WORLD HEALTH ORGANIZATION
EUROPE

Highlights on health in Portugal

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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Summary: findings and policy options

Life expectancy

Despite a gain of 4.5 years over the past 20 years, Portuguese people have one of the lowest levels of life expectancy in the Eur-A. Girls born in 2002 can expect to live almost 81 years and boys slightly less than 74 years, which is 1.5 and 2.0 years less than their Eur-A counterparts, respectively. Portuguese babies now reach their first birthday as often as in the Eur-A, with a major improvement especially in survival during the first month of life. However, the majority of people in Portugal rate their health as being poor or very poor.

Increasing the duration of life in Portugal to Eur-A levels is a public health challenge. An important step would be systematically investigating the availability and quality of cost-effective services or programmes related to the main causes of excess deaths and excess burden of disease experienced by the Portuguese. Particular attention should be given to preventive actions and primary care. Preventive care, delivered through a country's primary care system can improve all-cause mortality and premature mortality, particularly from CVD.

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)

Main causes of death

Similar to the other Eur-A countries, most Portuguese die from noncommunicable diseases. Mortality from cardiovascular diseases (CVD) is higher than in the Eur-A, but its two main components, ischaemic heart disease and cerebrovascular disease, display inverse trends compared with the Eur-A, with cerebrovascular disease being the single biggest killer in Portugal (17%).

Portuguese people die 12% less often from cancer than in the Eur-A, but mortality is not declining as rapidly as in the Eur-A. Cancer is more frequent among children as well as among women younger than 44 years. Although lung cancer (slowly increasing among women) and breast cancer (decreasing rapidly) are scarcer, cancer of the cervix and the prostate are more frequent.

Portugal has the highest mortality rate for diabetes in the Eur-A, with a sharp increase since the late 1980s.

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, 2004d)

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

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)

Injuries and mental health

Intentional and unintentional injuries account for 7% of all deaths in the Portuguese population, especially traffic injuries. Children aged 1–14 years, and men, especially those 65 years and older, are at much higher risk than their Eur-A counterparts. Very recently, there has been a rise in homicides, which deserves further monitoring.

Historically, injuries, and motor vehicle traffic injuries in particular, have been neglected because they were seen as random events. Injuries are now known to be preventable. Seat-belts, child car seats,

motorcycle helmets, designated drivers (ensuring that the driver remains sober), traffic calming and other measures have proven to be effective. Greater political commitment to prevention is needed.

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

A 5-year WHO strategy for road traffic injury prevention (WHO, 2001a)

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

World report on road traffic injury prevention (Peden et al., 2004)

Communicable diseases

Infectious diseases take more lives in Portugal than in the Eur-A, mainly through HIV, tuberculosis and hepatitis B and C infections. They put a higher-than-average burden on the Portuguese: 6% of the total burden of disease for men and 3% for women.

Both mortality and incidence rates of HIV/AIDS are the highest in the Eur-A. The main vector for transmission in Portugal is drug injection (half of the cases).

TB is in the highest range for the Eur-A countries. It remains a threat to public health in Portugal, especially among men aged 60 years and older, but also killing people 15–29 years old three to five times more often than in the Eur-A.

HIV/AIDS and TB, separately and in association, may be linked to poverty, a relative overcrowding of prisons, and drug use, among other factors. 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 or make them more vulnerable.

Risk populations such as new immigrants or migrants from areas with high TB incidence need focused preventive interventions.

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, 2004c)

European framework to decrease the burden of TB/HIV (De Colombani et al., 2003)

Global tuberculosis control. Surveillance, planning, financing (WHO, 2004a)

The mortality and incidence rates of hepatitis C and B have dropped sharply in the general Portuguese population. However, high-risk groups exist, such as drug users.

The key to effective prevention of hepatitis C and B is to reduce the number of people who start to inject drugs – a common vector for HIV – 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)

Alcohol

Alcohol consumption has been 15% higher in Portugal than in the Eur-A for the last two decades, inducing adverse effects, measured in particular by the mortality from liver cirrhosis and other digestive diseases (both in the highest range of Eur-A countries, especially among men). The relationship between

alcohol consumption and motor vehicle traffic injuries deserves further investigation, as the same gender and age high-risk subgroups of the population overlap.

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)

Excess weight

Portuguese people consume more fruits and vegetables than the Eur-A average. Although Portugal is part of the Mediterranean belt of healthy diet, obesity and CVD are as frequent or more frequent than in the Eur-A.

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

Tobacco consumption in Portugal was once one of the lowest in the Eur-A but has now caught up with the average. Smoking is still less common among Portuguese girls and young women but is increasing rapidly.

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, 2004e)

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

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

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

Selected demographic information

Population profile

Portugal had a population of just over 10 million at the start of 2003. The most rural country in the Eur-A in the 1970s, it still has one of the lowest percentages of urban population among the Eur-A countries, and the only one steadily increasing since 1995.

Selected demographic indicators in Portugal and Eur-A, 2002 or latest available year

Indicators	Portugal	Eur-A		
	Value	Average	Minimum	Maximum
Population (in 1000s)[a]	10 407.4	–	–	–
0–14 years (%)	15.9	–	–	–
15–64 years (%)	67.5	–	–	–
65+ years (%)	16.6	–	–	–
Urban population (%)[b, c]	65.6	79.5	49.2	100.0
Live births (per 1000)[d]	11.0	11.3	8.7	21.2
Natural population growth (per 1000)	0.7	1.1	–2.4	15.5
Net migration (per 1000)[d]	6.8	3.5	–9.6	17.3

[a] As of 1 January 2003.

[b] 2001.

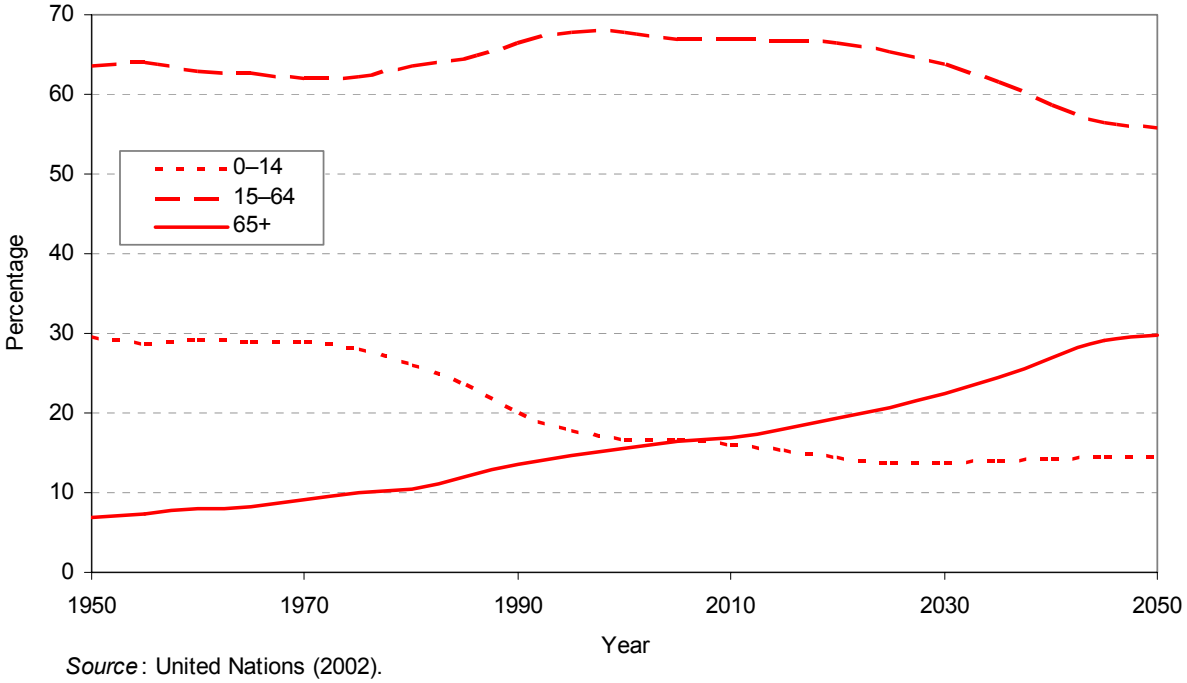
[c] Including Andorra and Monaco.

[d] Including Andorra.

Sources: Council of Europe (2003), WHO Regional Office for Europe (2004b); Central Bureau of Statistics of Israel (2003) for data on Israel.

The most striking demographic feature for the country, observed in the majority of the Eur-A countries, is the increasing proportion of the elderly in the population. As the large birth cohorts of the late 1940s approach their retirement age, the number of Portuguese aged 65 years and older is expected to grow from about 17% of the population in 2003 (Council of Europe, 2003) to an estimated 23% in 2030 (Annex. Age pyramid).

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



Source: United Nations (2002).

Since the mid-1990s, Portugal's birth rate has been slightly higher than in the Eur-A; it has remained constant while the Eur-A average has been slowly decreasing. Nevertheless, Portugal's positive rate of net migration has caused its population to grow.

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, 2001). 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, Portugal has the highest level of income inequality (38.5) in the Eur-A, with a worse distribution of wealth than the Eur-A average of 30.8 (UNDP, 2004).

Overall unemployment in Portugal was 6.3% in 2003, comparable to Eur-A (UNSD, 2004). However, it was higher among women than among men (7.2% versus 5.5%). More people 15–24 years old are unemployed: 7.2% among men and 11.9% among women in 2001 (UNECE, 2003). More than 90% of unemployed Portuguese people had an educational attainment of secondary education or less. Thirty-eight percent of those 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 population figures for various vulnerable groups in Portugal. 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 Portugal

Population	1992	1995	1998	2001	2004 (estimate)
Immigrants	–	–	6485	19 028	
Refugees	–	–	–	–	
Prison inmates (per 100 000 national population)	93	124	146	131	130

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, Portugal reported a high 122% occupancy level for its prisons, based on official capacity (International Centre for Prison Studies, 2004).

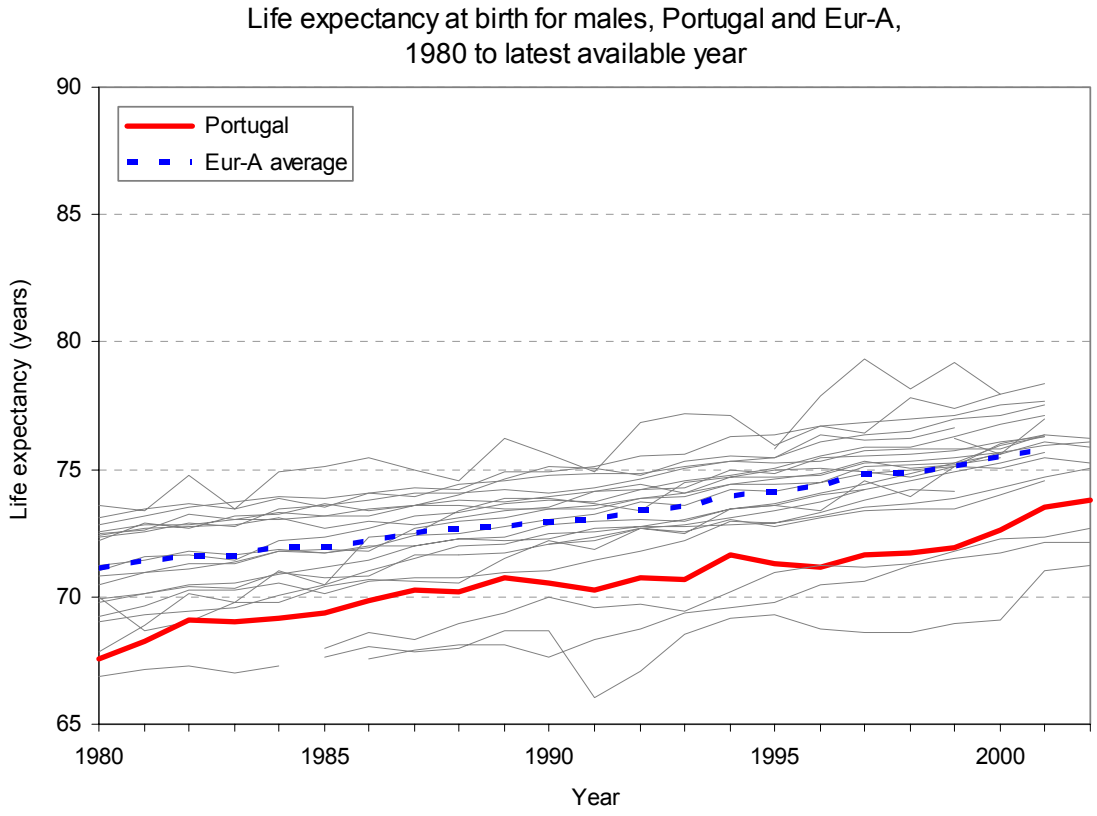
Burden of disease

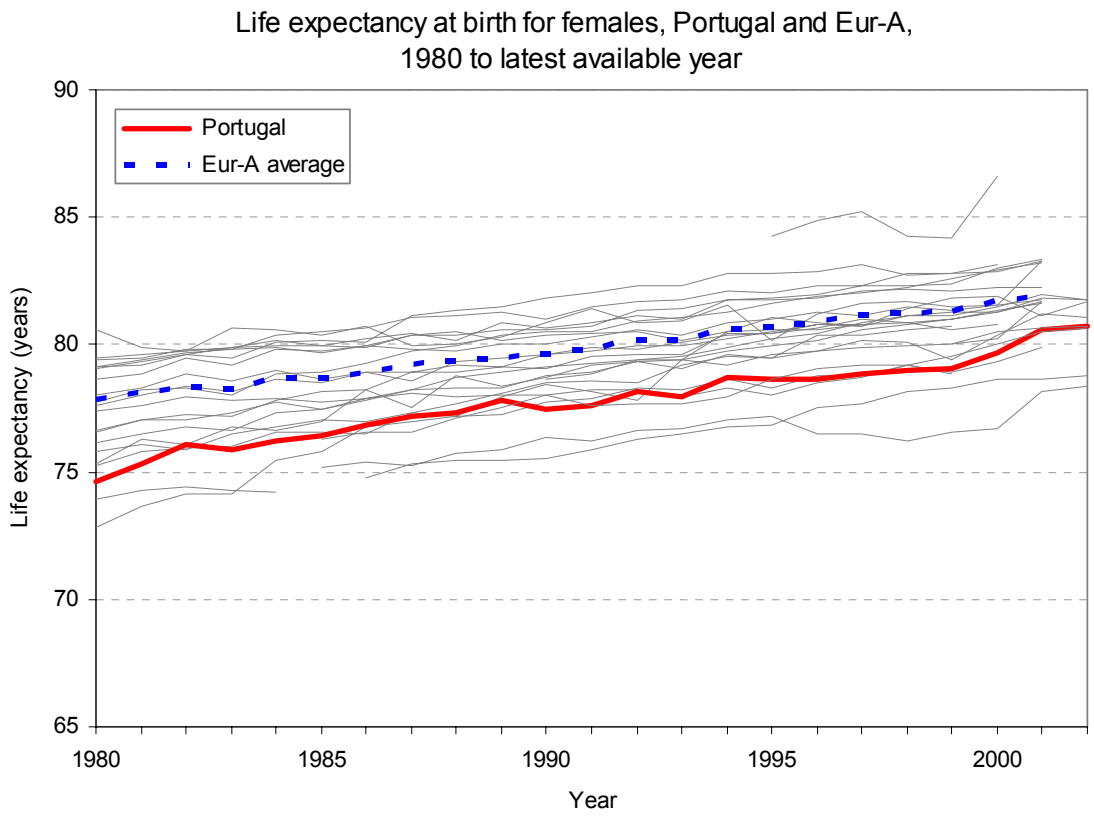
The burden of disease can be viewed as the gap between current health status and an ideal situation in which everyone lives into old age free of disease and disability. Causing the gap are premature mortality, disability and certain risk factors that contribute to illness. The analysis that follows elaborates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

