

Highlights on health in Norway 2005



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.

Keywords

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Summary: findings and policy considerations

Life expectancy

WHO estimates that a person born in Norway in 2002 can expect to live 79.1 years on average: 81.7 years if female and 76.4 years if male. Life expectancy (LE) is more than half a year higher for males than the Eur-A average; for females, LE has been somewhat below the Eur-A average since 2000. It has increased in Norway for both sexes since 1980 but the gain in LE for females is less than the corresponding Eur-A average. In Norway, people spend an average of 7.1 years (9% of LE) in ill-health.

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

The Norwegian infant and neonatal mortality rates are below the Eur-A averages and among the lowest in the WHO European Region. In 2004, 3.2 out of 1000 live born infants died before the age of one year.

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

In general, mortality rates for males in Norway are 3% lower than the Eur-A averages. In contrast, female mortality rates are about 2% higher than the Eur-A averages for all age groups.

In 2002, selected main noncommunicable diseases accounted for about 82% of all deaths in Norway; cardiovascular diseases (CVD) for 36% and cancer for 27%. Six per cent of all deaths were attributed to external causes and just over 1% to communicable diseases.

The death rates from CVD and from external causes and poisonings are within the range of the Eur-A averages. Even though men in Norway have a higher risk of dying of cancer than women, the overall male mortality rate is more than one tenth lower than the Eur-A average, while the rate for females has exceeded the Eur-A average since the early 1990s. This discrepancy is attributed to high smoking rates among women.

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)

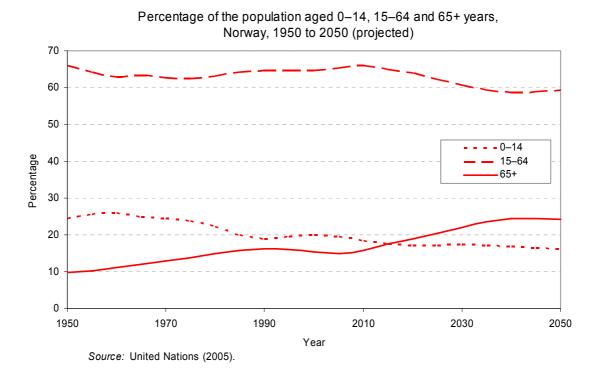
What are the advantages and disadvantages of restructuring a health care system to be more focused on primary health care services? (Health Evidence Network, 2004)

Selected demographic and socioeconomic information

Population profile

About 4.6 million people were living in Norway in mid 2004. Compared to the averages for the Eur-A countries, Norway has a higher proportion of the population in the 0 to 14 years age group and a lower proportion aged 65 and over.

The most striking demographic feature observed across most Eur-A countries is the increase in the proportion of elderly people. As the large birth cohorts of the late 1940s approach retirement age, the number of people in Norway aged 65 and over is expected to grow from about 15% of the population in 2003 (Council of Europe, 2005) to 22% in 2030 (Annex. Age pyramid).



The birth rate in Norway in 2003 was higher than the Eur-A average. In 2002, the natural increase was above the Eur-A average, while net migration was lower.

Selected demographic indicators in the Norway and Eur-A 2002 or latest available year

Indicators	Norway	Eur-A			
	Value	Average	Minimum	Maximum	
Population (in 1000s) ^a	4564.9	_	_	_	
0–14 years (%)	20.0	_	_	_	
15–64 years (%)	65.1	_	_	_	
65+ years (%)	14.9	_	_	_	
Urban population (%)	77.6	78.5	50.8	100.0	
Live births (per 1000) ^a	12.4	10.7	8.6	21.7	
Natural population growth (per 1000)	2.4	1.1	-2.9	15.9	
Net migration (per 1000)	2.5	3.5	-0.5	8.8	

^a 2003

Sources: Council of Europe (2005), WHO Regional Office for Europe (2005).

Socioeconomic indicators

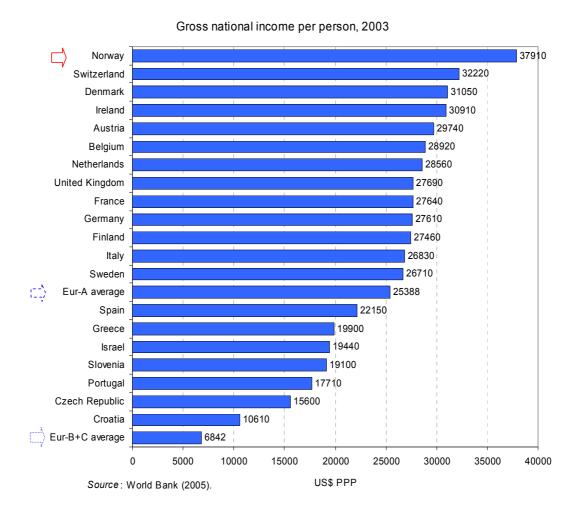
Health outcomes are influenced by various factors that operate at individual, household and community levels. Obvious factors are, for example, diet, health behaviour, access to clean water, sanitation and health services. However, underlying health determinants of a socioeconomic nature also play a 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.

Income: absolute poverty, relative poverty and income distribution

There is an income gradient affecting health: the poor generally suffer worse health and die younger than people with higher incomes. For instance, the latter are better able to afford the goods and services that contribute to health, for example, better food and living conditions.

