EUROPE

Highlights on health
in Iceland
2005

Highlights on
health

Highlights on health give an overview of a country's health status, describing recent data on mortality, morbidity and exposure to key risk factors along with trends over time. The reports link country findings to public health policy considerations developed by the WHO Regional Office for Europe and by other relevant agencies. *Highlights on health* are developed in collaboration with Member States and do not constitute a formal statistical publication.

Each report also compares a country, when possible, to a reference group. This report uses the 27 countries with very low child mortality and very low adult mortality, designated Eur-A by WHO, as the reference group. Eur-A comprises Andorra, Austria, Belgium, Croatia, Cyprus, the Czech Republic, Denmark, Germany, Greece, Finland, France, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, the Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

To make the comparisons as valid as possible, data, as a rule, are taken from one source to ensure that they have been harmonized in a reasonably consistent way. Unless otherwise noted, the source of data in the reports is the European health for all database of the WHO Regional Office for Europe. Other data and information are referenced accordingly.

Contents

Summary: findings and policy considerations

Life expectancy

WHO estimates that a person born in Iceland in 2002 can expect to live 80.1 years on average: 81.8 years if female and 78.4 years if male. Life expectancy for males in Iceland is the highest recorded in the WHO Region of Europe, some two years higher than the Eur-A average for males. Also for females, the Iceland figure is among the highest in the region. People in Iceland live on average 7.3 years with illness.

As the length of life increases, older people can respond with lifestyle changes that can increase healthy years of life. Correspondingly, health care systems need to shift towards more geriatric care, the prevention and management of chronic diseases and more formal long-term care. Since people are living longer, measures to improve health and prevent disease need to focus on people of working age.

Ageing and employment policies (OECD, 2004)

What are the main risk factors for disability in old age and how can disability be prevented? (Health Evidence Network, 2003a)

Infant mortality

Both infant and neonatal mortality in Iceland remain below the Eur-A average, and the Icelandic figures are among the lowest in the whole WHO European Region.

Antenatal care is one of the most important services in health care. Nevertheless, it can be expensive, and interventions may be excessive, unneeded and unproven. A simplified model of antenatal care, based on evidence of benefit, is available.

Managing newborn problems: a guide for doctors, nurses and midwives (WHO, 2003a)

What is the efficacy/effectiveness of antenatal care? (Health Evidence Network, 2003b)

The WHO reproductive health library, version 6 (WHO, 2003b)

Main causes of death

Recent overall mortality rates in Iceland are 18% lower than the Eur-A average for males and 12% lower for females. In 2001, selected main non-communicable diseases accounted for about 82% of all deaths in Iceland (circulatory diseases 38% and cancer 30%), external causes accounted for about 8% and communicable diseases for less than 1%.

The death rates for cervical, ovarian, prostate and pancreatic cancers are decreasing, but remain above Eur-A averages. Mortality due to cancer of the larynx, trachea, bronchus and lung remains stable and below Eur-A averages for men, while the rate among women is double the Eur-A average and decreasing.

Preventive care, delivered through a country's primary care system, can reduce all-cause mortality and premature mortality, particularly from CVD.

A strategy to prevent chronic disease in Europe: a focus on public health action: the CINDI vision (WHO Regional Office for Europe, 2004a)

Towards a European strategy on noncommunicable diseases (WHO Regional Office for Europe, 2004b)

What are the advantages and disadvantages of restructuring a health care system to be more focused on primary health care services? (Health Evidence Network, 2004)

Selected demographic and socioeconomic information

Population profile

About 289 000 people lived in Iceland as of mid-2001. Compared to averages for Eur-A countries, Iceland has a higher proportion of 0 to 14 year-olds and a lower percentage of people over 65.

The most striking demographic feature observed across most Eur-A countries is the increasing proportion of the elderly. As the large birth cohorts of the late 1940s approach retirement age, the number of people in Iceland 65 and over is expected to grow from about 12% of the population in 2003 (Council of Europe, 2003) to over 20% in 2030 (Annex. Age pyramid).

Percentage of the population aged 0–14, 15–64 and 65+ years,
Iceland, 1950 to 2050 (projected)

Source: United Nations (2005).
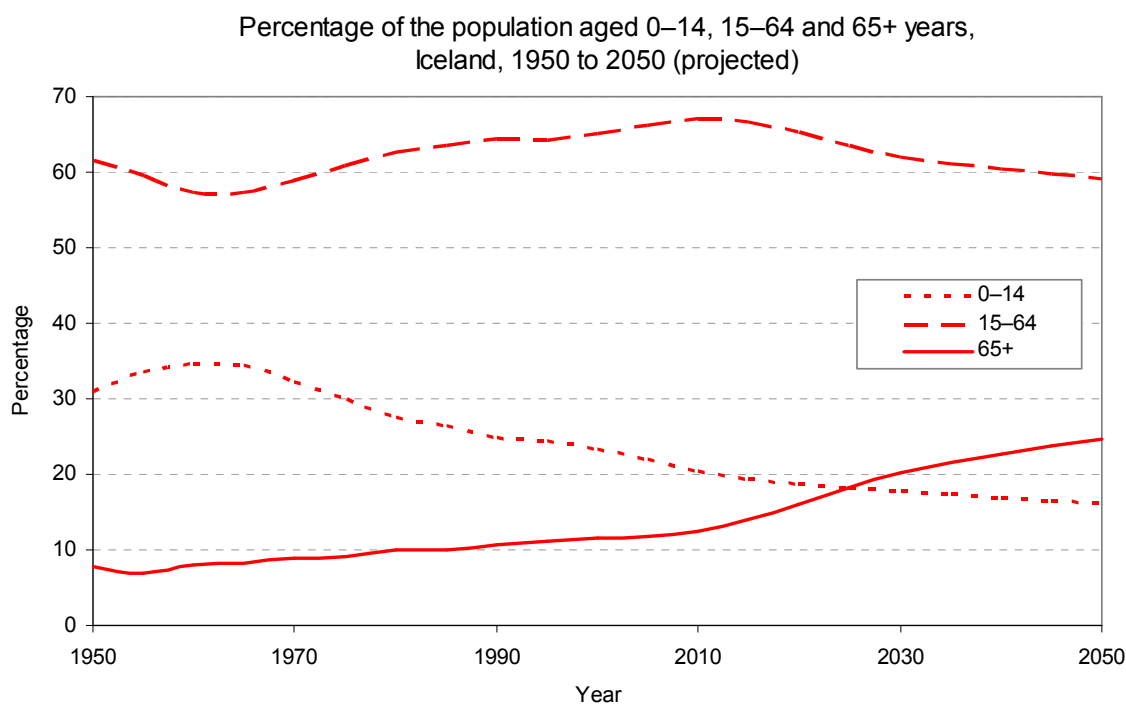
The birth rate in Iceland was above the Eur-A average in 2003. Natural increase in Iceland is well above Eur-A average, while net migration is negative and the lowest in Eur-A.

Selected demographic indicators in the Iceland and Eur-A,
2001 or latest available year

Indicators	Iceland	Eur-A		
	Value	Average	Minimum	Maximum
Population (in 1000s)[b]	289.0	–	–	–
0–14 years (%)	23.2	–	–	–
15–64 years (%)	65.3	–	–	–
65+ years (%)	11.6	–	–	–
Urban population (%)[a]	92.7	78.5	50.8	100.0
Live births (per 1000)	14.4	10.7	8.6	21.7
Natural population growth (per 1000)	8.3	1.1	–2.9	15.9
Net migration (per 1000)[a]	–0.5	3.5	–0.5	8.8

[a] 2002; [b] 2003.
Sources: Council of Europe (2005), WHO Regional Office for Europe (2005).

Socioeconomic indicators

Health outcomes are influenced by various factors that operate at individual, household and community levels. Obvious factors are, for example, diet, health behaviour, access to clean water, sanitation and health services. However, underlying health determinants of a socioeconomic nature also play a role in causing vulnerability to health risks. Here, the key factors are income, education and employment. Though moderately correlated and interdependent, each of these three determinants captures distinctive aspects of the socioeconomic background of a population and they are not interchangeable. Various indicators represent the key socioeconomic determinants of health.

Education

Education tends to enhance an individual's job opportunities. In so doing, it can improve income, which in turn affects health positively. Education can also give more access to knowledge about healthy behaviour and increase the tendency to seek treatment when needed. A lower level of education – independent of individual income – is correlated with the inability to cope with stress, with depression and hostility and with adverse effects on health.

School enrolment is an indicator of access to education. The secondary school net enrolment represents the percentage of the total population of official school age (defined nationally) that is enrolled in secondary school.

In 2000, the proportion of children enrolled in secondary schools in Iceland was 82.4%, compared to the Eur-A average of 88.5%. Among the Eur-A countries reporting data that year, the lowest enrolment rate was in Luxembourg, at 79.7% and the highest was in Slovenia at 96.0% (UNESCO, 2005).

Employment

Being employed tends to be better for health than being unemployed, except for circumstances where employment exposes the individual to physical injury or psychological stress. National unemployment rates and rates for particular sub-populations are monitored to assess the extent to which people have or lack access to opportunities that would enable them to earn an income and feel secure. Vulnerability to health risk is increased by long-term unemployment, that is, continuous periods without work, usually for a year or longer; the socioeconomic status of an individual and of his/her dependents can slide as the period of unemployment increases.

Overall reported unemployment rates in Iceland were lower than Eur-A averages in 2001 and 2002 and were the lowest among the Nordic countries, keeping in mind that national rates are based on estimates of people available and seeking employment, and that countries have different definitions of labour force and unemployment. In 2001, Iceland's unemployment rate was 2.3% compared to 6.2% for Eur-A, and in 2002 it was 3.2% while the Eur-A average was 6.7% (ILO, 2005). The unemployment rates among 15 to 24 year-olds were higher than the national average but still lower than Eur-A average and most Nordic rates. In 2001, 4.8% of young people in Iceland were unemployed compared to 13.8% in Eur-A. In 2002, Iceland's rate jumped to 7.2%, still half the average Eur-A rate for that year, 14.7% (ILO, 2005).

