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EUROPE

Highlights on health in Ukraine

2005

Highlights on health

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

Each report also compares a country, when possible, to a reference group. This report uses the 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

HEALTH STATUS
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Contents

Summary: findings and policy considerations

Life expectancy

WHO estimates that a person born in Ukraine in 2003 can expect to live 68 years on average: 74 years if female and 63 years if male. Life expectancy for males in 2003 was five years shorter than in 1986. Life expectancy for females in 2003 was two years shorter than in 1989. Compared with the Eur-A averages for males and females, male life expectancy in Ukraine is 14 years lower and female life expectancy is 8 years lower. Life expectancy for Ukrainian males remains two years less than Eur-B+C average life expectancy, while for females it is practically equal to the average. WHO also estimates that Ukrainians spend about 12% (eight years) of their average life span 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

Both infant and neonatal mortality rates in Ukraine are well below the corresponding Eur-B+C average rates; however, the latest infant mortality rate is twice as high as the corresponding Eur-A average rate. The United Nations Children's Fund estimates that the infant mortality rate in Ukraine in 1995 was 20 deaths per 1000 live births (the official national rate was 15 deaths per 1000 live births), and in 2003 it was 15 deaths per 1000 live births (the official national rate was about 10 deaths per 1000 live births).

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

The maternal mortality rate shows a clear decline, at a rate about four times higher than the Eur-A average rate, but well below the Eur-B+C average rate. The rate may be underestimated, though. According to WHO/United Nations Children's Fund/United Nations Population Fund estimates for the year 2000, the maternal mortality rate in Ukraine was 35 maternal deaths per 100 000 live births, while the official national rate was close to 25 maternal deaths per 100 000 live births. Between 1990 and 2002, the maternal mortality rate in Ukraine fell by 32%, despite a peak rate in 1994 (about 33 maternal deaths per 100 000 live births). The maternal mortality rate would have to fall another 63% to reach the Millennium Development Goal target.

More important than reaching the exact Millennium Development Goal 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

The latest mortality rate for males in Ukraine is 6% higher than the corresponding Eur-B+C average rate, and the rate for females is about 3% higher. When compared with Eur-A average mortality rates, excess mortality in Ukraine is present in all age groups, the largest being in men 30–44 years old – who have

mortality rates about five times higher then their peers in Eur-A. In females, the mortality rate differences are smaller than in males.

In 2003, the main noncommunicable diseases accounted for about 80% of all deaths in Ukraine; external causes for about 11%; and communicable diseases for about 2%. In total 60% of all deaths were caused by diseases of the circulatory system and 12% by cancer. The mortality rate among males attributed to cardiovascular diseases is the third highest in European countries, and for elderly males and females (65 years old and older) the rates are the fourth highest. Ischaemic heart disease is the single biggest killer in Ukraine, being responsible for almost 40% of all male deaths in 2003 – more than double the Eur-A average rate (15%) and more than the Eur-B+C average rate (28%).

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

*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*)*

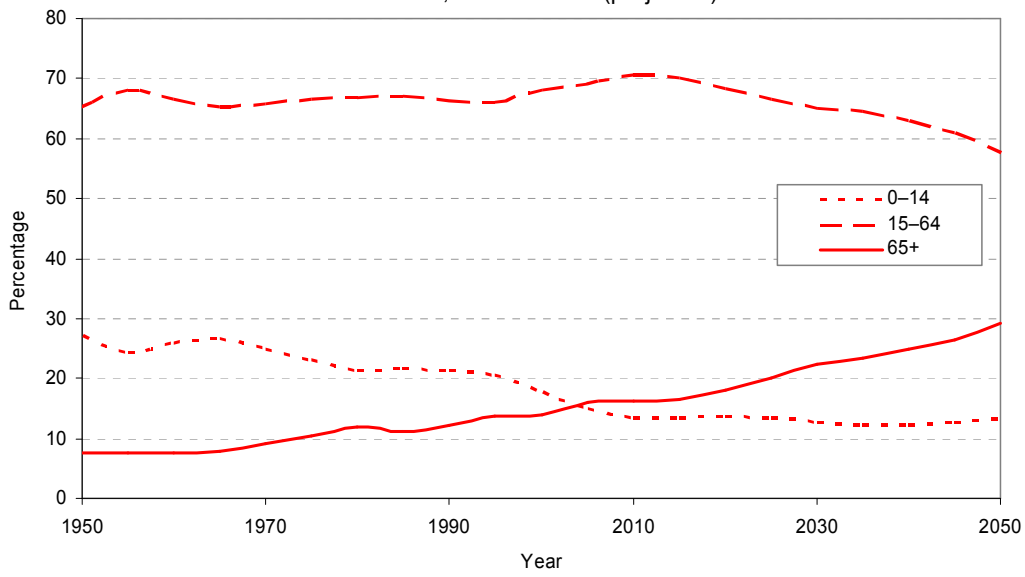
*What are the advantages and disadvantages of restructuring a health care system to be more focused on primary health care services? (*Health Evidence Network, 2004*)*

Selected demographic and socioeconomic information

Population profile

In mid-2003, Ukraine had about 48 million people. About 67% of them lived in urban areas, which is slightly above the Eur-B+C average rate. The percentage of the population 0–14 years old was relatively steady during the 1980s, but fell from about 21% in 1990 to 16% by 2003. The percentage is below the Eur-B+C average. At the other end of the age spectrum, the percentage of Ukraine's population more than 65 years old is above the Eur-B+C average. By 2030, an estimated 22% of Ukraine's population will be 65 years old and older (Annex. Age pyramid; Figure. Population trends).

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



Source: United Nations (2005).

The birth rate in Ukraine was the lowest in Eur-B+C in 2003. For that year, the natural population increase in Ukraine was negative and the lowest of the Eur-B+C countries. Net migration for 2003 was slightly negative and below the corresponding Eur-B+C average (Table. Selected demographic indicators).

Selected demographic indicators in Ukraine and Eur-B+C, 2003 or latest available year

Indicators	Ukraine	Eur-B+C		
	Value	Average	Minimum	Maximum
Population (in 1000s)	47 787 263.0	–	–	–
0–14 years (%)	15.6	–	–	–
15–64 years (%)	69.2	–	–	–
65+ years (%)	15.3	–	–	–
Urban population (%)[a]	67.2	63.7	25.0	73.3
Live births (per 1000)	8.6	12.8	8.6	27.1
Natural population growth (per 1000)	-7.5	0.8	–7.5	23.0
Net migration (per 1000)	–0.5	1.8	–6.6	2.1

[a] 2002.

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

Socioeconomic indicators

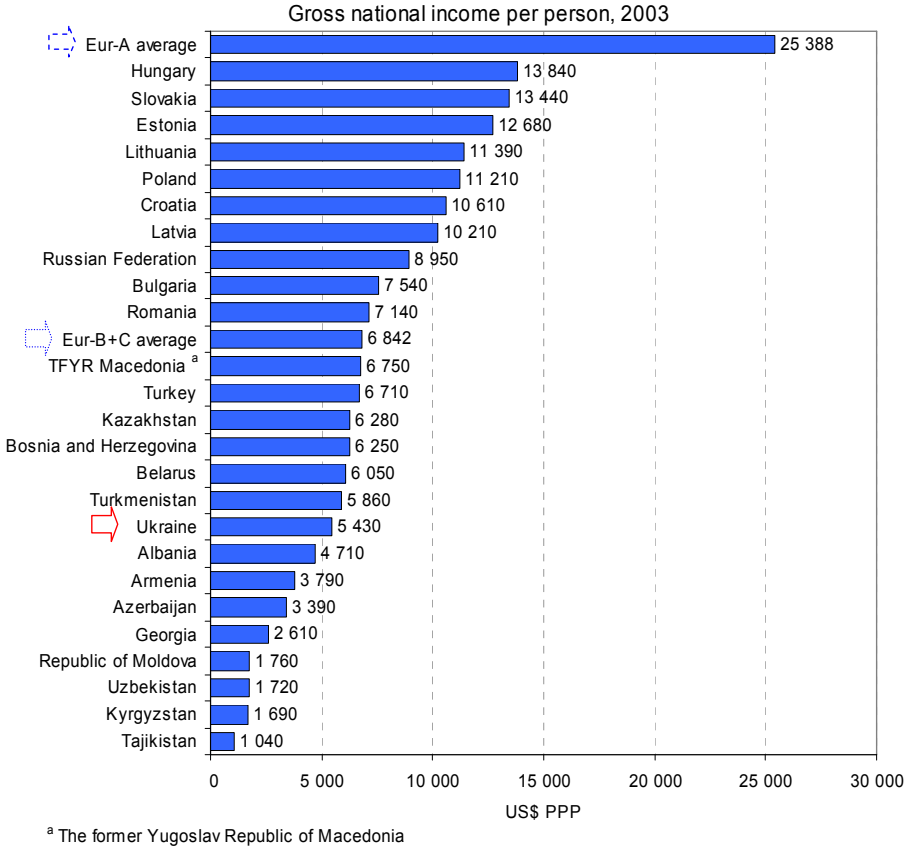
Health outcomes are influenced by various factors that operate at individual, household and community levels. Obvious factors are, for example, diet, health behaviour, access to clean water, sanitation and health services. However, underlying health determinants of a socioeconomic nature also play a 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 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 Ukraine, in 2003, per person gross national income, adjusted for purchasing power parity (PPP) was US$ 5430, below the corresponding Eur-B+C average (US$ 6842) (Figure: Gross national income per person).



[a] The former Yugoslav Republic of Macedonia
Source: World Bank (2005).

Household surveys conducted in Ukraine over 12 years, from 1988 to 1999, found that since 1988, when the absolute poverty rate was 1.6% (using the US$ 4.30 per person per day benchmark), the rates have been increasing. In 1999, the latest year for which data are available, 81.7% of the population lived on US$ 4.30 or less per day. That same year, 31.3% of the population lived on US$ 2.15 or less per day (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.

The Gini index for Ukraine was 29.0 in 1999, the latest year for which data are available. 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 school.

In Ukraine, net secondary school enrolment in 2001 was 89%, compared to an 81.2% Eur-B+C average in 2000. The average net enrolment in Eur-A countries that year was 88.5% (UNESCO, 2005).

Employment

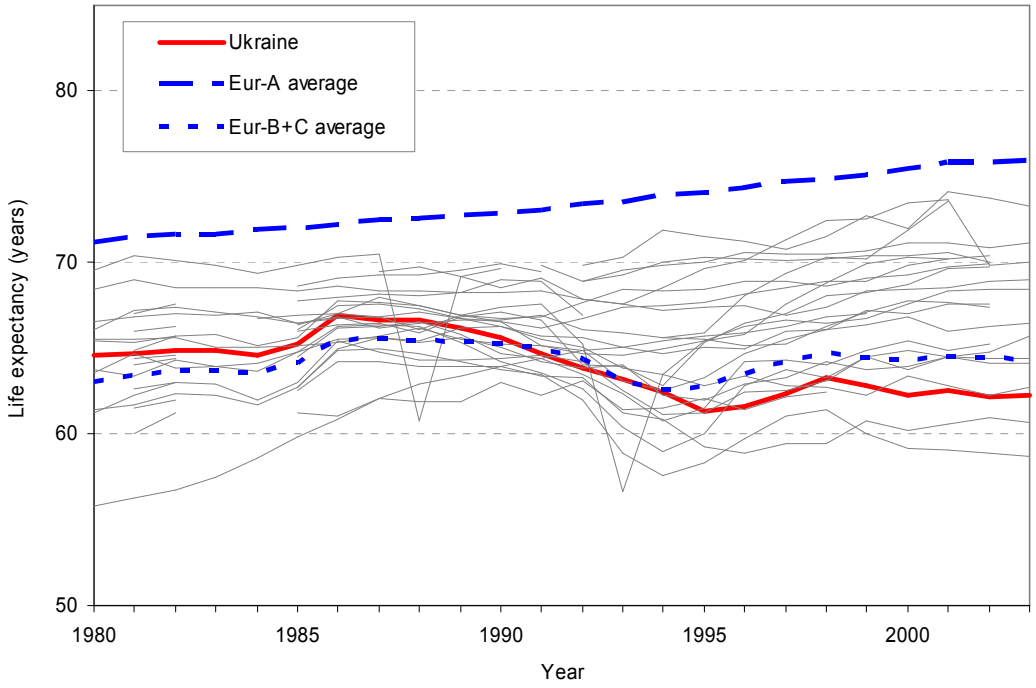
Being employed tends to be better for health than being unemployed, except for circumstances where employment exposes the individual to physical injury or psychological stress. National unemployment rates and rates for particular sub-populations are monitored to assess the extent to which people have 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.

