



# Highlights on health in Romania

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 25 countries with low child mortality and low or high adult mortality, designated Eur-B+C by WHO, as the reference group. 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.

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

WHO estimates that a person born in Romania in 2002 can expect to live 71 years on average: 75 years if female and 67 years if male. These values are higher than the corresponding Eur-B+C average values: by one year for females and three years for males. However, the values for Romania for 2002 were below the corresponding average values for low mortality Eur-A countries that year: by seven and nine years, respectively, for females and males.

In 1996, life expectancy in Romania was two years shorter for males than in 1984, and female life expectancy was the same as in 1986. Since 1996, both males and females in Romania have surpassed the average increases in life expectancy witnessed in Eur-A and Eur-B+C countries. However, the positive trends stopped in recent years, leaving males, for example, at the same level as in the mid-1970s. WHO also estimates that Romanians spend on average 12% (8 years) of their lives 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

The latest infant mortality rate in Romania remains below the corresponding Eur-B+C average rate; however, it is almost four times higher than the corresponding Eur-A average rate. Unlike in most Eur-B+C and all Eur-A countries, post neonatal mortality in Romania is higher than neonatal mortality.

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)

### Maternal mortality

Romanian maternal mortality rates were the highest in Europe until 1989. Between 1990 and 2002, Romania's maternal mortality rate fell by almost 73%. Since 1996, the rates have been below the Eur-B+C average rates, but much higher than the Eur-A average rates. The rates may be underestimated, though: according to a WHO/United Nations Children's Fund /United Nations Population Fund estimate for the year 2000, the maternal mortality rate in Romania was about 49 maternal deaths per 100 000 live births, while the nationally reported rate was 33 maternal deaths per 100 000 live births.

Because the 1990 rate was so high (the highest in Eur-B+C), the 2002 rate (about 29 maternal deaths per 100 000 live births) is almost at Romania's Millennium Development Goal target, which is about 27 maternal deaths per 100 000 live births. Nevertheless, Romania's Millennium Development Goal target is about five times higher than the current Eur-A average maternal mortality rate.

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More important than reaching the exact Millennium Development Goals for maternal mortality rates is that countries take concrete action to provide women with access to adequate care during pregnancy and childbirth. There are evidence-based initiatives proven to bring down the rates.

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

### **Main causes of death**

In 2002, the main noncommunicable diseases accounted for about 90% of all deaths in Romania; external causes accounted for about 6%; and communicable diseases accounted for about 1%. In total, 61% of all deaths were caused by diseases of the circulatory system (a little higher than the Eur B+C average rate and 23% higher than the Eur-A average rate) and 16% by cancer (12% lower than the Eur-A average rate).

In general, mortality rates for males (18%) and females (5%) in Romania are below the corresponding Eur-B+C average mortality rates in 2003, yet they are well above the averages for very low mortality Eur-A countries: 73% excess mortality for males and 78% for females. For both males and females, the largest excess is in the youngest population, below 15 years of age; on average, Romanian children have about a 3.6 times higher risk of dying than their counterparts in Eur-A countries and more than a 10% higher risk than their counterparts in Eur-B+C countries.

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)*

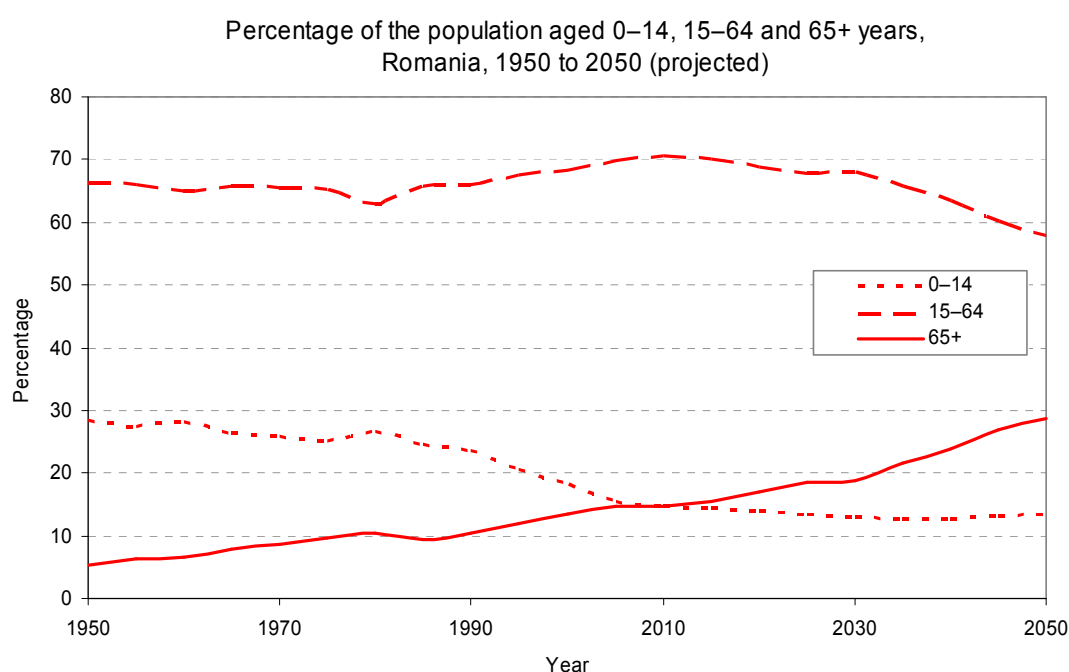
*What are the advantages and disadvantages of restructuring a health care system to be more focused on primary health care services? (Health Evidence Network, 2004)*

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## Selected demographic and socioeconomic information

### Population profile

In mid-2003, Romania had about 21.7 million people. About 55% of them lived in urban areas, which is below the Eur-B+C average rate. The percentage of the youngest population, 0–14 years, was relatively steady during the 1980s but fell from about 24% in 1990 to 17% by 2002. The percentage, however, is below the corresponding Eur-B+C average. The percentage of Romania's oldest population, over 65 years, is above the corresponding Eur-B+C average. By 2030, an estimated 19% of Romania's population will be 65 years old and over (Annex. Age pyramid).



The birth rate in Romania was among the lowest in Eur-B+C in 2003. Also, natural population growth and net migration in Romania are both negative and below the respective Eur-B+C average rates.

Selected demographic indicators in Romania and Eur-B+C, 2002 or latest available year

Indicators	Romania	Eur-B+C		
	Value	Average	Minimum	Maximum
Population (in 1000s) <sup>a</sup>	21733.6	–	–	–
0–14 years (%)	17.3	–	–	–
15–64 years (%)	68.6	–	–	–
65+ years (%)	14.0	–	–	–
Urban population (%)	54.5	63.7	25.0	73.3
Live births (per 1000) <sup>a</sup>	9.8	12.8	8.6	27.1
Natural population growth (per 1000)	–2.7	0.8	–7.5	23.0
Net migration (per 1000)	–0.3	1.8	–6.6	2.1

<sup>a</sup>2003.

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

## 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.

### ***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.

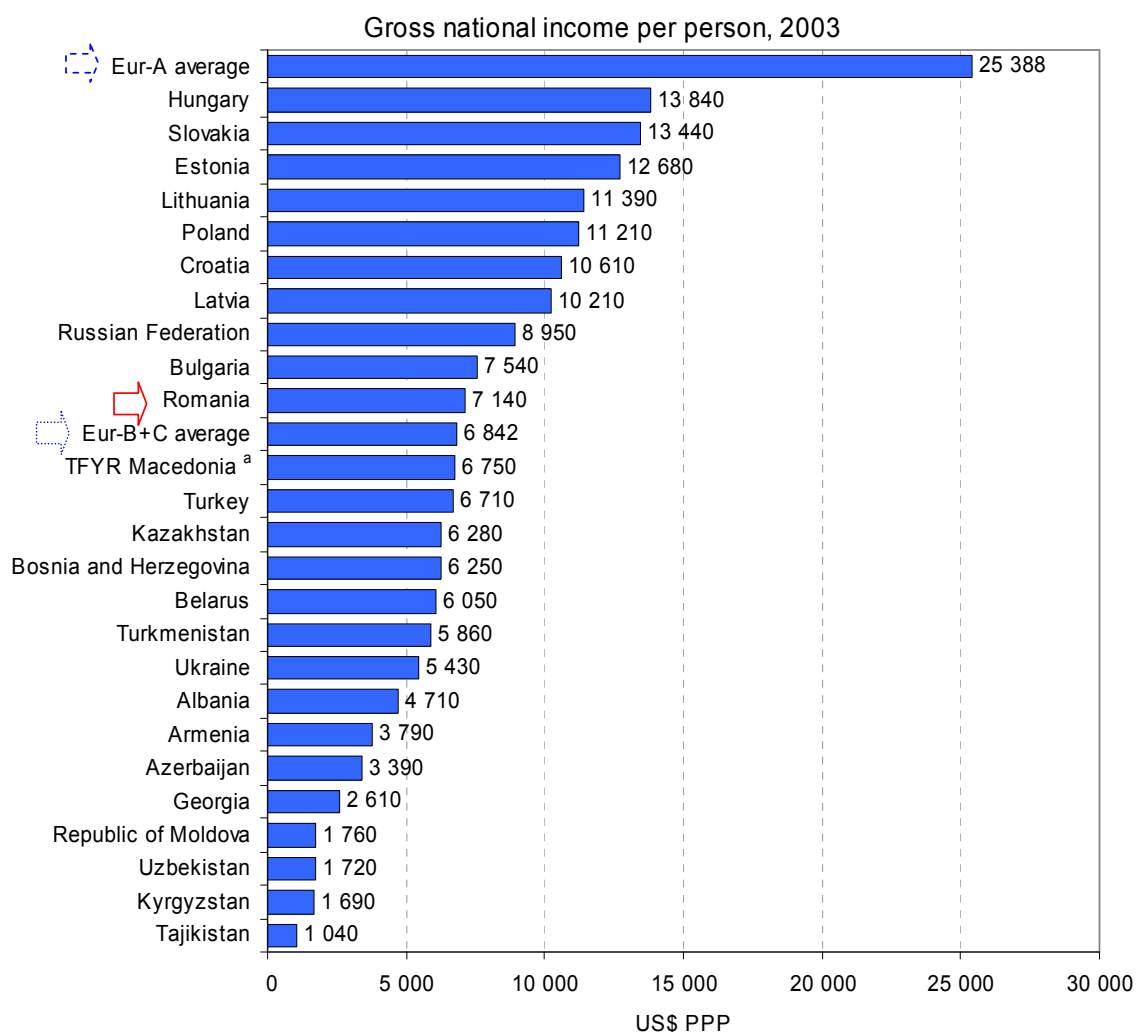
People are considered to be in absolute poverty if their incomes are not sufficient to purchase very minimal goods and services. The World Bank currently uses an absolute poverty line of US\$ 2.15 and US\$ 4.30 income per capita per day to measure poverty in low- and middle-income countries of the WHO 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.

Annual household survey information on poverty in Romania, from the World Bank, is available from 1989 to 2002. Using the World Bank's recommended benchmarks to measure absolute poverty in Europe, the survey in 1989 found that 5.4% of Romania's population lived on US\$ 4.30 per day or less. A survey in 1994 found the rate jumped to 80.0%. By 2000, it had dropped to 67.5%. In the last survey, in 2002, 14% of the population reported to be living on US\$ 2.15 or less per day (World Bank, 2005).

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 Romania, per person gross national income, adjusted for purchasing power parity (PPP), was US\$ 7140 in 2003, just above the Eur-B+C average of US\$ 6842. In 2002, 18% of the population in Romania 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, across the nine Eur-B+C countries with data, 16% of the populations on average lived in relative poverty. In contrast, in 2001, across the 17 Eur-A countries with comparable data, the average was 14% (Eurostat, 2005).

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<sup>a</sup> The former Yugoslav Republic of Macedonia

Source: World Bank (2005).

Another measure of relative poverty in terms of income is the Gini index. This presents the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.

For 2002, the World Bank estimated the Gini index for Romania to be 30.3. The Gini indices for 15 Eur-B+C countries for 2000–2002 range from 26.2 for Bosnia and Herzegovina (2001) to 37.2 in Estonia (2000) (World Bank, 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 Romania was 79.5%, compared with the Eur-B+C average of 81.2% (UNESCO, 2005).

### ***Employment***

Being employed tends to be better for health than being unemployed, except for 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.