Life expectancy (LE) and healthy life expectancy (HALE)

According to WHO (2003c) estimates, a person born in Iceland in 2002 could expect to live 80.1 years on average: 81.8 years if female and 78.4 years if male. Life expectancy (LE) in Iceland has been some two years higher than the Eur-A average for males, and the highest recorded in the WHO European Region. The figure for females is also among the highest in the region, even though the Eur-A average has approached Iceland's in recent years. Note: Three-year averages have been used for Icelandic age- and cause-specific mortality rates to diminish random variation.

Life expectancy at birth for males, Iceland, Eur-A and Eur-B+C averages, 1980 to latest available year
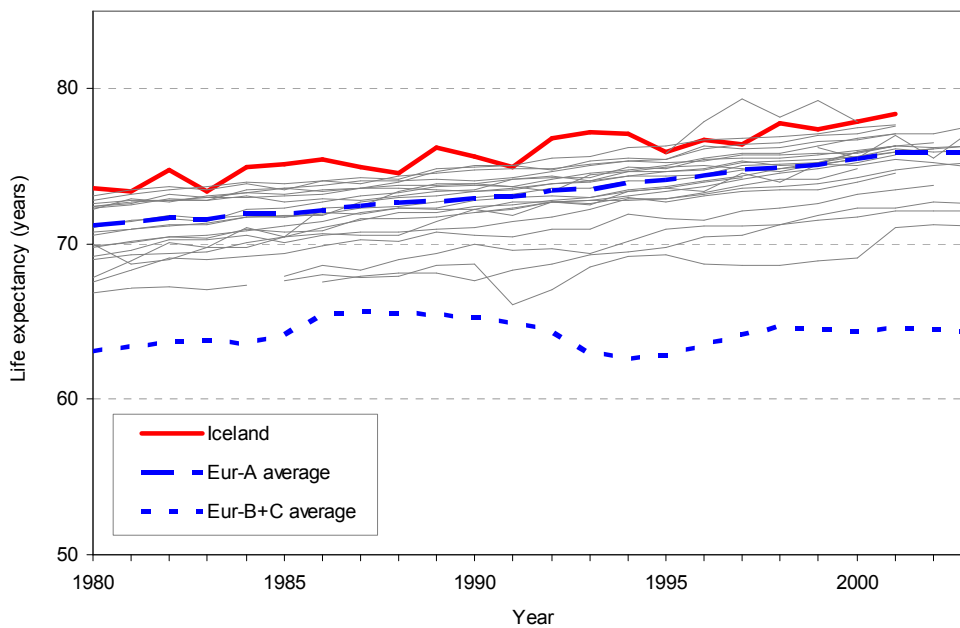
Life expectancy at birth for females, Iceland, Eur-A and Eur-B+C averages, 1980 to latest available year
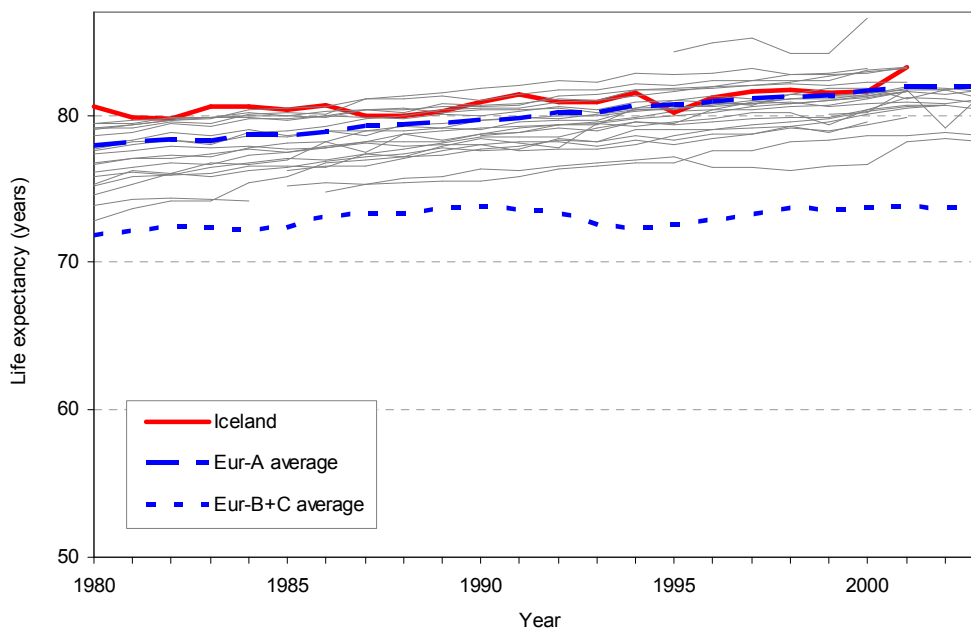
Since 1980, Icelanders have gained about 3.9 years in LE, with a greater gain for men (4.2 years) than women (2.7 years). These gains are somewhat less than those in Eur-A, especially for women.

In addition to LE, it is increasingly important to know the expected length of life spent in good health. WHO uses a relatively new indicator for this purpose – healthy life expectancy (HALE), subtracting estimated years of life spent with illness and disability from estimated LE. For Iceland, WHO (2003c) estimates that people can expect to be healthy for about 91%of their lives. They lose an average 7.3 years to illness - the difference between LE and HALE. This loss is similar to the Eur-A average (7.3 years) and the Eur-B+C average (7.6 years).

LE and HALE, Iceland and Eur-A, 2002

Country	LE	HALE
Monaco	81.2	72.9
San Marino	80.6	73.4
Switzerland	80.6	73.2
Sweden	80.4	73.3
Andorra	80.3	72.2
Iceland	80.1	72.8
Italy	79.7	72.7
France	79.7	72
Spain	79.6	72.6
Israel	79.4	71.4
Austria	79.4	71.4
Norway	79.1	72
Eur-A average	78.87	71.56
Luxembourg	78.8	71.5
Germany	78.7	71.8
Netherlands	78.6	71.2
Belgium	78.4	71.1
Greece	78.4	71
Finland	78.2	71.1
United Kingdom	78.2	70.6
Malta	78.1	71
Cyprus	77.3	67.6
Denmark	77.2	69.8
Ireland	77.1	69.8
Portugal	77.1	69.2
Slovenia	76.7	69.5
Czech Republic	75.8	68.4
Croatia	74.8	66.6

Years

Source: WHO (2003c).

Since women live longer and since the possibility of deteriorating health increases with age, women lose more healthy years of life (8.2 years) than men (6.3 years). Nevertheless, the longer LE for women

in Iceland gives them 1.5 more years of healthy life. Among people 60 years old, females live more than one year longer in good health than males – 18.7 years compared to 17.5 years, according to the WHO estimates (2003).

Burden of disease

The burden of disease in a population can be viewed as the gap between current health status and an ideal situation in which everyone lives into old age, free of disease and disability. Causing the gap are premature mortality, disability and certain risk factors that contribute to illness. The analysis that follows elaborates on the burden of disease in the population. The disability-adjusted life-year (DALY) is a summary measure that combines the impact of illness, disability and mortality on population health.

Main conditions

The table shows the top 10 conditions, in descending order, that account for approximately 90% of the burden of disease among males and females in Iceland. As in most countries in western Europe, neuropsychiatric conditions account for the most DALYs among both males and females in the country. Because mortality from these conditions is minor, disability in daily living comprises the bulk of their burden on the population's health.

Ten leading disability groups as percentages of total DALYs for both sexes
in Iceland (2002)

Rank	Males		Females	
	Disability groups	**Total DALYs (%)**	**Disability groups**	**Total DALYs (%)**
1	Neuropsychiatric conditions	28.1	Neuropsychiatric conditions	34.1
2	Cardiovascular diseases	15.2	Malignant neoplasms	16.5
3	Malignant neoplasms	14.9	Cardiovascular diseases	12.2
4	Unintentional injuries	10.7	Respiratory diseases	6.9
5	Intentional injuries	5.1	Musculoskeletal diseases	5.2
6	Sense organ diseases	4.9	Sense organ diseases	5.1
7	Respiratory diseases	4.5	Unintentional injuries	4.1
8	Musculoskeletal diseases	3.7	Digestive diseases	2.7
9	Digestive diseases	1.9	Endocrine disorders	2.0
10	Perinatal conditions	1.8	Infectious and parasitic diseases	1.8

Source : Background data from WHO (2003[c]).

Main risk factors

The table shows the top 10 risk factors with their relative contributions, in descending order, to burden of disease in the male and female populations of Iceland. According to DALYs, tobacco use places the greatest burden of disease on the population, estimated using current levels of smoking impact (such as lung cancer mortality) and the prevalence of oral tobacco use.

Ten leading risk factors as causes of disease burden measured in DALYs
in Iceland (2002)

