purposes. The balance between births and deaths is the major factor in population change, with inward/outward migration contributing smaller changes.

Births

Fig 2.2 shows the crude live birth rate (number of live births to maternal residents per 1000 population) for the CAWT region, Republic of Ireland and Northern Ireland between 1990 and 1999. The birth rates in the CAWT region, the Republic of Ireland and Northern Ireland all showed a similar decrease during the first half of the decade. Since 1995, the birth rate in the CAWT region has remained fairly static, due to a combination of a falling rate in Northern Ireland and a rising rate in the Republic of Ireland.

Fig 2.2 Crude live birth rate (number of live births to maternal residents per 1000 population) for CAWT, RoI and NI (1990-1999).



The birth rate within the CAWT region can be subdivided into the four constituent Health Boards. Figs 2.3 and 2.4 show the number of live births to maternal residents and crude live birth rate (number of live births per 1000 population) for each of the four Health Boards.

Fig 2.3 Number of live births to maternal residents for four HBs in CAWT region 1990-1999

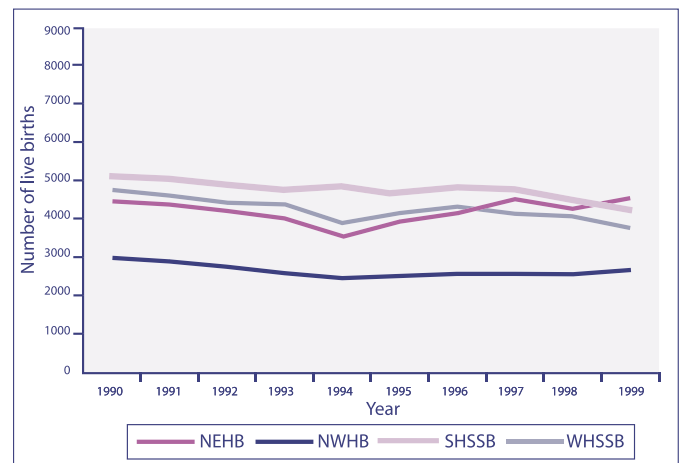


Fig 2.4 Crude live birth rate (maternal residents) for four HBs in CAWT region 1990-1999

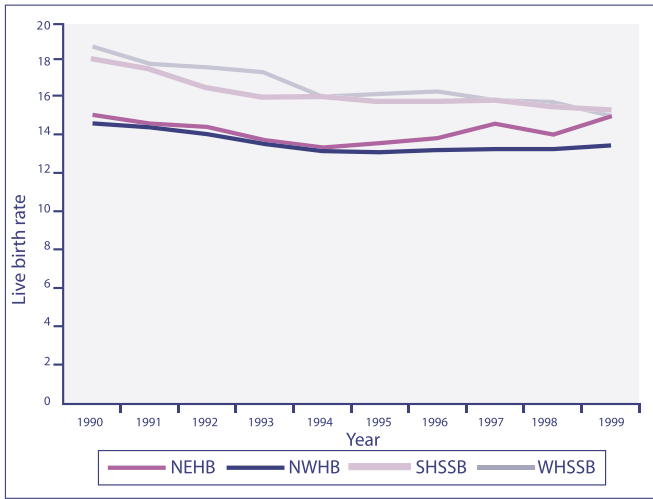


Fig 2.5 Number of births to teenage mothers (15-19) by Health Board (1990 - 1999)

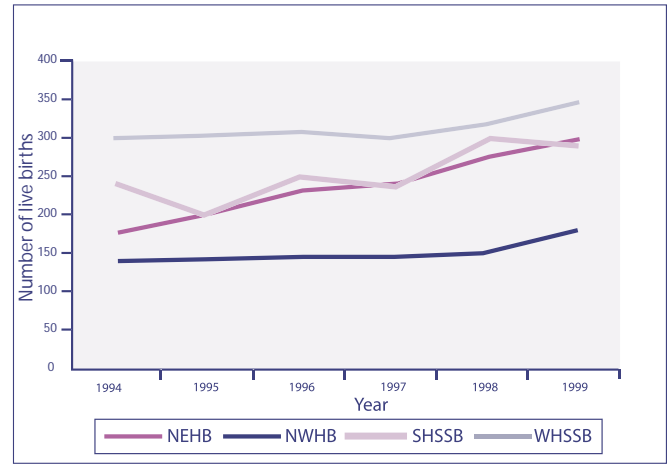
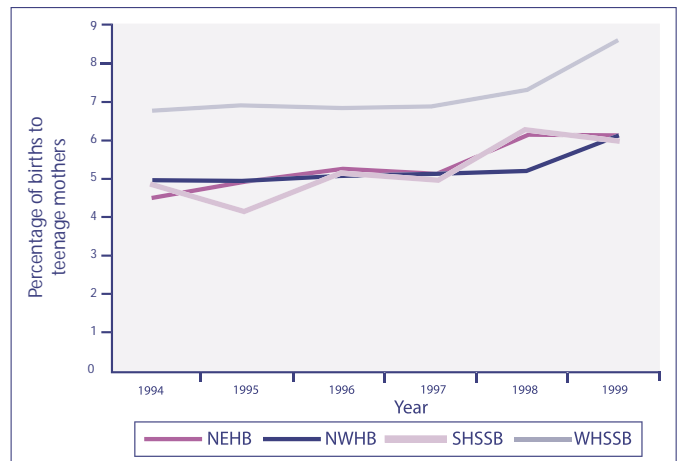


Fig 2.2 shows that the birth rate in the CAWT region is now higher than the rate for Northern Ireland or the Republic of Ireland. Within the CAWT region, all four Boards had a falling birth rate until 1994. This was then reversed in the NEHB. The number and rate of live births in SHSSB and WHSSB continued to decrease, while in the NWHB, both number and rate of births show little change (see figs 2.3 and 2.4).

Fig 2.6 Births to teenage mothers (15-19) as percentage of all live births by Health Board (1990 - 1999)



Births to teenage mothers

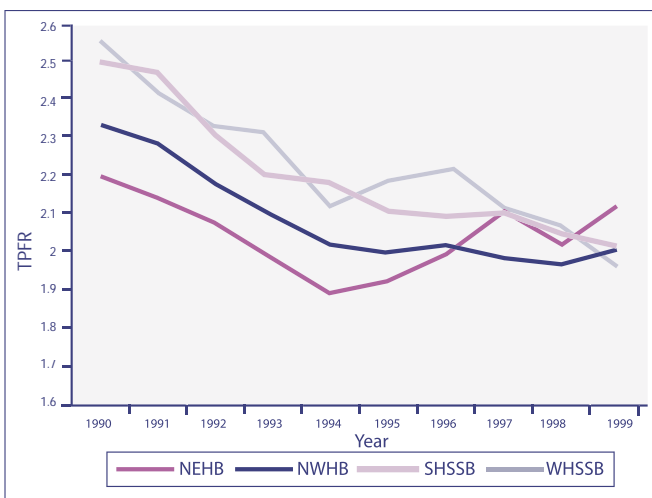
The number of births to teenage mothers is an indicator of future health and social need. Many of these young mothers suffer from disrupted education and reduced social and occupational opportunities. In turn, they are often unable to provide a stable home and upbringing for their children. This results in increased demand for health, education and social services in the future. Fig 2.5 shows the number of births to mothers aged 15-19 in each Health Board in the CAWT region between 1990 and 1999.

The total number of births to teenage mothers is increasing in all Health Board areas. The percentage of births to teenage mothers as a percentage of all live births is also increasing (see fig 2.6). Between 1995 and 1999, the number of births to teenage mothers in the CAWT region increased by 30% to a point where there are now more than 1000 births per year to teenage mothers.

Family size

Family size in Ireland is changing, with families becoming smaller and the number of single parent households increasing. Fig 2.7 shows the Total Period Fertility Rate (TPFR) which is a measure of the average number of children born during a woman's lifetime. Within the CAWT region, the Total Period Fertility Rate shows some north/south variation. Falling rates in Northern Ireland are balanced by a rising rate in the NEHB and a static rate in the NWHB over the last five years. Family size in the CAWT region as a whole is larger than in Northern Ireland or the Republic of Ireland.

Fig 2.7 Total Period Fertility Rate (TPFR) for four Health Boards (1990-1999)

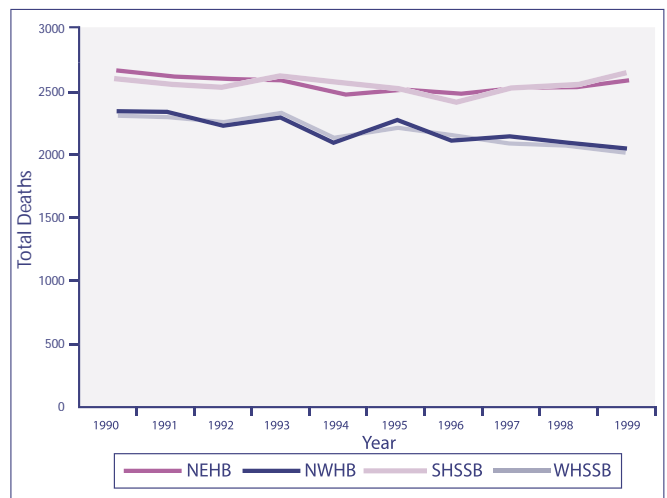


Deaths

Changes in population result from the interplay between births, deaths and migration. This section focuses on the total number of deaths from all causes, as this will affect the balance of population in an area. (Chapter 4 examines in detail the number and rate of deaths from a wide range of different causes).

Fig 2.8 illustrates the total number of deaths for each Health Board over the period from 1990 – 1999. The number fluctuates from year to year and will depend on the total population of the area and the age structure of that population.

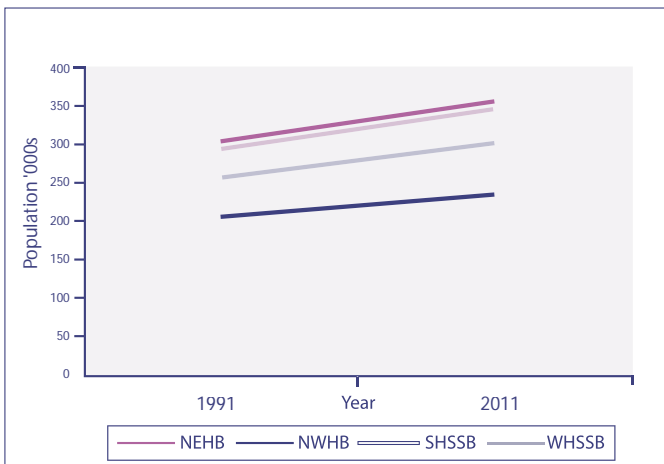
Fig 2.8 Total deaths per year by Health Board 1990-1999.



Population trends and projections

Births and deaths are now combined with an adjustment for inward and outward migration to give trends in population. Fig 2.9 shows the trend in total population for each Health Board from 1991 along with population projections up to 2011. These trends are important for those involved in planning services in the future. As fig 2.9 shows, the population in all four Health Boards in the CAWT region is predicted to increase over the next 10 years.

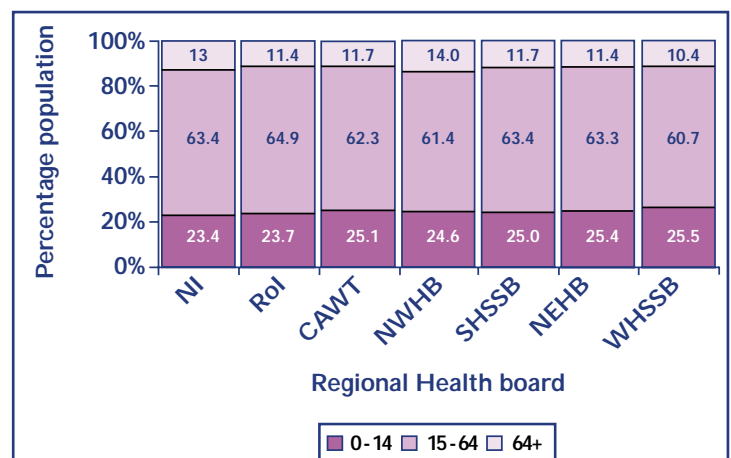
Fig 2.9 Population trends for the four Health Boards 1991 – 2011 (predicted)



Age structure of the population

Population projections indicate the expected change in total numbers of people in each area. However, the age structure of the population has probably more relevance for local health and social care planning. Fig 2.10 shows the percentage of the population in three broad age bands for NI, RoI, the CAWT region and each Health Board.

Fig 2.10 Percentage population in age bands 0-14, 15-64 and 65+ by RoI, NI, CAWT and each Health Board. (1996 mid year estimate/census)



The CAWT region has a higher percentage of children (25.4%) aged 0-14 than either Northern Ireland (23.4) or the Republic of Ireland (23.7). The percentage of people aged 65+ years in the CAWT region (11.8%) approximates more closely to the Republic of Ireland (11.4%) than Northern Ireland where 13% of the population are aged 65+.

Within the CAWT region, the Western Health and Social Services Board has the youngest population, both in terms of the greatest

percentage of children and the smallest percentage of elderly (65+). The North Western Health Board has the highest percentage of older people (14%), even higher than that for all Northern Ireland.