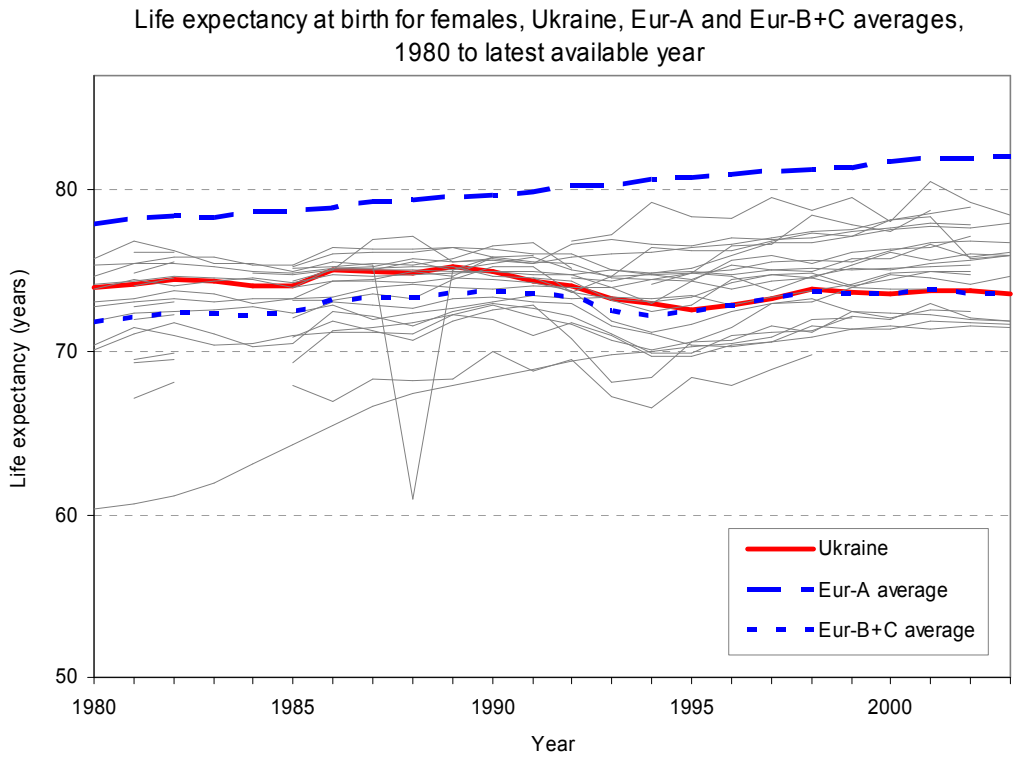
The total unemployment rate in Ukraine in 2001 was 11.1%, close to the Eur-B+C country average of 12.9% for that year, keeping in mind that national rates are based on estimates of people available and seeking employment and that countries have different definitions of labour force and unemployment. The percentage of young Ukrainians, 15–24 years of age, without work but available for (and seeking) employment was 24% in 2000 – the latest year for which data were available. In 2001, the Eur-B+C average youth unemployment rate was 25.2% (ILO, 2005).

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

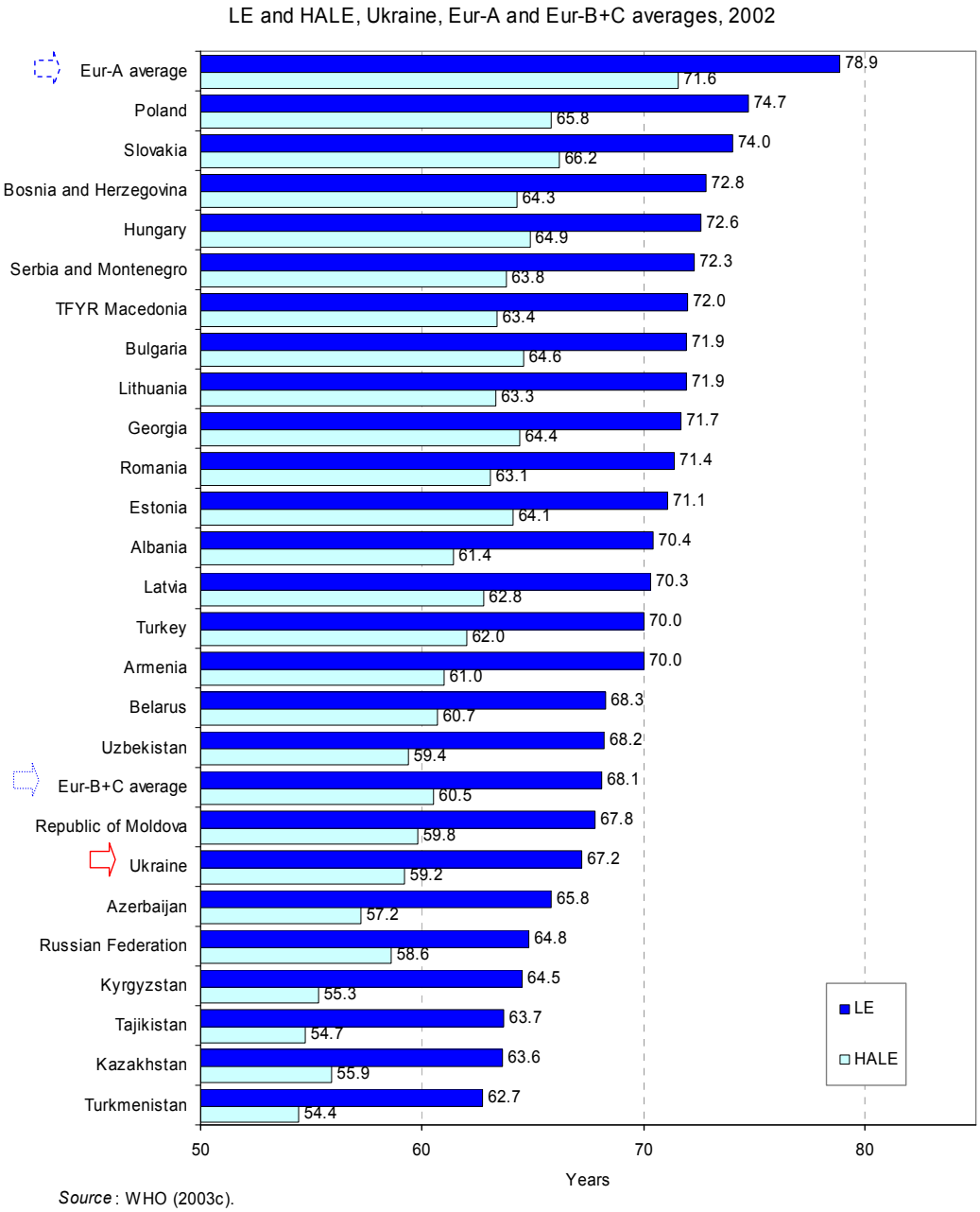
According to figures compiled by WHO (WHO, 2003c), a person born in Ukraine in 2003 can expect to live 67.8 years on average: 73.6 years if female and 62.3 years if male. In Ukraine, life expectancy (LE) for males is about 13.6 years lower than the corresponding Eur-A average, and 8.4 years lower for females. The Ukrainian male LE remains lower than the corresponding Eur-B+C average by 1.9 years, while for females it is practically equal to the average. In males, LE decreased during the period 1986–1995 by 5.6 years, then increased for 3 years, and subsequently started a slow decline again. In 2003, it was less than in 1986, by 4.7 years, showing some departure from the Eur-B+C average LE. During the period 1998–2003, it stabilized. For Ukrainian females, LE declined by 2.7 years between 1989 and 1995, to reach the Eur-B+C average LE; it then increased for 3 years and stabilized. Its value in 2003 was 1.7 years lower than in 1989 (Figure. Life expectancy for males; Figure. Life expectancy for females).

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





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 Ukraine, WHO (WHO, 2003c) estimates that people can expect to be healthy for about 88% of their lives. They lose an average of 8.0 years to illness and injuries – the difference between LE and HALE. This loss is a little more than the Eur-A average (7.3 years) and the Eur-B+C average (7.6 years) (Figure. LE and HALE).



Source: WHO (2003c).

Since females generally live longer and since the possibility of deteriorating health increases with age, females lose more healthy years of life (9.3 years) than males (6.8 years). Nevertheless, the longer LE for females in Ukraine gives them 8.7 more years of healthy life than males. At age 60 years, this difference reduces to 3.4 years: woman can expect 13.7 years of healthy life and men 10.3 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 Ukraine. Cardiovascular diseases (CVD) and unintentional injuries account for the highest burden of disease among males, and CVD and neuropsychiatric conditions account for the highest burden of disease among females. Because mortality from neuropsychiatric conditions is minor, disability in daily living comprises the bulk of their burden on the population's health (Table. Ten leading disability groups).

Ten leading disability groups as percentages of total DALYs for both sexes in Ukraine (2002)

Rank	Males		Females	
	Disability groups	Total DALYs (%)	Disability groups	Total DALYs (%)
1	Cardiovascular diseases	27.2	Cardiovascular diseases	33.6
2	Unintentional injuries	15.5	Neuropsychiatric conditions	16.5
3	Neuropsychiatric conditions	11.3	Malignant neoplasms	10.4
4	Infectious and parasitic diseases	9.3	Sense organ diseases	5.4
5	Malignant neoplasms	9.0	Unintentional injuries	5.2
6	Intentional injuries	7.2	Musculoskeletal diseases	5.2
7	Digestive diseases	4.9	Digestive diseases	4.1
8	Respiratory diseases	3.8	Respiratory diseases	3.8
9	Sense organ diseases	3.1	Infectious and parasitic diseases	3.4
10	Musculoskeletal diseases	2.2	Intentional injuries	2.6

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 Ukraine. According to the DALYs, tobacco and alcohol use place the greatest burden of disease on the Ukrainian male population, and high blood pressure and high cholesterol level place the greatest burden of disease on the female population (Table. Ten leading risk factors).

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

Rank	Males		Females	
	Risk factors	Total DALYs (%)	Risk factors	Total DALYs (%)
1	Tobacco	20.2	High blood pressure	20.3
2	Alcohol	18.3	High cholesterol	16.6
3	High blood pressure	13.9	High BMI	11.4
4	High cholesterol	12.7	Low fruit and vegetable intake	8.6
5	Low fruit and vegetable intake	7.6	Physical inactivity	6.4
6	High BMI	7.2	Alcohol	4.3
7	Physical inactivity	4.9	Tobacco	3.0
8	Illicit drugs	4.1	Unsafe sex	2.3
9	Lead	1.2	Illicit drugs	1.7
10	Unsafe sex	1.1	Indoor smoke from solid fuels	1.5

Source: Background data from WHO (2003c).

