



Highlights on health in the Czech Republic 2005

Highlights on health give an overview of a country's health status, describing recent data on mortality, morbidity and exposure to key risk factors along with trends over time. The reports link country findings to public health policy considerations developed by the WHO Regional Office for Europe and by other relevant agencies. *Highlights on health* are developed in collaboration with Member States and do not constitute a formal statistical publication.

Each report also compares a country, when possible, to a reference group. This report uses the 27 countries with very low child mortality and very low adult mortality, designated Eur-A by WHO, as the reference group. Eur-A comprises Andorra, Austria, Belgium, Croatia, Cyprus, the Czech Republic, Denmark, Germany, Greece, Finland, France, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, the Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

To make the comparisons as valid as possible, data, as a rule, are taken from one source to ensure that they have been harmonized in a reasonably consistent way. Unless otherwise noted, the source of data in the reports is the European health for all database of the WHO Regional Office for Europe. Other data and information are referenced accordingly.

Keywords

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Summary: findings and policy considerations

Life expectancy

Between 1990 and 2002, people in the Czech Republic gained about four years in life expectancy. WHO estimates that a person born in the Czech Republic in 2003 can expect to live 75 years on average: 79 years if female and 72 years if male. Despite the gains, life expectancy in the Czech Republic is the second lowest in Eur-A and is lower than the Eur-A average in 2003: by 4 years for males and 3 years for females. WHO also estimates that people in the Czech Republic spend 10% (7 years) of their lives on average with illness and disability.

As the length of life increases, older people can respond with lifestyle changes that can increase healthy years of life. Correspondingly, health care systems need to shift towards more geriatric care, the prevention and management of chronic diseases and more formal long-term care. Since people are living longer, measures to improve health and prevent disease need to focus on people of working age.

Ageing and employment policies (OECD, 2004)

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

Infant mortality

Infant and neonatal mortality rates in the Czech Republic are lower than Eur-A averages since the end of the 1990s. For infants born in the Czech Republic in 2002, the chance of dying was 10% lower than the Eur-A average.

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

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

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

What is the effectiveness of antenatal care? (Supplement) (Health Evidence Network, 2005)

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

Main causes of death

In general, mortality rates for males and females in the Czech Republic are the second highest in Eur-A. Excess mortality in the country in comparison with Eur-A is larger in middle-aged and older populations than in younger age groups.

In 2003, the main noncommunicable diseases accounted for about 88% of all deaths in the Czech Republic; external causes for about 7%; and communicable diseases for less than half a per cent. In all diseases of the circulatory system caused 51% of all deaths. Czechs, both males and females, have almost twice the risk of dying from cardiovascular diseases (CVD) as the average person in Eur-A, with the largest excess mortality caused by cerebrovascular diseases (the rates for both males and females are twice as high as the corresponding Eur-A averages).

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

A strategy to prevent chronic disease in Europe: a focus on public health action: the CINDI vision (WHO Regional Office for Europe, 2004a)

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

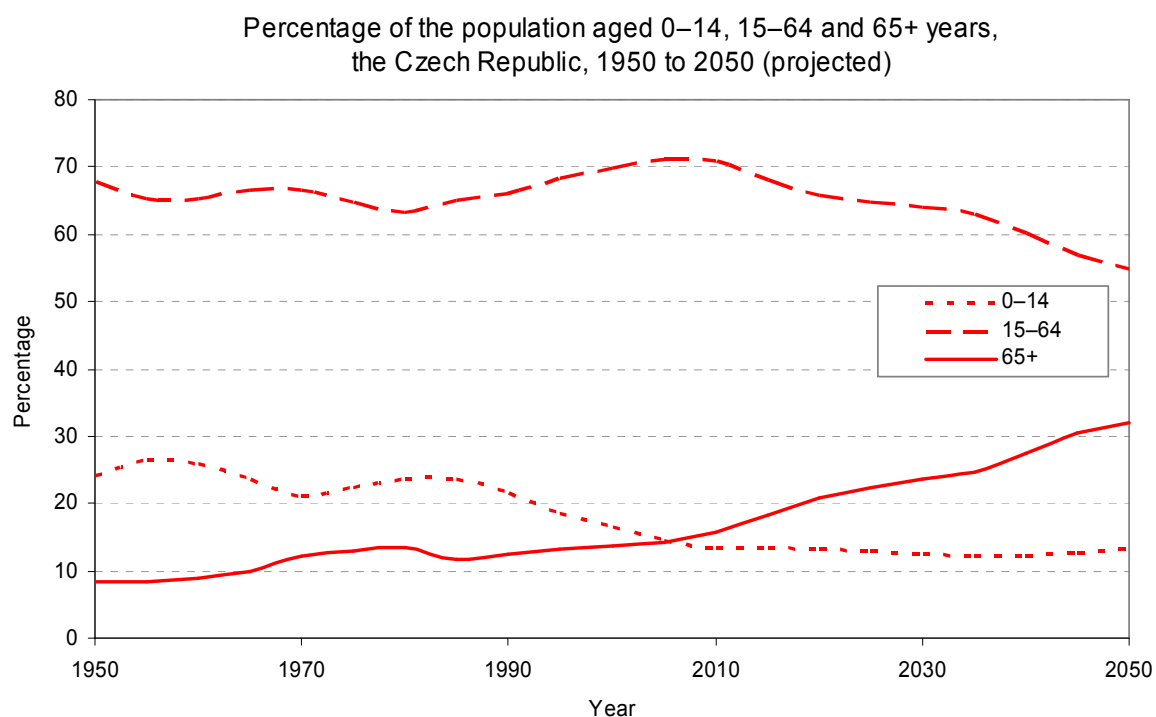
What are the advantages and disadvantages of restructuring a health care system to be more focused on primary health care services? (Health Evidence Network, 2004)

Selected demographic and socioeconomic information

Population profile

In mid-2003, the Czech Republic had about 10.2 million people. About 74% of them lived in urban areas, which is slightly below the corresponding Eur-A average.

The percentage of the population 0–14 years was relatively steady during the 1980s but fell from about 22% in 1990 to 15% in 2003, which is below the Eur-A average. Also the percentage of the Czech Republic's population 65 years of age and older (13.9%) is below the corresponding Eur-A average. By 2030, an estimated 24% of the Czech Republic's population will be 65 years of age and older (Annex. Age pyramid).



Source: United Nations (2005).

The birth rate in the Czech Republic in 2003 was slightly below the corresponding Eur-A average. Natural population growth in the Czech Republic is negative and among the lowest in Eur-A, while net migration is positive and only slightly below the corresponding Eur-A average.

Socioeconomic indicators

Health outcomes are influenced by various factors that operate at individual, household and community levels. Obvious factors are, for example, diet, health behaviour, access to clean water, sanitation and health services. However, underlying health determinants of a socioeconomic nature also play a role in causing vulnerability to health risks. Here, the key factors are income, education and employment. Though moderately correlated and interdependent, each of these three determinants captures distinctive aspects of the socioeconomic background of a population, and they are not interchangeable. Various indicators represent the key socioeconomic determinants of health.

Selected demographic indicators in the Czech Republic and Eur-A,
2003 or latest available year

Indicators	Czech Republic	Eur-A		
	Value	Average	Minimum	Maximum
Population (in 1000s)	10201.7	–	–	–
0–14 years (%)	15.4	–	–	–
15–64 years (%)	70.7	–	–	–
65+ years (%)	13.9	–	–	–
Urban population (%) ^a	74.2	78.5	50.8	100.0
Live births (per 1000)	9.2	10.7	8.6	21.7
Natural population growth (per 1000)	–1.7	1.1	–2.9	15.9
Net migration (per 1000)	2.5	3.5	–0.5	8.8

^a 2002.

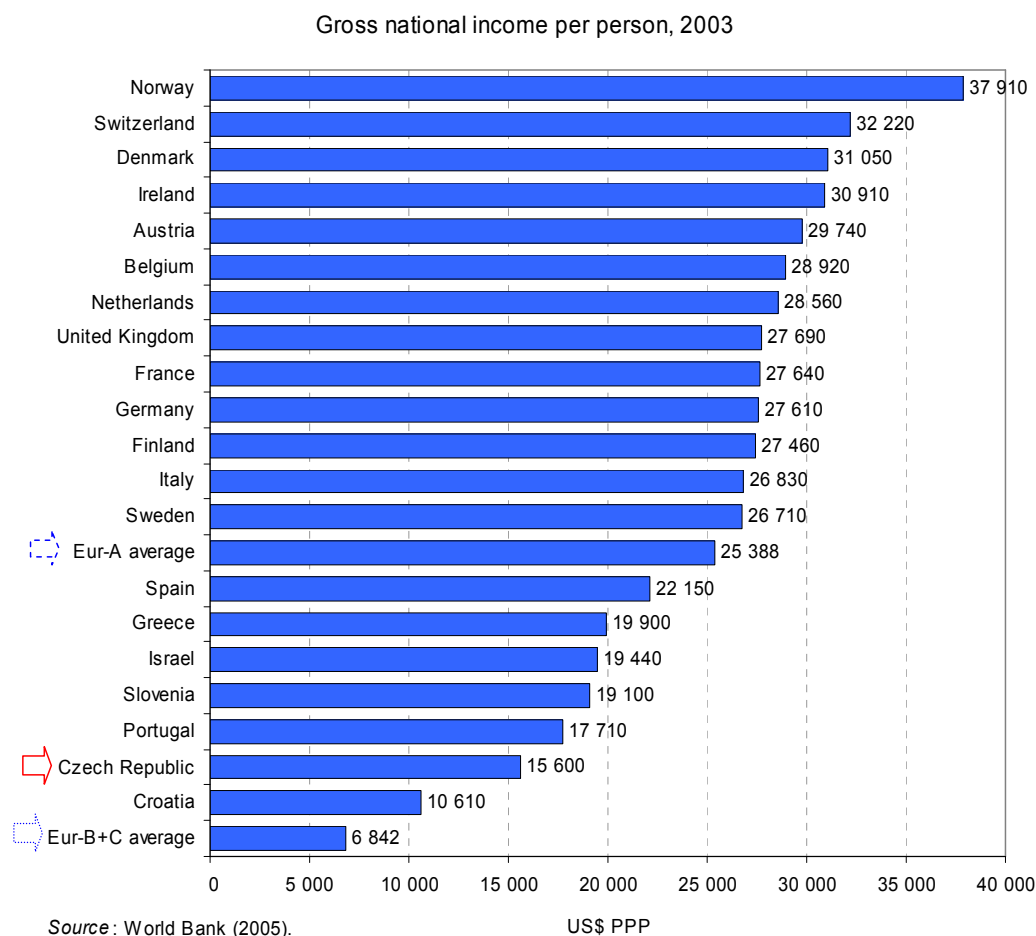
Sources : Council of Europe (2005), WHO Regional Office for Europe (2005).

Income: absolute poverty, relative poverty and income distribution

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

In the Czech Republic, per person gross national income, adjusted for purchasing power parity (PPP), was US\$ 15 600 in 2003, the second lowest per person income in Eur-A. The Eur-A average that year was US\$ 25 388.

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



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

In 2001, 8% of the population in the Czech Republic lived in relative poverty – that is, below the risk-of-poverty threshold set at 60% of the national median equivalent disposable income (after social redistribution). That same year, for the 17 Eur-A countries for which data were available, the average percentage of people living in relative poverty was 14% (Eurostat, 2005).

