

Highlights on health in Austria 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

Austrians live as long as their Eur-A counterparts: girls born in 2002 can expect to live 82 years and boys, 76 years. By 2030, one in every four Austrians will be aged 65 or more. The country's birth rate has fallen more sharply than the Eur-A average, and is now one of the lowest in this group of countries. In addition, the infant mortality rate is below the Eur-A average.

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

As in other Eur-A countries, in Austria noncommunicable diseases kill eight out of ten people. Cardiovascular diseases (CVD) account for almost one death in two; Austria has one of the highest mortality rates for this cause in Eur-A, even though it has dropped by a quarter since 1990. Ischaemic heart disease is the single biggest killer, especially for women older than 64 years. Cancer mortality is relatively low for men; for women, mortality is just at the Eur-A average, although lung cancer is increasing. Cancer of the cervix has recently decreased to Eur-A levels, while breast cancer is in the same range.

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

A 1999 survey found that 37% of the Austrian population aged 20 years and over were overweight: 54.3% of men and 21.3% of women; 9% of both sexes were considered obese (Statistik Austria, 2002). Compared with their Eur-A counterparts, Austrian boys have less pre-obesity and slightly more obesity, while Austrian girls have lower levels of both.

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

Austrian nutrition report 2003. English summary (IFEW, 2003).

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)

Gesundheitszustand & Konsum medizinischer Leistungen, Ergebnisse des Mikrozensus 1999 (Statistik Austria, 2002)

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

Injuries and mental health

In Austria, fewer children die in road traffic accidents than the Eur-A average; the rate has fallen markedly since 1997.

Overall mortality from external causes accounts for 7% of deaths and is decreasing, but remains 17% higher than the Eur-A average. This is mainly due to suicide, for which Austria has one of the highest rates: 60% above that for Eur-A. More men than women take their lives, and the rate increases after age 65. The gender difference is more marked than in Eur-A as a whole.

As in the rest of Eur-A, neuropsychiatric conditions account for the greatest share of the burden of disease on the Austrian population, owing to their impact on daily living.

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, 2003b)

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

Alcohol

Austria has some of the highest death rates among Eur-A countries for chronic liver disease and cirrhosis for both men and women, even though mortality from this cause has decreased by a quarter since 1995. Death rates for alcohol-related causes are also high. While alcohol consumption is declining slowly in Austria, it remains 15% higher than the Eur-A average.

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

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

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

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

Tobacco

Austrians typically smoke 20% less cigarettes than their Eur-A counterparts. Tobacco consumption is stable among adolescents, but higher for girls than boys.

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

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

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

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

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

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

Communicable diseases

Few Austrians die from HIV/AIDS, and the incidence and mortality rates for tuberculosis (TB) are low as well. HIV prevalence among prison inmates, however, is estimated to be about five times that in the general population.

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

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

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

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

Drug use and hepatitis C

In 2000–2001, limited local testing in drug treatment centres and needle exchange locations found that about 48–71% 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 – also a common way to contract 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)

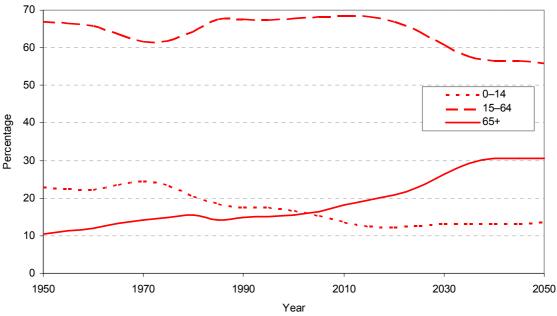
Selected demographic information

Population profile

Austria had a population of just over 8 million at the start of 2003, with a relatively low proportion of people living in an urban setting compared to other Eur-A countries.

The most striking demographic feature in Austria, observed across most Eur-A countries, 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 people aged 65 and over is expected to grow from 15.5% of the population in 2003 (Council of Europe, 2003) to an estimated 26% in 2030 (Annex. Age pyramid).





Source: United Nations (2002).

-9.6

17.3

Indicators	Austria		Eur-A	
	Value	Average	Minimum	Maximum
Population (in 1000s) ^a	8067.3	_	-	_
0-14 years (%)	16.6	_	_	_
15–64 years (%)	67.9	_	_	_
65+ years (%)	15.5	_	_	_
Urban population (%) ^{b, c}	67.4	79.5	49.2	100.0
Live births (per 1000) ^d	9.7	11.3	8.7	21.2
Natural population growth (per 1000)	0.3	1.1	-2.4	15.5

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

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

3.2

Austria's birth rate has been falling steadily since the early 1990s and is among the lowest in Eur-A, while the Eur-A average has remained stable. A positive rate of net migration has enabled Austria to maintain the size of its population.

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, Austria has an average level of income inequality compared to the rest of the Eur-A countries (UNDP, 2004); 8% of the Austrian population live below the 50% median income level, comparable to Eur-A.

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 Austria. Immigrants include nationals and foreigners from within and outside the European Region. Countries have different data sources and administrative definitions of immigrant status.

Net migration (per 1000)^d

^a As of 1 January 2003.

^b 2001.

^c Including Andorra and Monaco.

d Including Andorra.

Population	1992	1995	1998	2001	2003 (estimate)
Immigrants Refugees	- -		72 723 -	89 928 14 000	
Prison inmates (per 100 000 national population)	87	77	86	85	100

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

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).

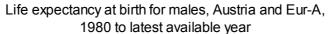
In late 2003, Austria reported a 101% occupancy level for its prisons, based on official capacity (International Centre for Prison Studies, 2004).

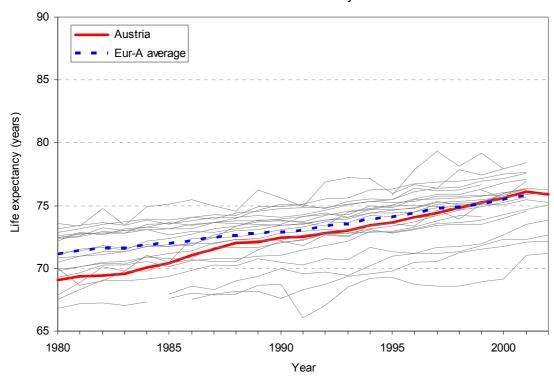
The burden of disease can be viewed as the gap between current health status and an ideal situation in which everyone lives into old age free of disease and disability. Causing the gap are premature mortality, disability and certain risk factors that contribute to illness. The analysis that follows elaborates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

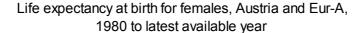
Life expectancy and healthy life expectancy

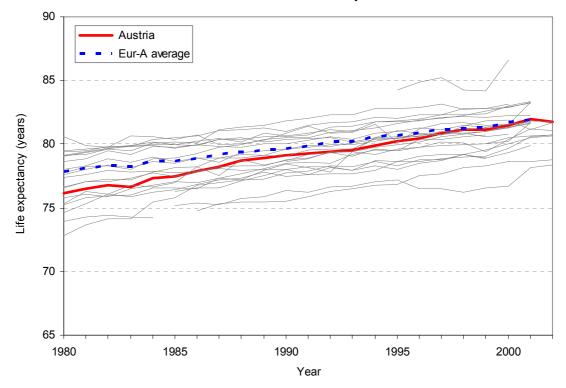
An Austrian born in 2002 can expect to live 79.4 years on average: 82.2 years if female and 76.4 years if male, according to WHO (2003d) estimates. This is comparable to Eur-A averages.

