



Highlights on health in Uzbekistan 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

According to WHO calculations a person born in Uzbekistan in 2003 can expect to live 66 years on average: 68 years if female and 63 years if male. Life expectancy (LE) in Uzbekistan is 3–6 years higher than in any other central Asian republics, which suggests that the health status of the population is better.

Official LE in Uzbekistan is about one year above the Eur-B+C average of 68.8 years. However, WHO estimates put it about two years below a Eur-B+C average of 68 years. This means that overall mortality levels in Uzbekistan, while lower than in the other central Asian republics are nevertheless higher than the Eur-B+C average. Moreover, LE is probably about 13 years below the Eur-A average of 79.0 years.

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

By 2002, the infant mortality rate in Uzbekistan was about 17 per 1000 live births, compared to the 2003 Eur-B+C average of 19.9 and Lithuania's group-low of 6.7. Since 1990 the rate has decreased by half, a greater rate of improvement than either the Eur-B+C average or the central Asian republics' average.

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

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

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

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

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

Main causes of death

In general, mortality rates in Uzbekistan are about 10% lower than the Eur-B+C average, but 80% higher than the Eur-A average. In middle-aged adults, mortality is below the Eur-B+C average while child mortality is above average. With due consideration of data completeness, this suggests that the level of adult health is better than in several other Commonwealth of Independent States countries that suffer extremely high middle-aged mortality.

As in other central Asian republics, there is no excess mortality over the Eur-B+C average from external causes in Uzbekistan. For people over 14 years of age the rate is actually around the Eur-A average and very much lower than the Eur-B+C average.

As expected, mortality from cancer is also lower than the Eur-B+C average, while mortality from communicable conditions, respiratory and digestive diseases is higher than the average.

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

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

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

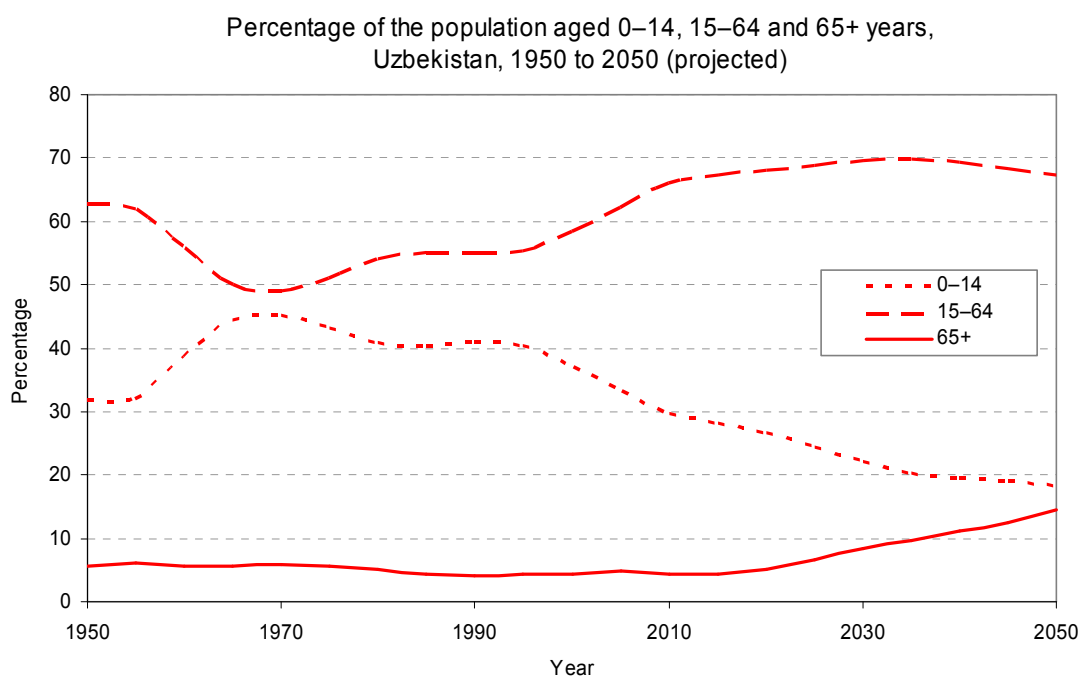
What are the advantages and disadvantages of restructuring a health care system to be more focused on primary health care services? (Health Evidence Network, 2004)

Selected demographic and socioeconomic information

Population profile

In mid 2002, Uzbekistan had approximately 25.6 million people. About 37% of the population lives in urban areas, below the Eur-B+C average.

The proportion of the population 0 to 14 years old was relatively steady during the 1980s but fell from about 41% in 1990 to 36% by 2002, which was still well above the Eur-B+C average. Conversely, the percentage of Uzbekistan's population over 65 years old is much below the Eur-B+C average. By 2030, an estimated 8% of Uzbekistan's population will be 65 and over (Annex. Age pyramid; Figure. Population trends).



Source: United Nations (2005).

The birth rate in Uzbekistan was well above the Eur-B+C average in 2002. Natural population growth in Uzbekistan is positive and also well above the Eur-B+C countries (Table. Selected demographic indicators).