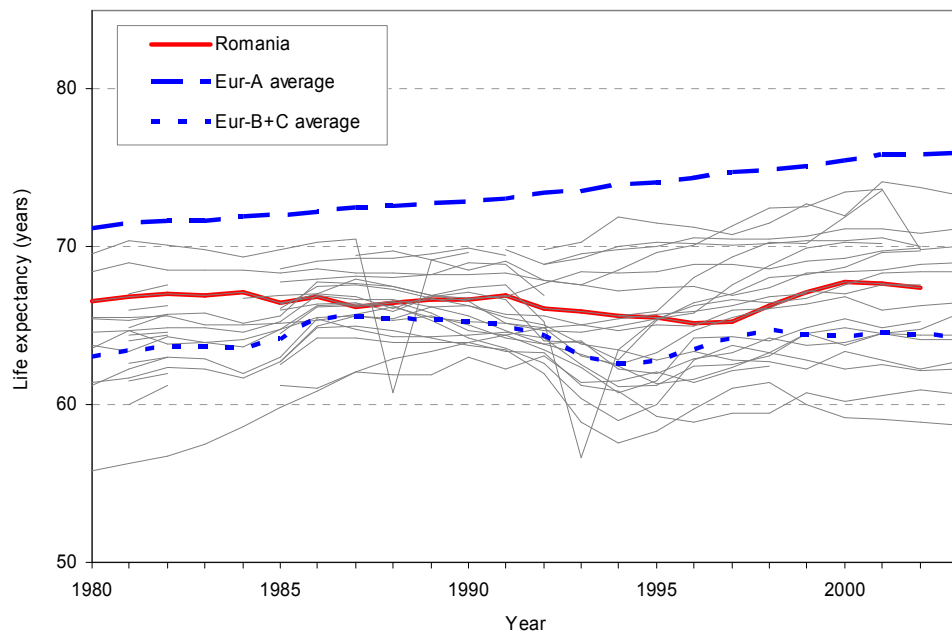
In 2001, the total unemployment rate in Romania was 6.6%, compared with the corresponding Eur-B+C country average of 12.9%, keeping in mind that national rates are based on estimates of people available and seeking employment and that countries have different definitions of labour force and unemployment. The percentage of young Romanians, 15–24 years of age, without work, but available for it and seeking employment, was 17.5% in 2001. The Eur-B+C average youth unemployment rate for that year was 25.2% (ILO, 2005).

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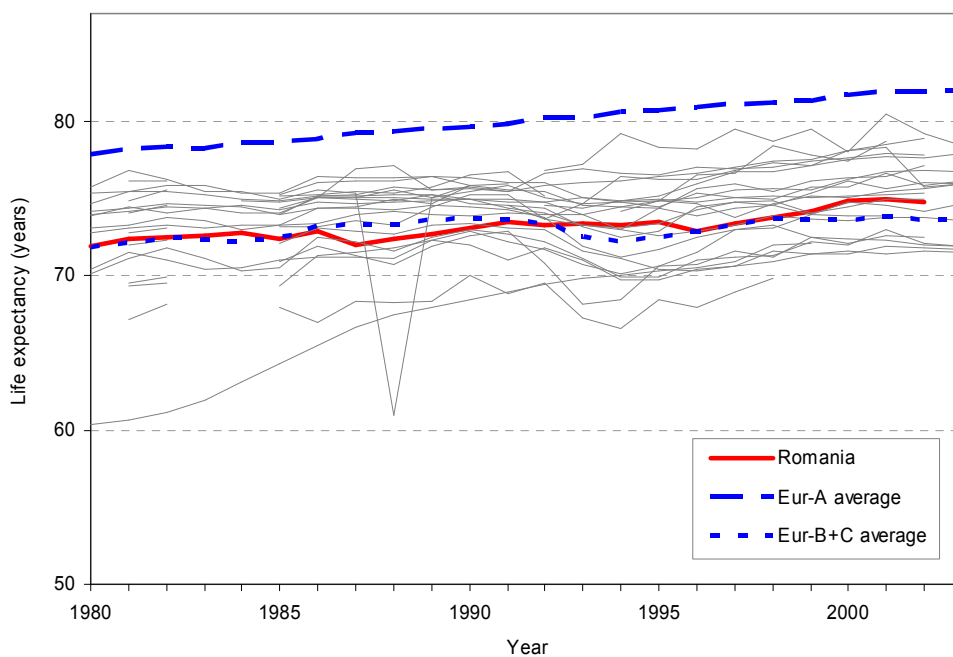
## Life expectancy (LE) and healthy life expectancy (HALE)

According to figures compiled by WHO (WHO, 2004), a person born in Romania in 2002 can expect to live 71.4 years on average: 74.8 years if female and 67.4 years if male. Life expectancy (LE) in Romania is higher than the Eur-B+C average LE: by 1.2 years for females and 3.1 years for males. However it is below the Eur-A average LE: by 7.2 and 8.5 years, respectively, for females and males.

Life expectancy at birth for males, Romania, Eur-A and Eur-B+C averages, 1980 to latest available year

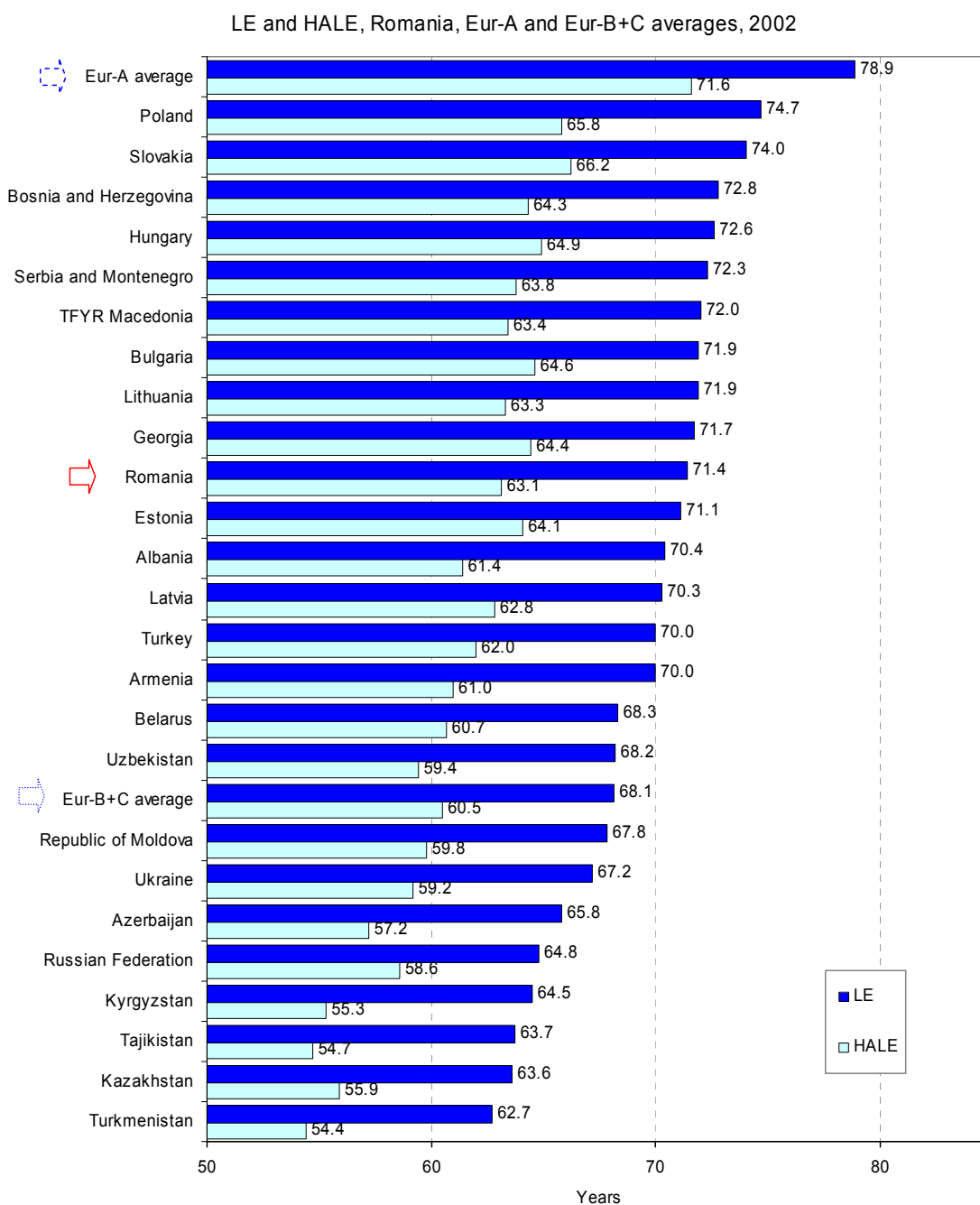


Life expectancy at birth for females, Romania, Eur-A and Eur-B+C averages, 1980 to latest available year



In 1996, male LE in Romania was shorter than in 1984 by 2.0 years, and female LE was the same as in 1986; since then, until 2000, males gained 2.7 years of LE, and females gained 2.2 years until 2001, which was more than the increases in Eur-A and Eur-B+C averages. However, these increases stopped in the last few years, so LE for males in 2002 was at the same level as in the mid-1970s.

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 Romania, WHO (WHO, 2003c) estimates that people can expect to be healthy for about 88% of their lives. They lose an average of 8.3 years to illness and injuries – the difference between LE and HALE. This loss is one year greater than that of the Eur-A average (7.3 years) and is also greater than that of the Eur-B+C average (7.6 years).



Since females live longer and since the possibility of deteriorating health increases with age, they lose more healthy years of life (9.8 years) than males (7.0 years). Nevertheless, the longer LE for females in Romania gives them somewhat over four more years of healthy life, compared with men. At 60 years of age, this difference reduces to 2.3 years: woman can expect 14.6 years of healthy life and men can expect 12.3 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 Romania. Cardiovascular diseases and neuropsychiatric conditions account for the highest burden of disease, both among 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 disability groups as percentages of total DALYs for both sexes  
in Romania (2002)

Rank	Males		Females	
	Disability groups	Total DALYs (%)	Disability groups	Total DALYs (%)
1	Cardiovascular diseases	26.0	Cardiovascular diseases	27.4
2	Neuropsychiatric conditions	16.0	Neuropsychiatric conditions	20.5
3	Unintentional injuries	12.2	Malignant neoplasms	11.8
4	Malignant neoplasms	11.6	Digestive diseases	7.0
5	Digestive diseases	8.6	Sense organ diseases	6.2
6	Sense organ diseases	3.8	Musculoskeletal diseases	5.9
7	Intentional injuries	3.2	Unintentional injuries	4.5
8	Infectious and parasitic diseases	3.2	Infectious and parasitic diseases	2.5
9	Musculoskeletal diseases	3.2	Respiratory infections	2.5
10	Respiratory diseases	3.1	Respiratory diseases	2.2

Source: Background data from WHO (2003c).

### Main risk factors

The following table shows the top 10 risk factors with their relative contributions (percentage of total DALYs), in descending order, to the burden of disease in the male and female populations of Romania. According to the DALYs, tobacco and alcohol place the greatest burden of disease on the Romanian male population and high blood pressure and high body mass index (BMI) place the greatest burden of disease on females.

Ten leading risk factors as causes of disease burden measured in DALYs in Romania (2002)

Rank	Males		Females	
	Risk factors	Total DALYs (%)	Risk factors	Total DALYs (%)
1	Tobacco	19.8	High blood pressure	14.2
2	Alcohol	16.8	High BMI	11.0
3	High blood pressure	13.5	High cholesterol	7.1
4	High cholesterol	7.9	Alcohol	7.0
5	High BMI	7.7	Tobacco	4.7
6	Low fruit and vegetable intake	3.9	Physical inactivity	3.6
7	Physical inactivity	3.4	Low fruit and vegetable intake	3.4
8	Lead	1.4	Unsafe sex	3.2
9	Occupational risk factors for injuries	1.1	Indoor smoke from solid fuels	1.0
10	Urban outdoor air pollution	0.9	Lead	1.0

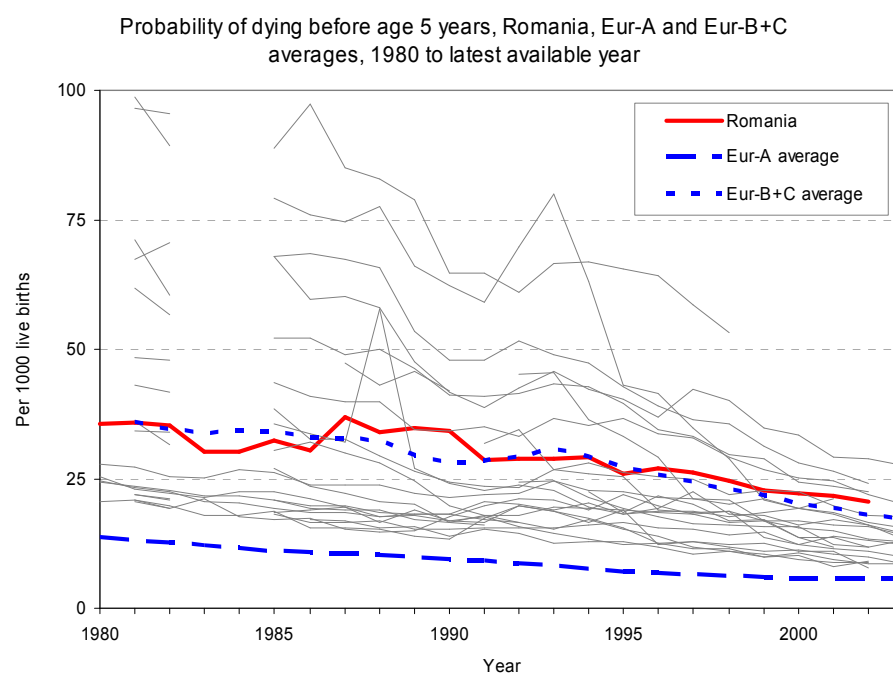
Source: Background data from WHO (2003c).