Over the last 20 years, according to estimates from Austria, Austrians have gained about 6 years in life expectancy (LE), with men showing a greater increase than women: 6.5 years and 5.1 years, respectively.

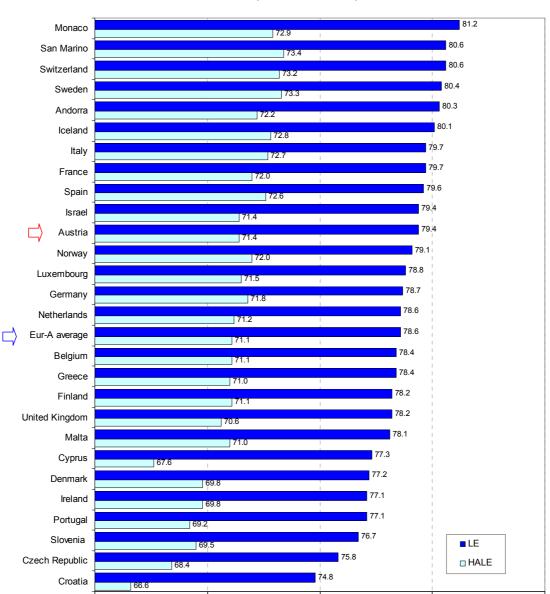








In addition, WHO (2003d) estimates that, on average, Austrians can expect to be healthy for about 90% of their lives. They lose on average 8 years to illness: the difference between LE and healthy life expectancy (HALE). Because women live longer than men and the likelihood of deteriorating health increases with age, women lose more healthy years of life (8.7) than men (7.1). Nevertheless, a longer life expectancy for women gives them about 4 more years of healthy life.



75

Years

80

85

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

^a Including Andorra and Monaco. Source: WHO (2003d).

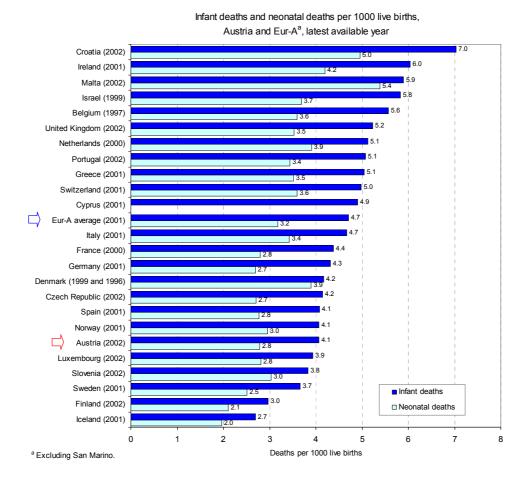
Mortality

Infant mortality and neonatal death

65

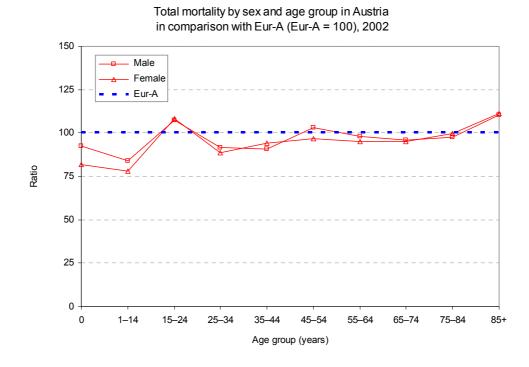
Austria's infant and neonatal mortality rates remain among the lowest in Eur-A.

70

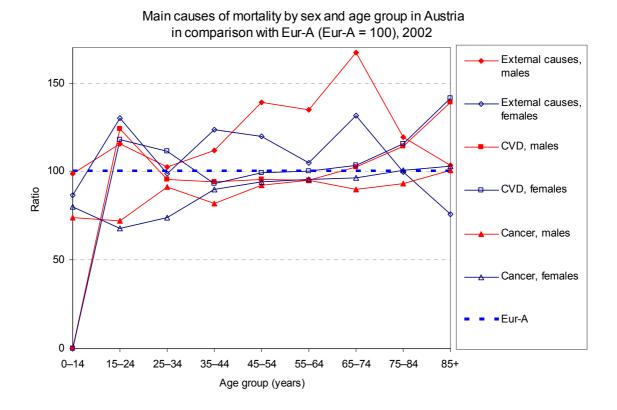


Excess mortality

Austrians in general have a lower risk of dying than their Eur-A counterparts at any given age, except for a slight excess among young people and very elderly ones.



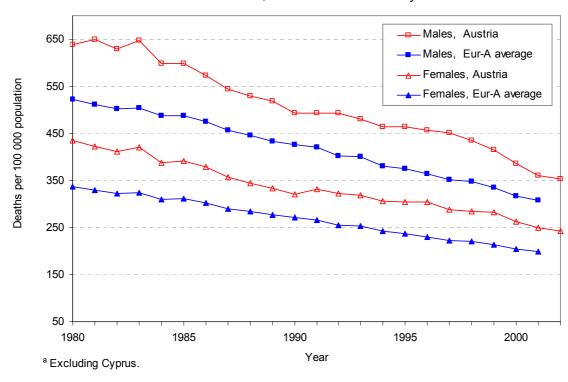
Nevertheless, Austrians experience excess mortality for external causes of death (injuries) after the age of 15, with a peak at 65–74 years: 70% more than the Eur-A average for men and 30% for women. After the age of 74, they also die of cardiovascular diseases (CVD) 15–40% more often than their Eur-A counterparts. In contrast, cancer kills them less often at all ages.



Main causes of death

In 2002, noncommunicable diseases accounted for 81% of all deaths in Austria, external causes for about 7% and communicable diseases for less than 1% (Annex. Selected mortality).

Despite an overall decrease by 25% since 1990, CVD are still the leading cause of death in Austria, accounting for 45% of all deaths: 17% more than in Eur-A (Annex. Selected mortality). For both sexes, the decrease has not been as sharp in Austria as in Eur-A.