Over the next 10 years, this pattern is set to change. Fig 2.11 shows the changing percentage in each age group from 1991 to 2011. In all Health Board areas, the percentage of children is set to decrease, while the percentage of older people will rise in all Health Boards apart from the NWHB. The number of older people in the CAWT region is predicted to increase by 17% by 2011 compared with 19. This has major implications for health and social care.

Dependency

Families raise children and often support and

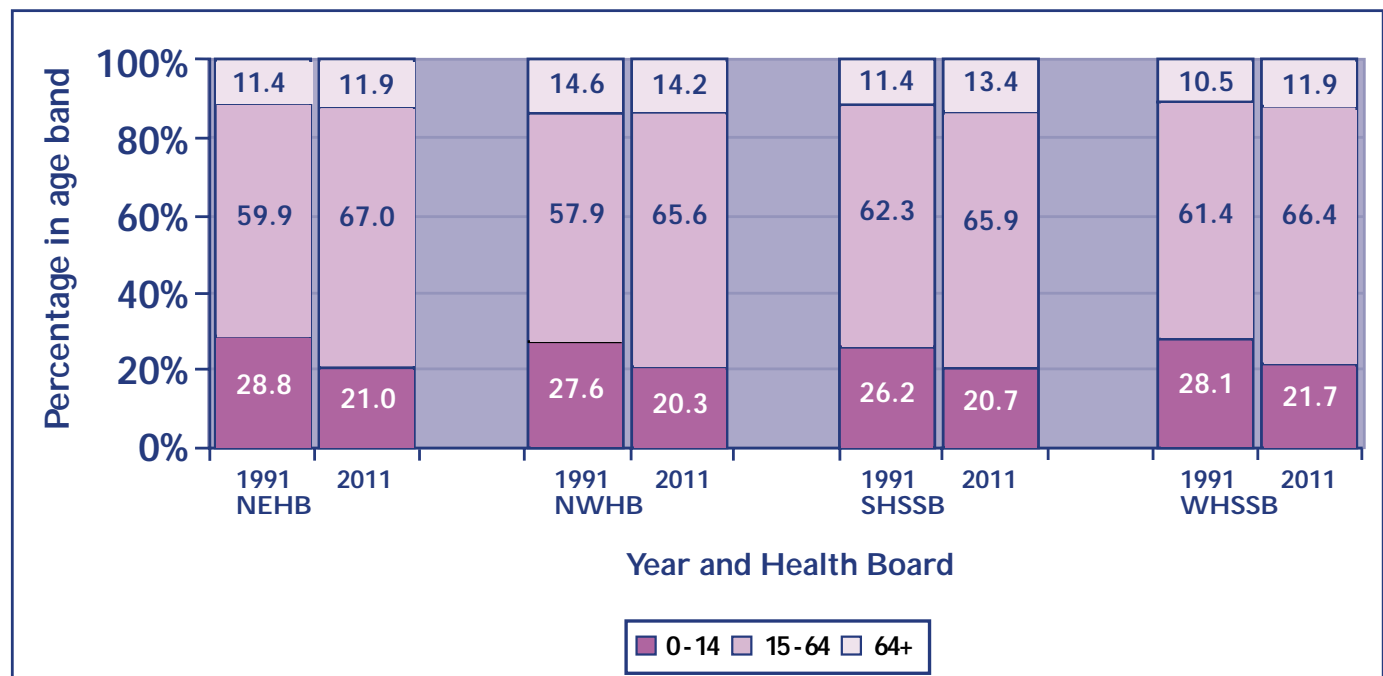
care for older relatives. The balance between the numbers of children and elderly compared with adults of working age will largely determine the burden of care for families and health and social services.

One method of estimating this balance is through the use of the dependency ratio (see table 2.1). This is calculated as follows: the number of children under 14, divided by the number of people aged 15-64 gives the dependency ratio for children (expressed as a percentage). The ratio for the 65+ age group is calculated by dividing the number of people over 65 years by the number of people aged 15-64. The total dependency ratio is the sum of these two figures.

The dependency ratio represents the number of dependants for every 100 adults of working age, therefore the higher the dependency

Fig 2.11

Percentage population in each age band 1991 – 2011(projected) by health board



ratio, the greater the burden on carers and health services. This is obviously a crude measurement, as not all people over 65 years of age require care, however, it gives a useful broad measure for comparison.

Table 2.1 Dependency ratio for each Health Board, CAWT, RoI and NI: children (0-14), elderly people (65+) and total. (1996 census or mye figures)

Health Board	Dependency Ratio 0 - 14 years	Dependency Ratio over 65 years	Total Dependency Ratio
NEHB	40.1	18.0	58.1
NWHB	40.1	22.8	62.9
SHSSB	39.4	18.4	57.8
WHSSB	42.0	17.2	59.2
CAWT	40.4	18.8	59.2
RoI	36.5	17.6	54.1
NI	36.7	20.4	57.1

Table 2.1 shows that the dependency ratio for children and the total dependency ratio for each of the four Health Boards in the CAWT region is higher than that for both the Republic of Ireland and Northern Ireland. The dependency ratio for elderly and total dependency ratio for NWHB are particularly high. The dependency ratio for children in the WHSSB is high, although this is offset by a relatively low dependency ratio for older people.

In summary, the population of the CAWT region has increased by 10% in the last 20 years. This rate of rise is greater than the rate of rise in the Republic of Ireland (8.8%) or

Northern Ireland (9.6%). From 1990-1994, live birth rates for all four Health Boards in the CAWT region showed a decrease. This trend was then reversed in the Republic of Ireland with an increase in the live birth rates between 1995 and 1999. Birth rates in Northern Ireland, however, continued to fall throughout the decade. The number of births to teenage mothers in the CAWT region increased by 30% between 1995 and 1999 and there are now over 1000 of these births per year in the CAWT region. Total Period Fertility Rates mirror the pattern of live birth rates with the north/south variation, however the overall rate in the CAWT region remains higher than the rate for either Northern Ireland or the Republic of Ireland. Despite falling family size in Northern Ireland, population projections show an increase in total population for all four Health Boards over the next 10 years. The dependency ratio for the CAWT region is higher than either Northern Ireland or the Republic of Ireland. Population projections predict fewer numbers of children and an increasing percentage of older people. The number of older people is predicted to increase by 17% by 2011. This will further increase the dependency ratio. These figures suggest an increase in health and social care needs for the population of the CAWT region and this should be acknowledged in planning and resourcing services for this area.

Chapter 3

Wider determinants of health

Deprivation

Chapter 2 considered the population of the CAWT region in terms of total numbers, age structure and dependency. However, the health and well-being of a population is influenced not only by age, illness and disease but by a wide range of socioeconomic, cultural and lifestyle factors. Although the impact of material deprivation, social inequality and lifestyle choices on health is well recognised, measurement of these factors is often difficult.

In the CAWT region, this is further compounded because the region spans two different jurisdictions. The Republic of Ireland and Northern Ireland have differing systems of education, health care, social security benefits and social class measures. However, despite these difficulties, some research on deprivation has taken place.

In 2000 a report entitled Comparative spatial deprivation in Ireland: a cross border analysis, was published. Part of this report considers the border counties in the Republic of Ireland and border District Council Areas (DCAs) in Northern Ireland as a distinct region and compares this to the rest of Ireland. Although these counties and DCAs do not cover the entire CAWT region, they form a major part. The report identified the border region as being more deprived than the rest of Ireland, especially with regard to unemployment, age dependency, economic dependency, housing

and low urbanisation.

Other researchers have separately considered deprivation in each jurisdiction. In Northern Ireland in 2000 a study conducted by Noble et al from Oxford University devised a new system for measuring deprivation. This encompassed a number of dimensions or 'domains' of deprivation which were then given a weighted value depending on their contribution to overall deprivation. These are now being used to give more sensitive measures of deprivation throughout NI on a small area basis. Measures of deprivation can be produced and mapped down to ward level, aggregated to Electoral District and then to Local Government District.

The following domains are used in the Noble indicators.

- Income deprivation
- Employment deprivation
- Health deprivation and disability
- Education, skills and training deprivation
- Geographical access to services
- Social environment
- Housing stress

In Northern Ireland there are twenty six Local Government Districts (LGD). Ten of these are in the CAWT region, five in each Health and Social Services Board. Local Government Districts can be ranked from 1 (most deprived) to 26 (least deprived) by summarising the ward level Multiple Deprivation Measure. All five LGDs in the WHSSB and four of the five in

Counties Donegal, Leitrim, Cavan, Monaghan and Louth: DCAs Derry, Strabane, Omagh, Fermanagh, Dungannon, Armagh and Newry and Mourne.

SHSSB were ranked less than 14. Strabane and Derry scored 1 and 2, while Banbridge was least deprived at 19.

In the Republic of Ireland, a material deprivation index was developed by the Small Area Health Research Unit (SAHRU) based in the Department of Community Health and General Practice, Trinity College Dublin, to measure deprivation at the level of district electoral divisions (DEDs). This has been used by both the NEHB and NWHB in describing the health of their populations. The original index was based on a principal components analysis of 5 census indicators: total unemployment, car ownership, low social class, overcrowding and rented local authority housing. However, in constructing the 1996 index only indicators of unemployment and low social class were available due to changes in census data collection and therefore it first required a remodelling of the 1991 index using only the indicators of unemployment and social class. There were 2 strong assumptions, namely that these two indicators capture most of the variation in deprivation and that the relationship between deprivation and these two indicators has remained relatively stable between the 1991 and 1996 census.

Indicators used in constructing the 1996 index:

Total unemployment
Low social class

The Local Deprivation Index showed that the NWHB was one of the most deprived areas in the Republic of Ireland, particularly rural areas of County Donegal. The overall percentage of

the population living in deprived areas in the NEHB was similar to the overall figure for the Republic of Ireland. However, closer examination showed that County Louth has the greatest percentage of population living in deprived areas, and that 44% of these people live in either Drogheda or Dundalk. This suggests two different types of deprived area – rural and urban.

The absence of a uniform approach to measuring deprivation makes it difficult to make comparisons between the four Health Boards in the CAWT region. Inevitably it should also be borne in mind that any measure of deprivation at a Health Board or even electoral ward level will mask local pockets of deprivation and affluence.

Inequalities in health

Studies have shown the social or occupational class gradient in mortality and life expectancy which exists in many countries, with lower social classes experiencing higher mortality (and often morbidity) rates, coupled with a shorter life expectancy. The recently published report from the Institute of Public Health in Ireland – Inequalities in Mortality, provides evidence of that gradient in mortality and illustrates that it is remarkably similar throughout all areas of Ireland, overshadowing other local variations affecting health.

Attempts by the Institute to identify a single system of coding occupational class in Ireland were unsuccessful. Comparison is possible between the lowest and highest groups in each jurisdiction, although these are only

comparable in a very broad manner across the jurisdictions. Once again this causes difficulty in making comparisons within the CAWT region.

The effect of social or occupational class differences in mortality for the CAWT region is likely to be similar to that for Northern Ireland and the Republic of Ireland. The Inequalities in Mortality report found that for both Northern Ireland and the Republic of Ireland, the mortality rate in the lowest occupational class was 100% to 200% higher than the rate in the highest occupational class for the main causes of death, as shown in Table 3.1.

Cause of death	Mortality rate of lowest social class compared with highest
Circulatory diseases	over 120% higher
Cancers	over 100% higher
Respiratory diseases	over 200% higher
Injuries and poisonings	over 150% higher

Table 3.1 Directly standardised mortality rate of lowest social class compared with highest

Lifestyles

Although life circumstances such as employment, education, income, housing and environment all have an impact on health, personal lifestyle has perhaps one of the most direct effects on health and well-being. Society can attempt to improve life circumstances, but lifestyle involves individual choice. Health promotion programmes aim to encourage

healthy choices in such areas as smoking, accidents, alcohol, drugs, nutrition, physical activity, mental health and sexual health.

Gathering data about lifestyle choices generally requires surveys, such as the Survey of Lifestyles, Attitudes and Nutrition (SLAN) in the Republic of Ireland or the Health and Well-being Survey in Northern Ireland. These surveys aim to gather data from a representative sample of the population and then generalise this to the whole population. While much valuable information has been gained from these two surveys about the lifestyle and health of residents in each jurisdiction, once again few items are directly comparable throughout the CAWT region. To build up a full health profile of the CAWT region, comparable information on lifestyle across the region is an essential requirement. In summary, health is much more than just absence of illness or disease. A wide range of life circumstances and lifestyle factors affect health and some of these will be considered in greater detail in Chapter 5. Any community or organisation seeking to improve health must tackle all the wider determinants of health for maximum health and social gain. This will require partnership working with a range of other statutory, voluntary and community organisations to address the determinants of health and to promote healthy choices.

CHAPTER 4

Mortality

CAWT region compared to the rest of Ireland

The first three chapters of this report set the scene for this section which considers the main causes of death in the CAWT region compared to the rest of Ireland.

In May 2001, The Institute of Public Health in Ireland published a report entitled *Inequalities in Mortality*. This reviewed mortality throughout Ireland, Northern Ireland and the Republic of Ireland, and in the wider context of the European Union. Dr. Kevin Balanda from the Institute has now further analysed the data to produce a second report: *Mortality in the CAWT region: Comparison with the rest of the island*. Both reports cover a 10 year period between 1989 and 1998. This chapter draws on the work of this second report. Results presented here can be compared directly with those in the main report, including comparisons with Northern Ireland, the Republic of Ireland and the (combined) fifteen countries of the European Union.