Life expectancy and healthy life expectancy

According to WHO (2003c) estimates, a Portuguese person born in 2002 could expect to live 77 years on average, one of the lowest in the Eur-A countries. Women live longer than men: 80.5 years versus 73.6 years.

Over the past 20 years, according to estimates reported by Portugal, Portuguese people have gained about 4.5 years in life expectancy (LE) for both genders. Although this represents almost a 7% improvement, Portuguese people can still expect to die about 1.5 years earlier than their Eur-A counterparts, with this being 2 years earlier for men.

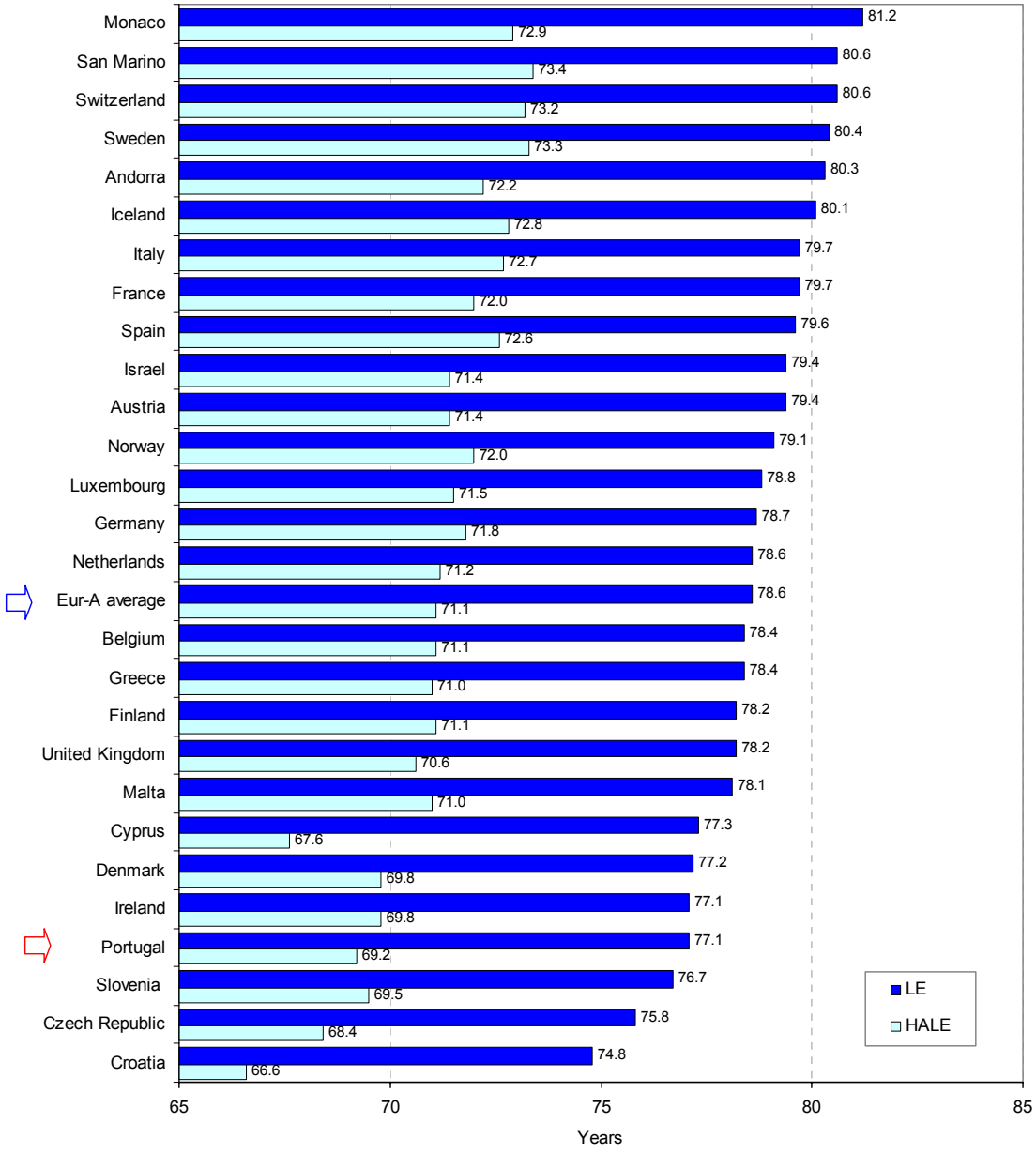




In addition, WHO (2003c) estimates that, on average, Portuguese people can expect to be healthy for about 90% of their lives. They lose on average 7.8 years to illness – the difference between LE and healthy life expectancy (HALE).

Since women live longer than men and the possibility of health deteriorating increases with age, women lose more healthy years of life (8.8) than men (6.9). Nevertheless, a longer female LE gives Portuguese women 5 more years of healthy life than men.

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

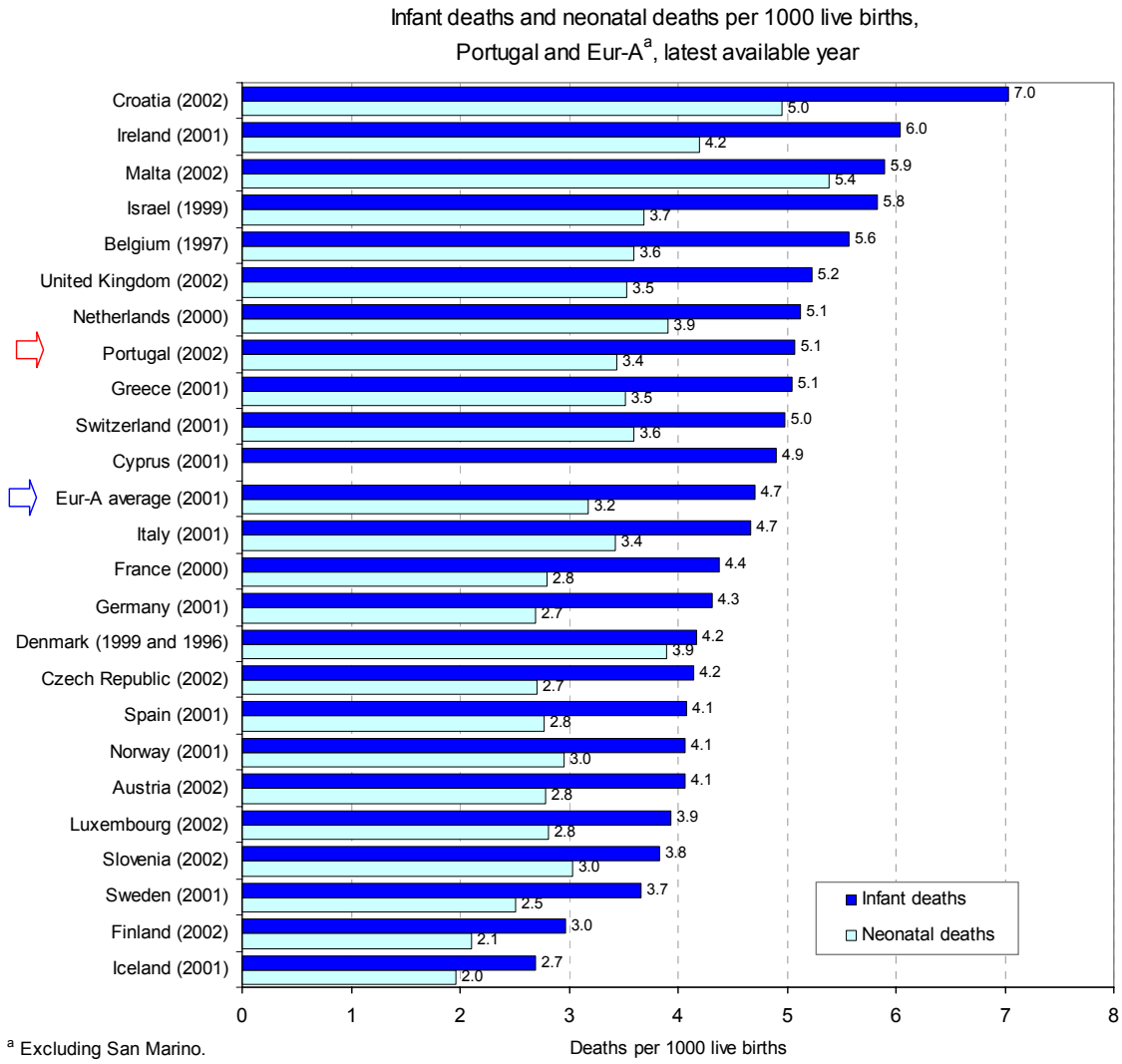


[a] Including Andorra and Monaco.
Source: WHO (2003c).

Mortality

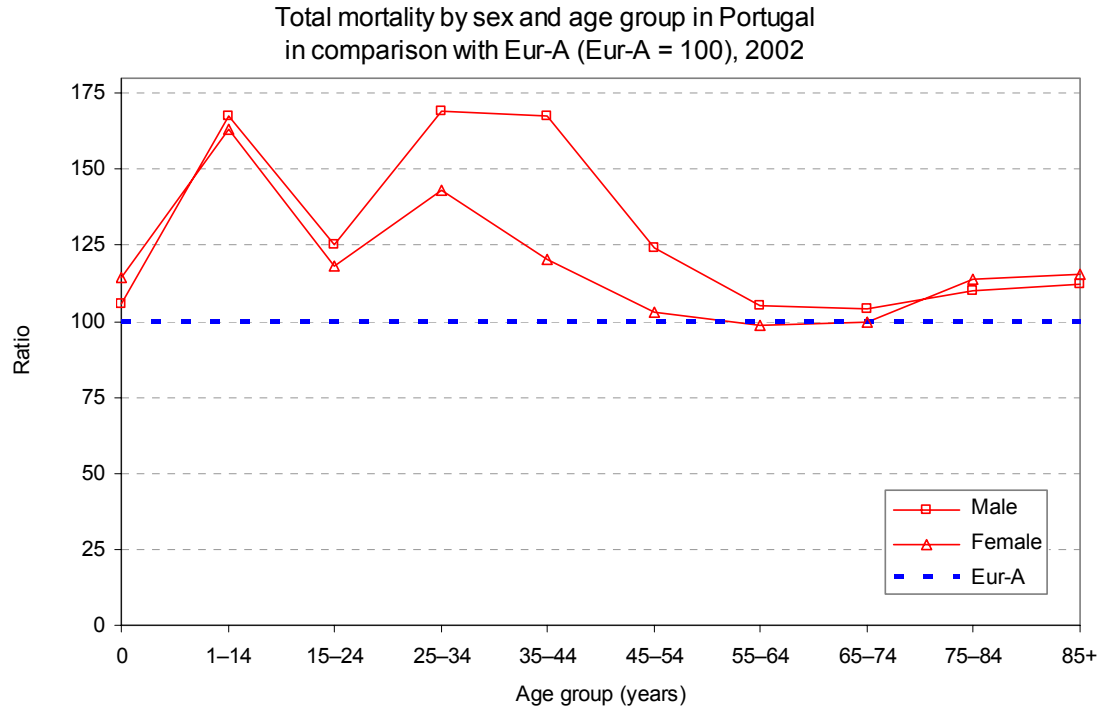
Infant mortality and neonatal death

Portugal's infant mortality rate has dropped sharply since the 1980s, when 24 of 1000 newborns died in the first year of life. It is now close to the Eur-A average. This improvement was mainly due to the decrease in neonatal mortality, from 15.5 to 3.4 per 1000 live births.