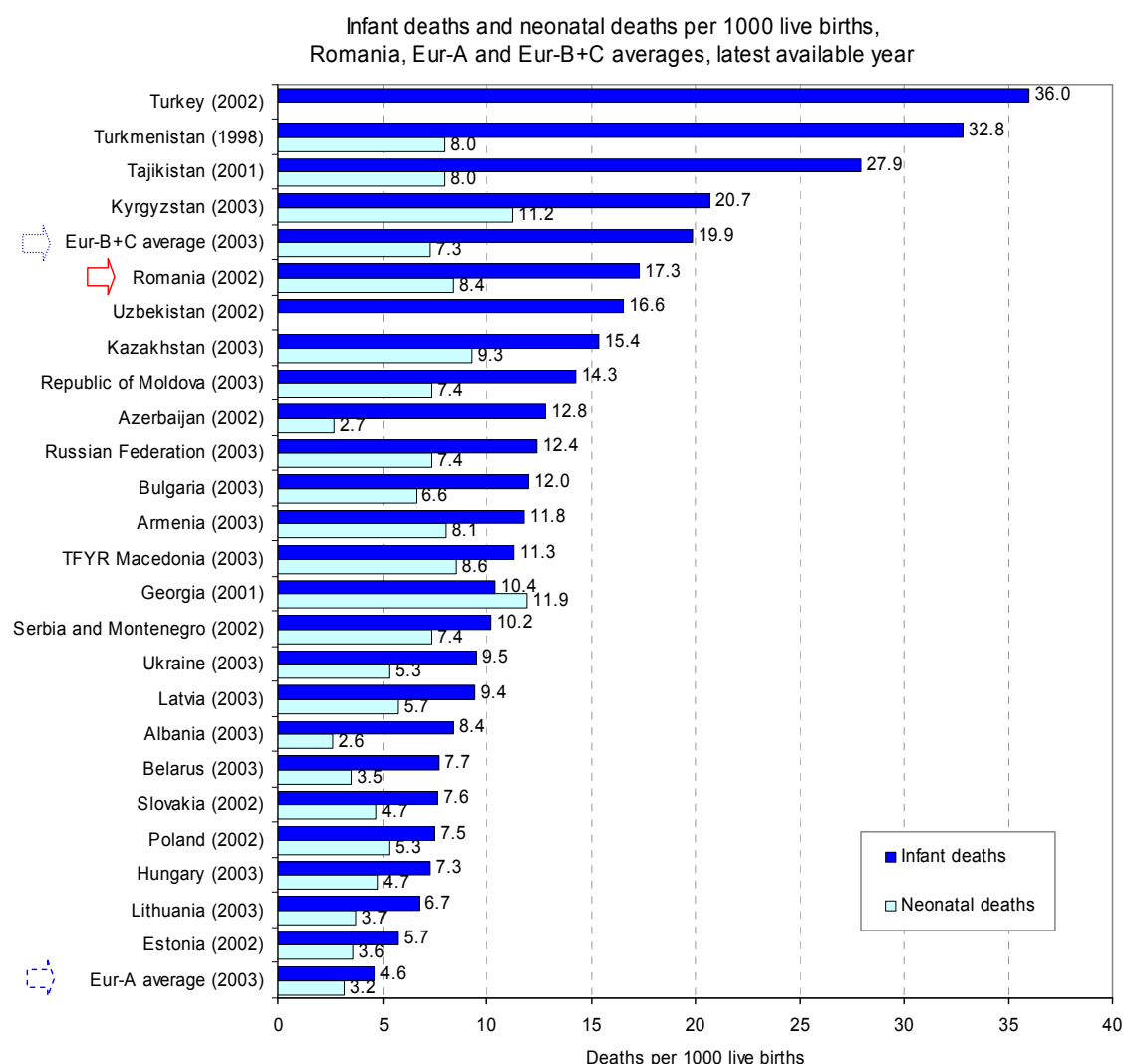
## Mortality

### Infant, neonatal and child mortality

Infant mortality has been declining; however, it shows short periods of stagnation or even some increase. The positive changes after 1990 result from declining post neonatal mortality, since neonatal mortality continued at a rather stable level during this period. In Romania, unlike in most of the Eur-B+C and all the Eur-A, postneonatal mortality is higher than neonatal mortality. Also, the infant mortality rates remain below the Eur-B+C average rates, but are almost four times higher than the corresponding Eur-A average rates.

National data and WHO estimates for 2002 show that of every 1000 live births in Romania, there is a probability that between 20 and 21 children will die before the age of 5 years. The lowest WHO estimates for the Eur-B+C countries are for Estonia and Slovakia, each at 8 deaths per 1000 live births. The Millennium Development Goal (MDG) for the under-5 mortality rate for Europe and central Asia is 15 deaths per 1000 live births by 2015. Based on the decrease in Romania's rate over the 1990s, it should reach the MDG target before 2015.





## 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).

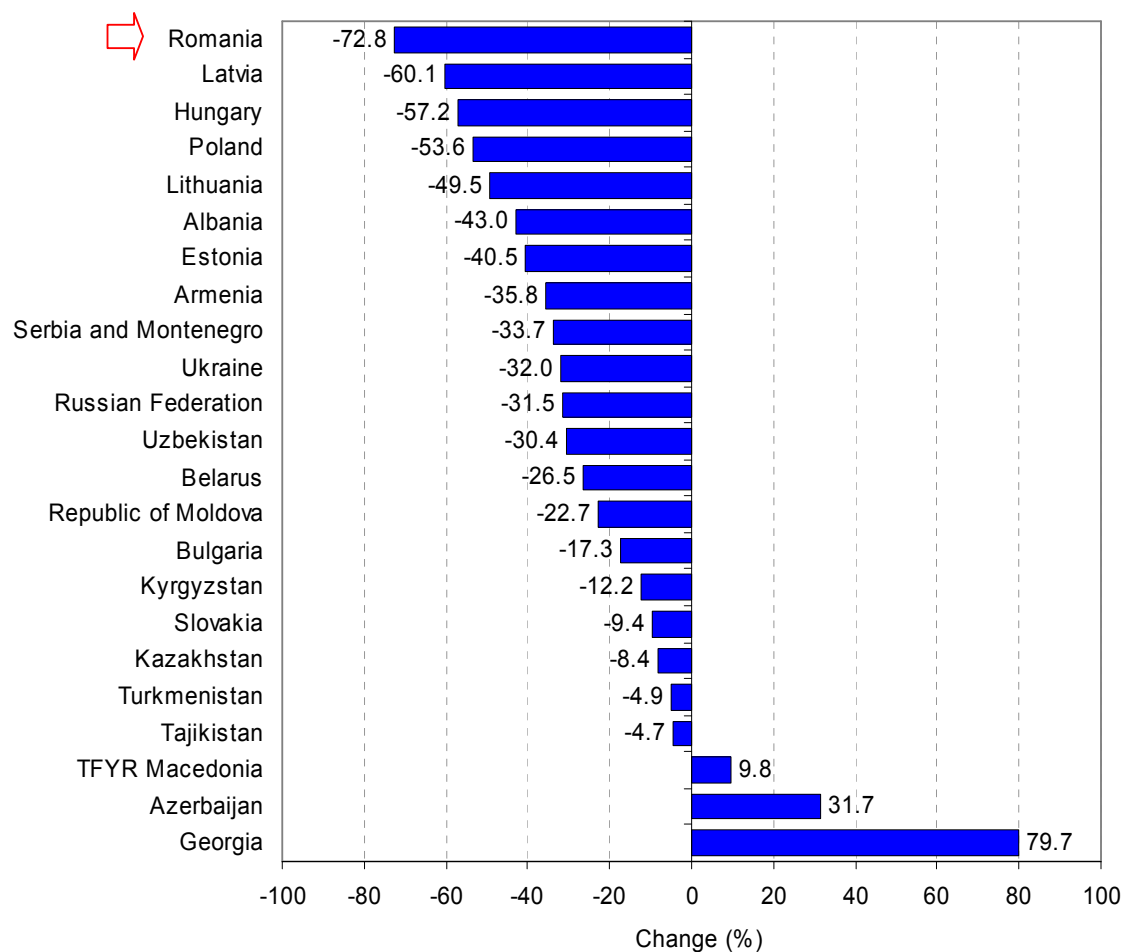
However, in some countries, MMR were higher in 2002 than they had been in 1990. Applying the 75% reduction to the 1990 baseline in these countries creates, in some cases, a 2015 MDG target that requires dramatic reductions in MMR before 2015. In these cases, more important than reaching maternal mortality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

Romanian MMR were the highest in Europe until 1989, and they have declined substantially since then. Since 1996, they have been below the Eur-B+C average rates, but much higher than the Eur-A average rates. The rates may be underestimated, though: according to a WHO/United Nations Children's Fund (UNICEF)/United Nations Population Fund (UNFPA) estimate for the year 2000, the MMR in Romania was about 49 maternal deaths per 100 000 live births (UNICEF, 2005), while the officially

reported rate was 33 maternal deaths per 100 000 live births. Of the 393 maternal deaths reported in the period 1998–2002, 180 (46%) were attributed to abortion.

Between 1990 and 2002, Romania's MMR (three-year moving average) fell by almost 73% (see following figure). Because the 1990 rate was so high (the highest in Eur-B+C), the 2002 rate (about 29 maternal deaths per 100 000 live births) is almost at Romania's MDG target, which is about 27 maternal deaths per 100 000 live births. Nevertheless, Romania's MDG target is about five times higher than the current Eur-A average MMR.

Per cent change for maternal mortality (3-year moving averages),  
1990 to 2002 or latest available year

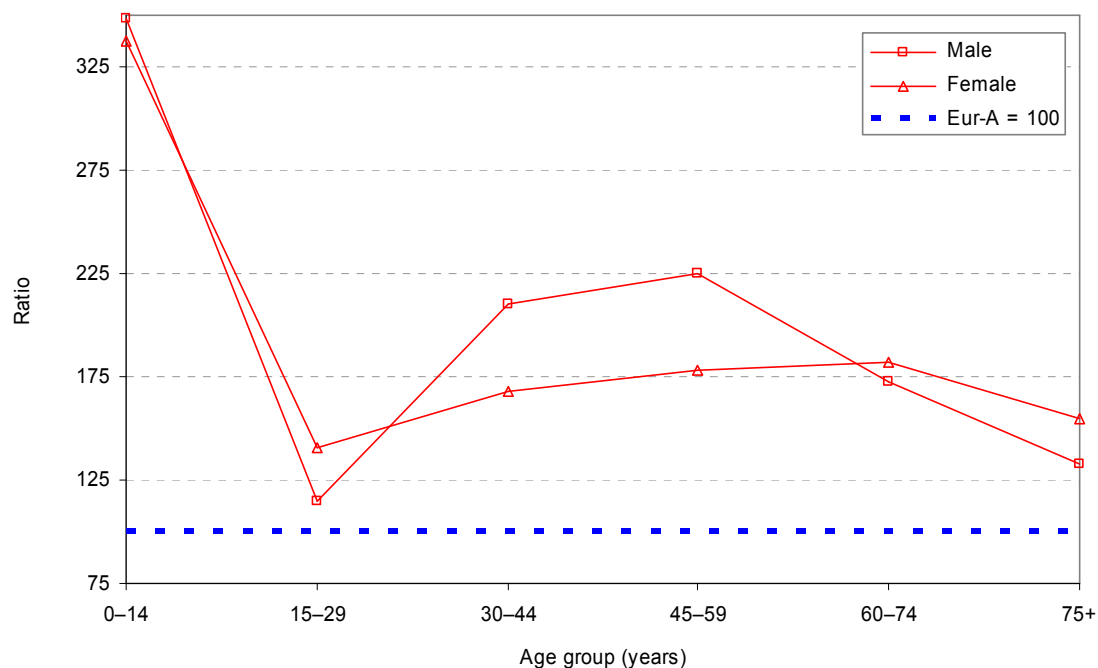


### Excess mortality

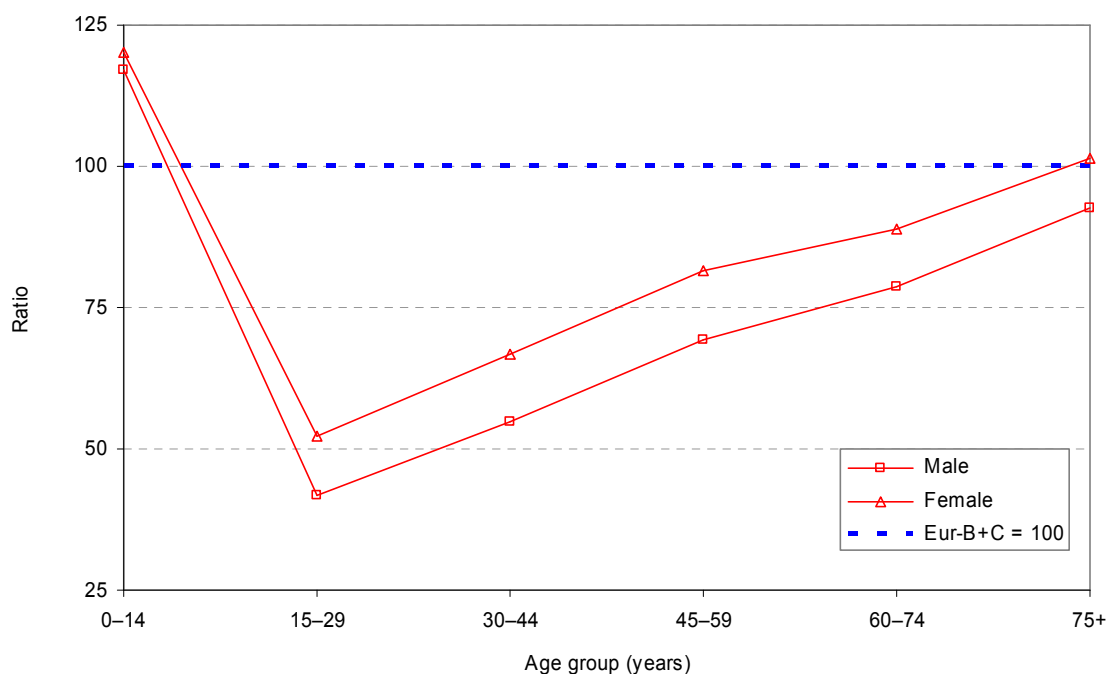
In general, mortality rates for males and females place Romania statistically in the upper half of the European countries. They are below Eur-B+C average rates (in 2003, -18% excess for males and -5% for females), yet well above the Eur-A average rates (73% excess for males and 78% for females). The female excess mortality in Romania, compared with the countries of Eur-A, has not changed much, while for males it began to decrease slowly during the period 1996–2000. This excess mortality is distinctly age related, even though it is present across all age groups. For both males and females, the largest difference is in the youngest population, below 15 years of age: Romanian children have a 3.6 times higher risk of dying than their counterparts in Eur-A and more than a 10% higher risk of dying than children in other Eur-B+C countries. On the other hand, the lowest excess mortality was in young Romanians aged 15–29 years. The excess mortality rates in Romania are lower than the corresponding averages for Eur-B+C countries in all age groups above 15 years, except for the oldest women, aged 75 years and more.