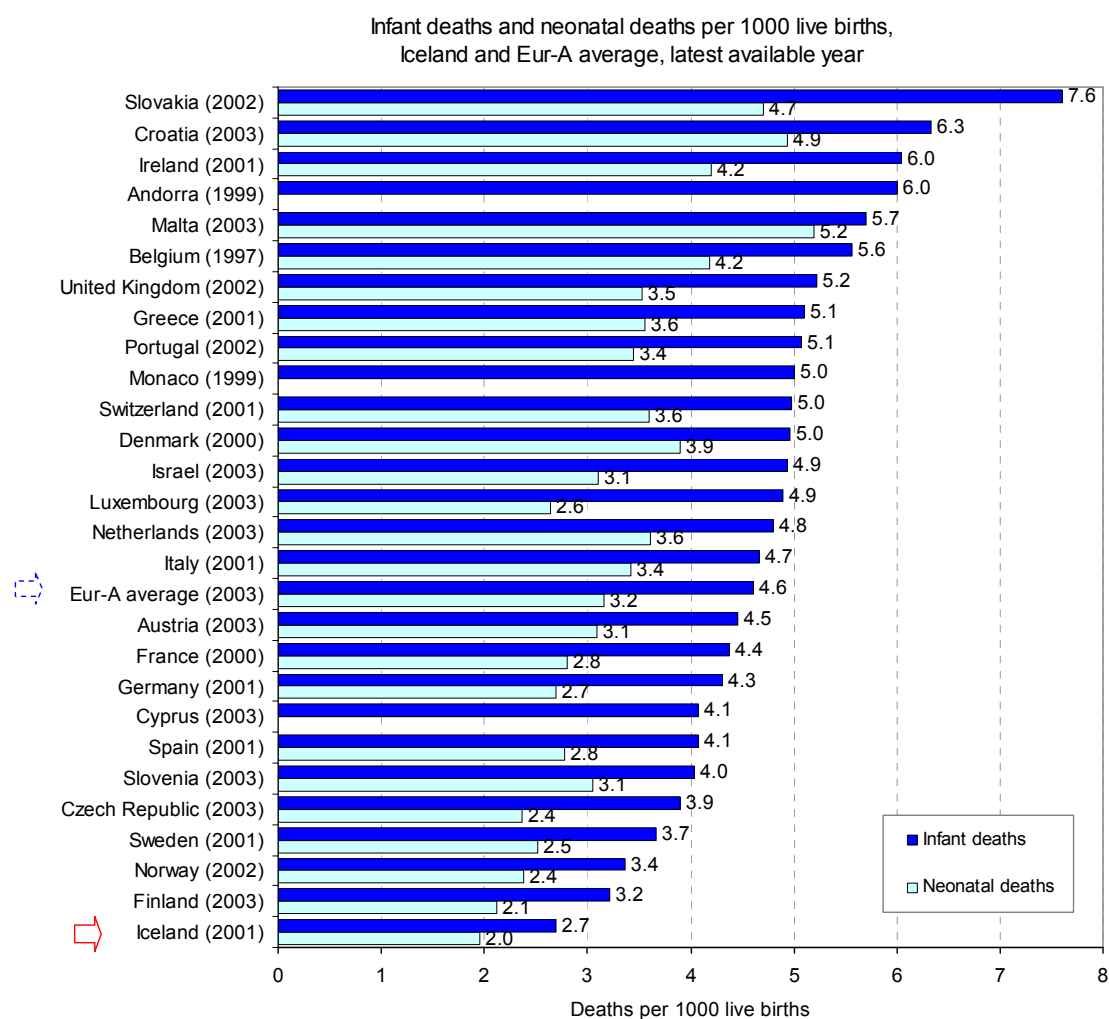| Rank	Males		Females	
	Risk factors	**Total DALYs (%)**	**Risk factors**	**Total DALYs (%)**
1	Tobacco	11.9	Tobacco	13.2
2	Alcohol	8.4	High BMI	5.1
3	High cholesterol	7.0	High cholesterol	4.8
4	High blood pressure	5.9	High blood pressure	4.4
5	High BMI	5.6	Physical inactivity	2.2
6	Illicit drugs	2.8	Unsafe sex	2.0
7	Physical inactivity	2.8	Low fruit and vegetable intake	1.4
8	Low fruit and vegetable intake	2.3	Illicit drugs	1.3
9	Occupational risk factors for injuries	0.6	Iron deficiency	1.1
10	Occupational airborne particulates	0.6	Alcohol	1.0

Source: Background data from WHO (2003[c]).

Mortality

Infant, neonatal and child mortality

Both infant and neonatal mortality in Iceland remain below the Eur-A average, and are among the lowest in the WHO European Region.

National data and WHO estimates for 2003 show that out of every 1000 live births in Iceland, there is a probability that about four children will die before age five. The Eur-A average rate for 2002, based on nationally reported data, was between 5 and 6 deaths under-5 per 1000 live births.

Infant deaths and neonatal deaths per 1000 live births,
Iceland and Eur-A average, latest available year

Country	Infant deaths	Neonatal deaths
Slovakia (2002)	7.6	4.7
Croatia (2003)	6.3	4.9
Ireland (2001)	6.0	4.2
Andorra (1999)	6.0	
Malta (2003)	5.7	5.2
Belgium (1997)	5.6	4.2
United Kingdom (2002)	5.2	3.5
Greece (2001)	5.1	3.6
Portugal (2002)	5.1	3.4
Monaco (1999)	5.0	
Switzerland (2001)	5.0	3.6
Denmark (2000)	5.0	3.9
Israel (2003)	4.9	3.1
Luxembourg (2003)	4.9	2.6
Netherlands (2003)	4.8	3.6
Italy (2001)	4.7	3.4
Eur-A average (2003)	4.6	3.2
Austria (2003)	4.5	3.1
France (2000)	4.4	2.8
Germany (2001)	4.3	2.7
Cyprus (2003)	4.1	
Spain (2001)	4.1	2.8
Slovenia (2003)	4.0	3.1
Czech Republic (2003)	3.9	2.4
Sweden (2001)	3.7	2.5
Norway (2002)	3.4	2.4
Finland (2003)	3.2	2.1
Iceland (2001)	2.7	2.0

Deaths per 1000 live births

Maternal mortality

Maternal mortality rates (MMR) and the Millennium Development Goal (MDG)

Despite the difficulties in accurately measuring MMR, nationally reported figures are accepted at face value relative to the MDG to improve maternal health – to reduce the MMR by 75% between 1990 and 2015. In some countries, the 2015 target may be equal to or lower than the average current MMR for high income countries in the European Region (the Eur-A 2001 average of five maternal deaths per 100 000 live births). Countries with 2015 targets lower than the current Eur-A average can be judged as having achieved or being likely to achieve the MDG (World Bank, 2005).

However, in some countries, MMR were higher in 2002 than they had been in 1990. Applying the 75% reduction to the 1990 baseline in these countries creates in some cases a 2015 MDG target that requires dramatic reductions in MMR before 2015. In these cases, more important than reaching MMR

targets is that countries take concrete action to provide women with access to adequate care during pregnancy and childbirth, initiatives that have proven to bring down MMR.

The maternal mortality ratio in Iceland remains below the Eur-A average, even though three maternal deaths were reported from 1999 to 2001, the same as from 1975 to 1998. Between 1998 and 2002, no maternal deaths due to induced or spontaneous abortion (including ectopic pregnancies) were reported.

Excess mortality

In general, mortality rates for males in Iceland are 18% lower than the Eur-A average, and the mortality rates for females are 12% lower than the Eur-A average.

The highest excess mortality occurs for men and women 15–29 years old. While the mortality rates for men 30 and over are below the Eur-A average, those for women 45 and over are comparable to or slightly above the Eur-A average.

Main causes of mortality by sex and age group in Iceland in comparison with Eur-A (Eur-A = 100), 2003
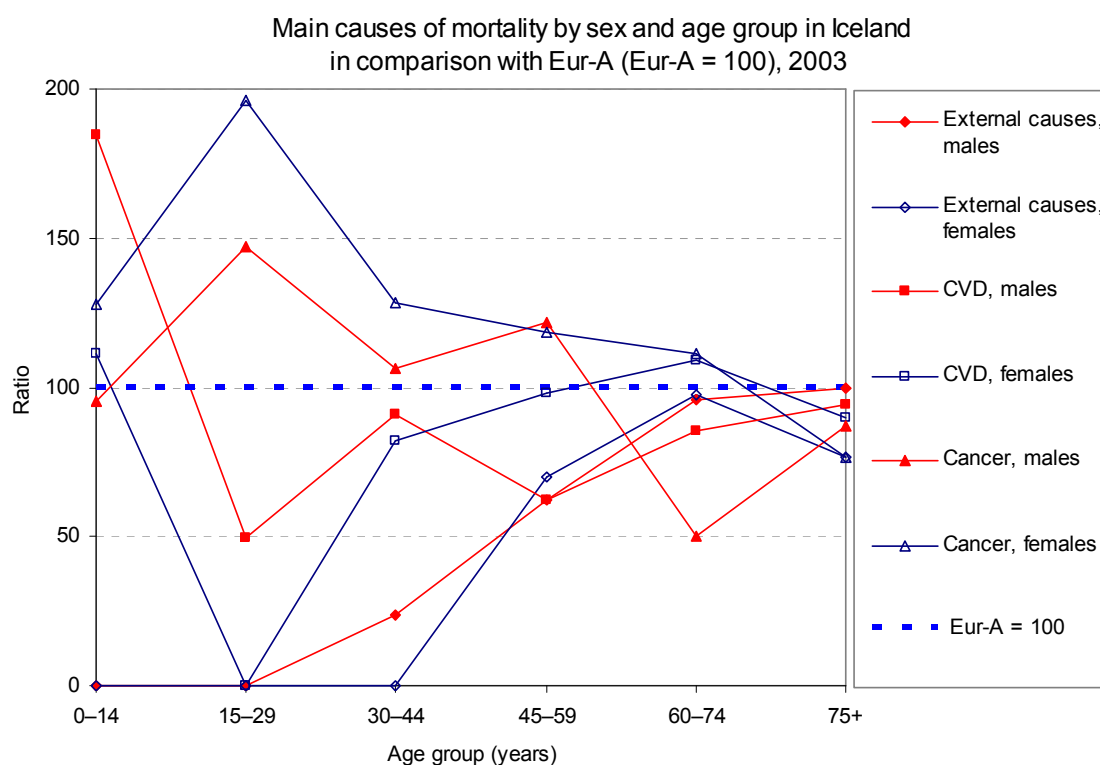
Total mortality by sex and age group in Iceland
in comparison with Eur-A (Eur-A = 100), 2003
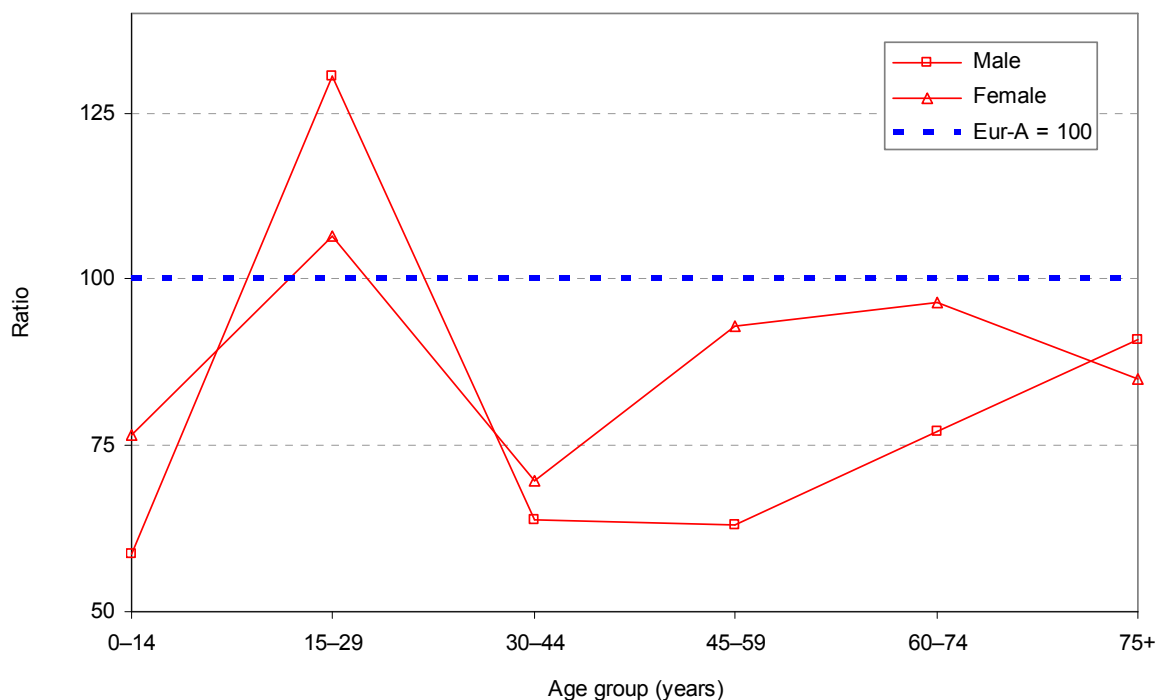
Main causes of death

