



Highlights on health in Greece 2004

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 options

Life expectancy

People in Greece are living longer. Women continue to have a higher life expectancy than men: 81.1 years and 75.8 years, respectively. Greek men live a little longer and Greek women a little shorter than their Eur-A counterparts.

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.

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

Infant mortality

Greece's infant mortality rate is higher than the average reported by Eur-A countries, as was its neonatal mortality.

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)

Main causes of death

Noncommunicable conditions account for 84% of all deaths in Greece. Diseases of pulmonary circulation and other heart disease together with cerebrovascular diseases are the biggest killers. Forty-nine per cent of total deaths are due to cardiovascular diseases; 25% to cancers; and about 6% to external causes (intentional and unintentional injuries).

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

Twenty-eight per cent of men and 30% of women in Greece are obese. Twenty per cent of 15-year-old Greek boys are pre-obese; about 3% are obese. About 8% of 15-year-old girls are pre-obese and 1% are obese.

Better eating habits can prevent premature death from CVD, but people's chances of 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.

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

Smoking prevalence among adult men and women is very high in Greece. The death rate from lung cancer is above the Eur-A average, and the estimated lung cancer incidence among Greek men is among the highest in Eur-A.

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)

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)

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

Mental health

Neuropsychiatric conditions have the highest burden of disease for Greek females and the second highest for the male population due 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, 2001a)

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)

Alcohol

Pure alcohol consumption levels in Greece are about 14% lower than the Eur-A average. Mortality due to alcoholic liver cirrhosis as a percentage of all deaths from cirrhosis is among the lowest in the Eur-A group.

Alcohol consumption varies among countries and between different population groups within countries. The variation in drinking patterns affects 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

Most newly diagnosed HIV infections in Greece are acquired through homosexual and bisexual contacts among men. For heterosexual transfer, about half the most recent new infections involved people who were or whose partners were from countries outside Greece that have a generalized HIV epidemic.

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, 2004e)

Drug use and hepatitis C

In Greece, limited local testing at needle exchange locations found that 38–81% of injecting drug users were infected with hepatitis C.

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)

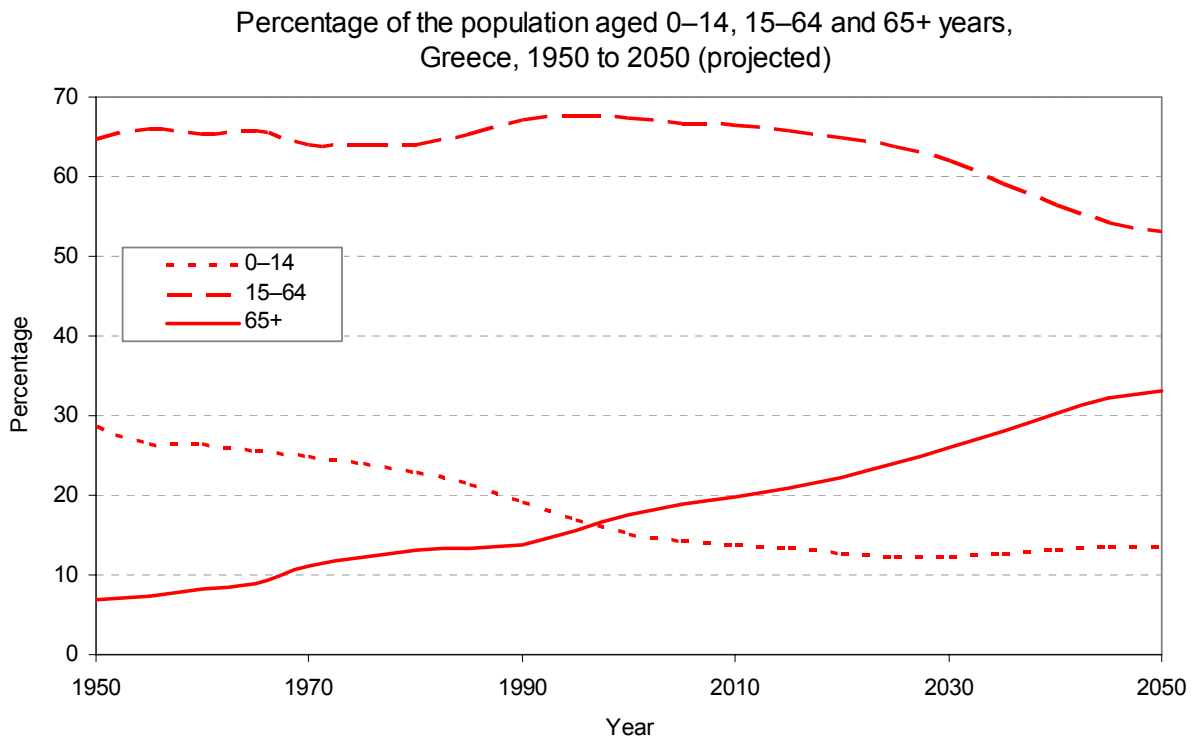
Declaration. Prison health as part of public health, Moscow, 24 October 2003 (HIPP, 2003)

Selected demographic information

Population profile

Greece had a population of almost 11 million at the start of 2003. It has one of the lowest percentages of urban population among the Eur-A countries.

The most striking demographic feature in Greece, 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 Greeks aged 65 years and over is expected to grow from about 17.5% of the population in 2003 (Council of Europe, 2003) to an estimated 25.9% in 2030 (Annex. Age pyramid).



Source: United Nations (2002).

Greece's birth rate is among the lowest in Eur-A, resulting in a natural population growth of zero. The birth rate has been constant since 1995, as has the Eur-A average birth rate for the same period. Nevertheless, positive net migration has caused the population of Greece to grow slightly.

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

| Indicators | Greece | Eur-A | | |
|--|----------|---------|---------|---------|
| | Value | Average | Minimum | Maximum |
| Population (in 1000s) ^a | 10 564.7 | – | – | – |
| 0–14 years (%) | 14.6 | – | – | – |
| 15–64 years (%) | 67.5 | – | – | – |
| 65+ years (%) | 17.9 | – | – | – |
| Urban population (%) ^b | 60.4 | 79.5 | 49.2 | 100.0 |
| Live births (per 1000) ^{c, d} | 9.8 | 11.3 | 8.7 | 21.2 |
| Natural population growth (per 1000) | 0.1 | 1.1 | –2.4 | 15.5 |
| Net migration (per 1000) ^{c, d} | 1.2 | 3.5 | –9.6 | 17.3 |

^a As of 1 January 2002.

^b Including Andorra and Monaco.

^c 2000.

^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, Greece has a relatively high level of income inequality overall, with a worse distribution of wealth than the Eur-A average (UNDP, 2004). From 1987 to 1997, about 5% of Greece's population lived below the 50% median income level, compared with an average of almost 9% for 19 Eur-A countries with estimates.

Overall unemployment in Greece was 10.2% in 2001, versus an average of 6.5% for 25 Eur-A countries with estimates (UNSD, 2004). Unemployment among Greeks 15–24 years old differs dramatically from the overall rate: in 2001, unemployment was 21.0% among young men and a record high 35.7% among young women (UNECE, 2003). Almost 75% of unemployed Greeks have educational attainment of secondary education or less. In 2001, 53% of those who were unemployed had been so for 12 months or more.

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 gives the total population figures for various vulnerable groups of people resident in Greece. 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 Greece

| Population | 1992 | 1995 | 1998 | 2001 | 2003 (estimate) |
|---|--------|------|--------|------|-----------------|
| Immigrants | 32 133 | – | 12 630 | – | – |
| Refugees | – | – | – | 7000 | – |
| Prison inmates (per 100 000 national population) | 61 | 56 | 68 | 79 | 83 |

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 late 2003, Greece reported a 158% occupancy level for its prisons, based on official capacity (International Centre for Prison Studies, 2004).

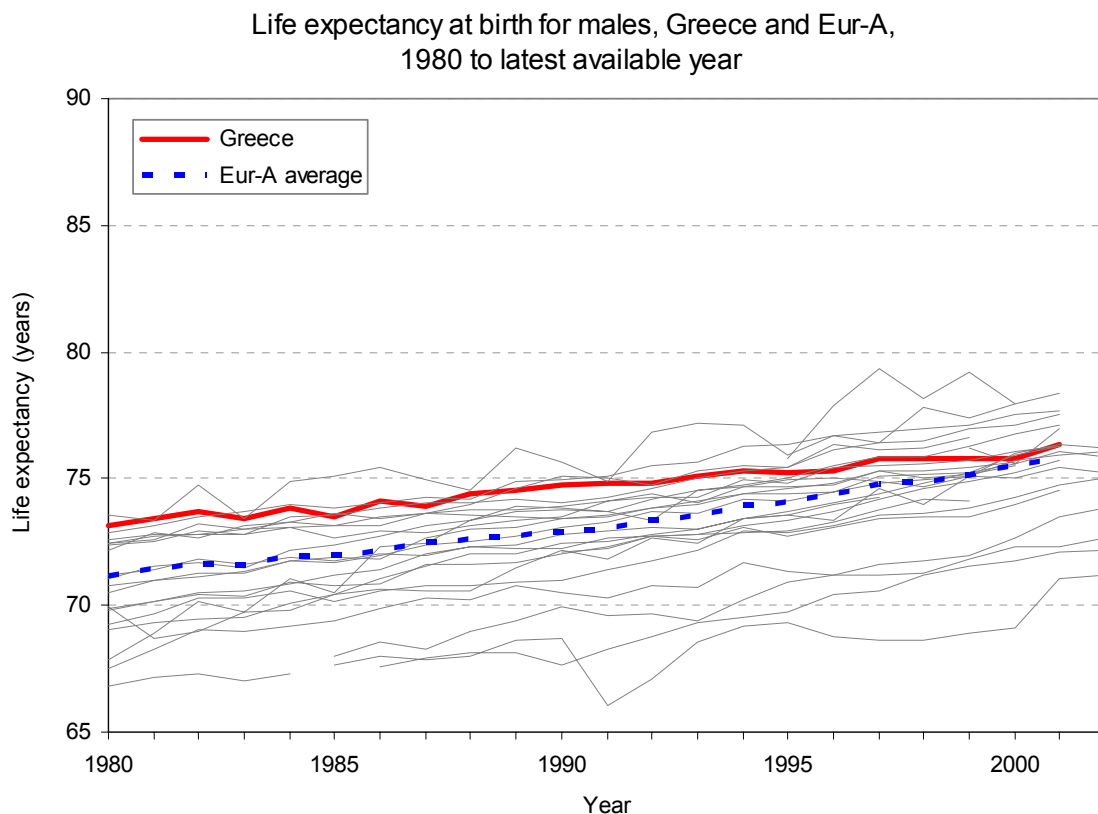
Burden of disease

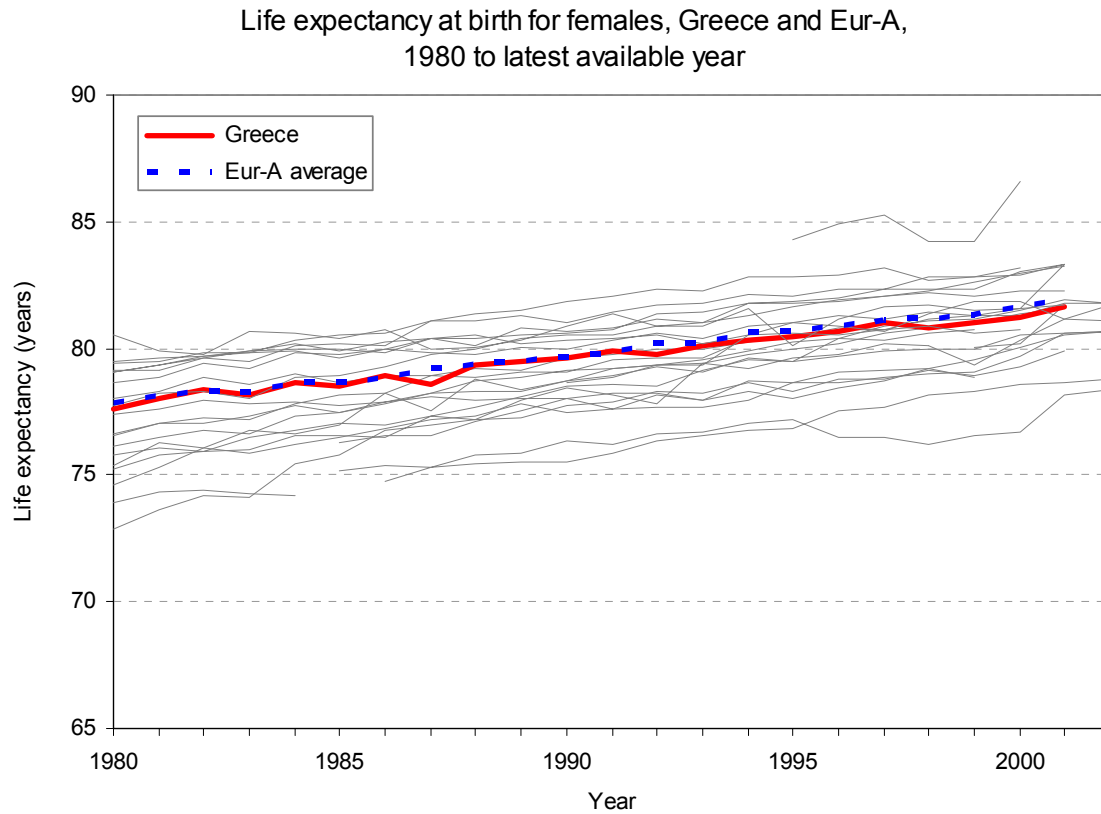
The burden of disease can be viewed as the gap between current health status and an ideal situation in which everyone lives into old age free of disease and disability. Causing the gap are premature mortality, disability and certain risk factors that contribute to illness. The analysis that follows elaborates on the burden of disease in the population.