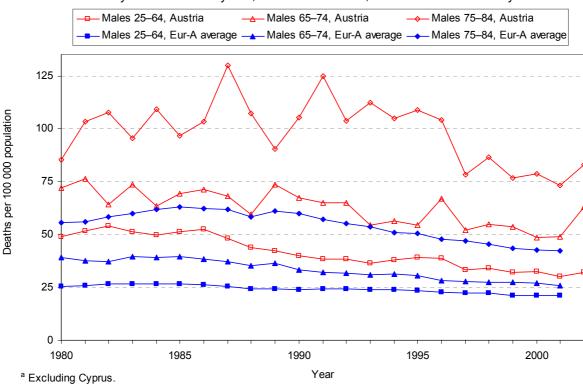
Standardized death rates (SDR) for CVD, all ages, both sexes, Austria and Eur-A^a, 1980 to latest available year

Both ischaemic heart disease and cerebrovascular disease are decreasing steadily in the groups aged 25–64 years and 65 and over, but the decrease is in general slower for women (Annex. Selected mortality; Annex. Mortality data according to age and sex). Especially after age 64, they are in the highest range in Eur-A for death from ischaemic heart disease.

External causes and neuropsychiatric disorders

Mortality from external causes is decreasing, but remains 17% higher than the Eur-A average. Many fewer Austrian children died in traffic accidents in 2002 than 1995: 70% less (Annex. Mortality data according to age and sex). The same is true for active people aged 25–64 years and for young men aged 15–24 (20–30% less), but not for young women and people over 64.

The suicide rate has been among the highest in Eur-A since the 1970s. Austria currently has 63% greater mortality from suicide than Eur-A. An overall decline was observed, but it levelled off in recent years. The differential between the sexes is wider than in Eur-A, with men completing suicide 3.5 times as often as women in the group aged 25–64, but as much as 4.5 times as often after 64 (Annex. Mortality data according to age and sex).



SDR for suicide and self-inflicted injury in males aged 25–64 years, 65–74 years and 75–84 years, Austria and Eur-A^a, 1980 to latest available year

Mortality from neuropsychiatric disorders, which are sometimes associated with self-inflicted harm, tends to be lower in Austria than in Eur-A (Annex. Selected mortality).

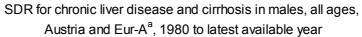
Cancer

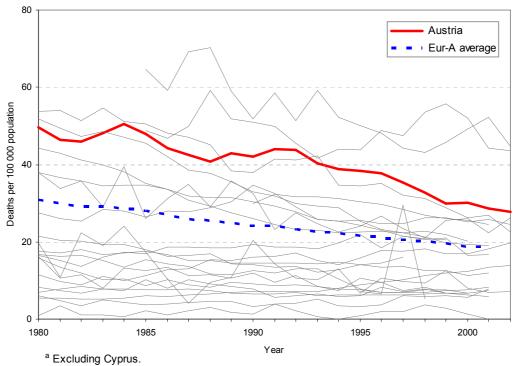
Austria's overall mortality from cancer has been lower than the Eur-A average for men since the mid-1980s, while women maintained higher rates for a longer time before reaching the Eur-A average in the late 1990s. Nevertheless, rates for tracheal, bronchial and lung cancer have steadily risen among women in Austria (by 23% since 1995), following the Eur-A average. The steepest increase was observed among women aged 45–59 years. Men's rate of tracheal, bronchial and lung cancer is decreasing; although still about two thirds higher than women's rate, it is 17% lower than the Eur-A average.

Breast cancer mortality in Austria is comparable to the Eur-A average; it has decreased among women aged 45–59 since 1995, remained stable among those aged 60–74 and been above the Eur-A average thereafter. Although mortality from cancer of the cervix in Austria was higher than that in Eur-A for a long time, the rate is now close to the average.

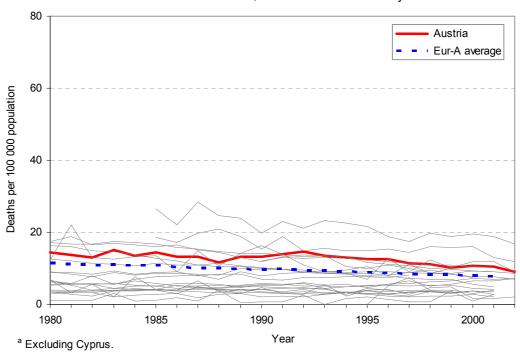
Other causes

About 10% more people die from digestive diseases in Austria than in Eur-A (Annex. Mortality data according to age and sex). Chronic liver disease and cirrhosis, which may indicate alcohol abuse, appear to play an important role, accounting for half of this mortality; Austrian men have the third highest rate in Eur-A. Austrian women also have one of the highest rates in Eur-A, even though it is three times lower than men's. Nevertheless, mortality from digestive diseases has declined by 15% and that from chronic liver disease and cirrhosis by 27% since 1995.

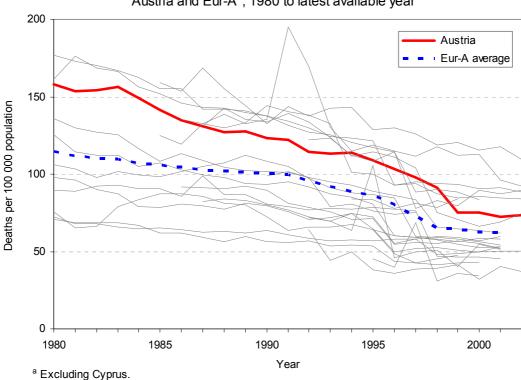




SDR for chronic liver disease and cirrhosis in females, all ages, Austria and Eur-A^a, 1980 to latest available year



Alcohol-related mortality in both sexes shows the same downward trend as Eur-A, but drops more sharply over time.



SDR for selected alcohol-related causes, all ages, both sexes, Austria and Eur-A^a, 1980 to latest available year

Mortality from infectious and parasitic diseases, including tuberculosis and AIDS, is typically lower in Austria than the Eur-A average. At the height of the epidemics in 1995, HIV/AIDS killed 2–3 times less often in Austria than the average for Eur-A: 3.4 versus 8.0 per 100 0000 men and 0.6 vs. 1.8 per 100 0000 women, respectively.

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 Austria in terms of DALYs.

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

Rank	Males		Females			
_	Disability groups	Disability groups Total DALYs (%)		Total DALYs (%)		
1	Neuropsychiatric conditions	26.0	Neuropsychiatric conditions	30.8		
2	Cardiovascular diseases	20.0	Cardiovascular diseases	18.8		
3	Malignant neoplasms	15.4	Malignant neoplasms	15.5		
4	Unintentional injuries	8.5	Sense organ diseases	5.4		
5	Digestive diseases	5.2	Musculoskeletal diseases	5.4		
6	Respiratory diseases	4.7	Respiratory diseases	5.2		
7	Sense organ diseases	4.5	Digestive diseases	4.2		
8	Intentional injuries	4.1	Unintentional injuries	3.4		
9	Musculoskeletal diseases	3.3	Intentional injuries	1.8		
10	Diabetes mellitus	1.5	Diabetes mellitus	1.7		

Source: Background data from WHO (2003d).