Total mortality by sex and age group in Romania  
in comparison with Eur-A (Eur-A = 100), 2003



Total mortality by sex and age group in Romania  
in comparison with Eur-B+C (Eur-B+C = 100), 2003



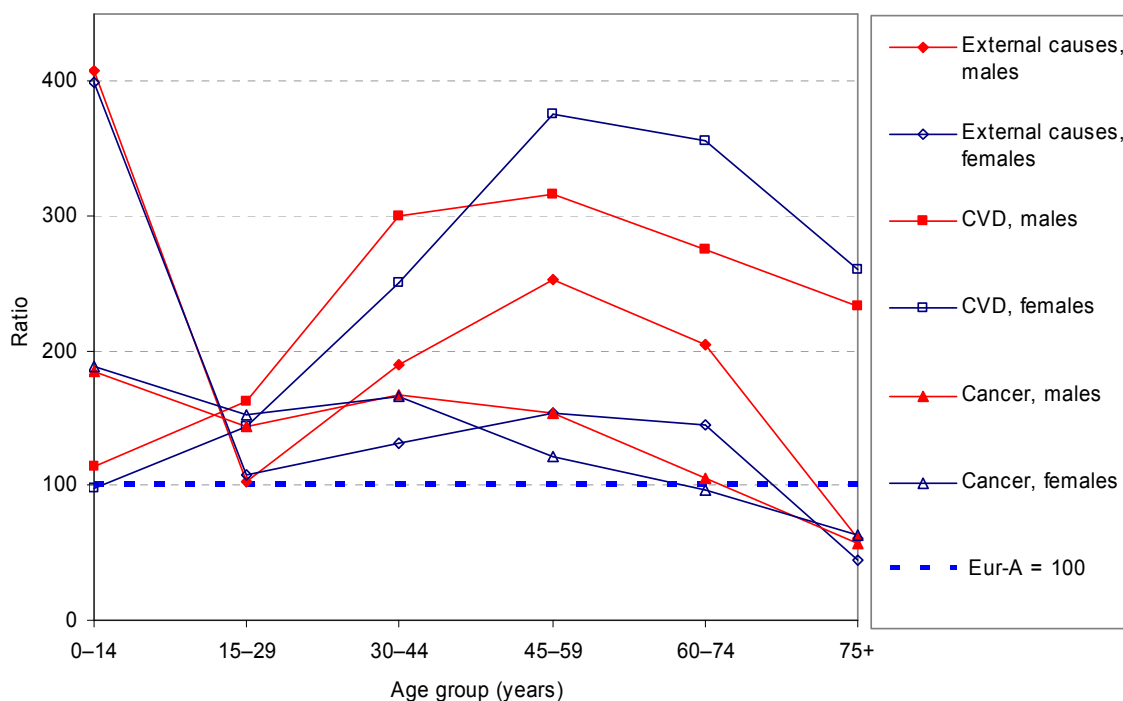
### Main causes of death

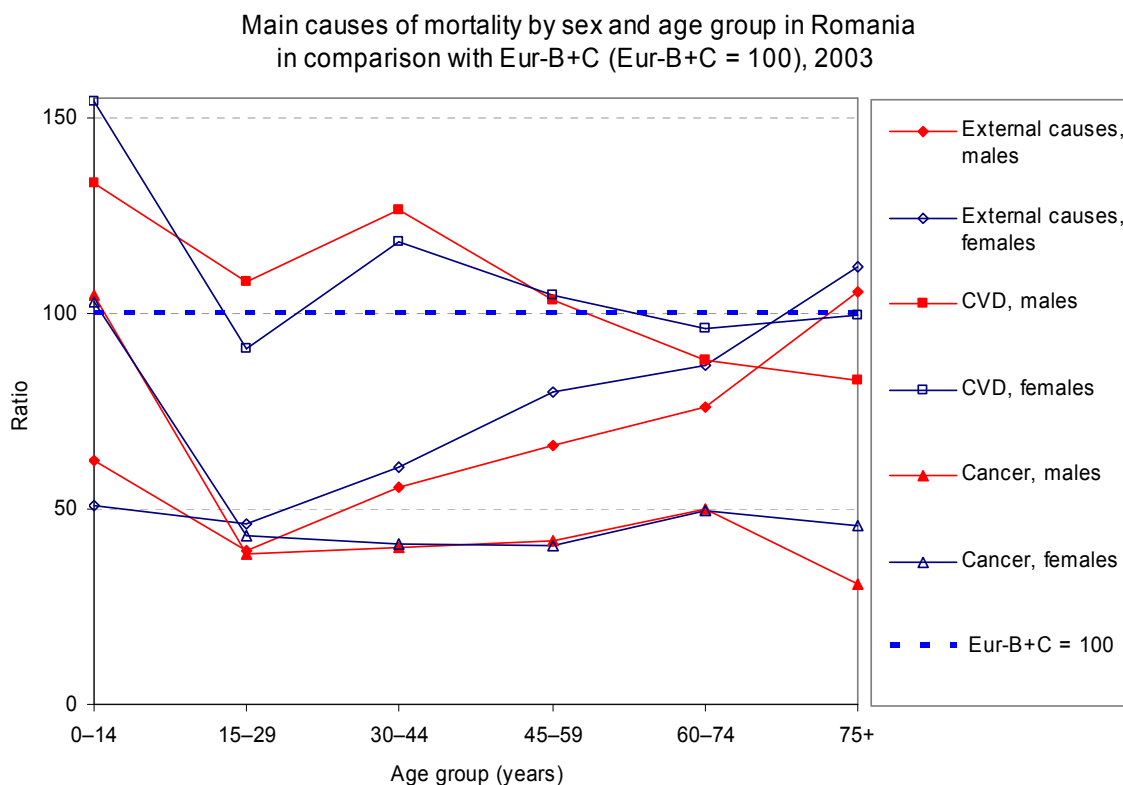
In 2002, the main noncommunicable diseases accounted for about 90% of all deaths in Romania; external causes accounted for about 6%; and communicable diseases accounted for about 1%. In total, 61% of all deaths were caused by diseases of the circulatory system (a little higher than the Eur-B+C average rate

and 23% higher than the Eur-A average rate) and 16% by cancer (12% lower than the Eur-A average rate) (Annex. Selected mortality; Annex. Mortality data).

For Romanians, the mortality rate for cardiovascular diseases (CVD) is close to the Eur-B+C average rate; however in Romanians below 75 years of age, the rate is lower, while above 75 years of age it is higher. When compared with the Eur-A average rate, the mortality rate for Romanians is about three times higher. On the other hand, the mortality rate for cancer is still slightly lower than the Eur-A average rate; however, across age groups this positive difference is well marked only in the eldest (aged 75 years and more), while in those below 60 years of age mortality rates in Romania are clearly higher than the corresponding Eur-A average rates. There are relatively small differences when Romanian rates are compared with Eur-B+C average rates across all age groups. Romanian males and females have a higher mortality rate for external causes, compared with the corresponding Eur-A average rate. Also, excess mortality is highest in boys and girls below 15 years old, who have about a four times higher mortality rate for external causes than their peers in Eur-A countries. On the other hand, the oldest Romanians have a lower mortality rate for external causes than the corresponding group average in the Eur-A countries. When compared with the Eur-B+C average, Romanians have a much lower risk of death from external causes across all age groups, except those below 15 years of age.

Main causes of mortality by sex and age group in Romania  
in comparison with Eur-A (Eur-A = 100), 2003





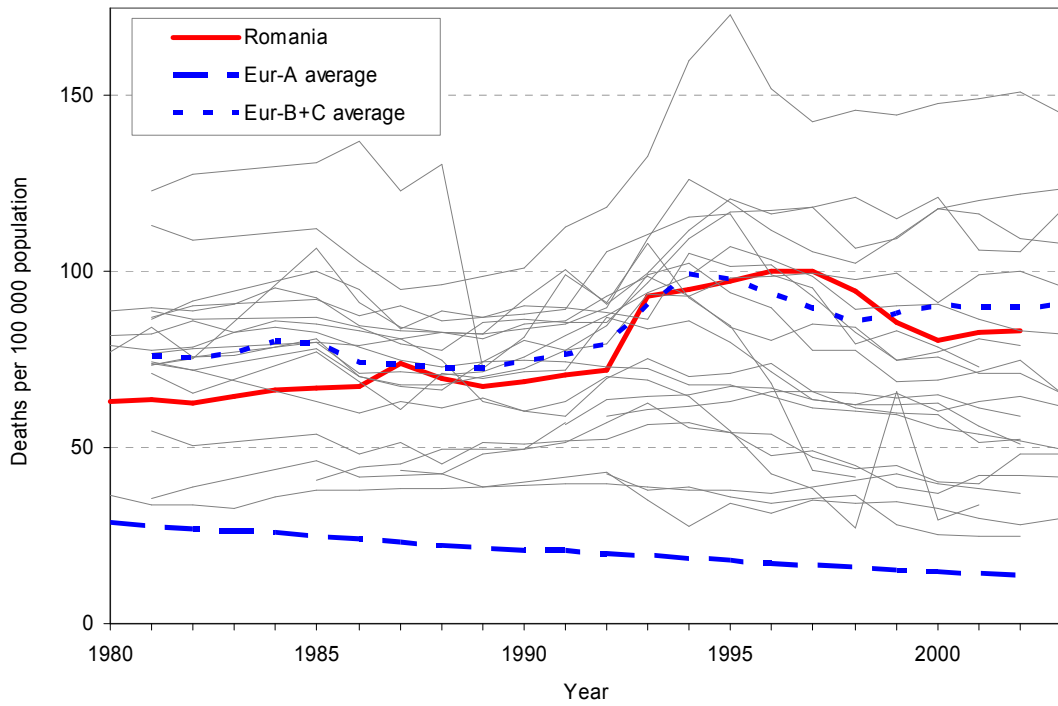
### CVD

Mortality from CVD in Romania reached the highest level in 1996, which was due to increasing mortality in men during the period 1989-1996 and to a short-term rise in female mortality, despite a general decline. After that year, mortality declined in both males and females until 2002, when it increased by about 5%. The CVD gap in mortality between Romania and Eur-A countries is not diminishing as yet.

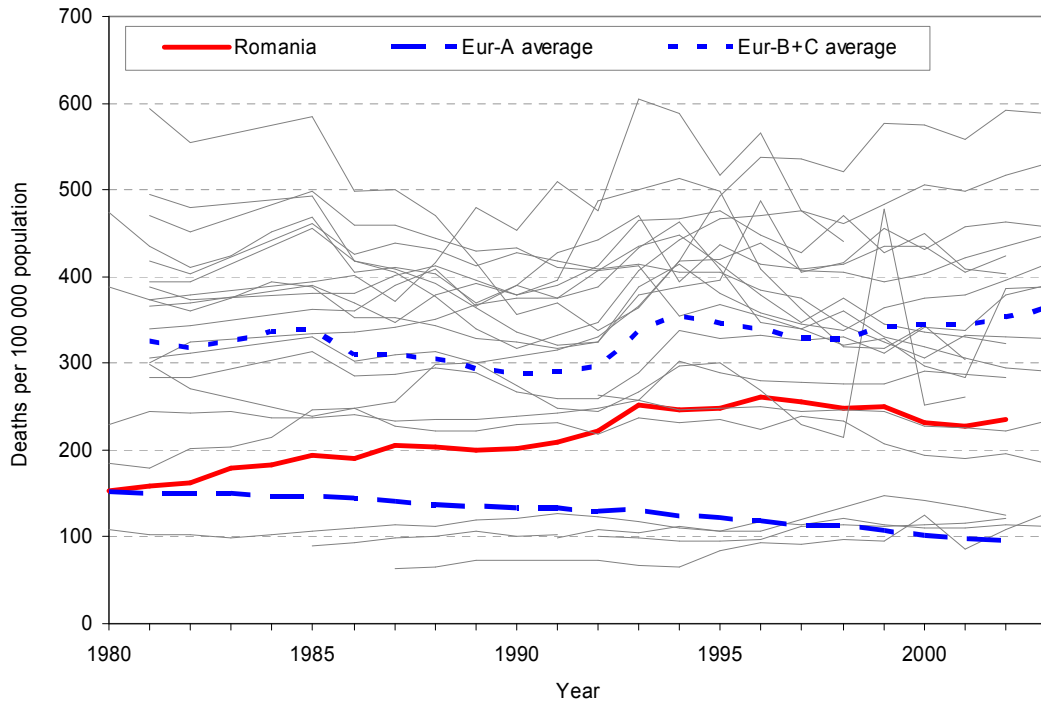
Ischaemic heart disease is the single biggest killer in Romania, responsible for about a fifth of all deaths in 2002, which is a larger share than the corresponding Eur-A average (15%); however, it is less than the Eur-B+C average (28%). The gap between Romanian mortality rates for ischaemic heart disease and the corresponding Eur-A averages is not diminishing.