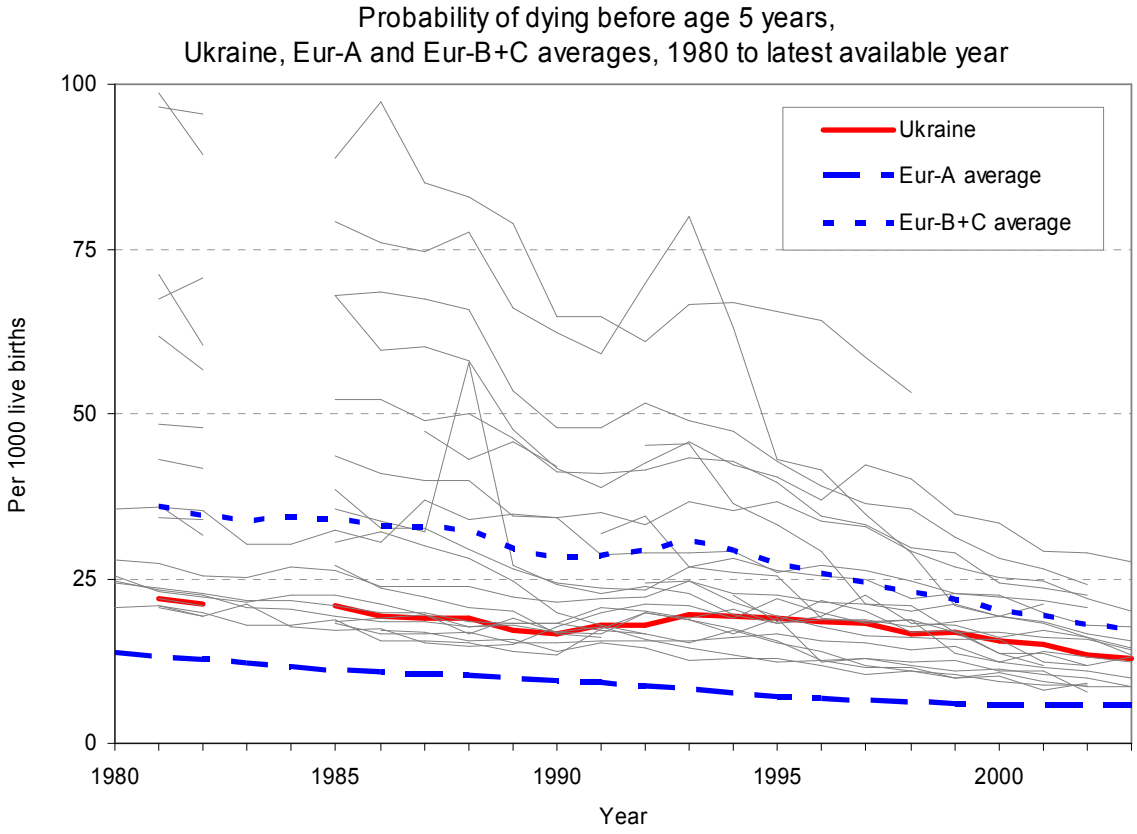
Mortality

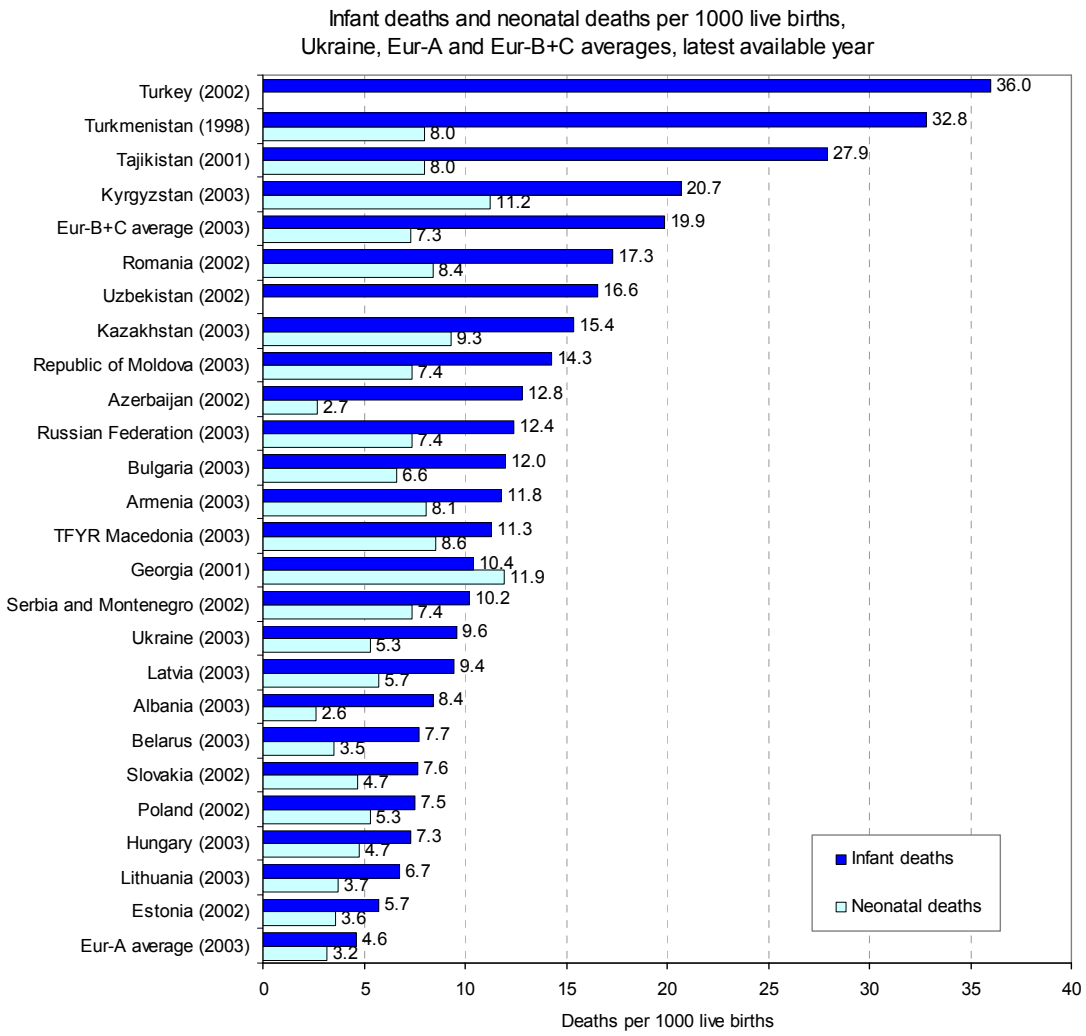
Infant, neonatal and child mortality

Both infant and neonatal mortality in Ukraine are well below the corresponding Eur-B+C averages; however, the infant mortality rate (IMR) is twice as high as the Eur-A average. Since 1993, the IMR declined 39% in Ukraine, which is more than the average decline in Eur-A (30%); consequently, the excess infant mortality in Ukraine is slowly diminishing. The decline in IMR that started in 1993 in Ukraine is a little faster than the average decline in Eur-B+C; the IMR in Ukraine in 1993 was 45%

below the average decline in Eur-B+C, and in 2003 it was 52% below that average. However, United Nations Children's Fund (UNICEF) estimates of IMR in Ukraine give a less optimistic picture, with an IMR in 1995 of 20 deaths per 1000 live births (the official national rate was 14.8 deaths per 1000 live births) and an IMR in 2003 of 15 deaths per 1000 live births (the official national rate was 9.5 deaths per 1000 live births) (UNICEF, 2005).

National data and WHO estimates for 2002 show that of every 1000 live births in Ukraine, it can be expected that about 13 children will die before the age of 5 years. Adjusting for the known biases in national data (underreporting of vital statistics), UNICEF estimates Ukraine's latest (2003) rate to be 20 deaths under-5 for every 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 downward trend in the Ukraine's rate over the 1990s, it should reach the MDG target before 2015. The lowest WHO estimates for the Eur-B+C countries are for Estonia and Slovakia, each with 8 deaths per 1000 live births (Figure. Probability of dying before age 5; Figure. Infant deaths and neonatal deaths).





Maternal mortality

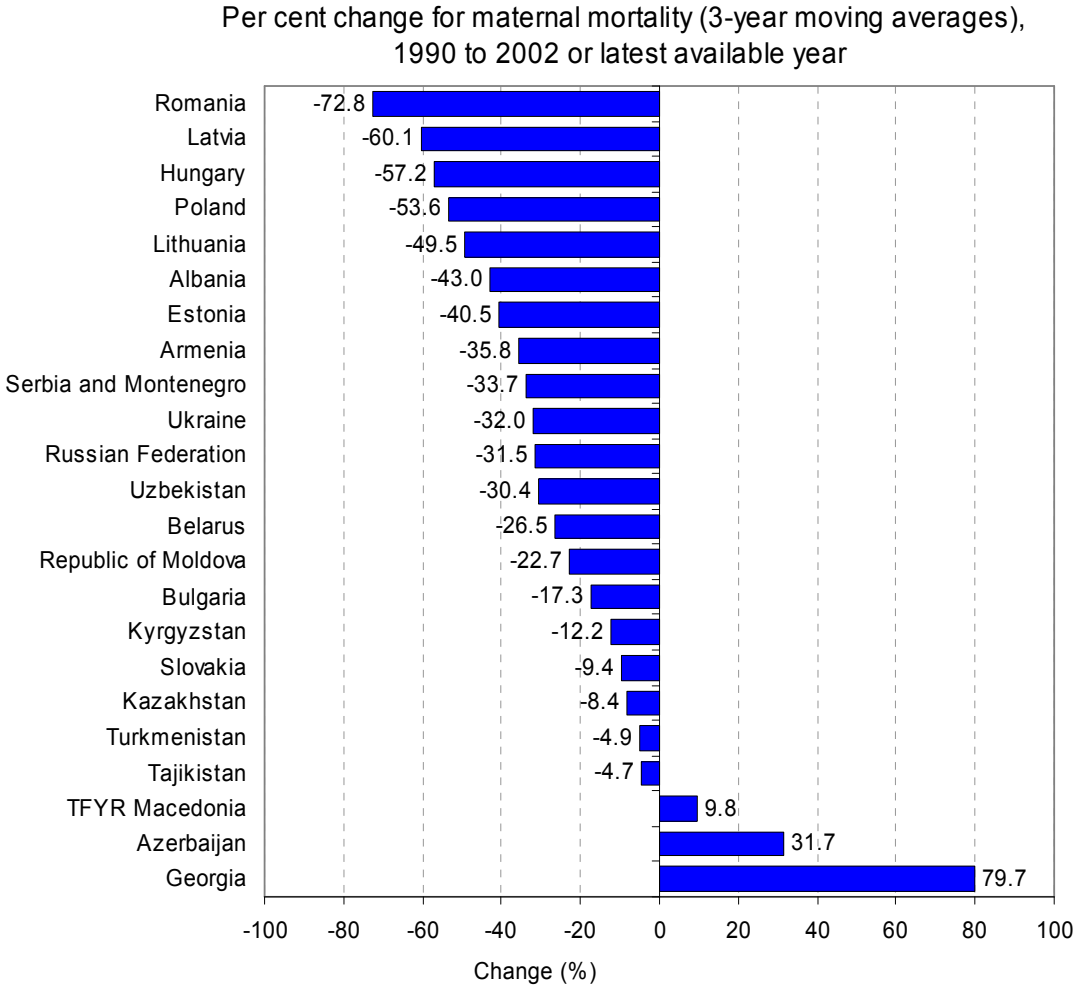
Maternal mortality rates (MMR) and the Millennium Development Goal (MDG)

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.

The MMR shows a clear decline, at a rate about four times higher than the Eur-A average rate, but well below the Eur-B+C average rate. The rate may be underestimated, though. According to WHO/UNICEF/United Nations Population Fund (UNFPA) estimates for the year 2000, the MMR in Ukraine was 35 maternal deaths per 100 000 live births, while the official national rate was 24.7 maternal deaths per 100 000 live births. Of the 445 maternal deaths reported in the period 1999–2003, 77 (17%) were attributed to abortion.

Between 1990 and 2002, the MMR (three-year moving average) in Ukraine fell by 32% (see following figure). From a peak rate in 1994 (32.7 maternal deaths per 100 000 live births), the rate dropped by 34% to the 2002 level. The MMR would have to fall another 63% to reach the MDG target (Figure. Per cent change for maternal mortality).



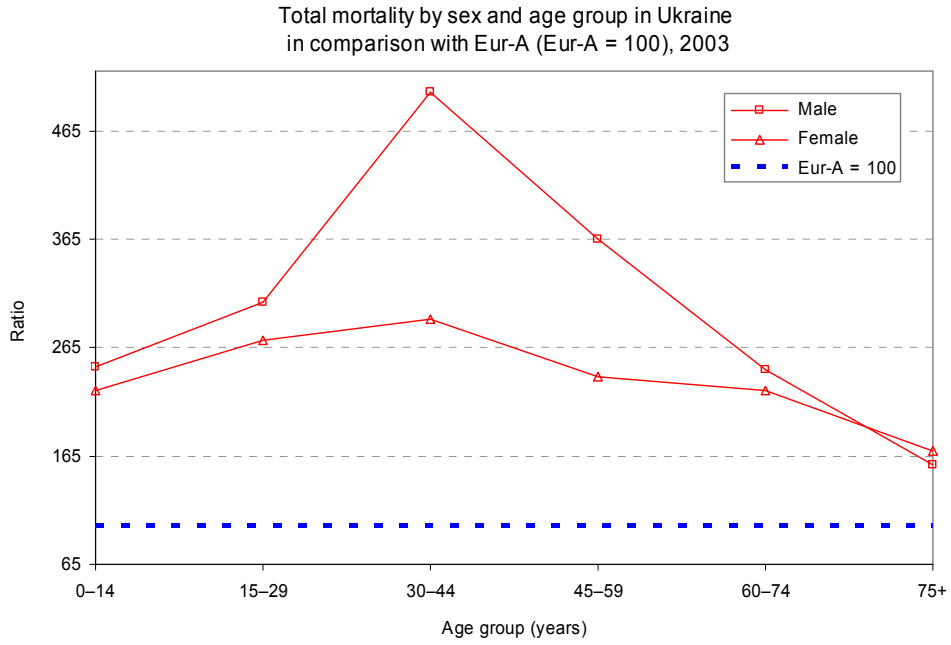
Of the 174 maternal deaths reported in 2002, four were attributed to abortion.

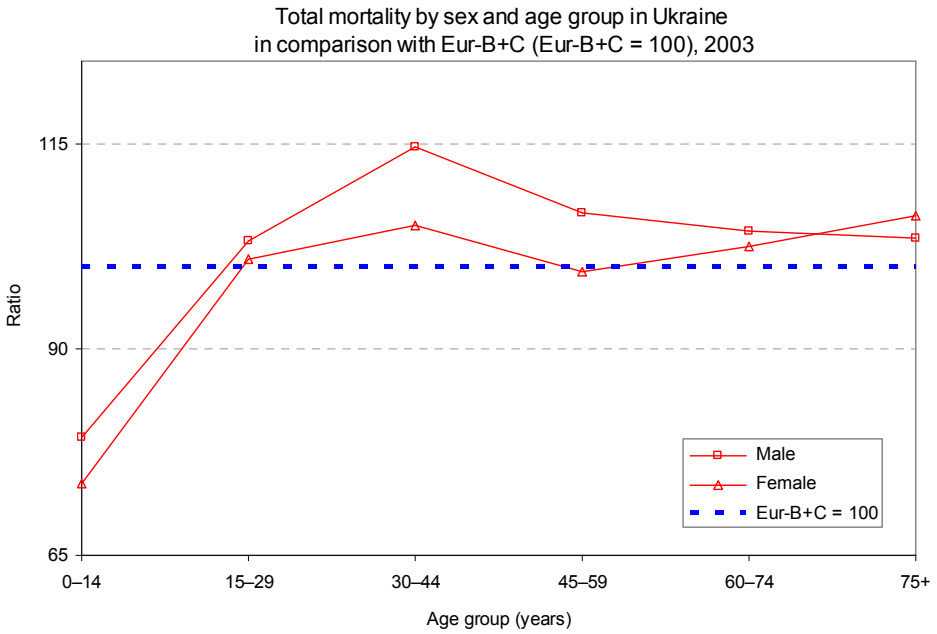
Excess mortality

To some extent, the mortality pattern in Ukraine follows the alcohol policy in the former Soviet Union. As with the other former Soviet republics, Ukraine in 1986 showed a fall in the mortality rate from all causes, reflecting a reduction in deaths from CVD and external causes. This followed the introduction in June 1985 of a vigorous campaign to restrict, and thereby reduce, alcohol consumption (the so-called Gorbachov anti-alcohol campaign). Mortality rates reached a low point in males in 1986 and in females in 1989. Following economic liberalization in 1991, alcohol became more widely available and relatively cheaper than before 1985, and its consumption may have played a significant role in the further increase in mortality. It is estimated that, in the Russian Federation, alcohol was responsible for 19% of the premature mortality increase during the period 1992–1994; however there are no such estimates for Ukraine. These trends, and the evidence that supports the causal role of alcohol, are covered in more detail in Health in Europe 1997 (WHO Regional Office for Europe, 1998). Mortality trends in Ukraine show the same pattern as the Commonwealth of Independent States and Eur-B+C averages, with one noticeable distinction, which is the peak in mortality rate in 1995 rather than in 1994. After 1998, mortality again increased: in males the death rate rose 8.3% until 2003, and in females it rose 4.6%. The

excess mortality in Ukraine in comparison with the Eur-B+C average has been almost stable since 1995, and in 2003 it was 5.6% in males and 3.4% in females.

According to the latest figures, the mortality rate for males in Ukraine is 5.9% higher than the Eur-B+C average rate, and the rate for females is 3.4% higher. Across age groups, the variation in the relative difference in mortality is rather small; however, in Ukraine, children below 15 years of age have a lower risk of death (by more than 20%) than the Eur-B+C average risk for that age group. When compared with the Eur-A average death rates, excess mortality in Ukraine is present in all age groups, with the largest percentage in young men 30–44 years old, who have mortality rates about five times higher then their peers in Eur-A countries. In females, the differences are smaller than in males (Figure. Total mortality by sex and age group (Eur-A); Figure. Total mortality by sex and age group (Eur-B+C).