In 2001, selected main non-communicable diseases accounted for about 82% of all deaths in Iceland, external causes for about 8% and communicable diseases for less than 1%. In total, 38% of all deaths were caused by diseases of the circulatory system and 30% by cancer (Annex. Selected mortality, Annex. Mortality data).

Icelandic people have a lower risk of dying from CVDs than the Eur-A average, excluding men 75 and over. The risk for cancer death is also lower for men in all age groups and for women under 45. Both the young (under 14) and the elderly (75 and over) have lower risks for death from external causes and poisoning than the Eur-A average, but in the remaining age groups the rates are equal to Eur-A average or above it (for the 15–29 group in both sexes).

CVD

CVD mortality has decreased both in Iceland and in Eur-A since 1980. This improvement has been especially significant (-50%) for men 45–74 years in Iceland; the rate for females has also decreased substantially, but from a lower level.

Ischemic heart disease is the single biggest killer in Iceland, causing 20% of all deaths in 2001. For men 45–59 years old, the mortality rate has reached the Eur-A average, and the rate for men 60–74 continues to decline and approach the Eur-A average. There is also a significant decline among males over 75, but they still have a more than 40% higher death rate than the Eur-A average. For females, the mortality rate from ischemic heart disease has declined slowly in the 45–59 age group, and is increasing in the 60–74 group. On the other hand, death rates for Icelandic women 75 and over, which had been high, have declined rapidly in the last few years.

Deaths from cerebrovascular diseases have been less common in Iceland than in Eur-A, but the rate among males and females 65 and over have almost stagnated since the late 1970s, and the difference between Eur-A average and Icelandic rate has almost vanished.

Standardized death rates (SDR) for ischaemic heart disease in people aged 65+ years, Iceland, Eur-A and Eur-B+C averages, 1980 to latest available year
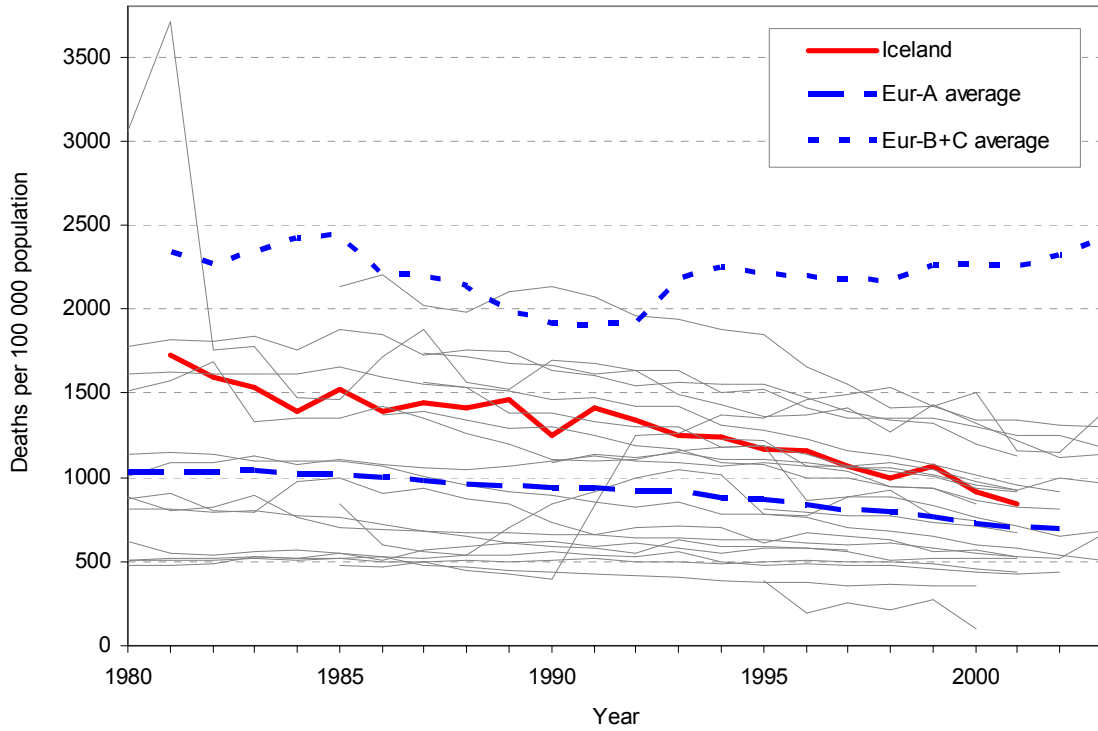
SDR for cerebrovascular diseases in people aged 65+ years, Iceland, Eur-A and Eur-B+C averages, 1980 to latest available year
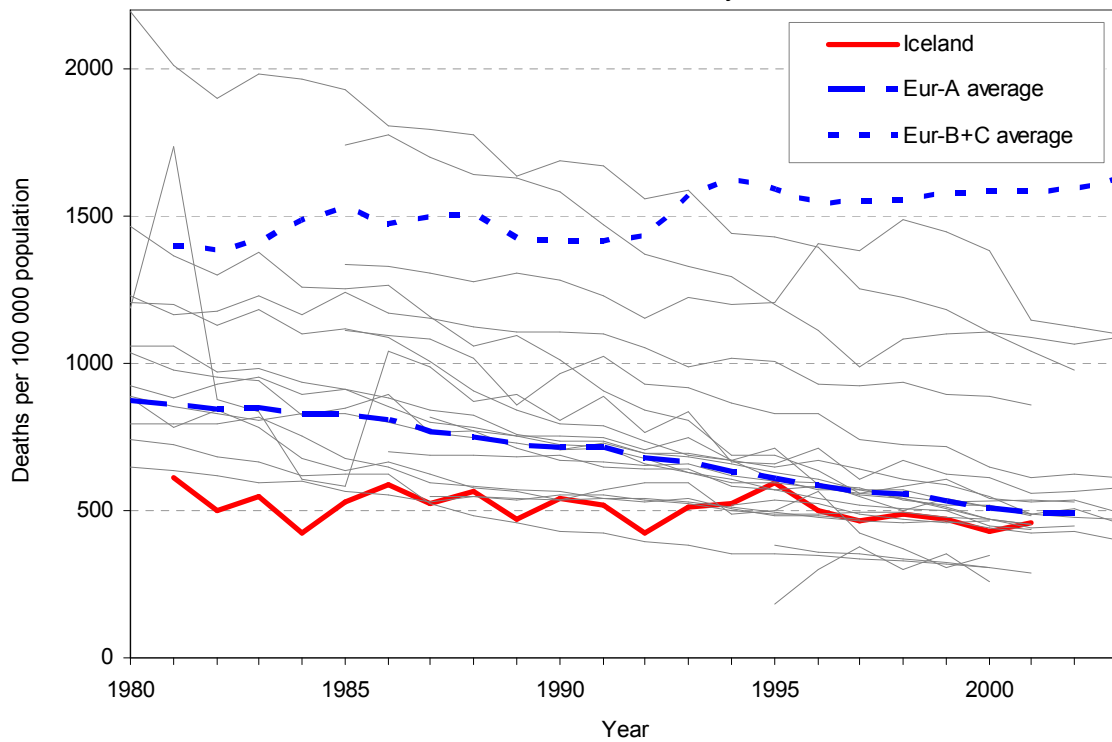
Cancer

Cancer causes more than every fourth death in Iceland. Even though men have a higher risk of dying of cancer in Iceland, their mortality rate is almost one fifth lower than the Eur-A average. The rate for women had exceeded the Eur-A average for a long period, but the most recent rate (2001) remains below the Eur-A average.

The risk for dying from cancer of the stomach, bladder, oesophagus, breast, uterus or lymphoid and haematopoietic tissue are declining in Iceland, and the current rates are lower than the Eur-A averages. The death rates for cervical, ovarian, prostate and pancreatic cancers are also decreasing, but the current Icelandic rates remain from 15% to 25% up to 50% (ovarian) above the Eur-A averages. The difference may even become larger, since the death rate for cervical cancer among women aged 60–74 years and for ovarian and prostate cancers among people over 75 are increasing.

Deaths from colorectal, liver and skin cancers have become more frequent in Iceland, even though the most recent rates are still below the Eur-A average. This increase is more significant for men (colorectal and liver cancers), for 60–74 year-olds (all three causes) and those 75 and over (colorectal and skin cancers).