Life expectancy and healthy life expectancy

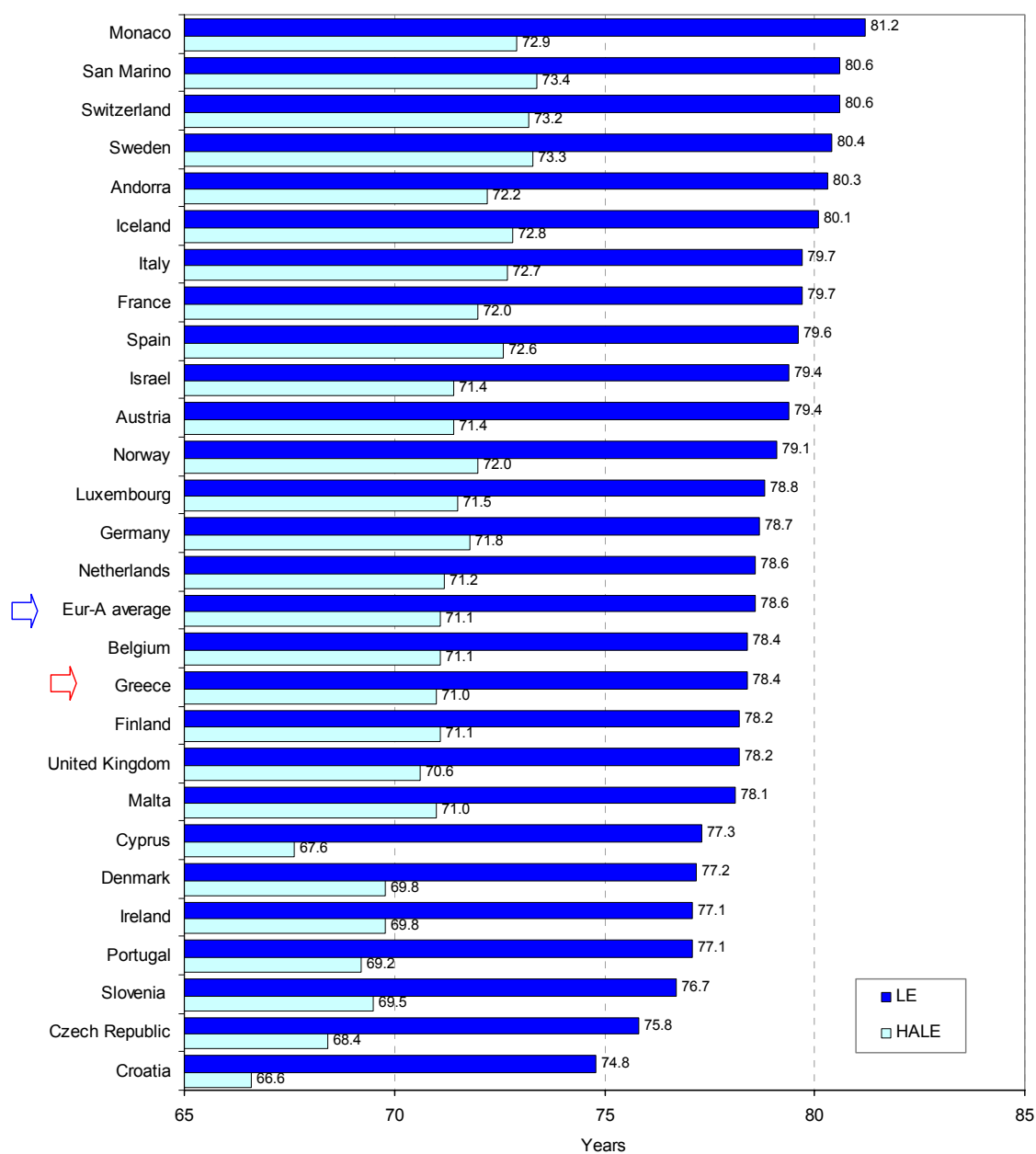
A person born in Greece in 2002 can expect to live 78.4 years on average. Women continue to have higher life expectancy than men, with 81.1 years compared with 75.8 years for men. Greek men live a little longer and Greek women a little shorter than their Eur-A counterparts according to WHO (2003f) estimates.

Over the last 20 years, Greeks have gained about three years in life expectancy (LE), with men showing a greater gain than women (3.4 years and 2.7 years respectively).





In addition, WHO (2003f) estimates that, on average, Greeks can expect to be healthy for about 90% of their total years of life. On average they lose 7.4 years to illness – the difference between LE and healthy life expectancy (HALE). Since women live longer than men, and the likelihood of deteriorating health increases with age, women lose more healthy years of life (8.2 years) than men (6.7 years). Nevertheless, the longer LE for Greek women compared with men gives them almost four more years of healthy life than men in Greece.

LE and HALE, Greece and Eur-A^a, 2002

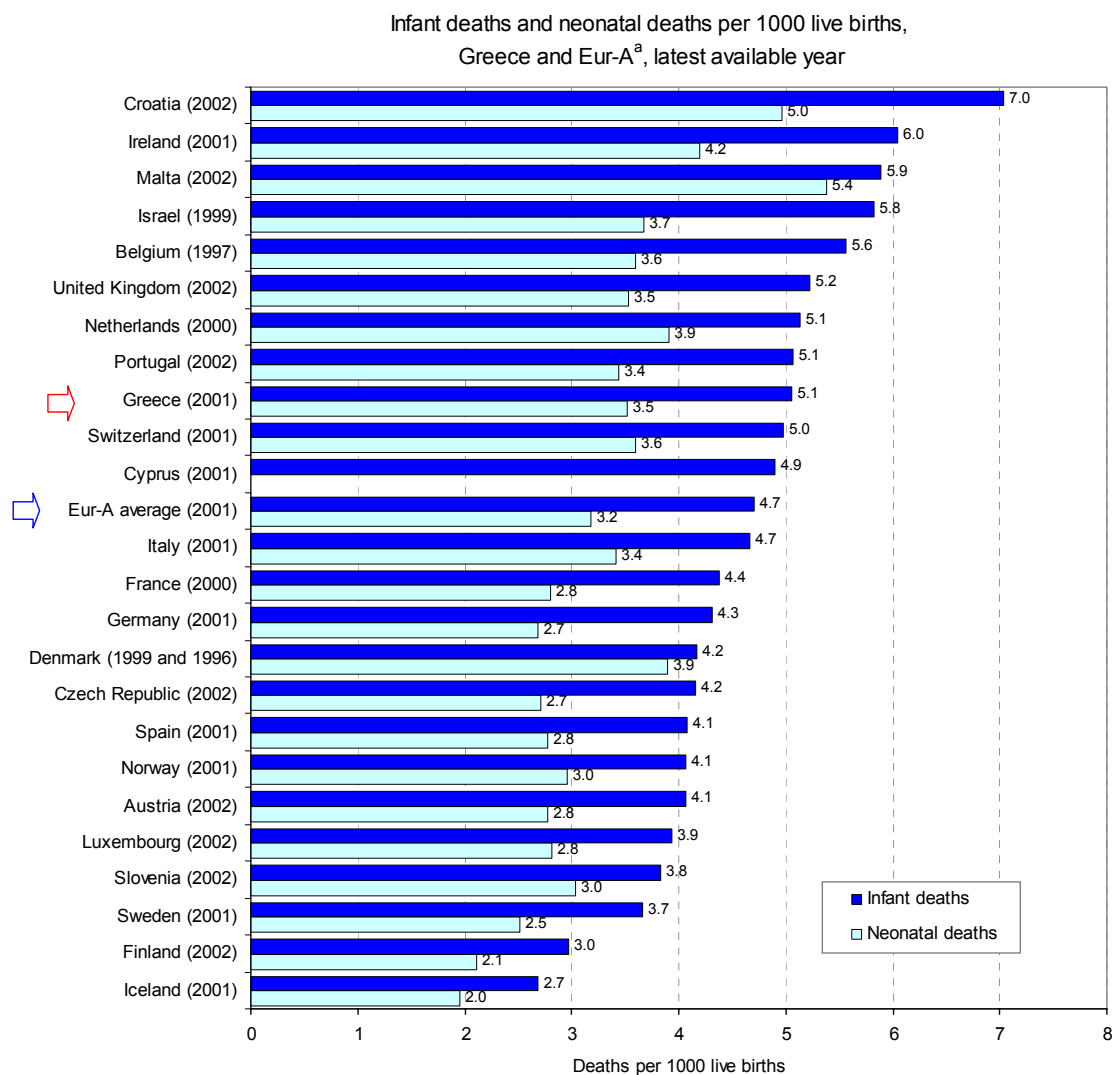
^a Including Andorra and Monaco.

Source: WHO (2003f).

Mortality

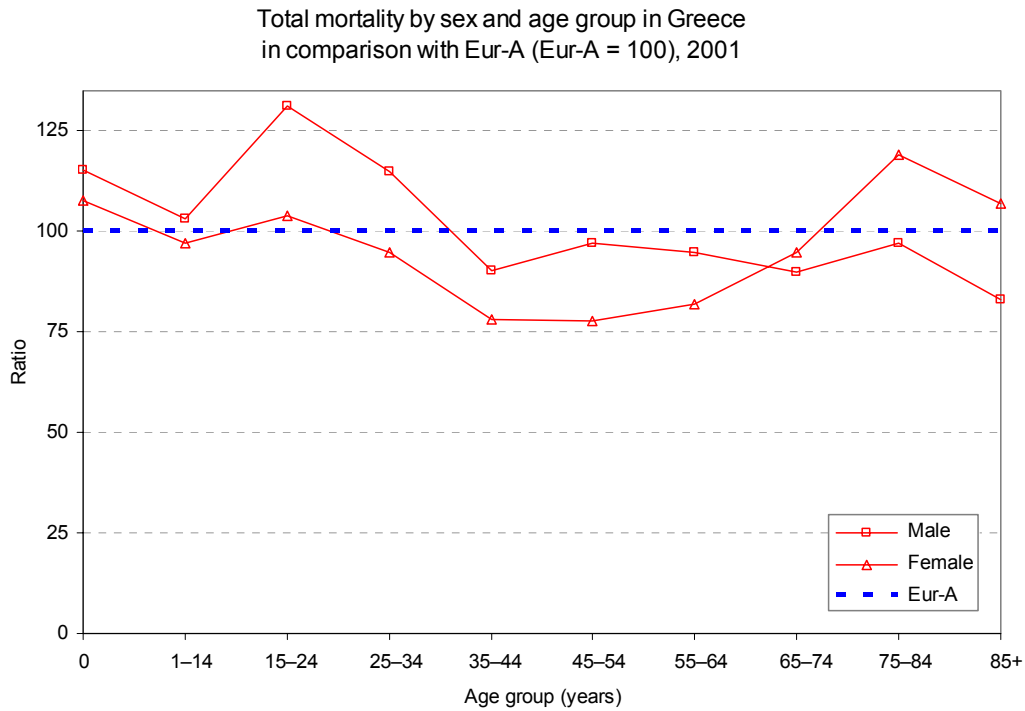
Infant mortality and neonatal death

Greece's infant mortality rate is slightly higher than the average for Eur-A countries reporting, as is its neonatal mortality.