In 2000, 6.8% of children in the Czech Republic lived in relative poverty, meaning they lived in households with income below 50% of the national median income. Over the latest 10-year period for which comparable data are available, the proportion of children living in poverty rose 4.1% in the Czech Republic. The Czech Republic is among 17 of 24 Organisation for Economic Co-operation and Development (OECD) countries with child poverty data that saw the percentage of their children living in poverty increase in the 1990s. Norway is the only OECD country where child poverty is very low and continues to fall (UNICEF, 2005).

Education

Education tends to enhance an individual's job opportunities. In so doing, it can improve income, which in turn affects health positively. Education can also give more access to knowledge about healthy behaviour and increase the tendency to seek treatment when needed. A lower level of education – independent of individual income – is correlated with the inability to cope with stress, with depression and hostility and with adverse effects on health.

School enrolment is an indicator of access to education. The secondary school net enrolment represents the percentage of the total population of official school age (defined nationally) that is enrolled in secondary schools.

In 2000, the percentage of school age children enrolled in secondary schools in the Czech Republic was 88.3%, slightly below the Eur-A average of 88.5%. Among Eur-A countries reporting these data that year, the lowest enrolment rate was in Luxembourg (79.7%) and the highest was in Slovenia (96.0%) (UNESCO, 2005).

Employment

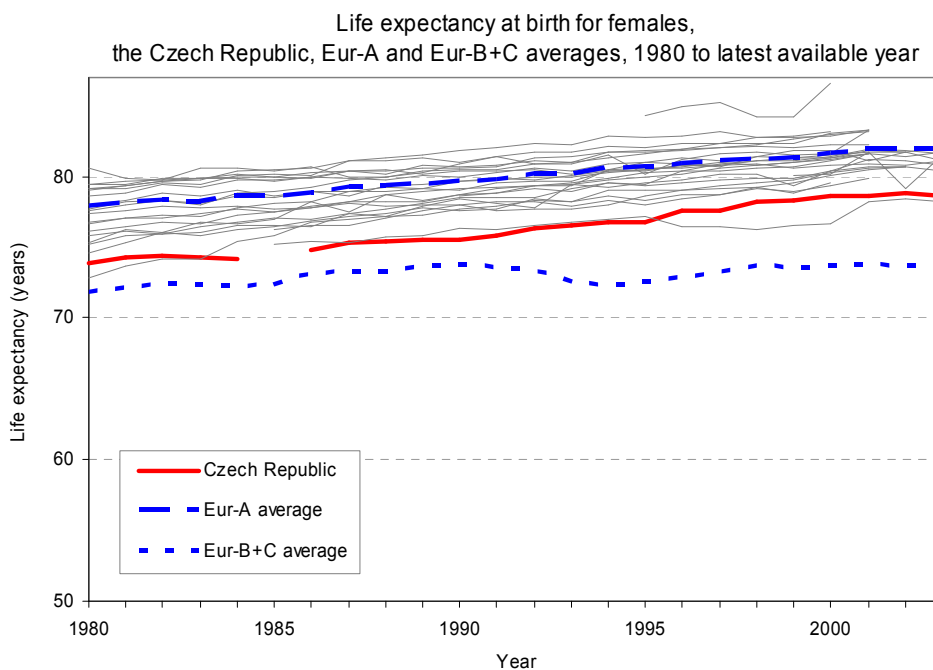
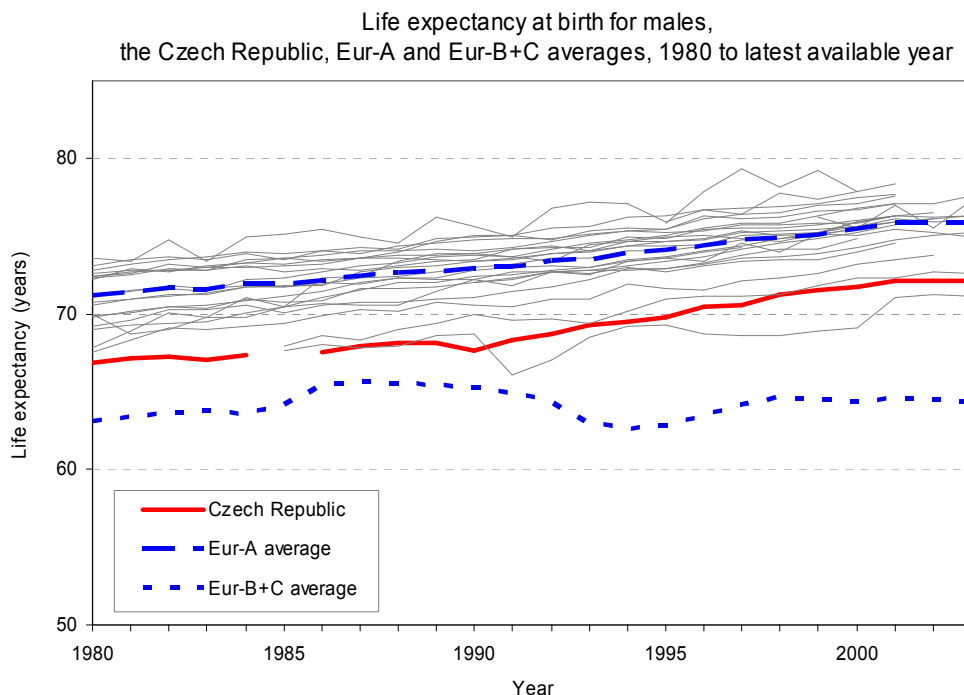
Being employed tends to be better for health than being unemployed, except in circumstances where employment exposes the individual to physical injury or psychological stress. National unemployment rates and rates for particular sub-populations are monitored to assess the extent to which people have or lack access to opportunities that would enable them to earn an income and feel secure. Vulnerability to health risk is increased by long-term unemployment, that is, continuous periods without work, usually for a year or longer; the socioeconomic status of an individual and of his/her dependents can slide as the period of unemployment increases.

Total unemployment rates reported in the Czech Republic were slightly higher than Eur-A averages in 2001 and 2002, keeping in mind that national rates are based on estimates of people available and seeking employment and that countries have different definitions of labour force and unemployment. In 2001, the Czech Republic's rate was 8.1%, compared with the Eur-A average of 6.2%; and in 2002, it was 7.3% in the Czech Republic, while the Eur-A average was 6.7% (ILO, 2005). Over the period 2000–2002, 50.6% of those unemployed were so for a year or longer (World Bank, 2005).

In the Czech Republic, unemployment in 2001 and 2002 among young people aged 15–24 years was higher than both national averages overall and Eur-A averages for young people. In 2001, the averages for young people were 16.6% for the Czech Republic and 13.8% for Eur-A. In 2002, the averages were 16.0% for the Czech Republic and 14.7% for Eur-A (ILO, 2005).

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

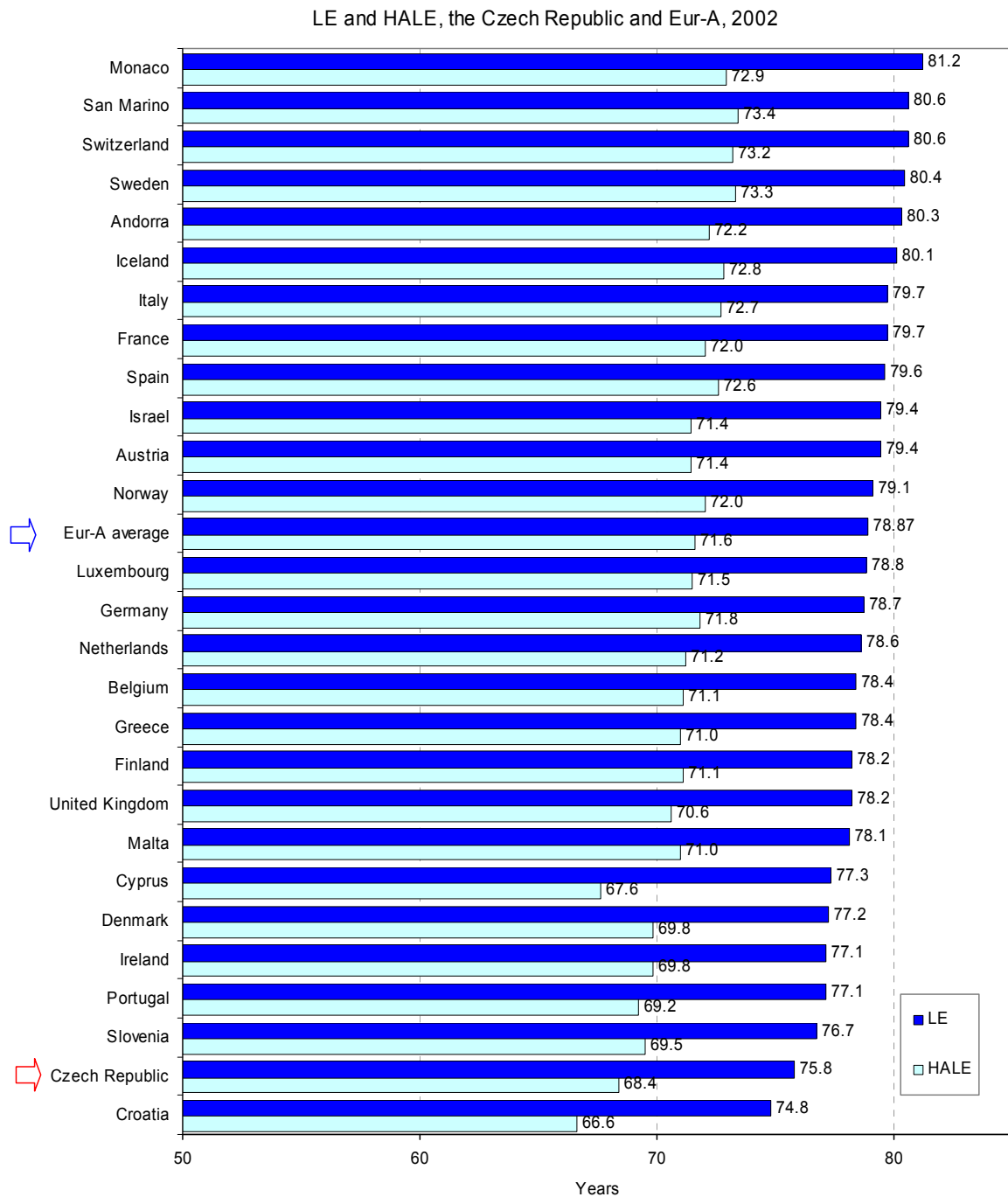
According to figures compiled by WHO (WHO, 2004), a person born in the Czech Republic in 2003 can expect to live 75.4 years on average: 78.7 years if female and 72.1 years if male. Life expectancy (LE) in the Czech Republic is the second lowest in Eur-A and is lower than the Eur-A average in 2003: by 3.8 years for males and 3.3 years for females.



After a rather slow increase in LE during the 1980s (particularly in males), Czechs gained about 4.0 years in LE between 1990 and 2002, with a greater gain for males (4.5 years) than for females (3.3 years).

At the same time, the average gains in Eur-A were smaller: by 1.5 years in males and 1 year in females. The increase in LE for Czechs slowed down after 2000.