For both men and women, neuropsychiatric disorders account for the highest share of the burden of disease in Austria, and almost a third of the total disease burden for women. Since mortality for these

disorders is comparatively low (Annex. Selected mortality), most of the burden arises from their impact on daily life. CVD account for the second highest burden for both sexes, followed by cancer. Put together, intentional and unintentional injuries (the latter ranking fourth among men) impose a comparable burden to cancer on men, while women suffer more from diseases of the sense organs and the musculoskeletal system.

Main risk factors

The table presents the top 10 risks to health that are commonly associated with relatively wealthy countries such as Austria. 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 Austrian population is exposed to five of these risks is described below.

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

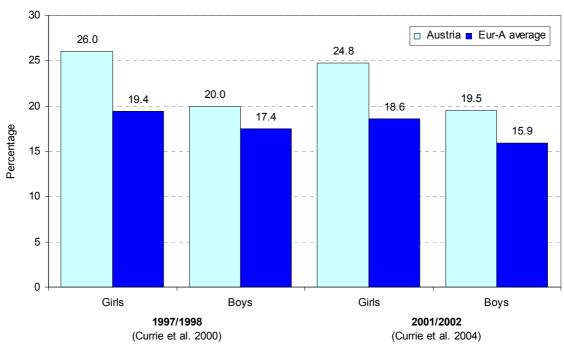
Risk factors	Total DALYs (%)
Tobacco	12.2
Blood pressure	10.9
Alcohol	9.2
Cholesterol	7.6
Overweight	7.4
Low fruit and vegetable intake	3.9
Physical inactivity	3.3
Illicit drugs	1.8
Unsafe sex	0.8
Iron deficiency	0.7

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, 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).

Since the late 1990s, Austrians have consumed fewer cigarettes per person than the Eur-A average, 22% less in 2000, 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.) Smoking prevalence among 15-year-olds has been stable but higher than the Eur-A average since 1997–1998, and girls consistently smoke more than boys.



Fifteen-year-olds who smoke every day, Austria and Eur-A^a average

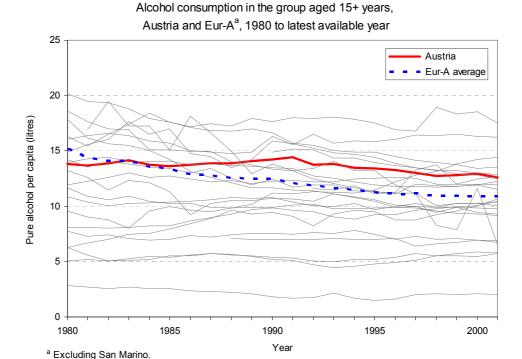
Austria has taken several appropriate measures, such as banning tobacco advertisement and smoking in some public facilities. It signed the WHO Framework Convention on Tobacco Control in 2003 (WHO, 2003c; WHO Regional Office for Europe, 2004c).

Alcohol

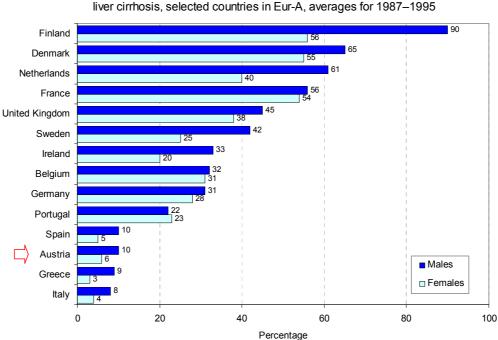
Two major public health issues are related to alcohol consumption: regular drinking of more than small amounts and harmful patterns such as binge drinking (when a person consumes a bottle of wine or equivalent on one occasion, or has five or more standard drinks in a row). Both practices cause or aggravate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

Alcohol abuse is an important public health problem in Austria. Levels of pure alcohol consumption have declined slowly but consistently, although they remained 15% higher than the Eur-A average in 2002, according to official statistics on local production, sales, imports and exports. These do not include unrecorded consumption.

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



Mortality from liver cirrhosis is a classic and reliable indicator of harm from chronic excessive drinking (Hemström et al., 2002). The analysis above of this and other aspects of mortality confirms the harmful effects of alcohol abuse in Austria. For the period 1987–1995, alcohol accounted for a relatively low proportion of all deaths from liver cirrhosis: 10% among men and 6% among women. Variations in the coding of deaths classified as from alcoholic cirrhosis, however, 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.



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

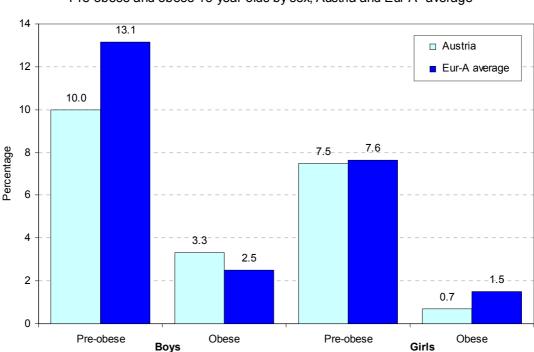
Note: Data for Germany refer to the territory of the Federal Republic of Germany as up to 3 October 1990. Source: Hemström et al. (2002).

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, particularly 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 the WHO European Region. According to the recommendations for body mass index (BMI), a 1999 survey found that 37% of the Austrian population aged 20 years and over were overweight: 54.3% of men and 21.3% of women; 9% of both sexes were considered obese (Statistik Austria, 2002).

According to self-reported data on height and weight collected in schools, adjusted to correspond to adult BMI, 10% of 15-year-old Austrian boys and 7.5% of girls are pre-obese; 3% of boys and almost 1% of girls are obese. Compared with their Eur-A counterparts, Austrian boys have less pre-obesity and slightly more obesity, while Austrian girls have slightly lower levels of both.



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

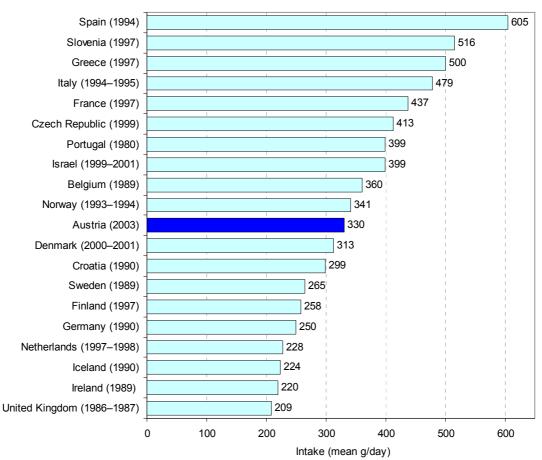
^a Excluding Cyprus, Iceland, Luxembourg and San Marino.
Sources: Mulvihill et al. (2004) and the Danish Nutrition Council (2003) for data on Denmark.

