# Lifestyle

# **Key Points**

- The majority of Irish adults and children rate their own health as good, although almost 40% of adults report at least one health condition.
- While some aspects of the Irish diet have improved, it is of concern that consumption of fats and salts remains high.
- The prevalence of overweight and obesity in Ireland is higher than most countries in the EU. There is a large underestimation of body weight by individuals.
- Compared to 1948, children are now taller and heavier. This increase in weight is disproportionate to the increase in height.
- Over one-fifth of Irish adults report taking no physical activity. In children, exercise participation decreases with age, particularly among teenage girls. There has been little change in physical activity levels in recent years.
- While 29% of Irish adults are current smokers, the rate is higher in younger people and those in lower social class groups. One in ten smokers is actively trying to give up. In adults, males have higher smoking rates, but among children, more females smoke. There is a large increase in smoking rates from age 13 to 15 years.
- Ireland is one of the highest consumers of alcohol in Europe. A higher proportion of Irish adults report binge-drinking compared to the EU population.
- Ireland has a higher level of cannabis use among 15-year-olds than the European average.
- While vaccination rates have improved, they still fall short of the target level of 95%.



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# Lifestyle



# **3. Lifestyle**

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#### 'A healthy lifestyle adds years to life and life to years'

(WHO)

This section provides an overall view of the lifestyle of Irish adults and children, and compares them to adults and children both in Europe and internationally, with an emphasis on the following areas:

- General Health
- Healthy Eating
- Body Weight and Weight Control
- Physical Activity
- Smoking
- Alcohol
- Use of Illicit Drugs
- Health Protective Behaviours

The main sources of information for this section are:

- The Surveys of Lifestyle Attitudes & Nutrition in Ireland carried out in 2006 and 2007 (SLÁN 2007). This is
  the third national study on attitudes to lifestyle and nutrition among adults in Ireland. It involved face-toface interviews with approximately 10,000 Irish adults (aged 18 years and over), in addition to, for the first
  time, a physical examination of approximately 2,174 adults.
- The Irish Health Behaviour in School-aged Children Studies HBSC 2006 (HBSC 2006). This is the third survey of the health behaviours, wellbeing, and lifestyle of Irish young people (aged 10 to 18 years). The survey runs on a four-year basis, and is part of a larger international survey (HBSC International), which is run in collaboration with the World Health Organization (WHO). Forty-one countries took part in the most recent survey during the academic year of 2005 and 2006. For the first time in 2006, nine-year-olds were also included. Irish data collected from the 11, 13, and 15-year-olds in the 2005/2006 survey was included in the HBSC International report on health inequalities. Results from this report are cited in this section.
- Finally, recent results from the CSO's Quarterly National Household Survey (QNHS, Q3, 2007) are included.

### **3.1 General Health**

#### **3.1.1 Adults' General Health**

The QNHS (Q3, 2007) on Health Status and Health Service Utilisation reported that the majority of Irish adults rate their own health as 'good' (40%) or 'very good' (47%). Eleven per cent rated their health status as 'fair', with few (2%) reporting their health as 'poor'. The proportion of adults who reported their health status as 'good' or better decreased with age, with 69% of those aged 70 years and over, rating their own health status as 'good' or better.

Almost 40% of adults (41% women, 36% men) reported at least one health condition, most commonly hypertension (10%), back pain (8%), and high cholesterol (8%). For most conditions, a higher prevalence of the condition was reported among older adults.

#### **3.1.2 Children's General Health**

HBSC 2006 reported that almost 90% of Irish children (89% boys, 86% girls) rated their health as 'excellent' or 'good', with a small increase on previous years in those reporting 'excellent' health. Figure 3.1 illustrates levels of poor health among 11, 13, and 15-year-olds in Ireland, part of the UK and the HBSC average, with ratings of poorer health increasing with age. Overall, Irish children consider themselves to have better health than their international counterparts.

# Figure 3.1 Proportion of 11, 13, and 15-year-olds with ratings of fair/poor health



Source: Inequalities in young people's health. Health Behaviour in School-aged Children International Report 2005/2006. WHO 2008

In 2006, 79% of boys and 74% of girls in Ireland reported high life satisfaction. Figure 3.2 details levels of high life satisfaction among 11, 13, and 15-year-olds in Ireland, part of the UK and the HBSC average.





Source: Inequalities in young people's health. Health Behaviour in School-aged Children International Report 2005/2006. WHO 2008

The Irish findings are similar to the international and UK averages, with boys more likely to report high life satisfaction by age 15, than girls. Irish children reported slightly higher levels of life satisfaction than their European neighbours until age 15 when boys in England have the highest levels.

### **3.2 Healthy Eating**

#### 3.2.1 Adults' Eating Habits

Using the food pyramid as a guide, Table 3.1 sets out the proportion of Irish adults consuming the recommended number of daily servings of particular foods, as reported by SLÁN 2007.

Food     % of Irish adults       6+ daily servings of cereals, breads and potatoes     26%       4- daily cereinge of fruit and vegetables     65%
6+ daily servings of cereals, breads and potatoes 26%
A deily continue of fruit and vegetables
4+ daily servings of truit and vegetables 65%
3 daily servings of milk and dairy products 20%
2 daily servings of meat, fish, poultry and alternatives 39%

Table 3.1 Consumption (%) of recommended daily servings of particular foods by Irish adults, 2007

Source: SLÁN 2007. National Health & Lifestyle Surveys, 2007

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Since 2002, there has been a decrease in the percentage of people consuming the recommended servings of cereals, breads and potatoes, and milk and dairy products. Conversely, there has been an increase in the percentage consuming the recommended daily servings of fruit and vegetables. The consumption of meat, fish, and poultry remained similar.

Of major concern is the fact that the majority (86%) of adults surveyed consumed more than three daily servings of foods high in fat, sugar, and salt, with two-thirds (62%) adding salt to cooked/uncooked food, and half (48%) snacking between meals. Overall, 10% reported not eating breakfast.

The majority (96%) of respondents reported being able to afford to buy enough food for their household.

#### 3.2.2 Children's Eating Habits

Approximately one-fifth (19%) of children reported consuming fruit more than once a day, with rates of fruit consumption higher in girls (23%) than boys (16%) across all age groups. HBSC International reports that children from higher social classes are more likely to report frequent fruit consumption.