People are considered to be in absolute poverty if their incomes are not sufficient to purchase very minimal goods and services. The World Bank currently uses an absolute poverty line of US\$ 2.15 and US\$ 4.30 income per person per day to measure poverty in low- and middle-income countries of the WHO European Region (using 1993 international prices adjusted for purchasing power parity). While there is no certainty that the poverty lines measure the same degree of need across countries, the World Bank uses them as a constant to permit comparison. Many countries in the Region calculate their national poverty lines on the basis of a minimum consumption basket selected and priced according to the specific circumstances of the country.

In Norway, the per capita gross national income, adjusted for purchasing power parity, was US\$ 37 910 in 2003, the highest per capita income in the Eur-A group. The Eur-A average that year was US\$ 25 388.



Relative poverty is an indicator of income level below a given proportion (typically 50%) of the average national income. In high-income countries, there are far more pockets of relative poverty than of absolute poverty. In 2002, 4.9% of the population were living in relative poverty.

In 2000, 3.4% of children in Norway were living in relative poverty. Norway is the only OECD country where child poverty rates are very low and continue to fall. Over the latest 10-year period for which comparable data are available, the proportion of children living in relative poverty decreased in Norway by 1.8%. In the same period, an increase in the proportion of children living in relative poverty was seen in 17 of the 24 OECD countries with data (UNICEF, 2005).

Another measure of relative poverty in terms of income is the Gini index. This presents the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.

For the two years (2000 and 2001) for which GINI indices based on World Bank estimates are available for seven Eur-A countries, the range is from 25.0 (Sweden, 2000) to 36.0 (Italy, 2000). In 2000, the GINI index for Norway was 25.7 (World Bank, 2005).

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 schools.

In 2000, the proportion of school-age children enrolled in secondary schools in Norway was 95.0% compared to a Eur-A average of 88.5%. The lowest enrolment rate was in Luxembourg (79.7%) and the highest in Slovenia (96.0%) (UNESCO, 2005).

Employment

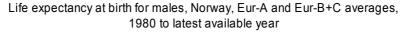
Being employed tends to be better for health than being unemployed, except in circumstances where employment exposes the individual to physical injury or psychological stress. National unemployment rates and rates for particular sub-populations are monitored to assess the extent to which people have 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.

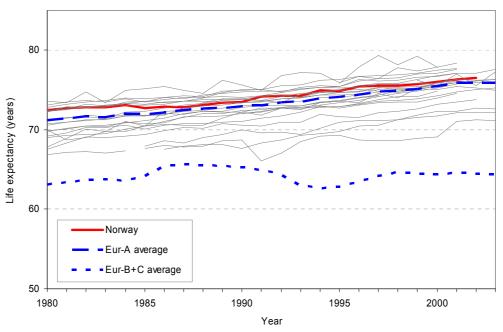
For several years, total unemployment rates in Norway have been lower than in the neighbouring Nordic countries and lower than Eur-A averages. It should be kept in mind that national rates are based on estimates of the numbers of people available for and seeking employment and that the definitions of "labour force" and "unemployment" differ from country to country. In 2001, the rate of unemployment in Norway was 3.4% compared to a 6.2% Eur-A average; in 2002, it was 3.9% while the Eur-A average was 6.7% (ILO, 2005). In the period 2000-2002, 6.2% of those unemployed had been so for one year or longer (World Bank, 2005).

Among young people aged 15 to 24, unemployment rates in Norway in 2001 and 2002 were higher than those for the total labour force but lower than the Eur-A average rates and those of its Nordic neighbours, apart from Denmark. In 2001, the unemployment rate was 10.5%, while the Eur-A average was 13.8%. In 2002, it was 11.4% compared to a Eur-A average of 14.7% (ILO, 2005).

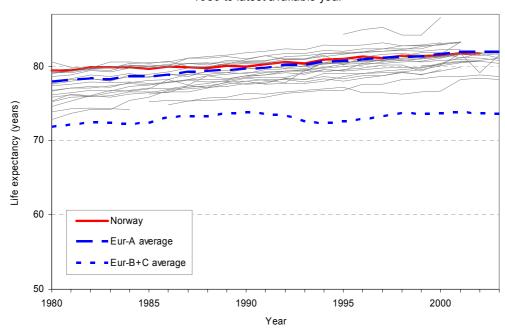
Life expectancy (LE) and healthy life expectancy (HALE)

According to WHO (2003c) estimates, a person born in Norway in 2002 can expect to live 79.1 years on average: 81.7 years if female and 76.4 years if male. Statistics Norway's figures for 2004 are 82.3 years and 77.5 years, respectively (Statistics Norway, 2004). In 2000–2002, LE in Norway was more than half a year higher than the Eur-A average for males and somewhat below the Eur-A average for females; however, the figures are increasing again after a period of stagnation.



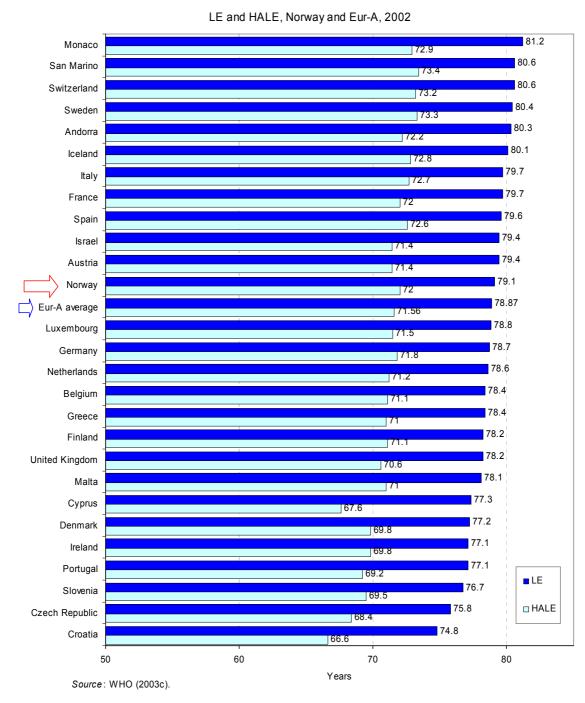


Life expectancy at birth for females, Norway, Eur-A and Eur-B+C averages, 1980 to latest available year



Since 1980, Norwegians have gained about 3.3 years in LE, with a greater gain for men (4.1 years) than for women (2.3 years). These gains – especially those for women – are lower than those in the other Eur-A countries.