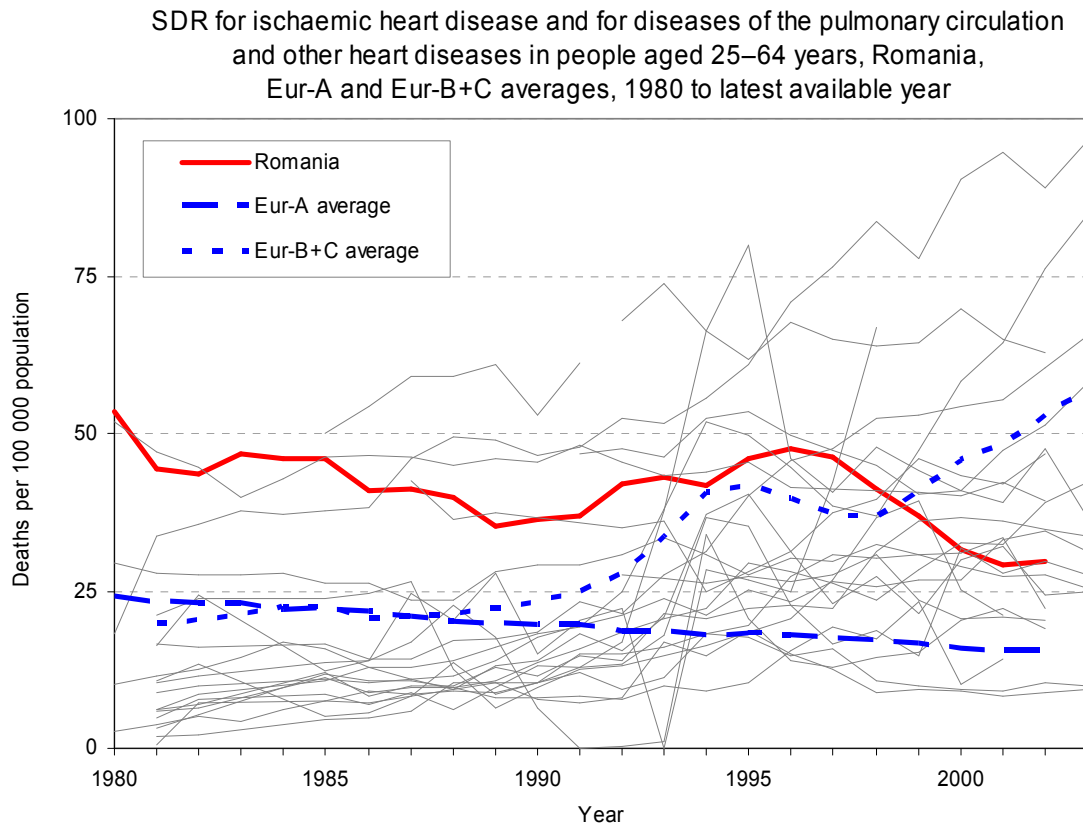
The largest excess mortality in Romania, in comparison with Eur-A, particularly for the middle-aged population, is for cerebrovascular diseases. In the population aged 25-64 years, the mortality rate in Romania is six times higher than that of the Eur-A average, and the drop in the rates during the period 1997-2000 was reversed in 2001-2002. The risk of dying from pulmonary heart disease and other heart diseases is declining in Romania, and the excess mortality rate, in comparison with Eur-A and Eur-B+C average rates, is also declining. Even in the population of 25-64 year olds, the mortality rate for these causes has been declining in Romania since 1996, while the Eur-B+C average has been increasing and is higher in recent years.

SDR for cerebrovascular diseases in people aged 25–64 years, Romania, Eur-A and Eur-B+C averages, 1980 to latest available year



SDR for ischaemic heart disease in people of all ages, Romania, Eur-A and Eur-B+C averages, 1980 to latest available year

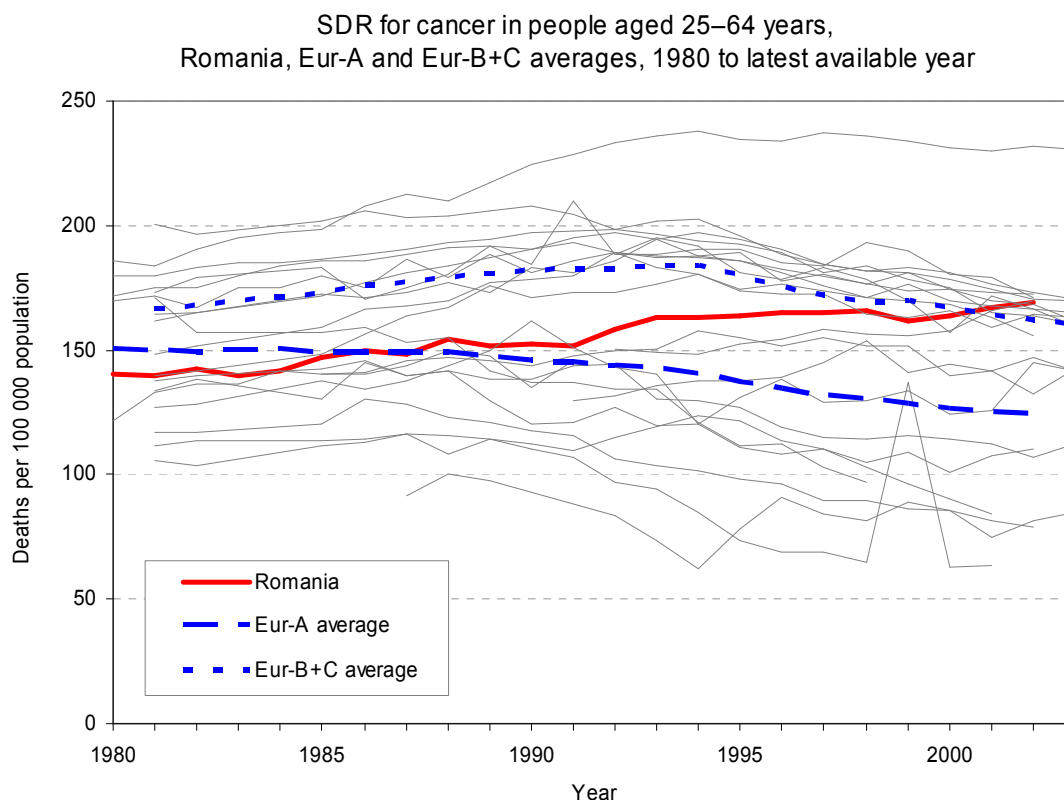




### Cancer

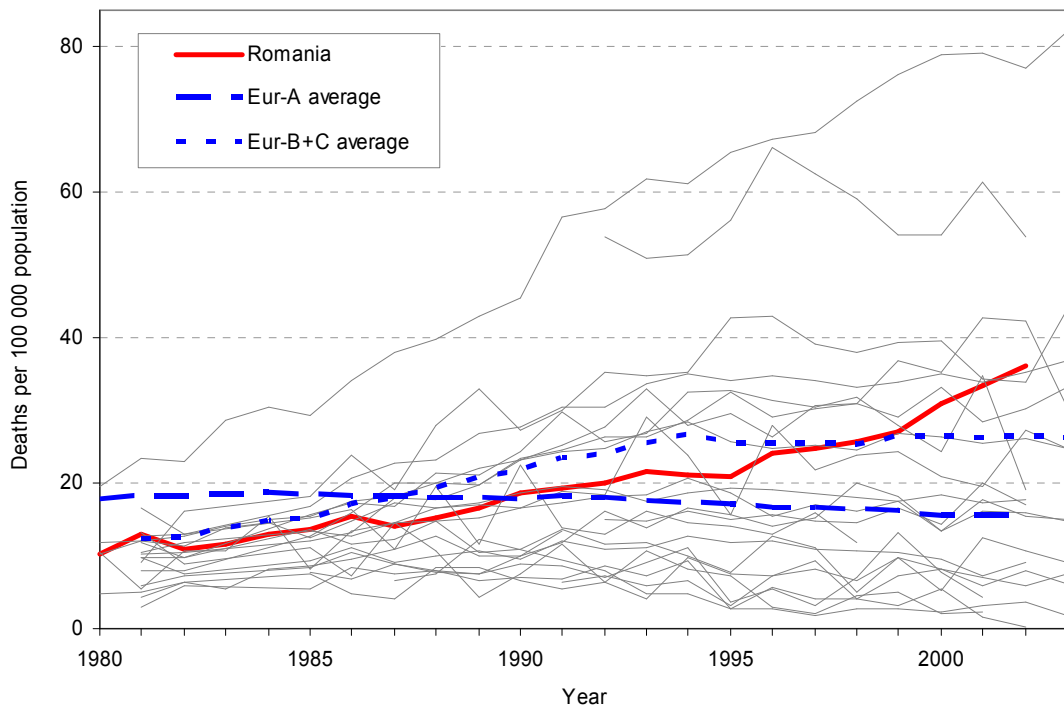
Cancer accounted for 16% of all deaths in Romania in 2002, which is much less than the Eur-A average (28%). Yet, since the second half of the 1980s and in more recent years, the mortality rate for cancer in the population under 65 years old is higher in Romania than the average rate for the corresponding population in Eur-A, and it is also higher than the corresponding Eur-B+C average rate. When compared with people in Eur-A countries, Romanian males are worse off than Romanian females. On the other hand, mortality rates for cancer in Romania in those 65 years old and older have been below the Eur-A and Eur-B+C average rates for years.

In Romania, mortality rates for most common cancers show an increase, but they are infrequently among the highest in Europe. For males, the patterns vary. In males only, the mortality rate for cancer of the lip, oral cavity and pharynx has been increasing rapidly, unlike the Eur-A and Eur-B+C average rates; Romania's rate is now the fifth highest in Europe. Also, the risk of Romanian males dying from cancer of the trachea, bronchus and lung is increasing, unlike the corresponding average risk in Eur-A and Eur-B+C; recently, the mortality rate in Romania for this cancer group turned slightly higher than the Eur-A average rate, though it still has not exceeded the Eur-B+C average rate. For middle-aged males, 40–59 years old, the mortality rate for cancer of the trachea, bronchus and lung has been declining since 1995, and it shows some improvement in the younger male population. Moreover, mortality rates for cancer of the liver and intrahepatic bile ducts are higher in Romanian males, since 1994, than the corresponding Eur-A and Eur-B+C average rates, due to a sudden more-than-twofold increase that year. Since 1990, the mortality rate for another type of cancer, stomach cancer, has declined much more slowly than before (being almost stagnant), and the gap between Romania's mortality rate and the corresponding Eur-A average rate is increasing; in 2002, the difference between the rates was almost twofold.

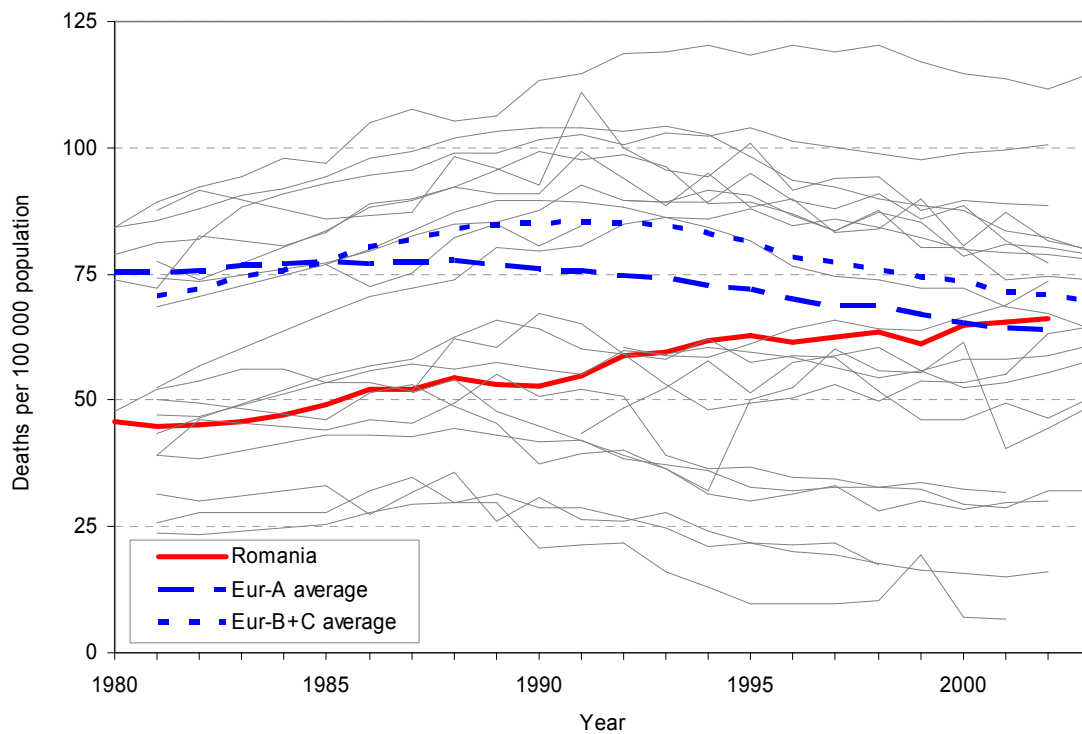


Among Romanian males, still other cancers show varying patterns. The mortality rates for cancer of the colon, rectum and anus and cancer of the bladder in males are lower in Romania than the corresponding Eur-A and Eur-B+C average rates; however, the Romanian rates are increasing, and the difference is rapidly decreasing between Romania's rates and the average rates for the two regional subgroups. Also, mortality from cancer of the pancreas, after steadily increasing for years, has settled recently at the average rate for Europe. Moreover, the mortality rate for cancer of the prostate is increasing in parallel (but slightly above) the Eur-B+C average rate.