In addition to LE, it is increasingly important to know the expected length of life spent in good health. WHO uses a relatively new indicator for this purpose – healthy life expectancy (HALE), subtracting estimated years of life spent with illness and disability from estimated LE. For the Czech Republic, WHO (WHO, 2003c) estimates that people can expect to be healthy for about 90% of their lives. They lose an average of 7.4 years to illness and injuries – the difference between LE and HALE. This loss is similar to the Eur-A average (7.3 years) and the Eur-B+C average (7.6 years).



Since females generally live longer than males and since the possibility of deteriorating health increases with age, females lose more healthy years of life (8.1 years) than do males (6.6 years). Nevertheless, the longer LE at birth for females in the Czech Republic gives them five more years of

healthy life than males. Also, for people aged 60 years, women live 3.3 healthy years longer than men (16.8 healthy years versus 13.5 healthy years).

Burden of disease

The burden of disease in a population can be viewed as the gap between current health status and an ideal situation in which everyone lives into old age, free of disease and disability. Causing the gap are premature mortality, disability and certain risk factors that contribute to illness. The analysis that follows elaborates on the burden of disease in the population. The disability-adjusted life-year (DALY) is a summary measure that combines the impact of illness, disability and mortality on population health.

Main conditions

The following table shows the top 10 conditions (disability groups), in descending order, that account for approximately 90% of the burden of disease among males and females in the Czech Republic. Cardiovascular diseases and neuropsychiatric conditions account for the highest burden of disease among both males and females. Because mortality from neuropsychiatric conditions is minor, disability in daily living comprises the bulk of their burden on the population's health.

Ten leading risk factors as causes of disease burden measured in DALYs in the Czech Republic (2002)

Rank	Males		Females	
	Risk factors	Total DALYs (%)	Risk factors	Total DALYs (%)
1	Tobacco	22.2	High blood pressure	12.1
2	High blood pressure	13.4	High cholesterol	8.4
3	Alcohol	11.2	High BMI	8.3
4	High cholesterol	11.0	Tobacco	7.6
5	High BMI	8.5	Physical inactivity	3.7
6	Physical inactivity	4.4	Unsafe sex	2.5
7	Low fruit and vegetable intake	3.5	Low fruit and vegetable intake	2.4
8	Illicit drugs	0.9	Illicit drugs	0.9
9	Occupational airborne particulates	0.7	Iron deficiency	0.8
10	Occupational risk factors for injuries	0.6	Childhood sexual abuse	0.6

Source: Background data from WHO (2003c).

Main risk factors

The following table shows the top 10 risk factors with their relative contributions, in descending order, to the burden of disease in the male and female populations of the Czech Republic. According to the DALYs, tobacco and high blood pressure place the greatest burden of disease on the Czech male population and high blood pressure and high levels of cholesterol place the greatest burden of disease on the Czech female population.

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Rank	Males		Females	
	Risk factors	Total DALYs (%)	Risk factors	Total DALYs (%)
1	Tobacco	22.2	High blood pressure	12.1
2	High blood pressure	13.4	High cholesterol	8.4
3	Alcohol	11.2	High BMI	8.3
4	High cholesterol	11.0	Tobacco	7.6
5	High BMI	8.5	Physical inactivity	3.7
6	Physical inactivity	4.4	Unsafe sex	2.5
7	Low fruit and vegetable intake	3.5	Low fruit and vegetable intake	2.4
8	Illicit drugs	0.9	Illicit drugs	0.9
9	Occupational airborne particulates	0.7	Iron deficiency	0.8
10	Occupational risk factors for injuries	0.6	Childhood sexual abuse	0.6

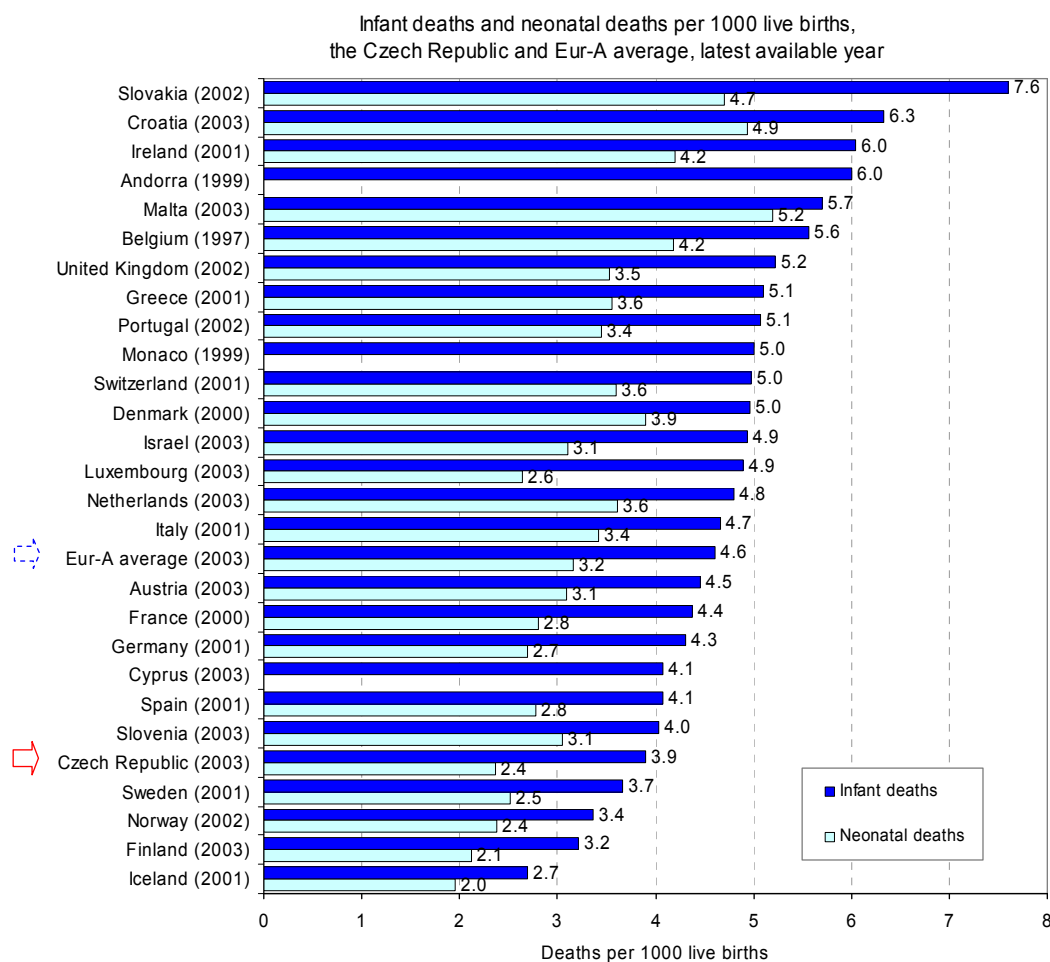
Source: Background data from WHO (2003c).

Mortality

Infant, neonatal and child mortality

From the end of 1990s, in the Czech Republic, infant and neonatal mortality rates have been lower than the corresponding average Eur-A rates. Also, in 2002, the chance of infants born in the Czech Republic dying was 10% lower than the corresponding Eur-A average. After 2000, the rates decreased slightly, which is also the case for the Eur-A average rates.

National data and WHO estimates for 2002 show that, of every 1000 live births in the Czech Republic, about four children will probably die before 5 years of age. The Eur-A average rate for 2002, based on nationally reported data, was between 5 and 6 under-5 deaths per 1000 live births.



Maternal mortality

Maternal mortality rates (MMR) and the Millennium Development Goal (MDG)

Despite the difficulties in accurately measuring MMR, nationally reported figures are accepted at face value relative to the MDG to improve maternal health – to reduce the MMR by 75% between 1990 and 2015. In some countries, the 2015 target may be equal to or lower than the average current MMR for high income countries in the European Region (the Eur-A 2001 average of five maternal deaths per 100 000 live births). Countries with 2015 targets lower than the current Eur-A average can be judged as having achieved or being likely to achieve the MDG (World Bank, 2004).

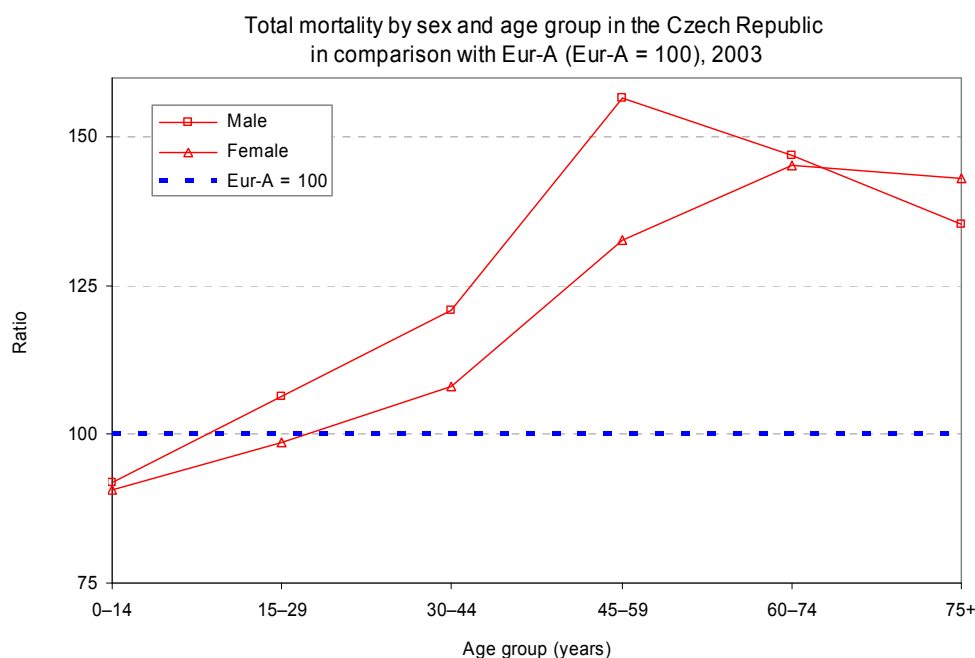
However, in some countries, MMR were higher in 2002 than they had been in 1990. Applying the 75% reduction to the 1990 baseline in these countries creates, in some cases, a 2015 MDG target that requires dramatic reductions in MMR before 2015. In these cases, more important than reaching maternal

mortality targets is taking concrete action to provide women with access to adequate care during pregnancy and childbirth, initiatives that have proven to bring down MMR.

Czech maternal mortality involves the following problem: until the year 2001, figures reflected clinical data; figures for the years 2002 and 2003, however, reflect only deaths due to Chapter XV of ICD-10. A comparison of clinical data with deaths due to Chapter XV of ICD-10 for the years 1999–2001 shows that clinical data are about 30–40% higher. It means that there were between 35 and 40 maternal deaths per 100 000 live births during 1999–2003 and that the Czech Republic was over the Eur-A average rate.