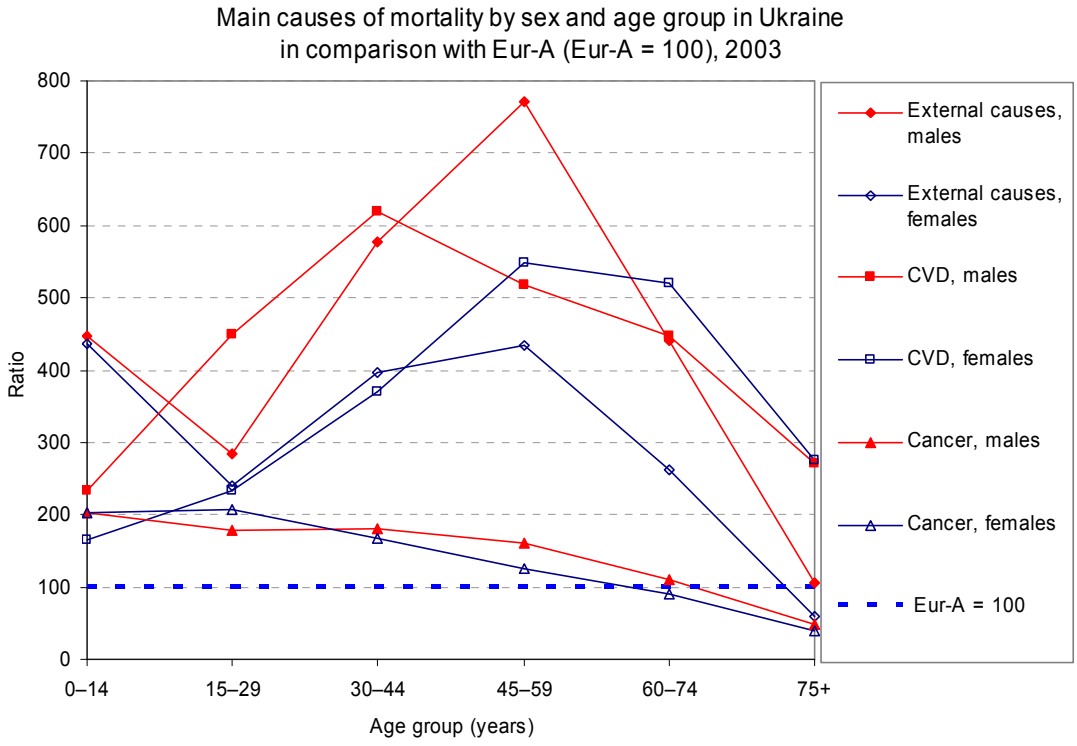


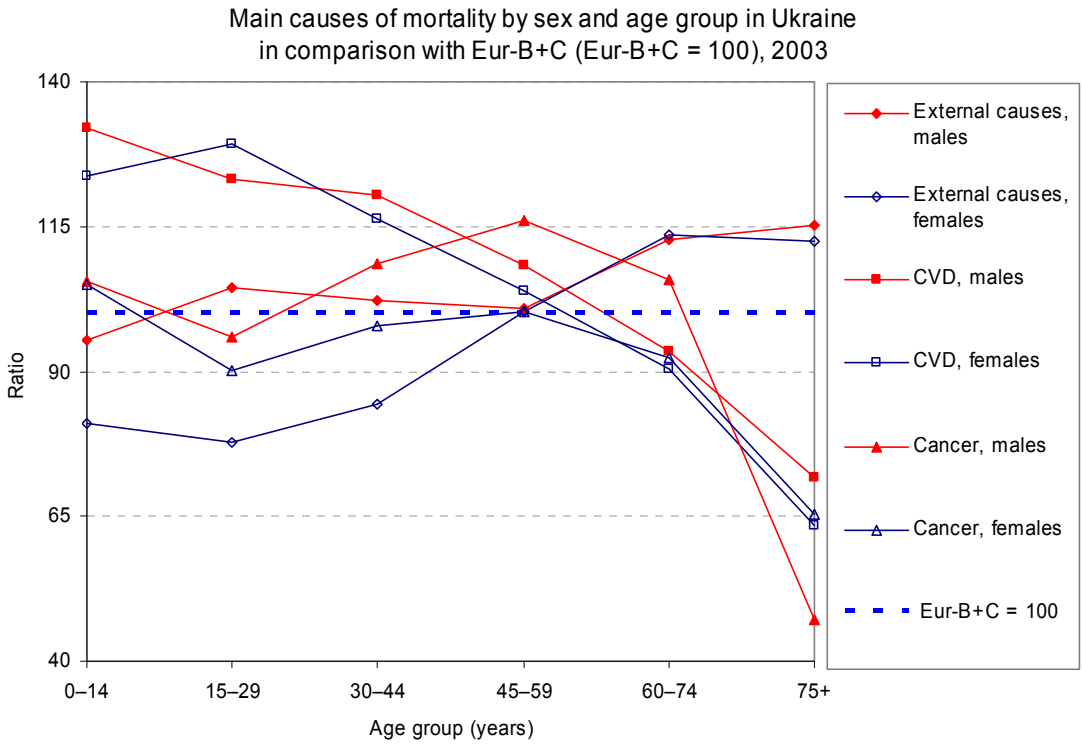


Main causes of death

In 2003, the main noncommunicable diseases accounted for about 80% of all deaths in Ukraine; external causes for about 11%; and communicable diseases for about 2%. In total, about 60% of all deaths were caused by diseases of the circulatory system and 12% by cancer (Annex. Selected mortality; Annex. Mortality data).

The risk of Ukrainians dying from CVD is 11% higher than the Eur-B+C average risk, and it is about 3.5 times higher than the Eur-A average risk (for working age men 30–59 years old and for woman aged 45–59 years, it is more than five times higher). In Ukraine, the risk of death from cancer is generally lower than the Eur-A and Eur-B+C average risks. Only men 60–74 years old have a higher mortality rate than their peers in Eur-A countries. Also, Ukrainian males have more than a four times higher risk of death from external causes, compared with the Eur-A average risk, and for Ukrainian females the risk is more than twice as high. The largest excess mortality occurs in people 45–59 years old, who have mortality rates 7.5 times higher for males and more than 4 times higher for females. Both boys and girls below 15 years of age in Ukraine have more than a four times higher mortality rate from external causes than the average for their peers in Eur-A. When compared with the Eur-B+C average risk, Ukrainians (excluding the oldest men and woman) have a similar risk of death from external causes. The mortality rate for Ukrainian woman aged 75 years and older has been below the Eur-B+C average rate for years; however, the rate for men in this age group plummeted in 2002 (by 53%) and retained the value in 2003 (Figure. Main causes of mortality by sex and age group (Eur-A); (Figure. Main causes of mortality by sex and age group (Eur-B+C)).



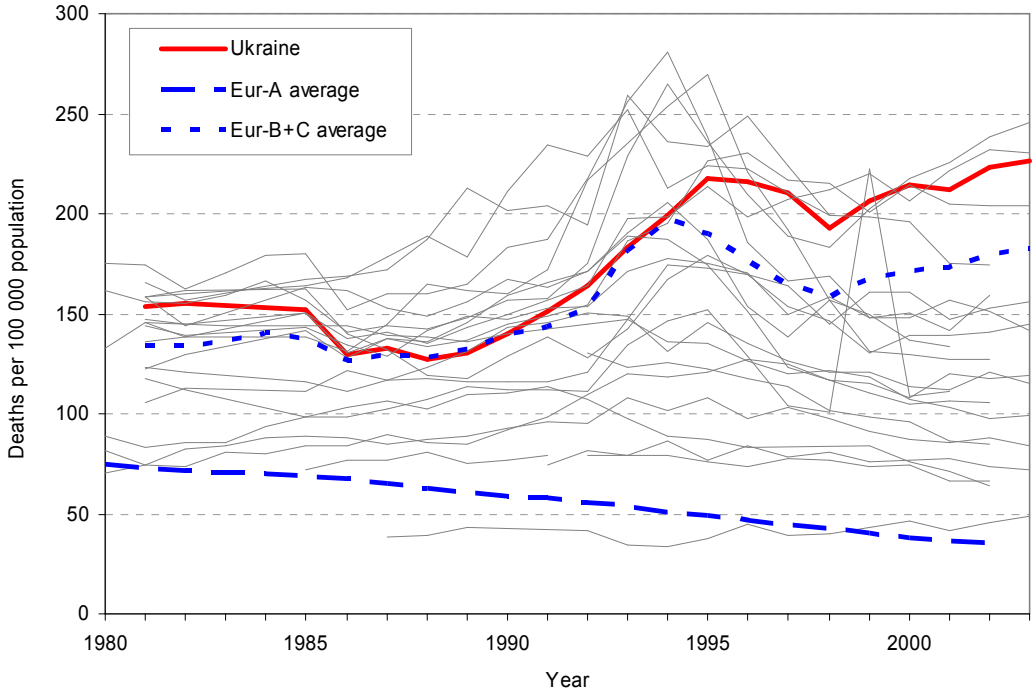


CVD

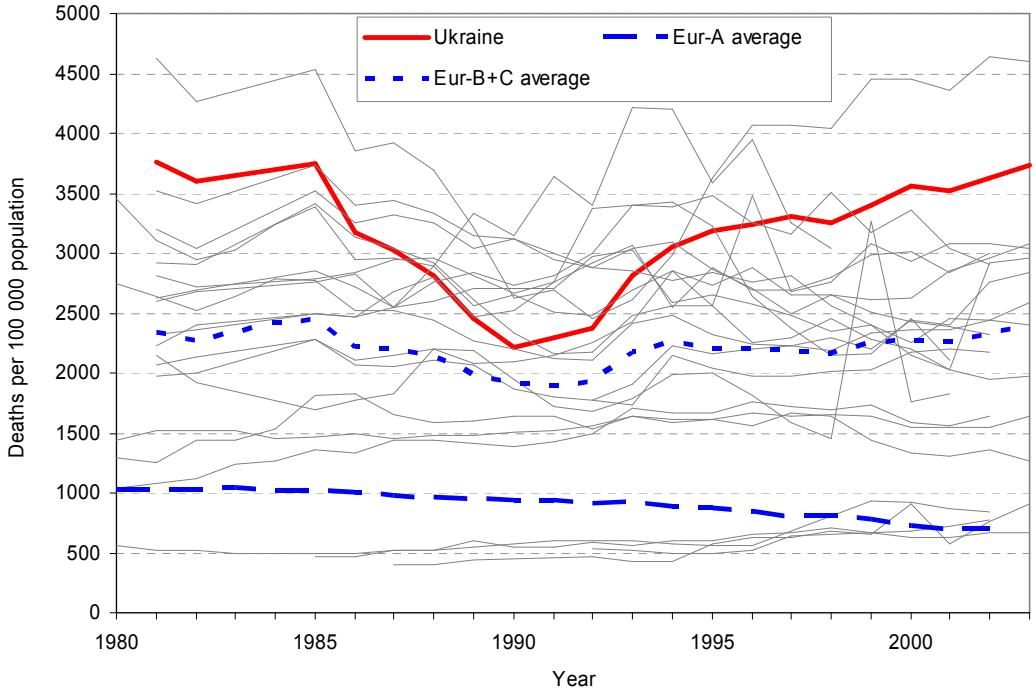
About 60% of all deaths in Ukraine are caused by CVD, and this percentage is close to the Eur-B+C average (57%) and much higher than the Eur-A average (38%). Mortality rates for CVD after 1990 have increased in males and females, and only in 1996–1998 was there some decline in the rates for both sexes. This pattern occurs in the younger population (25–64 years old) as well as in older people. The mortality rate for males is the third highest in European countries, and for elderly (65 years of age and older) men and woman the rates are the fourth highest.

Ischaemic heart disease is the single biggest killer in Ukraine. It is responsible for almost 40% of all deaths in 2003, which is more than double the Eur-A average (15%) and higher than the Eur-B+C average (28%). The mortality rate for males is the highest in Europe, and for females it is the second highest (the rate for woman 25–64 years old is also the highest in Europe, about eight times higher than Eur-A average rate). The rates are still increasing, and the excess mortality from ischaemic heart disease is growing in people aged 25–64 years, and 65 years and older. Mortality from cerebrovascular diseases for both sexes and for all age groups is lower in Ukraine than the average for the Eur-B+C countries, and the mortality rates for this cause have declined since 1995. Mortality from pulmonary heart disease is low in the total Ukrainian population, and in the older age group (65 years and older) it is the second lowest in European countries. However, the death rate for pulmonary heart disease and other heart diseases in men aged 25–64 years is increasing rapidly, in parallel with the Eur-B+C average rate, and is higher than the Eur-A average rate, which has been declining for years (Figure. SDR for ischaemic heart disease in people aged 25–64 years; Figure. SDR for ischaemic heart disease in people aged 65 years and older; Figure. SDR for cerebrovascular diseases in people aged 25–64 years; Figure. SDR for pulmonary heart disease and other heart diseases in men aged 25–64 years).