SDR for lip, oral cavity and pharynx cancer in males aged 55–59 years, Romania, Eur-A and Eur-B+C averages, 1980 to latest available year



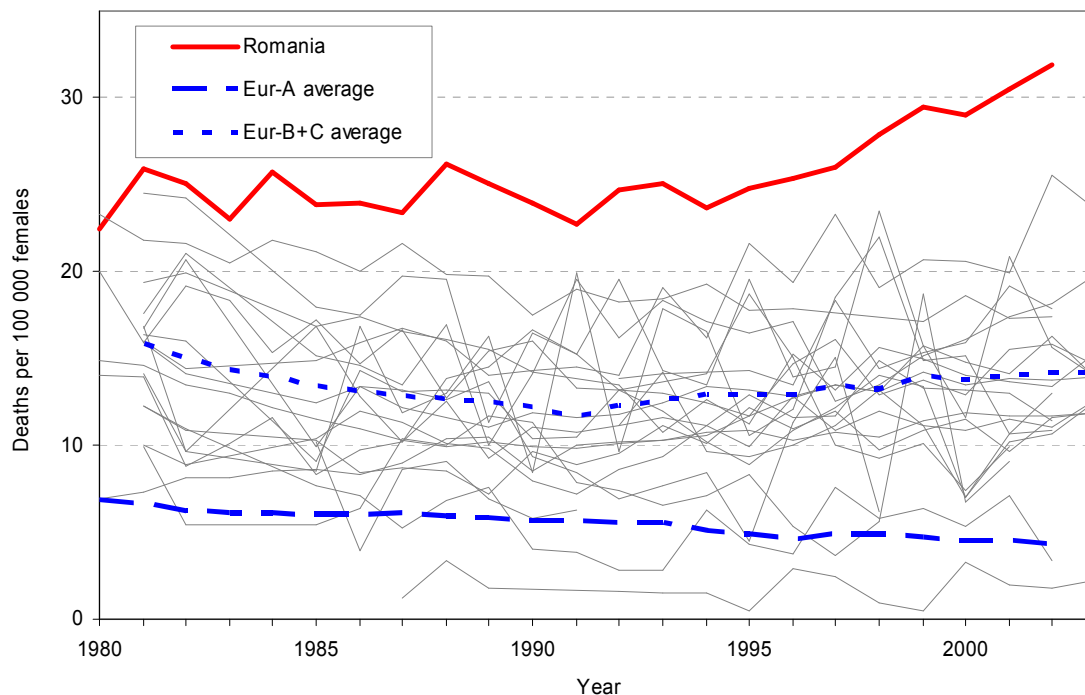
SDR for trachea, bronchus and lung cancer in males, all ages, Romania, Eur-A and Eur-B+C averages, 1980 to latest available year



Among Romanian females, mortality rates for a number of cancers are increasing. The mortality rate for cancer of the uterine cervix, which is six times higher than the Eur-A average rate and twice as high as the Eur-B+C average rate, is noticeably the highest in Europe and is still increasing somewhat. Also, the mortality rate for breast cancer is increasing in Romania in parallel (but slightly above) the Eur-B+C

average rate; however, it is still below the Eur-A average rate. The mortality rate for ovarian cancer is increasing, yet it is below the Eur-A and Eur-B+C average rates. In Romanian females, mortality from cancer of the trachea, bronchus and lung (TBL) is increasing, and since 1996 the rate is above the Eur-B+C average rate; however, it is about 30% below the Eur-A average rate. Unlike the improvement observed in younger Romanian males, there is no indication of a similar improvement in the younger Romanian female population. Moreover, the mortality rate for cancer of the colon, rectum and anus has been increasing, although it is still among the lower European rates, but the gap between Romanian rates and Eur-A and Eur-B+C average rates is decreasing.

SDR for cancer of the cervix in females aged 45–59 years, Romania, Eur-A and Eur-B+C averages, 1980 to latest available year

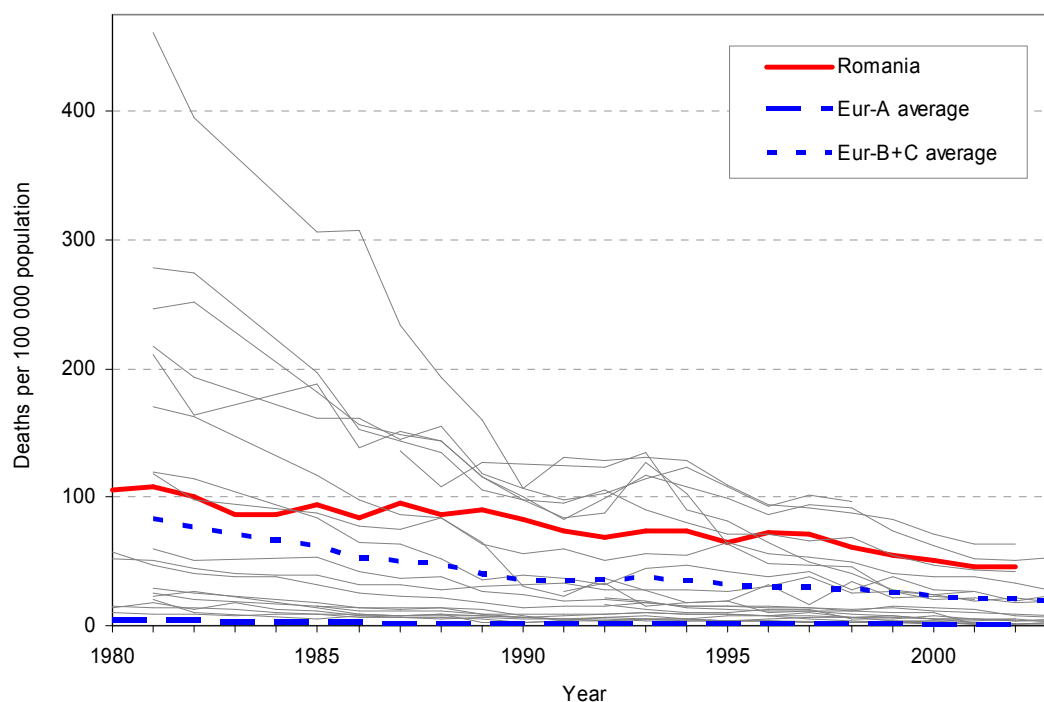


### **Respiratory diseases**

In 2003, respiratory diseases accounted for 6% of all deaths in Romania. For more than the last 20 years, mortality rates for respiratory diseases have declined, faster than the Eur-A and Eur-B+C average rates; but they are still higher than Eur-A average rates and, for females, are also higher than the Eur-B+C average rate. Excess mortality in Romania, in comparison with the Eur-A average level, exists presently only in the population below 65 years of age and, particularly, in children below 15 years of age: Romanian children have a mortality rate 40 times higher than the average for their counterparts in Eur-A countries. This excess mortality in children (the fourth highest mortality rate in the European Region) is attributable to pneumonia; however, in the total population, pneumonia is also responsible for most of the excess mortality from respiratory diseases. Unlike in most Eur-A and Eur-B+C countries, mortality from pneumonia in Romania is higher than that from chronic lower respiratory diseases.



SDR for pneumonia in children aged 0–14 years,  
Romania, Eur-A and Eur-B+C averages, 1980 to latest available year



### **Digestive diseases**

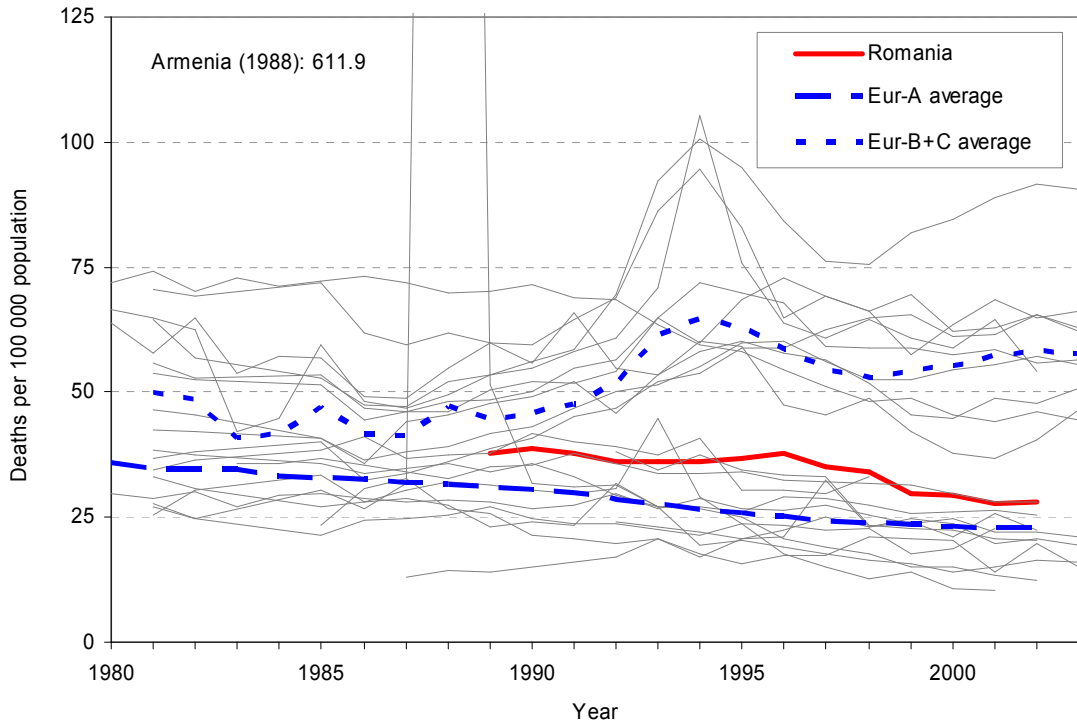
In Romania, mortality from diseases of the digestive system has periods where it increases (1980–1987, 1990–1997) and decreases (1987–1990, 1997–2000). Since 2000, mortality rates in males and females have grown. The rates are above Eur-A and Eur-B+C average rates for males and females and, because the Eur-A average has been declining, the excess mortality in Romania, in comparison with the Eur-A countries, is growing. Over 70% of the deaths from digestive diseases in Romania are caused by chronic liver disease and cirrhosis, which is more than the Eur-B+C and Eur-A average rates – about 60% and 40%, respectively.

### **External causes**

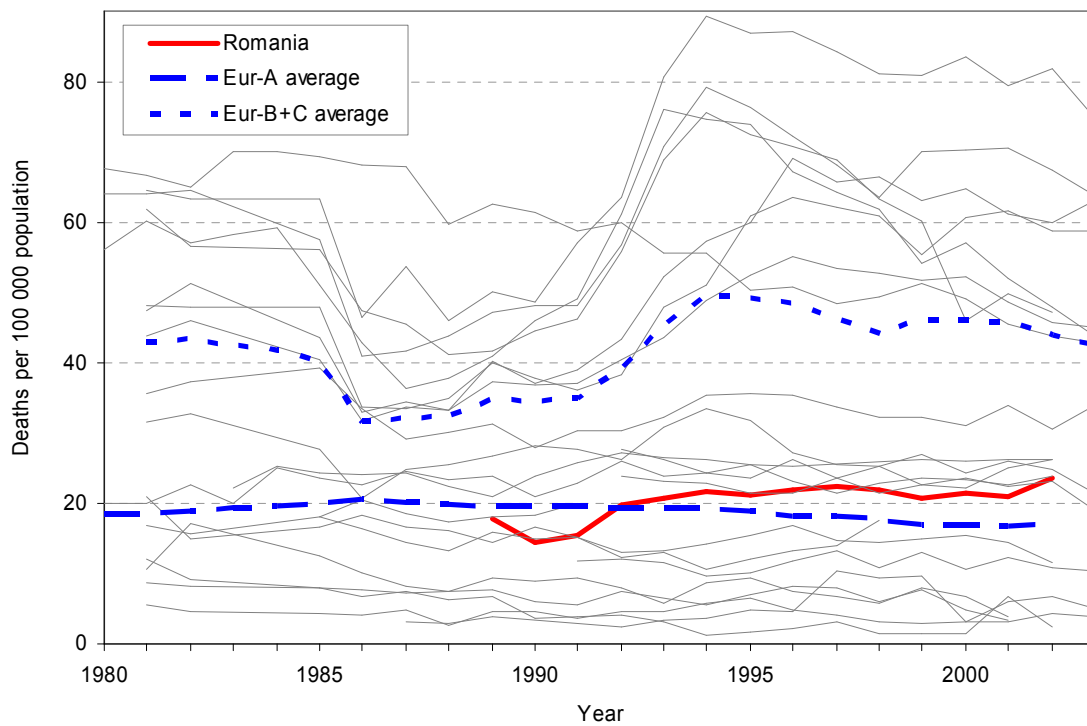
In Romania, mortality rates for external causes have declined, but the decline is more pronounced in females than in males. These rates are also higher than the Eur-A average rates (in 2002, the excess in Romania was 79% in males and 24% in females). Moreover, the rates are more than 50% below Eur-B+C average rates. Although this overall picture is relevant for the Romanian population below 65 years of age, in the older Romanian population – that is, in males 75 years of age and older and in women above 65 years of age – mortality rates are lower than Eur-A average rates.

