WORLD HEALTH ORGANIZATION
EUROPE

Highlights on health in Germany

2004

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.

Keywords

HEALTH STATUS
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DELIVERY OF HEALTH CARE
COMPARATIVE STUDY
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Summary: findings and policy options

Life expectancy

People in Germany are living longer – 81.6 years for women and 75.6 for men – although their overall life expectancy is slightly below averages for the Eur-A countries. Between 1990 and 2000, Germans gained almost 3 years of life. By 2030, one person out of every four in Germany is expected to be aged 65 or over.

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, 2004a)

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

Infant mortality

Infant and neonatal mortality rates in Germany are lower than Eur-A averages.

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

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

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

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

Noncommunicable conditions

Noncommunicable conditions account for over four fifths of all deaths in Germany. About 4 out of every 10 deaths are due to cardiovascular diseases (CVD); about 2 in 10 are due to cancer, and about 1 in 10 to external causes (intentional and unintentional injuries).

Deaths from CVD are higher in Germany than in Eur-A on average, even though Germany's rate has dropped by about a third since 1990. Ischaemic heart disease is the single biggest killer in the country: mortality is about 25% higher than the Eur-A average among men and about 40% higher among women.

Since 1990, mortality due to digestive diseases has been dropping across Eur-A countries. From the ages of 35 to about 65, however, men and women in Germany have death rates higher than the Eur-A average. The differences are dramatic in the younger age groups: the rates for men and women aged 35–44 years are about 40% higher than in Eur-A overall.

Preventive care, delivered through a country's primary care system, can improve 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, 2004e)

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

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

Excess weight and physical inactivity

About half of all adults in Germany are overweight, and about a fifth are obese. Among 15-year-olds, almost 1 out of every 7 boys and 1 of every 18 girls are pre-obese. About 2% of boys and 1% of girls are obese.

In 1998, a national survey of people aged 18–79 years in both urban and rural areas found that about 44% of men and 50% of women had no involvement in sport.

Better eating habits can prevent premature death from CVD, but people's chances for a healthy diet depend on what food is available and whether it is affordable. Food and nutrition policies need to cross sectors and be coordinated, so that non-health sectors give priority to public health. This also applies to the promotion of physical activity: policies to encourage active living over the life course need to be integrated across health and non-health sectors.

CINDI dietary guide (WHO Regional Office for Europe, 2000)

Diet, nutrition and the prevention of chronic diseases (WHO, 2003a)

Food and health in Europe: a new basis for action (Robertson et al., 2004)

The potential contribution of increased vegetable and fruit consumption to health gain in the European Union (Joffe & Robertson, 2001)

Tobacco

People in Germany have typically smoked less than the average for Eur-A countries, but recent surveys have found increased smoking among women and among 15-year-olds of both sexes. Since 1990, mortality from lung cancer has been rising among women aged 35 and over. Across age groups, the rates for German women are close to those for Eur-A women, except for the group aged 45–54. Since the mid-1990s, the rate for this age group has risen faster than the Eur-A average; in 2001, it was 17% higher.

To reduce consumption across the whole population, policy-makers need permanently to raise prices for tobacco through taxes, and cessation policies need to target vulnerable groups. Increasing adults' cessation of tobacco use is cost-effective for public health in the short and medium terms.

European Strategy for Tobacco Control (WHO Regional Office for Europe, 2002b)

Tobacco control database [online database] (WHO Regional Office for Europe, 2004f)

Which are the most effective and cost-effective interventions for tobacco control? (Health Evidence Network, 2003c)

WHO European strategy for smoking cessation policy (WHO Regional Office for Europe, 2003)

WHO Framework Convention on Tobacco Control (WHO, 2003d)

Mental health

The rates of death from suicide have fallen in Germany since 1990, following the downward trend in Eur-A. Despite this decline, men in Germany, from the age of about 35 years onward, have higher rates of completed suicide than men in Eur-A of the same age. For German women, the relatively higher rates begin at age 55.

Neuropsychiatric conditions account for the largest share of the burden of disease on the German population, owing to the associated disability in daily living over the life-course.

Better recognition and monitoring of depressive disorders can lead to positive effects, including reduced suicide rates. Comprehensive treatment programmes directed at the addictive and depressive features in alcohol abuse have been shown to be effective.

Mental health in Europe: country reports from the WHO European network on mental health (WHO Regional Office for Europe, 2001)

Mental health policy and practice across Europe: the future direction of mental health care: proposal for analytical study (Knapp et al., 2004)

Project Atlas: mapping mental health resources in the world (WHO, 2003c)

The world health report 2001: mental health: new understanding, new hope (WHO, 2001)

Traffic injury

While deaths due to road traffic accidents in Germany are relatively low, the rate for injuries is almost 40% higher than the Eur-A average.

The cost of road traffic injuries to society is an estimated 2% of a country's gross domestic product (GDP). Effective preventive strategies exist, and need to be applied through multisectoral approaches in the context of sustainable mobility.

Preventing road traffic injury: a public health perspective for Europe (Racioppi et al., 2004)

Alcohol

Per capita alcohol consumption in Germany has dropped in the last 10 years, following the Eur-A trend, but remains higher than the average.

Alcohol consumption varies among countries and between population groups within countries. The variation in drinking patterns affects the rates of alcohol-related problems and has implications for the choice of alcohol control policies. Measures that are generally effective in reducing alcohol consumption and the associated harm include pricing and taxation and restricting the availability of alcohol, opening hours for sales outlets and the legal drinking age. Most drink–driving countermeasures have been effective, as well. International trade agreements and common markets have weakened the ability of national-level decision-makers to establish national alcohol policies. Most notable are the converging trends in alcohol taxation in several countries in the European Union.

Alcohol control database [online database] (WHO Regional Office for Europe, 2004a)

Alcohol: no ordinary commodity. Research and public policy (Babor et al., 2003)

What are the most effective and cost-effective interventions in alcohol control? (Health Evidence Network, 2004b)

HIV/AIDS

About half of all people in Germany infected with HIV are men who have sex with men. Since the end of the 1990s, this population has experienced rising rates of HIV and syphilis, indicating more risk taking. About 20% of infections are in immigrants from areas with high HIV prevalence. An additional 18% are infected through heterosexual contact.

Prevention, treatment and care programmes need to reach all people affected by HIV/AIDS, particularly those whose language, culture or immigrant status might limit their access to health services.

Access to care: privilege or right? Migration and HIV vulnerability in Europe (Broring et al., 2003)

AIDS: epidemic update December 2003 (UNAIDS & WHO, 2003)

The HIV/AIDS epidemic in Europe and central Asia (WHO Regional Office for Europe, 2004d)

Drug use and hepatitis C

Between 1998 and 2001, limited testing for hepatitis C in drug-treatment centres and prisons in Germany showed that 66–97% of injecting drug users were infected.

The key to effective prevention of hepatitis C is to reduce the number of people who start to inject drugs and to encourage harm reduction among young and new injectors. A high proportion of those with the most serious drug use and addiction problems are found in prisons. Coordination of efforts within and between countries is a vital component of effective drug policy in the WHO European Region.

Annual report 2003: the state of the drugs problem in the European Union and Norway (EMCDDA, 2003)

Declaration. Prison health as part of public health, Moscow, 24 October 2003 (HIPP, 2003)

Gender and health

While deaths from cervical cancer are declining in Germany, the rate has stayed higher than the Eur-A average since 1990. In 2000, the rate was almost one third higher among German women.

Factors that determine health and ill health are not the same for women and men. To achieve the greatest standards of health in populations, health policies must recognize that women and men, owing to their biological differences and their gender roles, have different needs, obstacles and opportunities regarding their health and well-being. Gender mainstreaming in health is both a political and a technical process that requires shifts in organizational cultures and ways of thinking.

Mainstreaming gender equity in health: the need to move forward (WHO Regional Office for Europe, 2001a)

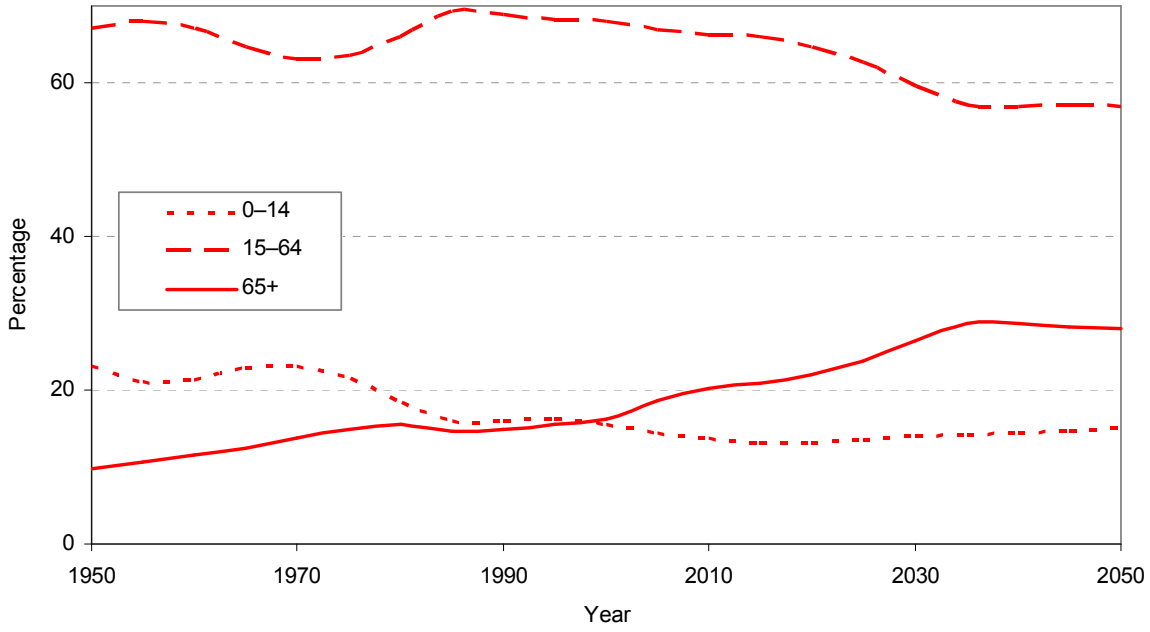
Selected demographic information

Population profile

Germany had a population of 82 536 700 at the end of 2002. Almost 88% of the population live in urban centres.

The most striking demographic feature of the country, observed across Eur-A, is the increasing proportion of elderly people in the population. As the large birth cohorts of the late 1940s approach retirement age, the number of Germans aged 65 and over is expected to grow from about 17.5% of the population in 2003 (Council of Europe, 2003) to 26.4% in 2030 (Annex. Age pyramid.

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



Source: United Nations (2002).

Germany has the second lowest birth rate in Eur-A. The rate has dropped by 21% since 1990, similar to the trend in Eur-A. Germany's rate of natural increase is negative, the third lowest in Eur-A. Net migration is positive, however. Total population growth is also positive, although it is one of the lower rates in Eur-A.

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

Indicators	Germany	Eur-A		
	Value	Average	Minimum	Maximum
Population (in 1000s)[a]	82 536.7	–	–	–
0–14 years (%)	15.4	–	–	–
15–64 years (%)	67.7	–	–	–
65+ years (%)	16.9	–	–	–
Urban population (%)[b]	87.7	79.5	49.2	100.0
Live births (per 1000)[c, d]	8.7	11.3	8.7	21.2
Natural population growth (per 1000)	-1.1	1.1	–2.4	15.5
Net migration (per 1000)[c,d]	2.7	3.5	–9.6	17.3

[a] As of 1 January 2003.
[b] Including Andorra and Monaco.
[c] 2002.
[d] Including Andorra.
Sources: Council of Europe (2003), WHO Regional Office for Europe (2004c); Central Bureau of Statistics of Israel (2003) for data on Israel.

Vulnerable populations

Income

The evidence on determinants of health shows that people who are socioeconomically disadvantaged bear the greatest burden of disease. Among determinants, income is related to an accumulation of factors that affect mortality (Martikainen et al., 2001). For example, it influences and is influenced by education and employment.

Even in the richest Member States in the WHO European Region, wealth is not equitably distributed and pockets of relative poverty exist (WHO Regional Office for Europe, 2002a; WHO, 2002). The association between poverty and urban areas is especially important in Europe. As populations migrate and become more urban, there are increases in the number of urban poor whose housing, employment conditions and diet expose them to greater risk of illness and disease (WHO Regional Office for Europe, 2001b). The nature and impact of poverty can be unevenly distributed among poor people according to such factors as gender and age group (Ziglio et al., 2003).

According to the GINI index, Germany's income inequality was rated at 28.3 in 2000, below the Eur-A average of 30.8. During the period 1990–2000, about 8% of Germany's population lived below the 50% median income level, which is close to the Eur-A average (UNDP, 2004).

In 2002, overall unemployment was 8.7% in Germany, while the average for 25 Eur-A countries was 6.5% (UNSD, 2004). The year before, unemployment rates for young people (those aged 15–24) were 9.1% for males and 7.5% for females. In 2000, about 82% of unemployed Germans had completed secondary education and 5%, primary education or below. Half of the unemployed had been jobless for 12 months or more (UNECE, 2003).

Social exclusion

Social exclusion has a broad impact on health. It refers to the relative position of an individual or a group in society as a whole. The processes that accompany and result in social exclusion – such as discrimination, stigmatization and hostility – prevent people from getting education or training and from gaining access to services and citizenship activities, making them more vulnerable to health risks and disease.

Examples of people outside the mainstream include members of ethnic or religious minorities; people who live in geographically disadvantaged areas, are unemployed or are elderly; and in some countries, indigenous peoples. People new to a country – such as refugees, immigrants or migrant workers – may also be socially excluded.

The table below gives the total population figures for various vulnerable groups of people resident in Germany. Immigrants include nationals and foreigners from within and outside the European Region. Countries have different data sources and administrative definitions of immigrant status.

Vulnerable populations in Germany

Population	1992	1995	1998	2001	2003 (estimate)
Immigrants	1 502 198	1 096 048	802 456	879 217	
Refugees	–	–	–	903 000	
Prison inmates (per 100 000 national population)	71	81	96	96	96

Sources: EUROSTAT (2004), UNDP (2003) and International Centre for Prison Studies (2004).

The table also includes data about prison inmates, a particularly vulnerable population in that they are typically from minority groups and have lower socioeconomic status and less education than the general population. Incarceration can expose them to direct health hazards, particularly if prison populations outpace capacity. The resulting overcrowding causes and contributes to many health problems, most notably mental health conditions and communicable diseases. In fact, drugs and drug-related infectious diseases in prisons are causing major problems in all countries in the European Region, with the risks of transmission affecting not only inmates but also prison employees and contacts outside the institutions (EMCDDA, 2002).

In 2003, German prisons had a 100.5% occupancy level, based on official capacity. Between 1992 and 2003, the incarceration rate increased by about 35% (International Centre for Prison Studies, 2004).

Burden of disease

The burden of disease 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.