Figure 3.3 illustrates the proportions of children who reported eating fruit daily, in Ireland, part of the UK, and the HBSC average, with consumption higher among girls across all ages.

Figure 3.3 Proportion of 11, 13, and 15-year-olds who reported eating fruit daily



Source: Inequalities in young people's health. Health Behaviour in School-aged Children International Report 2005/2006. WHO 2008

Almost 40% of Irish children reported eating sweets daily, or more frequently. This was a decrease, however, on sweet consumption in recent years, particularly among the 10 to 11-year-olds. Older Irish children, especially boys, reported drinking soft drinks daily, or more frequently, as was the case in most countries involved in HBSC International 2006.

Overall, 14% of Irish children reported never eating breakfast during school days, with rates of non-consumption increasing with age. More girls than boys, both in Ireland and internationally, reported not having breakfast on school days. Children from the highest social classes are least likely to report never having breakfast on school days.

#### 3.2.3 Breastfeeding

WHO guidelines recommend that babies are breastfed exclusively for the first six months of their lives, with complementary breastfeeding until at least two years of age. According to WHO, less than 35% of infants worldwide are exclusively breastfed for even the first four months of life.

SLÁN 2007 reported that 42% of Irish women surveyed breastfed at least one of their children, an increase from 32% in 2002, with the increases observed across all age groups, most notably among younger women (18-29 years).

### 3.3 Body Weight & Weight Control

#### 3.3.1 Adults' Body Weight & Weight Control

SLÁN 2007 recorded the Body Mass Index (BMI) of 2,174 adults over 18 years of age (1,207 over-45s and 967 under-45s). The prevalence of overweight and obesity among this group of Irish adults was as follows:

- Thirty-eight per cent were overweight.
- Twenty-three per cent were obese.

These individuals were also asked to estimate their own weight and height measurements in order to calculate a BMI score. Overall, there was a large underestimation of body weight by individuals. Obesity is quickly becoming a major public health problem in Europe, with estimates suggesting that between 10% to 20% of men and 10% to 25% of women are obese, as evidenced in Figure 3.4. Both Irish males and females have high prevalence of overweight and obesity compared to most countries in the EU.





#### Females



Source: Overweight & Obesity in the EU-27. International Association for the Study of Obesity (IASO), July 2008

In the EU-27, it is estimated that 35.9% of adults are overweight (BMI 25-29.9) and a further 17.2% are obese (BMI≥30). More males than females are overweight (not including obese), while more females than males are obese. According to SLÁN 2007, one in ten Irish adults reported being previously advised by a health professional to manage their weight, with almost half (43%) trying to do so.

### 3.3.2 Children's Body Weight & Weight Control

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As part of a North/South Survey of Children's Oral Health, conducted during the academic year 2001/2002, the height and weight of a representative sample of children and adolescents aged four to 16 years was measured. In the absence of agreed BMI criteria for overweight and obesity in children, criteria proposed by the International Obesity Task Force (IOTF) were adopted. Applying these criteria gave the following results:

- Almost one in four boys (23%) and over one in four girls (28%) were either overweight or obese.
- About one in 20 boys (6%) and about one in 15 girls (7%) aged four to 16 years were obese.
- The overall prevalence of overweight (overweight or obese) was higher among females than males (28% versus 23%), as was the prevalence of obesity (7% versus 6%).

Data were also collected on snacking habits and time spent watching television, computers, or other screens. Multivariate analysis identified a number of factors associated with obesity including:

- Obesity increased with age.
- Females and children of less well-off parents were more likely to be obese, as were those who spent a greater amount of time watching screens.

Children's heights and weights were compared with data from the 1948 National Nutrition Survey. The comparison revealed:

- Children's heights and weights have changed considerably since 1948.
- Children were taller and heavier in 2002, and the increase in weight was disproportionate to the increase in height.

According to HBSC, girls were more likely than boys to report that they were currently on a weight-reducing diet (15% versus 8%) or that they needed to be on a weight-reducing diet (26% versus 15%). HBSC International reports that attempting to lose weight is a common feature of girls' lifestyles by the age of 13, especially in western and northern Europe, including Ireland.

Figure 3.5 details the level of engagement in weight reducing behaviours among 11, 13, and 15-year-olds, with the levels of weight-reducing behaviour not as high in Ireland as in some other countries.





Source: Inequalities in young people's Health Behaviour in School-aged Children International Report 2005/2006. WHO 2008

# **3.4 Physical Activity**

#### 3.4.1 Physical Activity Among Irish Adults

SLÁN 2007 reported that just over half (55%) of Irish adults engaged in physical activity two to three times per week for a minimum of twenty minutes. A quarter reported activity levels, but were not considered 'physically active'. A further 22% reported physical inactivity. There was little change in levels of physical activity since previous studies.

Of those who were physically inactive, less than half (41%) were thinking of becoming active, with the main reason cited by respondents for inactivity being 'no time' (41%). In the older age groups, injury, disability, or having a medical condition, were the main reasons for inactivity. Figure 3.6 details the level of inactivity among populations in the EU member states in 2006, with Ireland having relatively low levels of inactivity compared to many of their European neighbours.





EU-27 countries

Source: Euro barometer 64.3 Health & Food - Special Euro barometer. European Commission, November 2006

#### 3.4.2 Physical Activity Among Irish Children

There has been little change in physical activity participation rates in recent years, with 53% of children (63% of boys, 43% of girls) exercising four or more times a week (48% in 2002).

Exercise participation decreases with age and this is particularly noticeable among girls, dropping from 58% of 10 to 11-year-olds to 28% of 15 to 17-year-olds. Internationally, younger children participate more in physical activities than older children, with boys more active than girls at all ages, in all countries. Figure 3.7 illustrates the proportion of 11, 13, and 15-year-olds reporting one hour of moderate to vigorous exercise daily, with more Irish children doing so at all ages than their counterparts.





Source: Inequalities in young people's health. Health Behaviour in School-aged Children International Report 2005/2006. WHO 2008

# 3.5 Smoking

#### 3.5.1 Smoking Habits Among Irish Adults

In 2007, almost half of Irish adults (48%) reported having smoked at some point in their lives, with rates of having 'ever smoked' higher in men (53%), in Social Classes 5 and 6 (55%), and in the middle age groups (30-44 yrs=51%, 45-64 yrs=50%).