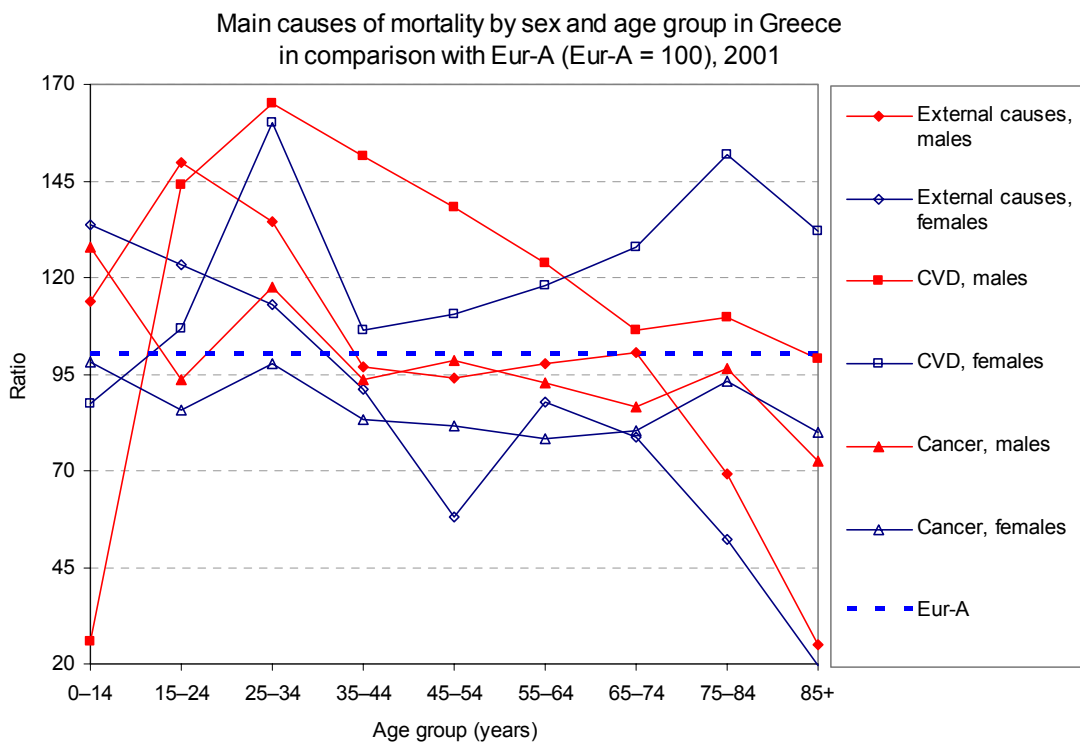


Excess mortality

Greek men 35 years of age have excess mortality relative to the Eur-A average for men, with the most significant difference, about 30% excess, experienced by those 15–24 years old. The oldest (>75 years) Greek women have excess mortality rates compared with the Eur-A average for women.



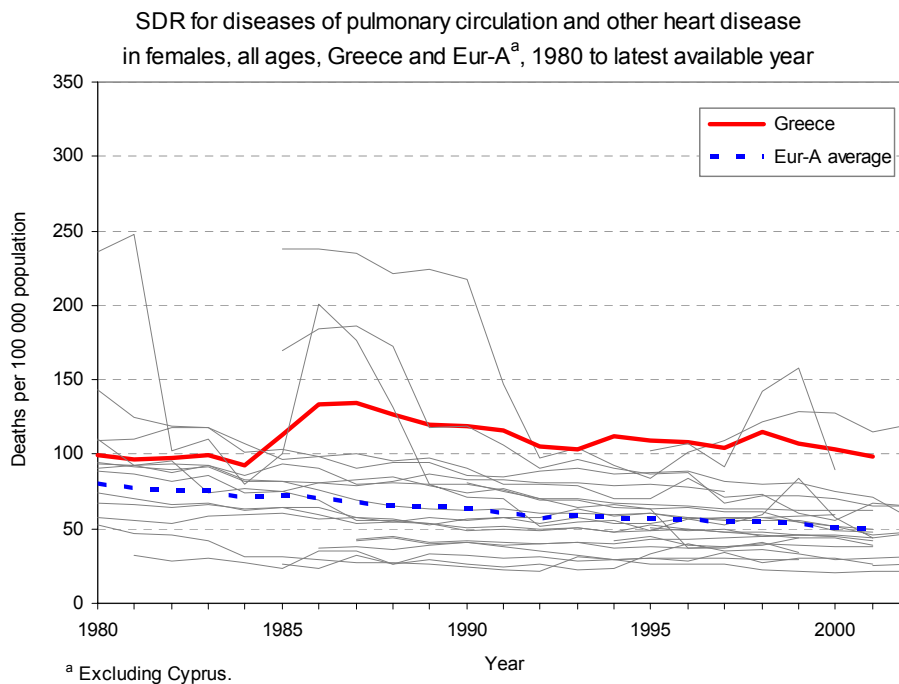
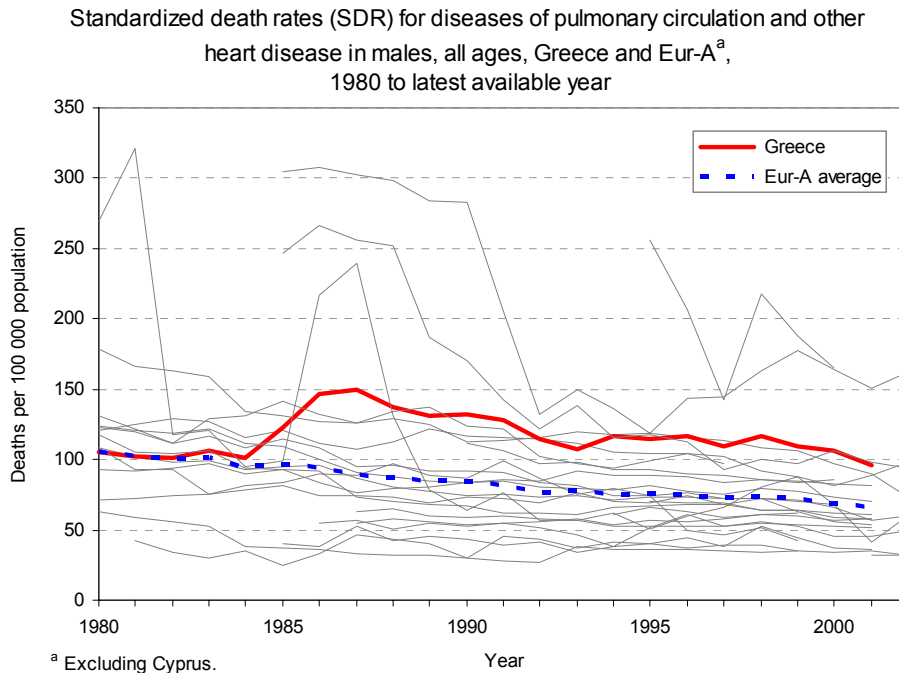
According to age group across three main disease groups, people in Greece have excess mortality from cardiovascular diseases (CVD) among males and females and from external causes until 35 years of age compared with the average in Eur-A. Cancer has a slight excess mortality in Greece among the youngest men only.



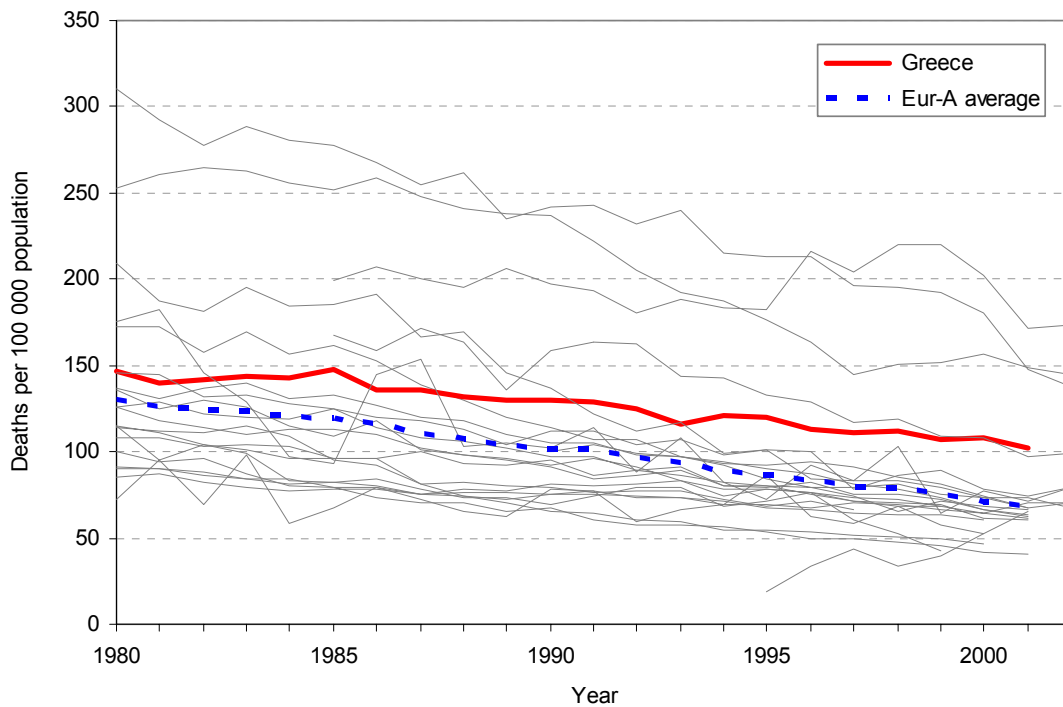
Main causes of death

In 1999, noncommunicable diseases accounted for 84% of all deaths in Greece; external causes for about 6%; and communicable diseases for 1% (Annex. Selected mortality).

Similar to all other Eur-A countries, CVD are the number one cause of death in Greece. Within the CVD category, diseases of pulmonary circulation and other heart disease is the single biggest killer among Greeks followed closely by cerebrovascular diseases.

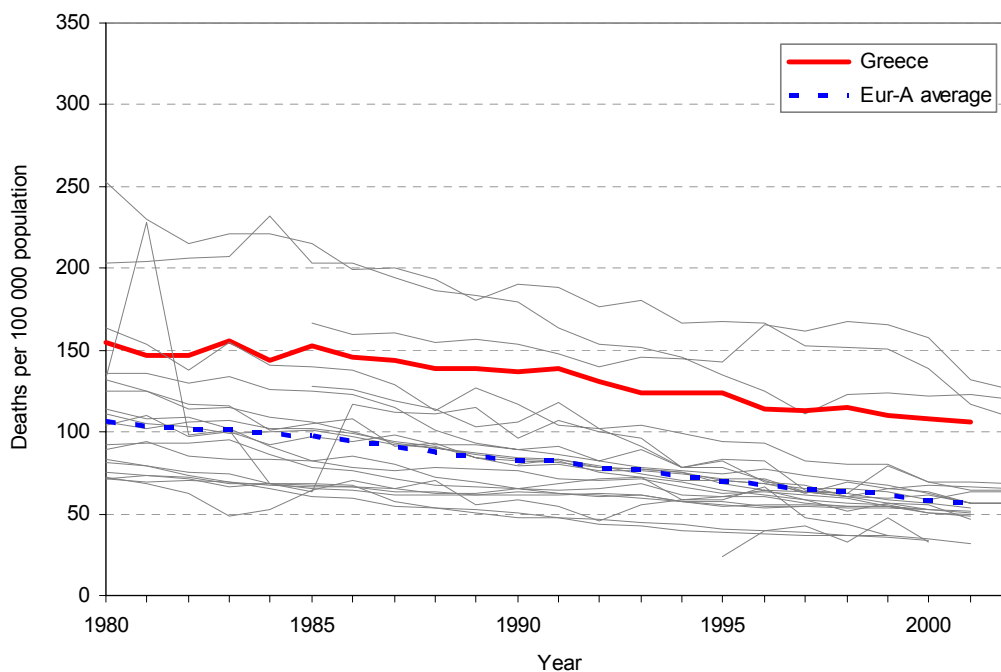


SDR for cerebrovascular diseases in males, all ages,
Greece and Eur-A^a, 1980 to latest available year



^a Excluding Cyprus.