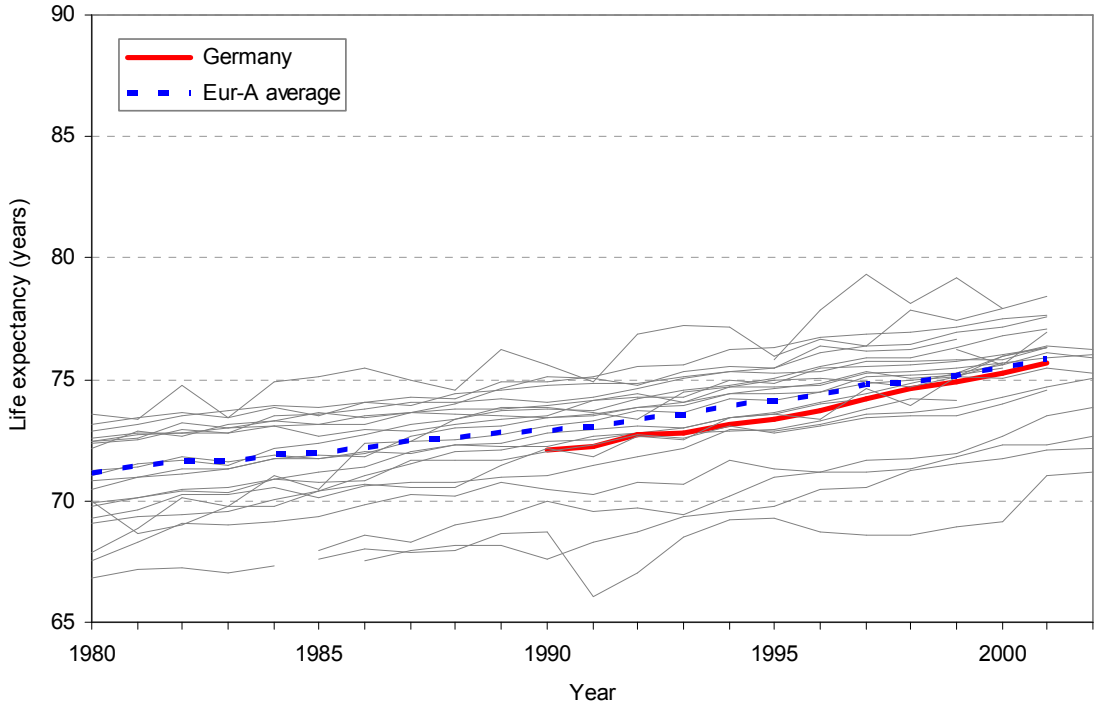
Life expectancy and healthy life expectancy

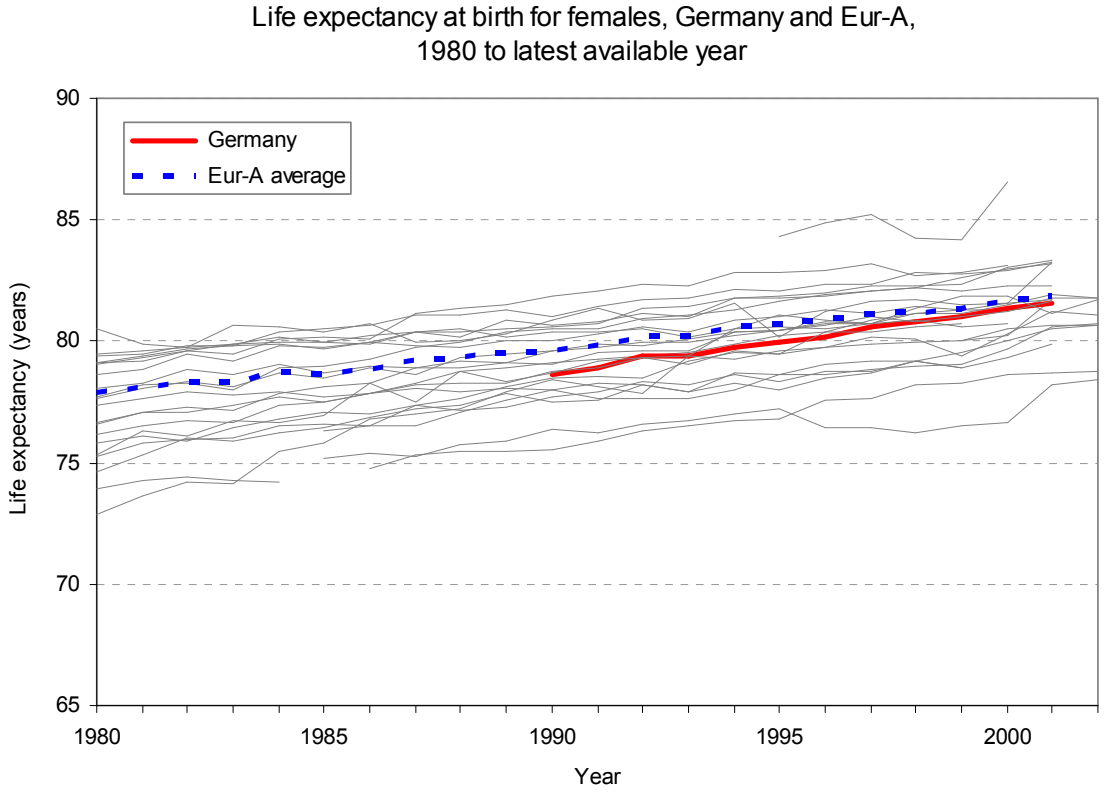
A German born in 2002 can expect to live 78.7 years on average: 81.6 years if female and 75.6 years if male, according to WHO (2003f) estimates.

Between 1990 and 2001, according to estimates reported by Germany, Germans gained 3.2 years in life expectancy (LE), with men showing a greater gain than women: 3.6 years and 2.9 years, respectively. The gain for German men (4.3%) is similar to the gain for all Eur-A men during the period, but German men have a slightly lower LE than Eur-A men on average.

For the same period, German women made a greater gain in LE in percentage terms than Eur-A women on average: 3.7% and 2.8%, respectively. Similar to German men, however, their average LE is very slightly less than the average for Eur-A women.

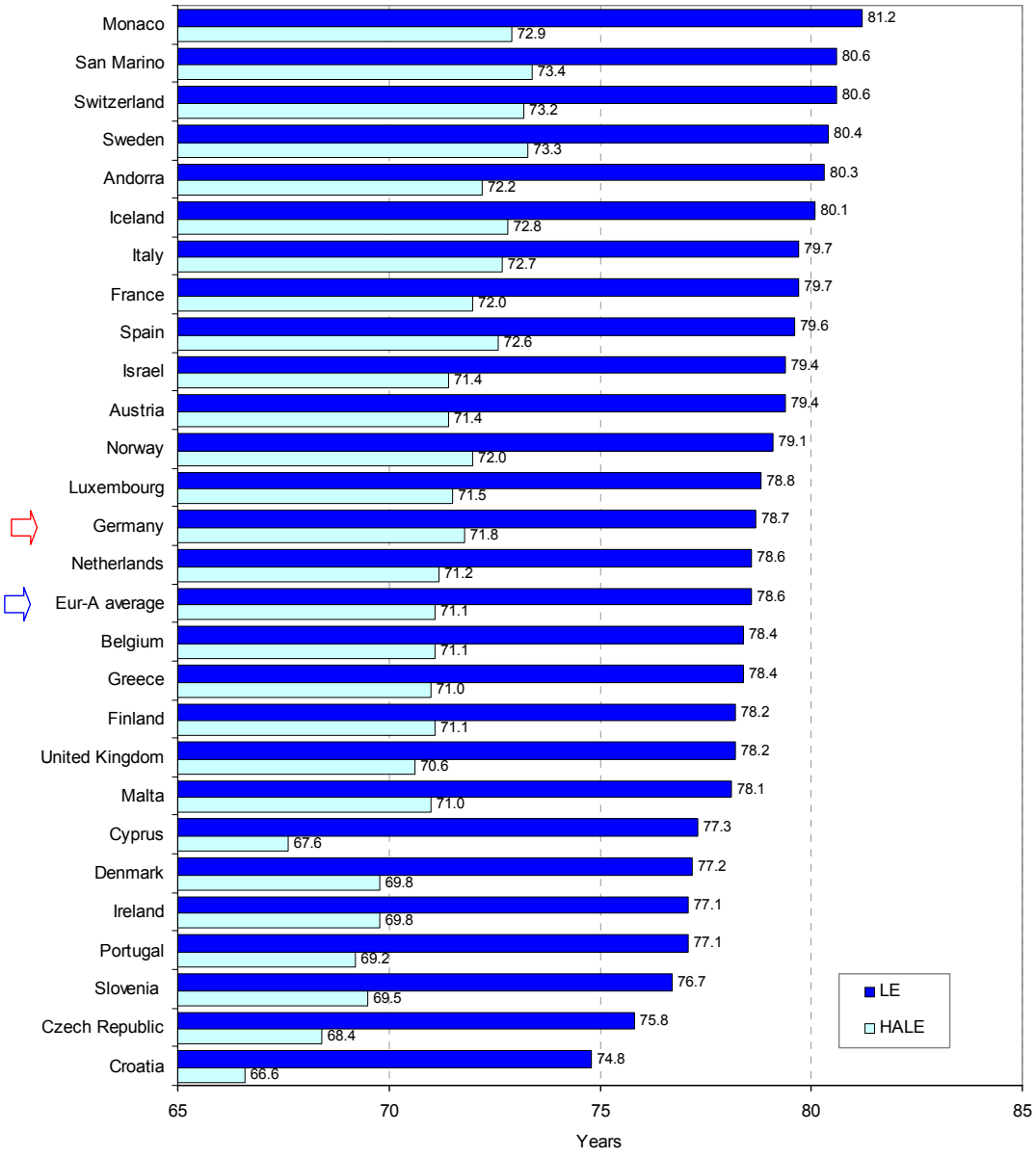
Life expectancy at birth for males, Germany and Eur-A,
1980 to latest available year





In addition, WHO (2003f) estimates that, on average, people in Germany can expect to be healthy for about 91% of their lives. They lose on average almost 7 years to illness – the difference between LE and healthy life expectancy (HALE). Since women live longer than men and since the possibility of deteriorating health increases with age, women lose more healthy years of life (7.6) than men (6.3). Nevertheless, the longer LE for German women gives them about 1 more year of healthy life than German men.

LE and HALE, Germany and Eur-A[a], 2002

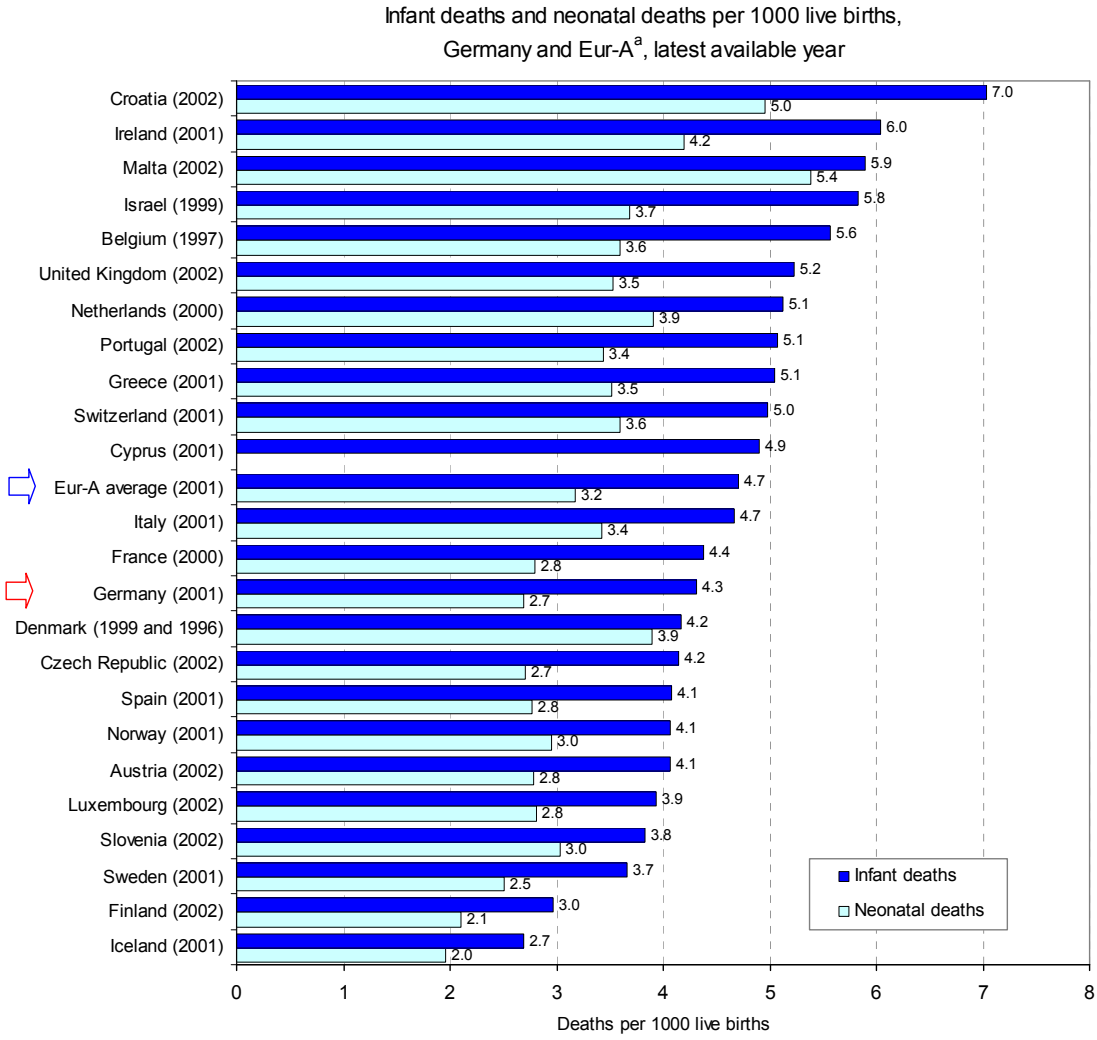


[a] Including Andorra and Monaco.
Source: WHO (2003f).

Mortality

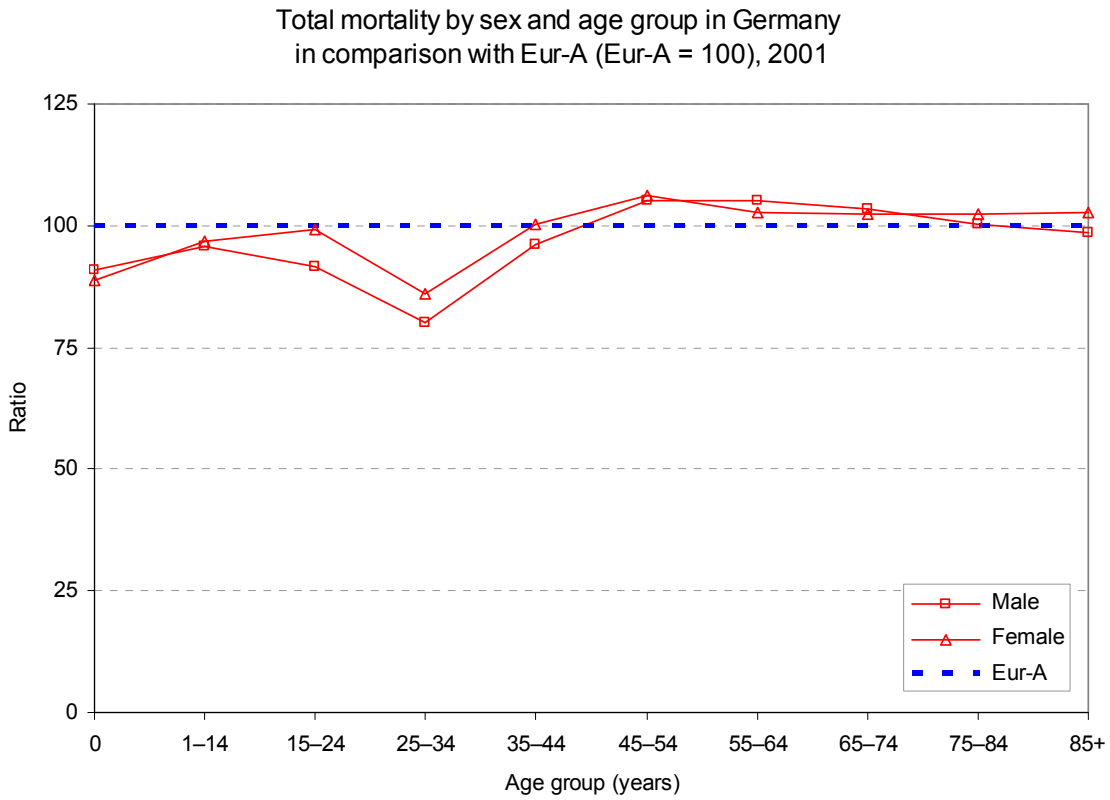
Infant mortality and neonatal death

In 2001, Germany's rates of infant and neonatal mortality were lower than the Eur-A averages by 8% and 15%, respectively.