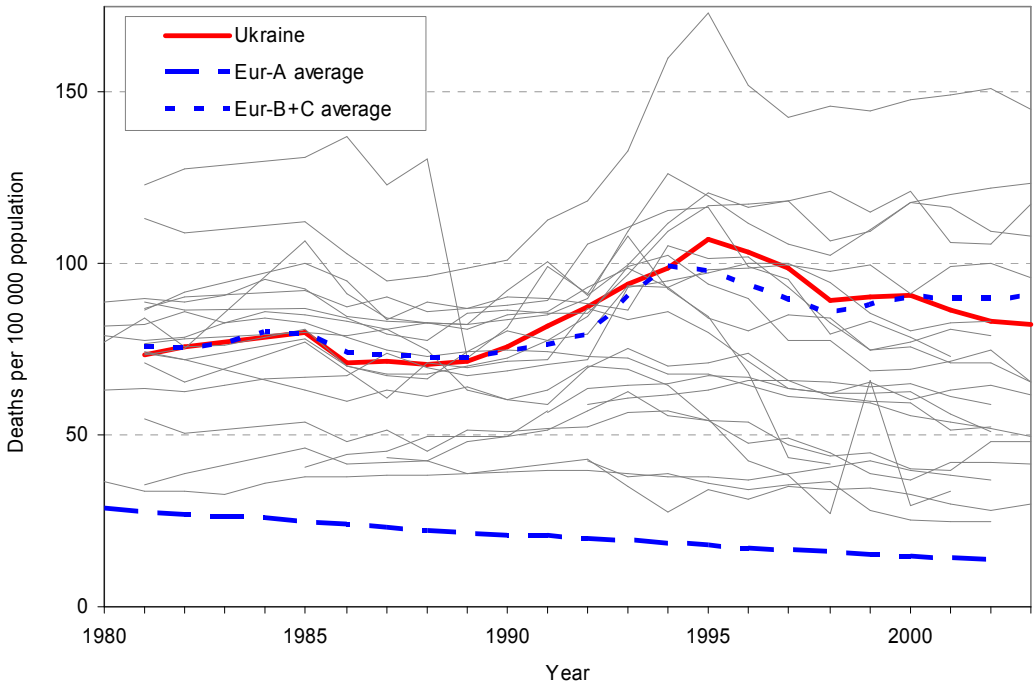
SDR for ischaemic heart disease in people aged 25–64 years, Ukraine, Eur-A and Eur-B+C averages, 1980 to latest available year



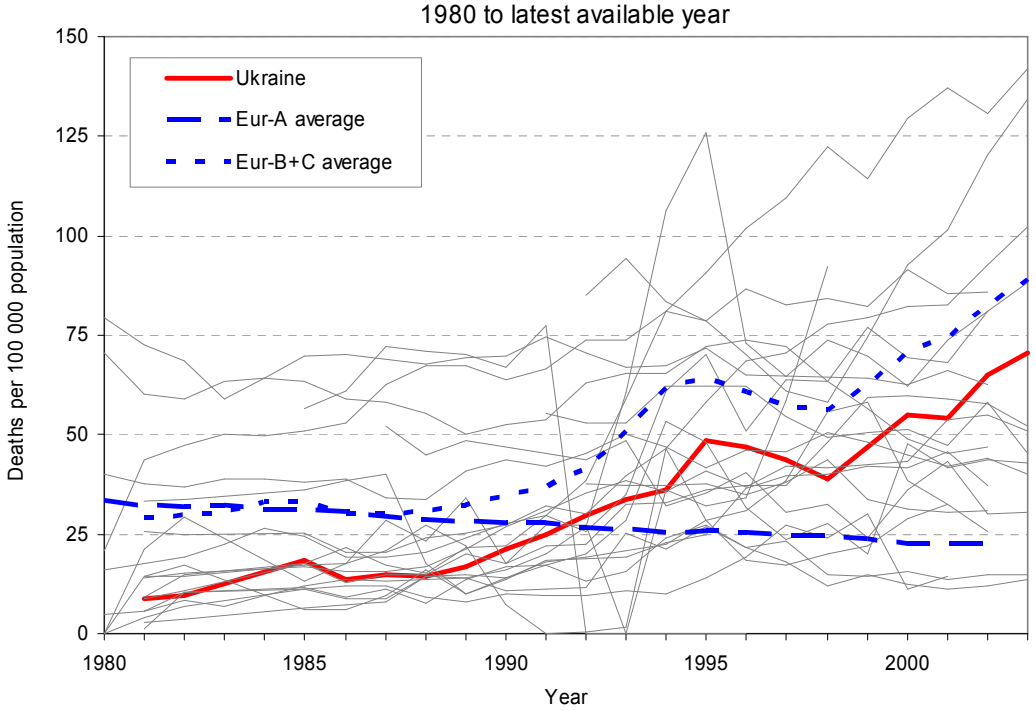
SDR for ischaemic heart disease in people aged 65+ years, Ukraine, Eur-A and Eur-B+C averages, 1980 to latest available year



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



SDR for pulmonary heart disease and other heart diseases in males aged 25–64 years, Ukraine, Eur-A and Eur-B+C averages, 1980 to latest available year

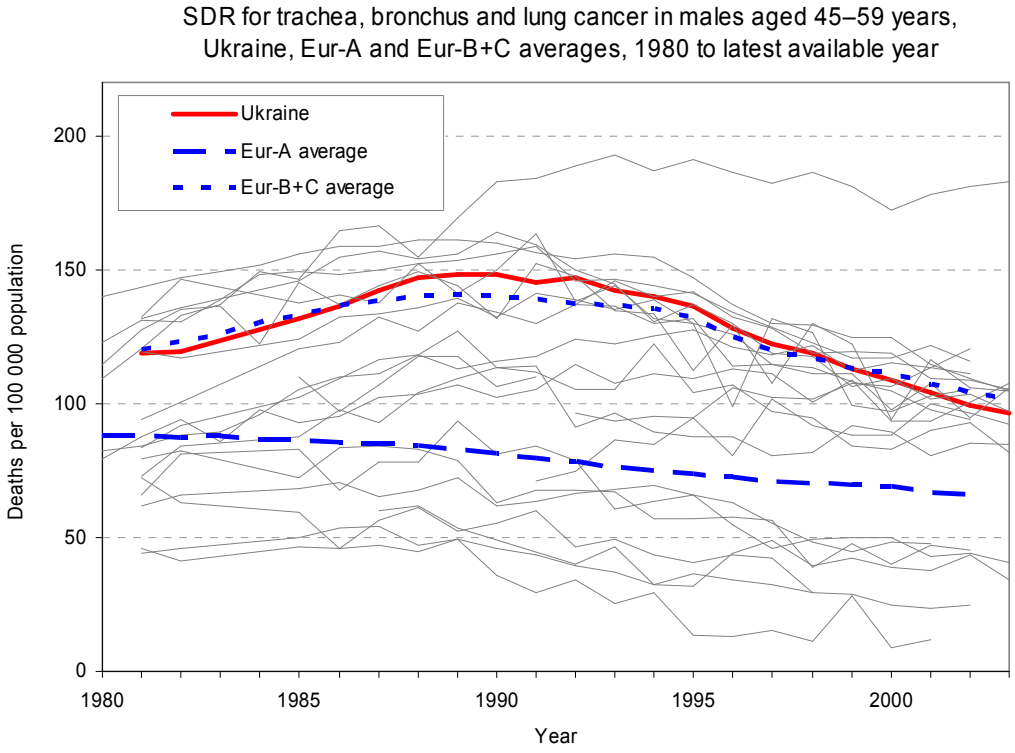


Cancer

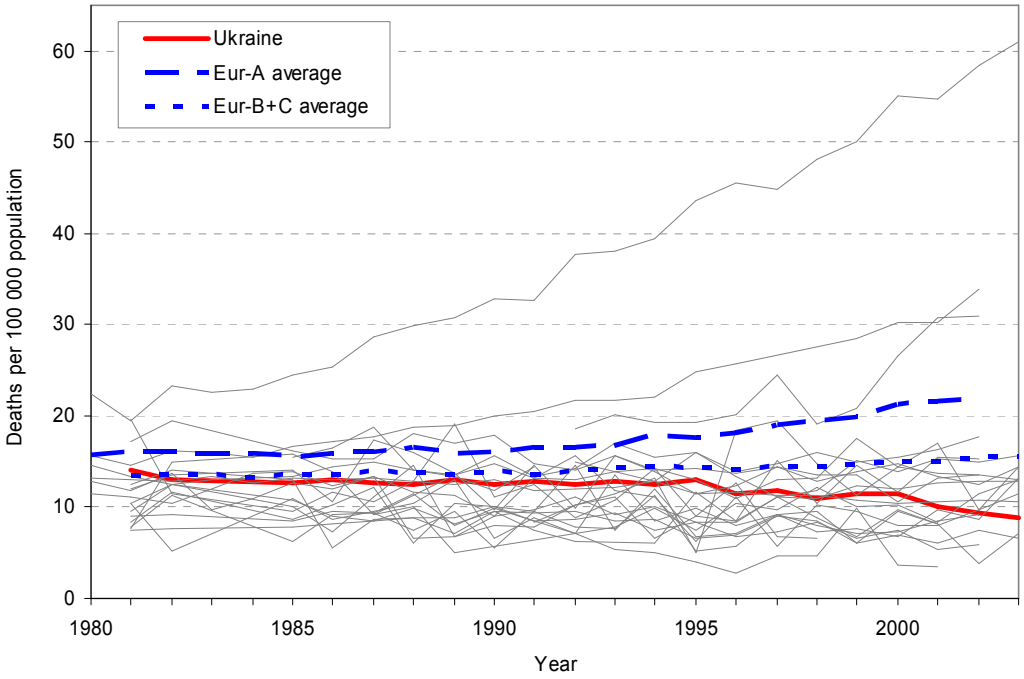
Cancer accounted for about 12% of the deaths in Ukraine, which is similar to the Eur-B+C average rate (13%) and less than half of the average Eur-A cancer rate (28%). In Ukraine, mortality from cancer decreased in recent years in all age groups below 75 years old. There is a male–female difference in total cancer mortality: in males, total cancer mortality in Ukraine is at the average Eur-B+C level, and in females it has been lower for years. However, there is excess mortality in younger age groups that

gradually disappears in older age groups (the mortality rate for females aged 15–29 years is the highest in European countries and the rate for males below 65 years is the fifth highest in Europe).

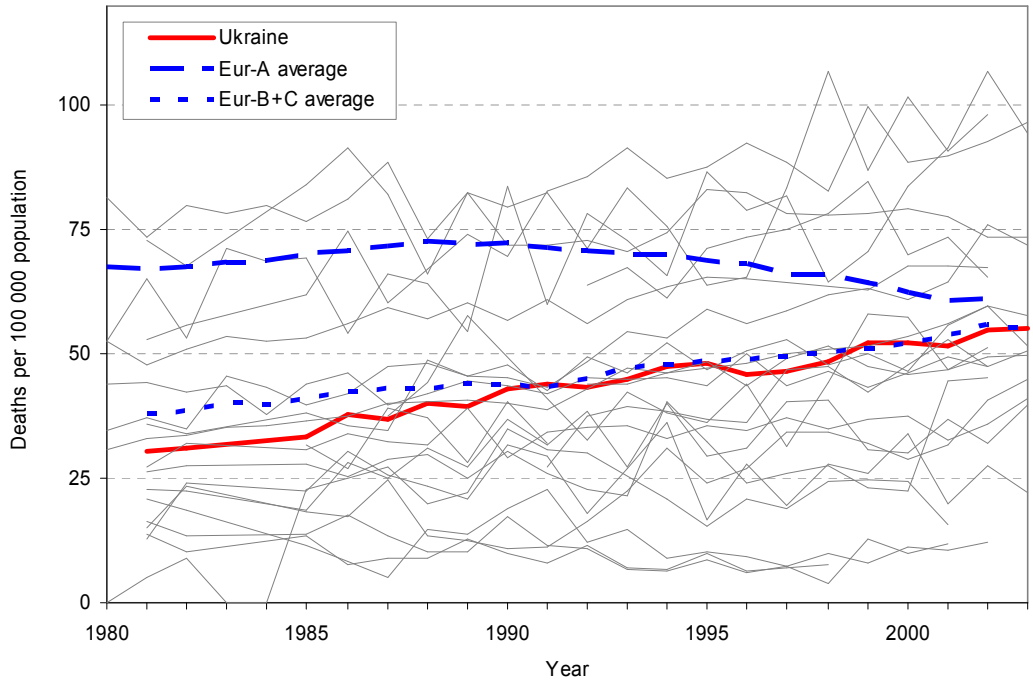
In Ukraine, only the risk of dying from stomach cancer shows a clear long-term decline, along with the Eur-B+C average values. Also, mortality from cancer of the trachea, bronchus and lung (TBL) has been declining since the early 1990s, faster than (and below) the Eur-B+C average rate (in 2003, the male mortality rate was 8% lower and the female rate was 30% lower than the corresponding Eur-B+C average rate). This decline is present in younger (25–64 years) as well as in older (65 years and older) men and women. Among males, the risk of dying from cancer of the lip, oral cavity and pharynx is still increasing and is the fourth highest in Europe, a third above the Eur-B+C average rate. The increase in the male mortality rate for cancer of the colon, rectum and anus is slowing down, and mortality of Ukrainians is close to the Eur-A rate and Eur-B+C averages. The mortality rate for cancer of the prostate has been increasing in Ukraine in parallel to, but a little below (in 2003, by 9%), the Eur-B+C average rate (Figure. SDR for TBL cancer in males aged 45–59 years; Figure. SDR for TBL in females aged 45–59 years; Figure. SDR for prostate cancer in males aged 60–74 years).