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 Norway, WHO (2003c) estimates that people can expect to be healthy for about 91% of their lives. They lose an average of 7.1 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).



Since women live longer and since the possibility of deteriorating health increases with age, women lose more healthy years of life (8.1 years) than men (6.0 years). Nevertheless, the longer LE for women in Norway gives them a little more than three extra years of healthy life. According to WHO (2003c)

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estimates for people of 60 years in Norway, the HALE for women (18.9 years) is almost three years longer than that for men (16.2 years).

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 below lists, in descending order, the top ten conditions responsible for approximately 90% of the burden of disease among males and females in Norway. As in most countries in western Europe, neuropsychiatric conditions account for most DALYs among both males and females in Norway. Because mortality from these conditions is minor, it is the resulting disability in daily living that comprises the bulk of their burden on the health of the population.

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

Rank	Males		Females	
	Disability groups	Total DALYs (%)	Disability groups	Total DALYs (%)
1	Neuropsychiatric conditions	26.1	Neuropsychiatric conditions	30.0
2	Cardiovascular diseases	18.6	Malignant neoplasms	15.9
3	Malignant neoplasms	16.3	Cardiovascular diseases	15.0
4	Unintentional injuries	7.9	Respiratory diseases	7.9
5	Respiratory diseases	6.0	Musculoskeletal diseases	5.3
6	Sense organ diseases	4.6	Sense organ diseases	5.0
7	Intentional injuries	3.6	Unintentional injuries	4.5
8	Musculoskeletal diseases	3.5	Digestive diseases	3.3
9	Digestive diseases	3.0	Infectious and parasitic diseases	1.6
10	Diabetes mellitus	1.7	Respiratory infections	1.5

Source: Background data from WHO (2003).

Main risk factors

The table below shows the top ten risk factors and, in descending order, the degree to which each contributes to the burden of disease in the male and female populations of Norway in 2002. According to the DALY percentages, tobacco use places the greatest burden of disease on the Norwegian population. This burden is estimated using current levels of smoking impact (e.g. lung cancer mortality) and prevalence of oral tobacco use.

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

Rank	Males		Females	Females			
	Risk factors	Total DALYs (%)	Risk factors	Total DALYs (%)			
1	Tobacco	12.9	Tobacco	10.6			
2	High blood pressure	8.9	High blood pressure	6.6			
3	High cholesterol	8.0	High cholesterol	5.8			
4	Alcohol	7.5	High BMI	5.7			
5	High BMI	6.4	Physical inactivity	2.6			
6	Illicit drugs	4.4	Illicit drugs	1.7			
7	Physical inactivity	3.1	Unsafe sex	1.6			
8	Low fruit and vegetable intake	2.4	Low fruit and vegetable intake	1.5			
9	Occupational airbourne particulates	0.8	Iron deficiency	0.8			
10	Occupational noise	0.5	Alcohol	0.8			

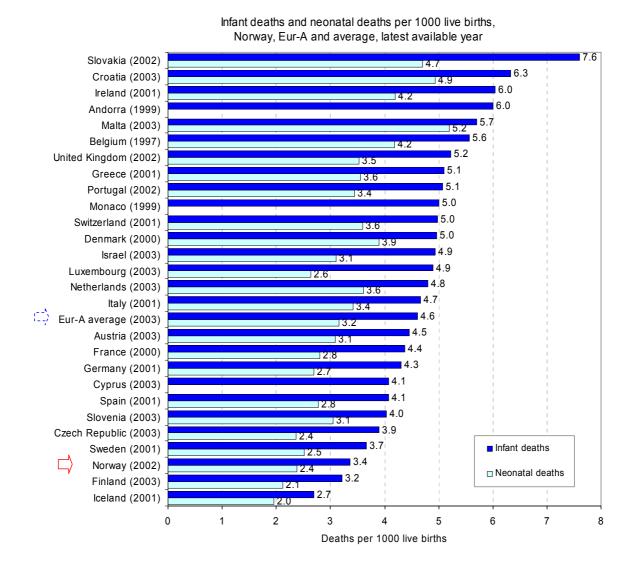
Source: Background data from WHO (2003).

Mortality

Infant, neonatal and child mortality

Rates for both infant and neonatal mortality in Norway remain below the Eur-A averages; the Norwegian figures are among the lowest in the WHO European Region.

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



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, 2004).