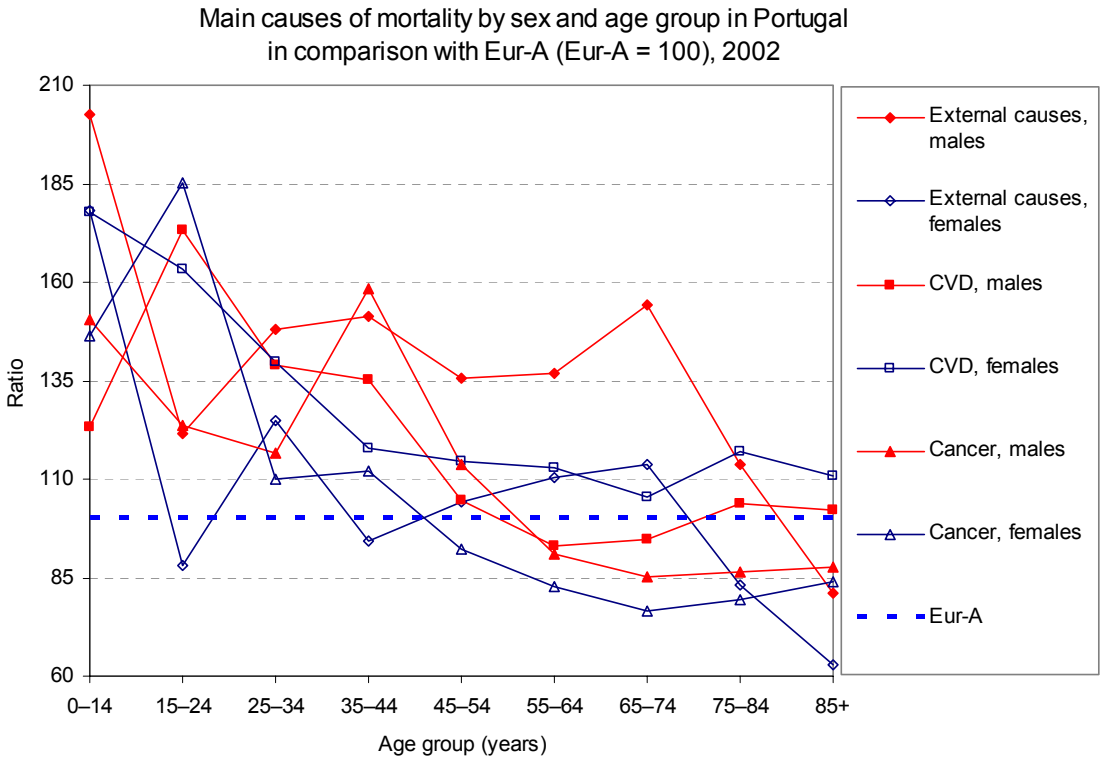


Excess mortality

Throughout life and for both genders, the Portuguese population has marked excess mortality compared with the Eur-A, especially among children (60–70% excess), men 25–44 years old and, to a lesser extent, old people. This pattern is not found in neighbouring Spain, for instance.



External causes appeared to play the most important role in causing this excess among men in 2002, followed by CVD (mainly before 45 years) and cancer (mainly at 35–44 years of age). For females, CVD deaths are the most consistently in excess (by 10–80%), followed by cancer at young ages (50–90% excess) and external causes (during childhood and between 25 and 34 years of age).



Compared with Eur-A, the largest excess mortality by specific causes in Portugal in 2002 was for cerebrovascular diseases (twice as high as the Eur-A). It was followed by selected communicable diseases

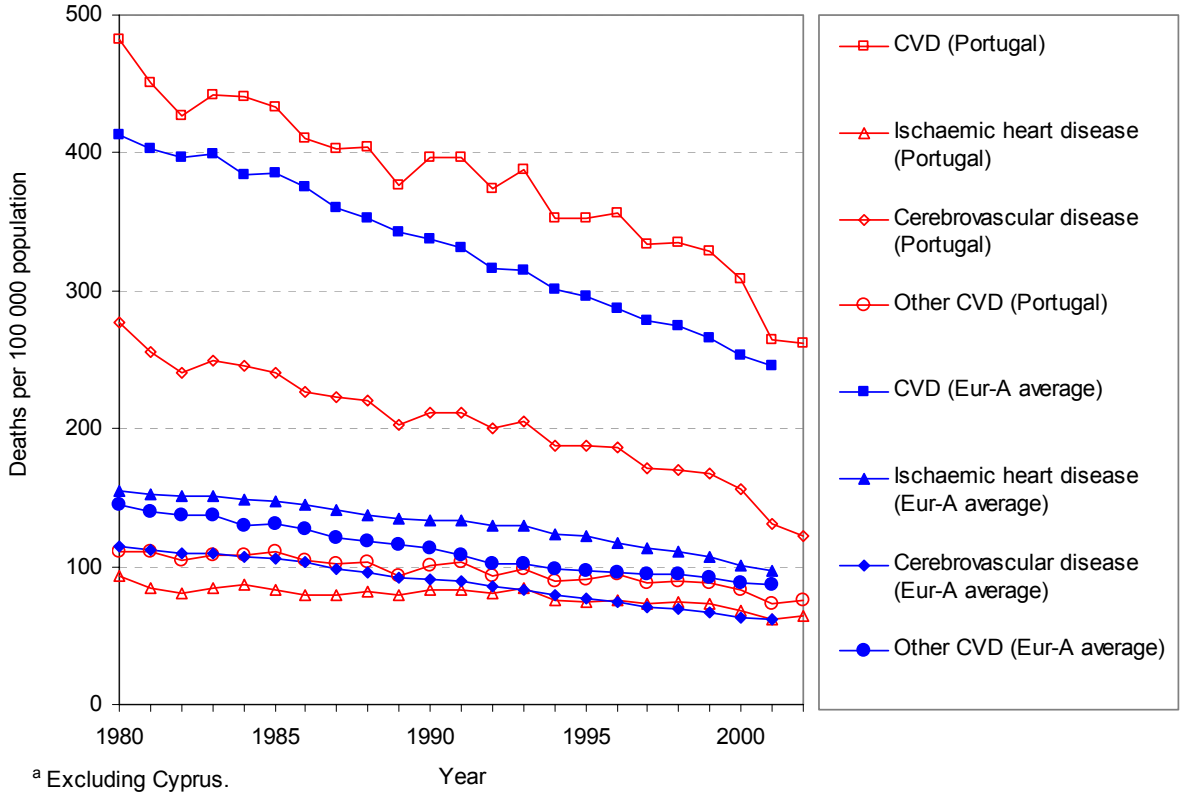
(also twice the Eur-A rate), respiratory diseases (one quarter higher) and external causes, mainly traffic injuries (almost twice the Eur-A rate) and homicide (about 70% excess, Annex, selected mortality).

Main causes of death

In 2002, noncommunicable diseases accounted for 72% of all deaths in Portugal (10% less than in the Eur-A, but more deaths were not classified in Portugal), external causes for 7% and communicable diseases for 2% (Annex, selected mortality).

Similar to the other Eur-A countries, and despite a steady decline since the 1980s, cardiovascular diseases are the main killer in Portugal, causing 36% of all deaths (Annex, selected mortality).

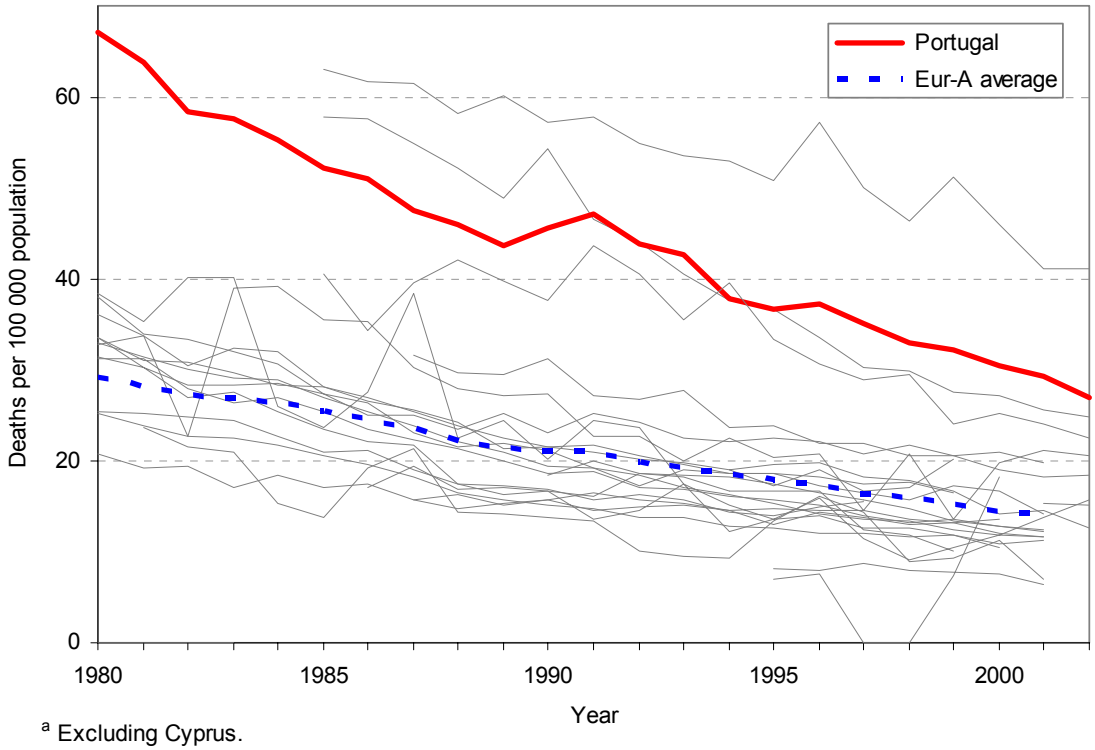
Standardized death rates (SDR) for cardiovascular diseases, all ages, both sexes, Portugal and Eur-A[a], 1980 to latest available year



[a] Excluding Cyprus.

On the one hand, Portuguese people of both genders have always died less often from ischaemic heart disease than in the Eur-A (a third lower in 2002). On the other hand, fatal cerebrovascular disease appears more frequent. Portugal actually long had the highest rate in the Eur-A but now ranks just below Croatia and the Czech Republic. Cerebrovascular disease affects both men and women aged 25–64 years about twice as often as their Eur-A counterparts (Annex, mortality data). This unusual trend already starts before age 25 years, is then observed within all age subgroups in the active population and persists into older ages. Country-specific coding practices could be an explanation.

SDR for cerebrovascular diseases in people aged 25–64 years, both sexes, Portugal and Eur-A[a], 1980 to latest available year



[a] Excluding Cyprus.

Cancer remains the second cause of death after CVD. Although it is globally 12% lower than the Eur-A, the death rate in Portugal remains stable, whereas the Eur-A average is declining steadily. Since 1995, children's deaths from cancer have increased by 40% in boys and are above Eur-A averages for both genders (Annex, mortality data). Otherwise stable, the overall mortality from cancer tends to increase for men aged 30–44 years (higher than in the Eur-A since the early 1990s and by 45% in 2001) and for those aged 45–59 years, who have now caught up with the Eur-A average. Rates are decreasing for women, in parallel with the Eur-A average, but under the age of 44 years they remain higher (9% higher among people 30–44 years old).

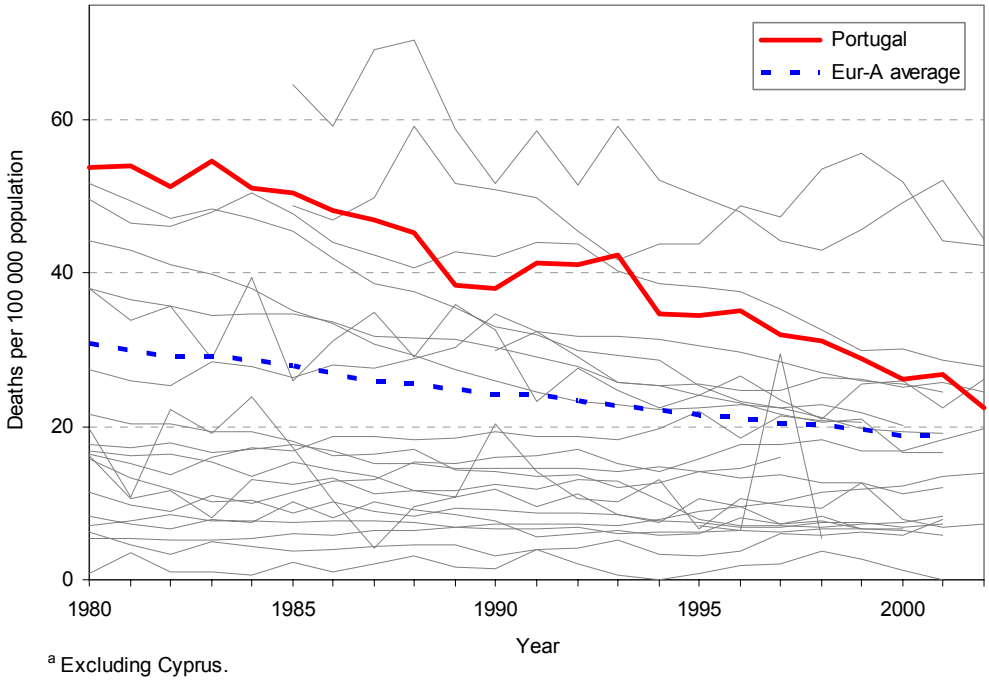
Similar to most Eur-A countries, mortality from lung cancer is increasing slowly among women aged 25–64 years, although it is still half the Eur-A average (Annex, mortality data). The corresponding rate for men remains stable, whereas it is decreasing in the Eur-A.

Since the 1990s, Portuguese women have died more often from cancer of the cervix than their Eur-A counterparts (almost twice as often in 2001 among women 25–64 years old), and the rate is increasing while it is decreasing in the Eur-A. Portuguese women have a lower chance than their Eur-A counterparts of dying from breast cancer while in their active years (14% lower) as well as after retirement age. The mortality rate is decreasing rapidly, similar to the rest of the Eur-A. Men have a 9% higher chance of dying from prostate cancer than in the Eur-A (Annex, selected mortality). This excess is concentrated after the age of 75 years.

Portugal has the highest mortality rate for diabetes in the Eur-A, at 26 versus 14 per 100 000 population. It has increased sharply during the mid-1980s in both genders.

Between the ages of 25 and 64 years, mortality from digestive diseases is 10% higher than in the Eur-A and affects more men than women: 45 versus 15 per 100 000 (32 and 13 per 100 000 respectively in the Eur-A) (Annex, mortality data). Despite a steady decrease, its main component, chronic liver disease and cirrhosis, remains one of the highest among men in the Eur-A.