SDR for trachea, bronchus and lung cancer in females aged 45–59 years,
Ukraine, Eur-A and Eur-B+C averages, 1980 to latest available year

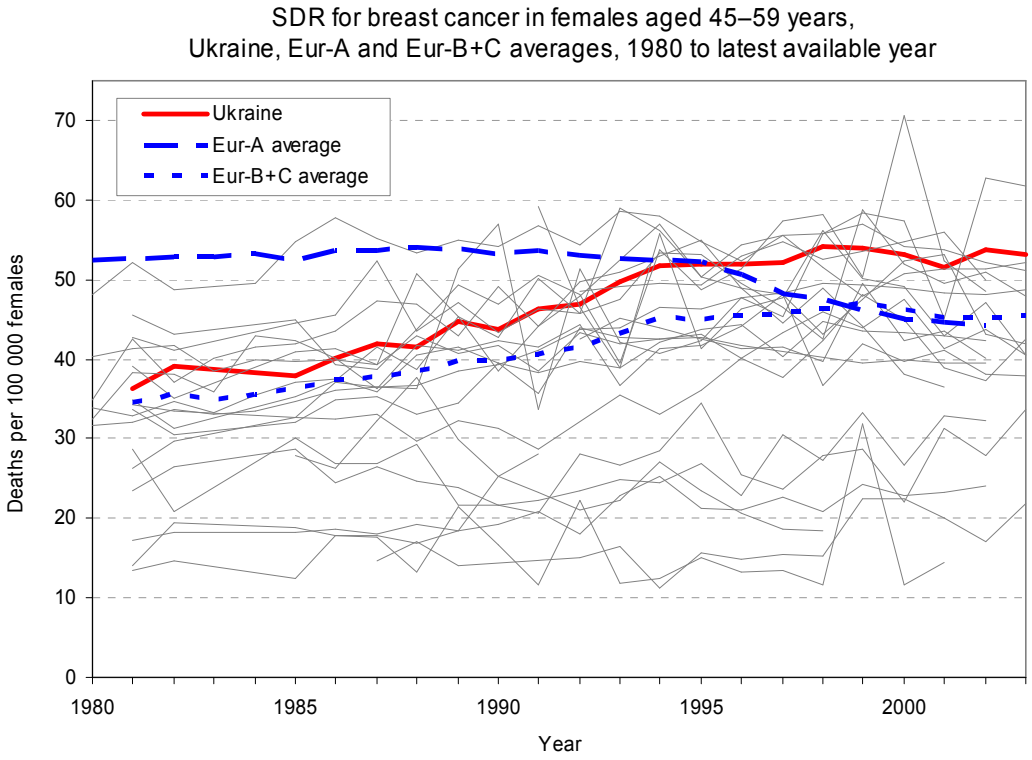


SDR for prostate cancer in males aged 60–74 years,
Ukraine, Eur-A and Eur-B+C averages, 1980 to latest available year



For women, the mortality rate for breast cancer increased faster and at a higher rate until 1999 than the Eur-B+C average rate; since then, the rate stabilized (in 2003, it was 11% above the Eur-B+C average rate and 9% below Eur-A average rate). In older women (aged 65 years and older), the mortality rate for breast cancer is increasing in parallel to (and below) the Eur-B+C average rate; however, in younger women (25–64 years old), the mortality rate has always been above the Eur-B+C average and, moreover, since 1996 has climbed above the Eur-A average rate (in 2003, it was almost 50% higher). Mortality from another cancer, cancer of the uterine, cervix declined slowly and is at the Eur-B+C average rate,

being in 2003 three times higher than Eur-A average rate. The mortality rate for cancer of other parts of the uterus is higher than the Eur-B+C and Eur-A average rates (in 2003 by 14% and 58%, respectively) and has declined since 1994. Mortality of Ukrainian females from cancer of the colon, rectum and anus declined by 10% between 1991 and 1996; it then stabilized at the Eur-B+C average rate and was less than 5% below the Eur-A average (Figure. SDR for breast cancer in females aged 45–59 years

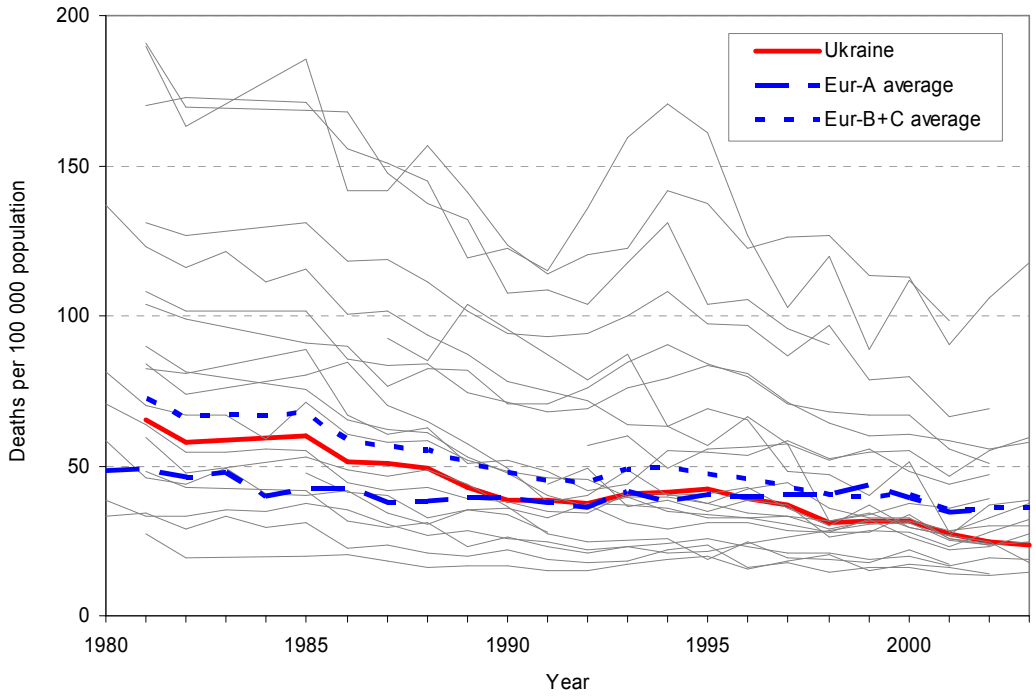


Respiratory diseases

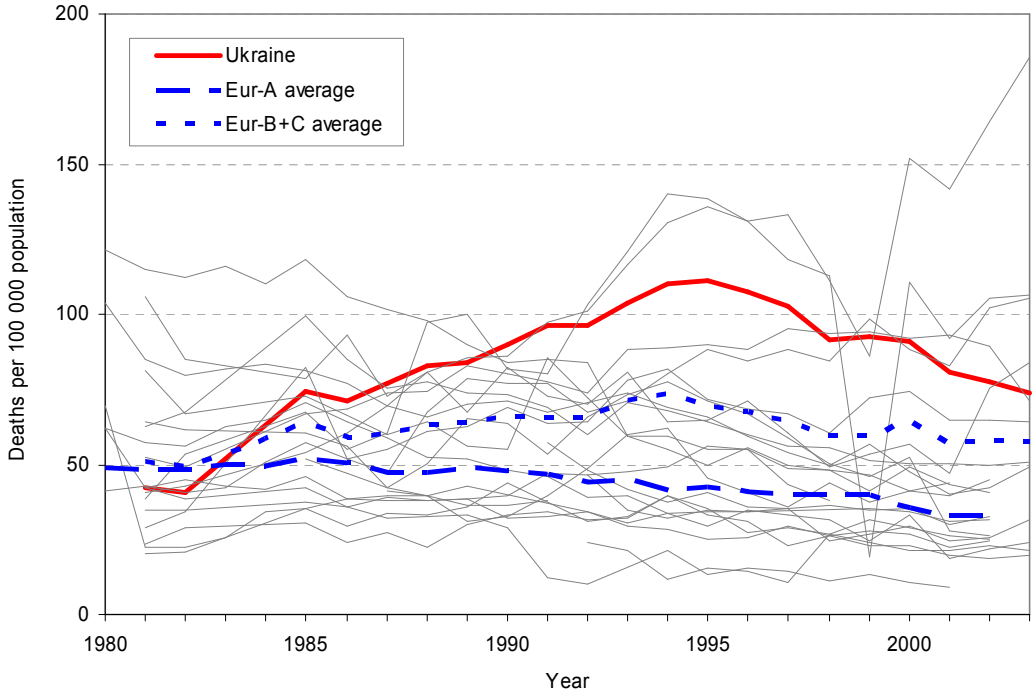
In 2003, respiratory diseases accounted for 3.9% of all deaths in Ukraine. Male mortality rates for these diseases declined rapidly until 1990, then again during the period 1995–2003 (by 32%), and approached the Eur-B+C average rate; however, these rates are almost double the Eur-A average rates. Although this pattern appears in older men (65 years and more) and although the rate in 2003 for this group is at the Eur-A and Eur-B+C average rates in males below 65 years old, the mortality rate has declined so clearly, and in 2003 it was about five times higher than the average Eur-A rate. In Ukrainian females, mortality from respiratory diseases has declined since 1981 (with a clear break in 1992–1995) faster than the Eur-A and Eur-B+C average rates, and the mortality rate in 2003 was about a third lower than those average rates.

In Ukraine, mortality from chronic lower respiratory diseases is much higher than mortality from pneumonia, and in men it is above the Eur-A (by more than twice) and Eur-B+C (by more than one fourth) averages (it is the fifth highest in European countries). In females, the mortality rate for chronic lower respiratory diseases in 2003 was at the Eur-B+C average level, which was more than one fourth above the Eur-A average rate. In both males and females, mortality rates for chronic lower respiratory diseases have been declining since the mid-1990s. Also, the mortality rates for pneumonia are lower in Ukrainian males and females than the average rates in their Eur-B+C counterparts; in females, they are also below the Eur-A average rates, being the fifth lowest in the European Region (Figure. SDR for respiratory diseases in females of all ages; Figure. SDR for chronic lower respiratory diseases in males of all ages).

SDR for respiratory diseases in females, all ages,
Ukraine, Eur-A and Eur-B+C averages, 1980 to latest available year



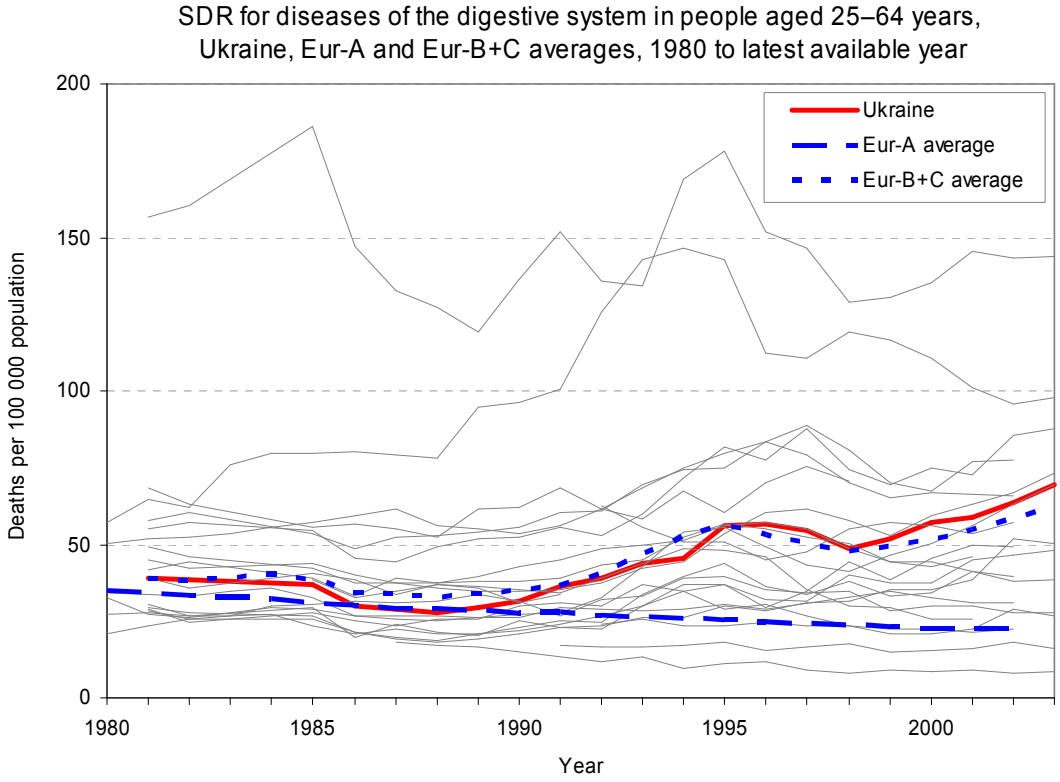
SDR for chronic lower respiratory diseases in males, all ages,
Ukraine, Eur-A and Eur-B+C averages, 1980 to latest available year



Digestive diseases

Mortality from diseases of the digestive system has increased in males and females in Ukraine. From the beginning of 1990s, the male mortality rates have been above Eur-A average rates, and from 2000 on they have been at the level of the Eur-B+C average rates. The rates for females, however, have always been lower than Eur-B+C average rates, though they have been above Eur-A average rates since 2000. This pattern prevails in the population below 65 years of age, where the rates and changes are quite

similar to those of the Eur-B+C average rates. In the population aged 65 years and older, the mortality rates show some decline and have always been below Eur-A and Eur-B+C average rates, being among the lowest in Europe: the rate for women is the fourth lowest. The increase in mortality rates in the population 25–64 years can be attributed to increasing mortality due to chronic liver diseases and cirrhosis (Figure. SDR for diseases of the digestive system in people aged 25–64 years).



Ill-defined causes

Only 4.5% of deaths in Ukraine have a code from this group of ill-defined causes. In Ukraine, the mortality rate for this group is close to the Eur-B+C average rate of 4.9%. Mortality rates for these causes soared dramatically between 1988 and 1992 (in 1992 they were responsible for 11% of all deaths) – similar to the pattern in Belarus; between 1992 and 2000, however, the rates for Ukraine declined by 62% and have shown a rather slow increase since then.

External causes

Mortality from external causes doubled between 1986 and 1995; then it declined some, followed by an increase, though below the 1995 peak. The changes followed those of the Eur-B+C average rates, with the rates at a higher than average level in Ukrainian males and at the average level in Ukrainian females. In 2002, there was a striking drop (by half) in the mortality rate for males 75 years and older, and in 2003 the rate was at the same level. Premature mortality is a particular problem: for men 25–64 years old it is the third highest in Europe, and for women it is the fifth highest.