Mortality of larynx, trachea, bronchus and lung cancers is different for men and women. For men, the rate remains stable and below the Eur-A average, though the difference is diminishing. For Icelandic women, the rate is double the Eur-A average, but this difference is also decreasing. These mortality patterns reflect the previous trends in smoking. Almost one out of three Icelandic women over 15 years old were regular daily smokers in the late 1980s, but this proportion has declined to 20%. Among men, the declining smoking trend has stopped, and currently one out of four Icelandic men is a daily smoker.

SDR for larynx, trachea, bronchus and lung cancer in males, all ages,
Iceland, Eur-A and Eur-B+C averages,
1980 to latest available year

SDR for larynx, trachea, bronchus and lung cancer in females, all ages,
Iceland, Eur-A and Eur-B+C averages,
1980 to latest available year
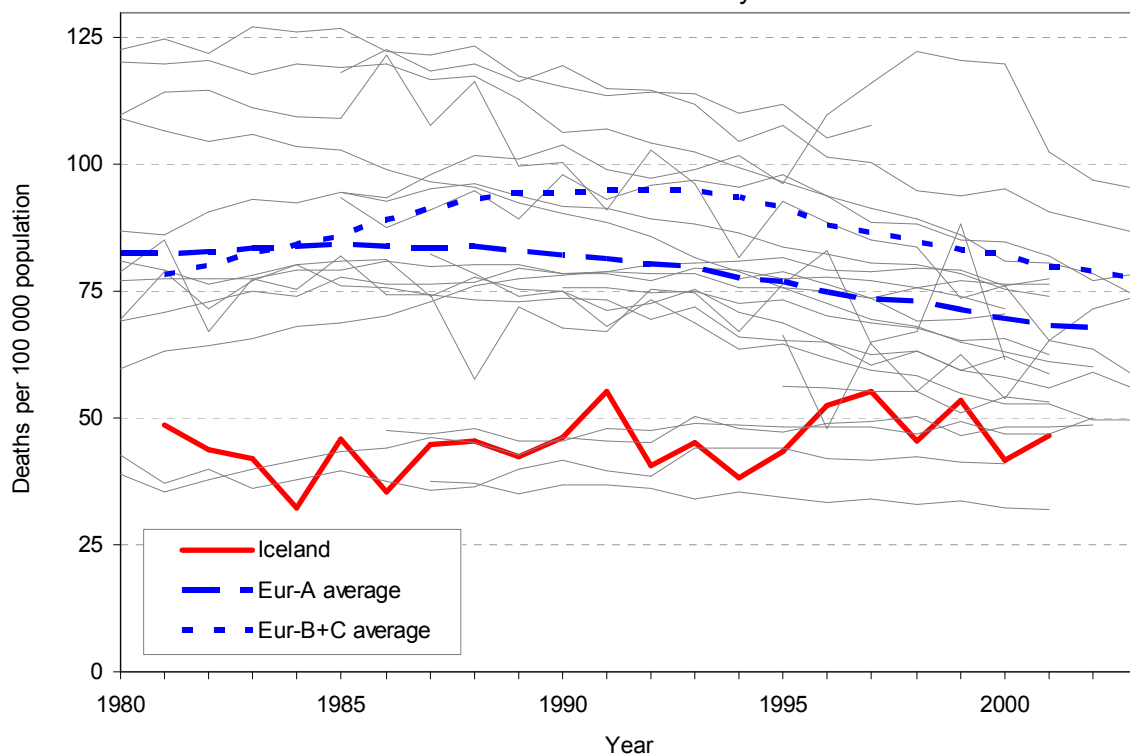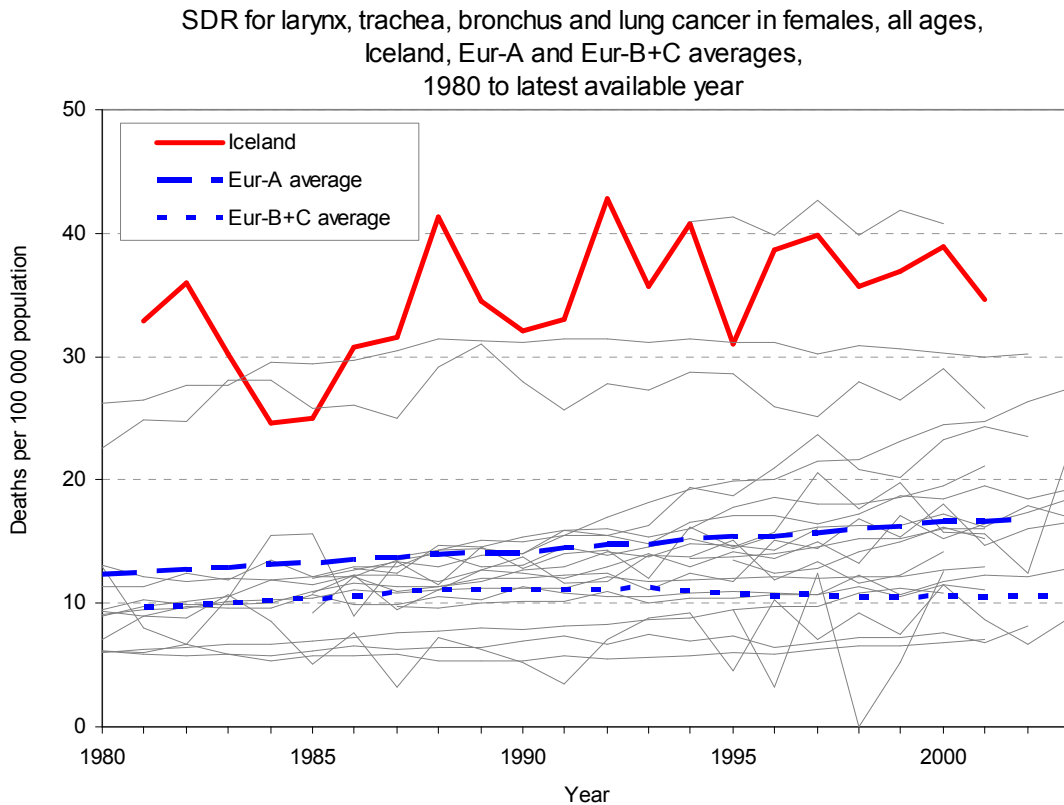
Other causes of death (diseases and medical conditions)

The death rate for mental disorders and diseases of the nervous system has increased rapidly in Iceland –
faster for women than for men –affecting women 60 and older and men over 75, due to Alzheimer's and
other degenerative diseases of nervous system.

SDR for mental disorders and diseases of the nervous system and the sense
organs in people aged 65+ years, Iceland, Eur-A and Eur-B+C averages, 1980
to latest available year
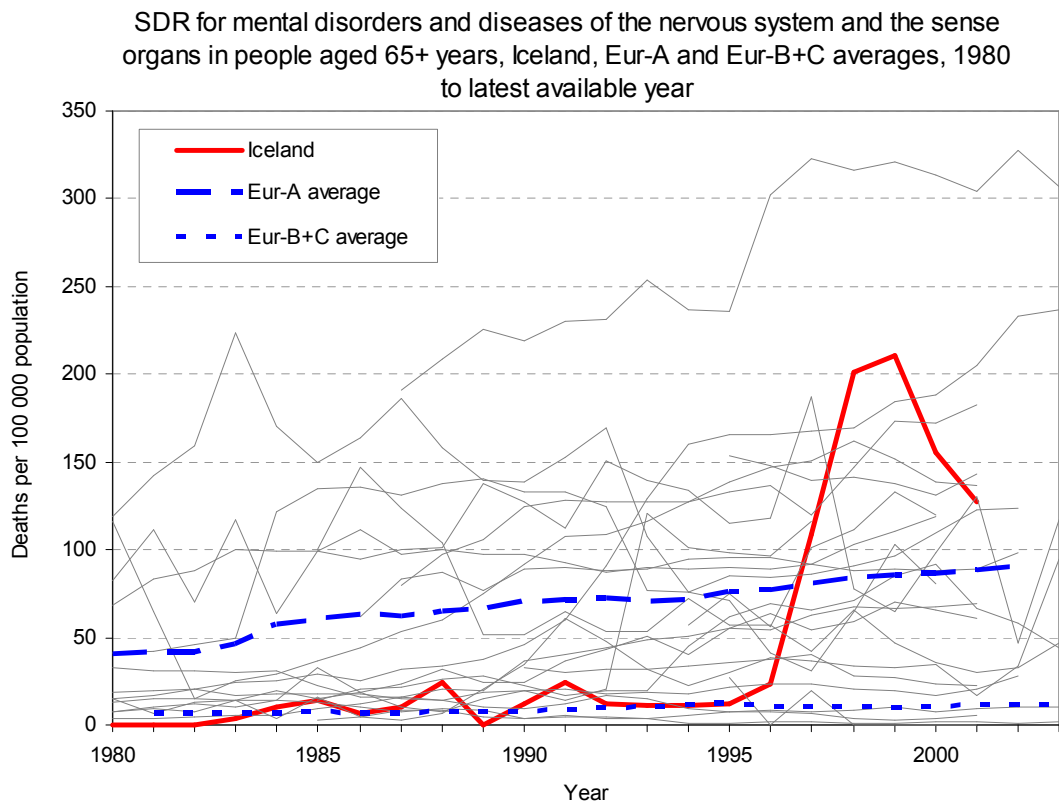
External causes

Mortality from external causes has decreased almost by one-third in Iceland since the early 1980s, following developments in Eur-A countries.

The death rates for accidents, transport accidents, drowning and exposure to smoke, fire and flames follow the declining Eur-A trend. The risk for homicide is below the Eur-A average, but the risk for accidental poisoning is over. Motor vehicle transport accidents (MVTA) and falls mortality have recently doubled in Iceland, reaching the Eur-A averages. The trend has been most prominent for 15–29 year olds (MTVA) and males 45 years and over (falls). The suicide rate has also increased – especially in the 15–29 years age group – to above the Eur-A average.