Excess mortality

In general, Germans have 4–5% lower mortality rates than other people in Eur-A. There are only slight excesses for men aged 45–64 years and for women aged 45–74 years and 85 and over.

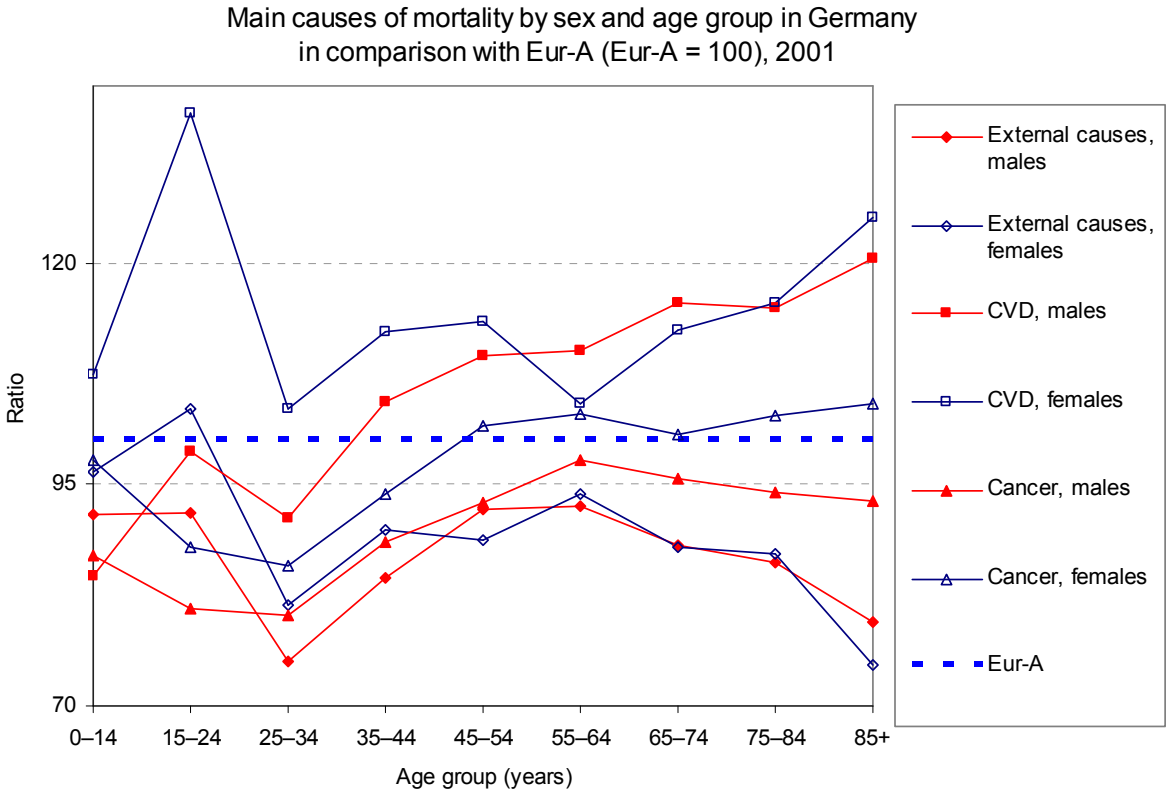


Main causes of death

In 2001, noncommunicable diseases accounted for about 84% of deaths in Germany; external causes for just over 5%, and communicable diseases for about 1% (Annex. Selected mortality).

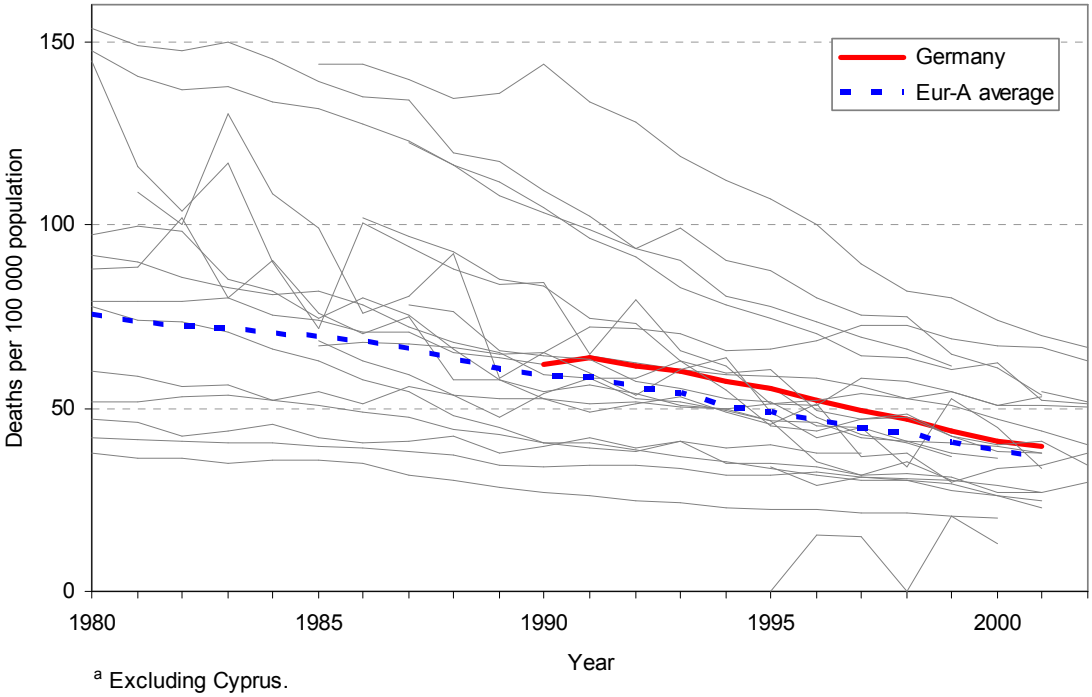
Relative to Eur-A averages, the largest excess mortality in Germany is due to cardiovascular diseases (CVD) among both males and females. Despite a drop in mortality between 1990 and 2001 (almost 30% for males and 28% for females), the rates in Germany in 2001 remained higher than Eur-A averages (overall, by 6% for males and 15% for females), with that for females being two thirds of that for males. Females have higher relative mortality in Eur-A across age groups; the rates for males begin to exceed Eur-A averages in the group aged 35–44. Among Germans aged 65 years and over, the mortality rate for each sex was the sixth highest in Eur-A.

As to cancer, the mortality rate among females in Germany begins to exceed Eur-A averages in the group aged 45–54.



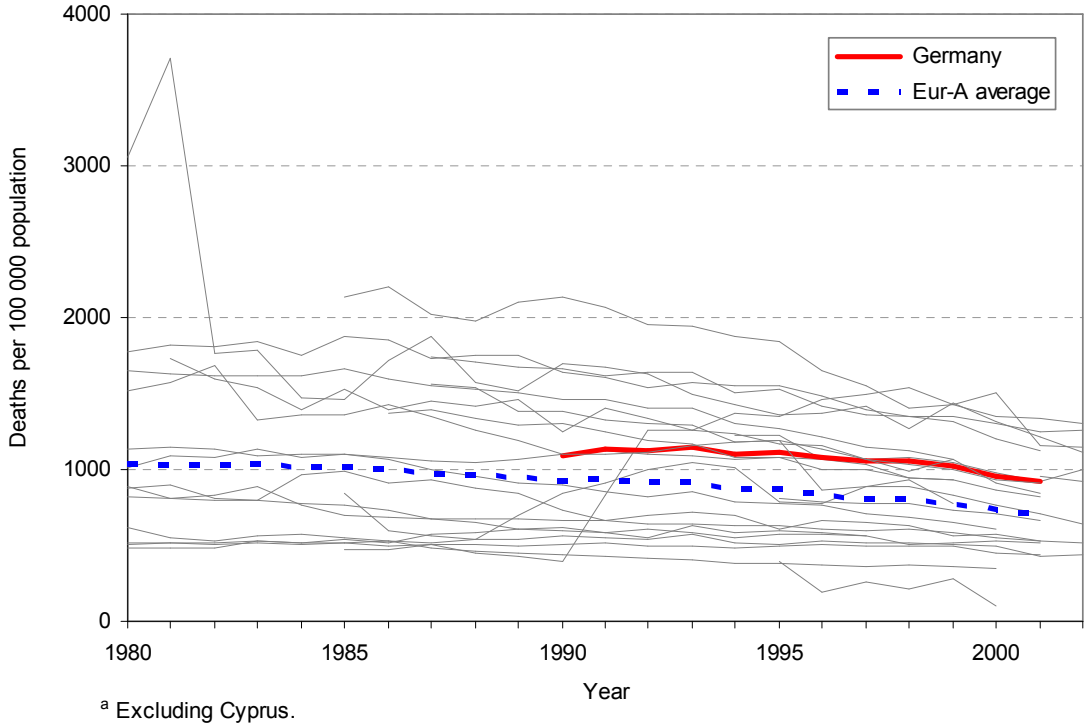
Within the category of CVD, ischaemic heart disease continues to be the single biggest killer among Germans. It accounted for about 19% of all deaths in 2001, despite the mortality rate for the disease having declined by 20% across the population since 1990. German men have the seventh highest mortality in Eur-A; women have the sixth highest. The rate among German men is almost twice that among women.

Standardized death rates (SDR) for ischaemic heart disease in people aged 25–64 years, both sexes, Germany and Eur-A[a], 1980 to latest available year



[a] Excluding Cyprus.

SDR for ischaemic heart disease in people aged 65+ years, both sexes, Germany and Eur-A[a], 1980 to latest available year



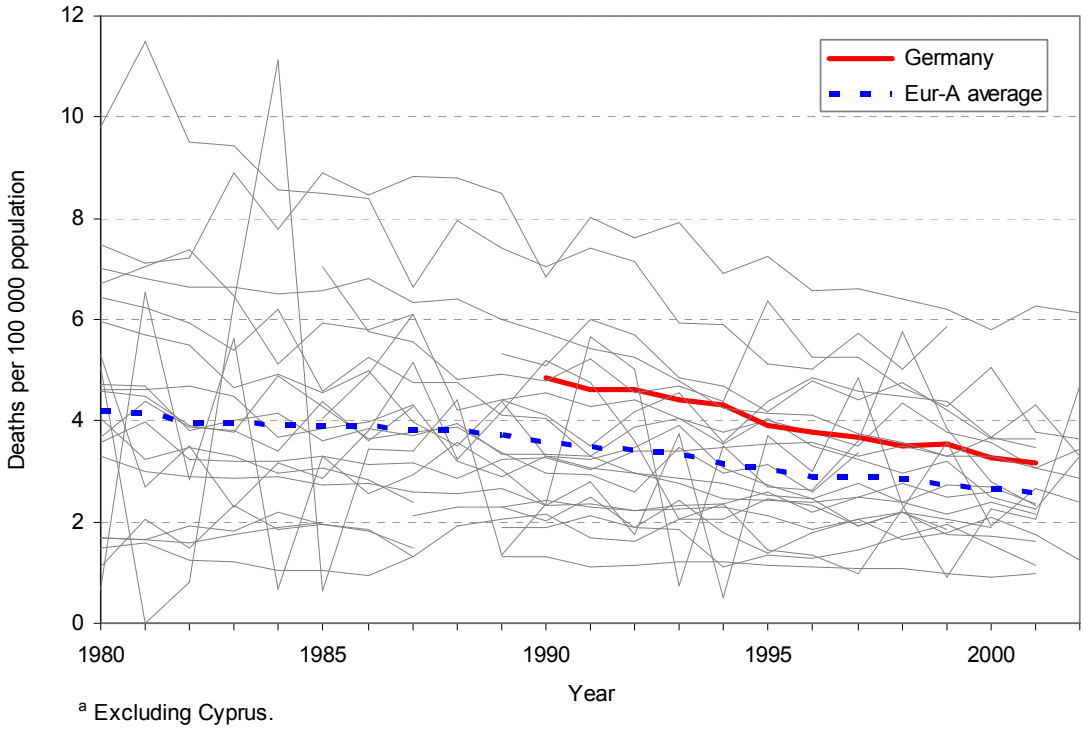
[a] Excluding Cyprus.

Since 1990, mortality from lung cancer among women 35 and over has been increasing in Eur-A, including Germany. Across age groups, German women have rates close to those for Eur-A women,

except for those aged 45–54. Since the mid-1990s, the rate for this age group has risen faster than the Eur-A average; in 2001, it was 17% higher (Annex. Mortality data).

While mortality from cervical cancer has been falling in Eur-A since 1990, the rate has remained consistently higher in Germany. In 2001, it was about 30% higher than the Eur-A average.

SDR for cancer of the cervix, all ages,
Germany and Eur-A[a], 1980 to latest available year



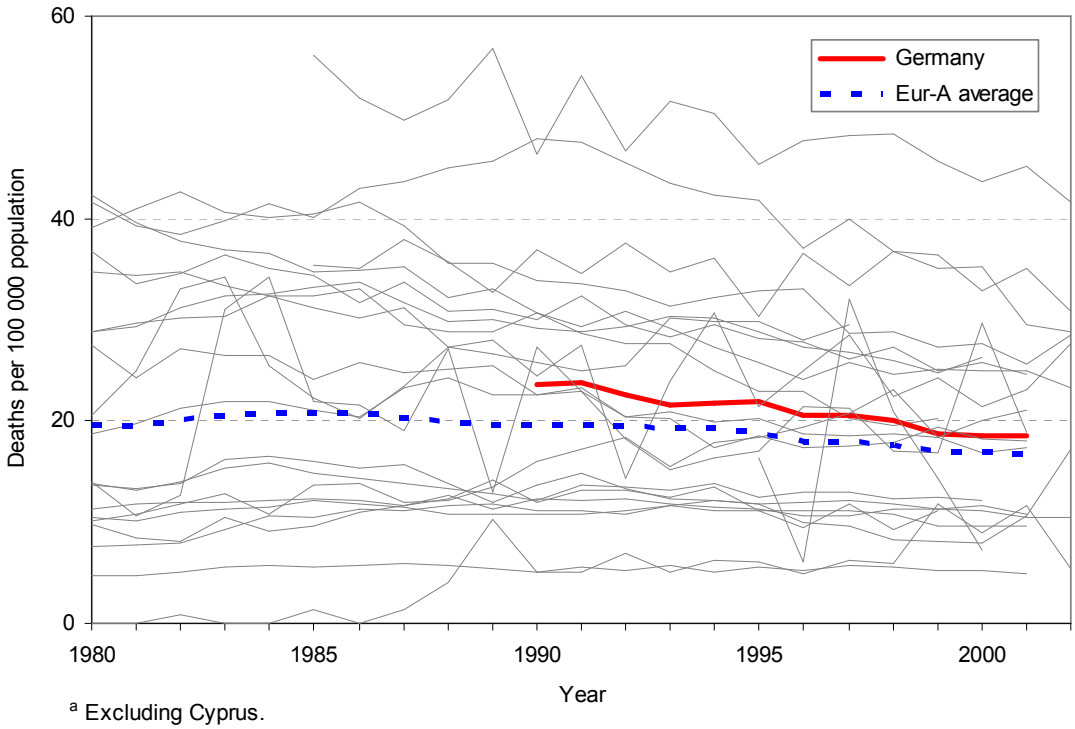
[a] Excluding Cyprus.