Overall, in 2007 29% (31% men, 27% women) of Irish adults reported being current smokers, a reduction from 33% in 1998. There has, however, been a small increase in smoking rates since 2002 when 27% of people reported smoking. In 2007, younger people were more likely to currently smoke (18-29 years=35%), as were those in lower social class groups (Social Class 5-6=37%). Figure 3.8 details the percentage of occasional and daily smokers in EU countries, with Ireland ranked sixth-lowest for smoking rates.

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#### Figure 3.8 Percentage of occasional and daily smokers by European country

Source: National Health Interview Surveys. Eurostat, July 2008

Almost one in ten (9%) Irish smokers (SLÁN 2007) reported actively trying to quit, with an additional 50% reporting being in various stages of thinking about quitting. Most people have some rules about smoking in their homes, with the majority not allowing any smoking inside their accommodation, while others reported that smoking was limited.

#### 3.5.2 Smoking Habits Among Irish Children

In 2006, less than one-sixth (15%) of Irish children reported being current smokers, a reduction from 21% in 1998 and 19% in 2002. There has also been a decline in reports of 'ever smoking', with 36% (41% 2002) of children reporting that they had on some occasion smoked tobacco. As detailed in Table 3.2, young initiation of smoking was more common in boys than girls internationally, but this was not the case in Ireland or neighbouring countries.

Country/Region	15-Year-Olds		
	Boys	Girls	
Ireland	29%	33%	
England	19%	27%	
Wales	26%	34%	
Scotland	25%	34%	
HBSC (average)	31%	28%	

#### Table 3.2 Proportion of 15-year-olds who reported first smoking at age 13 or younger

Source: Inequalities in young people's health. Health Behaviour in School-aged Children International Report 2005/2006. WHO 2008

Figure 3.9 illustrates the proportion of 11, 13, and 15-year-olds who reported smoking at least once a week. The most notable feature of this graph is the large increase in weekly smoking rates from age 13 to 15, with girls' weekly smoking rates higher than boys' rates in most countries. Also of note is the fact that Irish weekly smoking rates for 15-year-old boys and girls are higher than HBSC average rates.





Source: Inequalities in young people's health. Health Behaviour in School-aged Children International Report 2005/2006. WHO 2008

# 3.6 Alcohol

#### 3.6.1 Alcohol Consumption Among Irish Adults

SLÁN 2007 reported that most men (85%) and women (77%) surveyed drank alcohol on some occasion in the last year, with one-quarter (28%) reporting excessive drinking (six or more standard drinks on one occasion). Ireland remains one of the highest consumers of alcohol in Europe, with Figure 3.10 comparing rates across Europe in 2003. The data for Ireland are for 2006.

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#### 20 Litres of pure alcohol per person (15 yrs) 15 10 5 0 Luxembourg Republic wetherlande Romania Bullgaria reland Walta Sweden Germany Denmart Spain Portugalance Austria 2 Joyatta Lithuani? **Estonia** Poland italy Slovenia Belgium Latvina Greece Finland Hungar Clech

#### Figure 3.10 Alcohol consumption (litres of pure alcohol per person), enlarged EU, 2003

Note: Figures for Ireland 2006, Finland 2004, all others 2003, no data for Cyprus.

Source: Hope A (2007). Alcohol consumption in Ireland 1986-2006. Health Service Executive - Alcohol Implementation Group

SLÁN 2007 reported decreases in the proportion of Irish adults consuming over the recommended weekly alcohol limits (21+ units for men, 14+ units for women) from 13% (2002) to 8% (2007). However, the Eurobarometer survey (2007) on attitudes towards alcohol reported that 34% of Irish drinkers consumed at least five drinks per occasion, compared to just 10% of the EU population. In addition, 28% of Europeans stated they drank an excess of five drinks at least once a week compared to 54% of respondents in Ireland.

SLÁN 2007 also reported a reduction in the percentage of drivers who reported driving a car after consuming two or more standard drinks, from 16% in 2002 to 12% in 2007.

#### 3.6.2 Alcohol Consumption Among Irish Children

Overall, 47% of Irish children reported that they have never had an alcoholic drink - an improvement from 40% in 2002 and 31% in 1998. More girls were non-drinkers (52%) compared to boys (43%).

Despite this increase in non-drinkers, the proportion of current drinkers (consumed a drink in the past month) has remained the same in recent years (26%). Figure 3.11 illustrates the proportion of 11, 13, and 15-year-olds who report drinking alcohol at least once a week. Overall, there were fewer children reporting weekly drinking in Ireland, at all ages, compared to our UK neighbours and the overall HBSC international levels. As in most other countries, the numbers drinking alcohol increases dramatically between ages 13 and 15.

#### Figure 3.11 Proportion of 11, 13, and 15-year-olds who drink alcohol at least once a week



Source: Inequalities in young people's health. Health Behaviour in School-aged Children International Report 2005/2006. WHO 2008

### 3.7 Use of Illicit Drugs

#### 3.7.1 Drug Use Among Irish Adults

Use of illicit drugs in the previous twelve months was higher for men (9%) than women (4%), with the overall rates of drug use changing little in 2007 (6%) compared to 1998 (8%) or 2002 (7%). The European Monitoring Centre for Drugs & Drug Addiction (EMCDDA) estimates that:

- One in five of all 15 to 64-year-old Europeans have used cannabis at least once.
- Seven per cent of all 15 to 64-year-old Europeans have used cannabis in the last twelve months.

Figure 3.12 illustrates the 12-month prevalence of cannabis use among EU member states. Ireland is positioned in the upper section of the graph with usage at 6.3%.



Figure 3.12 Prevalence of cannabis use in previous year among 15 to 64-year-olds

Source: Statistical Bulletin 2008. General Population Surveys. European Monitoring Centre for Drugs & Drug Addictions, Lisbon. 2008

#### 3.7.2 Cannabis Use Among Irish Children

HBSC International reports that cannabis use among young people appears to be a normative behaviour in North America and several European countries.

- In 2006, one in six (16%) Irish children (10 to 17-year-olds) reported using cannabis during their lifetime, compared to 12% in 2002.
- Approximately 12% (11% in 2002) reported cannabis use in the past 12 months, with more boys (8%) than girls (5%) reporting recent use.

Table 3.3 details the proportion of 15-year-olds who have used cannabis, with lifetime cannabis use higher in Ireland and neighbouring countries than in other countries involved in HBSC international.