Appendix 3 presents the complete table of mortality from sixty-five causes of death for all of Ireland, the CAWT region and the rest of Ireland (non-CAWT), while Table 4.1 gives an abridged version. Both tables show the average number of deaths per year over the 10 year period and the annual directly standardised mortality rates. Directly standardised rates allow comparison between different

populations, taking into account any differences in age structure of the populations.

The last column in table 4.1 and Appendix 3 contains the directly standardised rate ratio (DSRR) (1989-1998). This allows death rates from each cause within the CAWT region to be compared to the non-CAWT region. A value of 100% indicates that there is no difference between the rate in the CAWT region compared with the non CAWT region while a value above 100% indicates that death from the disease is more common in the CAWT region. Values below 100% indicate that fewer people die from the disease in the CAWT region than in the rest of Ireland.

Caution is needed in interpreting these figures as uncommon diseases may show large variation between areas because of the small numbers involved in the analysis. One way of trying to quantify differences in directly standardised rate ratios is through the mathematical process of statistical significance testing. If a result is statistically significant, then it is unlikely to have happened by chance and is most likely a real difference. In table 4.1 and Appendix 3, arrows indicate those numbers which are statistically significant at a higher or lower level. For example, the rates of death from diseases of the Circulatory system, Respiratory system and Injuries and Poisonings are all higher in the CAWT region compared to the non-CAWT region, while the overall rate for Malignant Neoplasms (cancers) is lower in the CAWT region. The next section of the report describes this mortality information in more detail.

Table 4.1 Average annual number of deaths (1989-1998), annual directly standardised mortality rates (per 100,000) and rate ratios (as percentages)

Abridged version of Appendix 3. Contains only those causes of death which show a statistically significant difference in death rate between CAWT and non-CAWT.

Note that column headings 'Number' and 'Rate' refer to average annual number of deaths (1989-1998) and annual directly standardised mortality rates (per 100,000)

↑ = More common in the CAWT region at a statistically significant level

↓ = Less common in the CAWT region at a statistically significant level

	DISEASE OR EXTERNAL CAUSE	ALL IRELAND (ALL)		CAWT REGION		NON CAWT REGION		RATE RATIO (CAWT:NON CAWT)	
		Number	Rate	Number	Rate	Number	Rate	%	
04	AIDS (HIV disease)								
	Females	5	0.2	0	0.0	5	0.2	↓	8.7
	Males	21	0.8	1	0.2	20	1.0	↓	20.8
	Persons	26	0.5	1	0.2	25	0.6	↓	19.0
06	Neoplasms								
	Females	5,199	179.3	1,014	75.0	4,185	180.4		97.0
	Males	5,903	260.4	1,208	250.3	4,695	263.1	↓	95.1
	Persons	11,102	212.7	2,222	207.1	8,880	214.2	↓	96.6
07	Malignant Neoplasms								
	Females	5,129	177.1	995	171.9	4,135	178.8	↓	96.4
	Males	5,839	257.6	1,190	246.7	4,649	260.5	↓	94.7
	Persons	10,968	210.2	2,185	203.7	8,783	211.9	↓	96.1
15	Of the larynx and trachea/bronchus/lung								
	Females	790	27.4	131	22.9	658	28.5	↓	80.3
	Males	1,606	71.6	312	65.7	1,294	73.2	↓	89.8
	Persons	2,396	46.7	443	42.1	1,952	47.8	↓	88.1
20	Of the ovary								
		302	11.5	52	10.2	249	11.9	↓	86.0

	DISEASE OR EXTERNAL CAUSE	ALL IRELAND (ALL)		CAWT REGION		NON CAWT REGION		RATE RATIO (CAWT:NON CAWT)	
		Number	Rate	Number	Rate	Number	Rate	%	
26	ENDROCRINE, NUTRITIONAL AND METABOLIC DISEASES								
	Females	327	10.0	59	9.1	268	10.2		88.7
	Males	313	13.5	55	11.1	258	14.2	↓	78.2
	Persons	640	11.5	114	9.9	527	11.9	↓	83.2
27	Diabetes mellitus								
	Females	239	7.1	42	6.2	197	7.4	↓	84.2
	Males	243	10.5	42	8.6	201	11.1	↓	77.8
	Persons	482	8.6	84	7.3	397	9.0	↓	81.4
28	MENTAL AND BEHAVIOURAL DISORDERS								
	Females	189	5.5	22	3.2	167	6.1	↓	52.7
	Males	170	7.3	25	5.2	145	7.8	↓	65.9
	Persons	359	6.5	46	4.2	313	7.1	↓	59.7
29	Alcohol abuse (including alcoholic psychosis)								
	Females	24	1.1	3	0.7	21	1.2	↓	55.6
	Males	50	2.3	10	2.2	40	2.3		93.8
	Persons	73	1.7	12	1.4	61	1.7		81.6
30	Drug dependance, toxicomania								
	Females	11	0.4	1	0.3	10	0.5		56.2
	Males	38	1.5	3	0.7	35	1.7	↓	43.1
	Persons	49	1.0	5	0.5	44	1.1	↓	45.6
31	DISEASES OF THE NERVOUS SYSEM AND THE SENSE ORGANS								
	Females	414	12.9	66	10.7	348	13.5	↓	78.8
	Males	392	16.6	68	13.6	324	17.4	↓	78.0
	Persons	806	14.5	134	12.0	672	15.2	↓	78.0
32	MENINGITIS (OTHER THAN MENINGOCOCCAL INFECTION)								
	Females	10	0.4	1	0.2	8	0.4		48.2
	Males	8	0.3	1	0.2	7	0.4		59.6
	Persons	18	0.3	2	0.2	16	0.4	↓	53.4
33	DISEASES OF THE CIRCULATORY SYSTEM								
	Females	10,281	290.8	2,129	299.9	8,152	288.5	↑	103.9
	Males	10,732	467.3	2,345	277.0	8,387	464.7	↑	102.6
	Persons	21,013	370.1	4,473	381.6	16,539	367.1	↑	103.9
34	Ischaemic heart disease								
	Females	5,106	147.3	1,095	157.4	4,011	144.8	↑	108.8
	Males	6,817	299.7	1,491	307.6	5,326	297.6	↑	103.4
	Persons	11,922	215.4	2,586	226.6	9,336	212.5	↑	106.6
35	Cerebrovascular disease								
	Females	2,745	75.9	573	78.9	2,172	75.2	↑	105.0
	Males	1,853	79.9	423	83.8	1,431	78.0	↑	107.4
	Persons	4,598	77.9	996	81.6	3,602	77.0	↑	106.1

	DISEASE OR EXTERNAL CAUSE	ALL IRELAND (ALL)		CAWT REGION		NON CAWT REGION		RATE RATIO (CAWT:NON CAWT)	
		Number	Rate	Number	Rate	Number	Rate	%	
37	DISEASES OF THE RESPIRATORY SYSTEM								
	Females	3,658	101.0	7,34.9	101.7	2,914	100.9		100.8
	Males	3,530	149.9	794	155.6	2,736	148.3	↑	104.9
	Persons	7,188	120.9	1,538	124.5	5,650	119.9	↑↑	103.8
38	Pneumonia								
	Females	2,212	57.8	469	60.6	1,743	57.1	↑↑	106.2
	Males	1,588	67.0	375	72.6	1,213	65.4	↑↑↑	111.0
	Persons	3,800	61.8	844	65.9	2,956	60.7	↑↑	108.5
46	DISEASES OF THE MUSCULOSKELETAL SYSTEM/CONNECTIVE TISSUE								
	Females	151	4.5	25	3.6	127	4.7	↓	77.0
	Males	70	3.0	12	2.4	58	3.2	↓↓	75.8
	Persons	221	3.9	37	3.1	185	4.1	↓↓	77.1
47	Rheumatoid arthritis and osteoarthritis								
	Females	80	2.3	13	1.8	67	2.5	↓	73.1
	Males	34	1.5	5	1.1	29	1.6	↓	69.8
	Persons	114	2.0	18	1.5	96	2.1	↓	72.3
55	SYMPTOMS, SIGNS, ABNORMAL FINDINGS, ILL-DEFINED CAUSES								
	Females	156	4.6	25	3.8	131	4.8	↓	78.4
	Males	122	5.1	21	4.0	101	5.4	↓↓	73.6
	Persons	278	4.9	46	3.9	232	5.2	↓↓	75.5
56	Sudden infant death syndrome								
	Females	25	1.1	4	0.7	21	1.2	↓↓	63.7
	Males	41	1.6	6	1.1	35	1.8	↓↓	59.9
	Persons	66	1.4	10	0.9	56	1.5	↓↓	61.4
58	EXTERNAL CAUSES OF INJURY AND POISONING								
	Females	633	21.6	134	22.8	498	22.3		107.2
	Males	1,450	58.0	338	64.9	1,112	56.2	↑	115.4
	Persons	2,083	39.6	473	44.0	1,610	38.5	↑↑	114.2
59	Accidents								
	Females	498	16.1	107	17.4	391	15.8		109.7
	Males	919	36.7	219	41.7	700	35.4	↑↑	117.8
	Persons	1,417	26.3	326	29.6	1,091	25.5	↑↑	116.1
60	Transport accidents								
	Females	161	5.9	40	7.3	121	5.5		132.9
	Males	454	17.2	116	21.2	338	16.2	↑	130.9
	Persons	616	11.4	157	14.3	459	10.7	↑↑	132.9
64	Homicide/assault								
	Females	16	0.6	4	0.8	12	0.6		133.8
	Males	85	3.3	25	4.7	60	3.0	↑↑	158.1
	Persons	101	2.0	29	2.8	72	1.8	↑↑	156.6
65	Events of undetermined intent								
	Females	14	0.5	4	0.9	9	0.5		185.9
	Males	36	1.5	11	2.2	25	1.3	↑↑	168.7
	Persons	50	1.0	15	1.5	34	0.9	↑↑	173.8

Mortality in Ireland

'Inequalities in Mortality' found that the all cause mortality rate in the CAWT region is comparable to that for the rest of Ireland. The four leading causes of death in Ireland are shown in table 4.2. Almost 90% of all deaths belong to one of these four categories.

Table 4.2 Leading causes of death in Ireland and percentage of total deaths.

Cause of death	Percentage of total deaths
Circulatory diseases	45%
Malignant neoplasms (cancers)	24%
Respiratory diseases	15%
Injuries and poisonings	4%
All four causes combined	88%

Although these four main causes of death also account for around 90% of the 10,000 deaths per year in the CAWT region, the percentage from each cause is slightly different. This different pattern of mortality between the CAWT region and the rest of Ireland will be considered in more detail in the next section.

Mortality in the CAWT region compared to the non-CAWT region

1. Circulatory diseases

Death from circulatory diseases accounts for 45% of deaths in Ireland as a whole. In the CAWT region, the directly standardised mortality rate for diseases of the circulatory system was 4% higher than the rest of Ireland.

In both Northern Ireland and the Republic of Ireland ischaemic heart disease was responsible for more than half of all deaths from circulatory diseases.

2. Malignant neoplasms

Malignant cancers or neoplasms account for 24% of deaths throughout Ireland. The top six types of malignant neoplasm (percentage of total cancer deaths), are:

- Larynx, trachea, bronchus and lung (22%)
- Colon (9%)
- Breast (female) (9% of all cancer deaths, 19% of female cancer deaths)
- Lymph/Haemopoietic tissue (8%)
- Prostate (6% of all cancer deaths, 12% of male cancer deaths)
- Stomach (6%)

These sites accounted for two-thirds of all cancer deaths in Ireland.

The Northern Ireland Cancer Registry and the National Cancer Registry Ireland have produced a joint report on cancer entitled All Ireland Cancer Statistics 1994-1996. The CAWT region shows a slightly lower percentage of deaths due to malignant neoplasms compared to the rest of Ireland. The All Ireland Cancer Statistics 1994-1996 report found that urban populations had higher rates of cancer: 10% higher for females and 15% for males. This may have been a contributory factor in the lower rate of death from cancer in the predominantly rural CAWT region.

3. Respiratory diseases

Respiratory diseases account for 15% of deaths throughout Ireland. Over half of these deaths were due to pneumonia, with the percentage being slightly higher in the CAWT region. Chronic lower respiratory disease accounted for another third of deaths from respiratory disease, with the percentage in the CAWT region being slightly lower than the rest of Ireland.

The rate of death from respiratory diseases in Northern Ireland was slightly higher than the rate for the Republic of Ireland, although this may have been partly due to reporting differences on death certificates.

4. Injuries and poisonings

Injuries and poisonings accounted for 4% of total deaths in Ireland. Within the CAWT region, transport accidents accounted for nearly a third of all injury and poisoning deaths, with the percentage being 33% higher in the CAWT region compared to the non-CAWT region. Similarly, homicides and assault also accounted for a greater percentage (56% higher) of injury and poisoning deaths in the CAWT region. Offsetting these, the percentages of all injury and poisoning deaths due to accidental falls and suicides and intentional self-harm were all lower in the CAWT region.