Since 1990, mortality from digestive diseases has been dropping across Eur-A, but Germans aged 35 to about 65 have rates higher than Eur-A averages. The differences are dramatic in the younger age groups: the death rates for men and women aged 35–44 years are each about 40% higher in Germany than in Eur-A.

Mortality from intentional and unintentional injuries in Germany is in general below Eur-A averages, and shows downward trends similar to those of other Eur-A countries. While deaths from road traffic accidents are relatively low, the rate for injuries among Germans is almost 40% higher than the Eur-A average.

Since 1990, the rates of death from suicide have fallen in Germany, just as they have in other Eur-A countries. From about age 35, however, men in Germany have higher rates of completed suicide than Eur-A averages. Rates are particularly high in the groups aged 45–54 and 65–74 years. For women, relatively higher rates begin at age 55.

SDR for suicide and self-inflicted injury in males, all ages, Germany and Eur-A[a], 1980 to latest available year



[a] Excluding Cyprus.

Disability-adjusted life-years

The disability-adjusted life-year (DALY) is a summary measure that combines the impact of illness, disability and mortality on population health. The table below lists the top 10 conditions affecting males and females in Germany in terms of DALYs.

Ten leading disability groups as percentages of total DALYs for both sexes in Germany

Rank	Males		Females	
	Disability groups	Total DALYs (%)	Disability groups	Total DALYs (%)
1	Neuropsychiatric conditions	24.3	Neuropsychiatric conditions	28.1
2	Cardiovascular diseases	20.8	Cardiovascular diseases	18.8
3	Malignant neoplasms	17.7	Malignant neoplasms	17.0
4	Digestive diseases	6.1	Sense organ diseases	5.5
5	Unintentional injuries	5.6	Musculoskeletal diseases	5.5
6	Respiratory diseases	5.6	Respiratory diseases	5.2
7	Sense organ diseases	4.5	Digestive diseases	5.0
8	Musculoskeletal diseases	3.3	Unintentional injuries	3.0
9	Intentional injuries	2.9	Diabetes mellitus	2.0
10	Diabetes mellitus	1.9	Infectious and parasitic diseases	1.6

Source: Background data from WHO (2003f).

Neuropsychiatric conditions account for the largest share of the burden of disease on Germans. Because mortality from these conditions is minor in comparison to that from other diseases, disability in daily living comprises the bulk of their burden on the population's health.

Main risk factors

The table below presents the top 10 risks to health in developed countries in terms of DALYs. As with the conditions in the above table, risk factors are estimated to contribute differently to the burden of illness

and death in a population. The degree to which the German population is exposed to five of these risks is described below.

Ten leading selected risk factors as percentage causes of disease burden measured in DALYs in developed countries

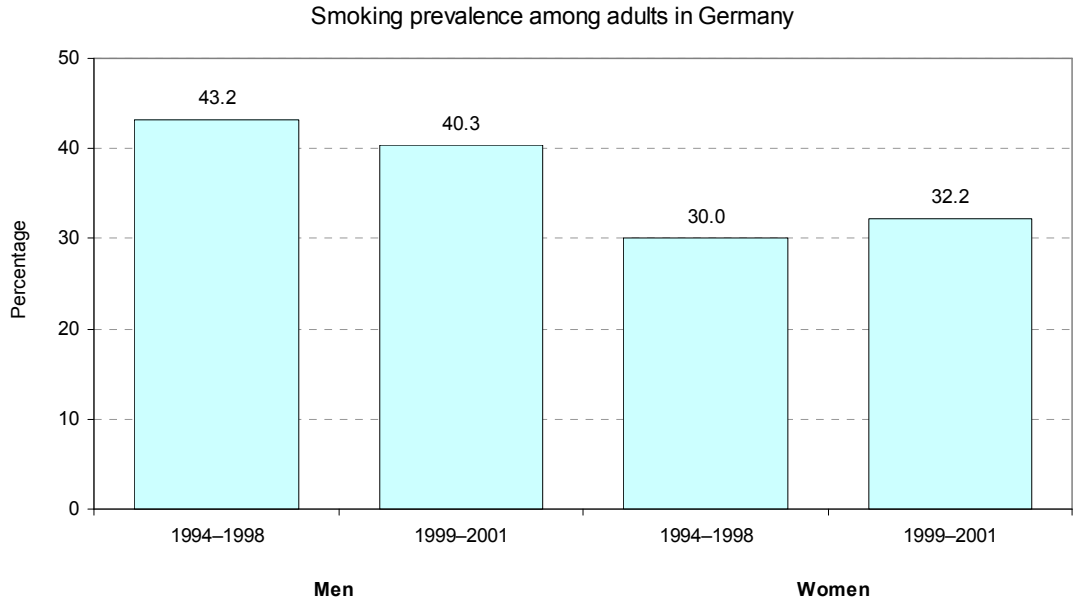
Risk factors	Total DALYs (%)
Tobacco	12.2
Blood pressure	10.9
Alcohol	9.2
Cholesterol	7.6
Overweight	7.4
Low fruit and vegetable intake	3.9
Physical inactivity	3.3
Illicit drugs	1.8
Unsafe sex	0.8
Iron deficiency	0.7

Source: WHO (2002).

Tobacco

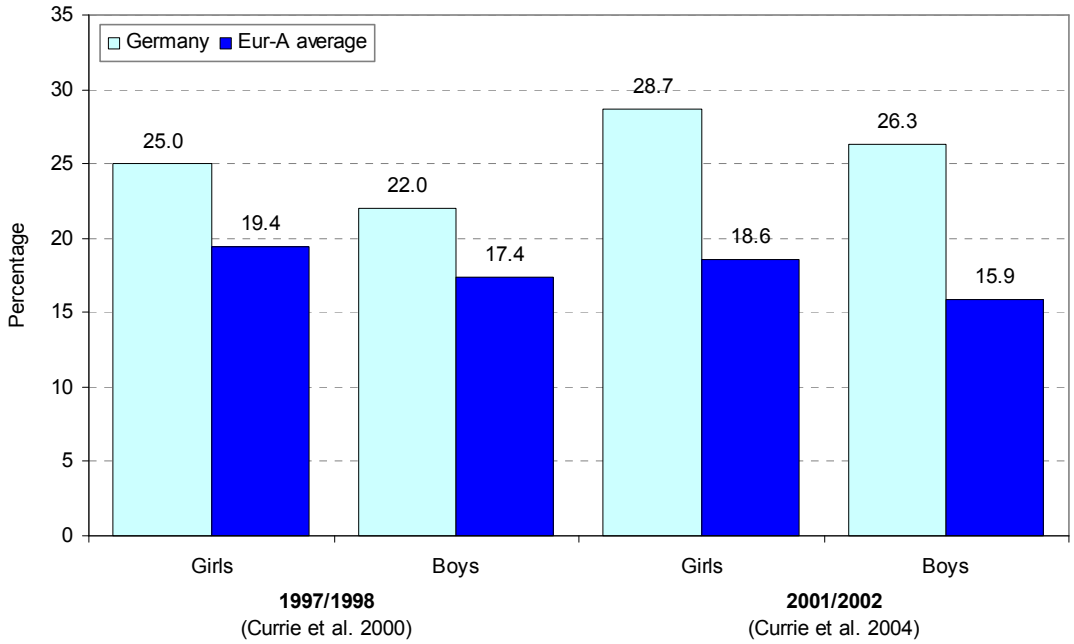
The European Region has only 15% of the world's population but nearly 33% of the worldwide burden of tobacco-related diseases (WHO Regional Office for Europe, 2004g). The annual number of deaths in the Region attributable to the consumption of tobacco products was recently estimated to be 1.2 million, and about 40% occur in Eur-A countries (WHO Regional Office for Europe, 2002a). About half of the people who die are middle aged. Typically, the more affluent are the first both to begin smoking and to stop. As they quit, smokers increasingly comprise people with less education and lower income (Bostock, 2003).

Per capita cigarette consumption in Germany has typically been at or slightly below the Eur-A average, according to official statistics for production, import and export. (Not included is consumption of additional cigarettes available unofficially through, for example, smuggling across borders and bootlegging.) While men smoke more than women, surveys taken between 1994 and 2001 showed that smoking fell among men but rose among women. Surveys between 1997 and 2002 showed an increase in smoking among 15-year-olds.



Source: WHO Regional Office for Europe (2004f).

Fifteen-year-olds who smoke every day,
Germany and Eur-A[a] average



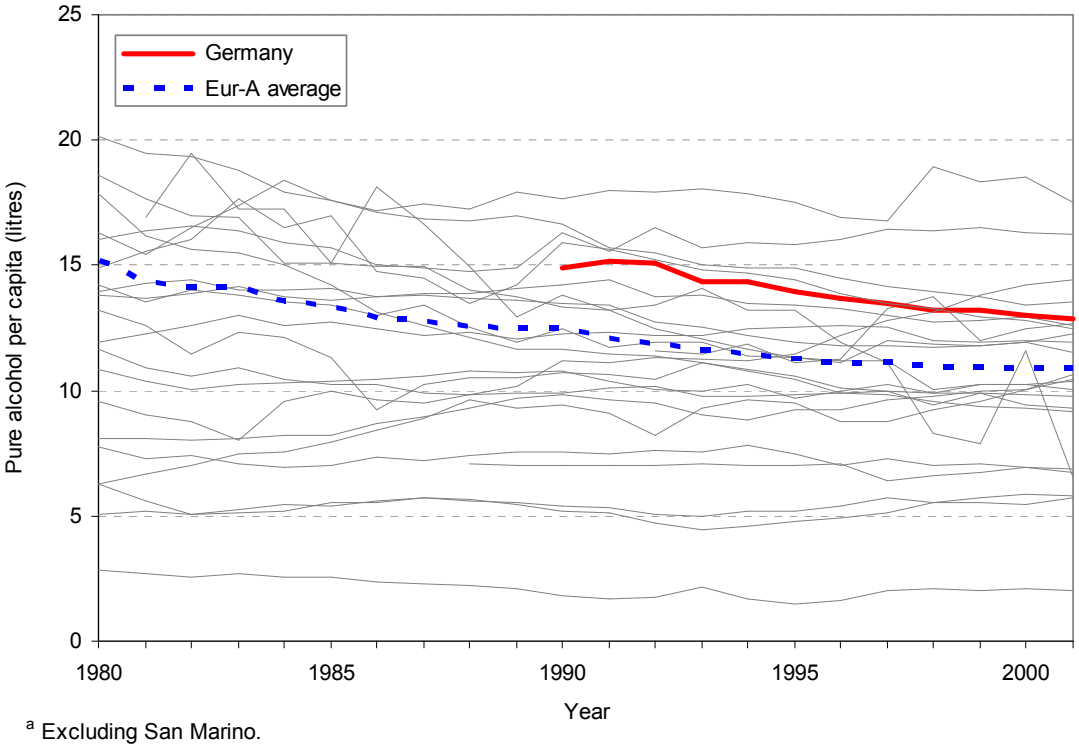
[a] Excluding Cyprus, Iceland, Luxembourg and San Marino.

Alcohol

Two major public health issues are related to alcohol consumption: regular drinking of more than small amounts and harmful patterns such as binge drinking (when a person consumes a bottle of wine or equivalent on one occasion, or has five or more standard drinks in a row). Both practices cause or aggravate health problems and increase the risks of injury to the drinker and others (European Commission, 2003).

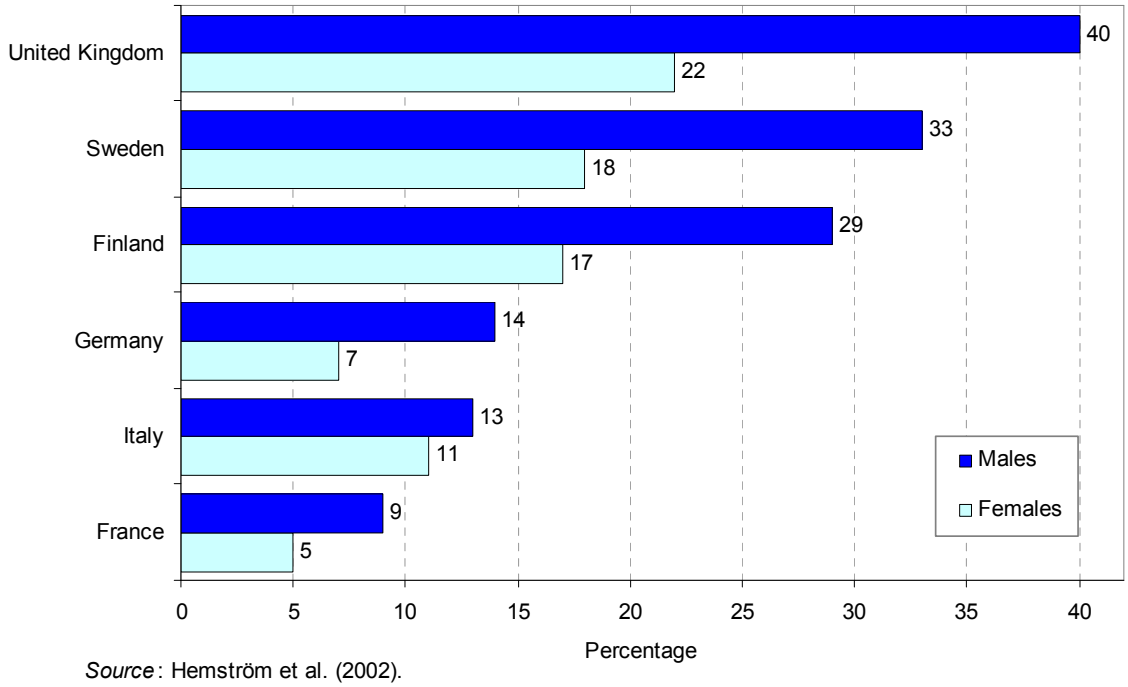
Between 1991 and 2000, people in Germany over 15 years of age decreased their per capita consumption of pure alcohol by about 14%, according to official statistics on local production, sales, imports and exports. (Unrecorded consumption is not included.) By 2001, however, the level was still about 19% above the average for Eur-A. Based on a small sample of countries, binge drinking in Germany comprises 14% of drinking occasions for men and just over 5% for women.

Alcohol consumption in the group aged 15+ years,
Germany and Eur-A[a], 1980 to latest available year



[a] Excluding San Marino.

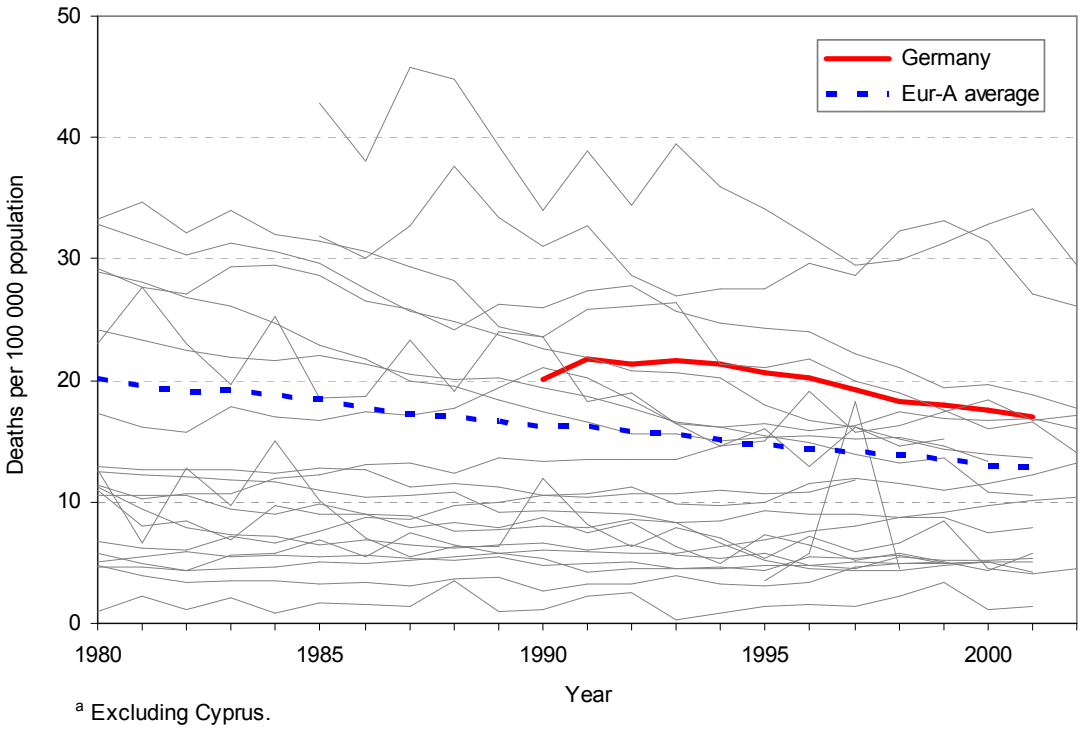
Binge drinking as a percentage of all drinking occasions
in the past 12 months, selected countries in Eur-A, 2000



Source: Hemström et al. (2002).