	15-Yea	r-Olds
	Boys	Girls
Ireland	26%	21%
England	26%	23%
Wales	30%	32%
Scotland	29%	27%
HBSC (average)	21%	16%

#### Table 3.3 Proportion of 15-year-olds who have ever used cannabis in their lifetime

Source: Inequalities in young people's health. Health Behaviour in School-aged Children International Report 2005/2006. WHO 2008

Table 3.4 details recent use of cannabis among 15-year-olds, and again, internationally there was great variation among countries. Unlike most countries where there were similar levels of recent cannabis use among boys and girls, Ireland had higher rates of recent cannabis use among boys than girls.

	15-Year-Olds		
	Boys	Girls	
Ireland	11%	7%	
England	10%	8%	
Wales	12%	11%	
Scotland	13%	11%	
HBSC (average)	8%	6%	

#### Table 3.4 Proportion of 15-year-olds who reported recent use of cannabis (last 30 days)

Source: Inequalities in young people's health. Health Behaviour in School-aged Children International Report 2005/2006. WHO 2008

### 3.8 Health-Protective Behaviours

Health-protective behaviours are behaviours performed by persons, regardless of their health status, in order to protect, promote, or maintain their health. This section looks at three health protective behaviours, namely, breast screening, cervical screening, and immunisation.

#### 3.8.1 Breast Screening

Breast screening is helping to lower deaths from breast cancer. Screening programmes in other countries have greatly reduced the number of women dying from the disease. Northern Ireland has shown a reduction in deaths from breast cancer by 20% in the last ten years following the introduction of their breast screening service. Currently in Ireland, there are approximately 2,000 new cases of breast cancer diagnosed every year, with 650 deaths.

The National Breast Screening Programme in Ireland, BreastCheck, was established in 1998. The programme aims to reduce the number of deaths from breast cancer in Ireland among women aged 50 to 64 years. The service invites women in the target age group for a free breast x-ray (mammogram) every two years. The following is summary data regarding BreastCheck in Ireland, as reported in the BreastCheck annual report (2006/2007):

- In 2006, BreastCheck invited 83,491 women for a free mammogram, with 81,011 then eligible for screening.
- In total, 63,271 women attended. This was the highest number of women screened to date.
- Seventy-eight percent of eligible women accepted the invitation to screening, an increase on previous years, and in excess of the programme's target of 70%.
- Of the 63,271 women screened in 2006, 1,903 (3.0%) were recalled for assessment.
- Of those recalled, 337(17.7%) were diagnosed with cancer, representing 5.3 cancers per 1,000 women screened.
- The majority of women attending for first screening were in the 50 to 54 year age group, with acceptance of invitation to screening highest in this cohort. As in previous years, there was a fall in acceptance to invitation for screening with increasing age at first invitation.
- In all age groups, acceptance to invitation for subsequent screening was high.

#### 3.8.2 Cervical Screening

The National Cervical Screening Programme, CervicalCheck was launched in 2008. The overall aim of CervicalCheck is to reduce the incidence and the death rate from cervical cancer in Ireland. CervicalCheck will provide free smear tests through the primary care setting to women aged 25 to 60 years in Ireland, with tests provided every three years to women aged 25 to 44 years, and every five years to women aged 45 to 60 years.

This programme is being implemented by the National Cancer Screening Service (NCSS), and funded by the Department of Health & Children. The NCSS has provided a contract for the provision of smear-taking services by General Practitioners (GPs) and medical practitioners in primary care settings throughout the country. GPs are invited to register for the programme, and provide free smear tests to women in their area. Once registered, women will be invited to attend for free smear tests every three or five years, depending on age. This programme aims to achieve a coverage rate of 80% of the eligible population of approximately 1.1 million women and has the potential to cut mortality rates from cervical cancer by up to 80%. Currently, there are approximately 170 new cases of cervical cancer in Ireland every year, with 76 deaths.

#### 3.8.3 Uptake of Immunisations

Vaccination comes second in importance only to clean water as a factor in improving health in a population and has achieved some historic milestones, such as the elimination of smallpox in 1980. As recently as 1946 in Ireland, 117 children died from whooping cough and there were 139 deaths from diphtheria. Vaccination protects not only the individual child but also the community ('herd immunity'). When enough people are vaccinated, there is less disease in the population and it is harder for infection to spread from one susceptible person to another. The unvaccinated are thus protected by the vaccinated. The level of vaccine uptake required to create this effect depends on the infectiousness of the disease in question. Most childhood vaccination campaigns aim for an uptake of 95%.

The HSE National Immunisation Office (NIO) plans and organises national vaccination campaigns as well as providing media campaigns, training materials, and information leaflets. It also manages the National Cold Chain delivery service. The HSE Primary Community and Continuing Care (PCCC) directorate is responsible for implementation of most vaccination programmes, and the service is delivered by GPs, practice nurses, community health doctors, public health nurses, and support staff. In addition to vaccinating children, the HSE also offers some other vaccinations to vulnerable adults and children (for example, Influenza vaccine) and persons who may be at risk through contact with relevant communicable diseases (for example, hepatitis A).

The national immunisation schedule has been amended to include hepatitis B and pneumococcal conjugate vaccine (PCV) for all children born after July 1st 2008. The new schedule for children born after July 1st 2008 and the schedule for children born on or before June 30th 2008 are set out in Table 3.5. Vaccines are a safe, cost effective, and efficient way to prevent sickness and death from infectious disease. A high uptake of vaccination, as recommended by the National Immunisation Advisory Committee, is crucial to maintaining public health. It is important that every effort is made to ensure that uptake of vaccines meet the national target rates.