In summary, the four main causes of death for the CAWT region are the same as those for the rest of Ireland. However, some diseases are more common and some are less common in the CAWT region. Table 4.3 shows those

causes of death which show a statistically significant difference in rate between the CAWT and non-CAWT regions. The table also includes the average annual number of deaths from each cause in the CAWT region and the percentage difference in rates. (The table includes only those causes with more than 100 deaths per year on average)

Table 4.3 Causes of death, average annual numbers of deaths and percentage difference in rates between the CAWT and non CAWT regions.

Cause of death	Average annual number of deaths in the CAWT region	% difference in rate CAWT:non CAWT regions
Circulatory diseases	4,473	+4%
• Ischaemic heart disease	2,586	+7%
• Cerebrovascular disease (Stroke)	996	+6%
Disease of the respiratory system	1,538	+4%
External causes of injury and poisoning	473	+14%
• Accidents	326	+16%
• Transport accidents	157	+33%
Malignant neoplasms	2,185	-4%
• Cancer of larynx and trachea/bronchus/lung	443	-12%

Some other causes of death show significant variation between the CAWT and non-CAWT regions, but the annual number of deaths involved is very small. Worth noting, however, is diabetes. In the CAWT region, there are on average eighty four deaths each year which are coded as being directly due to diabetes. This small number masks the real impact of diabetes which causes increased rates of ischaemic heart disease, stroke and other circulatory diseases.

Table 4.3 shows the contrasting pattern of mortality between the CAWT and non-CAWT regions. Possible reasons for this difference range from artefactual differences due to differing coding practices, north and south of the border, to real differences arising from historical, lifestyle and/or other reasons. Many of these factors may be amenable to change. The prime focus for Health Boards must therefore be on prevention and treatment of those diseases and conditions which have the biggest impact on the health and well-being of the residents of the CAWT region. The report now goes on to examine the concept of premature and preventable death and looks at the differences between Health Boards within the CAWT region.

Premature and preventable deaths

The Inequalities in Mortality report examined total deaths from each cause. Every death is assigned a cause, regardless of the age at which a person died. However, the concepts of premature death and preventable death are perhaps of more importance to Health Boards

seeking to improve the health and well-being of the population. For example, an older person aged 83 and a younger person aged 36 both dying from ischaemic heart disease will each count as one death. However, the young person has died prematurely. Premature deaths are generally considered to be deaths occurring before the age of 75. The young person's premature death may have been prevented or delayed, perhaps by stopping smoking, following lifestyle advice or taking medication to lower cholesterol levels. It is unlikely that the 83 year olds death could have been prevented to the same extent.

Table 4.4 provides a snapshot of the age standardised death rates (15-74) for the four major causes of death for each Health Board in the CAWT region for 1999. This information is taken from table 8 (Appendix 2) which shows the trend in premature death rates for the four Health Boards in the CAWT region over the previous five years (1995-1999). Data is collected for each of the four Health Boards in the CAWT region, so mortality rates can be easily obtained. For more detailed breakdown by County or Local Government District, each Health Board should be consulted.

Table 4.4 Age standardised death rates (15-74) for four major causes of death by Health Board 1999 (deaths per 100,000 population)

Cause of Death	NEHB	NWHB	SHSSB	WHSSB
Circulatory diseases	177.7	182.6	177.8	179.2
Malignant neoplasms	181.8	174.1	165.3	171.1
Respiratory Diseases	41.6	37	50.5	50.2
Injuries and poisonings	30.4	40	33.5	31.3

Table 4.4 shows that the rates of premature death in each Health Board are of the same order of magnitude, although variation occurs between the Boards.

Deaths from Road Traffic Accidents

One of the main challenges facing a Health Board is decreasing the number of premature and preventable deaths. Although all Injuries and poisonings account for only 4% of total deaths in Ireland, when these figures are translated into potential years of life lost (PYOLL), the category of transport accidents assumes much greater significance. This is particularly relevant to the CAWT region which has a 33% higher death rate from transport accidents than the rest of Ireland

(see table 4.3). Road traffic accidents make up the majority of transport accidents. Many of these fatal accidents involve young males, resulting in the loss of many potential years of life.

Table 4.5 Deaths from road traffic accidents in each Health Board and the CAWT region (1991-1999).

HEALTH BOARD	91	92	93	94	95	96	97	98	99
NEHB	60	54	53	51	55	52	59	45	49
NWHB	17	23	28	24	26	23	31	31	37
SHSSB	49	28	25	44	35	22	36	24	38
WHSSB	35	38	33	18	30	28	32	17	17
ALL CAWT	161	143	139	137	146	125	158	117	141

Fatal accidents are just the tip of the iceberg, while severe though non-fatal injuries have a much greater impact on health services. As mentioned above, many accidents occur to relatively young people, often male. The resulting traumatic brain injury combined with physical injury and disability lead to a lifetime of reduced educational, occupational and social opportunities and the need for a range of costly support services. Table 4.5 shows the number of deaths from road traffic accidents in the CAWT region from 1990-1999.

Mortality in Childhood

Deaths in childhood also represent many potential years of life lost. Table 4.6 shows the number of deaths and standardised mortality ratio (SMR) in each Health Board for 1995-1999. The Standardised mortality ratio gives a comparative figure for each Health Board compared to the whole CAWT region. A value of 100 represents the mortality rate in the whole CAWT region. Values over 100 indicate that the rate of death is greater in a particular Health Board compared to the CAWT region, while figures less than 100 show favourable mortality compared to the CAWT region.

Table 4.6 Number of deaths and standardised mortality ratios (SMR) from all causes and accidents (injuries and poisonings) for children aged 0-14 years by Health Board for five year period (1995-1999)

HEALTH BOARD	ALL CAUSE		ACCIDENTS (ICD* E800-E948)	
	(1995 - 19990)		(1995 - 19990)	
	DEATHS	S.M.R.	DEATHS	S.M.R.
NEHB	193	90	19	74
NWHB	217	108	20	81
SHSSB	190	94	36	137
WHSSB	150	112	19	108
CAWT REGION	750	100	94	100

Table 4.6 shows that in the CAWT region there are, on average, 150 deaths per year among children aged 0-14. The number due to accidents (injuries and poisonings) is on average 19 per year. The SMR indicates the variation between Health Boards in the CAWT region.

Accidents are a major cause of death in children under 15. Existing health promotion programmes aim to reduce these deaths from accidents.

Infant Mortality

The infant mortality rate is expressed as the number of deaths in the first year of life per 1000 live births. It is widely used as an indicator of the overall health of a country or region. In third world countries, the infant mortality rate is high, while in developed countries it has greatly decreased with improved living conditions and medical care. Not all infant deaths are preventable, as severe congenital abnormalities and extremely premature births may be incompatible with life despite medical interventions. Fig 4.1 shows infant mortality rates for the four Health Boards in the CAWT region from 1990-1999. The rates fluctuate from year to year because overall numbers are small and one extra death can make a relatively large difference to the rate.

Summary

Chapter 4 compared mortality in the CAWT region with the rest of Ireland and examined some differences within the CAWT region. The four leading causes of death in the CAWT region are 1) Circulatory diseases, 2) Malignant neoplasms, 3) Respiratory diseases and 4) Injuries and poisonings. Circulatory and respiratory diseases are each 4% more common in the CAWT region compared with the non-CAWT region, while malignant neoplasms are 4% less common. Injuries and poisonings are 14% more common in the CAWT region, largely due to increased transport accidents (33% higher in the CAWT region). The importance of preventing premature deaths was discussed, along with the need to reduce all accidents because of the major impact in terms of potential years of life lost.

Fig 4.1 Infant mortality rate (deaths in the first year of life per 1000 live births) for four Health Boards 1990-1999.



CHAPTER 5

Morbidity and Health-related behaviours

Chapter 4 looked at mortality data, comparing the CAWT and non CAWT regions and then considering variations within the CAWT region. Mortality data are widely used as an assessment of the health of a population, but they do not give an accurate reflection of the burden on health services of those people who suffer from disease and ill health which is not fatal. The advantage in using mortality data is that they are generally complete, since sophisticated systems of registering deaths have evolved over the years. However, morbidity is much more difficult to measure. Ideally, this chapter should contain comprehensive incidence and prevalence data relating to a wide range of morbidity along with up-to-date information on different health behaviours. Unfortunately this is not possible as much of the information is not available. Some regional databases exist, although most tend to be local and incomplete, often based in general practitioners' surgeries and each measuring different elements. There is a great need to look at creating databases with robust data, all collected to a strict methodology to obtain a true picture of the burden of disease in a community. Despite this lack of information, Chapter 5 presents various conditions and topics, includes comparative information where available and identifies some of the gaps in our knowledge about the health status of the population of the CAWT region.

Cancer

Cancer registries are one of the most

complete and comprehensive types of database for both mortality and morbidity. Over recent years, cancer registries have provided valuable information about the incidence, prevalence, mortality and survival from different types of cancer. Survival rates and incidence to mortality ratios can be accurately measured and the information collected by the registry used to inform future practice and treatment.

Unfortunately these cancer registries are threatened by legislation on confidentiality and data protection. Although registration is not obligatory, a high level of co-operation exists between staff dealing with cancer diagnosis and treatment and the registries. However with data protection laws including the implementation of the EU Data Protection Directive 95/46/EC the balance is being shifted in favour of obtaining more unambiguous consent from individuals than has been the case up to now. In future a clinician may have to obtain informed expressed consent before submitting information to the registries. This is likely to reduce data coverage, with the subsequent loss of vital health information.

The Northern Ireland Cancer Registry and the National Cancer Registry Ireland have produced a joint report on cancer entitled All Ireland Cancer Statistics 1994-96. This report provides valuable information about cancer by Health Board and jurisdiction. Table 5.1 lists the average number of new (incident) cases per year for the 5 most common cancers in males and females in the CAWT region (1994-96). Cancer of the female breast is by far the most common type of cancer diagnosed in women in the

Table 5.1 Average number of new cases per year for five most common cancers diagnosed in males and females in the CAWT region (1994-1996)

Males		Females	
Cancer site	Average number of new cases per year	Cancer site	Average number of new cases per year
Prostate	326	Breast	486
Lung	298	Colon	179
Colon	180	Lung	137
Rectum	109	Ovary	83
Stomach	105	Rectum	62

CAWT region, while prostate and lung make up the two most common types diagnosed in males.

Important facts about cancer in Ireland include:

- Age-standardised cancer incidence rates are 30% higher in men than in women
- There is a 1-in-3 chance of developing cancer by age 74; 1-in-4 if skin cancer is excluded
- Females have a 1-in-8 chance, males a 1-in-6 chance of dying of cancer by age 74
- Urban populations have higher rates of cancer: 10% higher for females, 15% for males.
- Lung cancer accounted for 25% of cancer deaths in men, 20% of all cancer deaths. This represents 1511 deaths per year throughout Ireland.
- Breast cancer accounted for 969 deaths per year in women throughout Ireland (20% of all cancer deaths in women).
- Overall incidence rates were similar

between Northern Ireland and the Republic of Ireland, but, where differences existed, incidence rates were more often higher in Northern Ireland.

These facts show that cancer is an important cause of premature death. The higher rate of cancer in urban populations may partly account for the lower rate of death from cancer in the mainly rural CAWT region compared to the non CAWT region, as outlined in table 4.3.

Diabetes

The incidence of diabetes in developed countries is increasing. In Northern Ireland and the Republic of Ireland it is currently estimated at about 3%. Which would give an estimated 33,000 diabetics living in the CAWT region. A further 3% are estimated as undiagnosed.

There are two types of diabetes: Type 1 usually occurs in young people and requires regular insulin injections. The number of young people with this type of diabetes is increasing. Type 2 accounts for 90% of diabetes and is linked with obesity and increasing age. With increased levels of obesity and an ageing population, the incidence of this type of diabetes is also set to increase. This is particularly relevant to the CAWT region as the percentage of older people in the population is already higher than in the rest of Ireland and numbers of older people are predicted to rise by 17% over the next 10 years.

Diabetes is a serious and progressive condition which causes a range of devastating

complications. Cardiovascular disease, already responsible for over 45% of deaths in the CAWT region, is 2 to 4 times more common in diabetics. Diabetes is also the commonest cause of blindness among adults of working age and can lead to end stage renal failure. In pregnancy, diabetes is associated with increased perinatal mortality and an increase in congenital malformations.

Complications of diabetes can be prevented or delayed by careful management of the condition through effective clinical care. Patients with complications of diabetes are estimated to cost health services six times more and social services four times more compared to diabetic patients without complications. The human and financial cost of diabetes makes prevention and treatment of this disease a high priority.

Health promotion messages are vitally important in fighting the growing problem of obesity which is contributing to the increased incidence of Type 2 diabetes. Because of the large numbers of diabetics, the costs of treatment and the widespread effect of complications, Health Boards should further develop treatment and prevention services for diabetes.

Dental health

Directors of Oral Health in NWHB and WHSSB are working on a CAWT Cross-Border Project to develop an information system which will collect comparative data on dental epidemiology, dental treatments, oral health promotion etc. This will provide much

needed information on the differences in dental health between Northern Ireland and the Republic of Ireland.

Available data shows that the dental health of children in the Republic of Ireland is considerably better than in Northern Ireland. The UK Child Dental Health Survey in Northern Ireland and the Childrens Dental Health Survey in the Eastern Health Board region in the Republic of Ireland were both undertaken in 1993. Results from these two surveys showed that caries prevalence in the primary dentition in 5 year olds was 63% in Northern Ireland but only 30% in the Republic of Ireland. In twelve year olds, the corresponding figures for the permanent teeth were 76% in Northern Ireland compared with 58% in the Republic of Ireland.