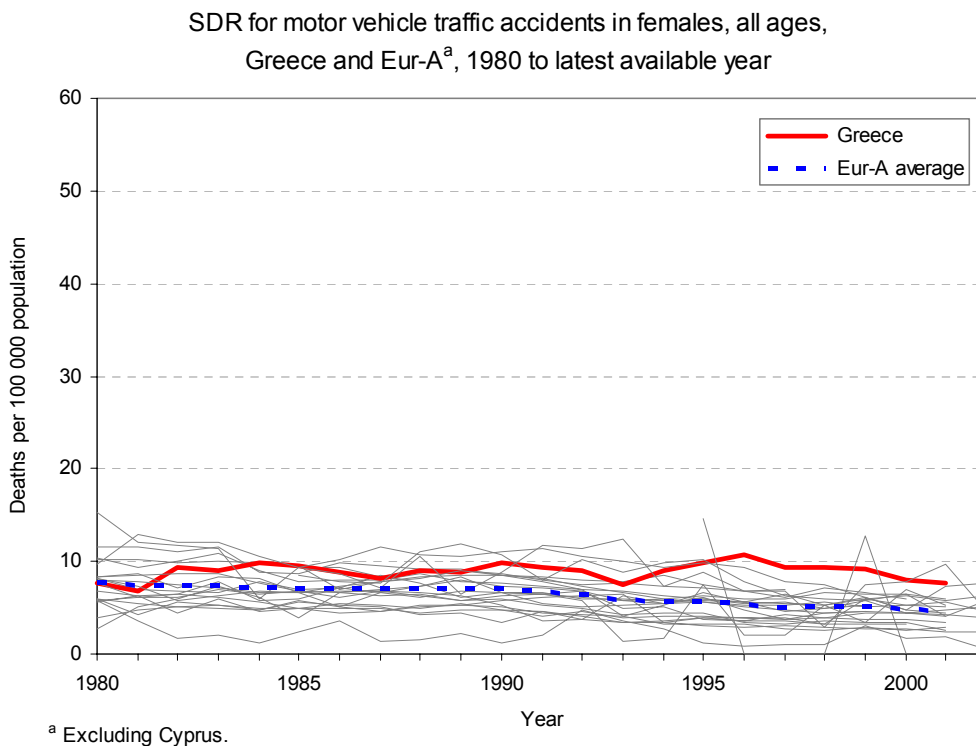
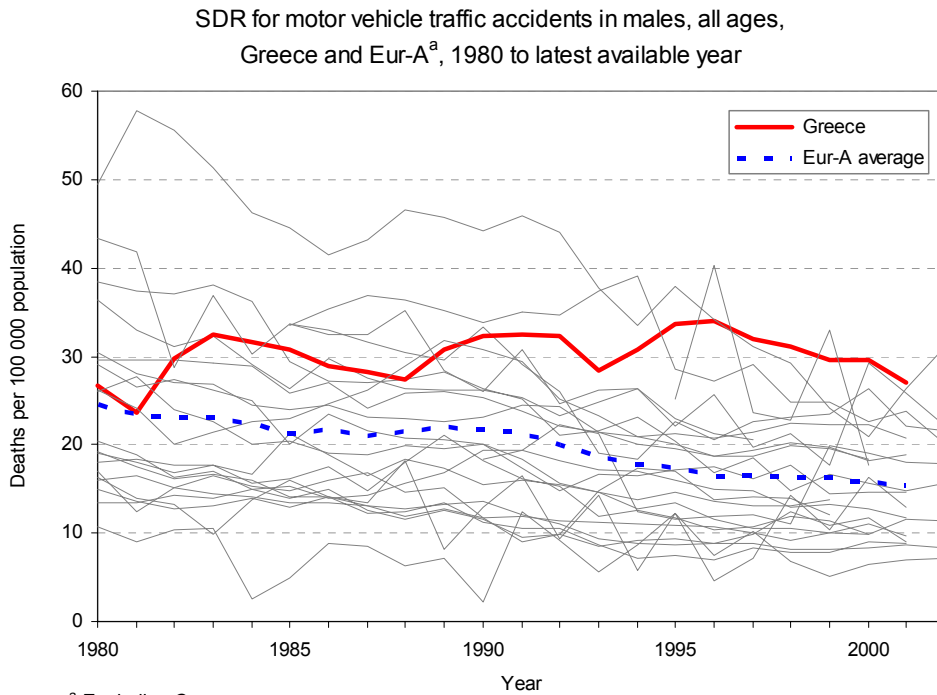
SDR for cerebrovascular diseases in females, all ages,
Greece and Eur-A^a, 1980 to latest available year



^a Excluding Cyprus.

Cancer is the second top killer in Greece. The overall mortality due to cancer is, however, lower than the Eur-A average – about 12% lower. Death rates are especially high for lung cancer and above the Eur-A average (Annex. Selected mortality).

Deaths from external causes (intentional and unintentional) account for 6% of total deaths in Greece. Especially motor vehicle traffic accidents have excess mortality compared with Eur-A.



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 lists the top 10 conditions affecting males and females in Greece in terms of DALYs. These conditions contribute to about 90% of the total disease burden in Greece. Neuropsychiatric conditions have the highest burden of disease among Greek females

and the second highest among males. Because mortality from these conditions is minor compared with that from other diseases, disability comprises the bulk of their burden on the health of the population. CVD has the top burden of disease among males and is second for females. Cancer, respiratory diseases and unintentional injuries follow as the most burdensome diseases among Greeks.

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

| Rank | Males | | Females | |
|------|-----------------------------|-----------------|-----------------------------|-----------------|
| | Disability groups | Total DALYs (%) | Disability groups | Total DALYs (%) |
| 1 | Cardiovascular diseases | 24.9 | Neuropsychiatric conditions | 24.8 |
| 2 | Neuropsychiatric conditions | 19.5 | Cardiovascular diseases | 23.9 |
| 3 | Malignant neoplasms | 16.5 | Malignant neoplasms | 14.1 |
| 4 | Unintentional injuries | 11.2 | Respiratory diseases | 7.5 |
| 5 | Respiratory diseases | 8.0 | Musculoskeletal diseases | 5.5 |
| 6 | Sense organ diseases | 4.2 | Sense organ diseases | 5.5 |
| 7 | Musculoskeletal diseases | 3.1 | Unintentional injuries | 4.1 |
| 8 | Digestive diseases | 2.6 | Diabetes mellitus | 3.4 |
| 9 | Diabetes mellitus | 2.2 | Digestive diseases | 2.4 |
| 10 | Respiratory infections | 1.1 | Respiratory infections | 1.0 |

Source: Background data from WHO (2003f).

Main risk factors

The table presents the top 10 risks to health in developed countries in terms of DALYs. As with the conditions in the table on disability groups, risk factors are estimated to contribute differently to the burden of illness and death in a population. The degree to which the Greek population is exposed to four of these risks is described below.

Ten leading selected risk factors as causes of
disease burden measured in DALYs
in selected 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 |

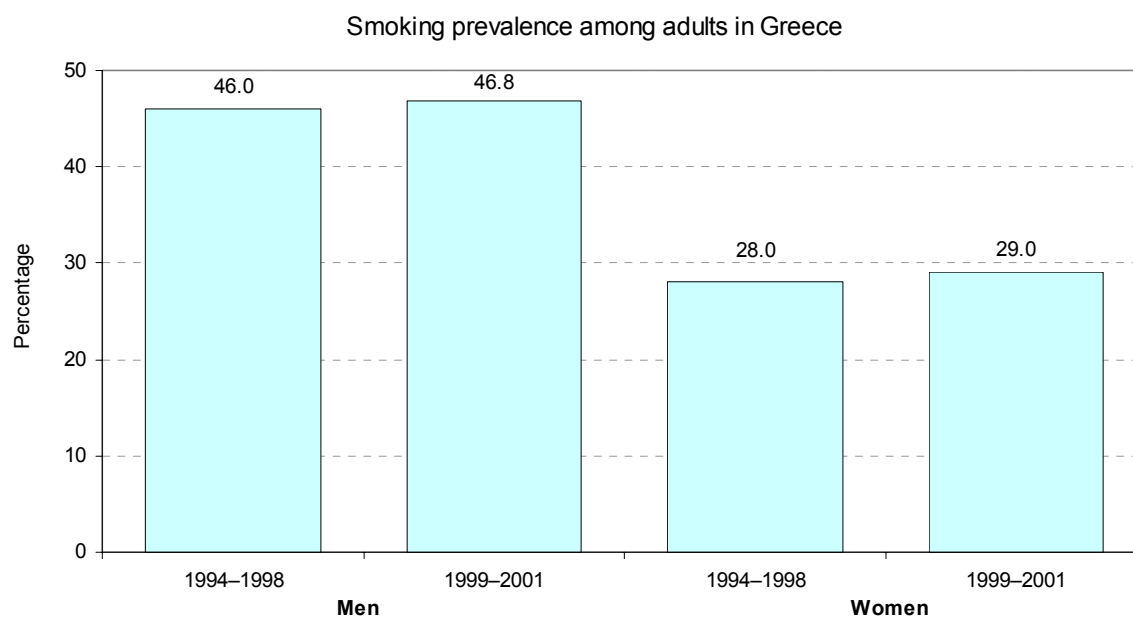
Source: WHO (2002).

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 the deaths affect people in middle age. 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).

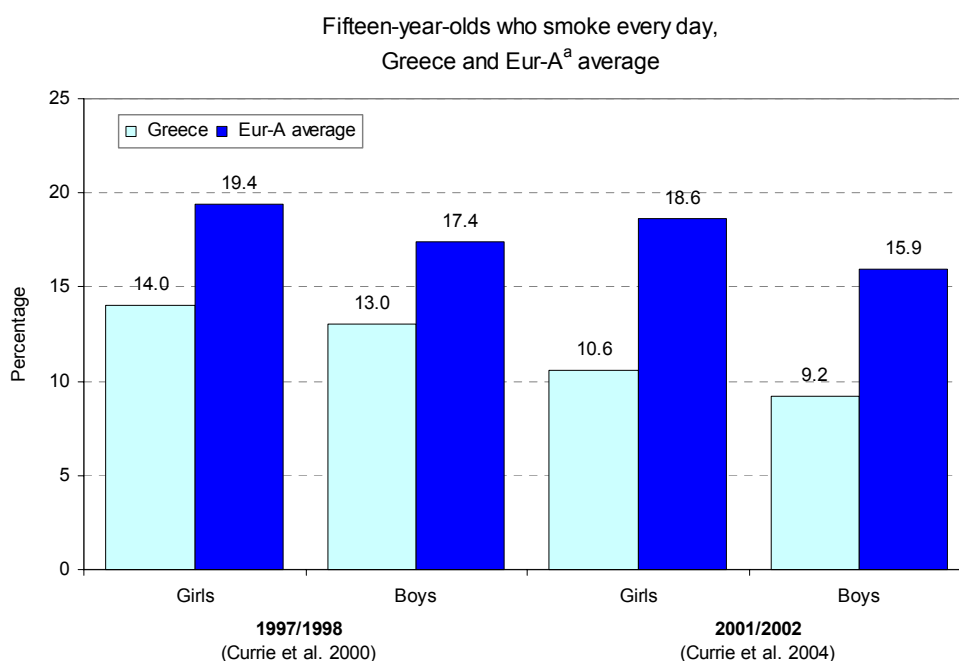
In 2000, Greeks consumed 56% more cigarettes per person than the Eur-A average based on official statistics for production, import and export (not included is consumption of additional cigarettes available

unofficially, for example, through smuggling across borders and bootlegging). The smoking prevalence is 47% for men and is increasing. For women it is 29% and also increasing.



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

On the other hand, the smoking prevalence among males and females 15 years old has decreased since 1997/1998 and is lower than the Eur-A average.



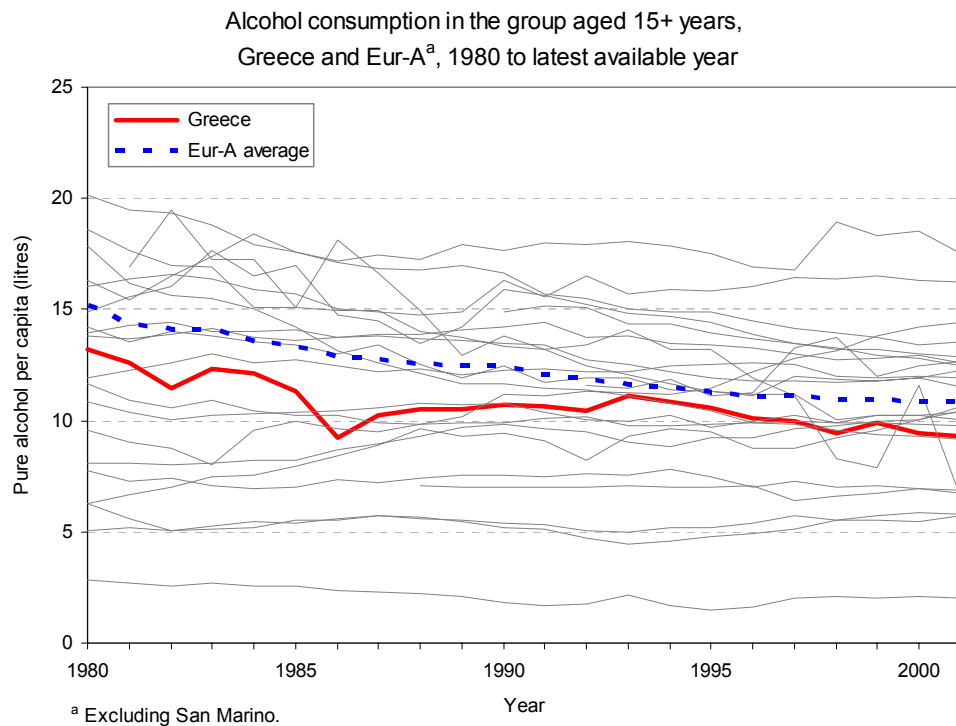
^a Excluding Cyprus, Iceland, Luxembourg and San Marino.