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Age	Vaccination		
	Born after July 1st,	Born on or before	
	2008	June 30th, 2008	
Birth	BCG	BCG	
2 months	6 in 1 + PCV	5 in 1 + Men C	
4 months	6 in 1 + Men C	5 in 1 + Men C	
6 months	6 in 1 + PCV + Men C	5 in 1 + Men C	
12 months	MMR + PCV	MMR + Hib	
13 months	Men C + Hib	-	
4-5 years	4 in 1 + MMR	4 in 1 + MMR	
11-14 years	Td	Td	

# Table 3.5Vaccination schedule for babies born on or after July 1st 2008 and on or before June30th 2008 respectively

Explanation	1 of vaccinations:
BCG	Bacille Calmette-Guérin (against TB)
6 in 1	Diphtheria, tetanus, pertussis (whooping cough), polio, Haemophilus influenzae type b, hepatitis B
5 in 1	Diphtheria, tetanus, pertussis, polio, Haemophilus influenzae type b
PCV	Pneumococcal conjugate vaccine
Men C	Meningococcal C
MMR	Measles, mumps, rubella
Hib	Haemophilus influenzae type b
4 in 1	Diphtheria, tetanus, pertussis, polio
Td	Tetanus, diphtheria

#### (a) Childhood Immunisation Rates

Target uptake rates are set at a level which will provide community protection in the population i.e. there will be sufficient number of immunised persons to prevent spread of disease if it is introduced. The target uptake rates for 'Five-in-one' (polio, diphtheria, tetanus, pertussis, *Haemophilus influenzae* type B), MenC (meningococcal Group C) and MMR (measles, mumps and rubella) vaccinations are all set at 95%. While there have been improvements in recent quarters, actual uptake rates remain below this target level.

The uptake rates for childhood vaccines at age 12 and 24 months are illustrated in Figures 3.13 and 3.14 respectively. The BCG vaccine is offered to most children shortly after birth (neonatal vaccination), and protects against serious forms of tuberculosis during childhood. The uptake level in areas providing neonatal BCG and data on uptake is shown in Figure 3.13. Although the uptake is high in these areas, it must be noted that it is not a national uptake figure.





The uptake levels, where applicable, are for fully completed courses of vaccination. All are national uptake figures apart from neonatal BCG which is not provided in some HSE areas.





- (i) Measles, mumps and rubella infections: The level of MMR uptake has remained consistently below the target level of 95% and dropped to as low as 69% in 2001. A number of outbreaks of these diseases have occurred. The most recent measles outbreak occurred in Ireland in 2000, with over 1,600 cases reported, and three associated deaths. Figure 3.15 shows the numbers of measles, mumps and rubella infections notified from 1982 to 2007. In 1985, the year when measles vaccine was introduced, 9,903 cases were reported. The number of cases notified in subsequent years dropped significantly. Since then, due to relatively low levels of uptake, a number of major outbreaks occurred despite the immunisation programme.
- (ii) History of MMR vaccination in Ireland: The MMR vaccine was incorporated into the primary immunisation schedule in October 1988. In July 1992, a second MMR injection for both boys and girls ages 10 to 14 years was introduced (replacing the previous selective rubella vaccine programme for pre-pubertal girls only). A catch-up campaign was introduced in 1995 aimed at children aged 5 to 12 years of age who were susceptible to measles. In 1999 it was decided to lower the age for routine administration of the second MMR dose from 10 to 14 years to children aged four to five years of age to improve immunisation coverage and decrease measles transmission.



# Figure 3.15 Vaccination milestones and numbers of cases of measles, mumps, and rubella notified for the years 1982 to 2007 (where available)

Source: HPSC

#### (b) Influenza Vaccination

Influenza vaccination is now recommended for all persons aged 50 years and over and for persons at risk due to other illness or occupation (Immunisation Guidelines for Ireland, 2008). The influenza vaccine used provides 70% to 90% protection against the disease in persons less than 65 years of age. Although the protective effect is lower in those over 65 years old, morbidity and mortality is significantly reduced. The target uptake among the GMS population aged 65 years and over was set nationally at 65%. The uptake level for this age group has failed to meet this target and was 58% in the most recent 'influenza season' (1st September 2007 to 29th February 2008). It is hoped that a target of 75% will be reached by 2010 (National Service Plan, 2008).

# **Causes of Death in Ireland**

# **Key Points**

- Death rates in Ireland have been falling, and are now similar to rates in the EU-15.
- The rate of premature deaths has fallen and is now below that of the EU-15.
- The relative contribution of each condition to the overall death burden has changed. The proportion of deaths from circulatory disease has fallen and the proportion of deaths from cancers has increased.
- Infant mortality has fallen and is now just below that of EU-15.
- Coronary heart disease deaths have fallen but are still above those of the EU-15.
- Cerebrovascular disease deaths have fallen and are lower than the EU-15.
- Cancer deaths have fallen and are below EU-15 rates for males, but above EU for females.
- Despite falling rates in male deaths from respiratory diseases in Ireland, both male and female rates remain above EU-15 rates. Respiratory disease is the second highest cause of death for women in Ireland.
- Ireland ranks 6th lowest for death by suicide among 21 OECD countries. Suicide rates have fallen in males in recent years and are now below EU-15 for males and females. However, a greater proportion of suicides in Ireland occur in younger age groups, with Ireland ranking 7th highest among 24 EU countries for youth suicide.
- Road traffic collision death rates have fallen in males in Ireland and are now below EU-15 rates. Female rates in Ireland and the EU-15 are much lower than male rates, with female rates in Ireland being slightly lower than our EU-15 counterparts.
- Falls are the leading cause of fatal injuries in older people. Ireland has a similar rate to the EU average.
- As a cause of death, cancer causes the greatest number of years of potential life lost from the population, but injuries cause the highest number of average years lost per individual.



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# Causes of Death in Ireland



# **4. Causes of Death in Ireland**

### **4.1 All-Cause Mortality**

In 2007, 28,050 people died in Ireland. The greatest number of deaths were due to diseases of the circulatory system (n=9,931), followed by cancer (n=7,844), respiratory diseases (n=3,541) and injury and poisoning (n=1,676). Figure 4.1 illustrates all causes of death (age-standardised mortality rates) and premature causes of death (deaths in those under 65 years) in Ireland and the EU-15 between 1980 and 2006.

# Figure 4.1 Age-standardised all-cause and premature (<65 years) mortality rates per 100,000 population, 1980-2006, Ireland and EU-15



Source: European Health for all Database (November 2007), WHO Regional Office for Europe.

Overall, death rates in Ireland have been falling across time, with a more rapid decline in recent years. All-cause mortality in Ireland is now just marginally above that of the EU-15, while the rate for premature mortality in Ireland has been below that of the EU-15 since 2004.

### 4.2 Main Causes of Death

Figure 4.2 illustrates the main causes of death in Ireland, with diseases of the circulatory system accounting for 35% (n=9,931) of all deaths. Coronary heart disease comprises over half (50.3%) of these circulatory system diseases.