In the Republic of Ireland, the Health (Fluoridation of Water Supplies) Act, 1960, enabled the fluoridation of public water supplies. Fluoridation of public water supplies began in 1963 and remains current practice. In the NEHB, 55% of the population receive fluoridated water supplies. In the NWHB, coverage is 73% of the population.

In 1997, a decision was made not to introduce fluoridation of the public water supply in Northern Ireland. This removed the cornerstone of the Oral Health Strategy (1995). However, despite this setback, oral health in children in Northern Ireland is improving although the degree of improvement varies between areas.

Table 5.2 shows the differences which exist in

numbers of decayed, missing and filled teeth (dmft/DMFT) in 5 and 12 year olds between the four Health Boards within the CAWT region.

Table 5.2 Decayed, missing and filled teeth in 5 and 12 year olds by Health Board.

Board	DMFT in 5 year olds (deciduous / milk teeth)		DMFT in 12 year olds (permanent teeth)	
NEHB	1.2	(F)	1.2	(F)
	1.8	(NF)	1.6	(NF)
NwHB	1.4	(F)	1.6	(F)
	2.6	(NF)	1.9	(NF)
SHSSB	3.00	(NF)	2.45	(NF)
WHSSB	2.8	(NF)	2.5	(NF)

(F) = Fluoridated water supply
(NF) = Non fluoridated water supply

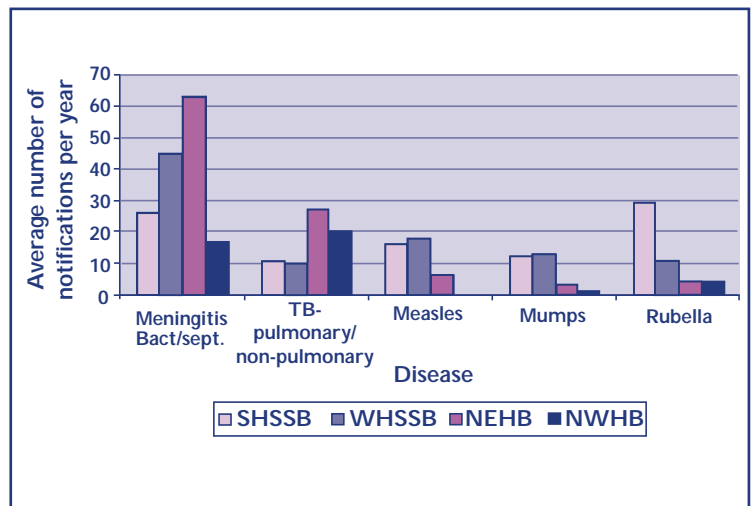
Infectious diseases

The incidence of death and ill health from infectious diseases has decreased considerably over the last century due to a combination of factors including improved living conditions and sanitation, the discovery of antibiotics and the introduction of immunisation. However, surveillance of infectious diseases remains vital

in ensuring the health and well-being of a community. In both Northern Ireland and the Republic of Ireland, there are 36 diseases which are statutorily notifiable. This means that any medical practitioner who suspects a case of any of the listed diseases is required by law to inform the proper officer (usually the Consultant in Communicable Disease Control in Northern Ireland or the Medical Officer of Health (Director of Public Health) in the relevant Health Board in the Republic of Ireland). This provides an early warning system in cases of outbreaks of infectious disease and allows appropriate preventive measures to be taken.

Fig 5.1 shows some of the more common and significant infectious diseases and gives the average number of notifications per year over the three year period 1997-1999.

Fig 5.1 Average number of notifications per year for selected infectious diseases by Health Board (1997 – 1999)



Immunisation

Immunisation against infectious disease is the main method of preventing the infectious diseases of the past. Table 5.3 sets out the current immunisation schedule for children in the CAWT region. Table 5.4 indicates the uptake levels of certain vaccines by age 2 years.

Table 5.3 Current immunisation schedule for children in the CAWT region.

Vaccine	AGE	Notes
Diphtheria / Tetanus / Pertussis and Hib and Men C Polio	3 doses 2,3,4,mths - NI 2,4,6,mths - Rol	Primary Course
Measles mumps rubella (MMR)	12 - 15 mths	
Booster Diph./Tet /Acellular pertussis and Polio MMR 2 nd Dose	3 - 5 yrs	
MMR	11 - 12 yrs catch up in Rol if no second dose	
BCG	10 -14 yrs or infancy - NI Neonatal in NWHB & NEHB	Protects against TB
Booster Tet Diphtheria and Polio MMR	13 - 18 yrs - NI only Second dose MMR offered at 14 - 15 yrs in Rol	

Table 5.4 Uptake rates for primary course and MMR vaccines at age 2 yrs by Health Board (1999)

Vaccine	NEHB	NWHB	SHSSB	WHSSB
Primary course	95%	88%	98.1%	97%
MMR 1 st dose	83%	78%	93.7%	92%

Meningitis C vaccine

One of the newest vaccines to be introduced to the recommended schedule protects against Meningitis C infection. In the past, this particular type of meningitis accounted for 40% of all meningococcal infections. Meningitis can affect people of all ages, but babies and adolescents are particularly at risk and approximately 1 in 10 cases of meningitis are fatal. In Northern Ireland in November 1999, a programme was commenced to give meningitis C vaccine to all children, young people under 18 years of age and all first year university students. A two phase programme was introduced in the Republic of Ireland in October 2000. The first phase was directed at children under five years of age and adolescents aged 15-18 years. The second phase included all those other young people under 22 years of age. Meningitis C vaccine is now offered to all children as part of their primary course of vaccines (at 2,3 and 4 months in Northern Ireland and 2,4 and 6 months in the Republic of Ireland). Since the start of the immunisation programmes, the incidence of meningitis C in children and young people who have received the vaccine has fallen dramatically.

Smoking

Smoking is the single most important preventable risk to health. It increases the risk of cardiovascular disease (including stroke), many types of cancer and respiratory disease. These are the three main causes of death in Ireland and in the CAWT region (see table 4.2).

Your Life – Your Health report was published by SHSSB using data from the first Northern Ireland Health and Social Well-being survey. It provided useful data about a range of health related behaviours in Northern Ireland and SHSSB. The following facts about smoking were contained in the report:

- In Northern Ireland, 32% of people smoke
- In SHSSB the rate is slightly lower at 30%.
- In recent years, smoking has increased considerably among young women
- Smoking is more prevalent in lower social groups.
- Passive smoking is also a major problem, with lower social groups having a greater risk of exposure.

The Survey of Lifestyles, Attitudes and Nutrition (SLAN) published in 1999 included a socio-demographic breakdown of smoking behaviour in the Republic of Ireland. The following facts about smoking were contained in the report:

- In the Republic of Ireland, 31% of respondents were smokers
- In the NEHB, the rate was slightly lower at 30%
- In the NWHB, the rate was slightly lower at 29%

- Smoking was more prevalent in those with medical cards (lower income).

Although these figures suggest that the percentage of smokers in the CAWT region is slightly less than the national average, smoking is still a major health issue, particularly among low income groups.

Alcohol and drugs

These health-related behaviours can have devastating effects on individuals and families. Continued efforts should be made to decrease alcohol intake and discourage people from using drugs. In the CAWT region, the rate of death from alcohol abuse (including alcoholic psychosis) in females is significantly lower than the rate for the non-CAWT region. Death rates from drug dependence are significantly lower in the CAWT region for males and for total persons than the rates for the non-CAWT region (see table 4.2). However, this does not mean that misuse of alcohol and drugs does not occur in the CAWT region.

Suicide and Mental Health

Suicidal behaviour is a source of substantial morbidity, an increasing cause of mortality in Ireland's youth and places a huge clinical burden on medical services in both Northern Ireland and the Republic of Ireland. Suicide is among the top 10 causes of death in Ireland and is the leading cause of death in 19-24 year olds, having increased 4 fold in the past 20 years. Lifetime rates for attempted suicide are estimated to be 3% for adults.

The Health Research Board (HRB) in the Republic of Ireland and the HPSS Research and Development Office in Northern Ireland have jointly funded a prospective study of suicidal behaviour in psychiatric disorders in urban and rural populations, in Northern Ireland and the Republic of Ireland. This research is being led by Professor Roy McClelland, Queen's University, Belfast and Dr. Kevin Malone, Mater Hospital, Dublin. The findings should have important consequences for health service planning of urban and rural suicide prevention strategies.

Mental ill-health covers a range of mild to severe conditions. Although data on hospital admissions are available in both Northern Ireland and the Republic of Ireland, this is not a particularly good indicator of need. In recent years there has been an expansion of community based mental health services accompanied by a reduction in psychiatric hospital beds. Measures of hospital admission will therefore show a declining picture based on declining numbers of beds. Availability of inpatient beds for psychiatric patients throughout the CAWT region also varies, making comparison between Health Boards impossible.

Summary

Chapter 5 considers a range of illnesses and health-related behaviours. This is not an exhaustive list and many more could be included. However, the underlying difficulty when studying morbidity and lifestyles is the lack of robust, comparable data within each jurisdiction and across jurisdictions. As most

of these conditions and health related behaviours are dealt with at a primary care level, data needs to be collected in primary care settings. There is therefore a great need to look at creating databases with robust data, all collected to a strict methodology to obtain a true picture of the burden of disease in a community. This is particularly relevant to the increasing burden of diabetes in the community and to a wide range of lifestyle issues.

CHAPTER 6

Summary and recommendations

The Population Health Profile of the CAWT region gives information at an all-CAWT level and identifies those areas in which the health and well-being of the resident population compare favourably and unfavourably with the rest of Ireland. One of the main aims in writing this report has been to consider the CAWT region as a discrete entity and to identify issues which are common throughout the whole area.

CAWT has been in existence for almost 10 years and much good work has taken place during that time to improve the health and well-being of the total population. In addition, each Health Board has been actively involved in meeting the ongoing health and social care needs of their local population and in planning for the future. This summary and recommendations acknowledge that work, however, there is always scope to improve the health and well-being of any population.

The Population Health Profile of the CAWT region should inform CAWT about the current state of health in the region. It will also act as a baseline against which to assess and evaluate programmes designed to improve health and may give pointers to future areas for programme development. As with any epidemiological report, this is 'information for action'.

Recommendations

1. There are almost 10,000 deaths in the CAWT region each year. Around 90% of

these are from one of four main causes. Efforts must be targeted to reduce deaths from these, namely, cardio- and cerebrovascular disease (stroke), cancer, respiratory disease and injuries and poisonings.

2. New initiatives must be taken to tackle major causes of morbidity, in particular, diabetes. This condition leads to complications such as increased incidence of cardiovascular disease, blindness, renal failure and increased congenital abnormalities and perinatal death in children of diabetic mothers.
3. The number of older people (65+ years) in the CAWT region is predicted to increase by 17% by 2011. Plans must be made to cope with the increased health and social care needs of this age group.
4. The number of births to teenage mothers in the CAWT region increased by 30% between 1995 and 1999. There are now over 1000 births per year to teenage mothers in the CAWT region. Efforts must be made to work in partnership with other agencies, such as the education sector, to reverse this trend and reduce the disadvantage suffered by these mothers and children.
5. In the light of considerable problems in comparability of data, it is essential to revise data collection methods across both jurisdictions in order to provide comparable and robust data. This information is vital when planning and evaluating programmes to improve health

and well-being.

- 6 The report also highlighted the lack of robust comparable information on lifestyles across the CAWT region. CAWT should conduct a regional lifestyle survey as a basis for future action.
7. The CAWT region has increased levels of deprivation compared to the rest of Ireland. In order to tackle the wider determinants of health there must be a mechanism for partnership working with other statutory, voluntary and community organisations.
8. A public health network should be established within the CAWT region to facilitate the sharing of information including models of best practice and to promote joint working between public health practitioners on areas of common interest and need.

It is now up to CAWT and the individual Health Boards with their local knowledge to decide how best to address these issues and take them forward. The working group hope that the Population Health Profile of the CAWT region will act as a stimulus for discussion and will contribute to the process of improving the health and well-being of the population of the CAWT region.

Sources of Information

The main sources of information for this report were:

- Northern Ireland Statistics and Research Agency (NISRA)
- Central Statistics Office (CSO) Republic of Ireland
- Department of Health and Children, Public Health Information System (PHIS) v4, Republic of Ireland
- Inequalities in Mortality: A report on All-Ireland Mortality data (1989-1998) published by the Institute of Public Health in Ireland
- Mortality in the CAWT region: Comparison with the rest of the Island (1989 - 1998). A report on all Ireland Mortality Data, published by the Institute of Public Record in Ireland (October 2001)
- All-Ireland Cancer Statistics: A report on incidence and mortality for the island of Ireland. 1994-96: Northern Ireland Cancer Registry and National Cancer Registry Ireland.
- A Health Profile of the North West Region: NWHB December 1999
Health Status in the North Eastern Health Board 2000
- Director of Public Health – annual reports: Southern Health and Social Services Board
- ‘Your Life, Your Health’: Southern Health and Social Services Board
- Measures of deprivation in Northern Ireland: Social Disadvantage Research Group April 2001
- Comparative spatial deprivation in Ireland: a Cross-border analysis; Sally Cook, Michael A. Poole, Dennis G. Pringle & Adrian J. Moore. Oak Tree Press, Dublin
- NEHB: Oral Health of Children and Adolescence 1995
- NHWB: Water Fluridisation: A Safe & Efficient Public Service, June 2000
- British Association for the Study of Community Dentistry. 1995/6 Survey of 5 year olds; 1996/7 Survey of 12 year olds.