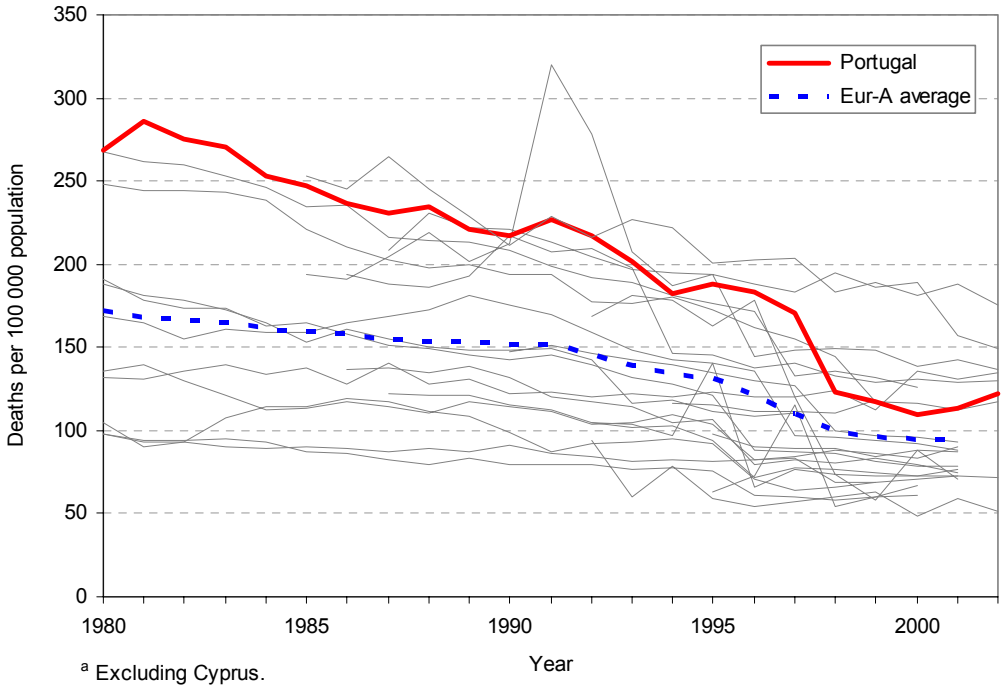
SDR for chronic liver disease and cirrhosis in males, all ages,
Portugal and Eur-A[a], 1980 to latest available year



[a] Excluding Cyprus.

Adverse effects of alcohol abuse may play a role, since mortality for alcohol-related causes for Portuguese men was also higher than in the Eur-A, despite a decreasing trend as well.

SDR for alcohol-related causes in males, all ages,
Portugal and Eur-A[a], 1980 to latest available year

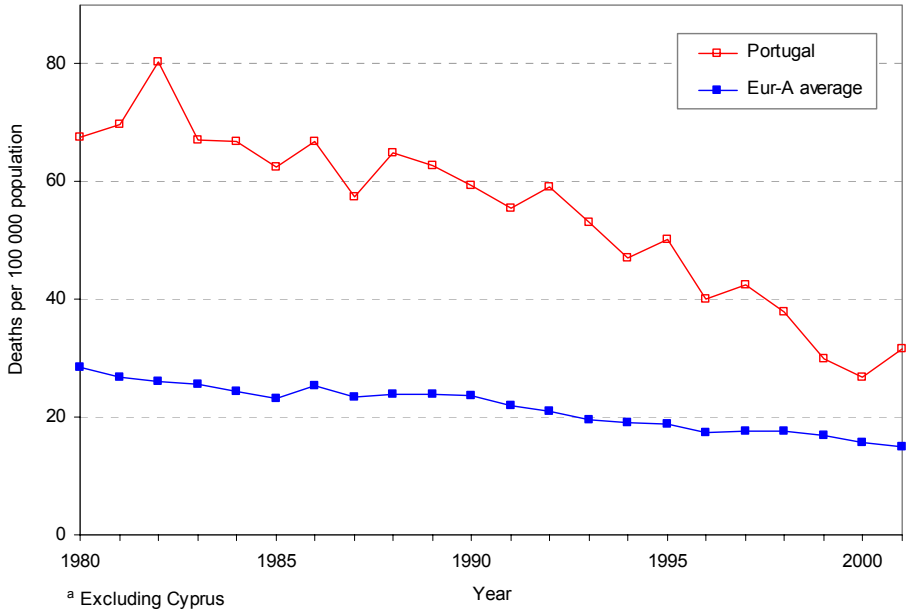


[a] Excluding Cyprus.

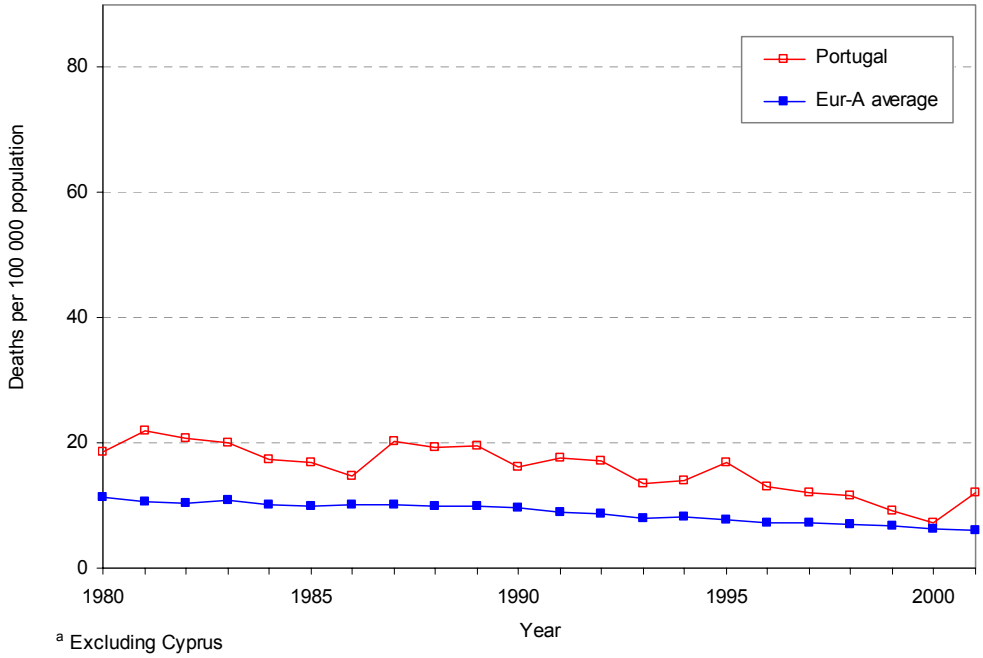
External causes, mainly motor vehicle traffic injuries, are the main cause of death among Portuguese children aged 1–14 years, who experience one of the highest rates in the Eur-A in both genders, although it dropped by a third (Annex, mortality data). Injuries in general, and in traffic in particular, affect males disproportionately at all ages, but especially between 60 and 74 years. However, both Portuguese men (31

versus 15.5 per 100 000 population) and women (7.7 versus 4.7 per 100 000 population) die more often in traffic than the Eur-A average.

SDR for motor vehicle traffic accidents in males aged 60–74 years, Portugal and Eur-A[a], 1980 to latest available year



SDR for motor vehicle traffic accidents in females aged 60–74 years, Portugal and Eur-A[a], 1980 to latest available year

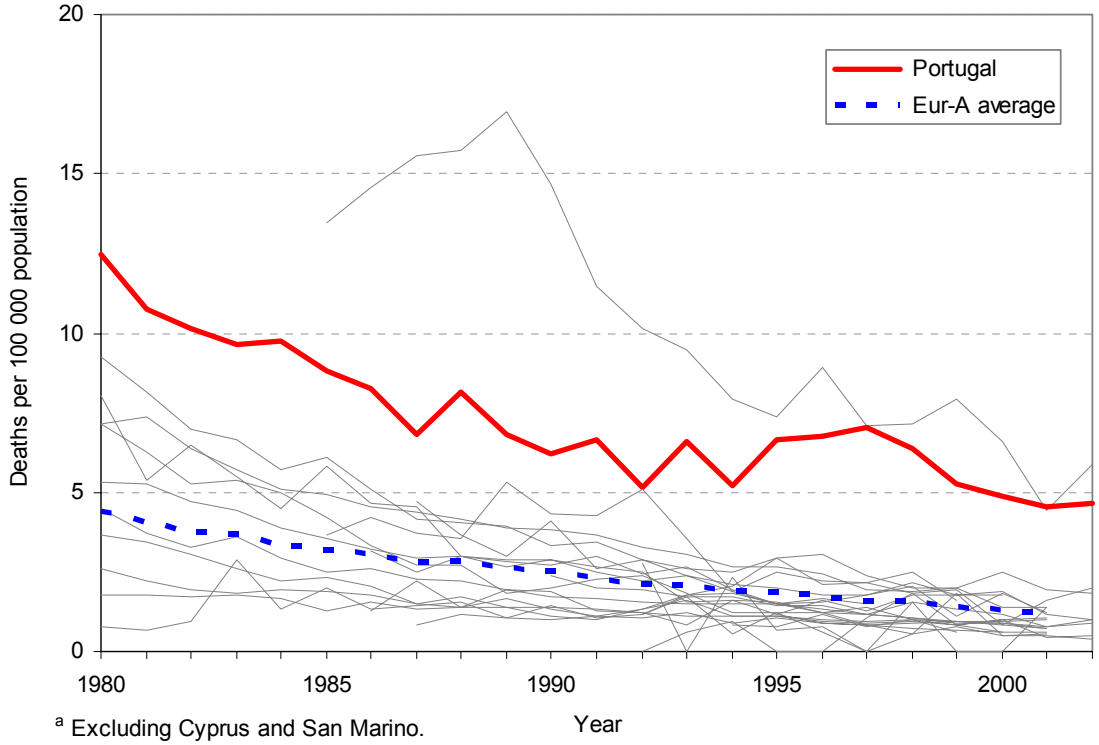


Homicides have risen in both genders after 2000, between 15 and 44 years of age (about 4 deaths per 100 000 men and 1.5 per 100 000 women), corresponding to three times the Eur-A average for men and two times for women.

Mortality from infectious and parasitic diseases in Portugal is among the highest of the Eur-A countries and has tended to increase more rapidly than in the Eur-A since the mid-1990s. A major component of it is AIDS (see the section on HIV), but TB remains a killer, with Portugal consistently having the second highest rate in the Eur-A after Croatia: 2.6 per 100 000 population in 2002 versus 0.8

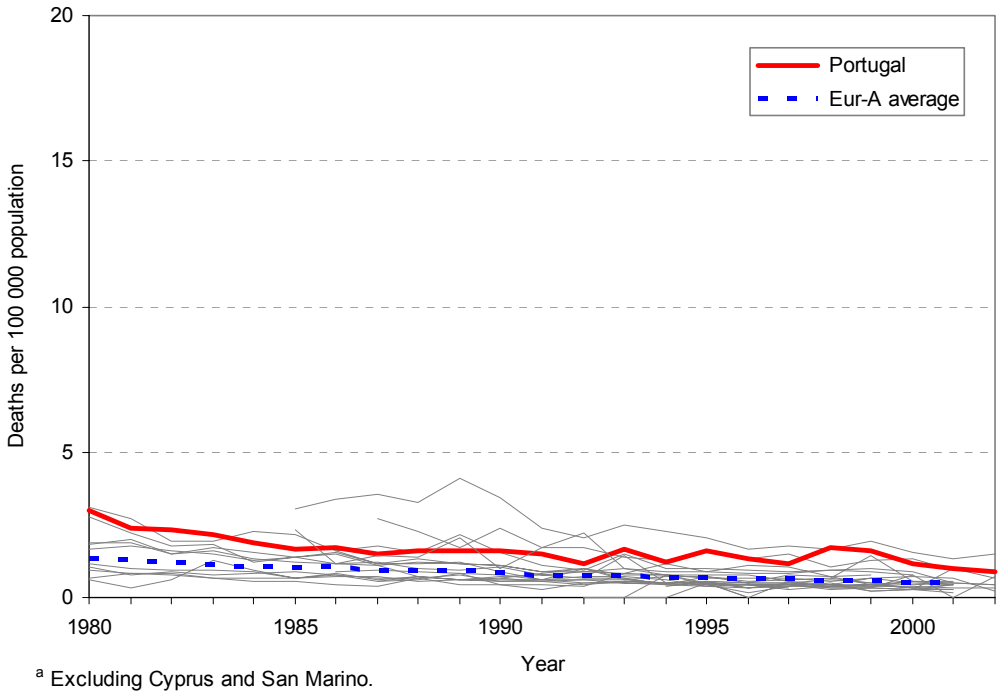
in the Eur-A. The mortality rate for TB has not dropped as fast as the Eur-A average since 1995: by 43% versus 55% among men. According to country sources, a particularly high case detection rate of 93% may play a role. Older Portuguese people who were exposed to TB in the 1940s and 1950s are predominantly affected, especially men. However, TB also kills young people aged 15–29 years of both genders 3–5 times more often than the Eur-A average.

SDR for TB in males, all ages,
Portugal and Eur-A[a], 1980 to latest available year



[a] Excluding Cyprus and San Marino.

SDR for TB in females, all ages,
Portugal and Eur-A[a], 1980 to latest available year



[a] Excluding Cyprus and San Marino.

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 Portugal in terms of DALYs.

For both men and women, neuropsychiatric disorders account for the highest burden of disease in Portugal, representing one fourth of the total disease burden for women. Since mortality for these disorders is comparatively low, especially in Portugal (one third of the Eur-A average) (Annex, selected mortality), most of the burden arises from their impact on daily living. Cardiovascular diseases account for the second highest burden for both gender, followed by cancer. Unintentional injuries rank fourth among men and ninth among women. Infectious diseases still represent a high burden of disease, especially for men.