Mortality from liver cirrhosis is the classic indicator of harm from chronic excessive drinking. Similar to pure alcohol consumption, deaths from chronic liver disease show a decreasing trend in Germany (following the Eur-A pattern), but remain above the Eur-A average.

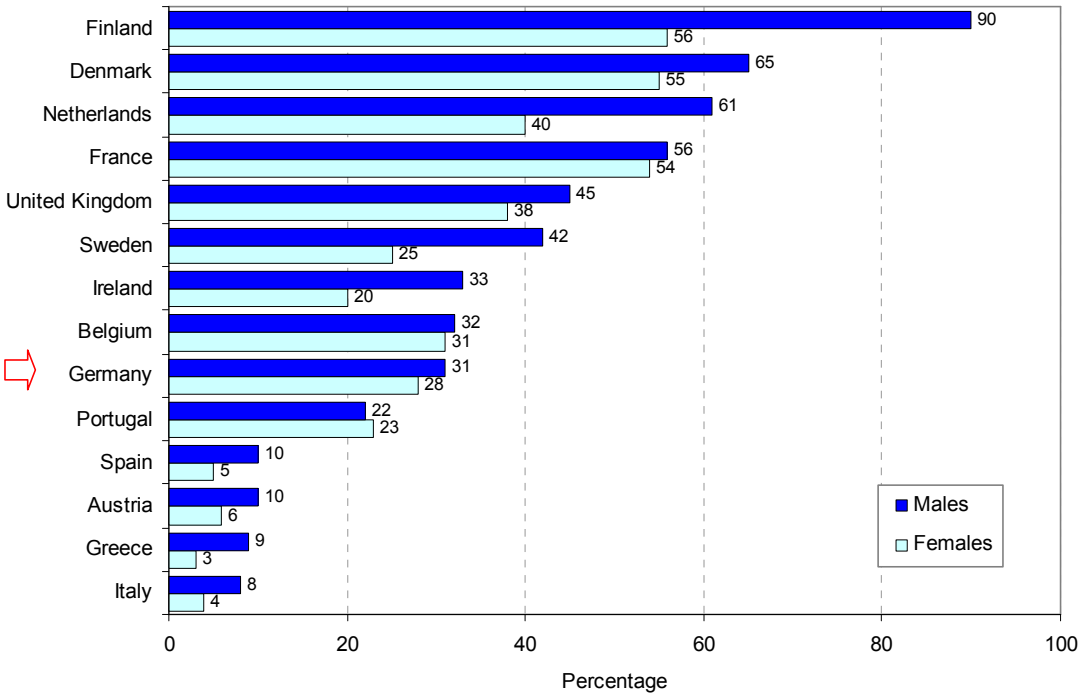
SDR for chronic liver disease and cirrhosis, all ages, both sexes,
Germany and Eur-A[a], 1980 to latest available year



[a] Excluding Cyprus.

Mortality due to cirrhosis explicitly caused by alcohol is another indicator of harm from alcohol, but variations in the coding of deaths classified as alcoholic cirrhosis make cross-country comparisons unreliable. The following figure is therefore descriptive, showing where alcohol was the major risk factor in deaths due to cirrhosis in a particular country. In the Federal Republic of Germany (before October 1990), about 30% of deaths from liver cirrhosis among men and women were attributed to alcohol (European Commission, 2003, Hemström et al., 2002).

Mortality from alcoholic liver cirrhosis as a percentage of total mortality from liver cirrhosis, selected countries in Eur-A, averages for 1987–1995

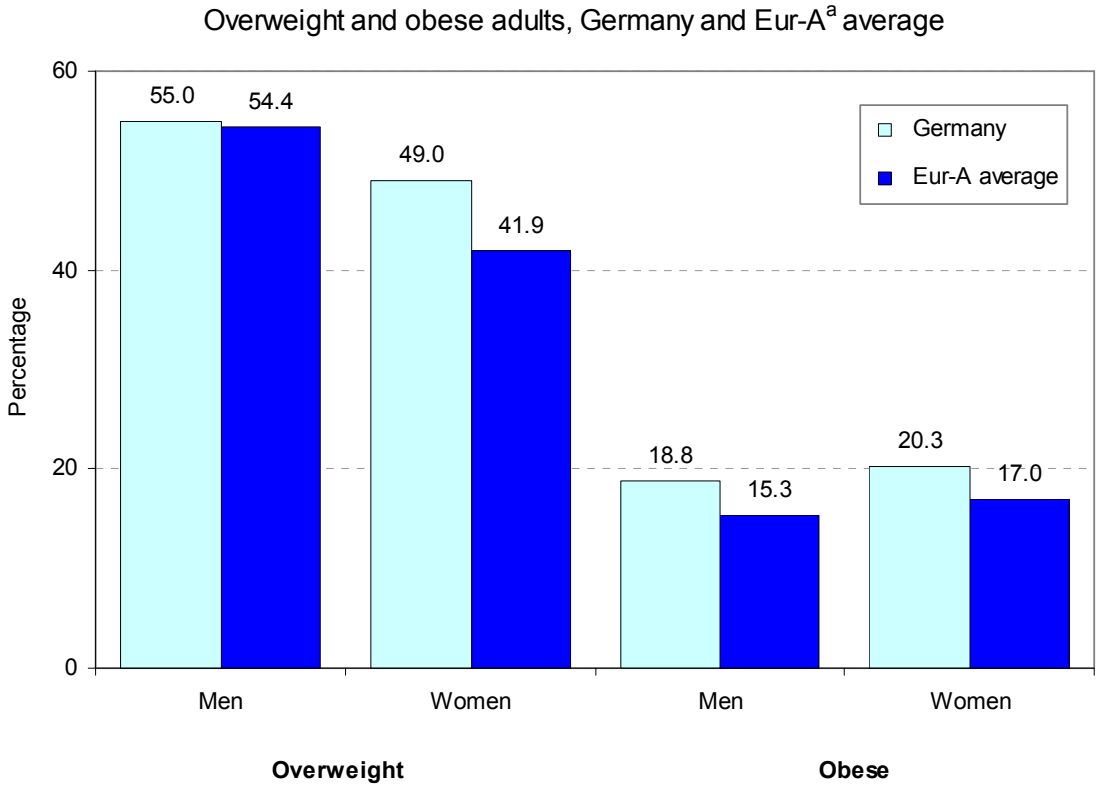


Note: Data for Germany refer to the territory of the Federal Republic of Germany as up to 3 October 1990.
Source: Hemström et al. (2002).

Excess weight

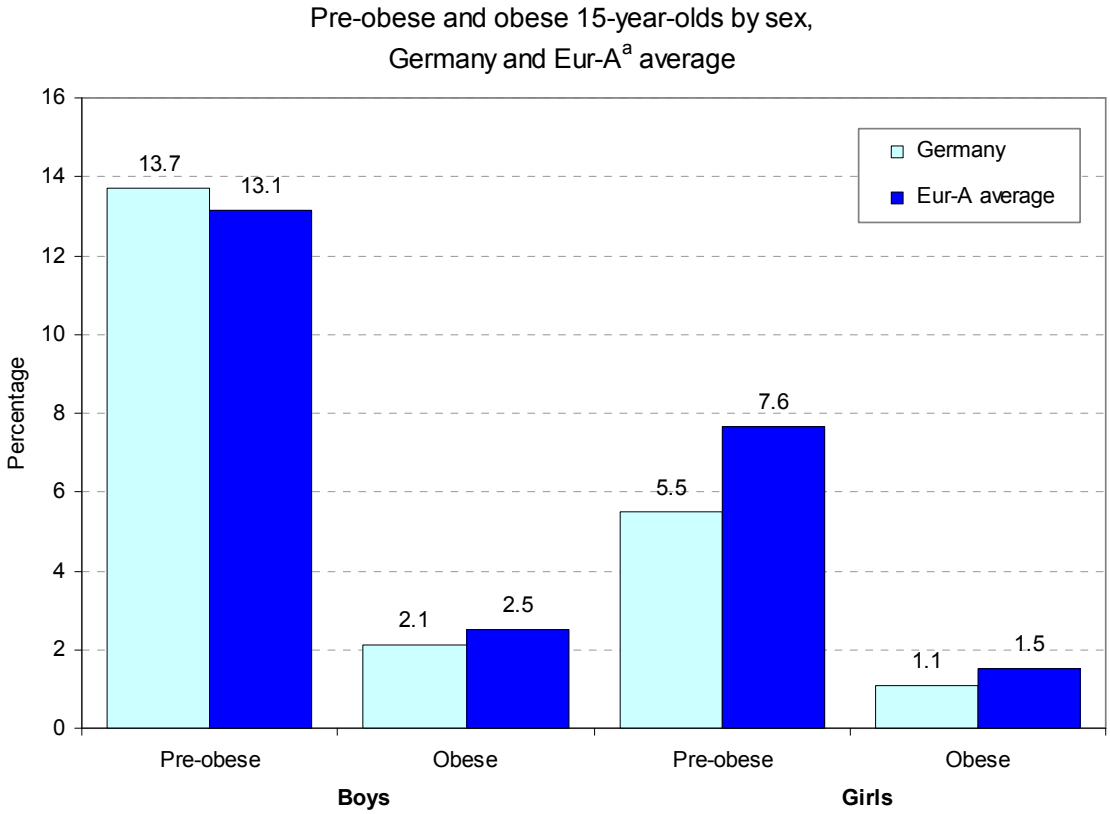
Studies have shown that excess weight contributes to CVD and cancer. In the 15 countries that comprised the European Union before May 2004, research suggests that the condition is responsible for 5% of all cancer cases (3% among men and 6% among women) and overall, almost 300 000 deaths annually (Banegas, 2002; Bergstrom et al., 2001). For children and adolescents, the main problem associated with excess weight, and obesity in particular, is its persistence into adult life and its association with the risk of diabetes and CVD (Stark et al., 1981).

In Germany, about half the adult population is overweight: 55% of men and 49% of women have a body mass index (BMI) of 25.0–29.9. About one fifth is obese: 19% of men and 20% of women have a BMI of 30 or more.



[a] Excluding Austria, Croatia, Cyprus, Iceland, Ireland, Luxembourg, San Marino and Slovenia.
Sources: Robertson et al. (2004), the Danish Nutrition Council (2003) for data on Denmark and Israeli Center for Disease Control (2003) for data on Israel.

According to self-reported data on height and weight collected in schools, adjusted to correspond to adult BMI, about 14% of boys and 6% of girls aged 15 in Germany are considered to be pre-obese, and 2% of boys and 1% of girls, obese.

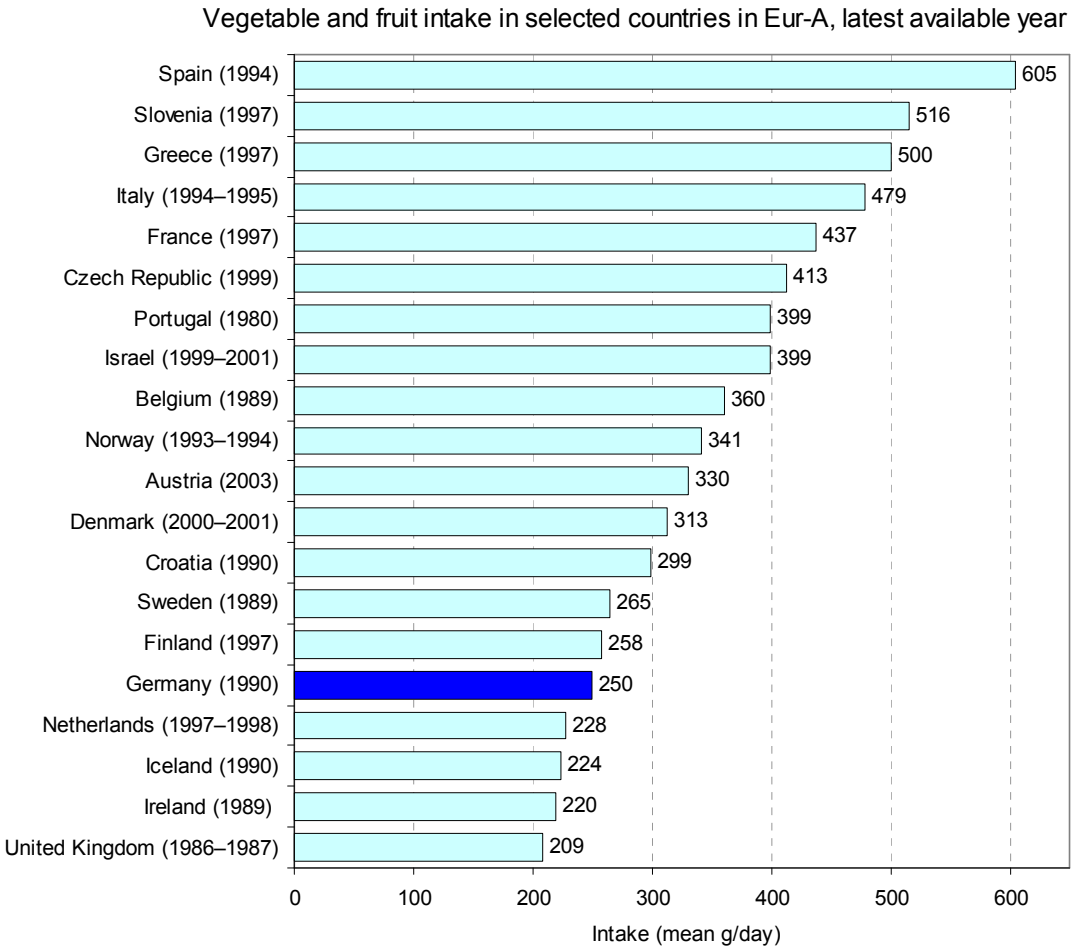


[a] Excluding Cyprus, Iceland, Luxembourg and San Marino.
Sources: Mulvihill et al. (2004) and the Danish Nutrition Council (2003) for data on Denmark.

Intake of fruits and vegetables

Both CVD and cancer have substantial dietary bases. Conservative estimates suggest that better eating habits could prevent about a third of CVD cases and a third of all cancer deaths worldwide (Robertson et al., 2004). Contributing risk factors are high blood pressure and serum cholesterol, overweight and obesity, and low intake of fruits and vegetables. For the large proportion of the population that does not smoke, diet is one of the most important modifiable determinants of cancer risk.