Alcohol

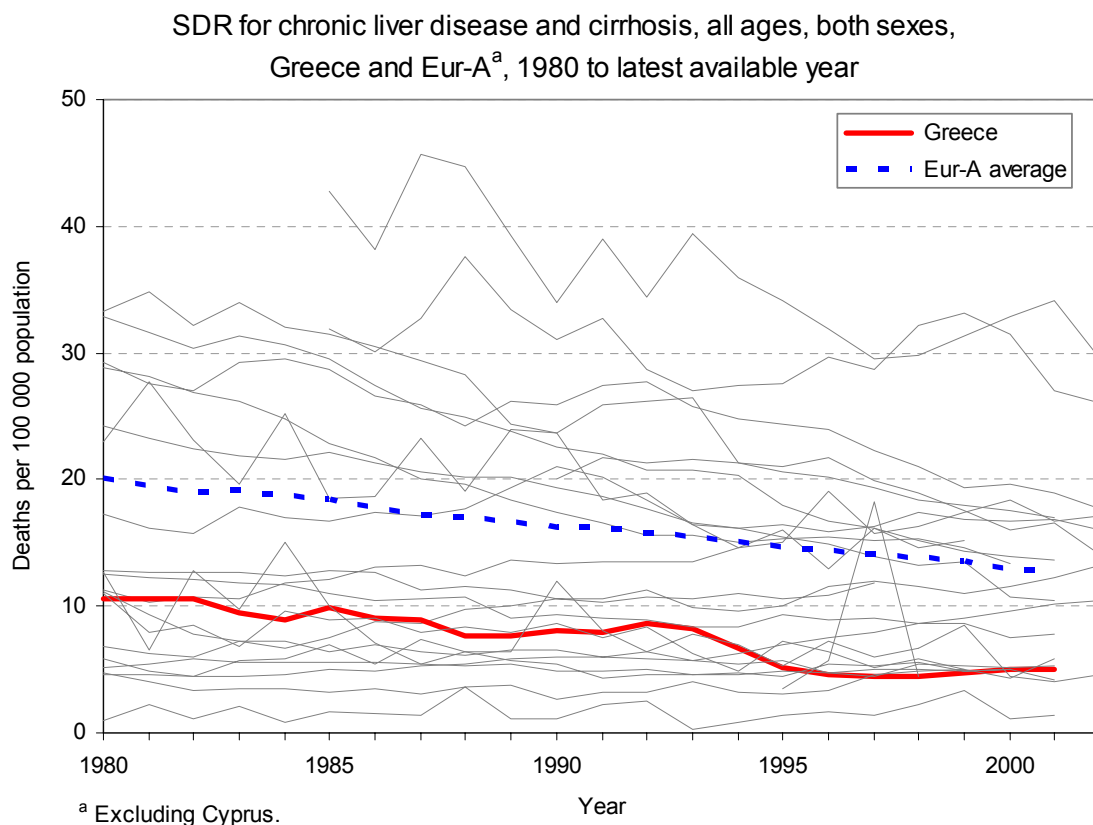
Two major public health issues are related to alcohol consumption: regular drinking of more than small amounts and harmful patterns such as binge drinking (when a person consumes a bottle of wine or equivalent on one occasion; or having five or more “standard” drinks in a row). Both practices cause or

aggravate health problems and increase the risks of injury to the drinker and others (European Commission, 2003).

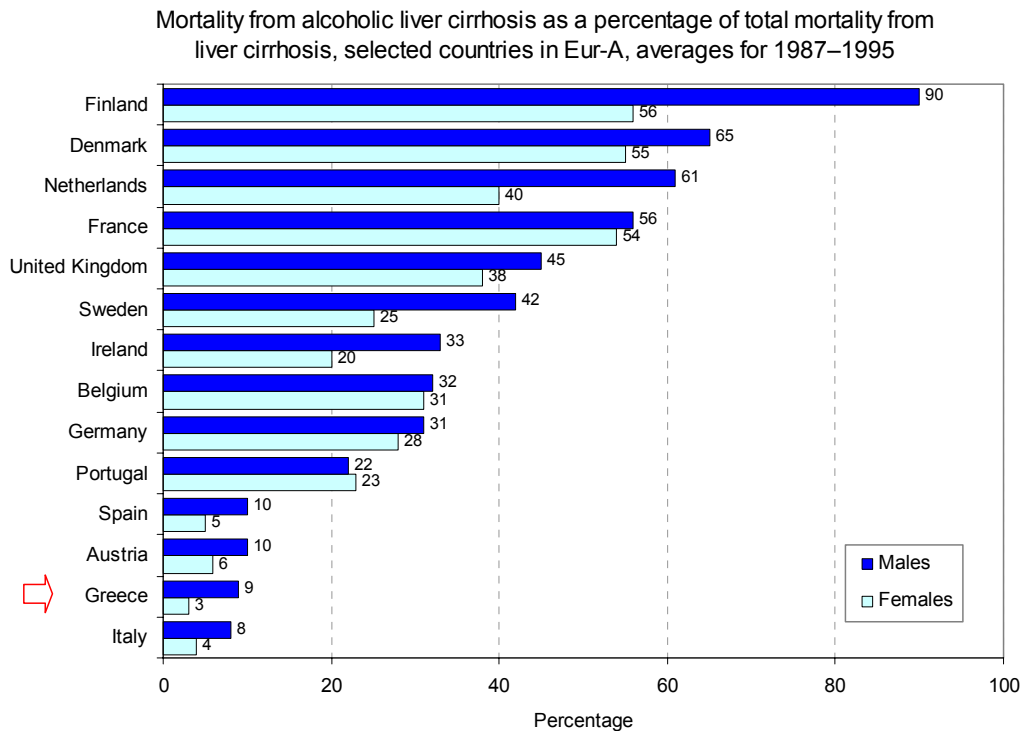
In 2001, pure alcohol consumption levels in Greece were 14% less than in the Eur-A as a whole.



Mortality from liver cirrhosis is the classic indicator of harm from chronic excessive drinking.



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 figure is therefore descriptive, showing where alcohol was the major risk factor in deaths due to cirrhosis in a particular country. For the period 1987 to 1995, 3–9% of all deaths from liver cirrhosis among Greek females and males, respectively, were due to alcohol (Hemström et al., 2002). This is lower than the Eur-A average, and for women it is the lowest in the group of countries selected.



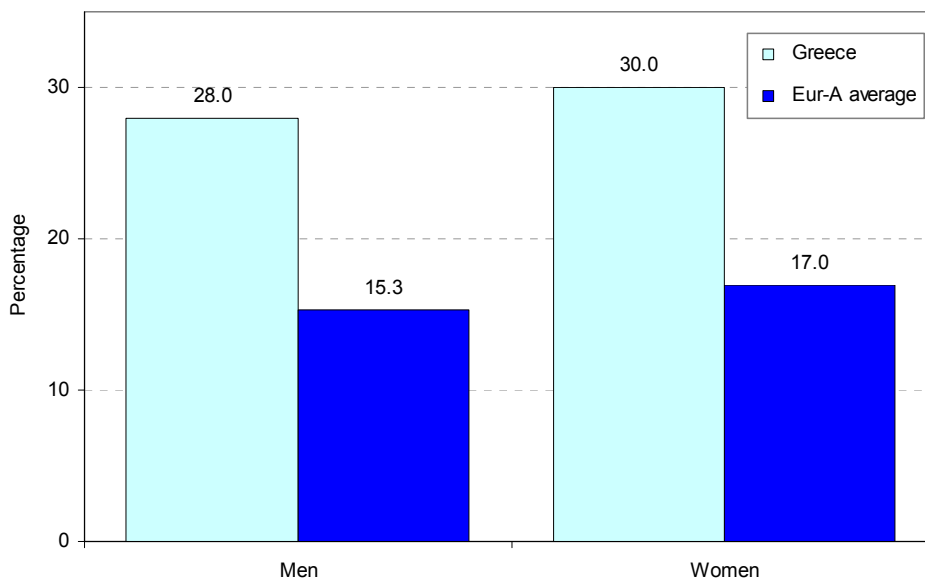
Note: Data for Germany refer to the territory of the Federal Republic of Germany as up to 3 October 1990.
Source: Hemström et al. (2002).

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, in particular, obesity, is its persistence into adult life and its association with the risk of diabetes and CVD (Stark et al., 1981).

In Greece, about 28% of men and 30% of women are obese, which is much higher than the Eur-A average (Robertson et al., 2004).

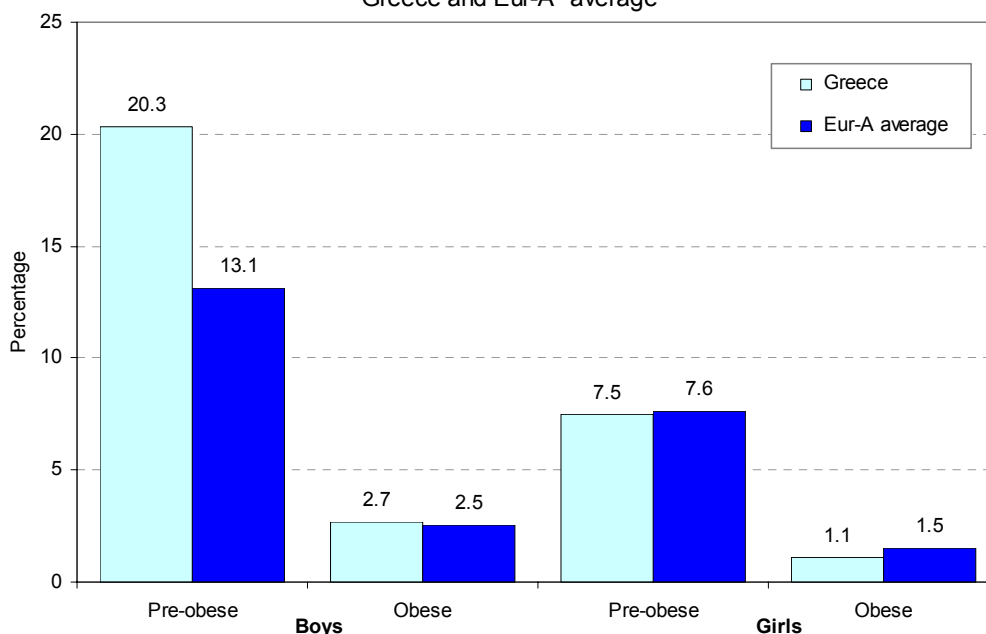
Obese adults, Greece and Eur-A^a average



^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, among 15-year-old Greeks, 20% of boys are pre-obese and 3% are obese; 8% of girls are pre-obese and 1% are obese.

Pre-obese and obese 15-year-olds by sex, Greece and Eur-A^a average

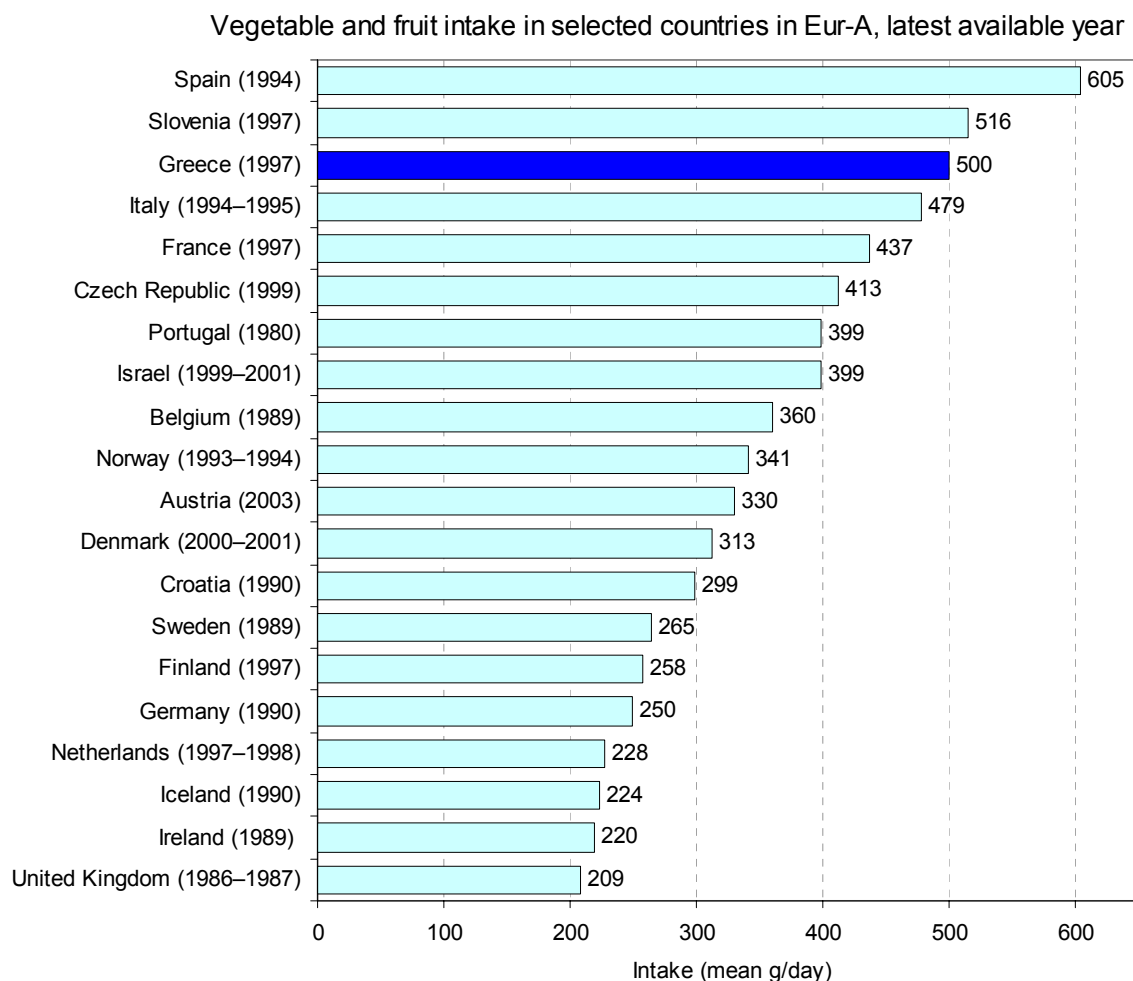


^a Excluding Cyprus, Iceland, Luxembourg and San Marino.
 Sources : Mulvihill et al. (2004) and the Danish Nutrition Council (2003) for data on Denmark.