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

Rank	Males		Females	
	Disability groups	**Total DALYs (%)**	**Disability groups**	**Total DALYs (%)**
1	Neuropsychiatric conditions	20.5	Neuropsychiatric conditions	25.6
2	Cardiovascular diseases	18.4	Cardiovascular diseases	18.8
3	Malignant neoplasms	15.6	Malignant neoplasms	14.8
4	Unintentional injuries	8.3	Respiratory diseases	7.0
5	Respiratory diseases	7.7	Musculoskeletal diseases	5.1
6	Digestive diseases	6.2	Sense organ diseases	5.0
7	Infectious and parasitic diseases	6.1	Digestive diseases	4.1
8	Sense organ diseases	3.4	Diabetes mellitus	3.6
9	Musculoskeletal diseases	2.5	Unintentional injuries	3.3
10	Diabetes mellitus	2.4	Infectious and parasitic diseases	3.0

Source: Background data from WHO (2003c).

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 previous table, risk factors are estimated to contribute differently to the burden of illness and death in a population. The degree to which the Portuguese 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 developed countries

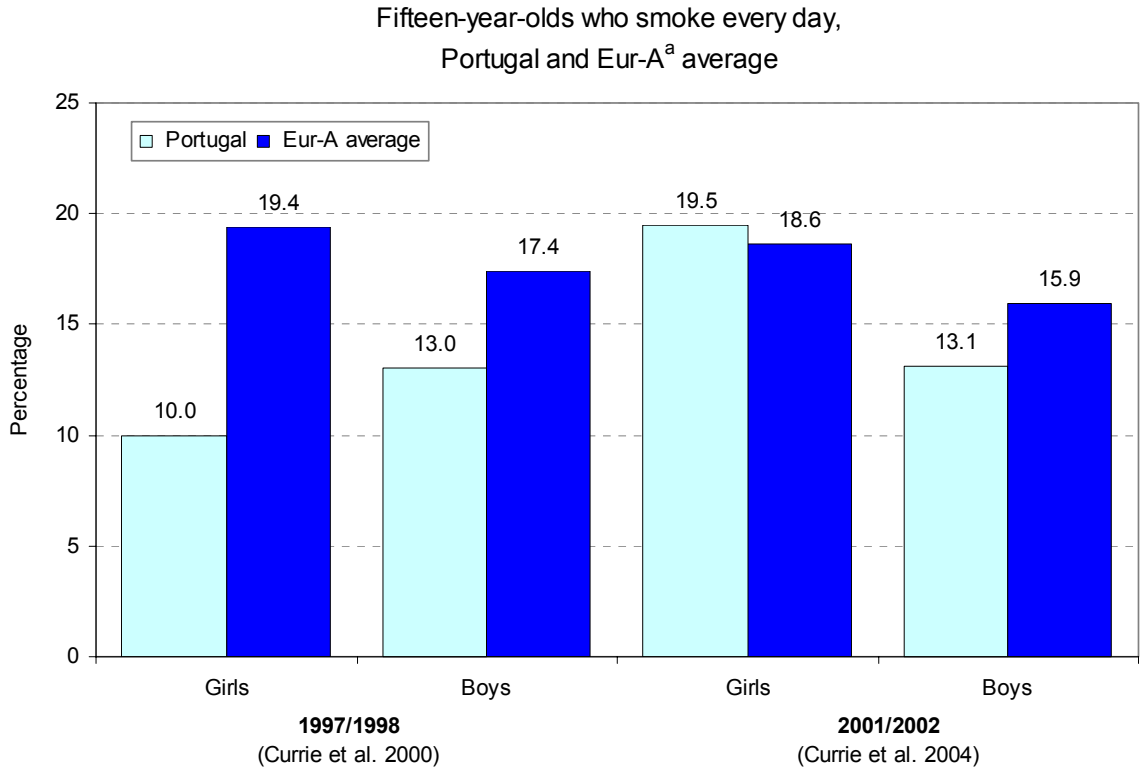
Risk factors	Total DALYs (%)
Tobacco	12.2
Blood pressure	10.9
Alcohol	9.2
Cholesterol	7.6
Overweight	7.4
Low fruit and vegetable intake	3.9
Physical inactivity	3.3
Illicit drugs	1.8
Unsafe sex	0.8
Iron deficiency	0.7

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, 2004f). 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).

Unfortunately, since the 1990s, the consumption of cigarettes per person in Portugal has caught up with the Eur-A average, according to official statistics for production, import and export. This does not include consumption of additional cigarettes available unofficially, for example through smuggling across borders and bootlegging. The smoking prevalence among 15-year-olds has remained the same for boys since 1997 at a relatively low 13% but doubled among girls, who are now at the Eur-A average.



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

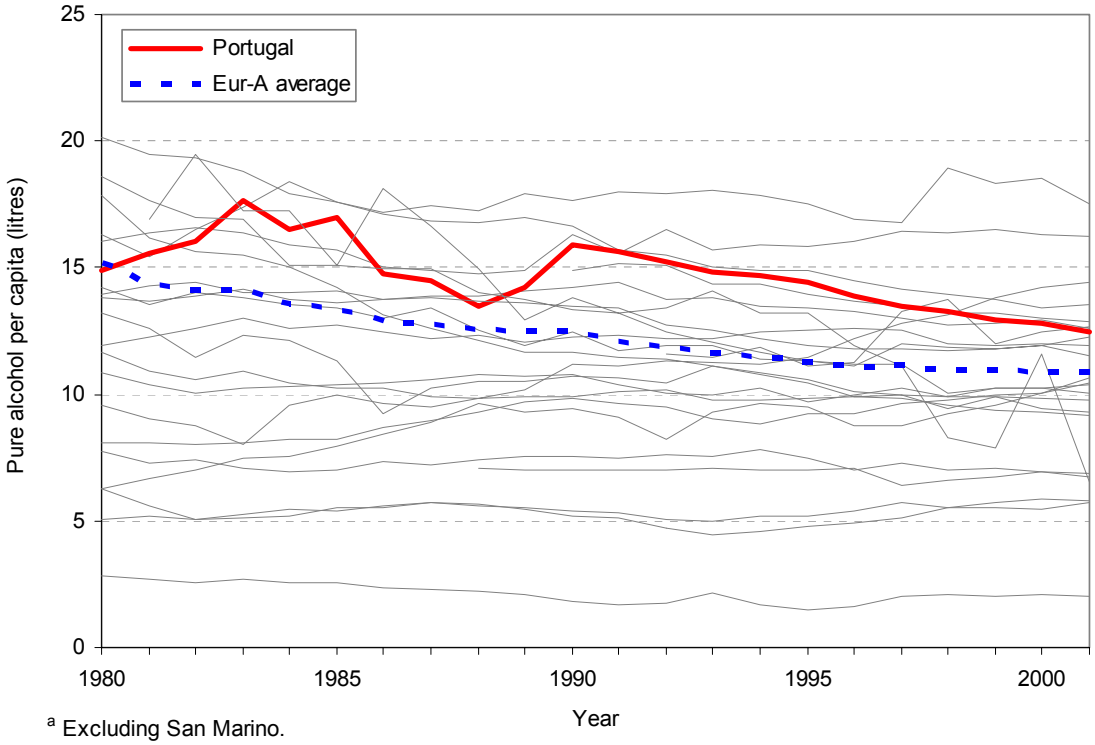
In 1999, the smoking prevalence among women (9.5%) was still the lowest in the Eur-A. Portugal signed the WHO Framework Convention on Tobacco Control in January 2004. It already has more stringent policies on smoking bans in public transport, public facilities and advertising than most Eur-A countries (European Commission, 2003; WHO, 2003b).

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, according to official statistics on local production, sales, imports and exports, pure alcohol consumption levels in Portugal were decreasing but were still 15% higher than in the Eur-A – a consistent pattern since the 1980s.

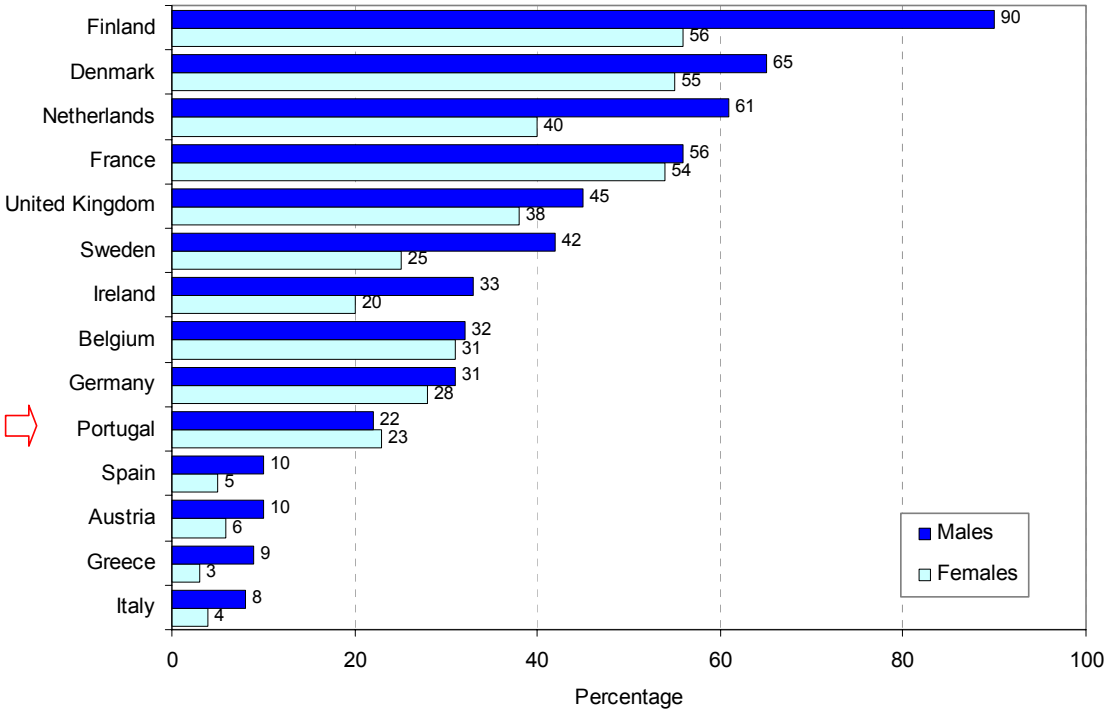
Alcohol consumption in the group aged 15+ years,
Portugal and Eur-A[a], 1980 to latest available year



[a] Excluding San Marino.

Mortality from liver cirrhosis is a classical and reliable indicator of harm from chronic excessive drinking (Hemström et al., 2002). The harmful effects of alcohol abuse in Portugal are confirmed by analysis of this and other aspects of mortality (see section on mortality). Further, for the period 1987 to 1995, 22% of all deaths from liver cirrhosis among Portuguese, men and women alike, were due to alcohol (Figure. 18) (Hemström et al., 2002). However, variation in the coding of deaths classified as "alcoholic cirrhosis" makes 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.

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

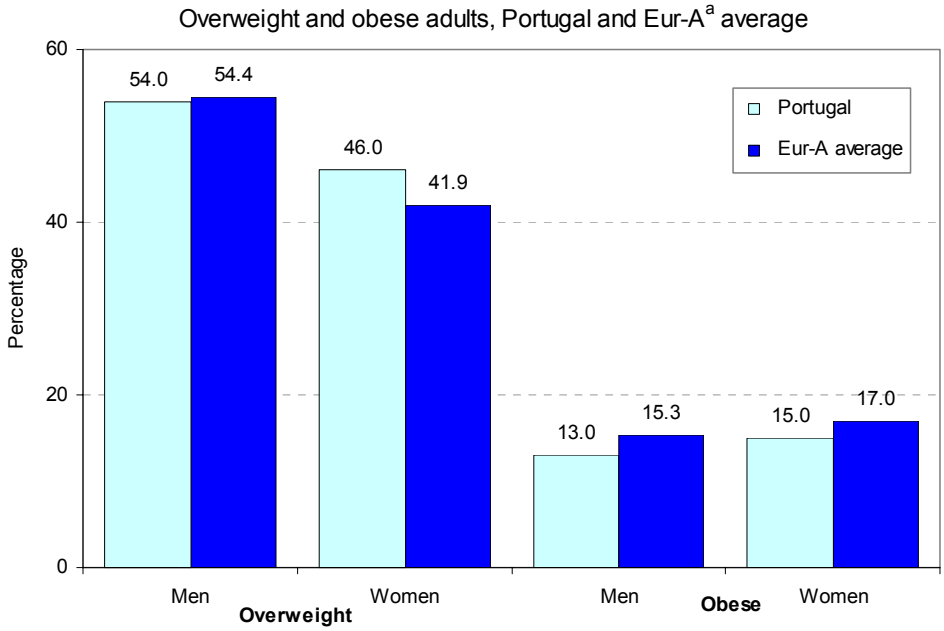


Note: Data for Germany refer to the territory of the Federal Republic of Germany as up to 3 October 1990.
Source: Hemström et al. (2002).