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 figure shows fruit and vegetable intake in selected Eur-A countries. The average intake in Austria in 2000–2001 was 330 g in a national sample of people aged 19–60 years (IFEW, 2003).



Vegetable and fruit intake in selected countries in Eur-A, latest available year

Sources: WHO Regional Office for Europe (2004c), Robertson et al. (2004b) 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).

Physical inactivity

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

A 1999 survey found that about half of the population aged 15 and over did not take exercise or play sports to preserve health or prevent diseases: 51% of men and 54% of women (Statistik Austria, 2002; WHO, 2004a)

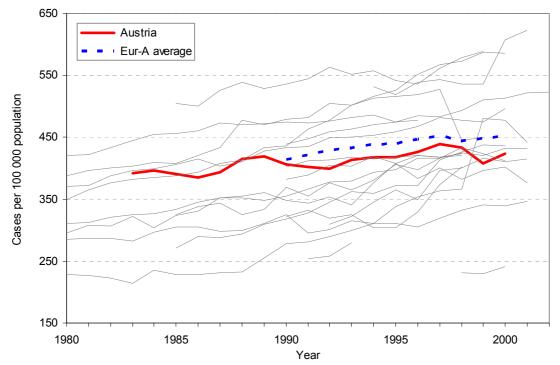
Selected causes of illness

Cancer

Cancer accounts for almost 26% of deaths in Austria, and the combination of death and illness due to cancer, represented as DALYs (see table on disability groups), accounts for 15% of the disease burden. Together the indicators show that the burden of cancer on the population is mainly attributable to death, rather than long-term illness.

Since 1993, cancer incidence has remained stable in Austria, at around 400 per 100 000 population, below the Eur-A average.

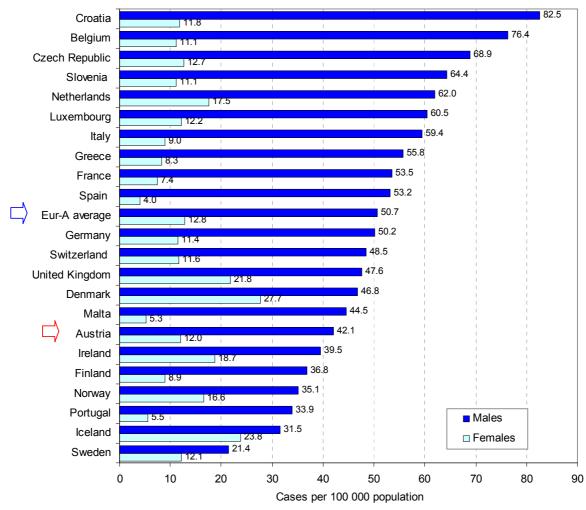
Cancer incidence in Austria and Eur-A^a, 1980 to latest available year



^a Excluding Greece, San Marino, Spain and Switzerland.

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

In 2000, the estimated lung cancer incidence among Austrian women was lower than the Eur-A average. The incidence for men was 3.5 times that of women, but still slightly lower than the Eur-A average.



Estimated lung cancer incidence in Austria 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).

HIV infection rates are not reported nationally in Austria, but mortality is low (EuroHIV, 2003b). The number of people living with HIV/AIDS in Austria is estimated to be 9 000–13 000. Surveys of injecting drug users and prisoners show that HIV prevalence among the former increased from 13% in 1986 to 27% in 1990 in Vienna and reached 44% in 1985–1990 in Innsbruck. Prevalence in prisons is estimated to be around 0.5–1.3%, five times that in the general population (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 there is injecting drug use, 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.

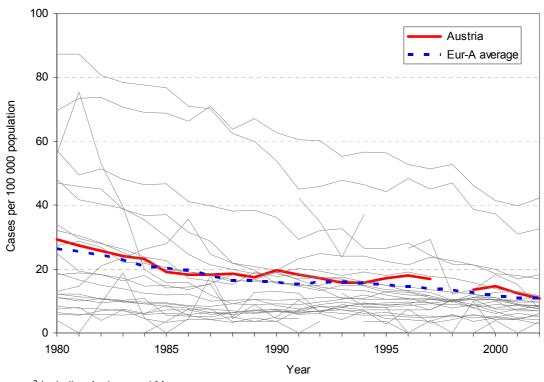
In 2000–2001, limited local testing in drug treatment centres and needle exchange locations in Austria found that about 48–71% of injecting drug users were infected with hepatitis C (EMCDDA, 2003).

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.

Since 1995, the incidence of TB has dropped by 37% in Austria and by 26% in Eur-A as a whole. In 2002, the rate for Austria was similar to the Eur-A average.

TB incidence in Austria and Eur-A^a, 1980 to latest available year

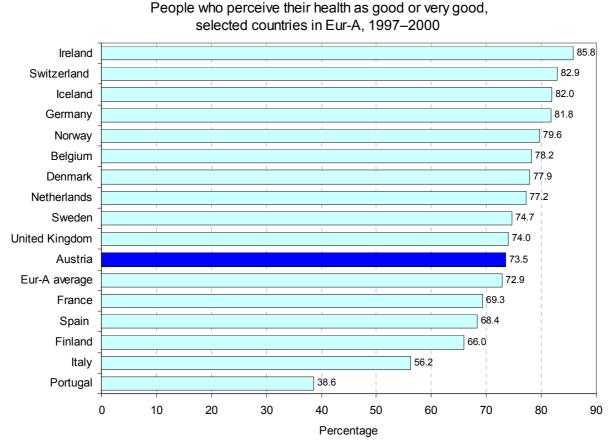


^a Including Andorra and Monaco.

Self-reported health

People are in general 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 status can differ from what administrative and examination-based data show about levels of illness within populations. Thus, surveys results based on self-reporting at the household level complement other data on health status and the use of services.

Austrians are in general satisfied with their health, with three quarters of adults rating it as good or very good.



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

Health system¹

Organizational structure of the health system

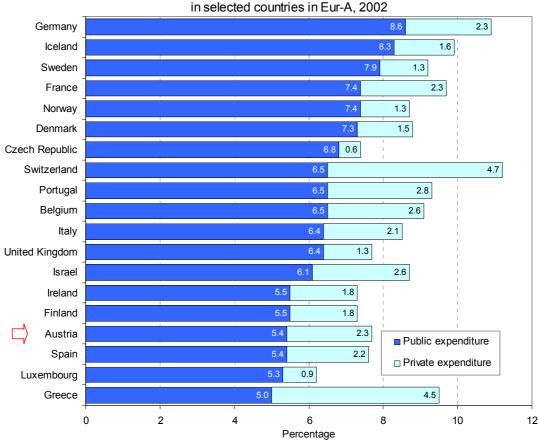
The Austrian health system is shaped by statutory health insurance, which covers about 95% of the population on a mandatory basis and 2% on a voluntary basis. Of the 3.1% not covered in 2003, 0.7% had taken out voluntary substitutive insurance, while 2.4% were not covered at all: for example, some groups of unemployed people and asylum seekers. The 26 statutory health insurance funds are organized in the Federation of Austrian Social Security Institutions and do not compete with each other, since membership is mainly mandatory and based on occupation or place of residence. Since 2001, family coinsurance requires a reduced contribution, but many household members are still exempt, such as children, childraising spouses or people needing substantial nursing care.