In Romania, suicide is the main external cause of death in males and the second greatest cause in females. In recent years, the mortality rate was rather stable, and only in 2002 did it increase in males (14%) and females (23%). The male mortality rate for suicide is higher than the Eur-A average rate (though not among older men, 65 years old and older), while the female mortality rate is lower. Road traffic accidents are the second most important external cause of death in males and are the main external cause in females. In both cases, there is an excess of deaths in the Romanian population when compared with the Eur-A average; however, the mortality rates are below the Eur-B+C average rates. In the older population (65 years and older), the mortality rate for road traffic accidents in Romania is close to the Eur-B+C average rate. Mortality rates for accidental drowning, for exposure to smoke, fire and flames, for homicide and for accidental falls among Romanian men are higher than the corresponding Eur-A average rates. The mortality rate for events of undetermined intent is among the lowest in Eur-B+C countries.

SDR for external causes of injury and poisoning in females, all ages, Romania, Eur-A and Eur-B+C averages, 1980 to latest available year



SDR for suicide and self-inflicted injury in males, all ages, Romania, Eur-A and Eur-B+C averages, 1980 to latest available year



## References

- Council of Europe (2005). *Recent demographic developments in Europe 2004*. Strasbourg, Council of Europe.
- Eurostat (2005). Eurostat's reference database. Luxembourg, Statistical Office of the European Communities (<http://europa.eu.int/comm/eurostat>, accessed 3 May 2005).
- Health Evidence Network (2003a). *What are the main risk factors for disability in old age and how can disability be prevented?* Copenhagen, WHO Regional Office for Europe ([http://www.euro.who.int/HEN/Syntheses/20030820\\_1](http://www.euro.who.int/HEN/Syntheses/20030820_1), accessed 11 October 2005).
- Health Evidence Network (2003b). *What is the efficacy/effectiveness of antenatal care?* Copenhagen, WHO Regional Office for Europe ([http://www.euro.who.int/HEN/Syntheses/20030820\\_1](http://www.euro.who.int/HEN/Syntheses/20030820_1), accessed 11 October 2005).
- Health Evidence Network (2004). *What are the advantages and disadvantages of restructuring a health care system to be more focused on primary health care services?* Copenhagen, WHO Regional Office for Europe ([http://www.euro.who.int/HEN/Syntheses/20030820\\_1](http://www.euro.who.int/HEN/Syntheses/20030820_1), accessed 11 October 2005).
- Health Evidence Network (2005). *What is the effectiveness of antenatal care? (Supplement)* Copenhagen, WHO Regional Office for Europe ([http://www.euro.who.int/HEN/Syntheses/20030820\\_1](http://www.euro.who.int/HEN/Syntheses/20030820_1), accessed 15 January 2006).
- ILO (2005). Key indicators of the labour market database [web site]. Geneva, International Labour Organization (<http://www.ilo.org/public/english/employment/strat/kilm/index.htm>, accessed 29 November 2005).
- OECD (2004). *Ageing and employment policies*. Paris, Organisation for Economic Co-operation and Development ([http://www.oecd.org/document/37/0,2340,en\\_2649\\_201185\\_32019685\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/37/0,2340,en_2649_201185_32019685_1_1_1_1,00.html), accessed 14 November 2005).
- UNESCO (2005). Country/Regional profiles [web site]. Montreal, UNESCO Institute for Statistics ([http://www.uis.unesco.org/profiles/selectCountry\\_en.aspx](http://www.uis.unesco.org/profiles/selectCountry_en.aspx), accessed 2 December 2005).
- UNICEF (2005). Monitoring the Situation of Children and Women [web site]. New York, United Nations Children's Fund (<http://www.childinfo.org>, accessed 1 December 2005).
- United Nations (2005). World population prospects: the 2004 revision population database [database online]. New York, United Nations (<http://esa.un.org/unpp/index.asp?panel=1>, accessed 28 September 2005).
- WHO (2003a). *Managing newborn problems: a guide for doctors, nurses and midwives*. Geneva, World Health Organization (<http://www.who.int/reproductive-health/publications/mnp/mnp.pdf>, accessed 13 October 2005).
- WHO (2003b). *The WHO reproductive health library, version 6*. Geneva, World Health Organization (<http://www.who.int/reproductive-health/rhl/index.html>, accessed 11 October 2005).
- WHO (2003c). *The world health report 2003 – Shaping the future*. Geneva, World Health Organization (<http://www.who.int/whr/2003/en>, accessed 11 October 2005).
- WHO (2004). *The world health report 2004 – Changing history*. Geneva, World Health Organization (<http://www.who.int/whr/2004/en>, accessed 11 October 2005).
- 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 11 October 2005).
- WHO Regional Office for Europe (2004a). *A strategy to prevent chronic disease in Europe: a focus on public health action: the CINDI vision*. Copenhagen, WHO Regional Office for Europe (<http://www.euro.who.int/document/e83057.pdf>, accessed 11 October 2005).
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WHO Regional Office for Europe (2004b). *Towards a European strategy on noncommunicable diseases*. Copenhagen, WHO Regional Office for Europe (<http://www.euro.who.int/document/rc54/edoc08.pdf>, accessed 11 October 2005).

WHO Regional Office for Europe (2005). European health for all database (HFA-DB) [online database]. Copenhagen, WHO Regional Office for Europe (<http://www.euro.who.int/hfad>, accessed 20 January 2005).

World Bank (2004). *The Millennium Development Goals in Europe and Central Asia*. Washington, DC, World Bank.

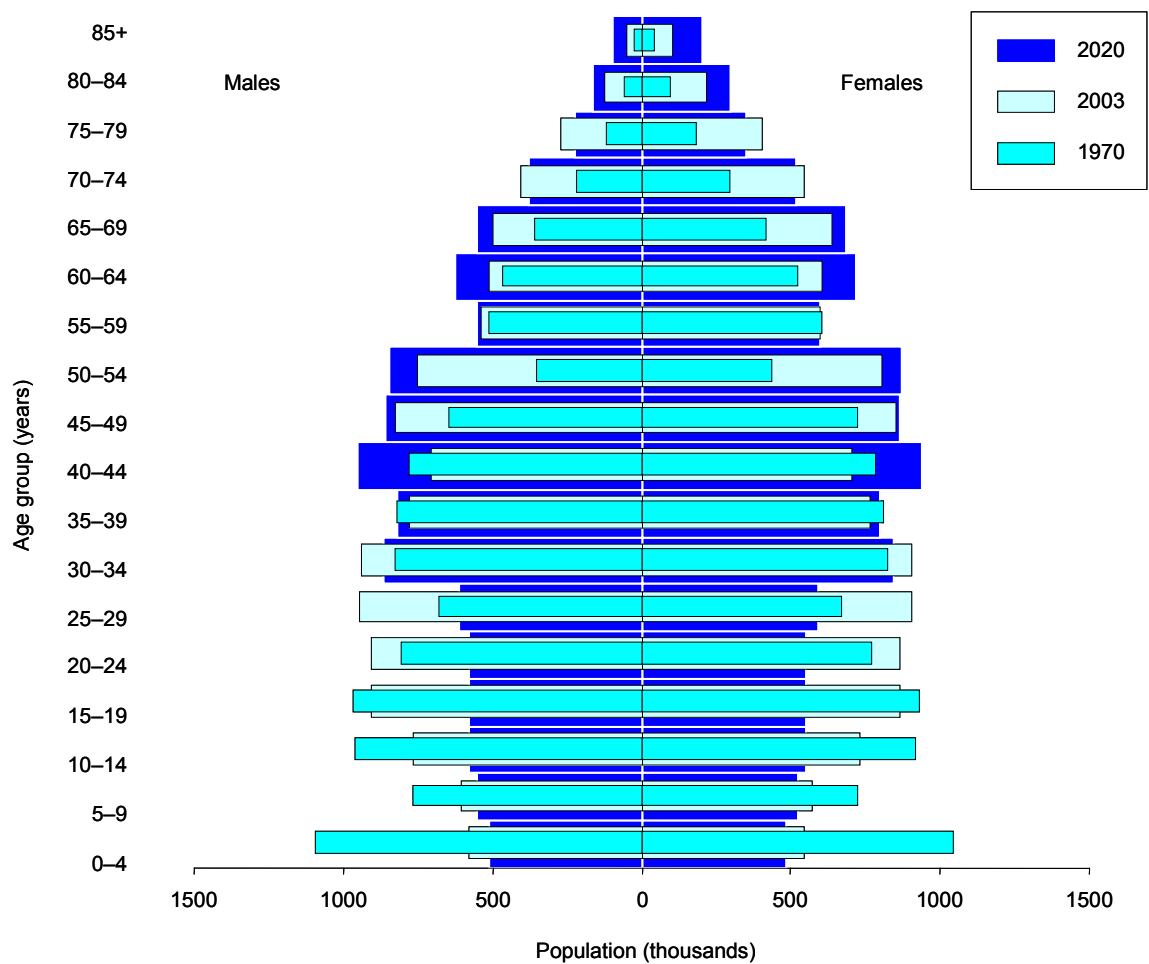
World Bank (2005). *World development indicators 2005*. Washington, DC, World Bank (<http://devdata.worldbank.org/wdi2005/home.htm>, accessed 28 September 2005).

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## Annexes

### Annex. Age pyramid

#### Age pyramid for Romania



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

## Annex. Selected mortality

## SELECTED MORTALITY IN ROMANIA COMPARED WITH EUR-A OR EUR-B+C AVERAGE

## Selected mortality in Romania compared with Eur-B+C averages

Condition	SDR per 100 000		Excess mortality in Romania (%)	Total deaths in Romania (%)	Total deaths in Eur-B+C (%)	Eur-A average	Excess Romania to Eur-A (%)	Total deaths in Eur-A (%)
	Romania (2002)	Eur-B+C average (2003)						
<b>Selected non-communicable conditions</b>	1028.1	1044.9	-1.6	89.7	79.6	533.8	92.6	82.4
<i>Cardiovascular diseases</i>	699.5	741.8	-5.7	61.0	56.5	243.4	187.4	37.6
Ischaemic heart disease	236.0	362.7	-34.9	20.6	27.6	95.9	146.1	14.8
Cerebrovascular diseases	224.8	221.7	1.4	19.6	16.9	61.1	267.9	9.4
Diseases of pulmonary circulation and other heart disease	74.4	68.9	8.0	6.5	5.3	56.6	31.4	8.7
<i>Malignant neoplasms</i>	177.6	172.0	3.3	15.5	13.1	181.5	-2.1	28.0
Trachea/bronchus/lung cancer	36.0	33.9	6.2	3.1	2.6	37.1	-3.0	5.7
Female breast cancer	23.1	22.1	4.5	2.0	1.7	27.0	-14.4	4.2
Colon/rectal/anal cancer	16.9	19.0	-11.1	1.5	1.4	20.7	-18.4	3.2
Prostate	15.2	14.3	6.3	1.3	1.1	25.1	-39.4	3.9
<i>Respiratory diseases</i>	69.1	63.1	9.5	6.0	4.8	47.8	44.6	7.4
Chronic lower respiratory diseases	29.0	31.2	-7.1	2.5	2.4	20.2	43.6	3.1
Pneumonia	33.9	23.6	43.6	3.0	1.8	16.2	109.3	2.5
<i>Digestive diseases</i>	68.7	52.3	31.4	6.0	4.0	30.8	123.1	4.8
Chronic liver disease and cirrhosis	50.2	32.0	56.9	4.4	2.4	12.6	298.4	1.9
<i>Neuropsychiatric disorders</i>	13.2	15.7	-15.9	1.2	1.2	30.3	-56.4	4.7
<b>Communicable conditions</b>	15.2	20.8	-26.9	1.3	1.6	8.4	81.0	1.3
AIDS/HIV	1.7	0.8	112.5	0.1	0.1	1.1	54.5	0.2
<b>External causes</b>	65.4	139.6	-53.2	5.7	10.6	40.3	62.3	6.2
<i>Unintentional</i>	48.1	102.2	-52.9	4.2	7.8	28.7	67.6	4.4
Road traffic injuries	12.4	14.7	-15.6	1.1	1.1	9.9	25.3	1.5
Falls	7.2	7.5	-4.0	0.6	0.6	6.1	18.0	0.9
<i>Intentional</i>	17.3	37.4	-53.7	1.5	2.9	11.6	49.1	1.8
Self-inflicted (suicide)	13.7	23.2	-40.9	1.2	1.8	10.6	29.2	1.6
Violence (homicide)	3.6	14.2	-74.6	0.3	1.1	1.0	260.0	0.2
<b>Ill-defined conditions</b>	1.1	64.0	-98.3	0.1	4.9	20.9	-94.7	3.2
<b>All causes</b>	1145.8	1312.2	-12.7	100.0	100.0	647.8	76.9	100.0