Excess mortality

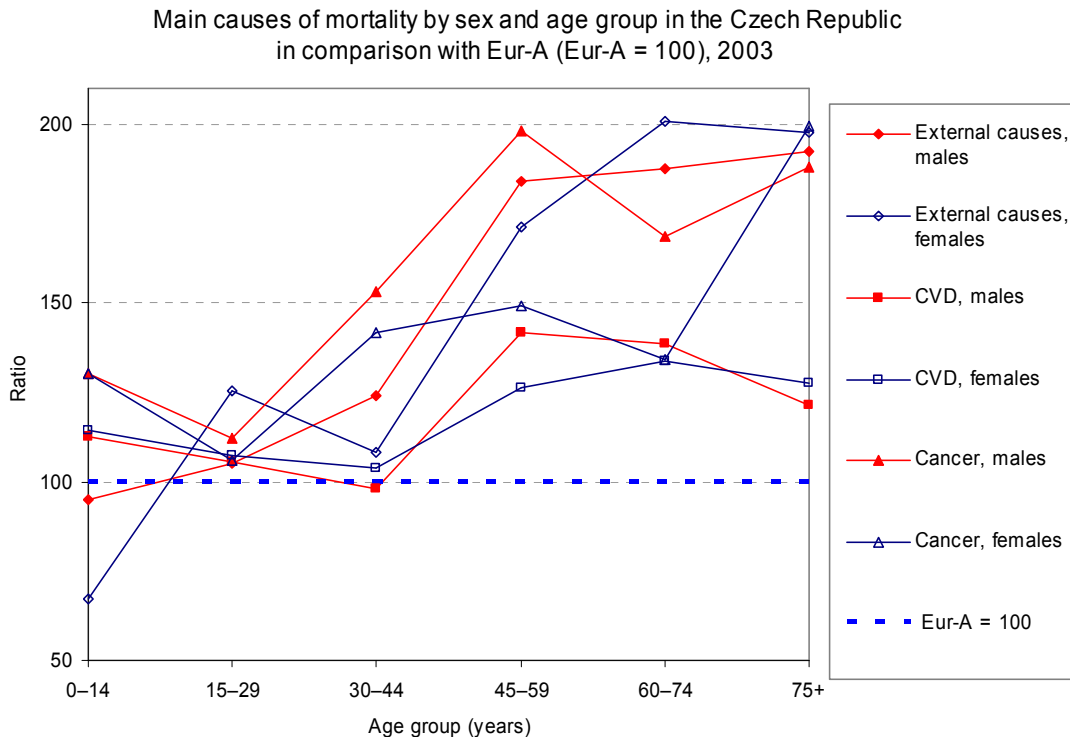
In general, mortality rates for males and females place the Czech Republic statistically in the middle of the European countries, and they are the second highest rates in Eur-A. The excess mortality in the Czech Republic, in comparison with Eur-A, is larger in middle-aged and older people than in younger people. In men 45–59 years of age, it is almost 60%; in women 60 years and older, it is more than 40%. On the other hand, the mortality rate of children below 15 years old is lower in the Czech Republic than the corresponding Eur-A average rate, and the mortality rate of young women 15–29 years old is at the corresponding Eur-A average rate.



Main causes of death

In 2003, the main noncommunicable diseases accounted for about 88% of all deaths in the Czech Republic; external causes for about 7%; and communicable diseases for less than half a percent. In all, 51% of all deaths were caused by diseases of the circulatory system (14% above the Eur-A average) and 26% by cancer (Annex. Selected mortality; Annex. Mortality data).

The risk of Czechs (both male and female) dying from CVD is almost twice as high as the corresponding Eur-A average risk, and the difference has not changed much over time. The excess mortality is lower for cancer – it is about a third among males and about a fourth among females – and is also not changing much over time. The risk of death from external causes for Czech males and females is higher than the corresponding Eur-A average risk, the difference being larger for males (54% excess in 2002) than for females, for whom it declined between 1995 and 2002, from 87% to 47%.

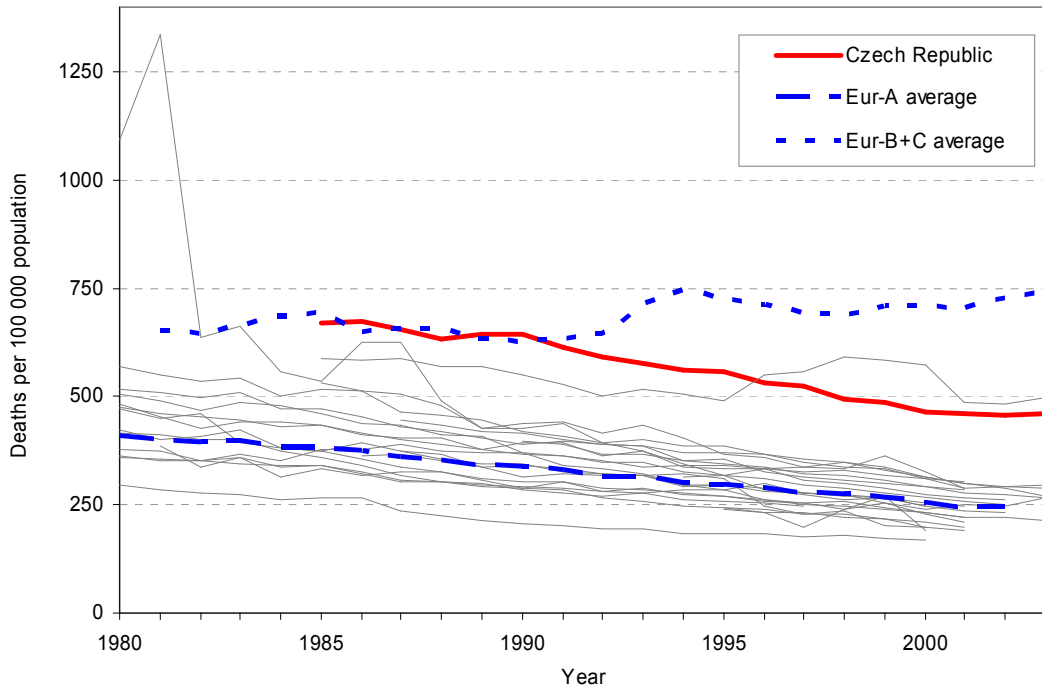


CVD

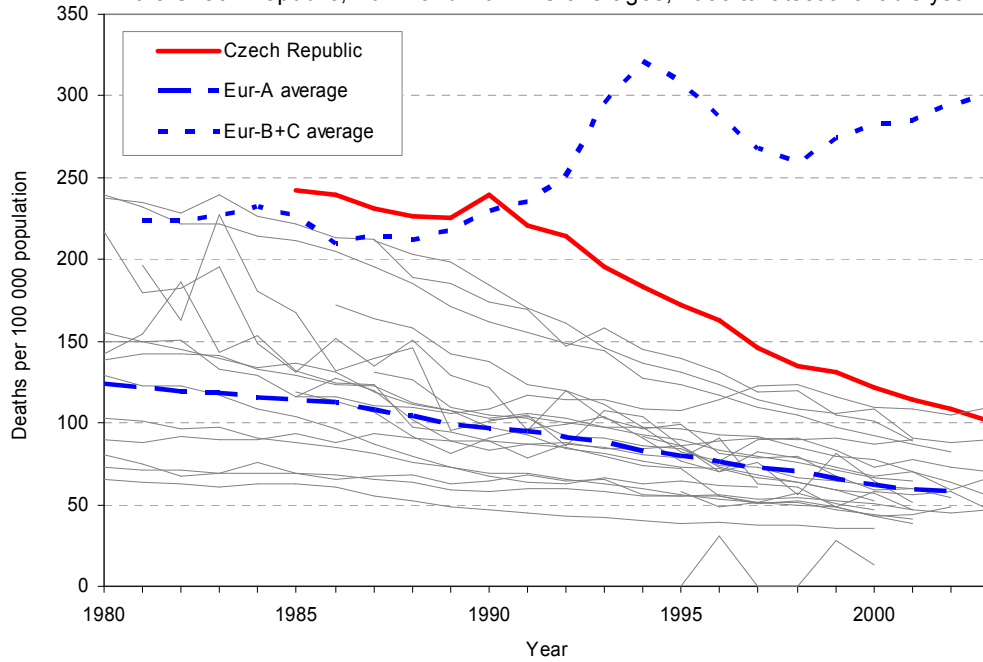
Mortality from CVD in the Czech Republic is the second highest in Eur-A. Mortality rates in the population below 65 years of age, and particularly for 30–44 year olds, have been decreasing faster than the Eur-A average rates, and the CVD mortality gap between the two groups is getting smaller. However, in the older population, aged 75 years and more, excess mortality in Czechs is not decreasing, and even some increase in mortality rates after 2000 is observed.

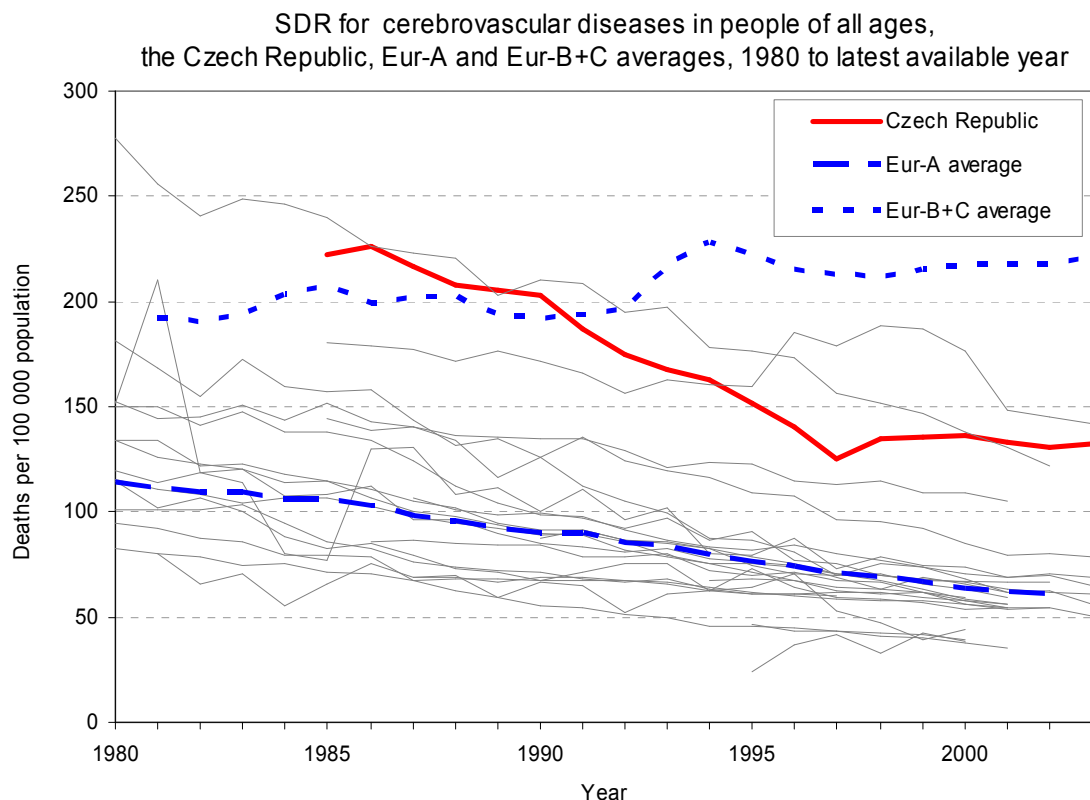
Ischaemic heart disease is the single biggest killer in the Czech Republic, being responsible for almost 20% of all deaths in 2003, which is a larger share than the corresponding Eur-A average (15%). The mortality rate is the second highest in Eur-A. Yet, the largest excess mortality is for cerebrovascular diseases (the rate in both males and females is almost twice as high as the corresponding Eur-A average rate). The difference in mortality rates between the Czech Republic and the Eur-A average declined between 1990 and 1997, due to a faster decrease in the mortality rates in the Czech Republic; however, since then, there has been no improvement (only in the population 25–64 years old did the rates continue to decrease, though more slowly). On the other hand, mortality rates for diseases of pulmonary circulation and other heart diseases are below Eur-A average rates. Higher rates for this subgroup of causes after 1994 may be an artefact of introducing ICD-10 in 1994.