Excess weight

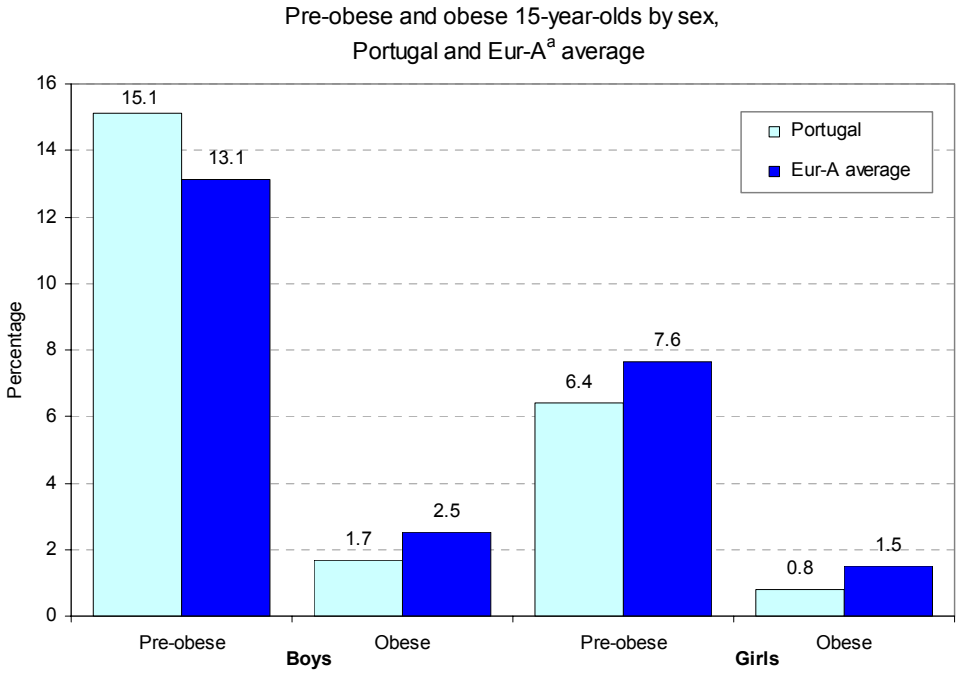
Studies have shown that excess weight contributes to CVD and cancer. In the 15 countries that comprised the European Union before May 2004, research suggests that the condition is responsible for 5% of all cancer cases (3% among men and 6% among women) and overall, almost 300 000 deaths annually (Banegas,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

Excess weight has reached quite alarming proportions in Europe. According to the recommendations for body mass index (BMI), Portugal is globally comparable to the Eur-A (with a slight excess in the case of women): over half of both men and women are overweight according to the recommended BMI, and an additional 14% are obese (Robertson et al., 2004).



[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, 15% of 15-year-old Portuguese boys and 6% of girls are pre-obese; obesity has been found in another 2% of boys and 1% of girls. The proportion for boys is above the Eur-A average.



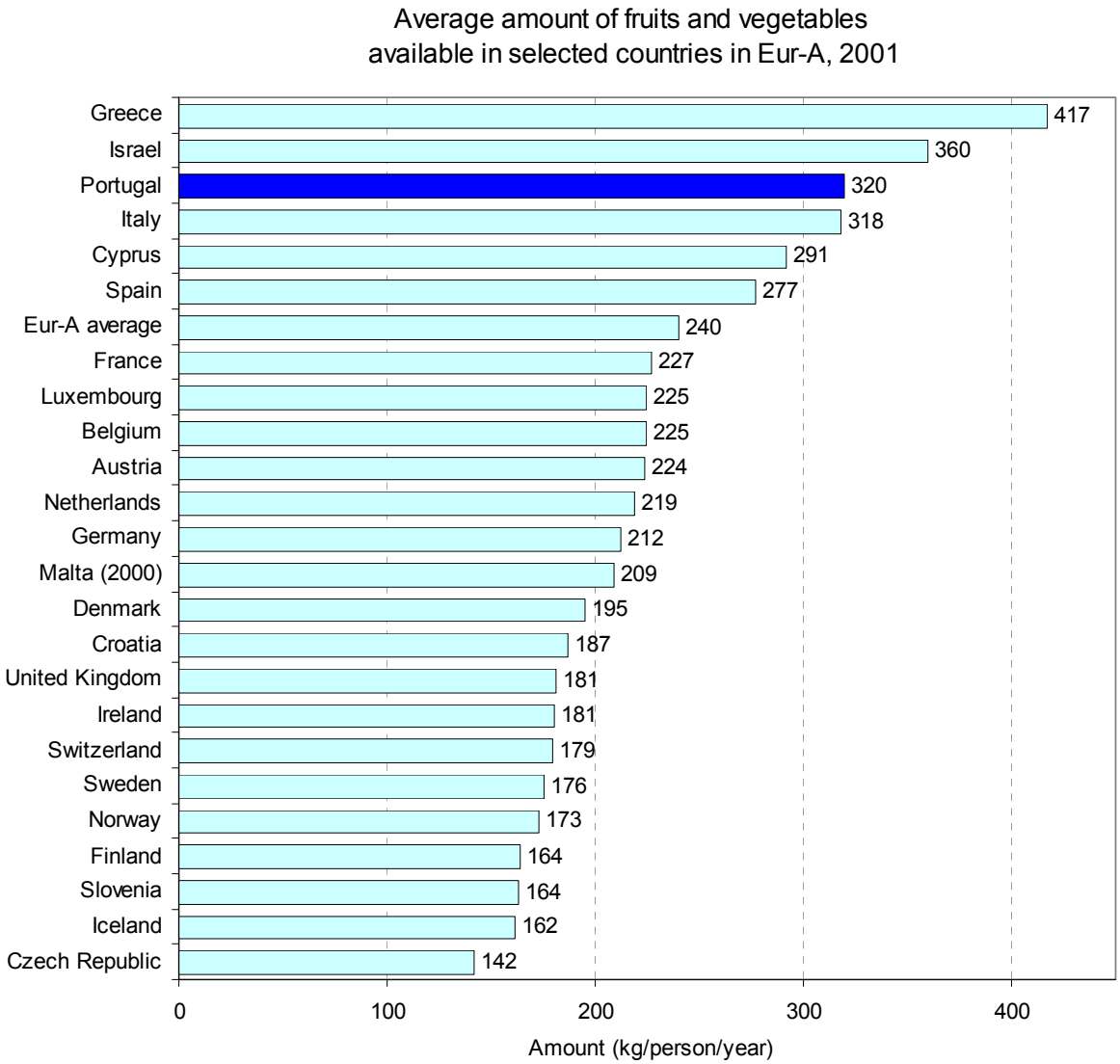
[a] Excluding Cyprus, Iceland, Luxembourg and San Marino.
Sources: Mulvihill et al. (2004) and the Danish Nutrition Council (2003) for data on Denmark.

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 (equivalent to 146 kg per year). Based on availability data, used as a proxy for intake, the average consumption in Portugal was 320 kg for 2001, one of the highest in the Eur-A. 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

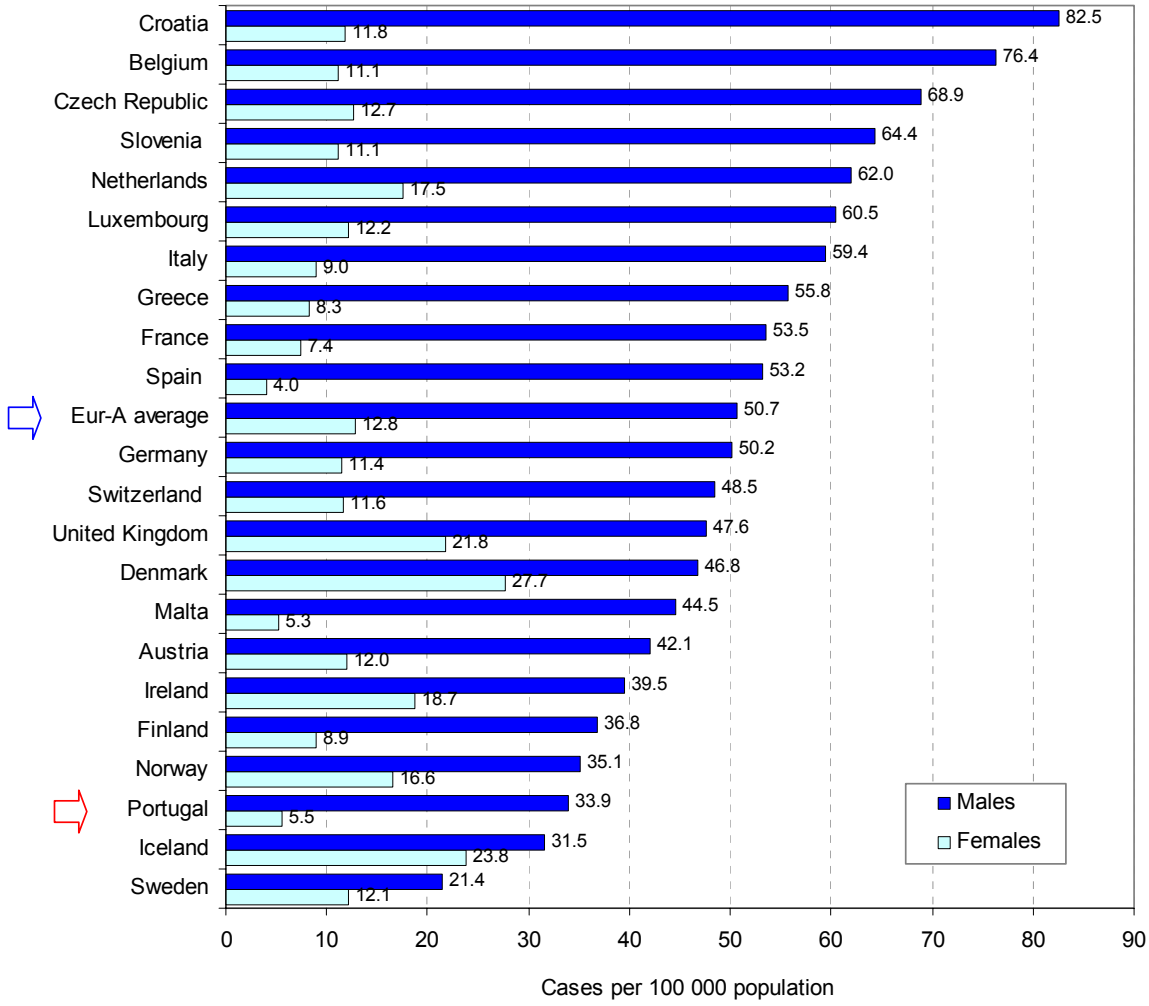
Cancer

Cancer accounts for 22% of deaths in Portugal, whereas the combination of death and illness due to cancer, represented as DALYs, accounts for about 15% of disease burden among Portuguese of both genders. 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 in Portugal was the third lowest in the Eur-A for men (a third lower than the Eur-A average) and women alike (57% lower than the Eur-A average). The fact that men had 6 times the rate of women may be related to the gender difference in smoking habits.

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



[a] Excluding Cyprus, Israel and San Marino.
Source: Tyczynski et al. (2002).

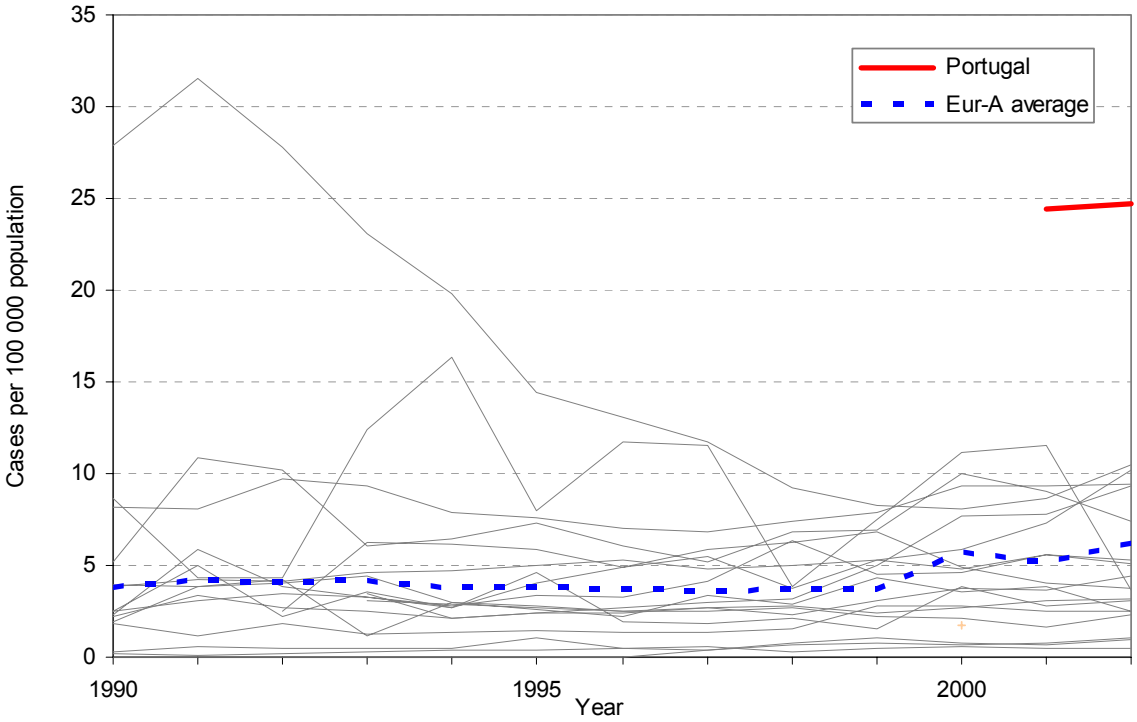
HIV

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).

The rate of new HIV infections in Portugal has only been reported reliably since 2001, and a new surveillance system started in 2003. Although it may be partly attributable to a reporting bias, the rate was by far the highest in the countries in the Eur-A for which data are available in 2001–2002, at about 26 per 100 000 population. In any case, mortality from AIDS confirms the importance of the problem in Portugal, since the rate was eight times higher than the Eur-A average in 2002, at 9.2 per 100 000 population (Annex, selected mortality). Men aged 30–44 years had the highest mortality rate, with 40 cases per 100 000 (10 times the Eur-A rate). The number of AIDS deaths peaked in 1996, when Portugal

was one of the countries most stricken by the epidemics. The majority of recent deaths are related to TB (41%) and other opportunistic infections (25%).

New registered cases of HIV, Portugal and Eur-A[a], 1990 to latest available year



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

From the start of the epidemic to 31 December 2003, 49% of the people diagnosed with HIV were injecting drug users, 33% were heterosexuals and a further 12% were homosexual or bisexual.

The AIDS epidemic appears to have peaked in 2000, with 1124 cases; however, another 1069 cases were reported in 2002. Fewer cases in 2003 (both diagnosed and notified) suggests a levelling off and decline in the number of annual reported AIDS cases, reflecting the impact of the introduction of drug therapy (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.