## Annex. Mortality data

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

Causes of death	Sex	Romania (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Annual change (%)	Average	Annual change (%)	Average	Average annual change (%)
<b>All causes</b>	Both	179.5	-3.2	49.4	-2.4	151.7	-3.8
	M	199.4	-3.5	55.3	-2.5	170.5	-3.9
	F	158.3	-2.7	43.3	-2.4	131.9	-3.8
<i>Infectious and parasitic diseases</i>	M	13.7	5.1	1.4	-1.1	10.9	-7.0
	F	11.3	7.1	1.1	-3.0	9.5	-6.6
Intestinal infectious diseases	M	3.9	-5.1	0.2	-0.7	5.1	-8.2
	F	3.9	-0.3	0.1	-7.3	4.7	-7.9
<i>Malignant neoplasms</i>	M	6.8	-3.8	3.3	-1.8	5.1	-1.9
	F	6.5	-0.9	2.6	-1.8	4.2	-1.9
<i>Cardiovascular diseases</i>	M	2.1	-0.2	1.4	-3.1	3.3	1.1
	F	1.3	-5.1	1.3	-2.5	2.6	0.1
<i>Respiratory diseases</i>	M	51.7	-4.3	1.4	-4.3	35.9	-5.0
	F	44.6	-4.1	1.0	-4.2	30.7	-5.0
Pneumonia	M	48.4	-4.5	0.5	-6.0	20.9	-4.9
	F	42.2	-4.2	0.4	-5.1	17.9	-4.7
<i>Certain conditions originating in perinatal period</i>	M	584.2	-3.5	255.3	-2.1	607.6	-2.7
	F	421.1	-1.4	202.3	-1.6	427.5	-2.7
Congenital malformations & chromosomal abnormalities	M	36.2	0.6	11.6	-2.9	24.2	-2.8
	F	32.8	1.1	10.0	-3.3	21.0	-2.6
<i>Ill-defined causes</i>	M	0.6	5.3	5.0	-3.9	5.6	-0.6
	F	0.8	21.6	3.4	-4.2	4.6	-1.0
<i>External causes of injury &amp; poisoning</i>	M	30.3	-4.6	7.0	-4.0	29.0	-3.4
	F	18.6	-4.5	4.6	-3.2	18.1	-3.1
Road traffic injuries	M	6.5	0.0	2.5	-4.5	4.7	-2.6
	F	3.9	-0.6	1.7	-4.8	3.0	-1.6

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

Causes of death	Sex	Romania (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Annual change (%)	Average	Annual change (%)	Average	Average annual change (%)
<b>All causes</b>	Both	71.9	-3.1	56.0	-2.3	161.0	-0.9
	M	101.1	-3.0	82.0	-2.3	241.7	-1.0
	F	41.2	-3.5	29.3	-2.2	79.0	-0.6
<i>Infectious and parasitic diseases</i>	M	4.3	-0.3	1.2	1.5	12.3	3.0
	F	2.7	-0.8	0.8	1.9	5.1	2.5
<i>Malignant neoplasms</i>	M	9.5	-1.1	6.2	-1.0	8.8	-1.9
	F	7.0	-3.3	4.7	-1.4	7.7	-1.9
<i>Cardiovascular diseases</i>	M	6.9	-3.9	4.1	-2.4	17.6	0.0
	F	3.3	-4.5	2.3	-2.0	7.3	-0.9
<i>Respiratory diseases</i>	M	5.6	-2.3	1.4	-3.6	6.9	0.2
	F	3.8	-2.3	0.9	-2.7	3.8	-1.1
<i>Digestive diseases</i>	M	4.6	-2.1	0.9	-3.5	8.0	3.0
	F	2.0	-2.4	0.5	-3.8	3.7	3.1
<i>Ill-defined causes</i>	M	0.8	31.1	4.0	-3.1	11.6	7.1
	F	0.3		1.4	-1.3	3.3	5.8
<i>External causes</i>	M	62.1	-3.2	58.3	-1.4	162.4	-1.6
	F	15.9	-2.8	14.4	-1.6	36.9	-0.2
Road traffic injuries	M	16.1	2.2	28.5	-1.3	27.8	-1.5
	F	5.2	0.4	7.3	-1.4	8.0	0.3
Accidental drowning	M	7.4	-4.4	1.3	-2.2	10.8	-3.9
	F	1.3	-3.4	0.2	-2.1	1.9	-2.2
Accidental poisoning	M	2.8	-5.2	2.8	0.0	19.1	3.3
	F	2.0	-2.8	0.7	0.8	4.4	2.5
Self-inflicted (suicide)	M	13.4	-0.7	12.7	-1.8	36.8	0.0
	F	2.4	-2.7	3.1	-2.2	5.8	-1.3

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

Causes of death	Sex	Romania (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Annual change (%)	Average	Annual change (%)	Average	Average annual change (%)
<b>All causes</b>	Both	264.5	-3.2	120.3	-2.5	453.8	-0.7
	M	384.2	-3.3	161.6	-2.6	700.0	-0.8
	F	144.0	-2.8	78.5	-2.1	215.6	-0.2
<i>Malignant neoplasms</i>	M	50.8	-1.6	27.6	-2.3	40.2	-2.8
	F	51.9	-1.0	31.3	-2.0	43.8	-1.4
Trachea/bronchus/lung cancer	M	11.5	-4.0	5.0	-3.4	7.3	-4.2
	F	3.2	-0.3	2.8	-0.6	2.2	-1.0
Female breast cancer	F	9.2	-4.4	10.0	-2.6	10.0	-2.3
<i>Cardiovascular diseases</i>	M	88.1	-3.8	26.1	-2.5	158.6	-0.4
	F	27.4	-3.7	10.4	-2.1	45.3	0.0
Ischaemic heart disease	M	45.6	-3.9	11.8	-3.1	73.7	-2.2
	F	9.1	-3.4	2.4	-2.7	14.4	-1.3
Cerebrovascular diseases	M	19.1	-2.8	4.4	-3.2	24.6	-0.4
	F	9.7	-3.4	3.6	-2.5	10.6	-1.3
<i>Respiratory diseases</i>	M	24.9	-4.6	3.9	-3.5	34.3	0.9
	F	6.7	-4.0	2.2	-2.0	9.8	0.8
<i>Digestive diseases</i>	M	53.3	-2.2	12.6	-2.4	50.2	1.4
	F	16.1	-3.3	5.4	-1.7	19.4	4.1
<i>External causes</i>	M	120.1	-2.9	58.8	-1.2	299.5	-1.9
	F	24.2	-3.4	15.1	-1.8	58.9	-1.0
Road traffic injuries	M	20.8	-1.2	16.0	-0.5	31.4	-1.7
	F	5.5	0.3	3.9	-2.0	7.1	-0.5
Self-inflicted (suicide)	M	30.8	1.3	21.2	-1.5	54.9	-2.4
	F	4.5	-2.7	5.8	-2.2	7.9	-2.5

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

Causes of death	Sex	Romania (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Annual change (%)	Average	Annual change (%)	Average	Average annual change (%)
<b>All causes</b>	Both	957.3	-1.5	435.6	-1.3	1294.9	-0.6
	M	1372.8	-1.6	580.1	-1.4	1981.7	-0.6
	F	570.6	-1.1	293.3	-1.0	698.9	-0.5
<i>Malignant neoplasms</i>	M	333.5	0.1	218.2	-1.2	323.2	-1.9
	F	194.9	0.9	155.0	-1.0	186.1	-0.5
Trachea/bronchus/lung cancer	M	111.2	-1.9	65.9	-1.5	101.4	-2.9
	F	17.8	1.5	21.8	3.4	15.4	1.0
Female breast cancer	F	42.3	-0.4	44.0	-2.2	45.3	0.1
<i>Cardiovascular diseases</i>	M	524.7	-2.2	156.4	-2.6	793.1	-0.1
	F	217.5	-1.7	50.9	-2.5	271.7	-0.6
Ischaemic heart disease	M	240.1	-2.2	86.2	-3.3	435.3	-0.7
	F	76.5	-1.0	17.8	-3.4	111.1	-0.6
Cerebrovascular diseases	M	152.1	-2.1	23.7	-2.6	168.6	-0.9
	F	84.4	-2.5	14.5	-2.1	88.4	-1.4
<i>Respiratory diseases</i>	M	77.6	-2.8	20.3	-1.7	108.7	-1.4
	F	18.8	-1.9	10.2	-1.3	24.5	-0.7
<i>Digestive diseases</i>	M	169.5	0.2	49.6	-0.8	129.7	0.7
	F	69.7	-0.8	20.3	-0.7	57.3	1.9
<i>External causes</i>	M	170.4	-2.4	62.8	-1.0	409.2	-0.9
	F	36.1	-2.8	20.9	-0.9	89.1	-1.1
Road traffic injuries	M	28.3	-0.4	13.0	-1.3	28.5	-1.8
	F	6.0	-3.2	4.1	-2.1	7.5	-1.4
Self-inflicted (suicide)	M	44.0	1.8	23.1	-1.1	68.1	-2.4
	F	7.7	1.2	8.5	-1.2	10.2	-3.4



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

Causes of death	Sex	Romania (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Annual change (%)	Average	Annual change (%)	Average	Average annual change (%)
<b>All causes</b>	Both	2901.8	-0.7	1570.9	-1.9	3411.7	-0.1
	M	3935.9	-0.4	2156.9	-2.1	4996.4	0.1
	F	2083.4	-1.2	1069.2	-1.9	2339.0	-0.6
<i>Malignant neoplasms</i>	M	882.3	2.2	851.3	-1.4	1002.5	-0.8
	F	421.8	0.8	439.8	-1.1	438.9	-0.7
Trachea/bronchus/lung cancer	M	281.9	3.1	261.8	-1.9	321.7	-1.5
	F	40.1	0.5	59.0	0.2	37.1	-1.4
Female breast cancer							
	F	70.5	1.7	79.7	-1.6	68.7	1.3
<i>Cardiovascular diseases</i>	M	2209.8	-1.0	744.9	-3.6	2903.0	0.6
	F	1304.8	-1.6	335.7	-3.9	1507.8	-0.3
Ischaemic heart disease	M	827.9	-0.6	381.3	-4.2	1582.2	1.2
	F	428.9	-1.3	133.5	-4.6	731.4	0.5
Cerebrovascular diseases	M	758.6	-1.1	143.3	-3.7	833.7	0.2
	F	522.5	-1.8	86.7	-4.1	528.9	-0.8
<i>Respiratory diseases</i>	M	231.0	-1.2	144.0	-3.5	303.0	-2.4
	F	79.7	-2.1	62.5	-2.4	68.6	-3.6
<i>Digestive diseases</i>	M	292.5	0.8	111.6	-1.6	193.0	0.1
	F	148.5	0.3	54.1	-1.7	94.2	0.2
<i>External causes</i>	M	160.4	-1.2	79.3	-1.4	320.0	1.0
	F	44.1	-3.5	32.1	-2.1	88.7	-0.5
Road traffic injuries	M	25.8	-0.3	14.8	-3.0	24.3	-1.5
	F	9.4	-0.5	5.9	-3.4	9.5	-1.0
Self-inflicted (suicide)	M	32.3	3.0	24.5	-1.6	60.5	-0.8
	F	7.8	-1.2	8.7	-2.6	12.7	-3.1

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

Causes of death	Sex	Romania (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Annual change (%)	Average	Annual change (%)	Average	Average annual change (%)
<b>All causes</b>	Both	12400.7	-0.2	8059.6	-1.0	12338.8	0.0
	M	13742.0	0.0	9832.0	-1.1	14838.0	0.1
	F	11600.5	-0.3	7112.5	-0.9	11421.7	0.0
<i>Malignant neoplasms</i>	M	1231.0	3.9	2231.1	-0.4	1489.3	1.2
	F	717.8	3.9	1136.2	-0.4	721.7	0.8
Trachea/bronchus/lung cancer	M	189.2	4.3	457.1	-0.7	323.5	1.0
	F	53.4	5.4	102.7	1.5	55.6	0.5
Female breast cancer							
	F	104.2	4.9	159.6	-0.4	92.0	3.1
<i>Cardiovascular diseases</i>	M	10783.8	-0.3	4356.2	-2.1	10221.2	0.4
	F	9853.6	-0.4	3577.9	-1.9	8805.6	0.4
Ischaemic heart disease	M	3441.2	0.2	1708.0	-2.2	4925.6	1.4
	F	2981.1	-0.1	1150.0	-2.2	4028.6	1.2
Cerebrovascular diseases	M	3167.8	-0.2	1119.8	-2.5	3004.4	0.7
	F	3002.8	-0.8	1026.9	-2.4	2967.6	0.5
<i>Respiratory diseases</i>	M	921.2	-0.3	1156.5	-2.4	824.1	-2.1
	F	540.0	-1.7	591.9	-2.1	302.3	-3.2
<i>Digestive diseases</i>	M	329.9	2.3	340.3	-1.1	270.4	0.3
	F	243.4	3.1	279.8	-0.4	175.0	1.1
<i>External causes</i>	M	186.1	-0.6	275.0	-0.6	604.2	0.1
	F	78.7	-2.8	187.8	-1.2	172.4	-1.2
Road traffic injuries	M	31.8	-0.7	28.1	-2.2	34.6	-3.1
	F	13.7	-2.2	10.0	-3.1	14.7	-1.7
Self-inflicted (suicide)	M	35.5	1.5	49.5	-1.6	86.6	-1.1
	F	8.4	4.6	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*<sup>1</sup>.

### 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

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<sup>1</sup> 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).

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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.

### 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<sup>1</sup> 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.

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

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## Glossary

### Causes of death

	<b>ICD-10 code</b>
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 <sup>3</sup> .
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.

<sup>3</sup> 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).