SDR for motor vehicle traffic accidents in people aged 15–29 years,
Iceland, Eur-A and Eur-B+C averages, 1980 to latest available year
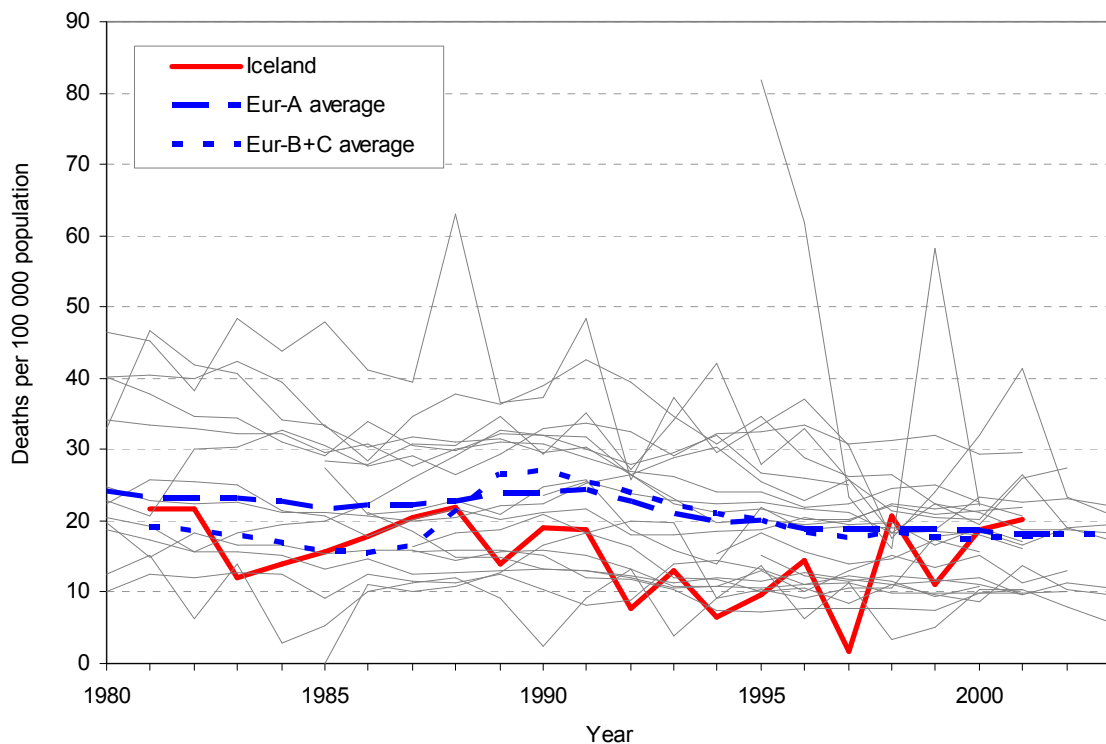
SDR for suicide and self-inflicted injury in people aged 15–29 years,
Iceland, Eur-A and Eur-B+C averages, 1980 to latest available year
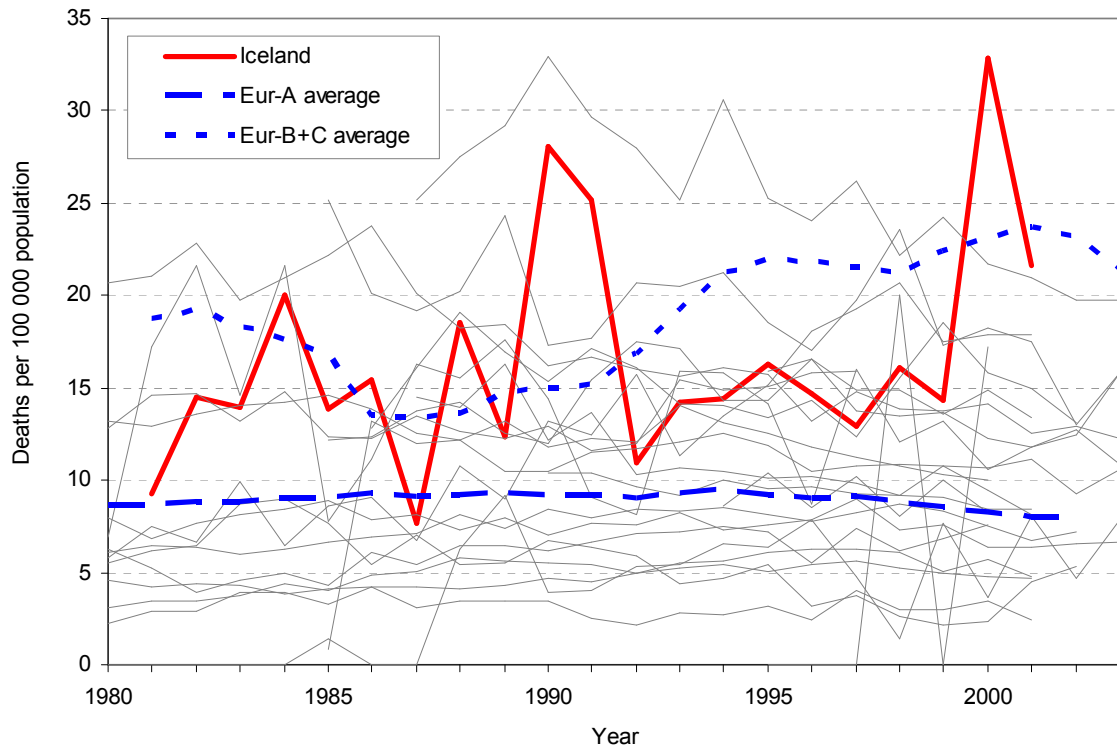
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Annexes

Annex. Age pyramid

Age pyramid for Iceland
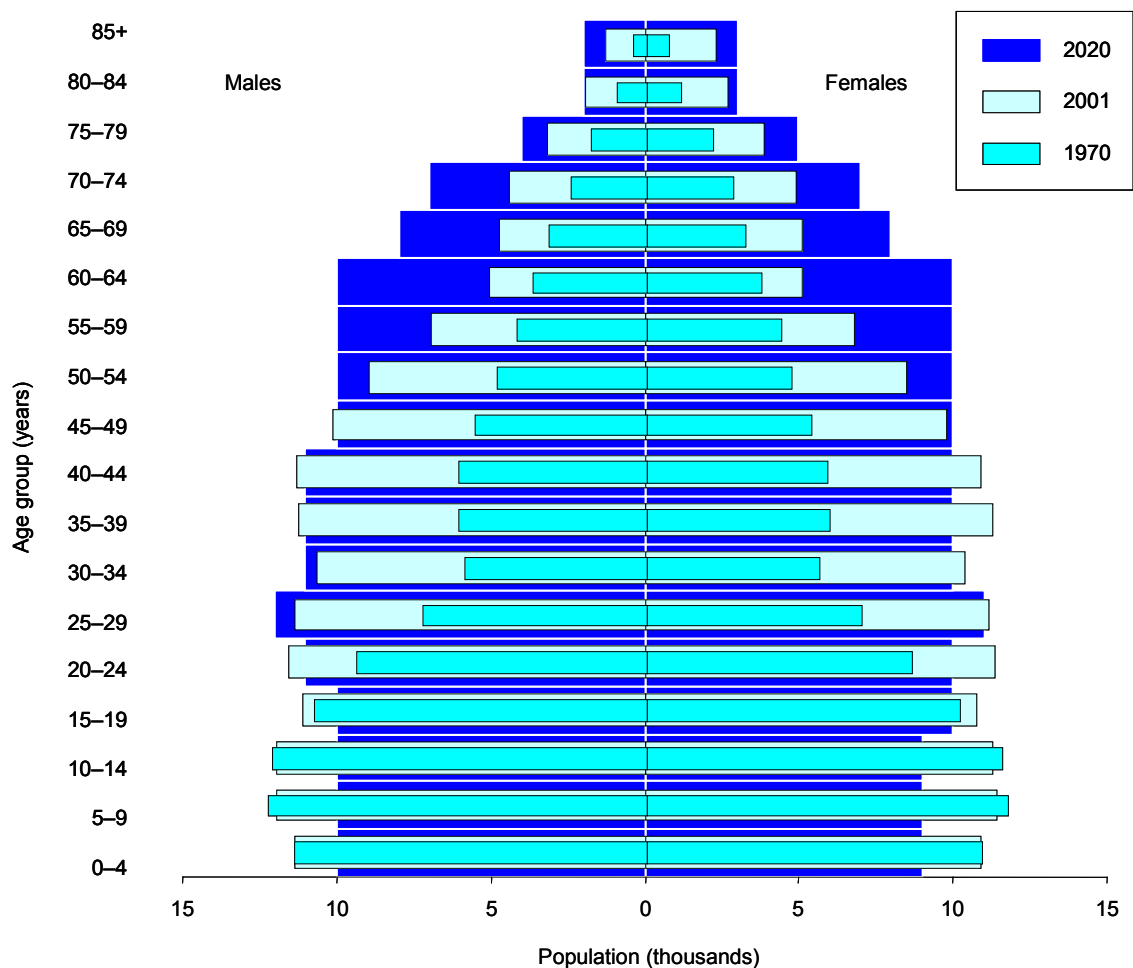
Sources: WHO Regional Office for Europe (2005) and United Nations (2005).