Low fruit and vegetable intake is estimated to cause around 18% of gastrointestinal cancer, about 28% of ischaemic heart disease and 18% of stroke in the European Region. WHO recommends an intake of more than 400 g fruits and vegetables per person per day. In 1990, the average intake in Germany was 250 g. Mean consumption, however, is a poor measure of the intake distribution within a population. Data for the countries comprising the European Union before May 2004 show that people with higher incomes typically eat more fruits and vegetables than those with lower incomes (Joffe & Robertson, 2001).



Sources: WHO Regional Office for Europe (2004b), Robertson et al. (2004) for data on Germany, Greece, Ireland and Spain, IFEW (2003) for data on Austria, Danish Institute of Food and Veterinary Research (2004) for data on Denmark and Israeli Center for Disease Control (2003) for data on Israel.

Physical inactivity

WHO and other international and national agencies encourage at least 30 minutes of physical activity each day, defined as any body movement that results in energy expenditure. Promoting physical activity is probably one of public health's most beneficial interventions, reducing the risk of several diseases and conditions (including CVD, non-insulin-dependent diabetes and obesity) and contributing to physical coordination, strength and mental well-being. Physical activity comprises more than sports – it is a cornerstone of a healthy lifestyle, integrated into the routines of everyday life. In Europe, more than 30% of adults do not meet the WHO recommendation for physical activity of 30 minutes daily (Racioppi et al., 2002).

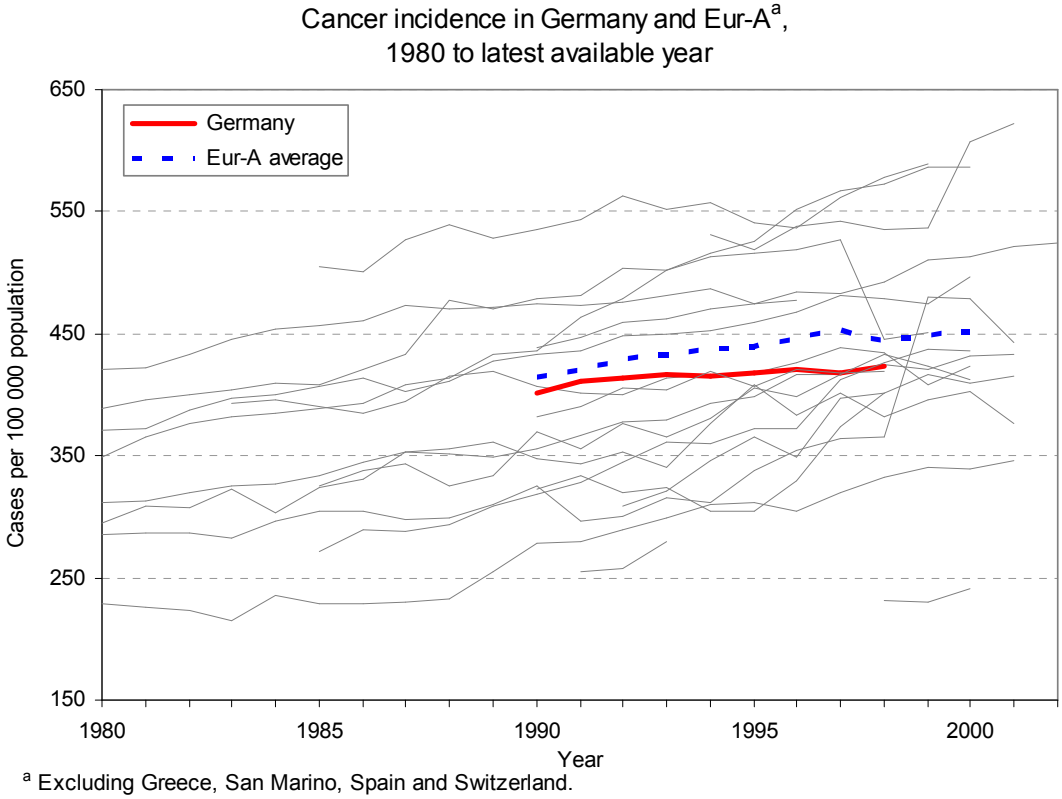
In 1998, a national survey of people aged 18–79 years in both urban and rural areas of Germany found that 43.8% of men and 49.5% of women had no involvement in sport. Depending on age, these figures ranged from 11.7% to 73.3% among men and 25.1% to 75.1% among women (WHO, 2004a).

Selected causes of illness

Cancer

Cancer accounted for about 27% of deaths in Germany in 2001. The combination of death and illness from cancer, represented as DALYs (see table on disability groups), accounts for almost 18% of the disease burden on men and 17% on women. Together, the indicators show that the burden of cancer on the population is mainly attributable to death, rather than long-term illness.

Between 1990 and 1998, cancer incidence rose by about 5% in Germany, similar to the 4% increase in the average for Eur-A.

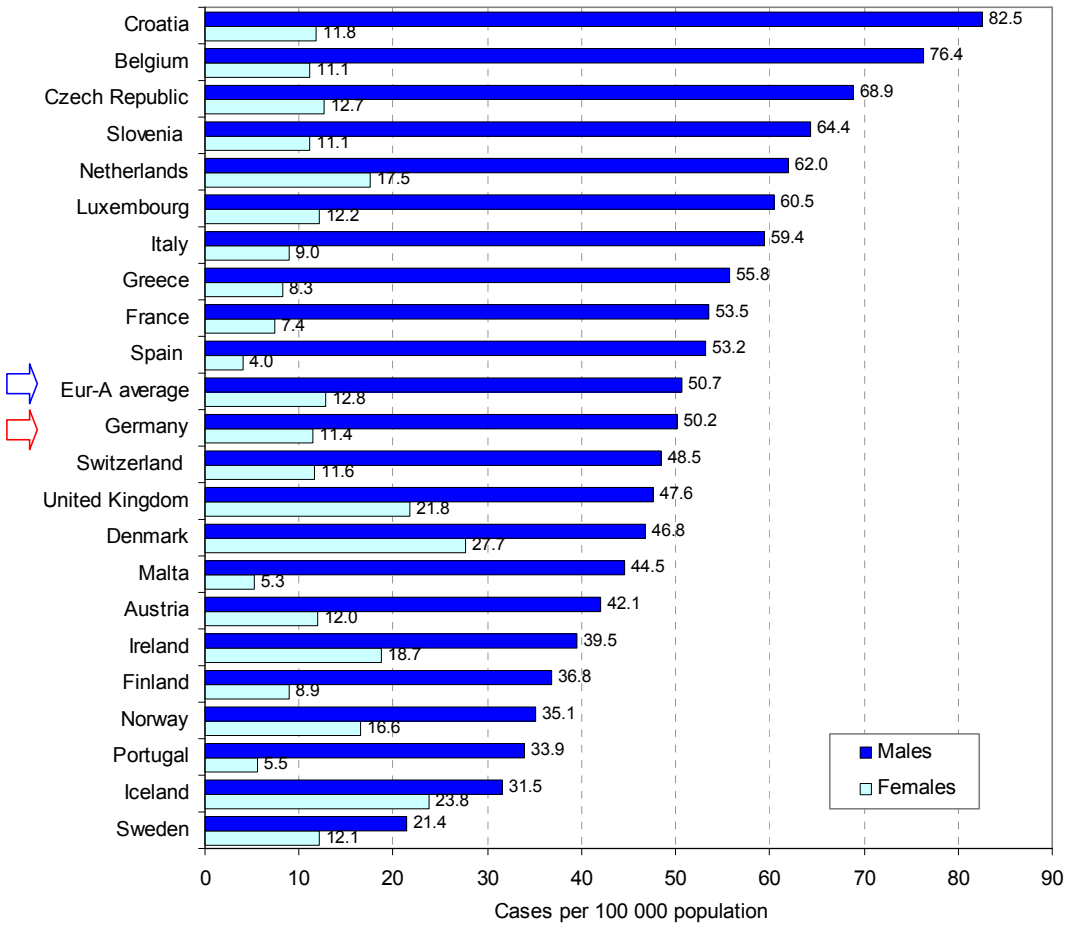


[a] Excluding Greece, San Marino, Spain and Switzerland.

Lung cancer is the most common cancer in the Region and the world. The most important risk factor is tobacco (Tyczynski et al., 2002).

In 2000, the estimated lung cancer incidence in Germany was much higher than the Eur-A average estimate for men but lower than the average for women.

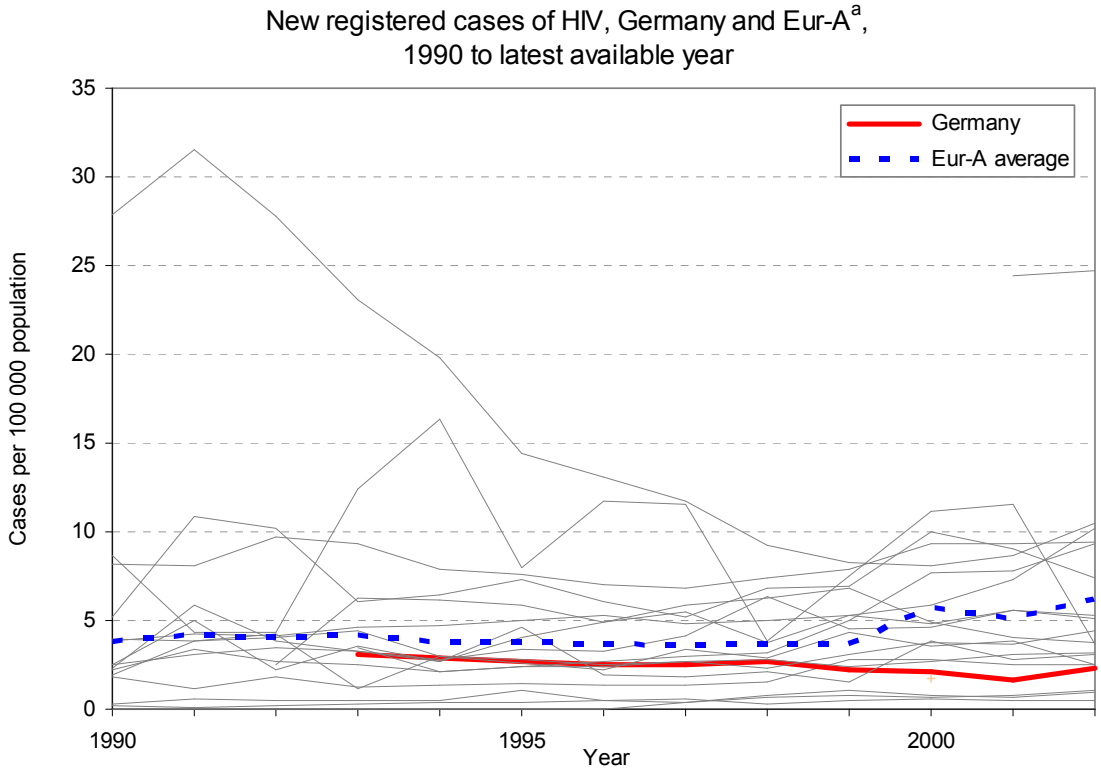
Estimated lung cancer incidence in Germany and Eur-A[a], 2000



HIV

Increased trade and population movement within the European Region have facilitated the spread of infectious diseases. Surveillance of communicable diseases in western Europe remains incomplete, particularly testing for and reporting HIV. Data on newly diagnosed HIV infections and especially comparisons of rates in countries should be interpreted with caution (EuroHIV, 2003).

Since 1999, the rate of new HIV infections reported per 100 000 population has shown a downward trend in Germany but an upward one in the Eur-A average. By 2002, Germany's rate was just over one third the Eur-A average.



[a] Excluding Austria, Cyprus, France, Italy, the Netherlands and Spain.

By the end of 2003, Germany had a cumulative total of 21 063 cases of HIV. Between 40 000 and 45 000 people are estimated to live with HIV/AIDS in Germany. Prevalence is low in the general population, particularly outside metropolitan areas.

About half of all infections are in men who have sex with men. Since the end of the 1990s, this population has experienced increased rates of HIV and syphilis, indicating increased risk taking.

About 20% of infections are in immigrants from areas with high HIV prevalence. An additional 18% are infected through heterosexual contact.

The number and percentage of injecting drug users infected with HIV decreased in the 1990s. Currently the numbers are stable. Injecting drug users comprise about 9% of people with HIV (UNAIDS & WHO, 2004).

Hepatitis C

Since the introduction of screening of blood and blood products for hepatitis C in the countries comprising the European Union before May 2004, transmission of the virus has fallen dramatically. Injecting drug users are now the group at greatest risk, accounting for up to 60–90% of new infections. Young and new injectors are at high risk of contracting the virus shortly after they begin injecting.

Wherever injecting drug use is likely to increase, new epidemics of hepatitis C are likely to emerge. Social exclusion is a factor in and a characteristic of the spread of infection (EMCDDA, 2004). Hepatitis C is predicted to have considerable long-term effects in terms of both health-care spending and personal suffering.

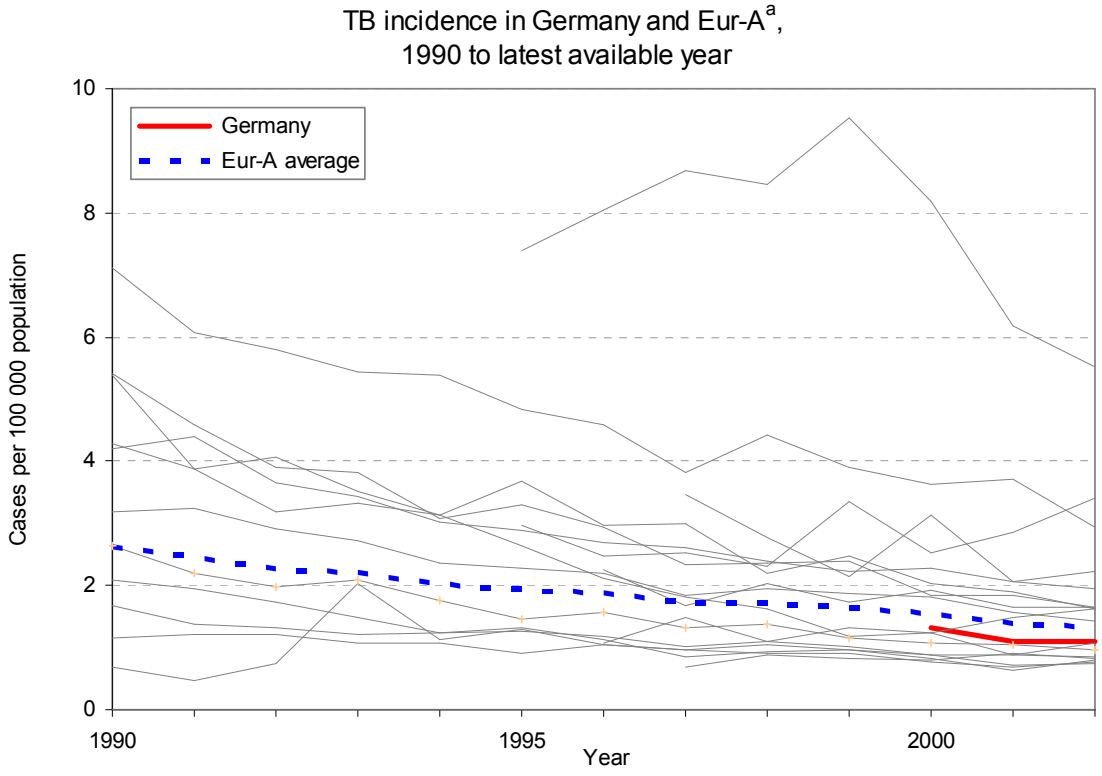
Between 1998 and 2001, limited local testing in drug treatment centres and prisons in Germany found that 66–97% of injecting drug users were infected with hepatitis C (EMCDDA, 2003).