Abbreviations

CAWT - Co-operation and Working Together

DCA - District Council Area

DED - District Electoral Division

DSRR - Directly Standardised Rate Ratio

HPSS - Health and Personal Social Services

HRB - Health Research Board

LGD - Local Government District

MYE - Mid Year Estimate

NEHB - North Eastern Health Board

NI - Northern Ireland

NWHB - North Western Health Board

PYOLL - Potential Years of Life Lost

RoI - Republic of Ireland

SAHRU - Small Area Health Statistics Unit

SHSSB - Southern Health and Social Services Board

SLAN - Survey of Lifestyles, Attitudes and Nutrition

SMR - Standardised Mortality Ratio

TPFR - Total Period Fertility Rate

WHSSB - Western Health and Social Services Board

Appendix 1

Working group members

Dr. Anne Marie Telford (Chair)

Dr. Patricia Clarke (Centre for Cross Border Studies)

Dr. Fenton Howell (NEHB)

Ms Jacky Ingram (SHSSB)

Dr. Neil Irvine (SHSSB)

Dr. Caroline Mason (WHSSB)

Ms Joan O'Neill (NWHB)

Dr. Elizabeth Reaney (SHSSB)

Dr. Alan Smith (NEHB)

Information department staff:

Ms Rosa McCandless (WHSSB)

Ms Joanne Murphy (SHSSB)

Public Relations Officer SHSSB

Mrs Ruth Rogers

Appendix 2: Core Tables

Table 1

Estimated Population in the CAWT Region 1999

AGE	SHSSB		WHSSB		NEHB		NWHB		CAWT TOTAL	
	PERSONS	% in each age group	PERSONS	% in each age group	PERSONS	% in each age group	PERSONS	% in each age group	PERSONS	% in each age group
0-4	23,600	7.6%	21,900	7.8%	21,900	7.0%	15,000	6.9%	82,400	7.3%
5-9	25,200	8.1%	23,400	8.3%	24,200	7.7%	16,500	7.6%	89,300	8.0%
10-14	25,900	8.4%	25,300	9.0%	28,000	8.9%	18,500	8.5%	97,700	8.7%
15-19	24,400	7.9%	24,500	8.7%	30,600	9.7%	20,100	9.3%	99,600	8.9%
20-24	20,800	6.7%	21,300	7.6%	23,100	7.3%	15,700	7.2%	80,900	7.2%
25-29	24,600	8.0%	22,300	7.9%	21,600	6.9%	14,300	6.6%	82,800	7.4%
30-34	24,000	7.8%	20,900	7.4%	21,300	6.8%	13,400	6.2%	79,600	7.1%
35-39	22,800	7.4%	19,800	7.1%	22,600	7.2%	14,300	6.6%	79,500	7.1%
40-44	19,600	6.3%	17,600	6.3%	21,700	6.9%	14,200	6.5%	73,100	6.5%
45-49	17,700	5.7%	16,200	5.8%	20,300	6.4%	13,800	6.4%	68,000	6.1%
50-54	17,300	5.6%	15,000	5.3%	18,800	6.0%	12,700	5.8%	63,800	5.7%
55-59	14,700	4.8%	12,200	4.4%	13,900	4.4%	10,000	4.6%	50,800	4.5%
60-64	12,900	4.2%	10,500	3.7%	11,900	3.8%	8,700	4.0%	44,000	3.9%
65-69	11,100	3.6%	9,000	3.2%	10,300	3.3%	8,200	3.8%	38,600	3.4%
70-74	9,500	3.1%	8,000	2.9%	9,300	2.9%	7,700	3.5%	34,500	3.1%
75-79	7,600	2.5%	6,400	2.3%	7,600	2.4%	6,600	3.0%	28,200	2.5%
80+	7,900	2.6%	6,700	2.4%	7,600	2.4%	7,500	3.5%	29,700	2.6%
0-14	74,700	24.1%	70,700	25.1%	74,200	23.6%	50,000	23.0%	269,600	24.0%
15-64	198,700	64.2%	180,500	64.2%	205,800	65.4%	137,200	63.2%	722,200	64.3%
65+	36,000	11.6%	30,200	10.7%	34,900	11.1%	30,000	13.8%	131,100	11.7%
TOTAL	309,400	100.0%	281,400	100.0%	314,900	100.0%	217,200	100.0%	1,122,900	100.0%

SOURCE Northern Ireland Statistics and Research Agency (NI)

SOURCE Adapted from Central Statistics Office Population and Labour Force Projections: 2001 - 2031 (Rol)

NOTE: Population estimates are only reliable when rounded to the nearest hundred.

Totals of rows/columns may not add up due to rounding.

Table 2

1991 population with population projections for 2011

AGE	SHSSB		WHSSB		NEHB		NWHB		CAWT TOTAL	
	PERSONS		PERSONS		PERSONS		PERSONS		PERSONS	
	1991	2011	1991	2011	1991	2011	1991	2011	1991	2011
0-4	24,905	22,400	23,704	22,100	24,824	22,700	16,558	14,200	69,991	81,400
5-9	25,366	22,900	25,020	22,100	29,740	24,900	19,679	15,500	99,805	85,400
10-14	25,453	23,200	24,615	22,100	31,792	25,500	21,166	15,700	103,026	86,500
15-19	24,985	22,600	24,110	21,900	28,208	23,600	19,118	15,100	96,421	83,200
20-24	23,302	22,400	21,376	22,400	19,720	21,000	12,951	13,900	77,349	79,700
25-29	22,037	23,100	19,672	23,400	19,396	24,700	12,043	15,500	73,148	86,700
30-34	20,379	23,200	18,134	22,900	20,798	27,200	13,227	16,600	72,538	89,900
35-39	17,843	23,900	16,439	22,500	20,600	25,900	13,201	15,200	68,083	87,500
40-44	17,729	24,600	15,604	21,300	19,601	23,900	13,096	14,500	66,032	84,300
45-49	15,810	23,100	13,402	19,900	15,967	23,400	10,782	14,700	55,961	81,100
50-54	13,576	20,600	11,391	18,300	12,660	22,800	9,130	14,600	46,757	76,300
55-59	12,560	17,500	10,155	16,000	11,568	20,900	8,365	14,000	42,648	68,400
60-64	11,715	16,600	9,803	14,800	11,160	19,400	8,565	12,700	41,243	63,500
65-69	10,929	14,200	8,993	12,000	11,401	14,700	8,912	10,100	40,235	51,000
70-74	8,749	11,000	7,339	8,900	9,536	10,400	8,186	7,500	33,810	37,800
75+	13,318	19,000	11,164	15,600	13,192	16,400	13,213	14,100	50,887	65,100
0-14	75,724	68,500	73,339	66,300	86,356	73,100	57,403	45,400	292,822	253,300
15-64	179,936	217,600	160,066	203,400	179,698	232,900	120,460	146,800	640,180	800,700
65+	32,996	44,200	27,496	36,500	34,129	41,500	30,311	31,700	124,932	153,900
TOTAL	288,656	330,300	260,921	306,200	300,183	347,500	208,174	223,900	1,057,934	1,207,900

SOURCE: Northern Ireland Statistics and Research Agency (NI)

SOURCE: Adapted from Central Statistics Office Population and Labour Force Projections: 2001 - 2031 (RoI)

NOTES: Projections shown are based on the 1996 revised mid year estimates.
Please note that, due to roundings, the 'Totals' may NOT equal the sum of rows or columns.

Table 3

Live births to maternal residents 1990-1999

YEAR	SHSSB		WHSSB		NEHB		NWHB		CAWT TOTAL	
	LIVE BIRTHS	BIRTH RATE/ 1000	LIVE BIRTHS	BIRTH RATE/ 1000	LIVE BIRTHS	BIRTH RATE/ 1000	LIVE BIRTHS	BIRTH RATE/ 1000	LIVE BIRTHS	BIRTH RATE/ 1000
		POPULATION		POPULATION		POPULATION		POPULATION		POPULATION
1990	5,154	18.1	4,797	18.5	4,466	15.0	3,021	14.5	17,438	16.5
1991	5,093	17.6	4,647	17.7	4,378	14.6	2,981	14.3	17,099	16.2
1992	4,878	16.7	4,559	17.1	4,242	14.0	2,849	13.6	16,528	15.4
1993	4,744	16.1	4,575	17.1	4,038	13.3	2,791	13.3	16,148	14.9
1994	4,773	16.1	4,288	15.9	3,877	12.8	2,718	12.9	15,656	14.4
1995	4,662	15.6	4,365	16.2	4,019	13.2	2,686	12.8	15,732	14.5
1996	4,704	15.6	4,518	16.5	4,148	13.6	2,752	13.0	16,122	14.7
1997	4,733	15.6	4,356	15.8	4,500	14.6	2,773	13.0	16,362	14.8
1998	4,656	15.2	4,331	15.5	4,411	14.1	2,772	12.9	16,170	14.5
1999	4,568	14.8	4,101	14.7	4,744	15.0	2,872	13.2	16,285	14.5

SOURCE: Northern Ireland Statistics and Research Agency (NISRA)

SOURCE: Public Health Information System v4 (PHIS)

Table 4

Live registered births to teenage mothers (15 - 19) 1994 - 1999

YEAR	SHSSB		WHSSB		NEHB		NWHB		CAWT TOTAL	
	BIRTHS TO TEENAGE MOTHERS	% OF LIVE BIRTHS	BIRTHS TO TEENAGE MOTHERS	% OF LIVE BIRTHS	BIRTHS TO TEENAGE MOTHERS	% OF LIVE BIRTHS	BIRTHS TO TEENAGE MOTHERS	% OF LIVE BIRTHS	BIRTHS TO TEENAGE MOTHERS	% OF LIVE BIRTHS
1994	236	4.9%	296	6.8%	176	4.5%	136	5.0%	844	5.4%
1995	203	4.4%	306	6.9%	197	4.9%	134	5.0%	840	5.3%
1996	244	5.2%	312	6.9%	227	5.5%	141	5.1%	924	5.7%
1997	234	4.9%	301	6.9%	235	5.2%	143	5.2%	913	5.6%
1998	293	6.3%	325	7.4%	275	6.2%	145	5.2%	1038	6.4%
1999	270	5.9%	347	8.4%	293	6.2%	179	6.2%	1089	6.7%

SOURCE Child Health System (NI)

SOURCE Public Health Information System v4 (Rol)

Table 5

Total Period Fertility Rates for Women aged 15-49 1990 - 1999

	SHSSB	WHSSB	NEHB	NWHB	NI	Roi
YEAR	TPFR	TPFR	TPFR	TPFR	TPFR	TPFR
1990	2.50	2.56	2.21	2.32	2.24	2.10
1991	2.45	2.42	2.15	2.28	2.16	2.07
1992	2.31	2.34	2.07	2.17	2.09	1.97
1993	2.21	2.33	1.96	2.11	2.02	1.89
1994	2.19	2.14	1.88	2.04	1.95	1.84
1995	2.12	2.18	1.94	2.00	1.91	1.85
1996	2.10	2.21	1.98	2.03	1.95	1.89
1997	2.10	2.12	2.11	2.01	1.93	1.92
1998	2.05	2.09	2.02	1.97	1.90	1.92
1999	2.01	1.96	2.13	2.00	1.85	1.88

SOURCE: Northern Ireland Statistics and Research Agency (NI)

SOURCE: Public Health Information System v4 (Roi)

Table 6

Infant Mortality numbers and rates 1990 - 1999

YEAR	SHSSB		WHSSB		NEHB		NWHB		CAWT TOTAL	
	INFANT MORTALITY NUMBER	RATE	INFANT MORTALITY NUMBER	RATE	INFANT MORTALITY NUMBER	RATE	INFANT MORTALITY NUMBER	RATE	INFANT MORTALITY NUMBER	RATE
1990	33	6.4	40	8.2	33	7.4	40	13.2	146	8.4
1991	38	7.5	41	8.7	36	8.2	33	11.1	148	8.6
1992	26	5.3	36	7.8	37	8.7	17	6.0	116	7.0
1993	37	7.8	48	10.4	21	5.2	21	7.5	127	7.8
1994	29	6.0	19	4.4	18	4.6	12	4.4	78	5.0
1995	22	4.7	28	6.3	28	7.0	13	4.8	91	5.8
1996	31	6.6	28	6.1	27	6.5	18	6.5	104	6.5
1997	34	7.2	26	5.9	26	5.8	24	8.7	110	6.7
1998	24	5.2	36	8.1	21	4.8	22	7.9	103	6.4
1999	25	5.5	26	6.2	20	4.2	17	5.9	88	5.4

INFANT MORTALITY RATE Deaths in the first year per 1000 live births.