The Federal Ministry of Health and Women is the main policy-maker in health care and is responsible for supervising statutory health insurance actors and issuing nation-wide regulations on, for example, drug licensing and pricing. The governments of the nine *Länder* deliver public health services and have strong competencies in the financing and regulating of inpatient care. Capacity planning has increasingly been undertaken by a federal structural commission and nine *Länder* commissions, and is gradually being extended to all sectors and types of care.

Health care financing and expenditure

In 2002, Austria spent 7.7% of its gross domestic product (GDP) on health, below the average for the countries belonging to the European Union before May 2004. Total health expenditure remained stable between 1997 and 2002, although the share of public expenditure decreased from 5.8% of GDP in 1995 to 5.4% in 2002, accounting for 67% of the total expenditure in that year. The rise in private expenditure was mainly attributable to an increase of direct payments and co-payments. Expenditure per capita was US\$ 2220 (Annex. Total expenditure on health).

¹ This section is based on publications of the European Observatory on Health Care Systems and Policies (2002a–c; Hofmarcher & Rack, 2001).



Total public and private expenditure on health as share of GDP in selected countries in Fur-A 2002

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

In 2000, social security schemes financed 43% of total expenditure; government, 27%; user charges or direct payments, 19%; other private funds, 4%; and voluntary health insurance, 7%. The financing of statutory health insurance differs among sickness funds, but is always based on contributions of equal shares from employers and employees, accounting for 7.4% of the salary in 2004. Ceilings for maximum income and contributions apply. Until 2003, blue-collar workers paid higher contribution rates than white-collars. Rates for civil servants, self-employed people and farmers still differ from the main contribution rate.

Sickness funds make contracts with individual physicians on the basis of negotiations between the funds and medical associations on the *Länder* level. Physicians on contract in private practice are reimbursed by per capita flat rates for basic services and by fee-for-service remuneration for other services. The amount of both components and possible volume restrictions may vary by specialty and *Land* and partly by type of health insurance fund. Health insurance funds have to reimburse the people insured with them for visits to physicians without contracts, at 80% of the regular rate per billed service.

Since 1978, the federal Government and the nine *Länder* have concluded fixed-term agreements on hospital financing. Since 1997, hospital care has been financed from funds at *Länder* level with separate divisions for recurrent and investment expenditures. The funds are financed by the federal Government, *Länder* governments, district governments and, most importantly, by lump sums from health insurance funds.

Public and non-profit-making hospitals that are accredited in hospital plans for acute care at *Länder* level (fund hospitals) are eligible for investments and reimbursement of services for people with statutory health insurance. The performance-oriented payment scheme, introduced in 1997, consists of a core component of national uniform diagnosis-related groups (DRGs) and a steering system to account for hospital characteristics. The latter may vary considerably among *Länder*. Fund hospitals derive additional

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income from co-payments, supplementary insurance or their owners. Private for-profit hospitals may contract selectively with health insurance funds and then be reimbursed according to DRGs.

Long-term nursing-care benefits are financed mainly from federal taxes and are granted to about 4% of the population, regardless of income, on the basis of seven categories of need that depend on the hours of nursing care required per month. Statutory pension funds are responsible for pooling and allocating benefits.

Health care provision

Primary and secondary outpatient care is mainly delivered by self-employed providers in single practices. Secondary outpatient care and dental care are also delivered by outpatient clinics that are owned by organizations providing hospital care or statutory health insurance funds. General practitioners coordinate care and referrals, and formally serve as gate-keepers to inpatient care, except in emergencies. In practice, however, patients often go directly to outpatient clinics. A co-payment for this type of service did not substantially affect fund revenues and care-seeking behaviour, and was abolished in 2003. The number of outpatient contacts was 6.8 per person in 2002. Public health authorities are responsible for the delivery of antenatal, child health and screening services, many of which are financed by statutory health insurance finances.

Acute secondary and tertiary inpatient care is provided by fund hospitals or by private for-profit hospitals. In 2001, 28% of beds were provided by private hospitals and 73% by fund hospitals, which were owned either by municipalities, *Länder* or religious and other non-profit-making organizations. While numbers of acute hospital beds have decreased, the density of beds in Austria remains high compared with the average for the countries belonging to the European Union before May 2004 (Annex. Selected health care resources). Admission rates have increased further and reached the highest level in the European Region: 29 cases per 100 population in 2002. This may be partly attributable to the introduction of the new DRG system, which attracted surgery cases to inpatient care that had previously been handled in ambulatory care. At the same time, the average length of stay was reduced from 13 days in 1990 to 6 days in 2002, when the occupancy rate was 76%.

The numbers of physicians and nurses have increased, but the level for the former is similar to that in Germany and below the average for the countries belonging to the European Union before May 2004 and that for the latter is substantially below neighbouring countries or the average (Annex. Selected health care resources).

Developments and issues

The vast majority of the Austrian population has access to a comprehensive set of statutory benefits in preventive, curative, palliative and long-term care, based on principles of solidarity and risk pooling. The Ministry aims to expand the health insurance coverage of immigrants seeking asylum. To increase the responsiveness of services, quality-management initiatives have been intensified, and patient ombudspersons have been introduced in all the *Länder* to handle and report complaints in all sectors of care.

Cost-containment has recently targeted rising pharmaceutical expenditure by introducing price cuts, new price categorization schemes, margins for wholesalers and pharmacists and measures to increase the low rate of generic prescribing.

Despite substantial achievements in reducing hospital beds and shifting acute capacities to nursing, geriatric and palliative care, acute bed capacities and utilization remain high, particularly in urban areas. In addition, major political debates are concerned with strategies to curb the growing deficit of health insurance funds and to secure the revenue basis for the statutory health insurance system.