Standardized death rates (SDR) for CVD in people of all ages, the Czech Republic, Eur-A and Eur-B+C averages, 1980 to latest available year



SDR for ischaemic heart disease in males aged 25–64 years, the Czech Republic, Eur-A and Eur-B+C averages, 1980 to latest available year





Cancer

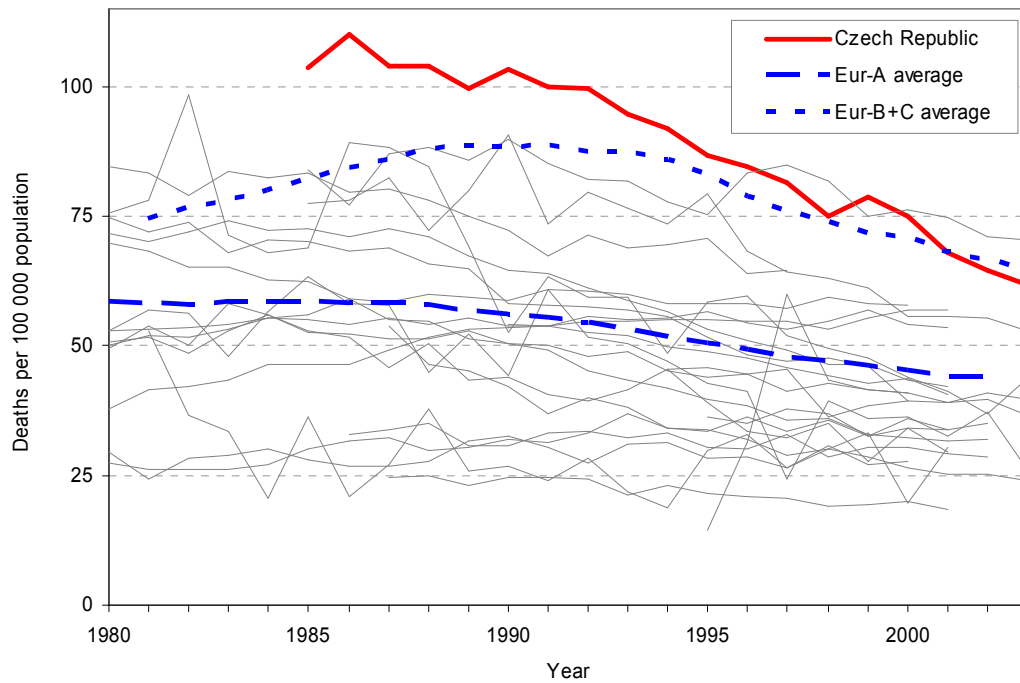
Cancer accounted for 26% of all deaths in the Czech Republic in 2003, which is close to the Eur-A average (28%). Yet, the risk of dying from cancer is greater in the Czech population than it is in Eur-A overall: for all males, it is the highest in all European countries; for females, it is the second highest. The excess mortality is slowly declining for the younger age groups, and the gap between Czech cancer mortality rates and the corresponding Eur-A average rates (especially for males) has almost disappeared for Czechs in the age groups 15–29 years and 30–44 years. However, for the elderly population, age 75 years and more, the mortality rates in recent years show an increase, and the gap between Czech cancer mortality rates and the corresponding Eur-A average rates is widening.

Among Czech males and females, the mortality rate for cancer of the colon, rectum and anus is the second highest in European countries, and recent rates are almost twice as high as the corresponding Eur-A average rates for males and about 50% higher for females. Also, the mortality rate for cancer of the pancreas for males in the Czech population is the highest among European countries (the mortality rate is about 50% higher than the corresponding Eur-A average rate) and is the highest for women (the rate is more than a third above the corresponding Eur-A average rate). For Czech males and females, the trends in mortality from cancer of the trachea, bronchus and lung (TBL) run counter to each other: the rate of male mortality is declining faster than the corresponding Eur-A average rate, yet it is about 30% higher and is the second highest in Eur-A; the rate of female mortality, however, is growing faster than the corresponding Eur-A average and, since 1990, its level is higher than that average. Also, mortality rates for stomach cancer among males and females are higher than the corresponding Eur-A average rates, but are declining faster than those averages. Moreover, for men, the trend in Czech mortality from prostate cancer runs counter to the decline in Eur-A averages and is still increasing, and the excess mortality of Czech men is more than 20%.

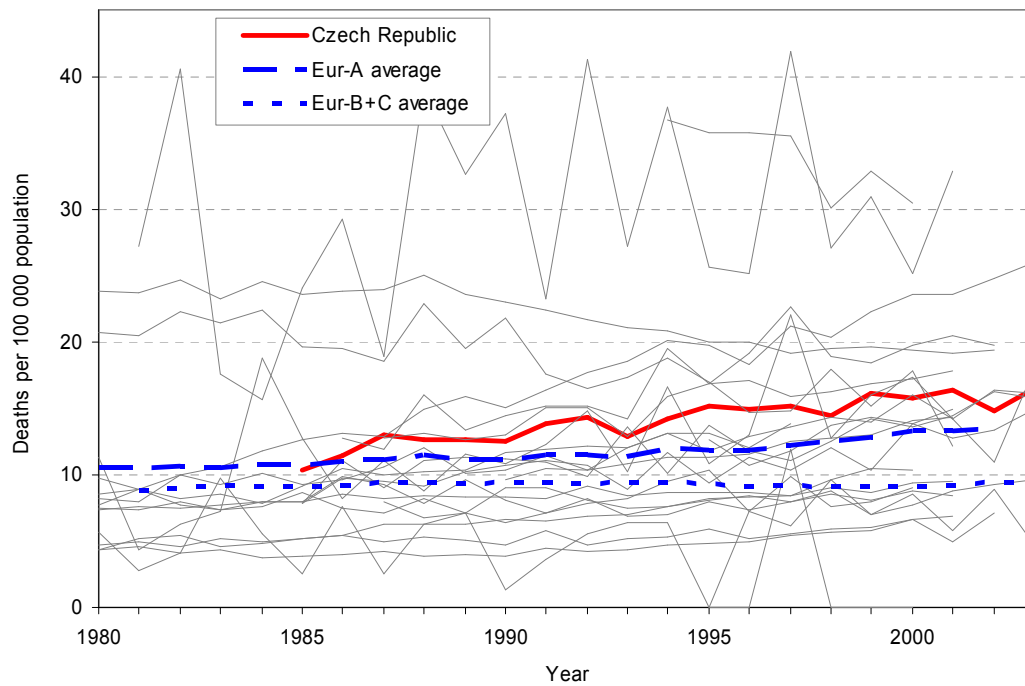
The mortality rate for breast cancer in Czech women is close to that of the corresponding Eur-A average rate, and since 1995 it has been decreasing in a similar way. The mortality rates for cancer of the uterine cervix and cancer of other parts of the uterus are the highest in Eur-A, and the excess mortality, in comparison with the corresponding Eur-A average rates, is almost not diminishing – yet both rates show

similar downward trends. Also, mortality rates for cancer of the ovary are above the Eur-A average rates, and the difference has been slowly increasing since 1996.

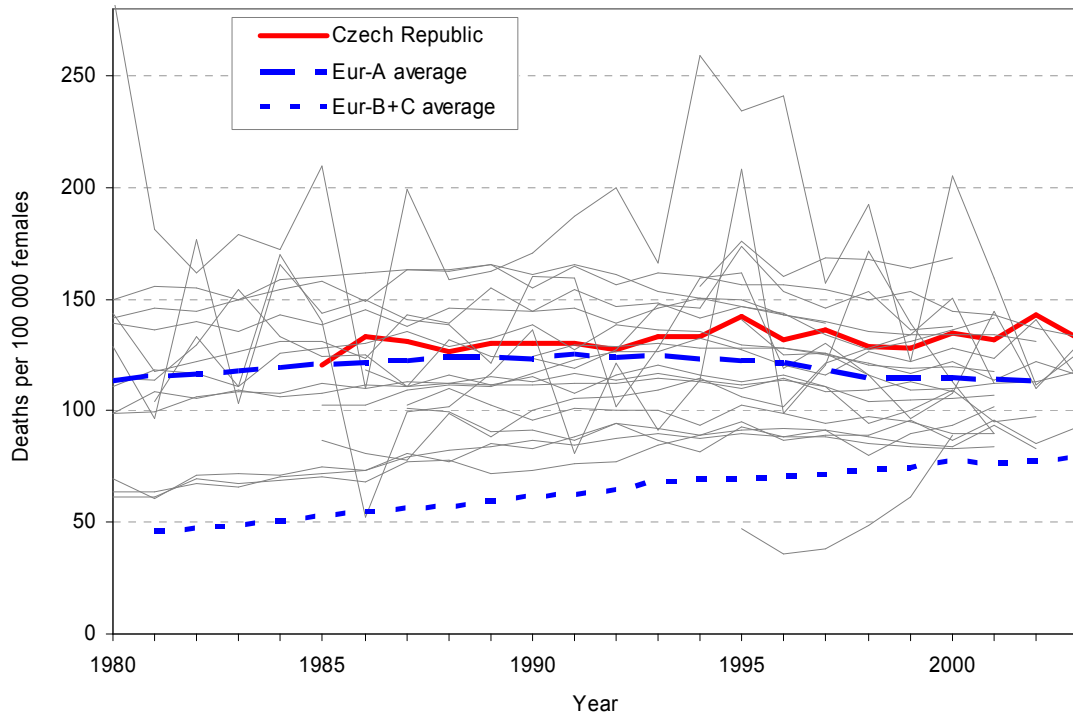
SDR for trachea, bronchus and lung cancer in males aged 25–64 years, the Czech Republic, Eur-A and Eur-B+C averages, 1980 to latest available year



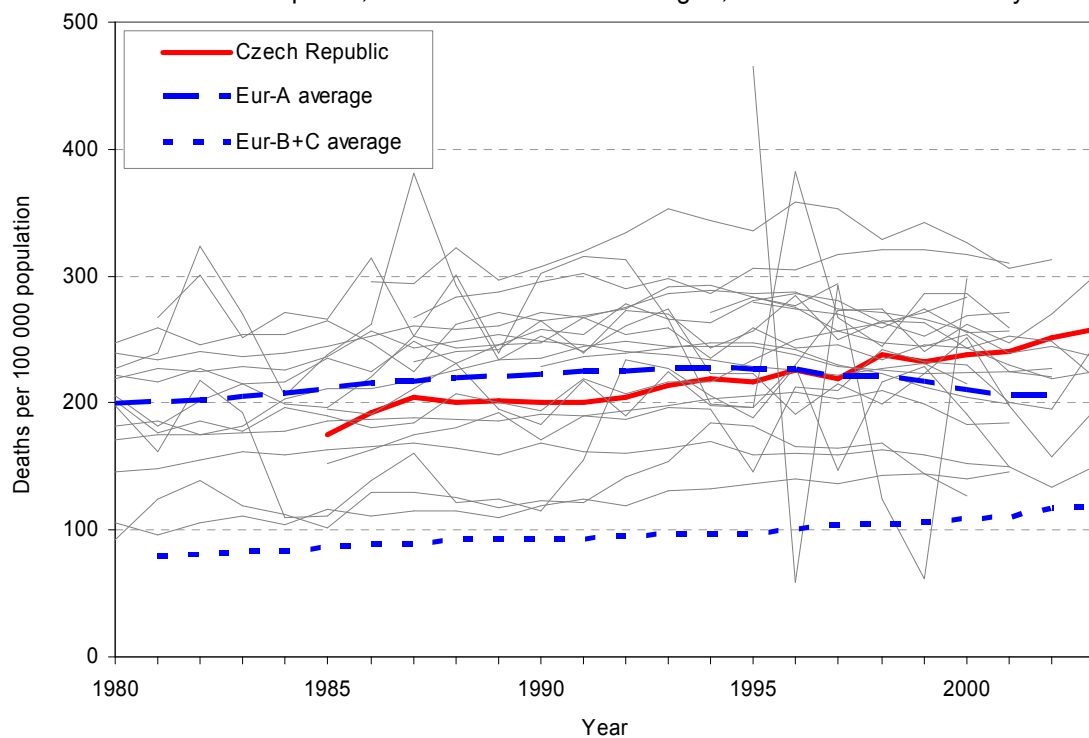
SDR for trachea, bronchus and lung cancer in females aged 25–64 years, the Czech Republic, Eur-A and Eur-B+C averages, 1980 to latest available year