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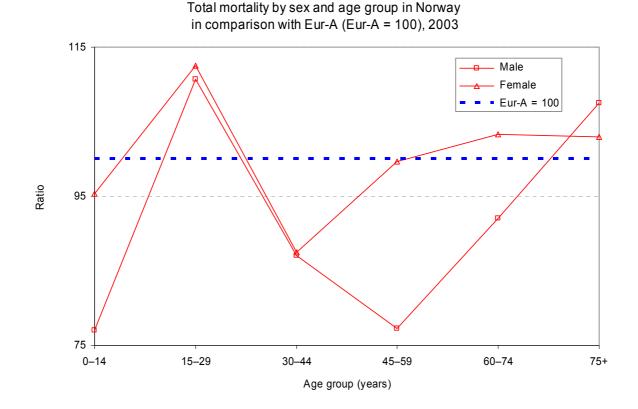
However, in some countries, MMR were higher in 2002 than they had been in 1990. Applying the 75% reduction to the 1990 baseline in these countries creates, in some cases, a 2015 MDG target that requires dramatic reductions in MMR before 2015. In these cases, more important than reaching maternal mortality targets is taking concrete action to provide women with access to adequate care during pregnancy and childbirth, initiatives that have proven to bring down MMR.

The Norwegian maternal mortality rate is below the Eur-A average. In 1998-2002, two out of 16 maternal deaths resulted from induced abortion or spontaneous abortion (including ectopic pregnancy).

Excess mortality

In general, mortality rates for males in Norway are 3% lower than the Eur-A average. In contrast, the mortality rates for females are relatively higher (2%) than the Eur-A average, across age groups.

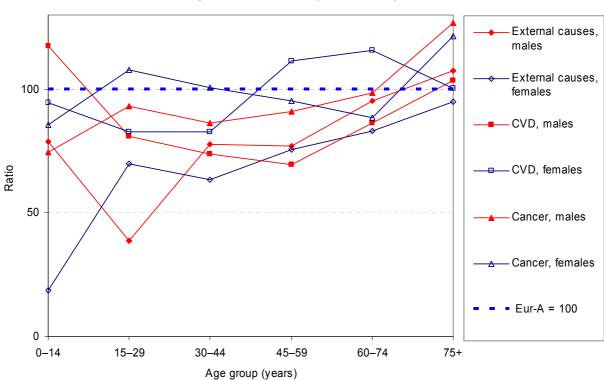
The highest excess mortality occurs in men and women aged 15–29 years. Also, men aged 75 years or more have a higher mortality than the Eur-A average.



Main causes of death

In 2002, selected main noncommunicable diseases accounted for about 82% of all deaths in Norway, external causes for about 6%, and communicable diseases for a little over 1%. In total, 36% of all deaths were caused by CVD and 27% by cancer (Annex. Selected mortality. Annex. Mortality data).

Compared to the Eur-A average, Norwegians have a lower risk of dying from CVD, with the exception of women aged 45–74 years. Males aged 0–74 years and females aged 45–74 years have a lower risk of dying from cancer. Also, with the exception of males aged 75 years and over, Norwegians of both sexes and in all age groups have a lower risk of dying from external causes compared to the Eur-A average.



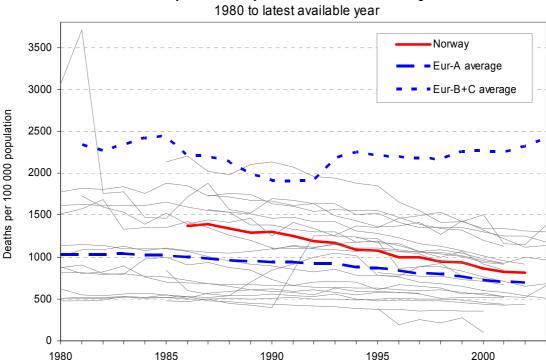
Main causes of mortality by sex and age group in Norway in comparison with Eur-A (Eur-A = 100), 2003

CVD

Mortality from CVD has decreased both in Norway and in the Eur-A region in general since 1980. This improvement, especially in men aged 45–74 years, has been much faster than in the Eur-A countries in general; the mortality rate for this group more than halved between 1986 and 2002.

Ischaemic heart disease is the single biggest killer in Norway, causing 17% of all deaths in 2002. For men in the 30–59 years age group, the mortality rate has declined below the Eur-A average. The mortality rate for men aged 60–74 years continues to decline and is approaching the Eur-A average. Norwegian women aged 45–59 years have the same mortality risk as people in the Eur-A region in general. Progress has been less favourable for men and women of 75 years and over who have an excess mortality risk of 32% and 14% respectively, compared to the Eur-A averages.

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Standardized death rates (SDR) for ischaemic heart disease in people aged 65+ years, Norway, Eur-A and Eur-B+C averages,

Cancer

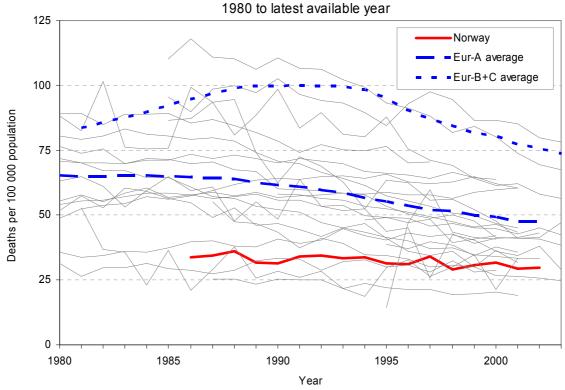
Cancer causes every fourth death in Norway. Even though men have a higher risk than women of dying of cancer in Norway, their mortality rate is more than one tenth lower than the Eur-A male average, while the rate for women has exceeded the Eur-A female average since the early 1990s.