TB

Between 1995 and 2001, tuberculosis (TB) notification rates decreased overall in western Europe. Drug resistance remains relatively low in reporting countries, indicating that TB control is in general effective

(EuroTB, 2003). Higher rates are typically found in pockets of risk populations (such as immigrants and refugees from areas with high TB incidence) and among the indigenous poor, homeless people and prison inmates. Higher rates are also associated with HIV.

Between 1995 and 2002, the incidence of TB dropped by about 43% in Germany and 26% in Eur-A. In 2002, the rate for Germany was about 20% below the average for Eur-A: 8.45 and 10.9 per 100 000, respectively.

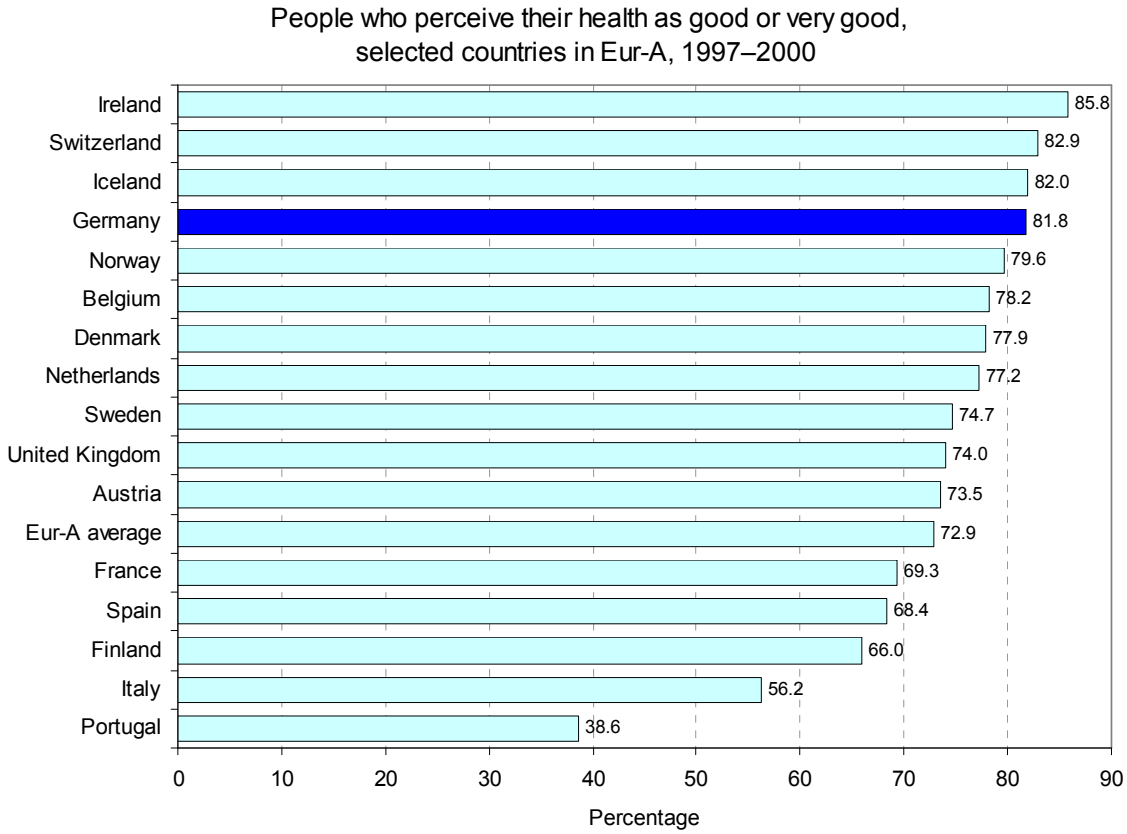


[a] Excluding Cyprus.

Self-reported health

People are usually well informed about their health status, the positive and negative effects of their behaviour on their health and their use of health care services. Yet their perceptions of their health can differ from what administrative and examination-based data show about levels of illness within populations. Thus, survey results based on self-reporting at the household level complement other data on health status and the use of services.

In Germany, 80.8% of adults report their health to be good or very good.



Sources: European Commission (2003) and Kasmel et al. (2004) for data on Finland.

Health system[1]

Organizational structure of the health system

The roots of the German health system date back to 1883, when nationwide health insurance became compulsory. Today's system is based on social health insurance and characterized by three co-existing schemes. In 2003, about 87% of the population were covered by statutory health insurance; based on income, membership was mandatory for about 77% and voluntary for 10%. An additional 10% of the population took out private health insurance; 2% were covered by governmental schemes and 0.2% were not covered by any third-party-payer scheme.

The health care system has a decentralized organization, characterized by federalism and delegation to nongovernmental corporatist bodies as the main actors in the social health insurance system: the physicians' and dentists' associations on the providers' side and the sickness funds and their associations on the purchasers' side. Hospitals are not represented by any legal corporatist institution, but by organizations based on private law. The actors are organized on the federal as well as the state (*Land*) level.

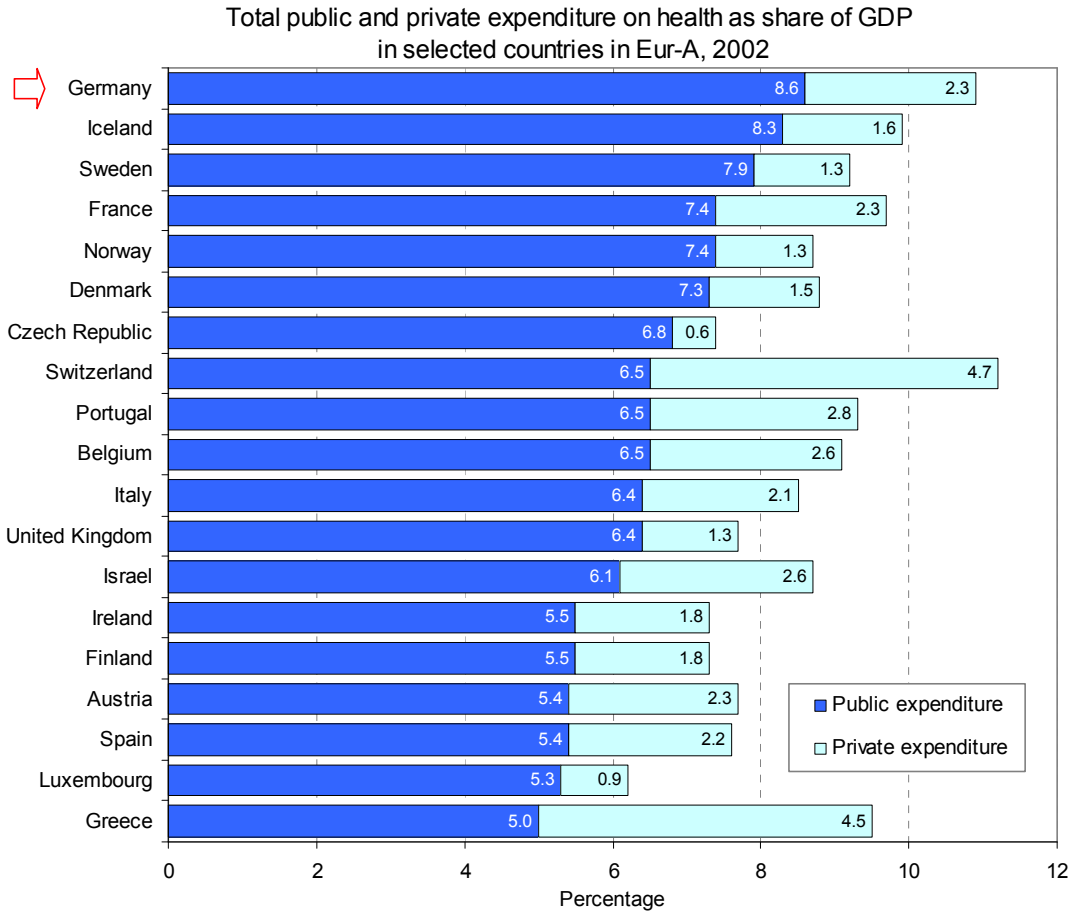
The Ministry of Health and Social Security proposes the health acts that – when passed by parliament – define the legislative framework of the social health insurance system. It also supervises the corporatist bodies and – with the assistance of a number of subordinate authorities – fulfils various licensing and supervisory functions, performs scientific consultancy work and provides information services.

The 292 sickness funds collect contributions, and purchase proactively or pay retroactively for health and long-term care services for members. Since 1996 almost every insured person has had the right to choose a sickness fund freely, while funds are obliged to accept any applicant. Since 2004, decision-making in statutory health insurance has been integrated into a trans-sectoral joint federal committee that is supported by an independent institute for quality and efficiency.

Health care financing and expenditure

In 2002, health expenditure in Germany comprised 10.9% of GDP, and 79% was covered by public funds, giving the country the highest rank among those shown and ranking it third among countries in the Organisation for Economic Co-operation and Development (OECD). In the same year, German total per capita expenditure amounted to US$ 2817 and public per capita expenditure ranked fifth among OECD countries (Annex. Total expenditure on health per capita).

[1] This section is based on publications of the European Observatory on Health Care Systems and Policies (2000, 2002a–c).



Of total expenditure, 57% of the funds came from statutory health insurance, 7% from statutory long-term care insurance, 4% from other statutory insurance schemes and 8% from government sources. Private health insurers financed 8%, employers 4% and non-profit-making organizations and households 12%. Most out-of-pocket payments went to purchase over-the-counter drugs and to co-payments for prescribed drugs. On 1 January 2004, co-payments were introduced for outpatient visits and raised for virtually all other benefits.

The risk-compensation scheme among sickness funds aims to level out differences in the age, sex and health-status structure of those insured through the different schemes. This system has been complemented by a high-risk pool since 2001 and by incentives for disease-management programmes for the chronically ill since 2003.

In ambulatory physician care, a regional physicians' association negotiates a collective contract with a single sickness fund in the form of a quasi-budget for physician services. The association distributes the funds among general practitioners (GPs) and specialists who claim reimbursement mainly on a fee-for-service basis; limitations of service volumes apply.

Hospitals are financed on a dual basis: investments are planned by the governments of the 16 *Länder*, and subsequently co-financed by the *Länder* as well as the federal government, while sickness funds finance recurrent expenditures and maintenance costs. Since January 2004, the German adaptation of the Australian diagnosis-related group (DRG) system is the sole system of paying for recurrent hospital expenditures, except for psychiatric care where per diem charges still apply.

Health care provision

Ambulatory health care is mainly delivered by GPs on contract and specialists in private practice. Patients have free choice of physicians, psychotherapists, dentists, pharmacists and emergency care. There is no formal gate-keeping system for GPs (about half of ambulatory physicians), although their coordinating

competencies have been strengthened in recent years, and sickness funds have been obliged to offer gate-keeping models to their members since January 2004.

Acute inpatient care is delivered by a mix of public and private providers, with the public sector accounting for 53%, non-profit-making organizations for 39% and the private sector for 8% of acute hospital beds in 2001. Although the number of beds and average length of stay in acute hospitals have been reduced substantially – to 6.3 beds per 1000 population and 9.3 days in 2001 – Germany still ranks high on these indicators among the 15 countries belonging to the European Union before May 2004 (Annex 5). The traditionally strict separation between ambulatory and hospital care has been eased in recent years by the encouragement of outpatient clinics at hospitals, and by trans-sectoral disease-management programmes and delivery networks.

From 1990 to 2002, the number of physicians increased by 20%, equal to the Eur-A average. The number of nurses increased by 8% in 2001. This number is higher than the Eur-A average but lower than those in, for example, the Nordic countries (Annex. Selected health care resources). In 2001, salaried employees in inpatient care comprised about half of the health care workforce.

Developments and issues

Since 1990, the health care system in the eastern part of Germany has quickly been transformed from a nationally integrated model to a contracted-services model of care.

In international comparison, the German health care system has a high level of financial resources and physical capacities. The population enjoys equal and easy access to a health care system offering a very comprehensive benefits package at all levels of care; waiting lists and explicit rationing decisions are virtually unknown. There is doubt, however, whether the high spending on health translates into a sufficiently cost-efficient use of resources.

Various cost-containment measures – including sectoral budgets, reference prices, rational prescribing and user charges – have kept statutory health expenditure at the level of GDP growth. Yet, since fund revenues grew less than expenditure, sickness funds ran into deficit in most years, and had to raise their contribution rates in the following year: from a mean of 12.4% of gross salaries in 1991 to 14.3% in 2003.

Current discussions focus on two alternative concepts of reforms on the revenue side: either to introduce a flat-rate health premium for people currently covered by statutory health insurance, with tax support for the poor, or to extend contribution-based insurance to the entire population, including, for example, civil servants and the self-employed.

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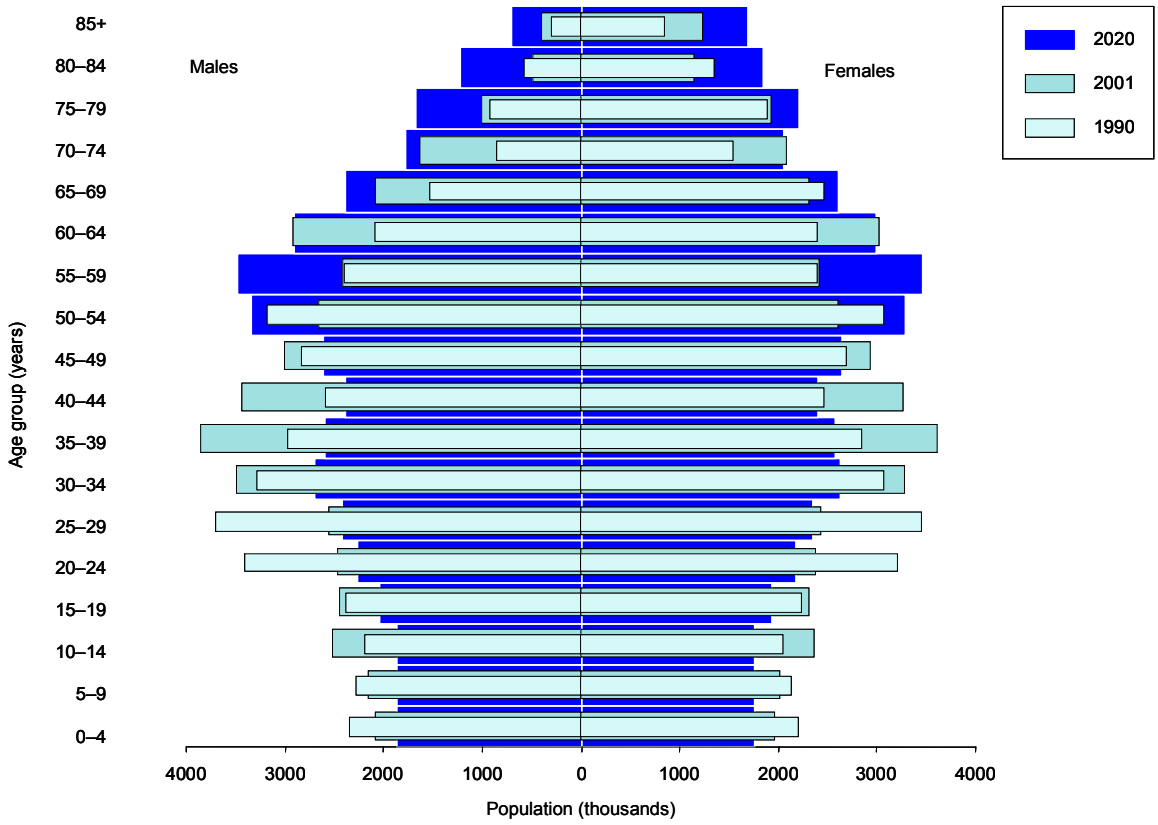
Annexes

Annex. Age pyramid



Sources: WHO Regional Office for Europe (2004c) and United Nations (2002).