SDR for breast cancer in females aged 65+ years,
the Czech Republic, Eur-A and Eur-B+C averages, 1980 to latest available year



SDR for prostate cancer in males aged 65+ years,
the Czech Republic, Eur-A and Eur-B+C averages, 1980 to latest available year



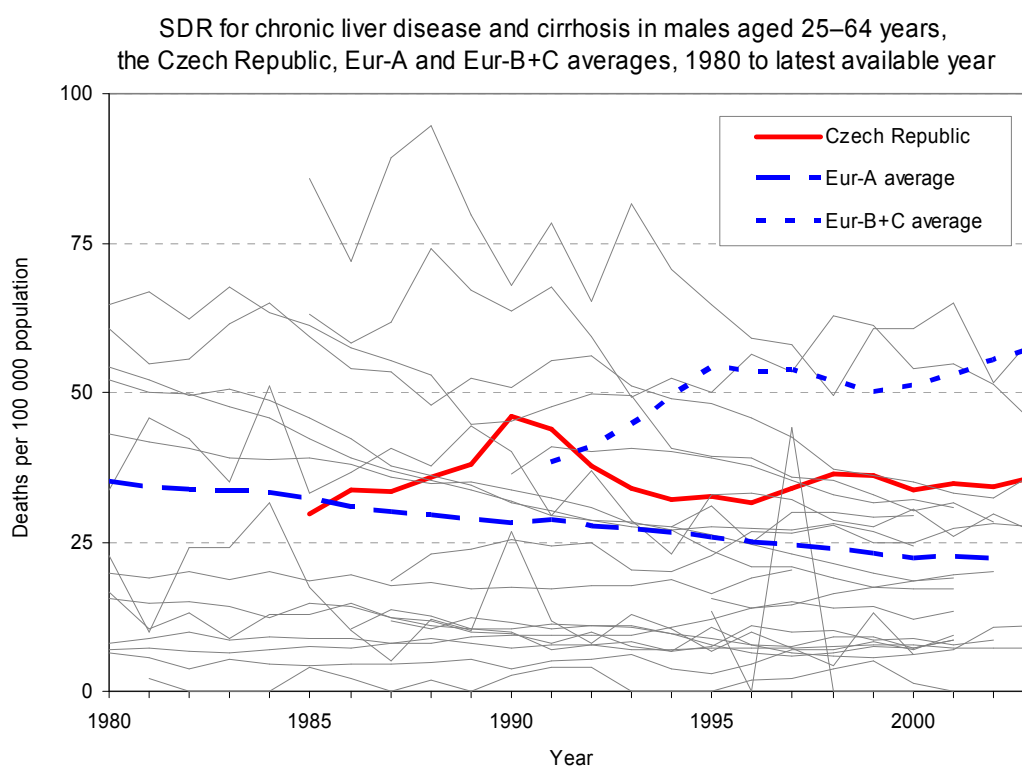
Respiratory diseases

In 2003, respiratory diseases accounted for about 5% of all deaths in the Czech Republic. Mortality rates for respiratory diseases declined until 1997 among males and until 1998 among females; however, they

have been increasing since then. The rates are below the corresponding Eur-A average rates for the population aged 65 years and older but, for years, the risk of death for people under 65 years of age has been higher than the corresponding Eur-A average risk. Among males and females, mortality rates for pneumonia have fluctuated around the corresponding Eur-A average rates, and the mortality rate for pneumonia has been higher than that for chronic lower respiratory diseases. Mortality rates for this last subgroup of respiratory diseases declined until 1996 and have increased slowly since then.

Digestive diseases

Mortality rates in the Czech Republic from diseases of the digestive system are higher than those of the corresponding Eur-A average rates and are the third highest for males among Eur-A countries. The rates in males declined until 1997 and then levelled off; in females, they declined until 1998 and have increased since then. A relatively worse situation is in the working age population 25–64 years of age, where the mortality rate for Czech men in 2003 was about 70% higher than the Eur-A average rate in 2002, and the mortality rate among women was over 50% higher than the Eur-A average rate; it is the second highest among Eur-A countries. The mortality rate of the older population, aged 65 years and more, is close to the Eur-A average rate.



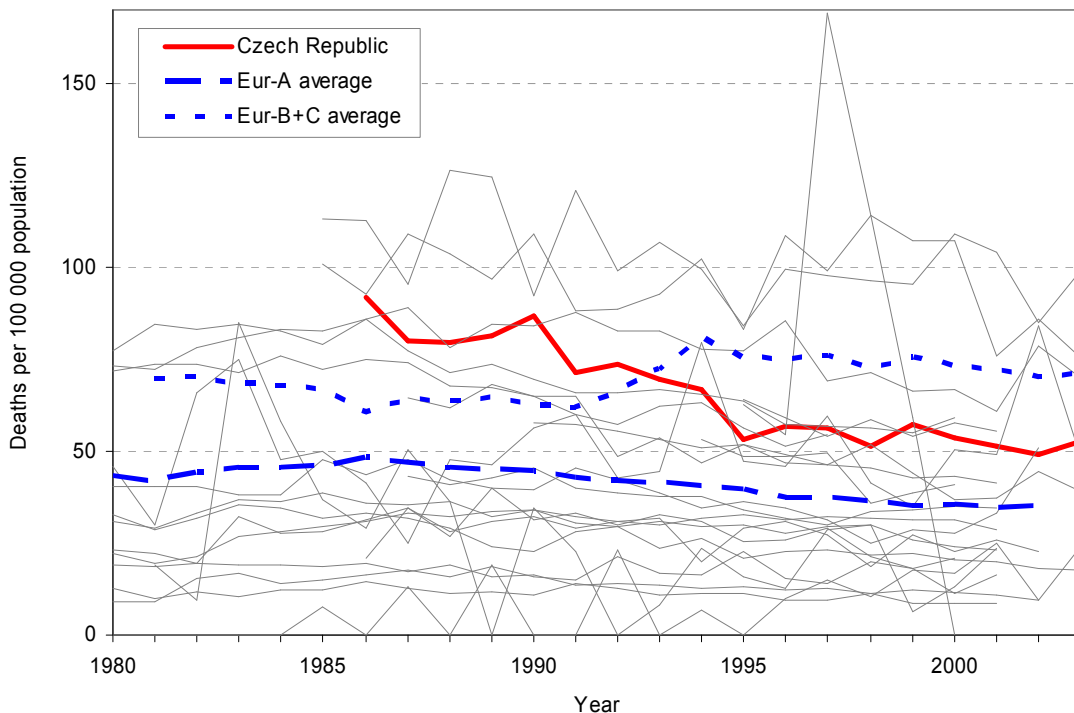
External causes

Mortality rates for external causes are relatively high in the Czech Republic. For males, they were the fourth highest among Eur-A countries in 2003, about 63% above the corresponding Eur-A average rate; for females, they are the highest among Eur-A countries, and the excess mortality is above 50%. A decline in mortality slowed down in recent years, and the rates even increased in 2003. Older people, aged 65 years and more, are in a relatively worse situation than younger people: the mortality rate for older women was the second highest in the European Region, and the rate for older men was the second highest among Eur-A countries.

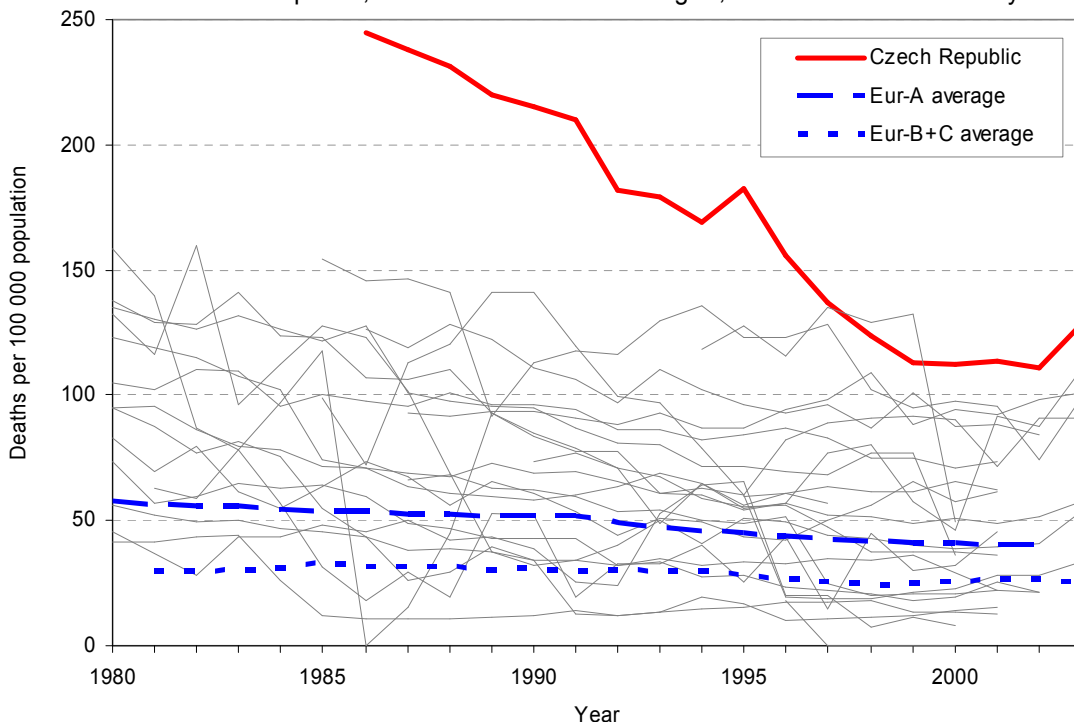
Accidental falls are the main external cause of death in the Czech population (third highest in males and first in females), and the mortality rate is the second highest among European countries (it is almost three times higher than the corresponding Eur-A average rate). Until the end of 1990s, however, the excess mortality from this cause was decreasing. Also, among men, suicide is the leading external cause of death (in 2003, a 56% excess in comparison with the corresponding Eur-A 2002 average); among

women, it is the second most important cause (at the Eur-A average rate in 2003). Road traffic accidents are the third most important external cause of death in the Czech population: for both males and females, the excess mortality rate is about 20%, in comparison with the corresponding Eur-A average rate. Also, Czech mortality rates for accidental drowning, accidental poisoning, and homicide were higher than the corresponding in Eur-A average rates.