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. The average intake in Greece is 500 g, the third highest in Eur-A.



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.

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).

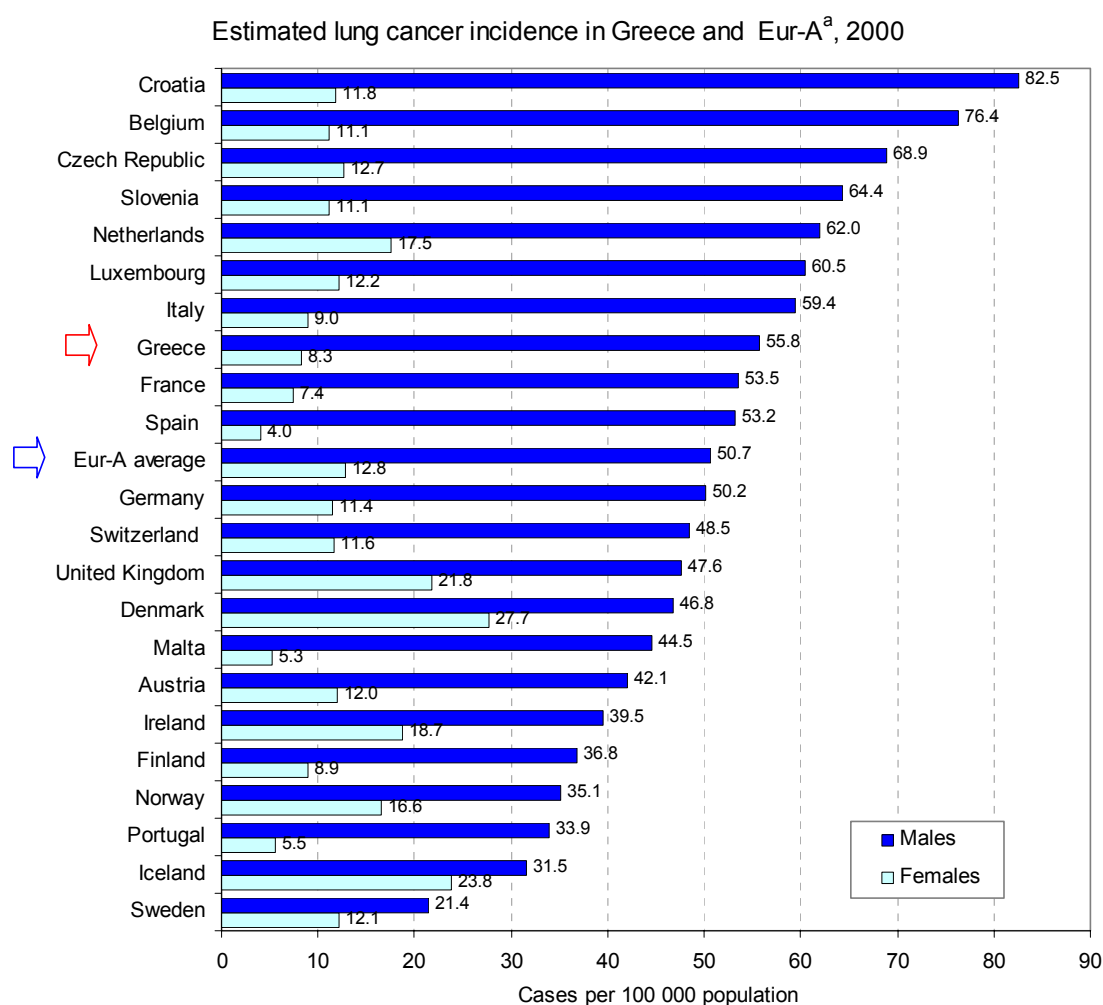
Selected causes of illness

Cancer

Cancer accounts for 25% of deaths in Greece, whereas the combination of death and illness due to cancer, represented as DALYs (see table on disability groups), accounts for 14–17% of the disease burden among Greek males and females. Together the indicators show that the burden of cancer to the population is mainly attributable to death as opposed to long-term illness.

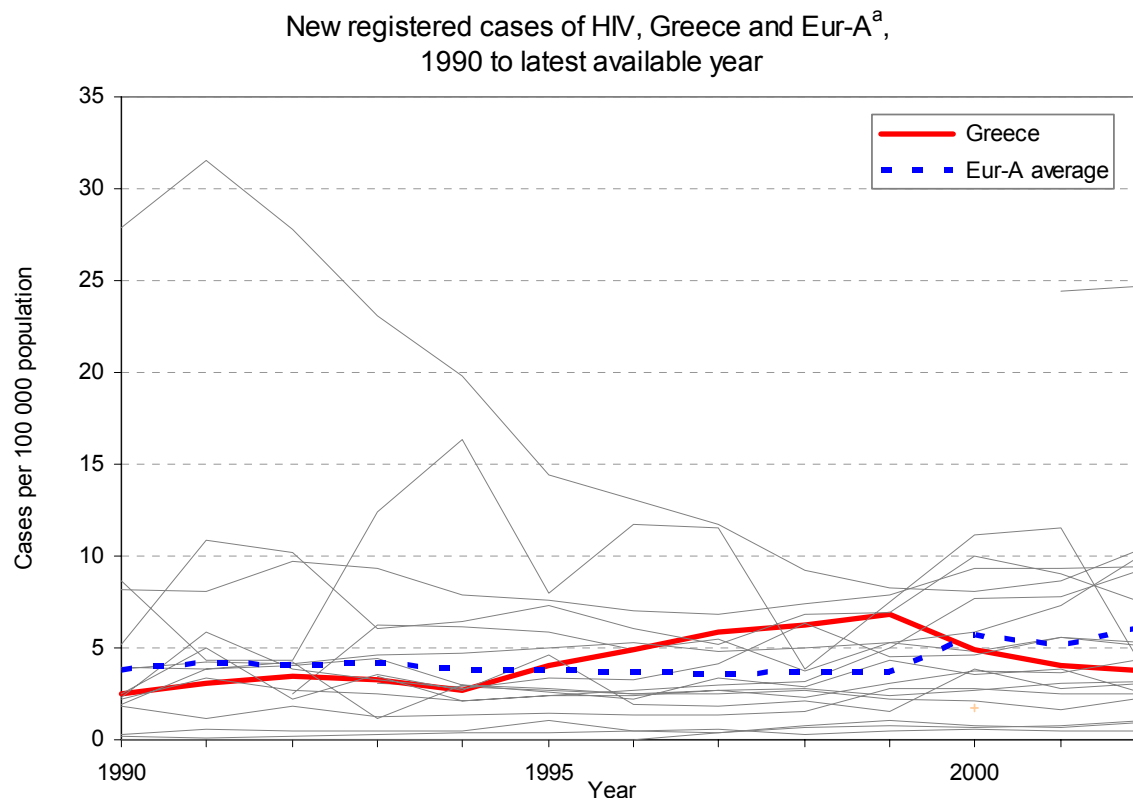
Lung cancer is the most common cancer in the Region and the world. The most important risk factor is tobacco (Tyczynski et al., 2002).

In 2000, the estimated lung cancer incidence among Greek men was among the highest in Eur-A. For Greek women it was below the average estimate for Eur-A women.



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, 2003a, b).



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

The HIV infection rate in Greece has been decreasing the last few years and is now below the Eur-A rate. In 2002, 3.8 HIV infections were newly diagnosed per 100 000 population in Greece (EuroHIV, 2003b).

As of June 2003, 6521 people had been diagnosed with HIV since the start of the epidemic. Of these, 80% are men and 20% women.

The annual incidence of new HIV cases has been relatively low. A peak in 1999, when 1281 new cases were reported, is partly attributed to retrospective reporting of past infections. However, HIV cases distributed by year of diagnosis (rather than year of report) reveal an upward trend, peaking in 1998. Since then the annual incidence of new cases has been declining.

Overall, sexual transmission accounts for the majority of reported HIV cases, with 45% of cases being homosexual or bisexual and 17% heterosexual. A further 4% of cases are among injecting drug users.

Among 1214 cases infected through heterosexual contact, most are women. Most heterosexual cases reported in 2002–2003 (45%) are cases from countries with generalized HIV epidemics (UNAIDS& WHO, 2004).

Hepatitis C

Since the introduction of screening of blood and blood products for hepatitis C in the countries of 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.

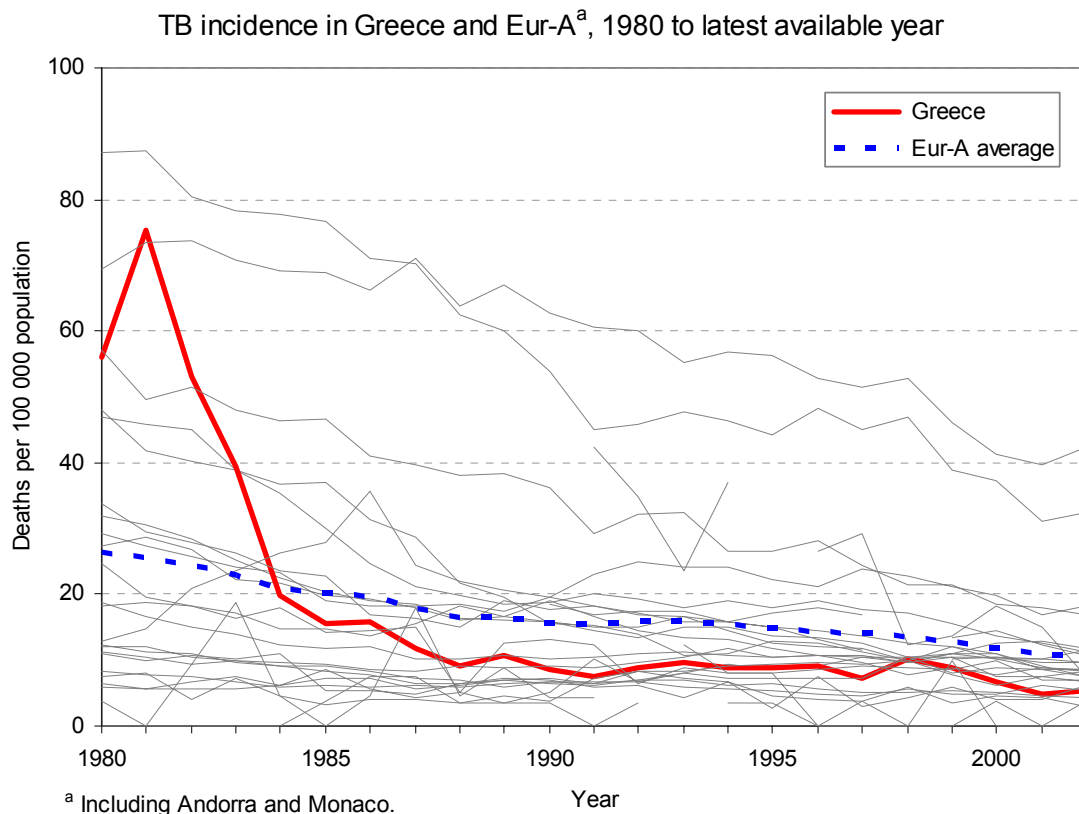
Wherever injecting drug use is likely to increase, new epidemics of hepatitis C are likely to emerge. Social exclusion is a factor in and a characteristic of the spread of infection (EMCDDA, 2004). Hepatitis C is predicted to have considerable long-term effects in terms of both health care spending and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

In Greece, limited local testing at needle exchange locations in 2002 found that 38–81% of injecting drug users were infected with hepatitis C (EMCDDA, 2003).

TB

Between 1995 and 2001, 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.

The incidence of TB in Greece has dropped by 40% since 1995, versus an average 26% drop in the Eur-A, and is now among the lowest in the Eur-A.