Annex. Selected mortality

Selected mortality in Germany compared with Eur-A averages

Condition	SDR per 100 000		Excess mortality in Germany (%)	Total deaths in Germany (%)	Total deaths in Eur-A (%)
	Germany (2001)	Eur-A average (2001)			
Selected noncommunicable conditions	541.5	519.5	4.2	82.3	79.9
Cardiovascular diseases	286.1	246.3	16.2	43.5	37.9
Ischaemic heart disease	122.9	97.3	26.3	18.7	15.0
Cerebrovascular disease	56.3	62.0	– 9.2	8.6	9.5
Diseases of pulmonary circulation and other heart disease	71.0	57.0	24.6	10.8	8.8
Malignant neoplasms	176.6	181.8	– 2.9	26.8	28.0
Trachea/bronchus/lung	34.4	37.0	– 6.9	5.2	5.7
Female breast	27.5	27.1	1.5	4.2	4.2
Colon/rectal/anal	22.9	20.7	10.7	3.5	3.2
Prostate	24.4	25.0	– 2.5	3.7	3.8
Respiratory diseases	36.2	47.7	– 24.2	5.5	7.3
Chronic lower respiratory diseases	18.3	20.0	– 8.7	2.8	3.1
Pneumonia	12.5	16.5	– 24.2	1.9	2.5
Digestive diseases	35.2	30.7	14.4	5.3	4.7
Chronic liver disease and cirrhosis	17.0	12.8	33.0	2.6	2.0
Neuropsychiatric disorders	7.5	13.0	– 42.2	1.1	2.0
					0.0
Selected communicable conditions	8.7	8.1	7.8	1.3	1.2
HIV/AIDS	0.6	0.9	– 32.6	0.1	0.1
External causes	34.3	39.5	– 13.2	5.2	6.1
Selected unintentional causes	13.3	16.1	– 17.2	2.0	2.5
Motor vehicle traffic injuries	7.9	10.0	– 21.3	1.2	1.5
Falls	5.4	6.1	– 10.4	0.8	0.9
Selected intentional causes	12.4	11.4	8.6	1.9	1.8
Self-inflicted (suicide)	11.7	10.5	12.0	1.8	1.6
Violence (homicide)	0.7	1.0	– 28.1	0.1	0.1
Ill-defined conditions	19.7	21.3	– 7.3	3.0	3.3
All causes	657.6	650.1	1.2	100.0	100.0

Annex. Mortality data

Mortality data

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

Causes of death	Sex	Germany (2001)		Eur-A (2001)			
		Rate	Change (%)	Average	Change (%)	Minimum	Maximum
All causes	Both	16.4	– 18.8	17.0	– 20.4	12.9	28.2
	M	18.4	– 18.9	19.2	– 20.3	12.6	32.2
	F	14.3	– 18.6	14.8	– 20.4	4.9	24.1
Cardiovascular diseases	M	1.0	– 29.4	0.9	– 26.0		1.8
	F	1.2	41.7	1.0	– 21.8		1.6
Ischaemic heart disease	M	0.0			– 75.0		0.6
	F	0.0			– 66.7		0.2
Cerebrovascular disease	M	0.2	– 25.8	0.2	– 44.4		0.4
	F	0.2	– 4.5	0.2	– 39.4		0.7
Malignant neoplasms	M	2.9	– 14.8	3.3	– 15.4		5.1
	F	2.6	– 2.2	2.7	– 10.4		4.9
Lung cancer	M	0.0	– 66.7		– 80.0		0.2
	F	0.0					0.3
Breast cancer	F	0.0			– 100.0		0.1
Respiratory diseases	M	0.9	12.5	0.8	– 13.7		3.0
	F	0.7	1.5	0.7	– 11.9		2.4
Digestive diseases	M	0.3	20.8	0.3	– 21.6		0.7
	F	0.3	38.9	0.2	– 25.0		2.6
External causes	M	5.9	– 35.4	6.4	– 30.7	3.5	20.3
	F	3.8	– 32.1	4.0	– 24.3		7.0
Motor vehicle traffic injuries	M	1.9	– 43.5	2.7	– 30.3		8.0
	F	1.5	– 45.5	1.8	– 29.3		4.1
Suicide	M	0.5	– 7.0	0.4	– 11.9		0.7
	F	0.2	– 27.3	0.1	0.0		0.6

NA = not applicable. Blank = rate < 0.1

Table 2. Selected mortality data for the group aged 15–24 years by sex in Germany and Eur-A: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Germany (2001)		Eur-A (2001)			
		Rate	Change (%)	Average	Change (%)	Minimum	Maximum
All causes	All	49.75	– 19.5	53.1	– 13.2	37.4	69.7
	M	71.13	– 19.3	77.8	– 13.0	59.4	110.2
	F	27.48	– 19.2	27.7	– 13.2	13.9	34.8
Cardiovascular diseases	M	3.23	– 11.0	3.3	– 12.1		5.7
	F	2.45	8.9	1.8	– 13.1		2.9
Ischaemic heart disease	M	0.4	– 42.9	0.3	– 15.0		1.6
	F	0.13	18.2	0.1	– 7.7		0.7
Cerebrovascular disease	M	0.74	2.8	0.7	– 13.6		1.4
	F	0.72	38.5	0.4	– 24.1		1.4
Malignant neoplasms	M	4.34	– 17.3	5.4	– 7.9		15.5
	F	3.27	– 12.1	3.7	– 7.9		7.0
Lung cancer	M	0.04	– 77.8	0.1	– 50.0		0.3
	F	0.04	– 55.6	0.0	– 33.3		0.3
Breast cancer	F	0.04	– 63.6	0.1	– 16.7		0.3
Respiratory diseases	M	0.73	– 33.0	1.1	– 25.7		4.5
	F	0.66	– 32.7	0.8	– 18.8		2.0
Digestive diseases	M	0.44	18.9	0.5	– 28.8		1.2
	F	0.31	– 47.5	0.3	– 30.4		1.1
External causes	M	50.38	– 20.5	54.9	– 12.0	33.0	96.5
	F	14.79	– 20.7	14.3	– 14.8	6.9	23.5
Motor vehicle traffic injuries	M	28.51	– 29.0	30.2	– 9.3	14.9	71.1
	F	9.08	– 22.9	8.1	– 10.7	2.6	14.3
Suicide	M	12.43	– 5.1	11.2	– 11.5		36.7
	F	2.71	– 30.2	2.5	– 24.3		7.5

NA = not applicable. Blank = rate < 0.1

Mortality data contd

Table 3. Selected mortality data for the group aged 25–64 years by sex in Germany and Eur-A: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Germany (2001)		Eur-A (2001)			
		Rate	Change (%)	Average	Change (%)	Minimum	Maximum
All causes	All	324.77	– 17.0	315.4	– 13.1	218.8	449.7
	M	435.64	– 18.3	425.4	– 14.3	276.0	661.7
	F	214.01	– 14.2	208.4	– 11.0	128.0	322.5
Cardiovascular diseases	M	120.66	– 24.1	110.6	– 20.8	72.2	225.0
	F	40.97	– 24.5	38.2	– 21.3	23.4	74.7
Ischaemic heart disease	M	64.2	– 28.2	59.8	– 24.6	35.2	108.6
	F	14.98	– 29.7	13.6	– 28.0	5.4	28.6
Cerebrovascular disease	M	15.57	– 28.8	17.4	– 22.0	7.5	56.6
	F	9.03	– 30.5	10.5	– 20.2	5.2	27.0
Malignant neoplasms	M	142.04	– 13.0	148.8	– 9.8	91.0	217.2
	F	103.53	– 10.5	102.4	– 7.7	76.1	155.2
Lung cancer	M	40.65	– 16.9	43.9	– 12.8	18.5	71.0
	F	14.32	26.6	13.3	11.7	6.9	32.8
Breast cancer	F	27.5	– 17.1	27.5	– 14.3	14.7	37.2
Respiratory diseases	M	14.71	– 25.6	15.8	– 19.2	8.5	29.7
	F	6.67	– 14.8	7.9	– 12.3	3.7	22.6
Digestive diseases	M	40.73	– 18.7	31.8	– 9.6	3.1	67.0
	F	17.47	– 14.3	13.4	– 7.5	4.2	26.2
External causes	M	51.45	– 16.1	59.9	– 10.5	28.2	120.7
	F	15.82	– 14.5	17.8	– 10.6		33.1
Motor vehicle traffic injuries	M	11.15	– 24.2	15.8	– 7.8	6.5	34.0
	F	3.42	– 24.3	4.3	– 14.4		7.4
Suicide	M	22.99	– 14.1	21.2	– 9.0	6.6	56.4
	F	6.96	– 19.4	6.8	– 11.1		15.8

NA = not applicable. Blank = rate < 0.1

Table 4. Selected mortality data for the group aged 65+ years by sex in Germany and Eur-A: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Germany (2001)		Eur-A (2001)			
		Rate	Change (%)	Average	Change (%)	Minimum	Maximum
All causes	All	4258.6	– 12.5	4199.5	– 11.5	3714.4	6010.0
	M	5397.9	– 15.6	5328.5	– 13.2	4658.1	7580.8
	F	3567.1	– 12.3	3460.2	– 11.5	2937.7	5088.6
Cardiovascular diseases	M	2635.7	– 18.9	2232.9	– 23.4	1614.4	4272.2
	F	1927.8	– 14.6	1613.4	– 21.7	1027.5	3314.3
Ischaemic heart disease	M	1237.8	– 19.5	948.2	– 20.3	517.5	1702.7
	F	739.7	– 15.8	539.5	– 17.4	244.7	1084.7
Cerebrovascular disease	M	504.2	– 29.6	536.2	– 35.9	324.8	1302.3
	F	416.3	– 28.0	457.0	– 32.6	170.4	1018.5
Malignant neoplasms	M	1405.4	– 11.8	1482.9	– 12.1	1175.1	1900.6
	F	769.5	– 9.9	749.8	– 9.4	589.1	1088.5
Lung cancer	M	347.3	– 12.2	371.8	– 22.0	196.0	615.4
	F	74.4	10.3	81.7	15.6	13.8	213.2
Breast cancer	F	117.5	– 8.1	113.9	– 10.1	83.3	164.1
Respiratory diseases	M	436.1	– 22.0	545.9	– 13.6	371.8	1115.6
	F	192.4	– 13.8	266.5	– 13.9	157.9	716.3
Digestive diseases	M	213.9	– 8.5	205.0	– 10.5	117.8	342.9
	F	151.7	– 3.4	143.3	– 20.3	77.8	196.0
External causes	M	130.4	– 12.7	152.6	2.0	80.6	282.8
	F	75.0	– 18.0	91.0	0.7	41.3	157.3
Motor vehicle traffic injuries	M	13.1	– 25.2	20.4	– 15.3	8.7	46.0
	F	5.9	– 27.2	7.9	5.4	0.0	15.5
Suicide	M	41.3	– 20.3	34.3	– 13.5	8.8	86.1
	F	13.3	– 24.6	9.9	– 17.6	1.1	23.6

Annex. Total expenditure on health per capita

Total public and private expenditure on health per capita, in selected countries in Eur-A, 2002

Country	Expenditure (US$ purchasing power parity)
Austria	2220
Belgium	2515
Czech Republic	1118
Denmark	2580
Finland	1943
France	2736
Germany	2817
Greece	1814
Iceland	2807
Ireland	2367
Israel	1622
Italy	2166
Luxembourg	3065
Netherlands	2643
Norway	3083
Portugal	1702
Spain	1646
Sweden	2517
Switzerland	3445
United Kingdom	2160
Eur-A average	2348

Sources: OECD (2004b) and WHO Regional Office for Europe (2004c) for 2001 data on Israel.

Annex. Selected health care resources

Selected health care resources per 100 000 population in Eur-A, latest available year

Eur-A	Nurses		Physicians		Acute hospital beds	
	Number	Year	Number	Year	Number	Year
Andorra	316.1	2002	304.2	2002	283.2	2002
Austria	587.4	2001	332.8	2002	609.5	2002
Belgium	1075.1	1996	447.8	2002	582.9	2001
Croatia	501.6	2002	238.3	2002	367.3	2002
Cyprus	422.5	2001	262.3	2001	406.6	2001
Czech Republic	971.1	2002	350.5	2002	631.3	2002
Denmark	967.1	2002	364.6	2002	340.2	2001
Finland	2166.3	2002	316.2	2002	229.9	2002
France	688.6	2002	333.0	2002	396.7	2001
Germany	973.1	2001	335.6	2002	627.0	2001
Greece	256.5	1992	453.3	2001	397.1	2000
Iceland	898.2	2002	363.6	2002	368.2	1996
Ireland	1676.2	2000	238.3	2001	299.5	2002
Israel	598.4	2002	371.3	2002	218.0	2002
Italy	296.2	1989	612.1	2001	397.9	2001
Luxembourg	779.3	2002	259.3	2002	558.7	2002
Malta	551.1	2002	267.2	2002	348.8	2002
Monaco	1621.4	1995	664.3	1995	1553.6	1995
Netherlands	1328.2	2001	314.9	2002	307.4	2001
Norway	2055.7	2001	364.5	2002	308.9	2001
Portugal	384.0	2001	322.9	2001	330.8	1998
San Marino	507.7	1990	251.7	1990	–	–
Slovenia	717.9	2002	224.2	2002	414.3	2002
Spain	367.2	2000	324.3	2000	296.4	1997
Sweden	975.1	2000	304.1	2000	228.3	2002
Switzerland	830.0	2000	361.6	2002	398.3	2002
United Kingdom	497.2	1989	210.0	2002	390.0	2002
Eur-A average	819.8	2001	354.1	2002	409.6	2001

Sources: WHO Regional Office for Europe (2004c) and OECD (2004b) for data on physicians and acute hospital beds for the United Kingdom.

Technical notes

Calculation of averages

In general, the average annual or ten-year percentage changes have been estimated using linear regression. This gives a clearer indication of the underlying changes than estimates based on the more straightforward percentage change between two fixed points over a period.

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.

Data sources

To make the comparisons as valid as possible, data for each indicator have, as a rule, been taken from one common international source or from the Statistical Office of the European Communities (EUROSTAT) to ensure that they have been harmonized in a reasonably consistent way. Unless otherwise noted, the source of data for figures and tables is the January 2004 version of the WHO Regional Office for Europe's European health for all database.

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: ICD9 and ICD10, 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 were 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]

Household surveys

Household surveys are currently the only source of evidence of health status at the individual level. The information generated is subjective and self reported. It complements the official aggregated statistics on death rates, life expectancy and morbidity. Tools are available for both designing the surveys and analytically estimating health, adjusted for differences in cultural norms and expectations of health, so that survey results become comparable across populations and groups.

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] *The world health report 2003 – Shaping the future.* Geneva, World Health Organization, 2003 (http://www.who.int/whr/2003/en/, accessed 25 May 2004).

Ranking

A special case of comparison gives each country a rank order. Although useful as a summary measure, ranking can be misleading and should be interpreted with caution, especially if used alone, as the rank is sensitive to small differences in the value of an indicator. Also, when used to assess trends (as in the table at the start of the section on health status), ranking can hide important absolute changes in the level of an individual country. Graphs have usually been used to show time trends from 1970 onwards. These graphs present the trends for all the reference countries and for the EU-15, as appropriate. Only the country in focus and the appropriate 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.

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 groups used for comparison are called reference groups and comprise:

- countries with similar health and socioeconomic trends or development; and/or
- geopolitical groups such as the European Union (EU), the newly independent states or the central Asian republics.

The fifteen-member EU (EU-15) is the reference group comprising Austria, Belgium, Denmark, Germany, Greece, Finland, France, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

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.

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.

[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).