SDR for suicide and self-inflicted injury in males aged 65+ years, the Czech Republic, Eur-A and Eur-B+C averages, 1980 to latest available year



SDR for accidental falls in people aged 65+ years, the Czech Republic, Eur-A and Eur-B+C averages, 1980 to latest available year



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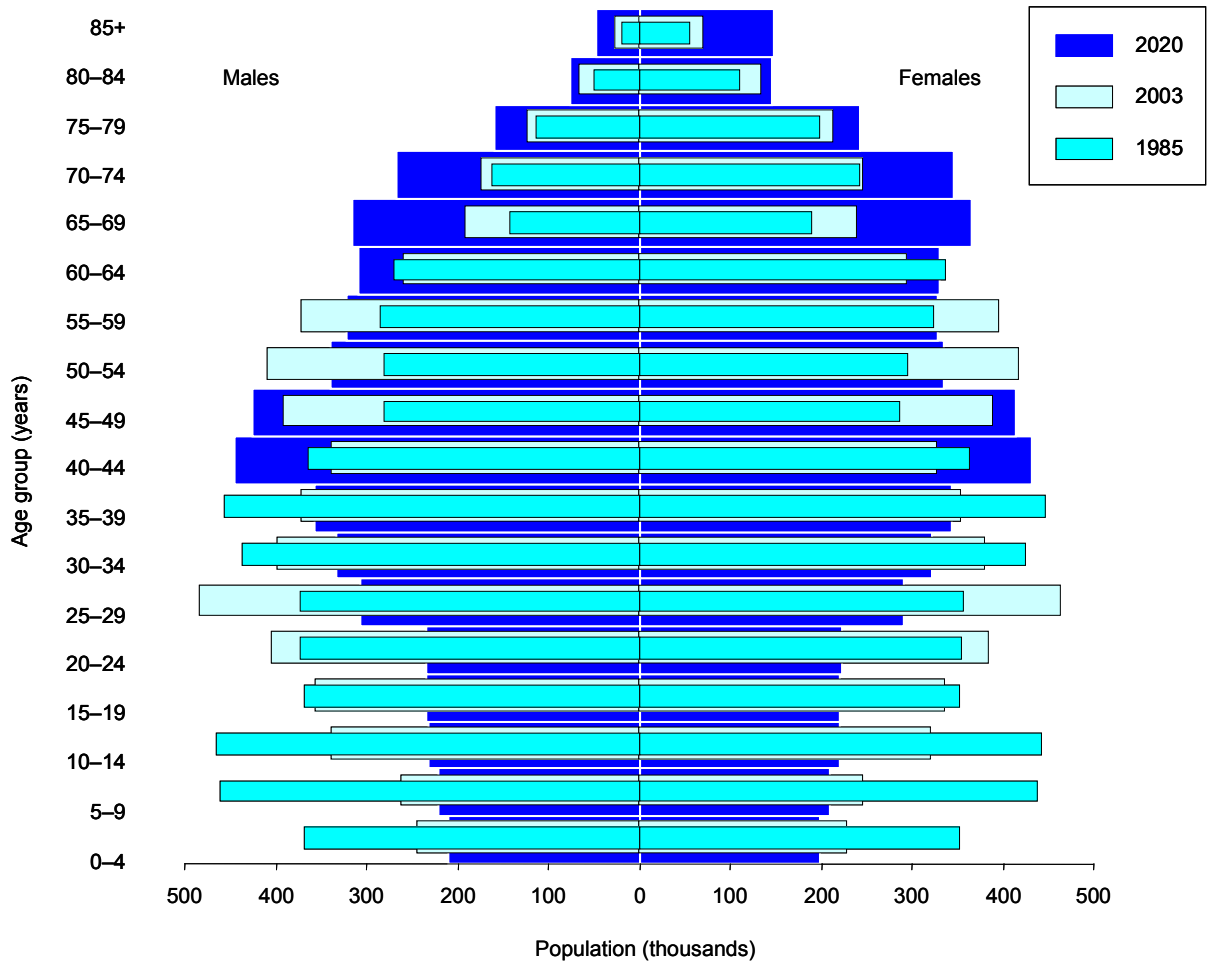
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Annexes

Annex. Age Pyramid

Age pyramid for the Czech Republic



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

Annex. Selected mortality

Selected mortality in the Czech Republic compared with Eur-A average

Condition	SDR per 100 000		Excess mortality in the Czech Republic (%)	Total deaths in the Czech Republic (%)	Total deaths in Eur-A (%)
	Czech Republic (2003)	Eur-A average (2002)			
Selected non-communicable conditions	795.6	533.8	49.0	88.4	82.4
<i>Cardiovascular diseases</i>	461.9	243.4	89.8	51.3	37.6
Ischaemic heart disease	176.1	95.9	83.6	19.6	14.8
Cerebrovascular diseases	132.4	61.1	116.7	14.7	9.4
Diseases of pulmonary circulation and other heart disease	42.3	56.6	-25.3	4.7	8.7
<i>Malignant neoplasms</i>	234.2	181.5	29.0	26.0	28.0
Trachea/bronchus/lung cancer	45.3	37.1	22.1	5.0	5.7
Female breast cancer	27.1	27.0	0.4	3.0	4.2
Colon/rectal/anal cancer	36.5	20.7	76.3	4.1	3.2
Prostate	31.2	25.1	24.3	3.5	3.9
<i>Respiratory diseases</i>	42.4	47.8	-11.3	4.7	7.4
Chronic lower respiratory diseases	15.2	20.2	-24.8	1.7	3.1
Pneumonia	22.0	16.2	35.8	2.4	2.5
<i>Digestive diseases</i>	38.5	30.8	25.0	4.3	4.8
Chronic liver disease and cirrhosis	16.7	12.6	32.5	1.9	1.9
<i>Neuropsychiatric disorders</i>	18.6	30.3	-38.6	2.1	4.7
Communicable conditions	2.6	8.4	-69.0	0.3	1.3
AIDS/HIV	0.0	1.1	-100.0	0.0	0.2
External causes	64.2	40.3	59.3	7.1	6.2
<i>Unintentional</i>	47.7	28.7	66.2	5.3	4.4
Road traffic injuries	11.6	9.9	17.2	1.3	1.5
Falls	17.1	6.1	180.3	1.9	0.9
<i>Intentional</i>	16.6	11.6	43.1	1.8	1.8
Self-inflicted (suicide)	15.3	10.6	44.3	1.7	1.6
Violence (homicide)	1.3	1.0	30.0	0.1	0.2
Ill-defined conditions	6.3	20.9	-69.9	0.7	3.2
All causes	899.6	647.8	38.9	100.0	100.0

Annex. Mortality data

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

Causes of death	Sex	Czech Republic (2003)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	45.2	-5.3	49.4	-2.4	151.7	-3.8
	M	50.8	-5.4	55.3	-2.5	170.5	-3.9
	F	39.3	-5.3	43.3	-2.4	131.9	-3.8
<i>Infectious and parasitic diseases</i>	M	0.5	-2.7	1.4	-1.1	10.9	-7.0
	F	0.3	-6.8	1.1	-3.0	9.5	-6.6
Intestinal infectious diseases	M	0.2		0.2	-0.7	5.1	-8.2
	F	0.2	1.8	0.1	-7.3	4.7	-7.9
<i>Malignant neoplasms</i>	M	3.8	-5.3	3.3	-1.8	5.1	-1.9
	F	3.0	-4.1	2.6	-1.8	4.2	-1.9
<i>Cardiovascular diseases</i>	M	1.4	-4.5	1.4	-3.1	3.3	1.1
	F	0.9	-7.4	1.3	-2.5	2.6	0.1
<i>Respiratory diseases</i>	M	2.5	-6.0	1.4	-4.3	35.9	-5.0
	F	2.3	-1.5	1.0	-4.2	30.7	-5.0
Pneumonia	M	1.6	-6.1	0.5	-6.0	20.9	-4.9
	F	1.5	-2.0	0.4	-5.1	17.9	-4.7
<i>Certain conditions originating in perinatal period</i>	M	244.2	-5.4	255.3	-2.1	607.6	-2.7
	F	167.5	-6.7	202.3	-1.6	427.5	-2.7
Congenital malformations & chromosomal abnormalities	M	8.5	-6.5	11.6	-2.9	24.2	-2.8
	F	9.0	-4.7	10.0	-3.3	21.0	-2.6
<i>Ill-defined causes</i>	M	0.7	-9.3	5.0	-3.9	5.6	-0.6
	F	1.1	1.1	3.4	-4.2	4.6	-1.0
<i>External causes of injury & poisoning</i>	M	9.2	-5.1	7.0	-4.0	29.0	-3.4
	F	6.0	-4.7	4.6	-3.2	18.1	-3.1
Road traffic injuries	M	2.8	2.7	2.5	-4.5	4.7	-2.6
	F	2.3	0.0	1.7	-4.8	3.0	-1.6

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

Causes of death	Sex	Czech Republic (2003)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	58.7	-2.3	56.0	-2.3	161.0	-0.9
	M	87.3	-2.2	82.0	-2.3	241.7	-1.0
	F	28.9	-2.8	29.3	-2.2	79.0	-0.6
<i>Infectious and parasitic diseases</i>	M	0.4	-1.4	1.2	1.5	12.3	3.0
	F	0.1	-9.0	0.8	1.9	5.1	2.5
Malignant neoplasms	M	6.5	-2.8	6.2	-1.0	8.8	-1.9
	F	5.1	-4.2	4.7	-1.4	7.7	-1.9
<i>Cardiovascular diseases</i>	M	4.3	-4.1	4.1	-2.4	17.6	0.0
	F	2.9	-2.8	2.3	-2.0	7.3	-0.9
<i>Respiratory diseases</i>	M	2.5	6.9	1.4	-3.6	6.9	0.2
	F	0.7	-8.2	0.9	-2.7	3.8	-1.1
<i>Digestive diseases</i>	M	1.1	-3.7	0.9	-3.5	8.0	3.0
	F	0.8	-3.2	0.5	-3.8	3.7	3.1
Ill-defined causes	M	1.7	56.9	4.0	-3.1	11.6	7.1
	F	0.9	94.1	1.4	-1.3	3.3	5.8
<i>External causes</i>	M	65.4	-2.5	58.3	-1.4	162.4	-1.6
	F	15.2	-2.1	14.4	-1.6	36.9	-0.2
Road traffic injuries	M	26.1	7.3	28.5	-1.3	27.8	-1.5
	F	8.1	14.5	7.3	-1.4	8.0	0.3
Accidental drowning	M	2.1	-4.7	1.3	-2.2	10.8	-3.9
	F	0.5	-3.1	0.2	-2.1	1.9	-2.2
Accidental poisoning	M	2.7	-0.9	2.8	0.0	19.1	3.3
	F	0.4	-7.2	0.7	0.8	4.4	2.5
Self-inflicted (suicide)	M	17.9	-1.2	12.7	-1.8	36.8	0.0
	F	3.0	-2.6	3.1	-2.2	5.8	-1.3