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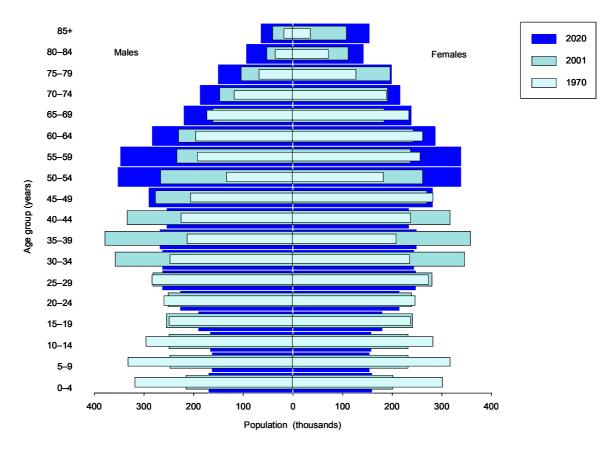
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Annexes



Age pyramid for Austria



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

Annex. Selected mortality

Selected mortality in Austria compared with Eur-A averages

Condition	SDR	oer 100 000	Excess mortality in Austria (%)	Total deaths in Austria (%)	Total deaths in Eur-A (%)	
	Austria (2002)	Eur-A average (2001)				
Selected noncommunicable conditions	531.0	519.5	2.2	81.7	79.9	
Cardiovascular diseases	289.1	246.3	17.4	44.5	37.9	
Ischaemic heart disease	130.8	97.3	34.4	20.1	15.0	
Cerebrovascular disease	62.3	62.0	0.6	9.6	9.5	
Diseases of pulmonary circulation and other heart disease	64.6	57.0	13.4	9.9	8.8	
Malignant neoplasms	170.8	181.8	- 6.1	26.3	28.0	
Trachea/bronchus/lung	33.4	37.0	- 9.5	5.1	5.7	
Female breast	26.0	27.1	- 4.2	4.0	4.2	
Colon/rectal/anal	21.9	20.7	5.9	3.4	3.2	
Prostate	26.4	25.0	5.6	4.1	3.8	
Respiratory diseases	32.5	47.7	- 31.9	5.0	7.3	
Chronic lower respiratory diseases	17.7	20.0	– 11.6	2.7	3.1	
Pneumonia	8.0	16.5	- 51.6	1.2	2.5	
Digestive diseases	33.9	30.7	10.3	5.2	4.7	
Chronic liver disease and cirrhosis	17.7	12.8	38.5	2.7	2.0	
Neuropsychiatric disorders	4.7	13.0	- 63.8	0.7	2.0 0.0	
Selected communicable conditions	4.7	8.1	- 41.8	0.7	1.2	
HIV/AIDS	0.6	0.9	- 33.7	0.1	0.1	
External causes	46.1	39.5	16.7	7.1	6.1	
Selected unintentional causes	18.7	16.1	16.3	2.9	2.5	
Motor vehicle traffic injuries	10.1	10.0	1.5	1.6	1.5	
Falls	8.5	6.1	40.7	1.3	0.9	
Selected intentional causes	17.9	11.4	56.9	2.8	1.8	
Self-inflicted (suicide)	17.0	10.5	62.9	2.6	1.6	
Violence (homicide)	0.9	1.0	- 8.3	0.1	0.1	
III-defined conditions	6.9	21.3	- 67.7	1.1	3.3	
All causes	649.6	650.1	- 0.1	100.0	100.0	

Annexes 35

Annex. Mortality data

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

Causes of death	Sex	Aust	tria (2002)	Eur-A (2001)			
		Rate	Change (%)	Average	Change (%)	Minimum	Maximum
All causes	Both	13.9	- 30.6	17.0	- 20.4	12.9	28.2
	M	16.1	- 30.7	19.2	-20.3	12.6	32.2
	F	11.5	- 30.4	14.8	-20.4	4.9	24.1
Cardiovascular diseases	M	0.0		0.9	-26.0		1.8
	F	0.0		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	0.0		0.2	- 44.4		0.4
	F	0.0		0.2	- 39.4		0.7
Malignant neoplasms	M	2.4	6.2	3.3	- 15.4		5.1
	F	2.1	– 15.8	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	0.9		8.0	- 13.7		3.0
	F	0.4	- 35.5	0.7	– 11.9		2.4
Digestive diseases	M	0.0		0.3	- 21.6		0.7
_	F	0.0		0.2	-25.0		2.6
External causes	M	6.4	- 49.8	6.4	-30.7	3.5	20.3
	F	3.7	- 33.8	4.0	-24.3		7.0
Motor vehicle traffic injuries	M	1.6	- 69.0	2.7	- 30.3		8.0
•	F	1.0	- 67.9	1.8	- 29.3		4.1
Suicide	M	0.3	- 75.0	0.4	– 11.9		0.7
	F	0.3		0.1	0.0		0.6