Note: Denominator is live births to maternal residents only

SOURCE: Northern Ireland Statistics and Research Agency (NI)

SOURCE: Public Health Information System v4 (RoI)

Table 7

**Standardised mortality ratios for children aged 0-14 years
within Health Boards areas 1995 - 1999**

HEALTH BOARD	ALL CAUSE (1995-1999)		ACCIDENTS (ICD* E800-E949) (1995-1999)	
	DEATHS	S.M.R.	DEATHS	S.M.R.
SHSSB	193	90	19	74
WHSSB	217	108	20	81
NEHB	190	94	36	137
NWHB	150	112	19	108
CAWT REGION	750	100	94	100

SOURCE: Northern Ireland Statistics and Research Agency (NI)

SOURCE: Public Health Information System v4 (RoI)

FOOTNOTE: *ICD = International Classification of Diseases (9th Revision).

Table 8

Directly Standardised Death Rates for selected causes of death age 15-74

Cause of Death	SHSSB				
	1995	1996	1997	1998	1999
All circulatory system diseases	242.9	206.4	209.5	190.2	177.8
All malignant neoplasms	150.2	162.9	150.2	154.8	165.3
All respiratory disease	41.4	48.7	41.9	36.4	50.5
All injuries and poisonings	19.1	23.9	36.9	18.8	33.5

Cause of Death	WHSSB				
	1995	1996	1997	1998	1999
All circulatory system diseases	217.7	208.5	188.4	192.8	179.2
All malignant neoplasms	178.5	122.2	164.1	177.1	171.1
All respiratory disease	54.4	58.5	47.1	39.7	50.2
All injuries and poisonings	26.3	17.9	23.8	22.3	31.3

Cause of Death	NEHB				
	1995	1996	1997	1998	1999
All circulatory system diseases	222.7	199.3	210.6	202.8	177.7
All malignant neoplasms	179.6	180.0	182.3	174.8	181.8
All respiratory disease	47.6	50.6	51.4	55.5	41.6
All injuries and poisonings	31.7	35.5	39.2	31.4	30.4

Cause of Death	NWHB				
	1995	1996	1997	1998	1999
All circulatory system diseases	241.6	208.6	203.1	198.1	182.6
All malignant neoplasms	161.2	175.4	192.4	181.2	174.1
All respiratory disease	54.3	45.2	50.4	44.0	37.0
All injuries and poisonings	28.0	27.1	30.0	36.4	40.0

SOURCE: Northern Ireland Statistics and Research Agency (NI)

SOURCE: Public Health Information System v4 (RoI)

Table 9

Trends in population in the last century

YEAR	SHSSB & WHSSB	NEHB	NWHB ▲	CAWT TOTAL
1901	485,793	305,469	340,606	1,131,868
1911	465,417	291,384	323,292	1,080,093
1926	440,539	273,291	290,867	1,004,697
1936	433,706	263,703*	269,888*	967,297
1946	n/a	259,996	251,263	511,259
1951	455,920	256,830	239,116	951,866
1956	455,920	249,760	220,855	879,415
1961	408,800**	236,182	203,906	908,452
1966	468,364	236,596	193,143	915,487
1971	485,748	245,540	186,322	941,253
1981	506,391	288,980	206,576	1,020,556
1986	525,000	302,035	210,664	1,051,499
1991	538,800	300,183	206,214	1,060,697
1996	578,300	306,155	207,995	1,092,450

Footnote: In Northern Ireland, up until 1971, the census was taken at county level and thereafter at District Council Level. Therefore the figures for years 1901 to 1966 are a total population count of the 4 relevant counties - Armagh, Fermanagh, Londonderry and Tyrone and from 1981 onwards a total population count for the 10 District Councils.

▲ The Figures above are the sum of the population for Counties Donegal, Sligo and Leitrim and do not include West Cavan which was transferred from the NEHB to NWHB on April 1993

* The figures for NEHB and NWHB are for 1937

** This figure is the 1956 mid year estimate

Source: Northern Ireland Statistics and Research Agency (NI)
Source: Central Statistics Office (RoI)

Table 10

Notifiable Diseases by Board Region 1997 - 1999

SHSSB					
Year	Bacterial Meningitis Meningococcal Septicaemia	TB	Measles	Mumps	Rubella
1997	28	11	17	14	36
1998	14	12	19	10	40
1999	36	9	11	12	11

WHSSB					
Year	Bacterial Meningitis Meningococcal Septicaemia	TB	Measles	Mumps	Rubella
1997	32	17	18	4	10
1998	41	7	24	9	14
1999	62	5	11	26	10

NEHB					
Year	Bacterial Meningitis Meningococcal Septicaemia	TB	Measles	Mumps	Rubella
1997	56	27	9	8	6
1998	78	29	4	1	2
1999	54	25	4	0	4

NWHB					
Year	Bacterial Meningitis Meningococcal Septicaemia	TB	Measles	Mumps	Rubella
1997	16	21	1	2	4
1998	17	19	0	2	4
1999	18	19	0	0	4

CAWT TOTAL					
Year	Bacterial Meningitis Meningococcal Septicaemia	TB	Measles	Mumps	Rubella
1997	132	76	45	28	56
1998	150	67	47	22	60
1999	170	58	26	38	29

Source: Directorates of Public Health (NI)
Source: Department of Public Health (RoI)

Appendix 3:

Extract from 'Mortality in the CAWT region: Comparison with the rest of the Island (1989 – 1998). A report on All-Ireland Mortality Data' produced by the Institute of Public Health in Ireland (October 2001).

Table 1 Average annual number of deaths (1989-1998), annual directly standardised mortality rates (per 100,000) and rate ratios (as percentages)

	DISEASE OR EXTERNAL CAUSE	ALL IRELAND (ALL)		CAWT REGION		NON CAWT REGION		RATE RATIO (CAWT:NON CAWT)	
		Number	Rate	Number	Rate	Number	Rate	%	
00	ALL CAUSES OF DEATH								
	Females	22,622	680.3	4,555	681.1	1,8067	680.1		100.1
	Males	24,219	1,046.4	5,197	1049.0	1,9022	1,045.7		100.9
	Persons	46,841	841.4	9752	847.8	3,7090	839.3		
01	INFECTIOUS AND PARASITIC DISEASES								
	Females	105	3.4	21	3.5	84	3.4		101.4
	Males	122	5.2	25	4.9	97	5.3		92.9
	Persons	227	4.2	46	4.1	181	4.3		96.4
02	Tuberculosis								
	Females	29	0.9	5	0.4	23	0.3		119.3
	Males	41	1.8	7	0.4	34	0.4		95.2
	Persons	70	1.3	12	0.4	57	0.4		106.7
03	Meningococcal infection								
	Females	9	0.4	2	0.4	7	0.3		119.3
	Males	10	0.4	2	0.4	8	0.4		95.2
	Persons	19	0.4	4	0.4	15	0.4		106.7
04	AIDS (HIV-disease)								
	Females	5	0.2	0	0.0	5	0.2	↓	8.7
	Males	21	0.8	1	0.2	20	1.0	↓	20.8
	Persons	26	0.5	1	0.1	25	1.6	↓	19.0
05	Viral hepatitis								
	Females	4	0.1	0	0.1	3	0.1		33.1
	Males	5	0.2	1	0.2	5	0.3		81.8
	Persons	9	0.2	1	0.1	8	0.2		59.9
06	NEOPLASMS								
	Females	5,199	179.3	1,014	175.0	4,185	180.4		97.0
	Males	5,903	260.4	1,208	250.3	4,695	263.1	↓	95.1
	Persons	11,102	212.7	2,222	207.1	8,880	214.2	↓	96.6
07	Malignant neoplasms								
	Females	5,129	177.1	995	171.9	4,135	178.4	↓	96.4
	Males	5,839	257.6	1,190	246.7	4,649	260.5	↓	94.7
	Persons	10,968	210.2	2,185	203.7	8,783	211.9	↓	96.1

	DISEASE OR EXTERNAL CAUSE	ALL IRELAND (ALL)		CAWT REGION		NON CAWT REGION		RATE RATIO (CAWT:NON CAWT)
		Number	Rate	Number	Rate	Number	Rate	%
08	Of the lip, oral cavity, pharynx							
	Females	52	1.7	18	1.6	35	1.8	90.4
	Males	130	5.9	32	5.4	98	6.1	87.7
	Persons	183	3.7	50	3.3	133	3.7	89.4
09	Of the oesophagus							
	Females	166	5.2	29	4.6	137	5.4	85.3
	Males	254	11.4	51	10.7	204	11.6	92.6
	Persons	420	8.1	79	7.5	341	8.2	90.8
10	Of the stomach							
	Females	253	8.0	53	8.3	200	7.9	104.0
	Males	37	16.5	86	17.9	287	16.2	110.0
	Persons	626	11.8	139	12.7	487	11.5	109.8
11	Of the colon							
	Females	501	16.2	101	16.5	400	16.1	102.6
	Males	530	23.4	108	22.5	422	23.7	94.8
	Persons	1,030	19.3	209	19.2	822	19.4	98.7
12	Of the rectum and anus							
	Females	136	4.4	27	4.5	109	4.4	100.4
	Males	205	9.1	39	8.2	166	9.4	87.7
	Persons	341	6.5	65	6.2	275	6.6	93.6
13	Of the liver and the intrahepatic bile ducts							
	Females	80	2.6	16	2.6	63	2.6	98.4
	Males	102	4.5	20	4.0	83	4.6	86.4
	Persons	182	3.4	36	3.2	146	3.5	91.7
14	Of the pancreas							
	Females	252	8.2	52	8.4	201	8.1	103.6
	Males	261	11.6	54	11.3	208	11.7	96.5
	Persons	514	9.7	105	9.8	408	9.7	100.2
15	Of the larynx and trachea/bronchus/lung							
	Females	790	27.4	131	22.9	658	28.5	↓ 80.3
	Males	1,606	71.6	312	65.7	1,294	73.2	↓ 89.8
	Persons	2,396	46.7	443	42.1	1,952	47.8	↓ 88.1
16	Of the skin							
	Females	49	1.7	10	1.7	39	1.7	100.8
	Males	38	1.7	7	1.4	31	1.7	81.2
	Persons	86	1.7	17	1.6	70	1.7	91.1
17	Of the (Female) breast	954	36.6	191	36.1	762	36.3	99.4
18	Of the cervix uteri	105	4.2	21	4.1	84	4.2	97.4
19	Of other parts of uterus	97	3.3	20	3.3	78	3.3	98.6