Year

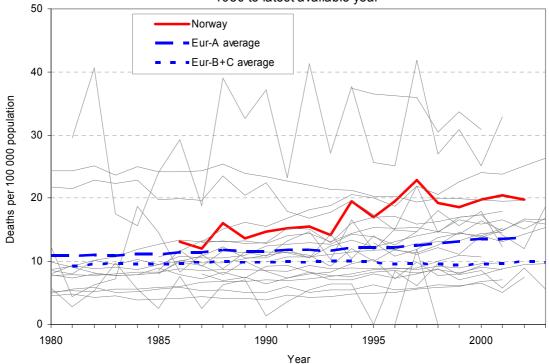
The risk of dying of stomach cancer, cancer of oesophagus, cancer of lymphoid and haematopoietic tissue, and breast cancer (females) is declining in Norway and the current rates are at the same level or lower than the Eur-A averages. The mortality rates for cancer of the uterus, colorectal cancer, cervical cancer, and prostate cancer are also decreasing, though they remain above the Eur-A averages (by 11%, 14%, 45%, and 48%, respectively). Also, the mortality rates for skin cancer and cancer of pancreas have increased since the mid-1990s and are higher in Norway than in the Eur-A region on average.

The trend in mortality from cancer of the larynx, trachea, bronchus and lung is different for men than for women in Norway. Although the death rate for men is decreasing and is below the Eur-A average, this decline is much slower than the decline in Eur-A as a whole. For Norwegian women, the rate is above the Eur-A average, and the gap is increasing. These mortality patterns reflect similar trends in smoking. The proportion of daily smokers among women was one of the highest in the WHO European Region until the late 1990s but has decreased significantly since then. The proportions of smokers remain high: in 2004, 24.8 % of Norwegian women and 27% of men smoked. Occasional smokers constituted another 10.7% among females and 11.5% among males. However, smoking rates are decreasing among younger people: 23.7% in the 16–24 years age group, with slightly higher rates among men than among women, compared to rates of around 30% for both men and women in the 35–54 years age group.

SDR for larynx, trachea, bronchus and lung cancer in males aged 25–64 years, Norway, Eur-A and Eur-B+C averages,



SDR for larynx, trachea, bronchus and lung cancer in females aged 25–64 years, Norway, Eur-A and Eur-B+C averages, 1980 to latest available year



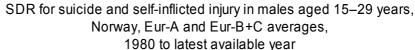
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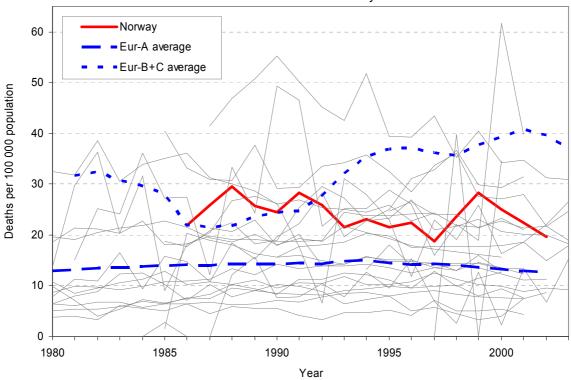
External causes

Mortality from external causes decreased by one third in Norway between 1980 and 2002. In the early and mid-1990s, the Norwegian rate remained below the Eur-A average, but has been somewhat above it since 1997.

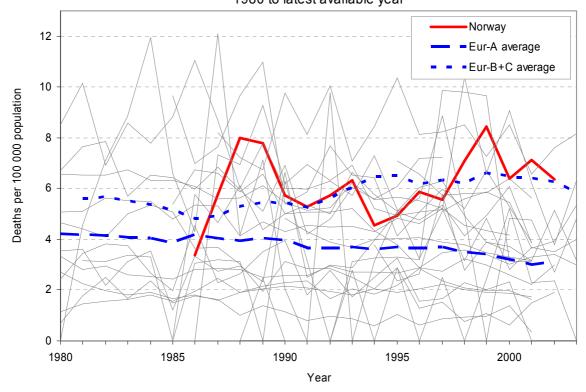
Mortality from motor vehicle traffic accidents and transport accidents remains well below the Eur-A average. The same is true of deaths from homicide and assault. On the other hand, deaths from accidental falls, accidental drowning, exposure to smoke, fire and flames, and accidental poisoning are more common in Norway than in the Eur-A region on average. Mortality from accidental falls is high in the group aged 65 years or more. The risk of accidental drowning is highest for people aged 45 years or more, while the risk of death from exposure to smoke, fire and flames is greatest in those aged 15 years or more and accidental poisoning occurs mostly in the population aged 45 or more.

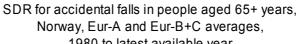
Suicides have become less frequent among both men and women in Norway, primarily after a substantial decline in the age group 30 years or more. For men aged 15–29, the suicide rate remains high; among women in the same age group, the rate is stable at a slightly higher level than the Eur-A average.

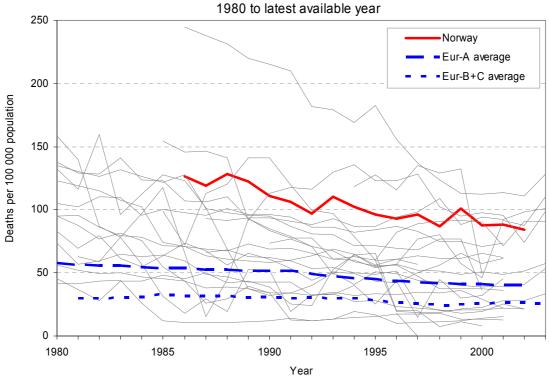




SDR for suicide and self-inflicted injury in females aged 15–29 years, Norway, Eur-A and Eur-B+C averages, 1980 to latest available year