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

Causes of death	Sex	Czech Republic (2003)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	141.0	-2.7	120.3	-2.5	453.8	-0.7
	M	195.3	-2.8	161.6	-2.6	700.0	-0.8
	F	84.8	-2.6	78.5	-2.1	215.6	-0.2
<i>Malignant neoplasms</i>	M	27.1	-4.8	27.6	-2.3	40.2	-2.8
	F	32.4	-3.0	31.3	-2.0	43.8	-1.4
Trachea/bronchus/lung cancer	M	3.0	-8.3	5.0	-3.4	7.3	-4.2
Female breast cancer	F	1.7	-6.4	2.8	-0.6	2.2	-1.0
<i>Cardiovascular diseases</i>	F	6.5	-3.8	10.0	-2.6	10.0	-2.3
	M	32.4	-5.1	26.1	-2.5	158.6	-0.4
	F	11.2	-4.7	10.4	-2.1	45.3	0.0
Ischaemic heart disease	M	13.5	-6.6	11.8	-3.1	73.7	-2.2
Cerebrovascular diseases	F	2.6	-6.9	2.4	-2.7	14.4	-1.3
	M	5.1	-6.2	4.4	-3.2	24.6	-0.4
<i>Respiratory diseases</i>	F	3.0	-3.7	3.6	-2.5	10.6	-1.3
	M	6.1	-2.3	3.9	-3.5	34.3	0.9
<i>Digestive diseases</i>	F	2.6	-4.4	2.2	-2.0	9.8	0.8
	M	19.4	-3.8	12.6	-2.4	50.2	1.4
<i>External causes</i>	F	8.4	-0.5	5.4	-1.7	19.4	4.1
	M	89.9	-1.8	58.8	-1.2	299.5	-1.9
Road traffic injuries	F	21.4	-1.6	15.1	-1.8	58.9	-1.0
	M	22.3	7.8	16.0	-0.5	31.4	-1.7
	F	5.8	7.0	3.9	-2.0	7.1	-0.5
Self-inflicted (suicide)	M	31.7	-0.4	21.2	-1.5	54.9	-2.4
	F	6.0	-2.5	5.8	-2.2	7.9	-2.5

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

Causes of death	Sex	Czech Republic (2003)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	643.2	-1.7	435.6	-1.3	1294.9	-0.6
	M	907.9	-1.7	580.1	-1.4	1981.7	-0.6
	F	389.2	-1.7	293.3	-1.0	698.9	-0.5
<i>Malignant neoplasms</i>	M	308.8	-2.1	218.2	-1.2	323.2	-1.9
	F	195.5	-1.3	155.0	-1.0	186.1	-0.5
Trachea/bronchus/lung cancer	M	91.3	-4.0	65.9	-1.5	101.4	-2.9
Female breast cancer	F	25.9	1.5	21.8	3.4	15.4	1.0
<i>Cardiovascular diseases</i>	F	37.6	-3	44.0	-2.2	45.3	0.1
	M	288.1	-3.4	156.4	-2.6	793.1	-0.1
	F	87.2	-4.3	50.9	-2.5	271.7	-0.6
Ischaemic heart disease	M	148.6	-4.9	86.2	-3.3	435.3	-0.7
Cerebrovascular diseases	F	34.4	-5.6	17.8	-3.4	111.1	-0.6
	M	42.6	-4.2	23.7	-2.6	168.6	-0.9
<i>Respiratory diseases</i>	F	20.2	-4.2	14.5	-2.1	88.4	-1.4
	M	36.9	1.5	20.3	-1.7	108.7	-1.4
<i>Digestive diseases</i>	F	13.8	0.1	10.2	-1.3	24.5	-0.7
	M	89.9	0.6	49.6	-0.8	129.7	0.7
<i>External causes</i>	F	32.6	1.8	20.3	-0.7	57.3	1.9
	M	124.4	0.5	62.8	-1.0	409.2	-0.9
Road traffic injuries	F	31.2	1.0	20.9	-0.9	89.1	-1.1
	M	18.7	9.5	13.0	-1.3	28.5	-1.8
	F	4.6	1.1	4.1	-2.1	7.5	-1.4
Self-inflicted (suicide)	M	42.0	1.8	23.1	-1.1	68.1	-2.4
	F	10.3	-0.4	8.5	-1.2	10.2	-3.4

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

Causes of death	Sex	Czech Republic (2003)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	2263.1	-2.4	1570.9	-1.9	3411.7	-0.1
	M	3171.6	-2.4	2156.9	-2.1	4996.4	0.1
	F	1553.1	-2.6	1069.2	-1.9	2339.0	-0.6
<i>Malignant neoplasms</i>	M	1179.1	-1.0	851.3	-1.4	1002.5	-0.8
	F	588.8	-1.0	439.8	-1.1	438.9	-0.7
Trachea/bronchus/lung cancer	M	358.9	-2.3	261.8	-1.9	321.7	-1.5
Female breast cancer	F	74.4	2.0	59.0	0.2	37.1	-1.4
<i>Cardiovascular diseases</i>	F	84.4	-2.2	79.7	-1.6	68.7	1.3
	M	1398.0	-4.1	744.9	-3.6	2903.0	0.6
Ischaemic heart disease	F	673.8	-4.2	335.7	-3.9	1507.8	-0.3
	M	669.8	-5.3	381.3	-4.2	1582.2	1.2
Cerebrovascular diseases	F	274.1	-5.4	133.5	-4.6	731.4	0.5
	M	320.5	-3.8	143.3	-3.7	833.7	0.2
<i>Respiratory diseases</i>	F	184.6	-4.1	86.7	-4.1	528.9	-0.8
	M	155.1	-0.7	144.0	-3.5	303.0	-2.4
<i>Digestive diseases</i>	F	61.0	-0.6	62.5	-2.4	68.6	-3.6
	M	139.8	-0.4	111.6	-1.6	193.0	0.1
<i>External causes</i>	F	70.3	0.1	54.1	-1.7	94.2	0.2
	M	133.8	-1.2	79.3	-1.4	320.0	1.0
Road traffic injuries	F	43.1	-4.3	32.1	-2.1	88.7	-0.5
Self-inflicted (suicide)	M	18.8	7.1	14.8	-3.0	24.3	-1.5
	F	7.4	3.8	5.9	-3.4	9.5	-1.0
	M	30.2	-0.8	24.5	-1.6	60.5	-0.8
	F	8.4	-5.0	8.7	-2.6	12.7	-3.1

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

Causes of death	Sex	Czech Republic (2003)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	11188.0	-0.6	8059.6	-1.0	12338.8	0.0
	M	13304.4	-0.6	9832.0	-1.1	14838.0	0.1
	F	10171.5	-0.6	7112.5	-0.9	11421.7	0.0
<i>Malignant neoplasms</i>	M	2711.5	0.6	2231.1	-0.4	1489.3	1.2
	F	1448.1	-0.1	1136.2	-0.4	721.7	0.8
Trachea/bronchus/lung cancer	M	474.1	-0.7	457.1	-0.7	323.5	1.0
Female breast cancer	F	108.2	2.0	102.7	1.5	55.6	0.5
<i>Cardiovascular diseases</i>	F	201.8	0.7	159.6	-0.4	92.0	3.1
	M	8378.6	-1.1	4356.2	-2.1	10221.2	0.4
Ischaemic heart disease	F	7073.5	-0.8	3577.9	-1.9	8805.6	0.4
	M	3112.9	-2.8	1708.0	-2.2	4925.6	1.4
Cerebrovascular diseases	F	2301.1	-3.0	1150.0	-2.2	4028.6	1.2
	M	2493.4	-0.7	1119.8	-2.5	3004.4	0.7
<i>Respiratory diseases</i>	F	2338.1	-0.1	1026.9	-2.4	2967.6	0.5
	M	782.7	-0.7	1156.5	-2.4	824.1	-2.1
<i>Digestive diseases</i>	F	490.1	0.2	591.9	-2.1	302.3	-3.2
	M	289.1	-1.0	340.3	-1.1	270.4	0.3
<i>External causes</i>	F	263.5	0.8	279.8	-0.4	175.0	1.1
	M	517.0	-0.8	275.0	-0.6	604.2	0.1
Road traffic injuries	F	374.2	-4.4	187.8	-1.2	172.4	-1.2
Self-inflicted (suicide)	M	26.6	-0.7	28.1	-2.2	34.6	-3.1
	F	10.5	3.5	10.0	-3.1	14.7	-1.7
	M	90.6	0.6	49.5	-1.6	86.6	-1.1
	F	18.1	-5.0	11.8	-3.2	22.4	-1.9

Technical notes

Calculation of averages

Averages for the reference group, when based on data in the European health for all database of the WHO Regional Office for Europe, are weighted by population. Some countries with insufficient data may be excluded from the calculation of averages. Otherwise, for data from other sources, simple averages have been calculated where required.

To smooth out fluctuations in annual rates caused by small numbers, three-year averages have been used, as appropriate. For example, maternal mortality, usually a small number, has three-year moving averages calculated for all countries. When extreme fluctuations are known to be due to population anomalies, data have been deleted, as appropriate.

Data sources

To make the comparisons as valid as possible, data for each indicator have, as a rule, been taken from one source to ensure that they have been harmonized in a reasonably consistent way. Unless otherwise noted, the source of data for figures and tables in this report is the January 2005 version of the European health for all database of the WHO Regional Office for Europe. The health for all database acknowledges the various primary sources of the data.

In cases where current census data for national population are unavailable, coupled with ongoing migrations of people in and out of countries, UN estimates or provisional figures supplied by the country are used to approximate national population. Such population figures create uncertainty in standardized death rates.

Disease coding

Case ascertainment, recording and classification practices (using the ninth and tenth revisions of the International Statistical Classification of Diseases and Related Health Problems: ICD-9 and ICD-10, respectively), along with culture and language, can influence data and therefore comparability across countries.

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

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

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

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

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

Limitations of national-level data

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

¹ WHO (2003). *The world health report 2003 – Shaping the future*. Geneva, World Health Organization (<http://www.who.int/whr/2003/en>, accessed 10 June 2005).

Reference groups for comparison

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

The country groups¹ used for comparison are called reference groups and comprise:

- countries with similar health and socioeconomic trends or development; and/or
- geopolitical groups.

The 27 countries with very low child mortality and very low adult mortality are designated Eur-A by WHO. Eur-A comprises Andorra, Austria, Belgium, Croatia, Cyprus, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, the Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland and the United Kingdom. However, data for most indicators are unavailable for two of the 27 countries: Andorra and Monaco. Therefore, unless otherwise indicated, Eur-A and averages for Eur-A refer to the 25 countries for which data are available.

The 25 countries with low child mortality and low or high adult mortality are designated Eur-B+C by WHO. Eur-B+C comprises Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Poland, Republic of Moldova, Romania, Russian Federation, Serbia and Montenegro, Slovakia, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, and Uzbekistan. Unless otherwise indicated, Eur-B+C and averages for Eur-B+C refer to these countries.

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

Graphs have usually been used to show time trends from 1980 onwards. These graphs present the trends for all the reference countries as appropriate. Only the country in focus and the group average are highlighted and identified in the legend. This enables the country's trends to be followed in relation to those of all the reference countries, and performance in relation to observable clusters and/or the main trend or average to be recognized more easily.

¹ WHO (2004). *The world health report 2004 – Changing history*. Geneva, World Health Organization (<http://www.who.int/whr/2004/en>, accessed 26 August 2004).

Glossary

Causes of death

	ICD-10 code
Cerebrovascular diseases	I60–I69
Chronic liver disease and cirrhosis	K70, K73, K74, K76
Chronic obstructive pulmonary disease	J40–J47
Colon/rectal/anal cancer	C18–C21
Diseases of pulmonary circulation and other 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).