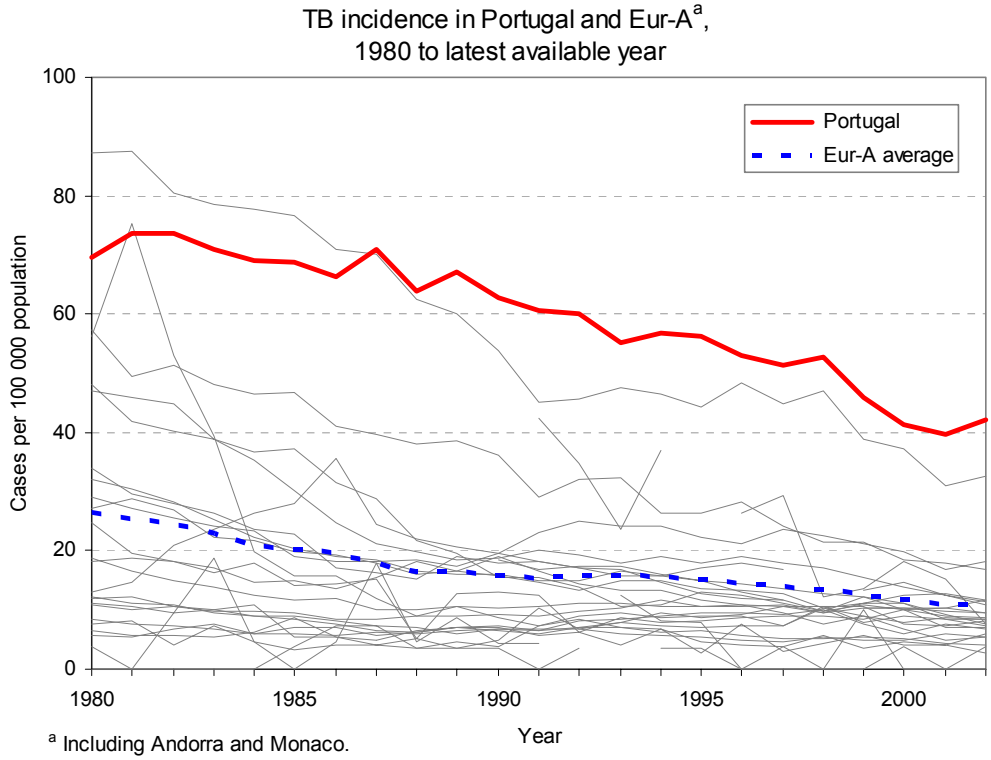
Wherever injecting drug use is taking place, new epidemics of hepatitis C are likely to emerge. Social exclusion is a factor in and a characteristic of the spread of infection (EMCDDA, 2004). Hepatitis C is predicted to have considerable long-term effects in terms of both health care spending and personal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

In 2000, limited local testing in drug treatment centres and public health laboratories in Portugal found that between 45% and 92% of 370 injecting drug users were infected (EMCDDA, 2003). However, mortality from all viral hepatitis has dropped sharply in Portugal, from one of the highest rates in the Eur-A to half the – rising – Eur-A average. The incidence rates of hepatitis B and C, both about 1 per 100 000 population in 2003, follow a similar trend.

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, for which Portugal has the most severe situation in the Eur-A.

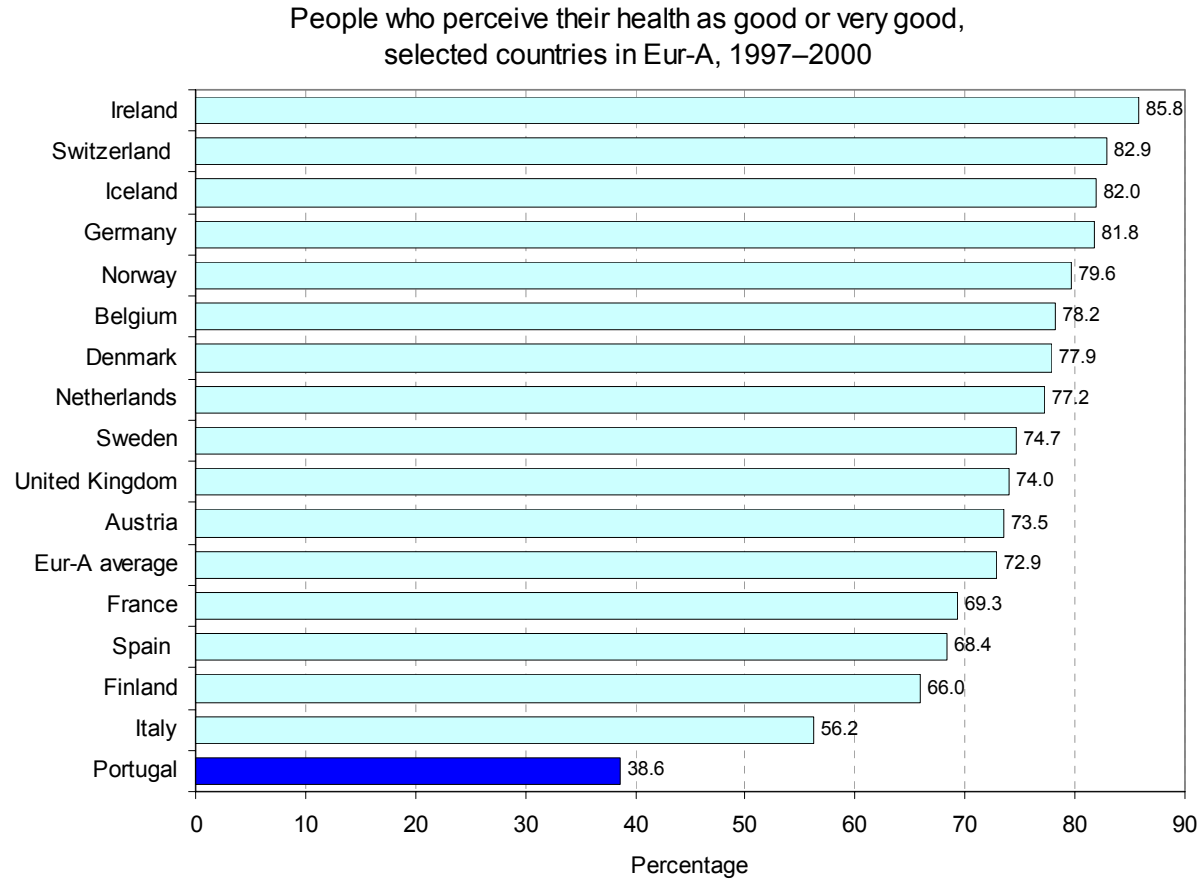
Despite steady decline, the incidence of TB in Portugal has been in the highest range of the Eur-A since the late 1980s. In 2002, it was still nearly four times the average for the Eur-A (42 versus 11 per 100 000 population respectively) and therefore remains an important threat to public health. WHO has classified Portugal as being at intermediate risk (De Colombani et al., 2003).



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.

Only one third of adults rated their health as good or very good in Portugal (Kasmel et al., 2004). This is the lowest of the Eur-A countries reporting and reflects the relatively adverse situation of the country in terms of mortality and selected morbidity.



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

Health system[1]

Organizational structure of the health system

The Portuguese health system is characterized by three coexisting systems: the National Health Service (NHS), special social health insurance schemes for certain professions (health subsystems) and voluntary private health insurance. The NHS provides universal coverage. In addition, about 25% of the population is covered by the health subsystems, 10% by private insurance schemes and another 7% by mutual funds.

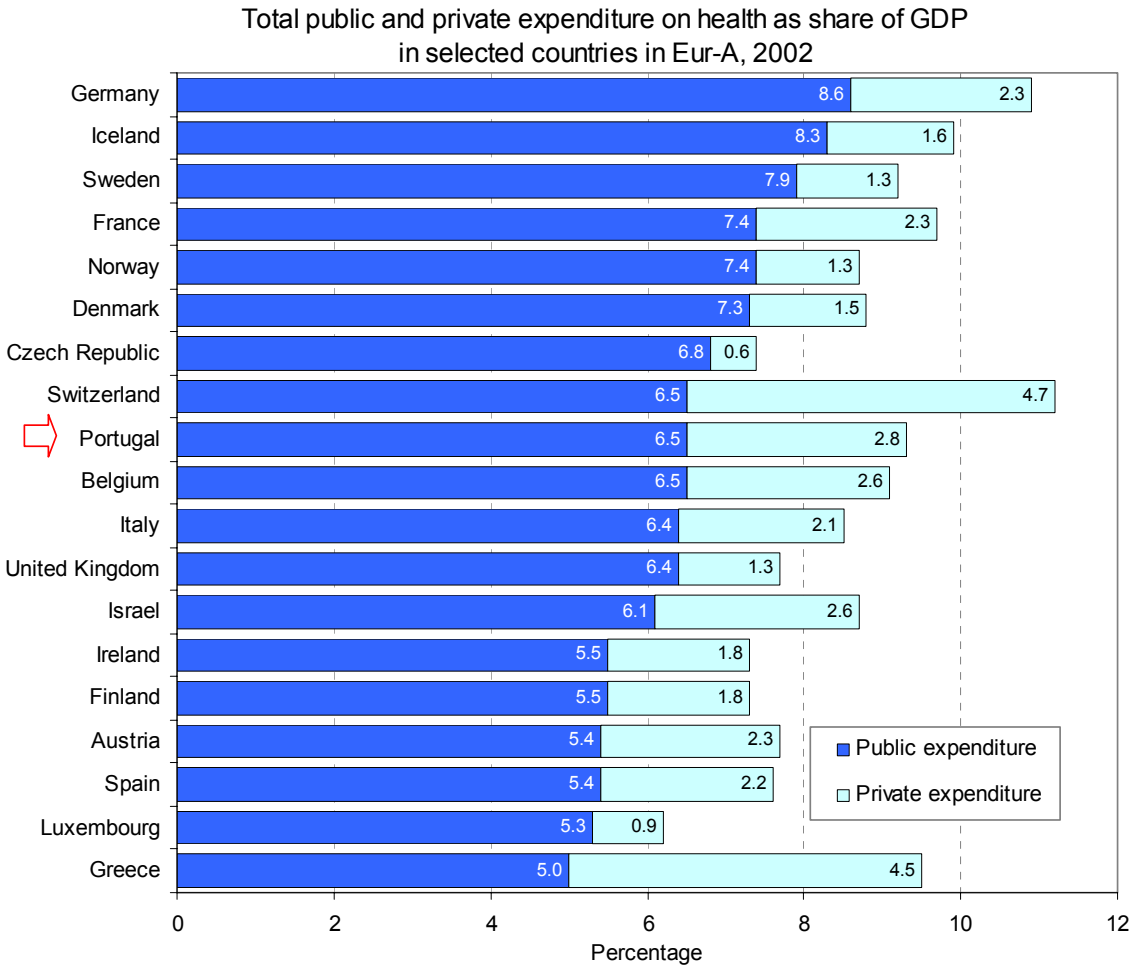
The Ministry of Health is responsible for developing health policy as well as managing the NHS. Five regional health administrations are in charge of implementing the national health policy objectives, developing guidelines and protocols and supervising health care delivery. Decentralization efforts have aimed at shifting financial and management responsibility to the regional level. In practice, however, the autonomy of regional health administrations over budget setting and spending has been limited to primary care.

Health care financing and expenditure

The NHS is predominantly funded through general taxation. Employer (including the state) and employee contributions represent the main funding sources of the health subsystems. In addition, direct payments by the patient and voluntary health insurance premiums account for a large proportion of funding.

In 2002 Portugal's expenditure on health amounted to 9.3% of GDP. Calculated in purchasing power parity per capita, this accounted for US$ 1702 (Annex. Total expenditure on health). Portugal has the highest level of public expenditure on pharmaceuticals among the 15 countries that comprised the European Union before May 2004 when calculated as a percentage of GDP (1.4% in 2001). Private health expenditure accounted for 30% of total expenditure in 2002, reflecting a large share of out-of–pocket payments (including co-payments) which, along with a heavy reliance on indirect taxes, makes the funding system slightly regressive.

[1] This section is based on publications of the European Observatory on Health Care Systems (2002a–c) and Bentes et al. (2004)



Sources: OECD (2004); data for Israel are 2001 estimates from WHO (2004b).

The Ministry of Finance sets the annual NHS budget based on historical spending and plans put forward by the Ministry of Health. The Ministry of Health allocates a budget to each regional health administration for the provision of primary health care to a geographically defined population. Public hospitals are financed through case mix–adjusted global budgets drawn up by the Ministry of Health. Since 1997, a growing proportion of the budget is based on diagnosis-related groups as well as on unadjusted outpatient activity. Primary health care centres are financed by the regional health administrations and do not have financial or administrative autonomy.

All NHS doctors are salaried government employees. Private practice and additional payments such as overtime constitute significant additional sources of income. An experimental payment system for groups of general practitioners (GPs) and family doctors based on capitation and professional performance was introduced in 1999 and is under revision.

Health care provision

Primary health care in the public sector is primarily delivered by GPs and family doctors working in the primary health care centres. There is no direct access to secondary care, with GPs acting as gatekeepers. The number of outpatient contacts per person (3.4 in 1998) is one of the lowest in the European Region.

Secondary and tertiary care is mainly provided in hospitals, although some health centres still provide specialist ambulatory services. Health resources are unevenly distributed between the regions. However, in recent years hospitals in the rural and inland areas have benefited from a programme of additional investment.

In 1998 Portugal had 3.3 acute hospital beds per 1000 population. The public sector provided about 75% of these beds. Of the 205 hospitals, 84 were private and half were for profit. Nonclinical services are

often outsourced to the private sector. Further, diagnostic and therapeutic services in the ambulatory sector are mainly delivered by private providers.

In 2001, there were 3.2 physicians per 1000 population. Portugal has steadily increased the ratio of nurses to inhabitants but still has one of the lowest in Europe (3.8 in 2001) (Annex. Selected health care resources).