Figure 4.2 Principal causes of death in Ireland, 2007

Over time, there have been changes in the relative contribution of each condition to the overall death burden, as illustrated in Figure 4.3, with deaths from circulatory disease falling and deaths from cancers increasing (as a percentage of all deaths).



Figure 4.3 Percentage contributions of main causes of death to total number of deaths, 1998 - 2007

### **4.3 Infant Mortality**

Infant mortality (the number of deaths in all infants aged less than one year per 1,000 live births) is an indicator that reflects the underlying health and wellbeing of the population. The main causes of infant deaths are congenital anomalies and perinatal factors. Figure 4.4 illustrates a steady decline in infant deaths in Ireland and the EU-15. Mortality in Ireland exceeded that of the EU-15 in the years between 1995 and 2004. Rates have now fallen just below the EU-15, resulting in an infant mortality rate in 2006 of 3.7 per 1,000 live births compared to an EU-15 average of 4.0 per 1,000.

#### Figure 4.4 Infant mortality rates in Ireland and EU-15, 1980 - 2006



Source: European Health for all Database (November 2007), WHO Regional Office for Europe.

### **4.4 Years of Potential Life Lost**

Years of potential life lost (YPLL) is a statistical measure that is defined as the number of years of potential life lost by each death occurring before the individual's life expectancy, traditionally set at age 65 years. It is calculated by subtracting a person's age of death from their life expectancy.

In regard to premature deaths, cancer accounts for 38% of deaths, circulatory disease 27%, injuries (accidents, suicide, homicide) 11%, respiratory disease 4% and digestive disease, 4%. Table 4.1 sets out YPLL for these causes of death. Mortality from cancer has the largest impact, with almost 100,000 years of potential life lost overall from the population. However, road traffic collisions, injuries, poisoning and suicide, and self-inflicted injuries, cause the greatest number of average years lost per individual as these generally occur when people are much younger. Together, these three injury-related categories of death account for 20.5% of all YPLL.

Principal Cause of Death	Number of deaths	Years of Potential Life Lost (YPLL)	Average YPLL per person	
Cancer of the Lung (ICD 162)	1,608	19,514	12.1	
Cerebrovascular Disease (ICD 430-438)	1,903	15,742	8.3	
Suicide and Self-Inflicted Injury (ICD E950-E958)	409	15,003	36.7	
Breast Cancer (ICD 174)	667	11,116	16.7	
Motor Vehicle Accidents (ICD 810-819)	281	11,003	39.2	
Cancer of the Colon (ICD 153)	584	6,158	10.5	
Cancer of the Rectum (ICD 154)	370	4,250	11.5	
Diabetes (ICD 250)	516	4,227	8.2	
Cancer of the Prostate (ICD 185)	532	3,609	6.8	
All Cancers (ICD 140-208)	7,868	99,321	12.6	
All Circulatory System Diseases (ICD 390-459)	9,662	81,773	8.5	
All Ischemic Heart Disease (ICD 411)	4,860	41,411	8.5	
All injuries and Poisonings (ICD 800-999)	1,292	39,270	30.4	
All Causes	27,479	318,115	11.6	

#### Table 4.1 Number of years of potential life lost by principal cause of death, 2006

\*Mortality codes are based on International Classification of Diseases (ICD-9) codes. Figures for 2006 are provisional and based on year of registration.

Source: Public Health Information System, version 10. 2008

## 4.5 Death from Individual Conditions

#### 4.5.1 The Major Conditions

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Figure 4.5 illustrates the four major causes of death (age-standardised mortality rates) from 1984 to 2006, highlighting the marked reduction in deaths from circulatory disease. It is estimated that half of this reduction is due to population risk factor reduction and half to treatments. Reductions across time in other conditions are small.



#### Figure 4.5 Leading causes of death (age-standardised mortality rates) for Ireland, 1984-2006

2000 2006 ,999 All circulatory diseases (ICD 390-459) — All respiratory diseases (ICD 460-519) All malignant cancers (ICD 140-208) — Injuries & poisonings (ICD 800-999)

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#### 4.5.2 Circulatory Disease

Circulatory disease is the most common cause of death in Ireland. It accounts for over one third (35%) of all deaths. Circulatory diseases include coronary heart disease (heart attacks), angina, cerebrovascular disease (stroke), hypertension (elevated blood pressure), peripheral artery disease, rheumatic heart disease, congenital heart disease, and heart failure. The major causes of circulatory disease are tobacco use, physical inactivity, an unhealthy diet, high cholesterol, and genetic factors. In Ireland, there has been a steady decrease in mortality rates for all diseases of the circulatory system for both males and females.

#### (a) Coronary Heart Disease

Coronary heart disease (CHD), the most common form of heart disease, is caused by the accumulation of plaques (fat, cholesterol, calcium and other substances) in the coronary arteries, causing narrowing, which reduces blood supply to the heart muscles. Reduced blood supply may cause angina, or a clot may block the narrowed coronary artery, causing a heart attack (myocardial infarction). Chronic CHD can lead to heart failure and heart rhythm disturbances. Figure 4.6 illustrates deaths from CHD for males and females in Ireland and the EU-15 from 1970 until 2006.

#### Figure 4.6 Deaths from CHD (age-standardised mortality) per 100,000 population, males and females, Ireland and EU-15, 1970 - 2006



Source: European Health for all Database (November 2007), WHO Regional Office for Europe.

- Each year there are about 5,500 deaths from CHD in Ireland, accounting for one-fifth (19%) of all deaths.
- Death rates from CHD have declined across all age groups in Ireland in the past 20 years, dramatically so for males, with rates falling from a high of 418.5 per 100,000 in 1978 to 154.9 in 2006.
- Men die more often from CHD than women, particularly in the under 65s, where 28% of men compared to 15% of women die from circulatory disease.
- People in lower socio-economic groups have a higher mortality from CHD.
- In the 1990s, despite declining CHD mortality rates, Ireland had the highest premature mortality rate for men and women in the EU-15. While CHD mortality has declined dramatically since then for both men and women in Ireland, rates are still higher than those for the EU-15.