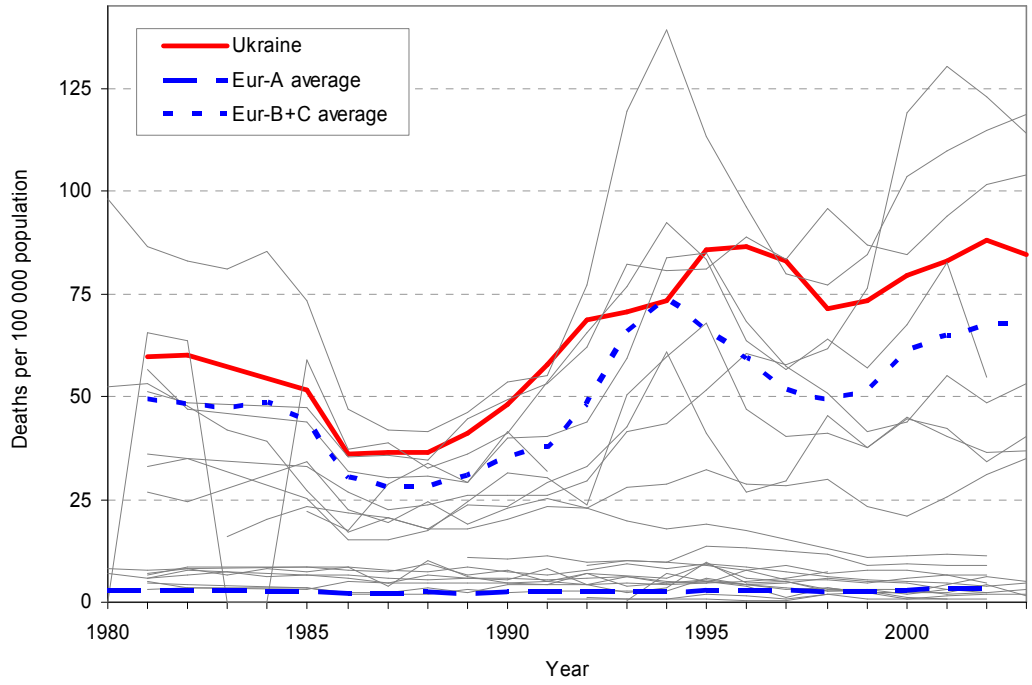
In Ukraine, the main subgroup of external causes of death, in both males and females, is accidental poisoning. In males, accidental poisoning did not surpass suicide until 2001. The mortality rate for accidental poisoning for both sexes is the fourth highest in Europe, about 20% higher than the Eur-B+C average rate for males and about 5% higher for females. Mortality from suicides grew between 1986 and 1996, its value almost doubling during this period. The rate then levelled off, after which it showed some decline. About two thirds of this mortality can be attributed to alcohol poisoning, which is the second highest mortality rate due to alcohol in European countries, with Belarus having the highest.

The second major subgroup of external causes of death, by sex, is suicides in males and events of undetermined intent in females. Deaths from suicides increased in males, by about 75% between 1986 and 1996, and have declined since then; the corresponding mortality rate is less than 10% higher than the

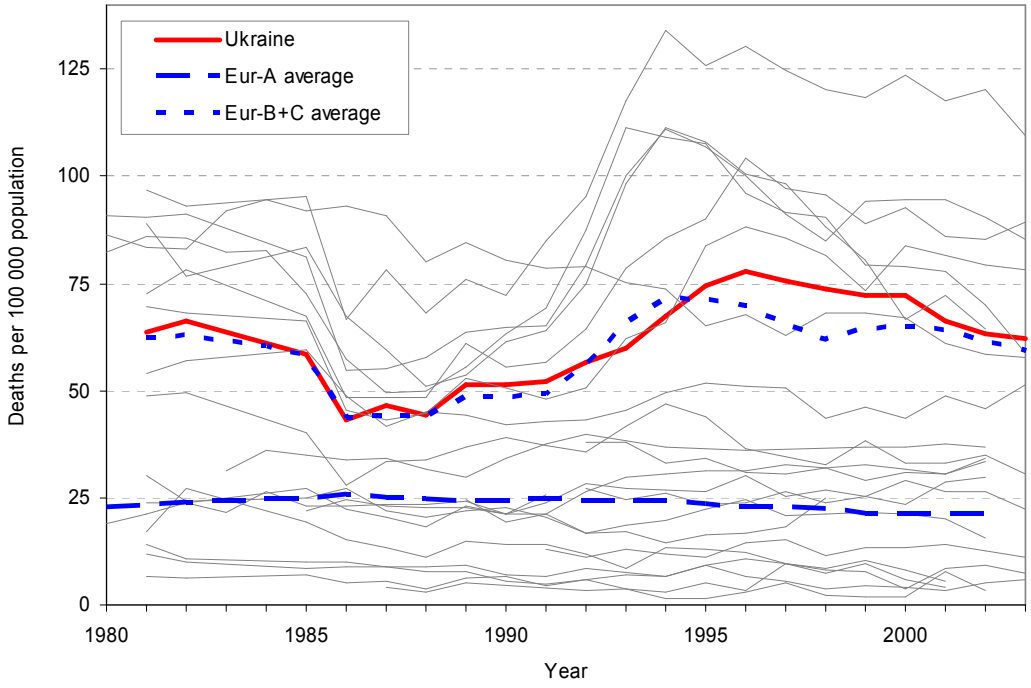
Eur-B+C average rate. For females, the mortality rate for events of undetermined intent soared (more than doubling) during 1991–1995; after a short decline, it again rose, in starts and stops and is now the third highest in Europe, about twice as high as the Eur-B+C average rate. Also, in males, the mortality rate for events of undetermined intent shows changes over time (almost tripling during 1991–1995) similar to those for suicide; the mortality rate for males for events of undetermined intent is the third highest in Europe, twice as high as the Eur-B+C average rate. Such a high rate for events of undetermined intent indicates inadequate coding of external causes of death and underreporting of some specific causes.

For Ukrainian females, in 2003, suicides and road traffic accidents are relevant external causes. Suicides in females have declined since 1998 and are close to Eur-B+C average rate. Road traffic deaths, which have been increasing since 1999, have reached Eur-B+C average rates. Only the mortality rate for homicides is lower than the Eur-B+C average rate, and it has been declining since 1995. In females, other considerable subgroups of external causes of death are homicides, which recently showed slowly declining rates, and accidental falls, which have a quite stable rate, below Eur-B+C and Eur-A average rates (Figure. SDR for accidental poisoning in males aged 25–64 years; Figure. SDR for suicide and self-inflicted injury in males 25–64 years old; Figure. SDR for events of undetermined intent in females 25-64 years old).

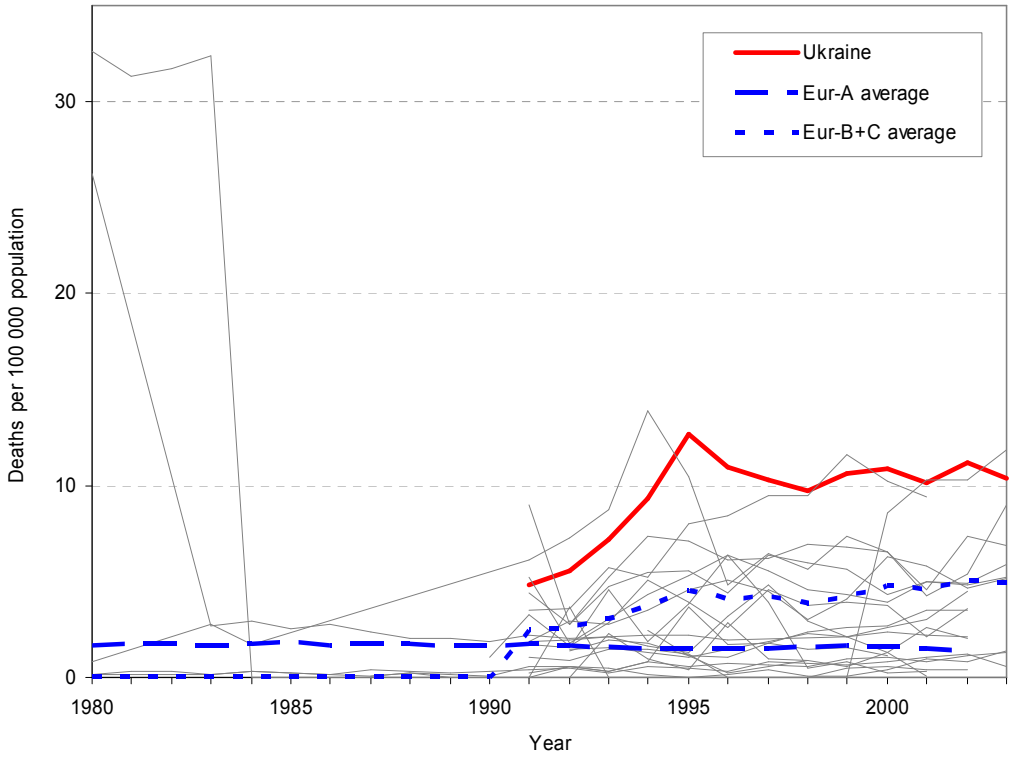
SDR for accidental poisoning in males aged 25–64 years,
Ukraine, Eur-A and Eur-B+C averages, 1980 to latest available year



SDR for suicide and self-inflicted injury in males aged 25–64 years,
Ukraine, Eur-A and Eur-B+C averages, 1980 to latest available year



SDR for events of undetermined intent in females aged 25–64 years,
Ukraine, Eur-A and Eur-B+C averages, 1980 to latest available year



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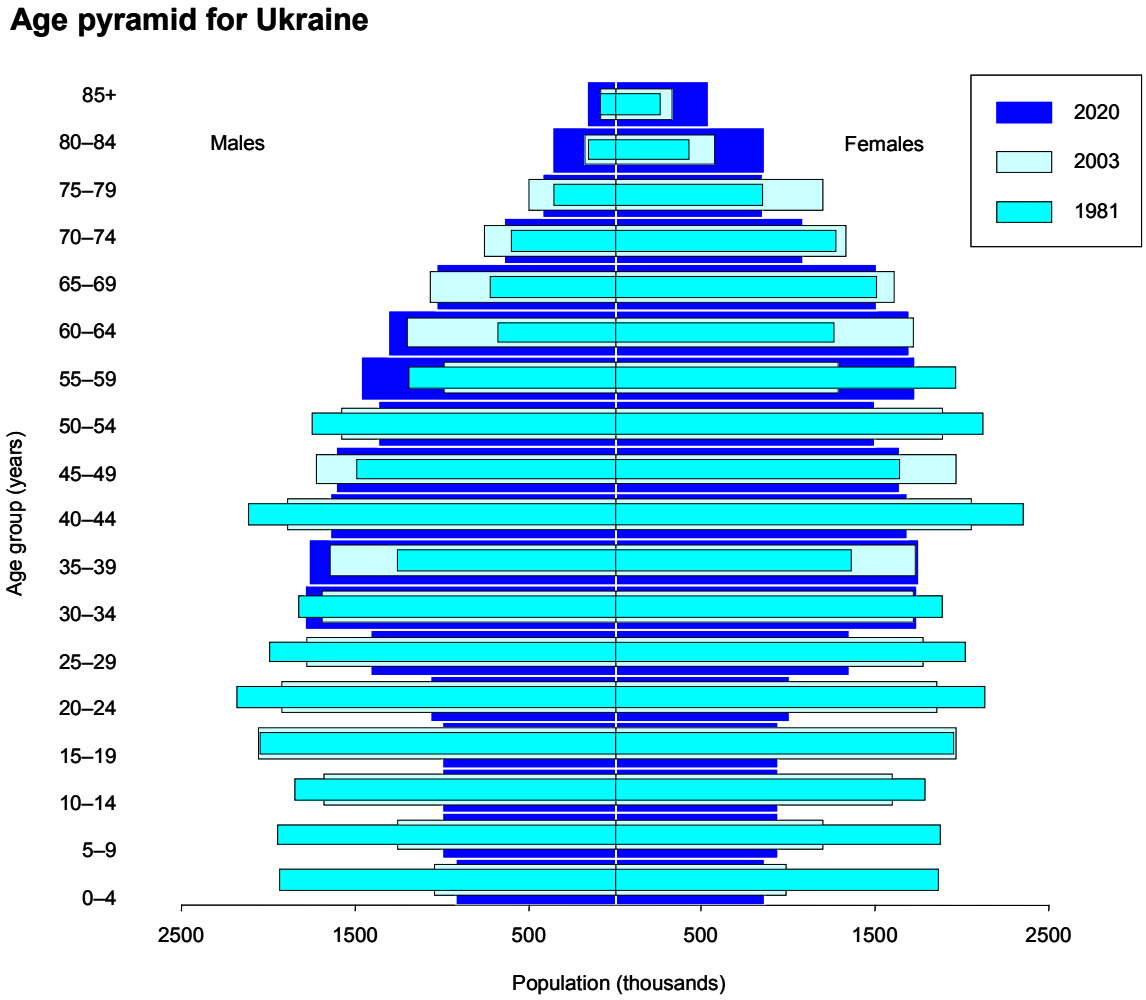
Annexes

Annex. Age pyramid



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

Annex. Selected mortality

Selected mortality in Ukraine compared with Eur-B+C averages

Condition	SDR per 100 000		Excess mortality in Ukraine (%)	Total deaths in Ukraine (%)	Total deaths in Eur-B+C (%)	Eur-A average	Excess Ukraine to Eur-A (%)	Total deaths in Eur-A (%)
	Ukraine (2003)	Eur-B+C average (2003)						
Selected non-communicable conditions	1103.7	1044.9	5.6	80.4	79.6	533.8	106.8	82.4
Cardiovascular diseases	819.7	741.8	10.5	59.7	56.5	243.4	236.8	37.6
Ischaemic heart disease	530.9	362.7	46.4	38.7	27.6	95.9	453.6	14.8
Cerebrovascular diseases	183.6	221.7	–17.2	13.4	16.9	61.1	200.5	9.4
Diseases of pulmonary circulation and other heart disease	30.6	68.9	–55.6	2.2	5.3	56.6	–45.9	8.7
Malignant neoplasms	164.3	172.0	–4.5	12.0	13.1	181.5	–9.5	28.0
Trachea/bronchus/lung cancer	29.5	33.9	–13	2.1	2.6	37.1	–20.5	5.7
Female breast cancer	24.7	22.1	11.8	1.8	1.7	27.0	–8.5	4.2
Colon/rectal/anal cancer	19.6	19.0	3.2	1.4	1.4	20.7	–5.3	3.2
Prostate	13.1	14.3	–8.4	1.0	1.1	25.1	–47.8	3.9
Respiratory diseases	53.7	63.1	–14.9	3.9	4.8	47.8	12.3	7.4
Chronic lower respiratory diseases	36.2	31.2	16.0	2.6	2.4	20.2	79.2	3.1
Pneumonia	12.6	23.6	–46.6	0.9	1.8	16.2	–22.2	2.5
Digestive diseases	48.2	52.3	–7.8	3.5	4.0	30.8	56.5	4.8
Chronic liver disease and cirrhosis	30.7	32.0	–4.1	2.2	2.4	12.6	143.7	1.9
Neuropsychiatric disorders	17.9	15.7	14.0	1.3	1.2	30.3	–40.9	4.7
Communicable conditions	25.1	20.8	20.7	1.8	1.6	8.4	198.8	1.3
AIDS/HIV	3.8	0.8	375.0	0.3	0.1	1.1	245.5	0.2
External causes	146.0	139.6	4.6	10.6	10.6	40.3	262.3	6.2
Unintentional	111.4	102.2	9.0	8.1	7.8	28.7	288.2	4.4
Road traffic injuries	15.6	14.7	6.1	1.1	1.1	9.9	57.6	1.5
Falls	6.4	7.5	–14.7	0.5	0.6	6.1	4.9	0.9
Intentional	34.6	37.4	–7.5	2.5	2.9	11.6	198.3	1.8
Self-inflicted (suicide)	24.1	23.2	3.9	1.8	1.8	10.6	127.4	1.6
Violence (homicide)	10.5	14.2	–26.1	0.8	1.1	1.0	950.0	0.2
Ill-defined conditions	61.7	64.0	–3.6	4.5	4.9	20.9	195.2	3.2
All causes	1372.9	1312.2	4.6	100.0	100.0	647.8	111.9	100.0