Health system¹

Organizational structure of the health system

The Greek health care system is characterized by the coexistence of the National Health Service (NHS), a compulsory social insurance and a voluntary private health insurance system. The NHS provides universal coverage to the population and operates on the principles of equity, equal access to health services for all and social cohesion. In addition, 97% of the population is covered by approximately 35 different social insurance funds (compulsory social insurance), whereas 8% of the population maintains complementary voluntary health insurance coverage bought on the private insurance market.

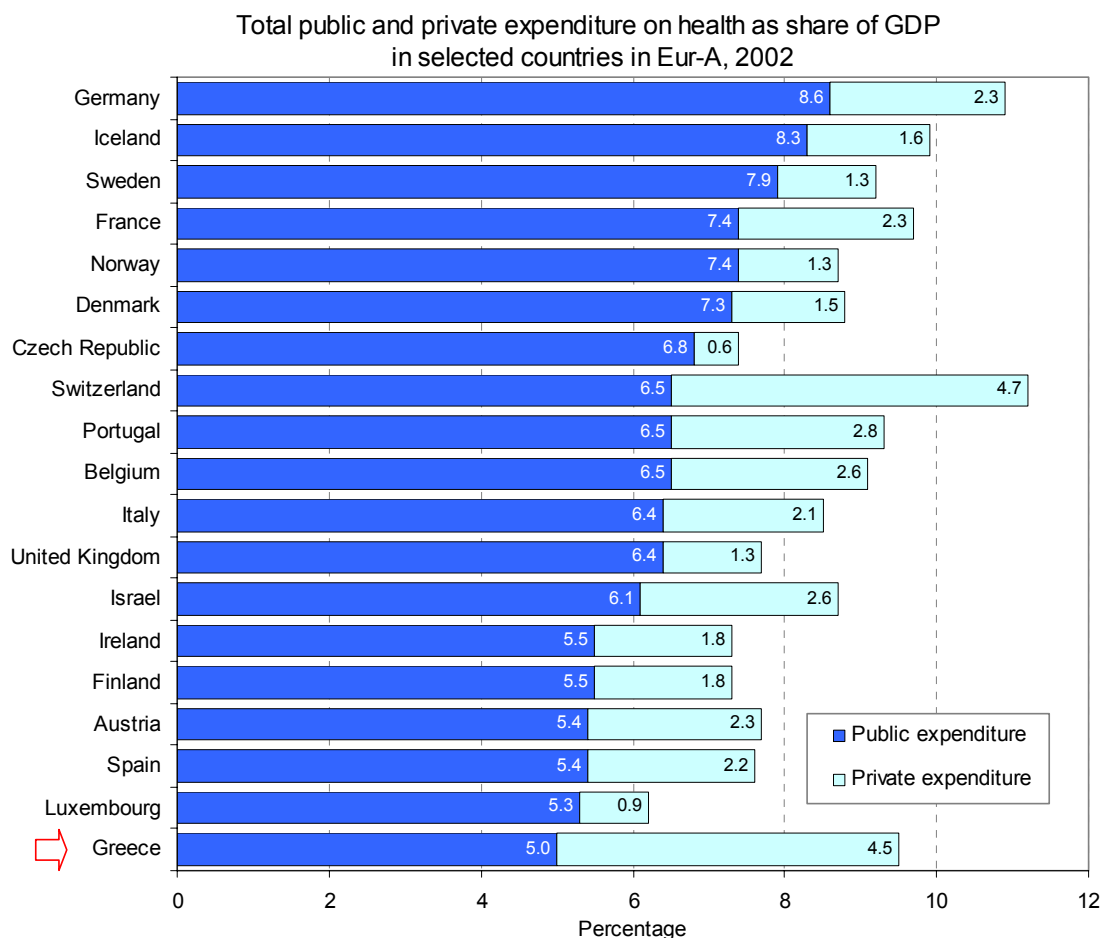
The Ministry of Health and Social Cohesion (renamed from the Ministry of Health and Welfare in March 2004) decides on overall health policy issues and on the national strategy for health. It sets priorities at the national level, defines the extent of funding for proposed activities and allocates resources. Seventeen regional health authorities (PeSYs) are given extensive responsibilities for implementing national priorities at the regional level, coordinating regional activities and organizing and managing the delivery of health care and welfare services within their catchment area. Decentralization efforts have consisted mainly of devolving political and operational authority to regional authorities but stopped short of shifting full financial responsibility to them to the extent that PeSYs were not given individual budgets to manage and the Ministry itself still has to validate all financial transactions.

Health care financing and expenditure

Health services in Greece are funded almost equally through public and private sources. Public expenditure is financed by both taxes (direct and indirect) and compulsory health insurance contributions (by employers and insured people). Voluntary payments by individuals or employers represent a very high percentage of total health expenditure (more than 42% in 2002), making Greece's health care system one of the most "privatized" among the European Union countries.

In 2002, Greece's expenditure on health amounted to 9.5% of GDP, of which an extremely high 4.5% accounted for private health expenditure (47% of total expenditure, the highest percentage in absolute terms of the 15 countries that were members of the European Union before May 2004 and Israel) (Annex. Total expenditure on health).

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



The NHS budget is set annually by the Ministry of Economy and Finance based on historical data. Taxes finance about 70% of all hospital funding, whereas the remaining 30% is derived from a mixture of social security and out-of-pocket payments. Tax revenue is often used to fill the gap between the officially determined level of social security funding (by fixed per diem or per-case fees) and the actual cost of the provided services. Primary health care centres are financed through the budget of the hospital to which they belong administratively, even though the latest law on primary care (February 2004) provided for gradually establishing financial and administrative autonomy for primary care centres.

All NHS staff (doctors, nurses, dentists, pharmacists and technical and administrative support staff) are salaried government employees. NHS doctors are forbidden to practise privately, other than within the hospital premises, during out of office (afternoon) hours, for which they are compensated on a per-case or -appointment basis. Nevertheless, this restriction is currently under review, following the new government's pre-election commitment to lift it. The largest social insurance fund, IKA, which is mainly responsible for delivering primary health care to 5.5 million beneficiaries through its 350 units, is currently implementing a pilot programme for the introduction of the general practitioner into the health care delivery structure and is in the process of reviewing a comprehensive general practitioner contract based on a mixed capitation and performance-related remuneration system.

Health care provision

Primary health care in the public sector is delivered through a dual system of primary health care centres and hospital ambulatory (outpatient) services, which belong to the NHS, and IKA primary care units, which belong to IKA.

Secondary and tertiary care is mainly provided in 123 general and specialized hospitals, totalling 36 621 beds, and 9 psychiatric hospitals, totalling 3500 beds. Public hospitals outside the NHS include 13 military hospitals financed by the Ministry of Defence, 5 IKA hospitals financed by IKA and 2 university teaching hospitals. Greece had 4.0 acute beds per 1000 inhabitants in 2000 (Annex. Selected health care resources), of which the public sector provides about 75% (the 243 private hospitals, mainly general hospitals and maternity clinics, account for 25% of total hospital beds). The establishment of new regional university hospitals has somewhat counteracted the inequality in the distribution of hospital beds, but there are still significant patient flows to hospitals in the capital.

In 2001, there were 4.5 practising physicians per 1000 inhabitants, one of the highest concentrations in the European Union. Meanwhile, despite concerted efforts to increase the ratio of nurses to inhabitants, Greece still has one of the lowest in Europe.

Developments and issues

In the early 1980s, the inception of the NHS coincided with the introduction of the socialist principle of equity, solidarity and equal access to services the – then newly elected – government was trying to infuse to public administration. The development of rural surgeries, primary health centres, public hospitals and regional teaching hospitals resulted in a number of significant advances in the population's access to effective health care services and an improvement in vital health status indicators. Despite these achievements, several challenges remain, such as drafting a national action plan for public health, integrating primary care services, clearly distinguishing between the purchasing and the providing side of the health care market, tackling the high level of pharmaceutical expenditure and acting on the need to modernize the management of the NHS by introducing market mechanisms. The latest NHS reform (Law 2889/2001) underpinned the effort to infuse the NHS with private-sector efficiency tools but has remained largely inspirational and is currently under review.

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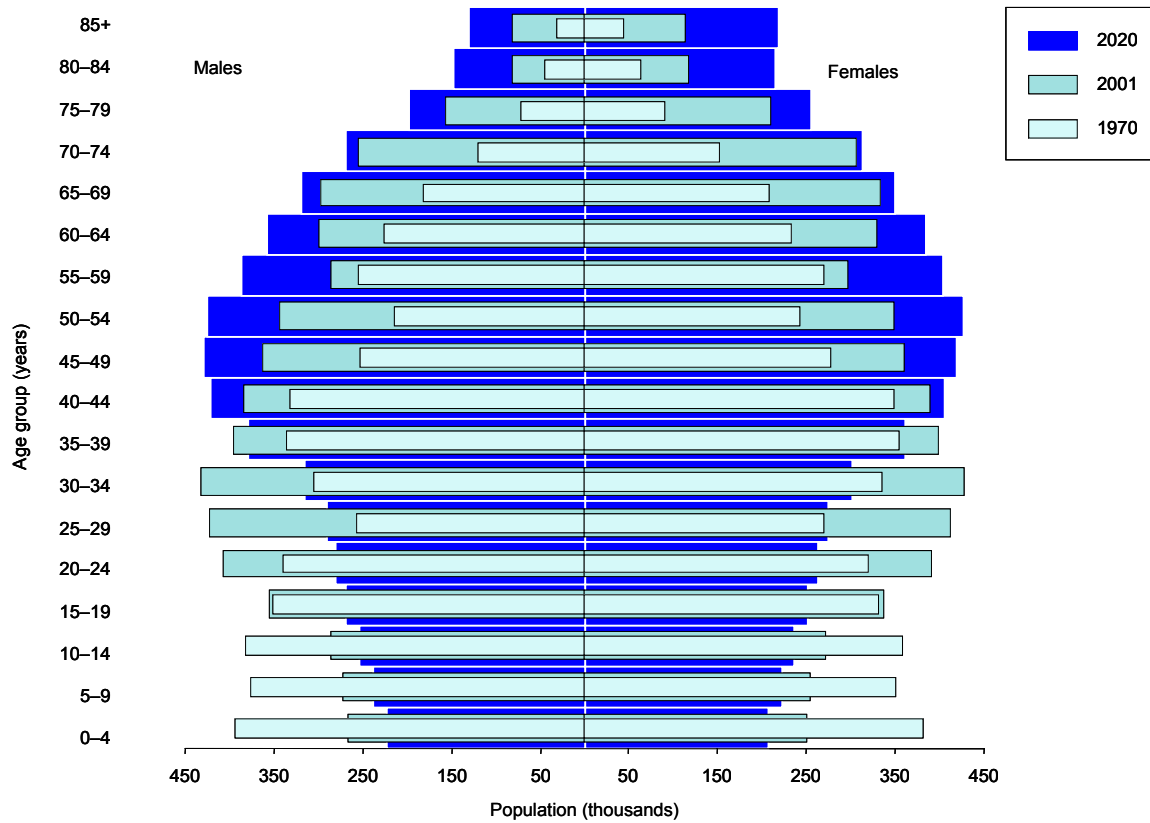
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Annexes

Annex. Age pyramid

Age pyramid for Greece



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

Annex. Selected mortality

Selected mortality in Greece compared with Eur-A averages

| Condition | SDR per 100 000 | | Excess mortality in Greece (%) | Total deaths in Greece (%) | Total deaths in Eur-A (%) |
|---|-----------------|----------------------|--------------------------------|----------------------------|---------------------------|
| | Greece (2001) | Eur-A average (2001) | | | |
| Selected noncommunicable conditions | 538.8 | 519.5 | 3.7 | 84.2 | 79.9 |
| <i>Cardiovascular diseases</i> | 312.5 | 246.3 | 26.9 | 48.8 | 37.9 |
| Ischaemic heart disease | 84.6 | 97.3 | - 13.1 | 13.2 | 15.0 |
| Cerebrovascular disease | 108.7 | 62.0 | 75.4 | 17.0 | 9.5 |
| Diseases of pulmonary circulation and other heart disease | 105.4 | 57.0 | 85.0 | 16.5 | 8.8 |
| <i>Malignant neoplasms</i> | 160.8 | 181.8 | - 11.6 | 25.1 | 28.0 |
| Trachea/bronchus/lung | 39.4 | 37.0 | 6.6 | 6.2 | 5.7 |
| Female breast | 21.6 | 27.1 | - 20.2 | 3.4 | 4.2 |
| Colon/rectal/anal | 11.6 | 20.7 | - 43.9 | 1.8 | 3.2 |
| Prostate | 16.8 | 25.0 | - 32.7 | 2.6 | 3.8 |
| <i>Respiratory diseases</i> | 48.0 | 47.7 | 0.5 | 7.5 | 7.3 |
| Chronic lower respiratory diseases | 8.7 | 20.0 | - 56.5 | 1.4 | 3.1 |
| Pneumonia | 5.3 | 16.5 | - 68.0 | 0.8 | 2.5 |
| <i>Digestive diseases</i> | 17.0 | 30.7 | - 44.7 | 2.7 | 4.7 |
| Chronic liver disease and cirrhosis | 5.0 | 12.8 | - 60.8 | 0.8 | 2.0 |
| <i>Neuropsychiatric disorders</i> | 0.5 | 13.0 | - 95.8 | 0.1 | 2.0 |
| Selected communicable conditions | 4.0 | 8.1 | - 50.9 | 0.6 | 1.2 |
| HIV/AIDS | 0.3 | 0.9 | - 69.7 | 0.0 | 0.1 |
| External causes | 36.8 | 39.5 | - 6.8 | 5.8 | 6.1 |
| <i>Selected unintentional causes</i> | 22.4 | 16.1 | 39.2 | 3.5 | 2.5 |
| Motor vehicle traffic injuries | 18.7 | 10.0 | 86.8 | 2.9 | 1.5 |
| Falls | 3.7 | 6.1 | - 39.2 | 0.6 | 0.9 |
| <i>Selected intentional causes</i> | 4.3 | 11.4 | - 62.1 | 0.7 | 1.8 |
| Self-inflicted (suicide) | 3.3 | 10.5 | - 68.9 | 0.5 | 1.6 |
| Violence (homicide) | 1.1 | 1.0 | 11.5 | 0.2 | 0.1 |
| Ill-defined conditions | 49.0 | 21.3 | 130.2 | 7.7 | 3.3 |
| All causes | 639.7 | 650.1 | - 1.6 | 100.0 | 100.0 |