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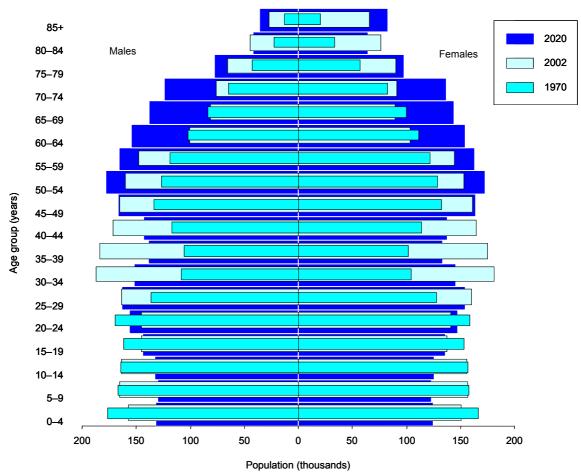
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Annexes

Annex. Age Pyramid





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

Annexes 18

Annex. Selected mortality

Selected mortality in Norway compared with Eur-A average

Condition	SDR p	per 100 000	Excess mortality in Norway (%)	Total deaths in Norway (%)	Total deaths in Eur-A (%
	Norway (2003)	Eur-A average (2002)			
Selected non-communicable conditions	523.4	533.8	-1.9	81.6	82.4
Cardiovascular diseases	232.0	243.4	-4.7	36.2	37.6
Ischaemic heart disease	107.2	95.9	11.8	16.7	14.8
Cerebrovascular diseases	54.4	61.1	-11.0	8.5	9.4
Diseases of pulmonary circulation and other heart disease	48.6	56.6	-14.1	7.6	8.7
Malignant neoplasms	175.0	181.5	-3.6	27.3	28.0
Trachea/bronchus/lung cancer	34.5	37.1	-7.0	5.4	5.7
Female breast cancer	23.4	27.0	-13.3	3.6	4.2
Colon/rectal/anal cancer	25.3	20.7	22.2	3.9	3.2
Prostate	37.8	25.1	50.6	5.9	3.9
Respiratory diseases	59.5	47.8	24.5	9.3	7.4
Chronic lower respiratory diseases	25.4	20.2	25.7	4.0	3.1
Pneumonia	29.5	16.2	82.1	4.6	2.5
Digestive diseases	19.7	30.8	-36.0	3.1	4.8
Chronic liver disease and cirrhosis	4.8	12.6	-61.9	0.7	1.9
Neuropsychiatric disorders	37.2	30.3	22.8	5.8	4.7
Communicable conditions	8.0	8.4	-4.8	1.2	1.3
AIDS/HIV	0.3	1.1	-72.7	0.0	0.2
External causes	40.2	40.3	-0.2	6.3	6.2
Unintentional	28.8	28.7	0.3	4.5	4.4
Road traffic injuries	7.2	9.9	-27.3	1.1	1.5
Falls	10.8	6.1	77.0	1.7	0.9
Intentional	11.5	11.6	-0.9	1.8	1.8
Self-inflicted (suicide)	10.6	10.6	0.0	1.7	1.6
Violence (homicide)	0.9	1.0	-10.0	0.1	0.2
III-defined conditions	31.3	20.9	49.8	4.9	3.2
All causes	641.2	647.8	-1.0	100.0	100.0

Annex. Mortality data

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

	Sex	Norwa	ıy (2002)	Eur-A	(2002)	Eur-B+0	(2003)
Causes of death		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	41.9	-1.6	49.4	-2.4	151.7	-3.8
	M	42.6	-3.5	55.3	-2.5	170.5	-3.9
	F	41.3	1.5	43.3	-2.4	131.9	-3.8
Infectious and parasitic diseases	M	0.2	-12.5	1.4	-1.1	10.9	-7.0
·	F	1.0	-6.2	1.1	-3.0	9.5	-6.6
Intestinal infectious diseases	M	0.0	-14.3	0.2	-0.7	5.1	-8.2
	F	0.0		0.1	-7.3	4.7	-7.9
Malignant neoplasms	M	3.9	6.1	3.3	-1.8	5.1	-1.9
,	F	2.5	-3.8	2.6	-1.8	4.2	-1.9
Cardiovascular diseases	М	1.1	-2.7	1.4	-3.1	3.3	1.1
	F	0.3	-12.2	1.3	-2.5	2.6	0.1
Respiratory diseases	М	0.7	7.2	1.4	-4.3	35.9	-5.0
,	F	0.7	-0.1	1.0	-4.2	30.7	-5.0
Pneumonia	М	0.0	-14.3	0.5	-6.0	20.9	-4.9
	F	0.5		0.4	-5.1	17.9	-4.7
Certain conditions originating in perinatal period	М	135.7	-6.5	255.3	-2.1	607.6	-2.7
3 3 , ,	F	167.7	6.9	202.3	-1.6	427.5	-2.7
Congenital malformations & chromosomal	М	8.6	-3.4	11.6	-2.9	24.2	-2.8
abnormalities	F	11.9	4.3	10.0	-3.3	21.0	-2.6
III-defined causes	М	5.6	-2.0	5.0	-3.9	5.6	-0.6
	F	3.4	0.8	3.4	-4.2	4.6	-1.0
External causes of injury & poisoning	М	5.2	-6.0	7.0	-4.0	29.0	-3.4
, , , , , , , ,	F	3.9	-0.9	4.6	-3.2	18.1	-3.1
Road traffic injuries	М	1.7	-6.3	2.5	-4.5	4.7	-2.6
•	F	1.6	1.8	1.7	-4.8	3.0	-1.6