Annex. Mortality data

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

Causes of death	Sex	Ukraine (2003)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	116.7	–3.7	49.4	–2.4	151.7	–3.8
	M	135.3	–3.5	55.3	–2.5	170.5	–3.9
	F	97.1	–3.9	43.3	–2.4	131.9	–3.8
Infectious and parasitic diseases	M	6.2	–6.4	1.4	–1.1	10.9	–7.0
	F	4.3	–7.1	1.1	–3.0	9.5	–6.6
Intestinal infectious diseases	M	1.0	–9.9	0.2	–0.7	5.1	–8.2
	F	1.0	–9.1	0.1	–7.3	4.7	–7.9
Malignant neoplasms	M	6.7	–0.8	3.3	–1.8	5.1	–1.9
	F	5.2	–1.9	2.6	–1.8	4.2	–1.9
Cardiovascular diseases	M	3.1	–1.7	1.4	–3.1	3.3	1.1
	F	2.1	–5.5	1.3	–2.5	2.6	0.1
Respiratory diseases	M	6.8	–7.4	1.4	–4.3	35.9	–5.0
	F	5.1	–7.8	1.0	–4.2	30.7	–5.0
Pneumonia	M	3.4	–8.1	0.5	–6.0	20.9	–4.9
	F	3.0	–7.9	0.4	–5.1	17.9	–4.7
Certain conditions originating in perinatal period	M	463.6	–2.4	255.3	–2.1	607.6	–2.7
	F	317.8	–2.0	202.3	–1.6	427.5	–2.7
Congenital malformations & chromosomal abnormalities	M	29.6	–3.2	11.6	–2.9	24.2	–2.8
	F	23.8	–4.0	10.0	–3.3	21.0	–2.6
Ill-defined causes	M	4.5	–1.1	5.0	–3.9	5.6	–0.6
	F	3.5	–1.1	3.4	–4.2	4.6	–1.0
External causes of injury & poisoning	M	30.6	–2.8	7.0	–4.0	29.0	–3.4
	F	19.0	–2.1	4.6	–3.2	18.1	–3.1
Road traffic injuries	M	4.2	–3.3	2.5	–4.5	4.7	–2.6
	F	2.7	–1.8	1.7	–4.8	3.0	–1.6

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

Causes of death	Sex	Ukraine (2003)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	165.4	–1.0	56.0	–2.3	161.0	–0.9
	M	249.5	–1.1	82.0	–2.3	241.7	–1.0
	F	79.8	–0.6	29.3	–2.2	79.0	–0.6
Infectious and parasitic diseases	M	17.2	11.9	1.2	1.5	12.3	3.0
	F	6.0	8.4	0.8	1.9	5.1	2.5
Malignant neoplasms	M	10.8	–1.7	6.2	–1.0	8.8	–1.9
	F	9.9	–2.5	4.7	–1.4	7.7	–1.9
Cardiovascular diseases	M	18.4	–0.9	4.1	–2.4	17.6	0.0
	F	5.7	–1.9	2.3	–2.0	7.3	–0.9
Respiratory diseases	M	7.1	1.1	1.4	–3.6	6.9	0.2
	F	3.2	0.5	0.9	–2.7	3.8	–1.1
Digestive diseases	M	9.6	4.1	0.9	–3.5	8.0	3.0
	F	3.9	6.5	0.5	–3.8	3.7	3.1
Ill-defined causes	M	4.7	9.2	4.0	–3.1	11.6	7.1
	F	1.3	16.0	1.4	–1.3	3.3	5.8
External causes	M	155.6	–2.3	58.3	–1.4	162.4	–1.6
	F	33.3	–1.4	14.4	–1.6	36.9	–0.2
Road traffic injuries	M	32.2	0.3	28.5	–1.3	27.8	–1.5
	F	9.0	2.4	7.3	–1.4	8.0	0.3
Accidental drowning	M	10.8	–5.1	1.3	–2.2	10.8	–3.9
	F	1.7	–3.8	0.2	–2.1	1.9	–2.2
Accidental poisoning	M	16.1	–3.2	2.8	0.0	19.1	3.3
	F	4.2	–1.1	0.7	0.8	4.4	2.5
Self-inflicted (suicide)	M	32.8	0.0	12.7	–1.8	36.8	0.0
	F	4.2	–3.2	3.1	–2.2	5.8	–1.3

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

Causes of death	Sex	Ukraine (2003)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	505.6	–0.1	120.3	–2.5	453.8	–0.7
	M	802.3	–0.2	161.6	–2.6	700.0	–0.8
	F	226.4	0.2	78.5	–2.1	215.6	–0.2
Malignant neoplasms	M	48.5	–2.5	27.6	–2.3	40.2	–2.8
	F	51.0	–0.9	31.3	–2.0	43.8	–1.4
Trachea/bronchus/lung cancer	M	7.7	–4.3	5.0	–3.4	7.3	–4.2
	F	1.6	–3.3	2.8	–0.6	2.2	–1.0
Female breast cancer							
	F	12.3	–2.5	10.0	–2.6	10.0	–2.3
Cardiovascular diseases	M	162.0	–0.8	26.1	–2.5	158.6	–0.4
	F	38.3	–1.6	10.4	–2.1	45.3	0.0
Ischaemic heart disease	M	79.5	–2	11.8	–3.1	73.7	–2.2
	F	14.6	–1.6	2.4	–2.7	14.4	–1.3
Cerebrovascular diseases	M	24.8	–1.9	4.4	–3.2	24.6	–0.4
	F	9.1	–2.9	3.6	–2.5	10.6	–1.3
Respiratory diseases	M	38.3	0.3	3.9	–3.5	34.3	0.9
	F	9.6	0.6	2.2	–2.0	9.8	0.8
Digestive diseases	M	71.8	4.4	12.6	–2.4	50.2	1.4
	F	24.0	8.2	5.4	–1.7	19.4	4.1
External causes	M	325.5	–1.7	58.8	–1.2	299.5	–1.9
	F	57.7	–0.8	15.1	–1.8	58.9	–1.0
Road traffic injuries	M	33.0	–0.3	16.0	–0.5	31.4	–1.7
	F	7.4	1.1	3.9	–2.0	7.1	–0.5
Self-inflicted (suicide)	M	56.6	–1.6	21.2	–1.5	54.9	–2.4
	F	8.1	–0.8	5.8	–2.2	7.9	–2.5

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

Causes of death	Sex	Ukraine (2003)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	1335.0	–0.8	435.6	–1.3	1294.9	–0.6
	M	2113.7	–0.6	580.1	–1.4	1981.7	–0.6
	F	695.1	–0.9	293.3	–1.0	698.9	–0.5
Malignant neoplasms	M	349.8	–2.0	218.2	–1.2	323.2	–1.9
	F	193.3	–0.8	155.0	–1.0	186.1	–0.5
Trachea/bronchus/lung cancer	M	96.6	–3.7	65.9	–1.5	101.4	–2.9
	F	8.8	–4.0	21.8	3.4	15.4	1.0
Female breast cancer							
	F	53.2	0.3	44.0	–2.2	45.3	0.1
Cardiovascular diseases	M	799.7	–0.5	156.4	–2.6	793.1	–0.1
	F	273.0	–1.1	50.9	–2.5	271.7	–0.6
Ischaemic heart disease	M	488.0	–0.2	86.2	–3.3	435.3	–0.7
	F	141.1	0.4	17.8	–3.4	111.1	–0.6
Cerebrovascular diseases	M	159.9	–2.9	23.7	–2.6	168.6	–0.9
	F	85.2	–2.9	14.5	–2.1	88.4	–1.4
Respiratory diseases	M	110.6	–3.2	20.3	–1.7	108.7	–1.4
	F	18.5	–4.0	10.2	–1.3	24.5	–0.7
Digestive diseases	M	155.6	2.4	49.6	–0.8	129.7	0.7
	F	58.2	2.8	20.3	–0.7	57.3	1.9
External causes	M	474.4	–0.7	62.8	–1.0	409.2	–0.9
	F	89.3	–0.9	20.9	–0.9	89.1	–1.1
Road traffic injuries	M	32.8	–0.4	13.0	–1.3	28.5	–1.8
	F	7.9	0.7	4.1	–2.1	7.5	–1.4
Self-inflicted (suicide)	M	73.1	–2.7	23.1	–1.1	68.1	–2.4
	F	10.1	–2.8	8.5	–1.2	10.2	–3.4

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

Causes of death	Sex	Ukraine (2003)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	3500.8	–0.3	1570.9	–1.9	3411.7	–0.1
	M	5214.8	–0.1	2156.9	–2.1	4996.4	0.1
	F	2396.1	–0.8	1069.2	–1.9	2339.0	–0.6
Malignant neoplasms	M	935.7	–1.4	851.3	–1.4	1002.5	–0.8
	F	397.2	–1.2	439.8	–1.1	438.9	–0.7
Trachea/bronchus/lung cancer	M	281.1	–2.3	261.8	–1.9	321.7	–1.5
	F	28.1	–2.9	59.0	0.2	37.1	–1.4
Female breast cancer							
	F	70.8	0.8	79.7	–1.6	68.7	1.3
Cardiovascular diseases	M	3271.0	1.0	744.9	–3.6	2903.0	0.6
	F	1713.8	–0.3	335.7	–3.9	1507.8	–0.3
Ischaemic heart disease	M	2331.4	2.4	381.3	–4.2	1582.2	1.2
	F	1160.1	1.3	133.5	–4.6	731.4	0.5
Cerebrovascular diseases	M	683.4	–2.4	143.3	–3.7	833.7	0.2
	F	433.3	–3.0	86.7	–4.1	528.9	–0.8
Respiratory diseases	M	329.2	–4.3	144.0	–3.5	303.0	–2.4
	F	53.1	–6.3	62.5	–2.4	68.6	–3.6
Digestive diseases	M	157.3	–0.4	111.6	–1.6	193.0	0.1
	F	66.8	–0.3	54.1	–1.7	94.2	0.2
External causes	M	338.7	0.7	79.3	–1.4	320.0	1.0
	F	81.9	0.0	32.1	–2.1	88.7	–0.5
Road traffic injuries	M	25.1	–0.5	14.8	–3.0	24.3	–1.5
	F	8.8	2.3	5.9	–3.4	9.5	–1.0
Self-inflicted (suicide)	M	68.2	–1.1	24.5	–1.6	60.5	–0.8
	F	13.5	–2.1	8.7	–2.6	12.7	–3.1

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

Causes of death	Sex	Ukraine (2003)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	12979.2	–0.2	8059.6	–1.0	12338.8	0.0
	M	15363.9	–0.4	9832.0	–1.1	14838.0	0.1
	F	12142.9	–0.2	7112.5	–0.9	11421.7	0.0
Malignant neoplasms	M	1067.0	–0.1	2231.1	–0.4	1489.3	1.2
	F	458.2	–0.8	1136.2	–0.4	721.7	0.8
Trachea/bronchus/lung cancer	M	234.3	–1.0	457.1	–0.7	323.5	1.0
	F	35.2	–2.2	102.7	1.5	55.6	0.5
Female breast cancer							
	F	71.7	1.9	159.6	–0.4	92.0	3.1
Cardiovascular diseases	M	11788.3	1.3	4356.2	–2.1	10221.2	0.4
	F	9892.5	1.2	3577.9	–1.9	8805.6	0.4
Ischaemic heart disease	M	7883.4	2.3	1708.0	–2.2	4925.6	1.4
	F	6263.1	2.2	1150.0	–2.2	4028.6	1.2
Cerebrovascular diseases	M	2463.0	–2.2	1119.8	–2.5	3004.4	0.7
	F	2244.8	–2.3	1026.9	–2.4	2967.6	0.5
Respiratory diseases	M	810.3	–4.6	1156.5	–2.4	824.1	–2.1
	F	237.6	–6.0	591.9	–2.1	302.3	–3.2
Digestive diseases	M	139.7	–2.3	340.3	–1.1	270.4	0.3
	F	79.9	–1.7	279.8	–0.4	175.0	1.1
External causes	M	285.7	–5.2	275.0	–0.6	604.2	0.1
	F	112.5	–1.5	187.8	–1.2	172.4	–1.2
Road traffic injuries	M	26.2	–2.8	28.1	–2.2	34.6	–3.1
	F	11.7	2.0	10.0	–3.1	14.7	–1.7
Self-inflicted (suicide)	M	79.6	–3.1	49.5	–1.6	86.6	–1.1
	F	19.9	–1.7	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.

Reference groups for comparison

[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).

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[1] 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 due to premature mortality. One DALY can be thought of as one lost year of healthy life.
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).