Annex. Selected mortality

Selected mortality in Iceland compared with Eur-A average

Condition	SDR per 100 000		Excess mortality in Iceland (%)	Total deaths in Iceland (%)	Total deaths in Eur-A (%)
	Iceland (2003)	Eur-A average (2002)			
Selected non-communicable conditions	473.0	533.8	−11.4	85.8	82.4
Cardiovascular diseases	211.0	243.4	−13.3	38.3	37.6
Ischaemic heart disease	110.4	95.9	15.1	20.0	14.8
Cerebrovascular diseases	54.4	61.1	−11.0	9.9	9.4
Diseases of pulmonary circulation and other heart disease	30.4	56.6	−46.3	5.5	8.7
Malignant neoplasms	165.7	181.5	−8.7	30.1	28.0
Trachea/bronchus/lung cancer	39.4	37.1	6.2	7.2	5.7
Female breast cancer	17.7	27.0	−34.4	3.2	4.2
Colon/rectal/anal cancer	19.3	20.7	−6.8	3.5	3.2
Prostate	30.6	25.1	21.9	5.6	3.9
Respiratory diseases	41.9	47.8	−12.3	7.6	7.4
Chronic lower respiratory diseases	20.7	20.2	2.5	3.8	3.1
Pneumonia	17.3	16.2	6.8	3.1	2.5
Digestive diseases	15.2	30.8	−50.6	2.8	4.8
Chronic liver disease and cirrhosis	1.4	12.6	−88.9	0.3	1.9
Neuropsychiatric disorders	39.2	30.3	29.4	7.1	4.7
Communicable conditions	5.2	8.4	−38.1	0.9	1.3
AIDS/HIV	0.7	1.1	−36.4	0.1	0.2
External causes	44.2	40.3	9.7	8.0	6.2
Unintentional	31.2	28.7	8.7	5.7	4.4
Road traffic injuries	9.0	9.9	−9.1	1.6	1.5
Falls	7.7	6.1	26.2	1.4	0.9
Intentional	13.1	11.6	12.9	2.4	1.8
Self-inflicted (suicide)	12.4	10.6	17.0	2.3	1.6
Violence (homicide)	0.7	1.0	−30.0	0.1	0.2
Ill-defined conditions	3.7	20.9	−82.3	0.7	3.2
All causes	551.0	647.8	−14.9	100.0	100.0

Annex. Mortality data

Table 1. Selected mortality for the group 0–14 years by sex in Iceland and Eur-A:
SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Iceland (2001)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	32.8	−10.1	49.4	−2.4	151.7	−3.8
	M	32.4	−10.4	55.3	−2.5	170.5	−3.9
	F	33.2	−9.6	43.3	−2.4	131.9	−3.8
Infectious and parasitic diseases	M	0.0	−16.7	1.4	−1.1	10.9	−7.0
	F	0.0		1.1	−3.0	9.5	−6.6
Intestinal infectious diseases	M	0.0		0.2	−0.7	5.1	−8.2
	F	0.0		0.1	−7.3	4.7	−7.9
Malignant neoplasms	M	6.1		3.3	−1.8	5.1	−1.9
	F	2.9		2.6	−1.8	4.2	−1.9
Cardiovascular diseases	M	0.0		1.4	−3.1	3.3	1.1
	F	0.0		1.3	−2.5	2.6	0.1
Respiratory diseases	M	2.8	−1.8	1.4	−4.3	35.9	−5.0
	F	0.0	−16.7	1.0	−4.2	30.7	−5.0
Pneumonia	M	2.8	−1.8	0.5	−6.0	20.9	−4.9
	F	0.0		0.4	−5.1	17.9	−4.7
Certain conditions originating in perinatal period	M	92.7	−12.7	255.3	−2.1	607.6	−2.7
	F	295.6	4.0	202.3	−1.6	427.5	−2.7
Congenital malformations & chromosomal abnormalities	M	3.3	−12.3	11.6	−2.9	24.2	−2.8
	F	0.0	−16.7	10.0	−3.3	21.0	−2.6
Ill-defined causes	M	3.4	1.1	5.0	−3.9	5.6	−0.6
	F	0.0		3.4	−4.2	4.6	−1.0
External causes of injury & poisoning	M	6.7	−12.6	7.0	−4.0	29.0	−3.4
	F	5.9	−13.8	4.6	−3.2	18.1	−3.1
Road traffic injuries	M	3.3	−10.4	2.5	−4.5	4.7	−2.6
	F	2.9	−0.6	1.7	−4.8	3.0	−1.6

Table 2. Selected mortality for the group 15–29 years by sex in Iceland and Eur-A:
SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Iceland (2001)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	69.6	1.8	56.0	−2.3	161.0	−0.9
	M	107.2	2.7	82.0	−2.3	241.7	−1.0
	F	31.2	−0.8	29.3	−2.2	79.0	−0.6
Infectious and parasitic diseases	M	3.0	−0.6	1.2	1.5	12.3	3.0
	F	0.0		0.8	1.9	5.1	2.5
Malignant neoplasms	M	3.1	−11.4	6.2	−1.0	8.8	−1.9
	F	0.0	−16.7	4.7	−1.4	7.7	−1.9
Cardiovascular diseases	M	0.0	−16.7	4.1	−2.4	17.6	0.0
	F	0.0		2.3	−2.0	7.3	−0.9
Respiratory diseases	M	6.1		1.4	−3.6	6.9	0.2
	F	0.0		0.9	−2.7	3.8	−1.1
Digestive diseases	M	0.0		0.9	−3.5	8.0	3.0
	F	0.0		0.5	−3.8	3.7	3.1
Ill-defined causes	M	0.0		4.0	−3.1	11.6	7.1
	F	0.0	−16.7	1.4	−1.3	3.3	5.8
External causes	M	85.8	3.7	58.3	−1.4	162.4	−1.6
	F	28.1	12.0	14.4	−1.6	36.9	−0.2
Road traffic injuries	M	21.4	11.8	28.5	−1.3	27.8	−1.5
	F	18.9	31.4	7.3	−1.4	8.0	0.3
Accidental drowning	M	0.0		1.3	−2.2	10.8	−3.9
	F	0.0		0.2	−2.1	1.9	−2.2
Accidental poisoning	M	3.1		2.8	0.0	19.1	3.3
	F	6.1		0.7	0.8	4.4	2.5
Self-inflicted (suicide)	M	39.8	6.3	12.7	−1.8	36.8	0.0
	F	3.1	−0.9	3.1	−2.2	5.8	−1.3

Table 3. Selected mortality for the group 30–44 years by sex in Iceland and Eur-A:
SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Iceland (2001)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	79.3	–4.8	120.3	–2.5	453.8	–0.7
	M	103.3	–4.3	161.6	–2.6	700.0	–0.8
	F	54.7	–5.5	78.5	–2.1	215.6	–0.2
Malignant neoplasms	M	25.0	–1.3	27.6	–2.3	40.2	–2.8
	F	25.6	–1.1	31.3	–2.0	43.8	–1.4
Trachea/bronchus/lung cancer	M	3.1	–9.3	5.0	–3.4	7.3	–4.2
	F	3.2	–2.1	2.8	–0.6	2.2	–1.0
Female breast cancer							
	F	3.2	–12.8	10.0	–2.6	10.0	–2.3
Cardiovascular diseases	M	6.2	–9.1	26.1	–2.5	158.6	–0.4
	F	0.0	–16.7	10.4	–2.1	45.3	0.0
Ischaemic heart disease	M	3.1	–8.9	11.8	–3.1	73.7	–2.2
	F	0.0		2.4	–2.7	14.4	–1.3
Cerebrovascular diseases	M	0.0	–16.7	4.4	–3.2	24.6	–0.4
	F	0.0	–16.7	3.6	–2.5	10.6	–1.3
Respiratory diseases	M	3.1	–1.9	3.9	–3.5	34.3	0.9
	F	0.0		2.2	–2.0	9.8	0.8
Digestive diseases	M	0.0		12.6	–2.4	50.2	1.4
	F	0.0	–16.7	5.4	–1.7	19.4	4.1
External causes	M	62.5	–3.5	58.8	–1.2	299.5	–1.9
	F	19.3	–6.9	15.1	–1.8	58.9	–1.0
Road traffic injuries	M	12.7	–0.6	16.0	–0.5	31.4	–1.7
	F	3.2	–0.3	3.9	–2.0	7.1	–0.5
Self-inflicted (suicide)	M	18.5	–1.0	21.2	–1.5	54.9	–2.4
	F	9.7	35.1	5.8	–2.2	7.9	–2.5

Table 4. Selected mortality for the group 45–59 years by sex in Iceland and Eur-A:
SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Iceland (2001)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	319.8	–3.8	435.6	–1.3	1294.9	–0.6
	M	365.6	–3.4	580.1	–1.4	1981.7	–0.6
	F	272.3	–4.4	293.3	–1.0	698.9	–0.5
Malignant neoplasms	M	136.0	–1.6	218.2	–1.2	323.2	–1.9
	F	151.7	–5.1	155.0	–1.0	186.1	–0.5
Trachea/bronchus/lung cancer	M	46.6	–4.0	65.9	–1.5	101.4	–2.9
	F	48.1	6.1	21.8	3.4	15.4	1.0
Female breast cancer							
	F	30.5	–11.1	44.0	–2.2	45.3	0.1
Cardiovascular diseases	M	97.1	–7.1	156.4	–2.6	793.1	–0.1
	F	35.7	–5.8	50.9	–2.5	271.7	–0.6
Ischaemic heart disease	M	71.8	–7.1	86.2	–3.3	435.3	–0.7
	F	13.5	–6.8	17.8	–3.4	111.1	–0.6
Cerebrovascular diseases	M	7.2	–12.5	23.7	–2.6	168.6	–0.9
	F	9.2	–9.1	14.5	–2.1	88.4	–1.4
Respiratory diseases	M	13.5	2.1	20.3	–1.7	108.7	–1.4
	F	13.5	23.9	10.2	–1.3	24.5	–0.7
Digestive diseases	M	8.2	–4.8	49.6	–0.8	129.7	0.7
	F	13.2	4.6	20.3	–0.7	57.3	1.9
External causes	M	76.5	–4.2	62.8	–1.0	409.2	–0.9
	F	24.8	–8.3	20.9	–0.9	89.1	–1.1
Road traffic injuries	M	8.6	7.2	13.0	–1.3	28.5	–1.8
	F	0.0	–16.7	4.1	–2.1	7.5	–1.4
Self-inflicted (suicide)	M	20.3	4.9	23.1	–1.1	68.1	–2.4
	F	11.8	27.2	8.5	–1.2	10.2	–3.4