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

	Sex	Norwa	ıy (2002)	Eur-A	(2002)	Eur-B+C (2003)	
Causes of death	-	Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	62.3	1.0	56.0	-2.3	161.0	-0.9
	M	90.8	0.7	82.0	-2.3	241.7	-1.0
	F	32.9	2.1	29.3	-2.2	79.0	-0.6
Infectious and parasitic diseases	M	0.5	-7.0	1.2	1.5	12.3	3.0
	F	0.2	-10.8	0.8	1.9	5.1	2.5
Malignant neoplasms	M	5.0	-0.4	6.2	-1.0	8.8	-1.9
	F	3.9	-2.3	4.7	-1.4	7.7	-1.9
Cardiovascular diseases	M	1.6	-7.0	4.1	-2.4	17.6	0.0
	F	1.6	-1.5	2.3	-2.0	7.3	-0.9
Respiratory diseases	M	0.7	- 7.1	1.4	-3.6	6.9	0.2
•	F	0.2	-5.5	0.9	-2.7	3.8	-1.1
Digestive diseases	M	0.9	55.4	0.9	-3.5	8.0	3.0
	F	0.0	-14.3	0.5	-3.8	3.7	3.1
III-defined causes	M	6.2	14.7	4.0	-3.1	11.6	7.1
	F	1.4	10.1	1.4	-1.3	3.3	5.8
External causes	M	54.3	-1.7	58.3	-1.4	162.4	-1.6
	F	15.5	1.9	14.4	-1.6	36.9	-0.2
Road traffic injuries	М	21.6	1.0	28.5	-1.3	27.8	-1.5
•	F	4.1	-3.7	7.3	-1.4	8.0	0.3
Accidental drowning	M	2.2	-5.7	1.3	-2.2	10.8	-3.9
ŭ	F	1.0	20.2	0.2	-2.1	1.9	-2.2
Accidental poisoning	M	0.9	- 5.1	2.8	0.0	19.1	3.3
. 3	F	0.7	26.8	0.7	0.8	4.4	2.5
Self-inflicted (suicide)	M	19.6	-1.3	12.7	-1.8	36.8	0.0
. ,	F	6.4	4.2	3.1	-2.2	5.8	-1.3

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

	Sex	Norwa	y (2002)	Eur-A	(2002)	Eur-B+C (2003)	
Causes of death	-	Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	105.4	-1.0	120.3	-2.5	453.8	-0.7
	M	140.6	-0.5	161.6	-2.6	700.0	-0.8
	F	68.7	-1.8	78.5	-2.1	215.6	-0.2
Malignant neoplasms	M	20.3	-1.3	27.6	-2.3	40.2	-2.8
,	F	25.9	-4.2	31.3	-2.0	43.8	-1.4
Trachea/bronchus/lung cancer	M	3.0	15.1	5.0	-3.4	7.3	-4.2
· ·	F	2.5	-5.8	2.8	-0.6	2.2	-1.0
Female breast cancer							
	F	7.6	-6.5	10.0	-2.6	10.0	-2.3
Cardiovascular diseases	M	20.3	-2.1	26.1	-2.5	158.6	-0.4
	F	6.6	-1.2	10.4	-2.1	45.3	0.0
Ischaemic heart disease	M	9.7	-4.8	11.8	-3.1	73.7	-2.2
	F	2.5	-1.1	2.4	-2.7	14.4	-1.3
Cerebrovascular diseases	M	2.5	-4.0	4.4	-3.2	24.6	-0.4
	F	2.7	-2.5	3.6	-2.5	10.6	-1.3
Respiratory diseases	M	1.6	-0.7	3.9	-3.5	34.3	0.9
	F	1.2	2.1	2.2	-2.0	9.8	8.0
Digestive diseases	M	3.2	-4.4	12.6	-2.4	50.2	1.4
_	F	2.2	-1.9	5.4	-1.7	19.4	4.1
External causes	M	50.7	1.5	58.8	-1.2	299.5	-1.9
	F	15.2	-0.6	15.1	-1.8	58.9	-1.0
Road traffic injuries	M	11.5	14.3	16.0	-0.5	31.4	-1.7
•	F	2.4	0.2	3.9	-2.0	7.1	-0.5
Self-inflicted (suicide)	M	19.2	-2.2	21.2	-1.5	54.9	-2.4
,	F	8.1	-1.5	5.8	-2.2	7.9	-2.5

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

	Sex	Norwa	y (2002)	Eur-A	(2002)	Eur-B+0	(2003)
Causes of death	•	Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	371.6	-1.9	435.6	-1.3	1294.9	-0.6
	M	448.3	-2.7	580.1	-1.4	1981.7	-0.6
	F	292.4	-0.5	293.3	-1.0	698.9	-0.5
Malignant neoplasms	M	151.9	-1.8	218.2	-1.2	323.2	-1.9
,	F	172.5	-0.5	155.0	-1.0	186.1	-0.5
Trachea/bronchus/lung cancer	M	41.0	-0.5	65.9	-1.5	101.4	-2.9
· ·	F	34.3	3.9	21.8	3.4	15.4	1.0
Female breast cancer							
	F	41.3	0.6	44.0	-2.2	45.3	0.1
Cardiovascular diseases	M	120.4	-5.3	156.4	-2.6	793.1	-0.1
	F	38.4	-3.1	50.9	-2.5	271.7	-0.6
Ischaemic heart disease	M	79.4	-6.1	86.2	-3.3	435.3	-0.7
	F	17.1	-4.1	17.8	-3.4	111.1	-0.6
Cerebrovascular diseases	M	14.4	-4.8	23.7	-2.6	168.6	-0.9
	F	10.8	-4.4	14.5	-2.1	88.4	-1.4
Respiratory diseases	M	14.0	-2.7	20.3	-1.7	108.7	-1.4
	F	10.3	-2.5	10.2	-1.3	24.5	-0.7
Digestive diseases	M	20.9	1.2	49.6	-0.8	129.7	0.7
_	F	9.2	0.5	20.3	-0.7	57.3	1.9
External causes	M	57.1	-1.5	62.8	-1.0	409.2	-0.9
	F	20.0	-0.8	20.9	-0.9	89.1	-1.1
Road traffic injuries	M	9.6	4.9	13.0	-1.3	28.5	-1.8
•	F	3.2	-1.7	4.1	-2.1	7.5	-1.4
Self-inflicted (suicide)	M	19.3	-2.1	23.1	-1.1	68.1	-2.4
	F	7.2	-2.1	8.5	-1.2	10.2	-3.4