#### (b) Cerebrovascular Disease

A cerebrovascular accident, or stroke, occurs when the blood supply to the brain is interrupted, depriving it of oxygen. A stroke causes death in one third of patients by six months and leaves another third permanently dependent on the help of others. Figure 4.7 illustrates how deaths from cerebrovascular disease (CVD) have been falling for males and females in Ireland, in tandem with their EU-15 counterparts.

#### Figure 4.7 Deaths from cerebrovascular disease in Ireland and the EU-15, 1970 - 2006



- In 2006 in Ireland, more males than females died from CVD (41.5 versus 38.5 per 100,000 population).
- This trend has been relatively consistent across time in both Ireland and the EU-15.
- Since 2002, deaths from CVD have been lower for both males and females in Ireland when compared with their EU-15 counterparts.

#### 4.5.3 Cancer

The term 'cancer' is used to describe a group of illnesses where there is an overgrowth of tissue cells, commonly leading to the development of a tumour. These illnesses have distinctive risk factors and treatments. Cancer is the second most common cause of death and the leading cause of premature mortality in Ireland, with one in three Irish people developing invasive cancer during their lifetime. Every year, there are about 7,500 cancer deaths in Ireland. The most common causes of cancer death in Ireland are lung cancer (20%), followed by colorectal cancer (12.3%), and breast cancer (8.6%). Figure 4.8 illustrates deaths from cancer in males and females for Ireland and the EU-15 from 1980 until 2006.

#### Figure 4.8 Deaths from cancer for males and females, Ireland and EU-15, 1980 - 2006



Source: European Health for all Database (November 2007), WHO Regional Office for Europe

Deaths from cancer have fallen in recent years, with mortality in people under 70 years of age having fallen more than 20% between 1994 and 2006.

- There is a striking difference in death rates between men and women, in both Ireland and the EU-15. The higher rate of deaths from cancer for men is consistent across all cancers.
- Mortality rates in Ireland and the EU-15 have decreased for both males and females. In recent years, survival for Irish males has been above the EU-15 average, but survival for Irish females has been below the EU-15 average.
- An Institute of Public Health report of 2001 found a clear occupational class gradient in mortality from invasive cancers. The lowest occupational class had an annual standardised mortality rate that was over 110% higher than the rate in the highest occupational class. A higher rate was found for all cancers assessed other than prostate and skin cancer.

#### 4.5.4 Respiratory Disease

A range of conditions, including cancer, affect the respiratory (breathing) system. Chronic obstructive pulmonary disease (COPD) is a term that encompasses several chronic lung diseases which cause limitations in lung airflow. Asthma is a chronic disease characterised by recurrent attacks of breathlessness and wheezing, which may vary in frequency and severity from person to person. Another major respiratory disease is pneumonia, or inflammation of the lung tissue, most commonly caused by infective agents such as bacteria and viruses.

Diseases of the respiratory system, including malignant neoplasms, cause one in five deaths in Ireland, with over 5,500 deaths each year. The leading cause of death from respiratory disease is pneumonia (34%, n=1,913), followed by cancer of the respiratory system (29%, n=1,608) and COPD (22%, n=1,259). Figure 4.9 illustrates deaths from all non-cancer respiratory conditions for males and females in Ireland and the EU-15 between 1980 and 2006. Deaths from cancer of the lung (n=1,603) were included in the previous section.



Figure 4.9 Deaths from respiratory conditions for males and females in Ireland and the EU-15, 1980 - 2006

Source: European Health for all Database (November 2007), WHO Regional Office for Europe

Death rates from respiratory disease in Ireland are consistently above EU-15 counterparts. While male deaths rates have fallen substantially from 196.6 per 100,000 in 1986 to 100.6 in 2006, rates for females have shown a different pattern. Between 1980 and 2000 female death rates from respiratory disease remained relatively constant, with the peak rate occurring in 1999 (110.0 per 100,000). Thereafter, rates for Irish females began to fall. Despite this reduction, however, the most recent Irish female death rate from respiratory disease is almost double the EU-15 average. Respiratory disease is the second highest cause of death for women in Ireland. Figure 4.10 shows Ireland with the highest mortality rate for diseases of the respiratory system of 21 countries with recorded data in 2005.



#### Figure 4.10 Deaths from diseases of the respiratory system, Ireland and 21 countries, 2005

Source: OECD Health Data 2005, Version June 2008

There is a strong relationship between social class and death from respiratory disease in Ireland. The death rate from respiratory disease is 200% higher in the lowest occupational class compared to the highest occupational class.

#### 4.5.5 Death from Injuries

Injuries are a leading cause of morbidity and premature mortality worldwide, with the majority of these injuries being preventable. Every year approximately 1,300 people die in Ireland from injuries and poisoning, accounting for 5% of all deaths. The most common causes of deaths from injury are suicide and self-inflicted injuries (31.6%), followed by motor vehicle collisions (21.7%) and falls (19.8%). Figure 4.11 illustrates deaths from injuries and poisonings for males and females in Ireland and the EU-15 between 1980 and 2006.



Figure 4.11 Deaths from injuries and poisonings in males and females, Ireland and the EU-15, 1980 - 2006

Source: European Health for all Database (November 2007), WHO Regional Office for Europe

- Deaths from injuries and poisonings have been lower across time, for the most part, in Ireland than in the EU-15, for both males and females. The exception occurred in the period from 1998 to 2002 when male rates exceeded EU-15 rates, and female rates approximately equalled EU-15 rates. Thereafter, rates fell for both sexes, with Ireland's age-standardised death rate in 2006 of 29.4 per 100,000 population, slightly lower than the EU-15 average of 35.2 per 100,000 population.
- Deaths from injury and poisoning are decreasing in both Ireland and the EU-15, but currently more so in Ireland.
- This drop in injury mortality (from 50.0 per 100,000 in 1980 to 29.4 per 100,000 in 2006) is due to a significant decrease in road traffic collision (RTC) mortality and all other unintentional injury mortality.
- Although injury and poisonings account for a relatively small number of total deaths in Ireland, the fact that these deaths occur mainly in the younger population means that the years of potential life lost is very large, at almost 40,000 years.
- The social class gradient for injuries is steeper than for many other causes of death, with a much higher incidence among those in lower socio-economic groups.
- In childhood, the injury death rate for children from families in the unskilled social classes is five times higher than that of children from families in the professional social classes.