Developments and issues

In the early 1970s, Portugal was one of the first European countries to adopt an integrated approach in primary health care by developing a comprehensive network of health centres. This resulted in a number of significant advances in the population's health status such as the dramatic decline in infant mortality since the 1960s. The reform agenda since 2002 includes measures to reduce the surgical waiting lists, innovations in the management of hospitals and primary health care centres, positive changes in drug policy and a stronger role of the private sector. Despite the remarkable achievements in health policy, there are a number of remaining challenges in the Portuguese health care system, such as low efficiency and accountability in the health care system in comparison with other NHS-based systems, a high level of private expenditure, high levels of pharmaceutical expenditure, inequity in the health sector and the need to modernize the organizational structure and management of the NHS. After a first attempt in the recent past, there now seem to be good prospects for further developing a comprehensive health strategy for Portugal.

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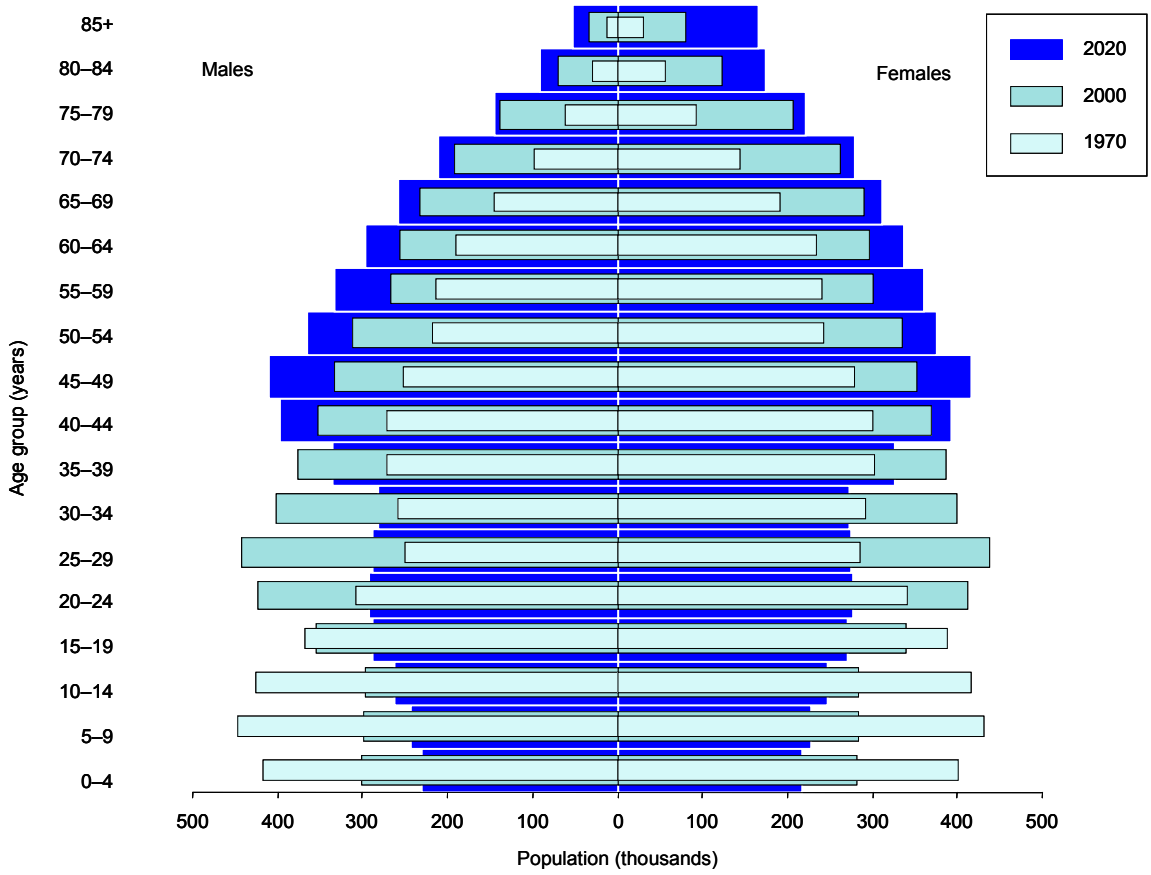
Annexes

Annex. Age pyramid



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

Annex. Selected mortality

Selected mortality in Portugal compared with Eur-A averages

Condition	SDR per 100 000		Excess mortality in Portugal (%)	Total deaths in Portugal (%)	Total deaths in Eur-A (%)
	Portugal (2002)	Eur-A average (2001)			
Selected noncommunicable conditions	521.4	519.5	0.4	71.5	79.9
Cardiovascular diseases	261.8	246.3	6.3	35.9	37.9
Ischaemic heart disease	63.7	97.3	– 34.6	8.7	15.0
Cerebrovascular disease	122.2	62.0	97.2	16.8	9.5
Diseases of pulmonary circulation and other heart disease	53.2	57.0	– 6.6	7.3	8.8
Malignant neoplasms	161.6	181.8	– 11.1	22.2	28.0
Trachea/bronchus/lung	23.0	37.0	– 37.8	3.2	5.7
Female breast	22.0	27.1	– 19.0	3.0	4.2
Colon/rectal/anal	21.9	20.7	5.7	3.0	3.2
Prostate	27.2	25.0	8.8	3.7	3.8
Respiratory diseases	59.3	47.7	24.3	8.1	7.3
Chronic lower respiratory diseases	17.5	20.0	– 12.7	2.4	3.1
Pneumonia	22.7	16.5	37.8	3.1	2.5
Digestive diseases	34.0	30.7	10.6	4.7	4.7
Chronic liver disease and cirrhosis	14.1	12.8	10.2	1.9	2.0
Neuropsychiatric disorders	4.7	13.0	– 63.7	0.6	2.0
					0.0
Selected communicable conditions	17.0	8.1	111.0	2.3	1.2
HIV/AIDS	9.2	0.9	931.5	1.3	0.1
External causes	48.4	39.5	22.7	6.6	6.1
Selected unintentional causes	23.7	16.1	47.8	3.3	2.5
Motor vehicle traffic injuries	19.0	10.0	90.5	2.6	1.5
Falls	4.7	6.1	– 22.4	0.6	0.9
Selected intentional causes	11.7	11.4	2.8	1.6	1.8
Self-inflicted (suicide)	10.1	10.5	– 3.2	1.4	1.6
Violence (homicide)	1.6	1.0	67.7	0.2	0.1
Ill-defined conditions	65.4	21.3	207.0	9.0	3.3
All causes	728.9	650.1	12.1	100.0	100.0

Annex. Mortality data

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

Causes of death	Sex	Portugal (2002)		Eur-A (2001)			
		Rate	Change (%)	Average	Change (%)	Minimum	Maximum
All causes	Both	28.2	– 27.3	17.0	– 20.4	12.9	28.2
	M	32.2	– 29.0	19.2	– 20.3	12.6	32.2
	F	24.1	– 24.9	14.8	– 20.4	4.9	24.1
Cardiovascular diseases	M	1.2	41.9	0.9	– 26.0		1.8
	F	1.2	– 11.5	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	0.3	– 65.8	0.2	– 44.4		0.4
	F	0.4	– 45.6	0.2	– 39.4		0.7
Malignant neoplasms	M	5.0	41.0	3.3	– 15.4		5.1
	F	3.9	– 6.0	2.7	– 10.4		4.9
Lung cancer	M	0.0			– 80.0		0.2
	F	0.0					0.3
Breast cancer	F	0.0			– 100.0		0.1
Respiratory diseases	M	1.6	8.7	0.8	– 13.7		3.0
	F	1.2	49.4	0.7	– 11.9		2.4
Digestive diseases	M	0.3	– 59.0	0.3	– 21.6		0.7
	F	0.3	100.0	0.2	– 25.0		2.6
External causes	M	13.0	– 33.9	6.4	– 30.7	3.5	20.3
	F	7.0	– 33.6	4.0	– 24.3		7.0
Motor vehicle traffic injuries	M	8.0	– 19.2	2.7	– 30.3		8.0
	F	4.1	– 33.9	1.8	– 29.3		4.1
Suicide	M	0.3	13.6	0.4	– 11.9		0.7
	F	0.5	390.9	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 Portugal and Eur-A: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Portugal (2002)		Eur-A (2001)			
		Rate	Change (%)	Average	Change (%)	Minimum	Maximum
All causes	All	65.5	– 35.8	53.1	– 13.2	37.4	69.7
	M	97.3	– 38.3	77.8	– 13.0	59.4	110.2
	F	32.7	– 27.6	27.7	– 13.2	13.9	34.8
Cardiovascular diseases	M	5.7	22.5	3.3	– 12.1		5.7
	F	2.9	– 8.8	1.8	– 13.1		2.9
Ischaemic heart disease	M	1.6	121.9	0.3	– 15.0		1.6
	F	0.4	11.1	0.1	– 7.7		0.7
Cerebrovascular disease	M	1.3	– 20.1	0.7	– 13.6		1.4
	F	1.4	60.5	0.4	– 24.1		1.4
Malignant neoplasms	M	6.6	2.8	5.4	– 7.9		15.5
	F	6.9	92.5	3.7	– 7.9		7.0
Lung cancer	M	0.0		0.1	– 50.0		0.3
	F	0.0		0.0	– 33.3		0.3
Breast cancer	F	0.2		0.1	– 16.7		0.3
Respiratory diseases	M	2.1	– 26.0	1.1	– 25.7		4.5
	F	1.1	– 17.8	0.8	– 18.8		2.0
Digestive diseases	M	0.3	– 84.6	0.5	– 28.8		1.2
	F	0.5	– 39.1	0.3	– 30.4		1.1
External causes	M	66.8	– 27.8	54.9	– 12.0	33.0	96.5
	F	12.6	– 41.5	14.3	– 14.8	6.9	23.5
Motor vehicle traffic injuries	M	45.3	– 25.3	30.2	– 9.3	14.9	71.1
	F	8.8	– 32.5	8.1	– 10.7	2.6	14.3
Suicide	M	6.7	16.1	11.2	– 11.5		36.7
	F	1.5	– 49.2	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 Portugal and Eur-A: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Portugal (2002)		Eur-A (2001)			
		Rate	Change (%)	Average	Change (%)	Minimum	Maximum
All causes	All	363.1	– 13.3	315.4	– 13.1	218.8	449.7
	M	519.6	– 14.0	425.4	– 14.3	276.0	661.7
	F	218.4	– 13.2	208.4	– 11.0	128.0	322.5
Cardiovascular diseases	M	111.4	– 17.5	110.6	– 20.8	72.2	225.0
	F	43.7	– 22.2	38.2	– 21.3	23.4	74.7
Ischaemic heart disease	M	49.0	– 13.2	59.8	– 24.6	35.2	108.6
	F	12.1	– 23.3	13.6	– 28.0	5.4	28.6
Cerebrovascular disease	M	36.5	– 26.3	17.4	– 22.0	7.5	56.6
	F	18.2	– 28.2	10.5	– 20.2	5.2	27.0
Malignant neoplasms	M	152.3	– 0.7	148.8	– 9.8	91.0	217.2
	F	91.7	– 6.6	102.4	– 7.7	76.1	155.2
Lung cancer	M	35.0	1.9	43.9	– 12.8	18.5	71.0
	F	7.1	17.9	13.3	11.7	6.9	32.8
Breast cancer	F	24.1	– 10.9	27.5	– 14.3	14.7	37.2
Respiratory diseases	M	23.6	– 16.8	15.8	– 19.2	8.5	29.7
	F	8.7	– 5.8	7.9	– 12.3	3.7	22.6
Digestive diseases	M	45.1	– 16.3	31.8	– 9.6	3.1	67.0
	F	14.8	– 13.6	13.4	– 7.5	4.2	26.2
External causes	M	85.6	– 8.0	59.9	– 10.5	28.2	120.7
	F	19.1	– 12.6	17.8	– 10.6		33.1
Motor vehicle traffic injuries	M	34.0	– 13.7	15.8	– 7.8	6.5	34.0
	F	7.4	– 10.0	4.3	– 14.4		7.4
Suicide	M	19.9	54.9	21.2	– 9.0	6.6	56.4
	F	5.4	13.5	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 Portugal and Eur-A: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Portugal (2002)		Eur-A (2001)			
		Rate	Change (%)	Average	Change (%)	Minimum	Maximum
All causes	All	4666.2	– 17.4	4199.5	– 11.5	3714.4	6010.0
	M	5833.1	– 17.1	5328.5	– 13.2	4658.1	7580.8
	F	3858.1	– 18.4	3460.2	– 11.5	2937.7	5088.6
Cardiovascular diseases	M	2266.5	– 27.6	2232.9	– 23.4	1614.4	4272.2
	F	1806.2	– 27.0	1613.4	– 21.7	1027.5	3314.3
Ischaemic heart disease	M	563.2	– 14.7	948.2	– 20.3	517.5	1702.7
	F	342.2	– 15.3	539.5	– 17.4	244.7	1084.7
Cerebrovascular disease	M	1073.8	– 36.5	536.2	– 35.9	324.8	1302.3
	F	905.7	– 35.4	457.0	– 32.6	170.4	1018.5
Malignant neoplasms	M	1279.8	– 7.2	1482.9	– 12.1	1175.1	1900.6
	F	594.6	– 9.4	749.8	– 9.4	589.1	1088.5
Lung cancer	M	214.0	– 1.6	371.8	– 22.0	196.0	615.4
	F	36.5	3.0	81.7	15.6	13.8	213.2
Breast cancer	F	83.3	– 13.7	113.9	– 10.1	83.3	164.1
Respiratory diseases	M	673.3	– 9.7	545.9	– 13.6	371.8	1115.6
	F	321.1	– 9.2	266.5	– 13.9	157.9	716.3
Digestive diseases	M	229.8	– 15.7	205.0	– 10.5	117.8	342.9
	F	121.6	– 12.9	143.3	– 20.3	77.8	196.0
External causes	M	181.0	– 10.1	152.6	2.0	80.6	282.8
	F	75.2	– 6.4	91.0	0.7	41.3	157.3
Motor vehicle traffic injuries	M	46.0	– 21.5	20.4	– 15.3	8.7	46.0
	F	15.5	– 25.2	7.9	5.4	0.0	15.5
Suicide	M	51.1	33.0	34.3	– 13.5	8.8	86.1
	F	9.5	8.6	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 (2004) and WHO Regional Office for Europe (2004b) 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 (2004b) 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.

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[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).