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

	Sex	Norwa	y (2002)	Eur-A	(2002)	Eur-B+0	(2003)
Causes of death	•	Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	1519.8	-2.3	1570.9	-1.9	3411.7	-0.1
	M	1984.9	-2.7	2156.9	-2.1	4996.4	0.1
	F	1104.3	-1.8	1069.2	-1.9	2339.0	-0.6
Malignant neoplasms	M	734.2	-0.5	851.3	-1.4	1002.5	-0.8
	F	508.0	0.0	439.8	-1.1	438.9	-0.7
Trachea/bronchus/lung cancer	M	207.4	-0.7	261.8	-1.9	321.7	-1.5
-	F	92.4	3.0	59.0	0.2	37.1	-1.4
Female breast cancer							
	F	64.1	-3.1	79.7	-1.6	68.7	1.3
Cardiovascular diseases	M	709.3	- 5.1	744.9	-3.6	2903.0	0.6
	F	279.0	-5.3	335.7	-3.9	1507.8	-0.3
Ischaemic heart disease	M	409.4	-6.2	381.3	-4.2	1582.2	1.2
	F	127.9	-6.6	133.5	-4.6	731.4	0.5
Cerebrovascular diseases	M	129.5	-3	143.3	-3.7	833.7	0.2
	F	78.5	-3.8	86.7	-4.1	528.9	-0.8
Respiratory diseases	M	135.3	-3.1	144.0	-3.5	303.0	-2.4
•	F	98.1	-0.4	62.5	-2.4	68.6	-3.6
Digestive diseases	M	53.9	-1.2	111.6	-1.6	193.0	0.1
_	F	38.6	2.1	54.1	-1.7	94.2	0.2
External causes	M	78.2	-0.5	79.3	-1.4	320.0	1.0
	F	28.4	-3.5	32.1	-2.1	88.7	-0.5
Road traffic injuries	M	11.9	6.6	14.8	-3.0	24.3	-1.5
•	F	3.7	-6.1	5.9	-3.4	9.5	-1.0
Self-inflicted (suicide)	M	19.9	-4.1	24.5	-1.6	60.5	-0.8
` '	F	9.3	-0.6	8.7	-2.6	12.7	-3.1

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

	Sex	Norwa	y (2002)	Eur-A	(2002)	Eur-B+0	(2003)
Causes of death		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	8500.4	-0.9	8059.6	-1.0	12338.8	0.0
	M	10565.6	-1.3	9832.0	-1.1	14838.0	0.1
	F	7326.1	-0.6	7112.5	-0.9	11421.7	0.0
Malignant neoplasms	M	2311.0	-0.3	2231.1	-0.4	1489.3	1.2
	F	1139.7	0.0	1136.2	-0.4	721.7	8.0
Trachea/bronchus/lung cancer	M	377.8	4.0	457.1	-0.7	323.5	1.0
-	F	122.9	7.9	102.7	1.5	55.6	0.5
Female breast cancer							
	F	143.9	-1.3	159.6	-0.4	92.0	3.1
Cardiovascular diseases	M	4685.4	-2.1	4356.2	-2.1	10221.2	0.4
	F	3394.7	-1.5	3577.9	-1.9	8805.6	0.4
Ischaemic heart disease	M	2189.2	-2.4	1708.0	-2.2	4925.6	1.4
	F	1298.1	-1.9	1150.0	-2.2	4028.6	1.2
Cerebrovascular diseases	M	1041.5	-3.4	1119.8	-2.5	3004.4	0.7
	F	932.4	-2.7	1026.9	-2.4	2967.6	0.5
Respiratory diseases	M	1396.8	-2.4	1156.5	-2.4	824.1	-2.1
•	F	894.8	-1.8	591.9	-2.1	302.3	-3.2
Digestive diseases	M	283.8	-1.4	340.3	-1.1	270.4	0.3
	F	246.7	0.0	279.8	-0.4	175.0	1.1
External causes	M	348.4	-0.8	275.0	-0.6	604.2	0.1
	F	228.3	-0.7	187.8	-1.2	172.4	-1.2
Road traffic injuries	M	14.8	-4.4	28.1	-2.2	34.6	-3.1
•	F	7.4	-5.5	10.0	-3.1	14.7	-1.7
Self-inflicted (suicide)	M	28.8	3.6	49.5	-1.6	86.6	-1.1
, ,	F	3.5	-5.0	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 2003¹.

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.

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).

Technical notes 23

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 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 groups¹ 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, The former Yugoslav Republic of Macedonia, 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 trend 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 I26–I51

heart disease

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 36¹.

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.

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).