Annex. Mortality data

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

| Causes of death | Sex | Greece (2001) | | Eur-A (2001) | | | |
|--------------------------------|------|---------------|------------|--------------|------------|---------|---------|
| | | Rate | Change (%) | Average | Change (%) | Minimum | Maximum |
| All causes | Both | 17.1 | -9.7 | 17.0 | -20.4 | 12.9 | 28.2 |
| | M | 19.8 | -9.0 | 19.2 | -20.3 | 12.6 | 32.2 |
| | F | 14.3 | -10.8 | 14.8 | -20.4 | 4.9 | 24.1 |
| <i>Cardiovascular diseases</i> | M | 0.4 | -65.8 | 0.9 | -26.0 | | 1.8 |
| | F | 1.1 | 330.8 | 1.0 | -21.8 | | 1.6 |
| Ischaemic heart disease | M | | | | -75.0 | | 0.6 |
| | F | | | | -66.7 | | 0.2 |
| Cerebrovascular disease | M | 0.3 | -59.0 | 0.2 | -44.4 | | 0.4 |
| | F | 0.7 | 176.9 | 0.2 | -39.4 | | 0.7 |
| Malignant neoplasms | M | 4.2 | -20.8 | 3.3 | -15.4 | | 5.1 |
| | F | 2.6 | -33.7 | 2.7 | -10.4 | | 4.9 |
| Lung cancer | M | 0.2 | -44.4 | | -80.0 | | 0.2 |
| | F | 0.3 | 115.4 | | | | 0.3 |
| Breast cancer | F | | | | -100.0 | | 0.1 |
| <i>Respiratory diseases</i> | M | 1.2 | 75.0 | 0.8 | -13.7 | | 3.0 |
| | F | 0.8 | 257.1 | 0.7 | -11.9 | | 2.4 |
| <i>Digestive diseases</i> | M | 0.4 | 30.3 | 0.3 | -21.6 | | 0.7 |
| | F | | | 0.2 | -25.0 | | 2.6 |
| <i>External causes</i> | M | 7.2 | -11.7 | 6.4 | -30.7 | 3.5 | 20.3 |
| | F | 4.7 | -13.3 | 4.0 | -24.3 | | 7.0 |
| Motor vehicle traffic injuries | M | 3.0 | -40.1 | 2.7 | -30.3 | | 8.0 |
| | F | 2.2 | -44.6 | 1.8 | -29.3 | | 4.1 |
| Suicide | M | 0.3 | | 0.4 | -11.9 | | 0.7 |
| | F | 0.1 | | 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 Greece and Eur-A:
SDR per 100 000 population and percentage changes from 1995 to latest available year

| Causes of death | Sex | Greece (2001) | | Eur-A (2001) | | | |
|--------------------------------|-----|---------------|------------|--------------|------------|---------|---------|
| | | Rate | Change (%) | Average | Change (%) | Minimum | Maximum |
| All causes | All | 66.3 | 4.4 | 53.1 | -13.2 | 37.4 | 69.7 |
| | M | 102.1 | 4.7 | 77.8 | -13.0 | 59.4 | 110.2 |
| | F | 28.7 | 3.5 | 27.7 | -13.2 | 13.9 | 34.8 |
| <i>Cardiovascular diseases</i> | M | 4.7 | 1.7 | 3.3 | -12.1 | | 5.7 |
| | F | 1.9 | 32.6 | 1.8 | -13.1 | | 2.9 |
| Ischaemic heart disease | M | 1.0 | 16.1 | 0.3 | -15.0 | | 1.6 |
| | F | 0.3 | 100.0 | 0.1 | -7.7 | | 0.7 |
| Cerebrovascular disease | M | 1.2 | -14.5 | 0.7 | -13.6 | | 1.4 |
| | F | 0.5 | -32.9 | 0.4 | -24.1 | | 1.4 |
| Malignant neoplasms | M | 5.0 | -23.1 | 5.4 | -7.9 | | 15.5 |
| | F | 3.2 | -24.4 | 3.7 | -7.9 | | 7.0 |
| Lung cancer | M | | | 0.1 | -50.0 | | 0.3 |
| | F | 0.2 | -42.3 | 0.0 | -33.3 | | 0.3 |
| Breast cancer | F | | | 0.1 | -16.7 | | 0.3 |
| <i>Respiratory diseases</i> | M | 2.9 | 28.9 | 1.1 | -25.7 | | 4.5 |
| | F | 2.0 | 48.5 | 0.8 | -18.8 | | 2.0 |
| <i>Digestive diseases</i> | M | 0.5 | -39.8 | 0.5 | -28.8 | | 1.2 |
| | F | | | 0.3 | -30.4 | | 1.1 |
| <i>External causes</i> | M | 82.2 | 9.0 | 54.9 | -12.0 | 33.0 | 96.5 |
| | F | 17.6 | 14.9 | 14.3 | -14.8 | 6.9 | 23.5 |
| Motor vehicle traffic injuries | M | 50.9 | -5.9 | 30.2 | -9.3 | 14.9 | 71.1 |
| | F | 11.8 | 19.3 | 8.1 | -10.7 | 2.6 | 14.3 |
| Suicide | M | 3.0 | -30.4 | 11.2 | -11.5 | | 36.7 |
| | F | 0.3 | -64.2 | 2.5 | -24.3 | | 7.5 |

NA = not applicable. Blank = rate < 0.1

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

| Causes of death | Sex | Greece (2001) | | Eur-A (2001) | | | |
|--------------------------------|-----|---------------|------------|--------------|------------|---------|---------|
| | | Rate | Change (%) | Average | Change (%) | Minimum | Maximum |
| All causes | All | 286.6 | -5.2 | 315.4 | -13.1 | 218.8 | 449.7 |
| | M | 409.7 | -3.6 | 425.4 | -14.3 | 276.0 | 661.7 |
| | F | 168.2 | -8.8 | 208.4 | -11.0 | 128.0 | 322.5 |
| <i>Cardiovascular diseases</i> | M | 144.8 | -2.2 | 110.6 | -20.8 | 72.2 | 225.0 |
| | F | 44.3 | -12.9 | 38.2 | -21.3 | 23.4 | 74.7 |
| Ischaemic heart disease | M | 90.1 | 5.2 | 59.8 | -24.6 | 35.2 | 108.6 |
| | F | 16.9 | -7.3 | 13.6 | -28.0 | 5.4 | 28.6 |
| Cerebrovascular disease | M | 25.9 | -10.1 | 17.4 | -22.0 | 7.5 | 56.6 |
| | F | 14.0 | -15.9 | 10.5 | -20.2 | 5.2 | 27.0 |
| Malignant neoplasms | M | 141.0 | -2.2 | 148.8 | -9.8 | 91.0 | 217.2 |
| | F | 82.3 | -4.7 | 102.4 | -7.7 | 76.1 | 155.2 |
| Lung cancer | M | 57.0 | 3.8 | 43.9 | -12.8 | 18.5 | 71.0 |
| | F | 8.5 | 5.5 | 13.3 | 11.7 | 6.9 | 32.8 |
| Breast cancer | F | 21.7 | -10.0 | 27.5 | -14.3 | 14.7 | 37.2 |
| <i>Respiratory diseases</i> | M | 15.8 | 11.2 | 15.8 | -19.2 | 8.5 | 29.7 |
| | F | 6.6 | 17.0 | 7.9 | -12.3 | 3.7 | 22.6 |
| <i>Digestive diseases</i> | M | 14.6 | -6.0 | 31.8 | -9.6 | 3.1 | 67.0 |
| | F | 4.2 | -3.7 | 13.4 | -7.5 | 4.2 | 26.2 |
| <i>External causes</i> | M | 63.3 | -8.3 | 59.9 | -10.5 | 28.2 | 120.7 |
| | F | 15.0 | -14.2 | 17.8 | -10.6 | | 33.1 |
| Motor vehicle traffic injuries | M | 27.9 | -24.8 | 15.8 | -7.8 | 6.5 | 34.0 |
| | F | 7.4 | -27.4 | 4.3 | -14.4 | | 7.4 |
| Suicide | M | 6.6 | -3.2 | 21.2 | -9.0 | 6.6 | 56.4 |
| | F | 1.1 | -23.4 | 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 Greece and Eur-A:
SDR per 100 000 population and percentage changes from 1995 to latest available year

| Causes of death | Sex | Greece (2001) | | Eur-A (2001) | | | |
|--------------------------------|-----|---------------|------------|--------------|------------|---------|---------|
| | | Rate | Change (%) | Average | Change (%) | Minimum | Maximum |
| All causes | All | 4242.3 | -9.3 | 4199.5 | -11.5 | 3714.4 | 6010.0 |
| | M | 4837.6 | -9.6 | 5328.5 | -13.2 | 4658.1 | 7580.8 |
| | F | 3755.6 | -9.2 | 3460.2 | -11.5 | 2937.7 | 5088.6 |
| <i>Cardiovascular diseases</i> | M | 2364.0 | -13.9 | 2232.9 | -23.4 | 1614.4 | 4272.2 |
| | F | 2224.2 | -11.4 | 1613.4 | -21.7 | 1027.5 | 3314.3 |
| Ischaemic heart disease | M | 663.4 | -11.6 | 948.2 | -20.3 | 517.5 | 1702.7 |
| | F | 393.7 | -9.2 | 539.5 | -17.4 | 244.7 | 1084.7 |
| Cerebrovascular disease | M | 802.2 | -15.4 | 536.2 | -35.9 | 324.8 | 1302.3 |
| | F | 897.5 | -14.2 | 457.0 | -32.6 | 170.4 | 1018.5 |
| Malignant neoplasms | M | 1296.8 | -0.0 | 1482.9 | -12.1 | 1175.1 | 1900.6 |
| | F | 639.3 | 4.1 | 749.8 | -9.4 | 589.1 | 1088.5 |
| Lung cancer | M | 379.3 | -3.9 | 371.8 | -22.0 | 196.0 | 615.4 |
| | F | 56.3 | -0.5 | 81.7 | 15.6 | 13.8 | 213.2 |
| Breast cancer | F | 102.1 | 11.9 | 113.9 | -10.1 | 83.3 | 164.1 |
| <i>Respiratory diseases</i> | M | 387.6 | 8.3 | 545.9 | -13.6 | 371.8 | 1115.6 |
| | F | 258.3 | 5.0 | 266.5 | -13.9 | 157.9 | 716.3 |
| <i>Digestive diseases</i> | M | 117.8 | -14.1 | 205.0 | -10.5 | 117.8 | 342.9 |
| | F | 77.8 | -19.1 | 143.3 | -20.3 | 77.8 | 196.0 |
| <i>External causes</i> | M | 101.5 | -8.8 | 152.6 | 2.0 | 80.6 | 282.8 |
| | F | 41.3 | -18.0 | 91.0 | 0.7 | 41.3 | 157.3 |
| Motor vehicle traffic injuries | M | 40.5 | -15.0 | 20.4 | -15.3 | 8.7 | 46.0 |
| | F | 14.0 | -28.6 | 7.9 | 5.4 | 0.0 | 15.5 |
| Suicide | M | 8.8 | -21.8 | 34.3 | -13.5 | 8.8 | 86.1 |
| | F | 1.4 | -27.0 | 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 (2004) 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 (2004) 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

| <i>Causes of death</i> | <i>ICD-10 code</i> |
|---|---|
| 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 |
| <i>Technical terminology</i> | |
| 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).