#### (a) Death from Suicide

Suicide is the act of ending one's own life. In 2007, there were 460 deaths from suicide in Ireland. The majority were male, with people under 50 years of age accounting for 70% of suicide deaths. Figure 4.12 illustrates deaths from suicide in Ireland and the EU-15 across time. Male rates, which exceeded EU-15 rates between 1995 and 2005, are now falling below EU-15 rates.



#### Figure 4.12 Deaths from suicide in males and females, Ireland and EU-15 1980 - 2006

Source: European Health for all Database (June 2008), WHO Regional Office for Europe.

- There was a continuous rise in suicide reported in Ireland between 1980 and 1998. It's not known what effect differences in reporting and coding have made to these figures. Between 1998 and 2006 suicide numbers fell by 20%, with the rate for males decreasing from 23.1 to 14.2 per 100,000 population.
- Female suicide rates have remained relatively unchanged across this time, matching those of the EU-15.
- Deaths from suicide in 2006 have resulted in 15,003 years of potential life lost based on current life expectancy figures.
- Suicide is higher in the lower socio-economic groups, with suicide and intentional self-harm being in excess of 170% higher in the lowest occupational class compared to the highest, with a clear occupational class gradient.
- OECD data in Figure 4.13 shows Ireland ranked sixth lowest for death by suicide (for all ages) in 2005 of 21 OECD countries. In 1998, Ireland ranked 15th of 26 OECD countries.





Source: OECD Health Data 2005, Version June 2008

In contrast, a greater proportion of suicides in Ireland have occurred in the younger age groups (15-29 years). Figure 4.14 illustrates the youth suicide rate (age 15-24 years) per 100,000 population for 24 European countries, with Ireland ranking 7th highest among the 24 countries.



#### Figure 4.14 EU youth suicide rate per 100,000 population, 15 to 24-year-olds, 2006

Source: Annual Report 2006. National Office for Suicide Prevention

A note of caution should accompany the interpretation of suicide data. Under-ascertainment is likely, due to the following reasons:

- Deaths may be unknowingly or deliberately certified as natural.
- Information submitted to the CSO may be insufficient and lead to inaccurate classification as undetermined or accidental.
- Suicidal deaths occurring in one year may not appear in that year's statistics, but rather in the year of
  registration which can be delayed by the inquest process.
- Deaths registered as accidental may in fact result from suicide, for example, in the case of single occupant single vehicle motor accidents.
- A number of people who go missing are not found and may have committed suicide in Ireland or elsewhere.
- Deaths by suicide committed abroad are not registered in Ireland.

#### (b) Deaths from Road Traffic Collisions

In 2006, 368 people were killed in fatal road traffic collisions (RTCs) on Irish roads. The majority of those killed were male (n=262, 71.1%), most commonly aged between 25 and 34 years of age. The most common age group for females who were killed was 65 years and over.

The primary causes of RTC deaths and injuries are:

- Speed inappropriate for, or inconsistent with, the prevailing circumstances or driving conditions.
- Impaired driving through alcohol, drugs (prescription or non-prescription) or fatigue.
- Failure to use, or properly use, seatbelts and child safety restraints.
- Unsafe behaviour towards/by vulnerable road-users. Vulnerable road-users are pedestrians, motor cyclists, cyclists, young children, and older people.

Figure 4.15 illustrates deaths from RTCs in Ireland and the EU-15 between 1980 and 2006, with male deaths being twice those of female deaths in both areas. Deaths for males have dropped considerably since the early 1990s, but more so for males in Ireland, whose rate of death is now 9.4 per 100,000 population, compared with 12.5 per 100,000 population for the EU-15.

#### Figure 4.15 RTC deaths, Ireland and EU-15, 1980 - 2006



Source: European Health for all Database (June 2008), WHO Regional Office for Europe

Figure 4.16 illustrates age-standardised death rates for males and females under and over 65 years of age, with reductions evident for all groups. Of note, however, is the scale of the reduction in deaths for males over 65 years, from a high of 55.4 per 100,000 population in 1981 to 13.8 per 100,000 in 2006. Deaths in females of this older age group remain higher than their younger female counterparts, with rates being similar to those for males under 65 years of age. More young males than older males are killed on our roads, resulting from the fact that there are greater numbers of young males in the population. As a proportion of their age group, however, more older males are killed.

# Figure 4.16 Deaths per 100,000 population (age-standardised) from RTCs, males and females under and over 65, Ireland, 1980 - 2006



A report by the Road Safety Authority showed that 25% of car drivers and 9% of front seat passengers involved in fatal collisions were not wearing a seat belt. Analysis of fatal road crashes in Ireland in 2003 showed that alcohol was a factor in 37% of fatal crashes in which 123 people were killed. Forty-two per cent of drivers killed had a positive blood alcohol level (BAL), of whom 81% were over the legal limit. Over the last ten years much progress has been made in reducing the number of fatalities from RTCs:

- In 1996, the fatality rate per million registered vehicles was 338.
- By 2006, the rate had fallen to 159 per million registered vehicles.
- This reduction in fatalities has occurred in the context of a large increase in road users.
- The trend continues of a higher numbers of deaths for males, particularly young males. In the 2003 analysis of fatal road crashes, 90% of drivers for whom alcohol was a contributory factor in the road death were male.
- The 281 RTC deaths recorded in 2006 represent 11,003 years of potential life lost (YPLL) based on current life expectancy.

#### (c) Fall-Related Deaths in Ireland

The recent publication of a Strategy to Prevent Falls and Fractures in Ireland's Ageing Population reported that:

- Every year, 10% of all older people need treatment following an injury. Falls cause 75% of these injuries.
- In Ireland, three-quarters of all fall-related deaths (approximately 250 deaths each year) occur in people aged 65 years and older. Figure 4.17 illustrates how deaths, which showed a marked increase after 1995, particularly for the 85+ age group, are now beginning to fall for all groups.





Fall-related deaths increase with age over 65 years and they are more frequent in older females, as illustrated in Figure 4.18. As with the age groups, fall-related deaths are decreasing for both genders.

#### Figure 4.18 Numbers of deaths due to accidental falls among people aged 65 years and over by gender, Ireland, 1993-2006 in 5-year blocks



Source: PHIS, version 10. 2008

Falls are the leading cause of fatal injuries in older people in most of the EU member states, accounting for 40% to 50% of injury deaths. Ireland's death rate (61.7 per 100,000 population 65 years and over) is approximately average in the EU.