Table 5. Selected mortality for the group 60–74 years by sex in Iceland and Eur-A:
SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Iceland (2001)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	1333.8	–2.9	1570.9	–1.9	3411.7	–0.1
	M	1661.4	–3.7	2156.9	–2.1	4996.4	0.1
	F	1032.5	–1.7	1069.2	–1.9	2339.0	–0.6
Malignant neoplasms	M	725.9	–1.0	851.3	–1.4	1002.5	–0.8
	F	479.0	–2.9	439.8	–1.1	438.9	–0.7
Trachea/bronchus/lung cancer	M	209.3	2.5	261.8	–1.9	321.7	–1.5
	F	146.1	2.9	59.0	0.2	37.1	–1.4
Female breast cancer							
	F	68.9	–10.2	79.7	–1.6	68.7	1.3
Cardiovascular diseases	M	715.3	–4.3	744.9	–3.6	2903.0	0.6
	F	328.1	1.0	335.7	–3.9	1507.8	–0.3
Ischaemic heart disease	M	424.6	–4.9	381.3	–4.2	1582.2	1.2
	F	170.7	–0.7	133.5	–4.6	731.4	0.5
Cerebrovascular diseases	M	140.8	–1.5	143.3	–3.7	833.7	0.2
	F	105.9	20.5	86.7	–4.1	528.9	–0.8
Respiratory diseases	M	67.3	–5.9	144.0	–3.5	303.0	–2.4
	F	62.0	–8.3	62.5	–2.4	68.6	–3.6
Digestive diseases	M	28.0	–0.6	111.6	–1.6	193.0	0.1
	F	29.0	54.5	54.1	–1.7	94.2	0.2
External causes	M	39.6	–11.7	79.3	–1.4	320.0	1.0
	F	35.8	–1.9	32.1	–2.1	88.7	–0.5
Road traffic injuries	M	8.6	–10.6	14.8	–3.0	24.3	–1.5
	F	0.0	–16.7	5.9	–3.4	9.5	–1.0
Self-inflicted (suicide)	M	11.8	–10.4	24.5	–1.6	60.5	–0.8
	F	6.8	0.0	8.7	–2.6	12.7	–3.1

Table 6. Selected mortality for the group 75+ years by sex in Iceland and Eur-A:
SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Iceland (2001)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	7211.9	–3.2	8059.6	–1.0	12338.8	0.0
	M	8935.6	–2.0	9832.0	–1.1	14838.0	0.1
	F	6044.7	–4.3	7112.5	–0.9	11421.7	0.0
Malignant neoplasms	M	2105.2	3.0	2231.1	–0.4	1489.3	1.2
	F	1021.0	–3.8	1136.2	–0.4	721.7	0.8
Trachea/bronchus/lung cancer	M	249.9	4.3	457.1	–0.7	323.5	1.0
	F	170.7	–2.8	102.7	1.5	55.6	0.5
Female breast cancer							
	F	66.3	–12.0	159.6	–0.4	92.0	3.1
Cardiovascular diseases	M	4339.8	–3.7	4356.2	–2.1	10221.2	0.4
	F	2739.7	–5.1	3577.9	–1.9	8805.6	0.4
Ischaemic heart disease	M	2349.5	–4.3	1708.0	–2.2	4925.6	1.4
	F	1175.2	–5.6	1150.0	–2.2	4028.6	1.2
Cerebrovascular diseases	M	1166.9	–3.9	1119.8	–2.5	3004.4	0.7
	F	808.1	–6.0	1026.9	–2.4	2967.6	0.5
Respiratory diseases	M	885.7	–7.5	1156.5	–2.4	824.1	–2.1
	F	694.2	–10.0	591.9	–2.1	302.3	–3.2
Digestive diseases	M	251.6	8.0	340.3	–1.1	270.4	0.3
	F	238.1	–3.8	279.8	–0.4	175.0	1.1
External causes	M	238.6	7.1	275.0	–0.6	604.2	0.1
	F	143.8	1.6	187.8	–1.2	172.4	–1.2
Road traffic injuries	M	56.9	30.8	28.1	–2.2	34.6	–3.1
	F	0.0		10.0	–3.1	14.7	–1.7
Self-inflicted (suicide)	M	30.0		49.5	–1.6	86.6	–1.1
	F	0.0	–16.7	11.8	–3.2	22.4	–1.9

Technical notes

Calculation of averages

Averages for the reference group, when based on data in the European health for all database of the WHO Regional Office for Europe, are weighted by population. Some countries with insufficient data may be excluded from the calculation of averages. Otherwise, for data from other sources, simple averages have been calculated where required.

To smooth out fluctuations in annual rates caused by small numbers, three-year averages have been used, as appropriate. For example, maternal mortality, usually a small number, has three-year moving averages calculated for all countries. When extreme fluctuations are known to be due to population anomalies, data have been deleted, as appropriate.

Data sources

To make the comparisons as valid as possible, data for each indicator have, as a rule, been taken from one source to ensure that they have been harmonized in a reasonably consistent way. Unless otherwise noted, the source of data for figures and tables in this report is the January 2005 version of the European health for all database of the WHO Regional Office for Europe. The health for all database acknowledges the various primary sources of the data.

In cases where current census data for national population are unavailable, coupled with ongoing migrations of people in and out of countries, UN estimates or provisional figures supplied by the country are used to approximate national population. Such population figures create uncertainty in standardized death rates.

Disease coding

Case ascertainment, recording and classification practices (using the ninth and tenth revisions of the International Statistical Classification of Diseases and Related Health Problems: ICD-9 and ICD-10, respectively), along with culture and language, can influence data and therefore comparability across countries.

Healthy life expectancy (HALE) and disability-adjusted life-years (DALYs)

HALE and DALYs are summary measures of population health that combine information on mortality and non-fatal health outcomes to represent population health in a single number. They complement mortality indicators by estimating the relative contributions of different causes to overall loss of health in populations.

DALYs are based on cause-of-death information for each WHO region and on regional assessments of the epidemiology of major disabling conditions. The regional estimates have been disaggregated to Member State level for the highlights reports.

National estimates of HALE are based on the life tables for each Member State, population representative sample surveys assessing physical and cognitive disability and general health status, and on detailed information on the epidemiology of major disabling conditions in each country.

More explanation is provided in the statistical annex and explanatory notes of *The world health report 2003*[1].

Limitations of national-level data

National-level averages, particularly when they indicate relatively good positions or trends in health status, as is the case in most developed countries, hide pockets of problems. Unless the health status of a small population is so dramatically different from the norm that it influences a national indicator, health risks and poorer health outcomes for small groups will only become evident through subnational data.

Reference groups for comparison

When possible, international comparisons are used as one means of assessing a country's comparative strengths and weaknesses and to provide a summary assessment of what has been achieved so far and

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[1] WHO (2003). *The world health report 2003 – Shaping the future*. Geneva, World Health Organization (http://www.who.int/whr/2003/en, accessed 10 June 2005).

what could be improved in the future. Differences between countries and average values allow the formulation of hypotheses of causation or imply links or remedies that encourage further investigation.

The country groups[1] used for comparison are called reference groups and comprise:

- countries with similar health and socioeconomic trends or development; and/or

- geopolitical groups.

The 27 countries with very low child mortality and very low adult mortality are designated Eur-A by WHO. Eur-A comprises Andorra, Austria, Belgium, Croatia, Cyprus, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, the Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland and the United Kingdom. However, data for most indicators are unavailable for two of the 27 countries: Andorra and Monaco. Therefore, unless otherwise indicated, Eur-A and averages for Eur-A refer to the 25 countries for which data are available.

The 25 countries with low child mortality and low or high adult mortality are designated Eur-B+C by WHO. Eur-B+C comprises Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Poland, Republic of Moldova, Romania, Russian Federation, Serbia and Montenegro, Slovakia, Tajikistan, Tajikistan, Turkey, Turkmenistan, Ukraine, and Uzbekistan. Unless otherwise indicated, Eur-B+C and averages for Eur-B+C refer to these countries.

Comparisons should preferably refer to the same point in time, but the countries' latest available data are not all for the same year. This should be kept in mind as a country's position may change when more up-to-date data become available.

Graphs have usually been used to show time trends from 1980 onwards. These graphs present the trends for all the reference countries as appropriate. Only the country in focus and the group average are highlighted and identified in the legend. This enables the country's trends to be followed in relation to those of all the reference countries, and performance in relation to observable clusters and/or the main end or average to be recognized more easily.

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[1] WHO (2004). *The world health report 2004 – Changing history.* Geneva, World Health Organization (http://www.who.int/whr/2004/en, accessed 26 August 2004.

Glossary

Causes of death	*ICD-10 code*
Cerebrovascular diseases	I60–I69
Chronic liver disease and cirrhosis	K70, K73, K74, K76
Chronic obstructive pulmonary disease	J40–J47
Colon/rectal/anal cancer	C18–C21
Diseases of pulmonary circulation and other heart disease	I26–I51
Falls	W00–W19
Female breast cancer	C50
Ischaemic heart disease	I20–I25
Pneumonia	J12–J18
Prostate cancer	C61
Neuropsychiatric disorders	F00–99, G00–99, H00–95
Road traffic injuries	V02–V04, V09, V12–V14, V19–V79, V82–V87, V89
Self-inflicted (suicide)	X60–X84
Trachea/bronchus/lung cancer	C33–C34
Violence	X85–Y09

Technical terminology	
Disability-adjusted life-year (DALY)	The DALY combines in one measure the time lived with disability and the time lost owing to premature mortality. One DALY can be thought of as one lost year of healthy life.
GINI index	The GINI index measures inequality over the entire distribution of income or consumption. A value of 0 represents perfect equality; a value of 100, perfect inequality. Low levels in the WHO European Region range from 23 to 25; high levels range from 35 to 36[1].
Healthy life expectancy (HALE)	HALE summarizes total life expectancy into equivalent years of full health by taking account of years lived in less than full health due to diseases and injuries.
Income poverty line (50% of median income)	The percentage of the population living below a specified poverty line: in this case, with less than 50% of median income.
Life expectancy at birth	The average number of years a newborn infant would live if prevailing patterns of mortality at the time of birth were to continue throughout the child's life.
Natural population growth	The birth rate less the death rate.
Neuropsychiatric conditions	Mental, neurological and substance-use disorders.
Population growth	(The birth rate less the death rate) + (immigration less emigration).
Standardized death rate (SDR)	The age-standardized death rate calculated using the direct method: that is, it represents what the crude rate would have been if the population had the same age distribution as the standard European population.

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[1] WHO Regional Office for Europe (2002). *The European health report 2002.* Copenhagen, WHO Regional Office for Europe:156 (http://www.euro.who.int/europeanhealthreport, accessed 28 May 2004).