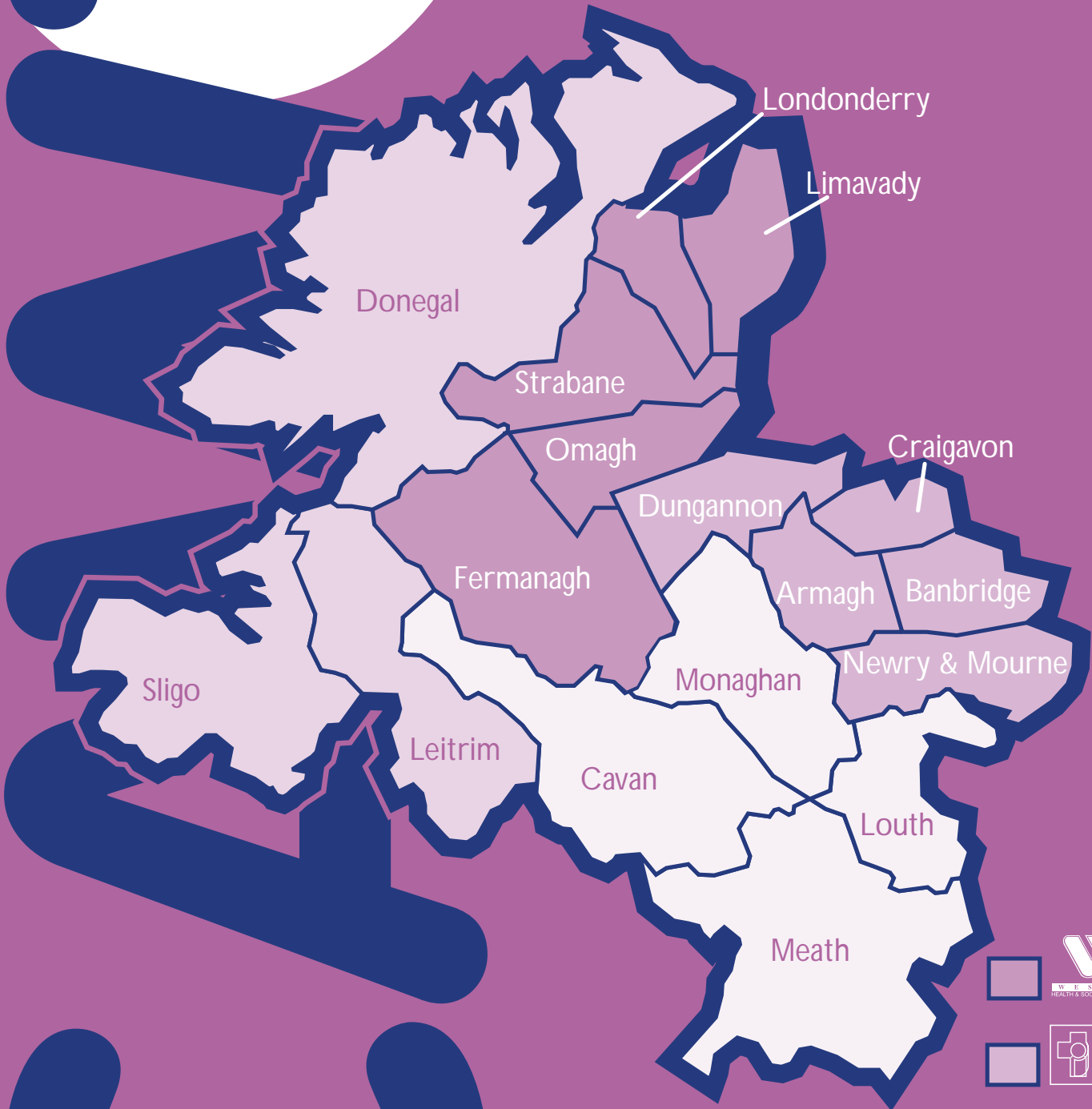
	DISEASE OR EXTERNAL CAUSE	ALL IRELAND (ALL)		CAWT REGION		NON CAWT REGION		RATE RATIO (CAWT:NON CAWT)	
		Number	Rate	Number	Rate	Number	Rate	%	
20	Of the ovary	302	11.5	52	10.2	249	11.9	↓	86.0
21	Of the prostate	689	29.2	153	29.9	536	29.1		102.7
22	Of the kidney								
	Females	72	2.5	15	2.6	57	2.4		106.6
	Males	117	5.3	24	5.2	93	5.3		98.2
	Persons	189	3.7	39	3.8	150	3.7		102.2
23	Of the bladder								
	Females	81	2.4	16	2.5	65	2.4		100.5
	Males	170	7.4	35	7.1	135	7.5		94.5
	Persons	252	4.5	51	4.2	201	4.5		98.3
24	Of the lymph/haematopoietic								
	Females	385	13.0	76	13.1	309	13.0		100.4
	Males	473	20.6	100	20.6	373	20.6		99.9
	Persons	859	16.4	176	16.4	682	16.4		100.6
25	DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS, IMMUNOLOGICAL DISORDERS								
	Females	77	2.3	14	2.1	63	2.3		89.8
	Males	68	2.9	17	3.3	51	2.8		116.5
	Persons	145	2.5	31	2.6	114	2.5		102.9
26	ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES								
	Females	327	10.0	59	9.1	268	10.2		88.7
	Males	313	31.5	55	11.1	258	14.2	↓	78.2
	Persons	640	11.5	114	9.9	527	11.9	↓	83.2
27	Diabetes mellitus								
	Females	239	7.1	42	6.2	197	7.4	↓	84.2
	Males	243	10.5	42	8.6	201	11.1	↓	77.8
	Persons	482	8.6	84	7.3	397	9.0	↓	81.4
28	MENTAL AND BEHAVIOURAL DISORDERS								
	Females	189	5.5	22	3.2	167	6.1	↓	52.7
	Males	170	7.3	25	5.2	145	7.8	↓	65.9
	Persons	359	6.5	46	4.2	313	7.1	↓	59.7
29	Alcohol abuse (including alcoholic psychosis)								
	Females	24	1.1	3	0.7	21	1.2	↓	55.6
	Males	50	2.3	10	2.2	40	2.3		93.8
	Persons	73	1.7	12	1.4	61	1.7		81.6
30	Drug dependance, toxicomania								
	Females	11	0.4	1	0.3	10	0.5		56.2
	Males	38	1.5	3	0.7	35	1.7	↓	43.1
	Persons	49	1.0	5	0.5	44	1.1	↓	45.6






	DISEASE OR EXTERNAL CAUSE	ALL IRELAND (ALL)		CAWT REGION		NON CAWT REGION		RATE RATIO (CAWT:NON CAWT)	
		Number	Rate	Number	Rate	Number	Rate	%	
31	DISEASES OF THE NERVOUS SYSTEM AND THE SENSE ORGANS								
	Females	414	12.9	66	10.7	348	13.5	↓	78.8
	Males	392	16.6	68	13.6	324	17.4	↓	78.0
	Persons	806	14.5	134	12.0	672	15.2	↓	78.0
32	MENINGITIS (OTHER THAN MENINGOCOCCAL INFECTION)								
	Females	10	0.4	1	0.2	8	0.4		48.2
	Males	8	0.3	1	0.2	7	0.4		59.6
	Persons	18	0.3	2	0.2	16	0.4	↓	53.4
33	DISEASES OF THE CIRCULATORY SYSTEM								
	Females	10,281	290.8	2,129	299.9	8,152	288.5	↑	103.9
	Males	10,732	467.3	2,345	477.0	8,387	464.7	↑	102.6
	Persons	21,013	370.1	4,473	381.6	16,539	367.1	↑	103.9
34	Ischaemic heart disease								
	Females	5,106	147.3	1,095	157.4	4,011	144.8	↑	108.8
	Males	6,817	299.7	1,491	307.6	5,326	297.6	↑	103.4
	Persons	11,922	215.4	2,586	226.6	9,336	212.5	↑	106.6
35	Other heart disease								
	Females	1,331	35.8	264	35.0	1,067	36.0		97.3
	Males	1,044	44.6	218	43.0	826	45.0		95.6
	Persons	2,375	39.9	422	38.8	1,839	40.1		96.7
36	Cerebrovascular disease								
	Females	2,745	75.9	573	78.9	2,172	75.2	↑	105.0
	Males	1,853	79.9	423	83.8	1,431	78.0	↑	107.4
	Persons	4,598	77.9	996	81.6	3,602	77.0	↑	106.1
37	DISEASES OF THE RESPIRATORY SYSTEM								
	Females	3,658	101.0	734.9	101.7	2,914	100.9		100.8
	Males	3,530	149.9	794	155.6	2,736	148.3	↑	104.9
	Persons	7,188	120.9	1,538	124.5	5,650	119.9	↑	103.8
38	Influenza								
	Females	26	0.7	6	0.8	21	0.7		116.4
	Males	16	0.7	5	0.9	12	0.6		142.7
	Persons	43	0.7	10	0.8	32	0.7		125.9
39	Pneumonia								
	Females	2,212	57.8	469	60.6	1,743	57.1	↑	106.2
	Males	1,588	67.0	375	72.6	1,213	65.4	↑	111.0
	Persons	3,800	61.8	844	65.9	2,956	60.7	↑	108.5
40	Chronic lower respiratory disease								
	Females	1,054	32.1	204	31.0	850	32.3		95.7
	Males	1,577	67.3	346	68.7	1,230	67		102.5
	Persons	2,631	46.1	550	46.6	2,080	45.9		101.5

	DISEASE OR EXTERNAL CAUSE	ALL IRELAND (ALL)		CAWT REGION		NON CAWT REGION		RATE RATIO (CAWT:NON CAWT)
		Number	Rate	Number	Rate	Number	Rate	%
41	Asthma							
	Females	89	3.1	16	2.9	73	3.2	91.3
	Males	79	3.5	17	3.5	63	3.5	101.1
	Persons	169	3.3	33	3.2	136	3.3	95.5
42	DISEASES OF THE DIGESTIVE SYSTEM							
	Females	711	21.3	149	22.1	562	21.2	104.4
	Males	620	27.1	130	26.6	490	27.2	97.6
	Persons	1,331	24.0	279	24.2	1,052	23.9	101.0
43	Ulcer of stomach, duodenum and jejunum							
	Females	141	3.9	31	4.2	110	3.9	109.6
	Males	150	6.5	33	6.5	118	6.5	101.0
	Persons	291	5.0	63	5.3	228	5.0	105.2
44	Chronic liver disease							
	Females	84	3.3	17	3.2	67	3.4	96.2
	Males	102	4.8	18	4.1	84	5.0	82.4
	Persons	186	4.0	35	3.7	151	4.1	89.3
45	DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE							
	Females	65	1.8	14	2.0	51	1.8	111.3
	Males	38	1.6	8	1.5	30	1.6	92.1
	Persons	102	1.7	21	1.8	81	1.7	102.9
46	DISEASES OF THE MUSCULOSKELETAL SYSTEM/CONNECTIVE TISSUE							
	Females	151	4.5	25	3.6	127	4.7	↓ 77.0
	Males	70	3.0	12	2.4	58	3.2	↓ 75.8
	Persons	221	3.9	37	3.1	185	4.1	↓ 77.1
47	Rheumatoid arthritis and osteoarthritis							
	Females	80	2.3	13	1.8	67	2.5	↓ 73.1
	Males	34	1.5	5	1.1	29	1.6	69.8
	Persons	114	2.0	18	1.5	96	2.1	↓ 72.3
48	DISEASES OF THE GENITO-URINARY SYSTEM							
	Females	436	12.1	92	12.7	344	11.9	106.7
	Males	405	17.2	88	17.1	317	17.2	99.5
	Persons	841	14.1	180	14.5	661	14.0	103.5
49	Diseases of the kidney and ureter							
	Females	325	9.1	69	9.6	256	9.0	106.5
	Males	300	12.8	64	12.4	236	12.9	96.9
	Persons	625	10.6	133	10.8	492	10.5	102.0
50	COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND PUERPERIUM (FEMALE)	2	0.1	0	0.1	2	0.1	129.0
51	CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD							
	Females	80	3.4	18	3.4	62	3.4	100.9
	Males	110	4.4	27	4.8	84	4.3	111.7
	Persons	191	3.9	45	4.1	146	3.9	107.1

	DISEASE OR EXTERNAL CAUSE	ALL IRELAND (ALL)		CAWT REGION		NON CAWT REGION		RATE RATIO (CAWT:NON CAWT)	
		Number	Rate	Number	Rate	Number	Rate	%	
52	CONGENITAL MALFORMATIONS AND CHROMOSOMAL ABNORMALITIES								
	Females	135	5.5	30	5.5	105	5.5		101.6
	Males	154	6.1	38	6.8	116	5.9		113.9
	Persons	289	5.8	67	6.2	221	5.7		108.3
53	Congenital malformations of the nervous system								
	Females	28	1.1	7	1.2	22	5.5		101.6
	Males	27	1.0	7	1.2	20	5.9		113.9
	Persons	55	1.1	13	1.2	44	5.7		108.3
54	Congenital malformations of the circulatory system								
	Females	44	1.8	10	11.9	35	1.8		105.5
	Males	56	2.2	13	2.3	43	2.2		107.1
	Persons	100	2.0	23	2.1	78	2.0		106.3
55	SYMPTOMS, SIGNS, ABNORMAL FINDINGS, ILL-DEFINED CAUSES								
	Females	156	4.6	25	3.8	131	4.8	↓	78.4
	Males	122	5.1	21	4.0	101	5.4	↓	73.6
	Persons	278	4.9	46	3.9	232	5.2	↓	75.5
56	Sudden infant death syndrome								
	Females	25	1.1	4	0.7	21	1.2	↓	63.7
	Males	41	1.6	6	1.1	35	1.8	↓	59.9
	Persons	66	1.4	10	0.9	56	1.5	↓	61.4
57	Unknown and unspecified causes								
	Females	56	1.6	9	1.4	47	1.6		90.8
	Males	39	1.7	7	1.4	32	1.8		59.9
	Persons	95	1.6	16	1.4	79	1.7		85.4
58	EXTERNAL CAUSES OF INJURY AND POISONING								
	Females	633	21.6	134	22.8	498	22.3		107.2
	Males	1,450	58.0	338	64.9	1,112	56.2	↓	115.4
	Persons	2,083	39.6	473	44.0	1,610	38.5	↓	114.2
59	Accidents								
	Females	498	16.1	107	17.4	391	15.8		109.7
	Males	919	36.7	219	41.7	700	35.4	↓	117.8
	Persons	1,417	26.3	326	29.6	1,091	25.5	↓	116.1
60	Transport accidents								
	Females	161	5.9	40	7.3	121	5.5	↓	132.9
	Males	454	17.2	116	21.2	338	16.2	↓	130.9
	Persons	616	11.4	157	14.3	459	10.7	↓	132.9
61	Accidental falls								
	Females	223	6.1	44	6.0	179	6.2		75.1
	Males	178	7.7	37	7.5	141	7.7		93.6
	Persons	401	7.0	82	6.9	320	7.1		87.1

	DISEASE OR EXTERNAL CAUSE	ALL IRELAND (ALL)		CAWT REGION		NON CAWT REGION		RATE RATIO (CAWT:NON CAWT)
		Number	Rate	Number	Rate	Number	Rate	%
62	Accidental poisoning							
	Females	24	1.0	4	0.8	20	1.0	75.1
	Males	52	2.1	10	2.0	41	2.1	93.6
	Persons	76	1.5	14	1.4	62	10.3	87.1
63	Suicide and intentional self-harm							
	Females	103	4.2	18	3.6	86	4.4	82.8
	Males	406	16.3	82	15.8	324	16.4	96.4
	Persons	509	10.2	99	9.7	410	10.3	94.7
64	Homicide/assault							
	Females	16	0.6	4	0.8	12	0.6	133.8
	Males	85	3.3	25	4.7	60	3.0	↓ 158.1
	Persons	101	2.0	29	2.8	72	1.8	↓ 156.6
65	Events of undetermined intent							
	Females	14	0.5	4	0.9	9	0.5	185.9
	Males	36	1.5	11	2.2	25	1.3	↓ 168.7
	Persons	50	1.0	15	1.5	34	0.9	↓ 173.8



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