NA = not applicable. Blank = rate < 0.1

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

Causes of death	Sex	Aust	ria (2002)		Eur-A (2001)			
	-	Rate	Change (%)	Average	Change (%)	Minimum	Maximum	
All causes	All	57.2	-21.7	53.1	- 13.2	37.4	69.7	
	M	83.5	- 27.5	77.8	- 13.0	59.4	110.2	
	F	30.0	0.9	27.7	- 13.2	13.9	34.8	
Cardiovascular diseases	M	4.1	- 19.8	3.3	- 12.1		5.7	
	F	2.1	34.4	1.8	- 13.1		2.9	
Ischaemic heart disease	M	0.4		0.3	- 15.0		1.6	
	F	0.2		0.1	– 7.7		0.7	
Cerebrovascular disease	M	1.2	64.9	0.7	- 13.6		1.4	
	F	0.0		0.4	- 24.1		1.4	
Malignant neoplasms	M	3.9	- 20.2	5.4	- 7.9		15.5	
3	F	2.5	- 27.9	3.7	- 7.9		7.0	
Lung cancer	M	0.0		0.1	- 50.0		0.3	
ŭ	F	0.0		0.0	- 33.3		0.3	
Breast cancer	F	0.0		0.1	- 16.7		0.3	
Respiratory diseases	M	1.0	- 7.3	1.1	- 25.7		4.5	
, ,	F	0.4	- 33.3	0.8	- 18.8		2.0	
Digestive diseases	M	0.8	42.1	0.5	- 28.8		1.2	
5	F	0.4	90.9	0.3	- 30.4		1.1	
External causes	М	63.6	- 32.4	54.9	- 12.0	33.0	96.5	
	F	18.6	- 4.5	14.3	- 14.8	6.9	23.5	
Motor vehicle traffic injuries	M	32.3	- 31.3	30.2	- 9.3	14.9	71.1	
	F	11.0	6.8	8.1	- 10.7	2.6	14.3	
Suicide	M	20.1	- 20.4	11.2	- 11.5		36.7	
	F	3.6	1.1	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 Austria and Eur-A: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Austr	ia (2002)	Eur-A (2001)			
	_	Rate	Change (%)	Average	Change (%)	Minimum	Maximum
All causes	All	306.6	- 18.7	315.4	- 13.1	218.8	449.7
	M	418.5	- 19.7	425.4	- 14.3	276.0	661.7
	F	198.4	- 16.8	208.4	- 11.0	128.0	322.5
Cardiovascular diseases	M	105.3	- 36.9	110.6	- 20.8	72.2	225.0
	F	38.1	- 33.3	38.2	- 21.3	23.4	74.7
Ischaemic heart disease	М	63.9	- 33.5	59.8	- 24.6	35.2	108.6
	F	16.8	- 27.7	13.6	- 28.0	5.4	28.6
Cerebrovascular disease	М	14.7	- 43.3	17.4	- 22.0	7.5	56.6
	F	10.7	– 21.9	10.5	- 20.2	5.2	27.0
Malignant neoplasms	M	139.1	- 7.4	148.8	- 9.8	91.0	217.2
	F	96.2	- 15.6	102.4	-7.7	76.1	155.2
Lung cancer	М	41.0	- 6.6	43.9	- 12.8	18.5	71.0
9	F	16.4	38.6	13.3	11.7	6.9	32.8
Breast cancer	F	23.7	- 26.9	27.5	- 14.3	14.7	37.2
Respiratory diseases	М	11.6	- 19.5	15.8	- 19.2	8.5	29.7
	F	4.9	- 10.8	7.9	- 12.3	3.7	22.6
Digestive diseases	М	43.0	- 26.9	31.8	- 9.6	3.1	67.0
	F	15.7	- 16.5	13.4	- 7.5	4.2	26.2
External causes	М	73.0	- 17.4	59.9	- 10.5	28.2	120.7
	F	20.0	- 16.9	17.8	- 10.6		33.1
Motor vehicle traffic injuries	М	15.1	- 19.9	15.8	- 7.8	6.5	34.0
, ,	F	4.2	- 20.2	4.3	- 14.4		7.4
Suicide	М	32.0	- 17.8	21.2	- 9.0	6.6	56.4
	F	9.1	- 23.7	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 Austria and Eur-A: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Austr	ia (2002)	Eur-A (2001)			
		Rate	Change (%)	Average	Change (%)	Minimum	Maximum
All causes	All	4270.1	- 10.1	4199.5	- 11.5	3714.4	6010.0
	M	5410.4	- 11.4	5328.5	- 13.2	4658.1	7580.8
	F	3595.1	- 10.4	3460.2	– 11.5	2937.7	5088.6
Cardiovascular diseases	M	2700.0	- 20.7	2232.9	- 23.4	1614.4	4272.2
	F	2022.3	- 18.5	1613.4	– 21.7	1027.5	3314.3
Ischaemic heart disease	M	1288.2	– 11.8	948.2	-20.3	517.5	1702.7
	F	821.8	- 5.4	539.5	- 17.4	244.7	1084.7
Cerebrovascular disease	M	569.2	- 20.2	536.2	- 35.9	324.8	1302.3
	F	466.6	- 22.9	457.0	- 32.6	170.4	1018.5
Malignant neoplasms	M	1384.2	- 9.9	1482.9	- 12.1	1175.1	1900.6
	F	749.1	- 9.9	749.8	- 9.4	589.1	1088.5
Lung cancer	M	306.4	- 9.8	371.8	- 22.0	196.0	615.4
· ·	F	80.6	13.4	81.7	15.6	13.8	213.2
Breast cancer	F	121.8	- 5.8	113.9	- 10.1	83.3	164.1
Respiratory diseases	M	387.1	5.8	545.9	- 13.6	371.8	1115.6
. ,	F	184.7	22.3	266.5	- 13.9	157.9	716.3
Digestive diseases	M	208.5	– 11.8	205.0	- 10.5	117.8	342.9
	F	136.4	- 0.9	143.3	-20.3	77.8	196.0
External causes	M	202.0	6.8	152.6	2.0	80.6	282.8
	F	89.4	- 6.9	91.0	0.7	41.3	157.3
Motor vehicle traffic injuries	M	24.7	0.8	20.4	- 15.3	8.7	46.0
,	F	10.0	- 2.1	7.9	5.4	0.0	15.5
Suicide	M	78.8	2.3	34.3	- 13.5	8.8	86.1
	F	17.5	- 20.7	9.9	– 17.6	1.1	23.6

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

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

Annex. Selected health care resources

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

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

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

Technical notes

Calculation of averages

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

To smooth out fluctuations in annual rates caused by small numbers, three-year averages have been used, as appropriate. For example, maternal mortality, usually a small number, has three-year moving averages calculated for all countries.

Data sources

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

Disease coding

Case ascertainment, recording and classification practices (using the ninth and tenth revisions of the International Statistical Classification of Diseases and Related Health Problems: ICD9 and ICD10, respectively), along with culture and language, can influence data and therefore comparability across countries.

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

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

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

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

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

Household surveys

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

Limitations of national-level data

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

¹ The world health report 2003 – Shaping the future. Geneva, World Health Organization, 2003 (http://www.who.int/whr/2003/en/, accessed 25 May 2004).

Ranking

A special case of comparison gives each country a rank order. Although useful as a summary measure, ranking can be misleading and should be interpreted with caution, especially if used alone, as the rank is sensitive to small differences in the value of an indicator. Also, when used to assess trends (as in the table at the start of the section on health status), ranking can hide important absolute changes in the level of an individual country. Graphs have usually been used to show time trends from 1970 onwards. These graphs present the trends for all the reference countries and for the EU-15, as appropriate. Only the country in focus and the appropriate group average are highlighted, and identified in the legend. This enables the country's trends to be followed in relation to those of all the reference countries, and performance in relation to observable clusters and/or the main trend or average to be recognized more easily.

Reference groups for comparison

When possible, international comparisons are used as one means of assessing a country's comparative strengths and weaknesses and to provide a summary assessment of what has been achieved so far and what could be improved in the future. Differences between countries and average values allow the formulation of hypotheses of causation or imply links or remedies that encourage further investigation.

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

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

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

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

Glossary

Causes of death ICD-10 code

Cerebrovascular diseases I60–I69

Chronic liver disease and cirrhosis K70, K73, K74, K76

Chronic obstructive pulmonary disease J40–J47
Colon/rectal/anal cancer C18–C21
Diseases of pulmonary circulation and other I26–I51

heart disease

Falls W00–W19

Female breast cancer C50
Ischaemic heart disease I20–I25
Pneumonia J12–J18
Prostate cancer C61

Neuropsychiatric disorders F00–99, G00–99, H00–95

Road traffic injuries V02–V04, V09, V12–V14, V19–V79, V82–V87, V89

Self-inflicted (suicide) X60–X84

Trachea/bronchus/lung cancer C33–C34

Violence X85–Y09

Technical terminology

Disability-adjusted life-year

(DALY)

The DALY combines in one measure the time lived with disability and the time lost owing to premature mortality. One DALY can be thought

of as one lost year of healthy life.

GINI index The GINI index measures inequality over the entire distribution of

income or consumption. A value of 0 represents perfect equality; a value of 100, perfect inequality. Low levels in the WHO European

Region range from 23 to 25; high levels range from 35 to 36¹.

Healthy life expectancy

(HALÉ)

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).