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

Indicators	Uzbekistan	Eur-B+C		
	Value	Average	Minimum	Maximum
Population (in 1000s)	25567.7	–	–	–
0–14 years (%) ^a	35.7	–	–	–
15–64 years (%) ^a	60.0	–	–	–
65+ years (%) ^a	4.3	–	–	–
Urban population (%) ^a	36.8	63.7	25.0	73.3
Live births (per 1000)	19.9	12.8	8.6	27.1
Natural population growth (per 1000) ^a	15.7	0.8	–7.5	23.0
Net migration (per 1000)	–	1.8	–6.6	2.1

^a 2002.

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

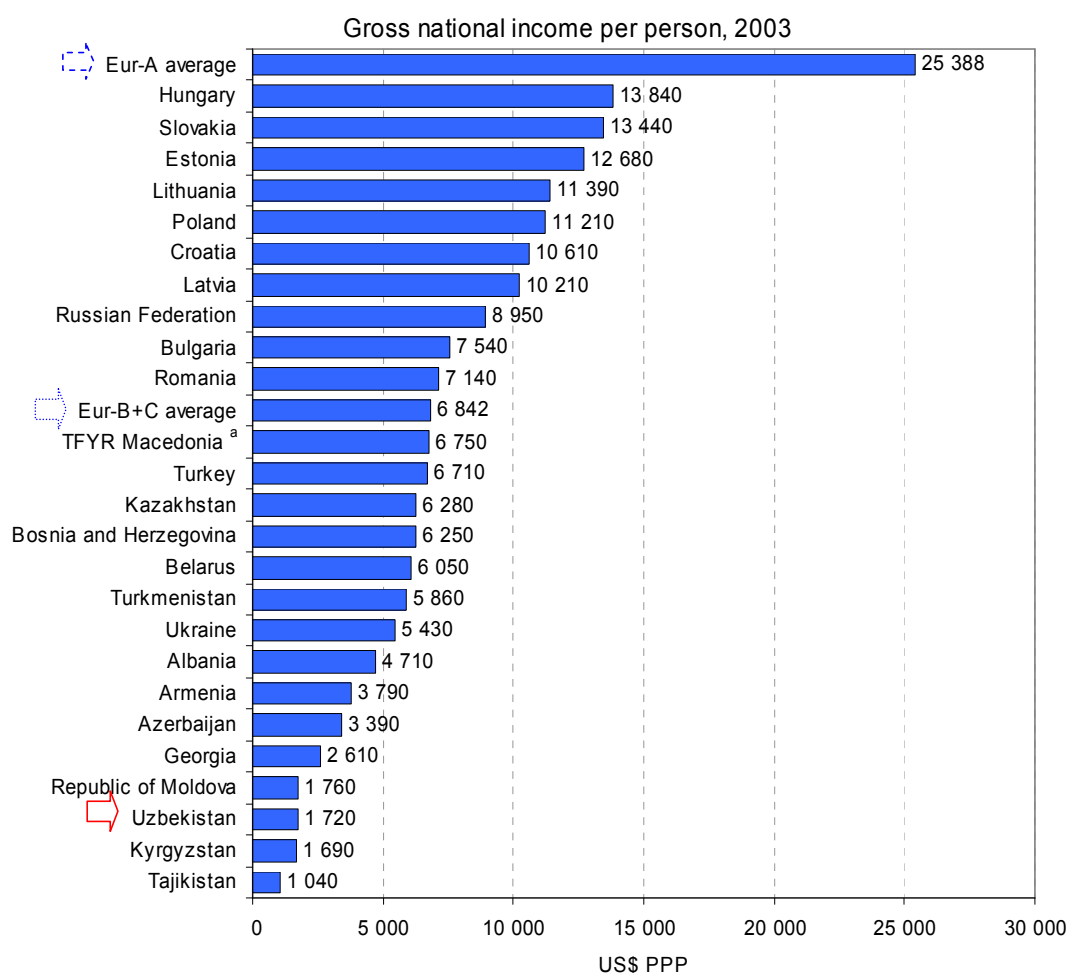
Socioeconomic indicators

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.

In 2003, Uzbekistan had the third lowest per capita gross national income in the Eur-B+C group, at US\$ 1720 compared to the Eur-B+C average of US\$ 6842 (Figure. Gross national income per person).



^a The former Yugoslav Republic of Macedonia

Source: World Bank (2005).

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.

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 2000, relative to a national poverty line, 27.5% of the population of Uzbekistan was living in poverty (World Bank, 2004b). Using the World Bank's recommended benchmarks to measure absolute poverty in Europe, annual household surveys from 1988 to 2000 in Uzbekistan found that more people were living in poverty each year. In 1988, 24.1% of people lived on US\$ 4.30 per day or less; by 2000, the proportion had almost quadrupled to 97.6%. If the US\$ 2.15 poverty line is applied, there were no people with that low a level of income in 1988 but by 2000, 71.7% of the population was living on US\$ 2.15 per day or less (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.

In 2000, the Gini index for Uzbekistan was 29.0, consistent with the pervasiveness of poverty in the country. The Gini indices for 15 Eur-B+C countries for 2000 to 2002 range from 26.1 for Bosnia and Herzegovina (2001) to 45.6 in the Russian Federation (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.

Net school enrolment data are not available for Uzbekistan. The percentage gross secondary school enrolment (the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to secondary education) was 98.6% in 2001. In the neighbouring countries with data for the same year, gross enrolment rates were 88.7% in Kazakhstan; 82.0% in Tajikistan; and 85.3% in Kyrgyzstan (UNESCO, 2005).

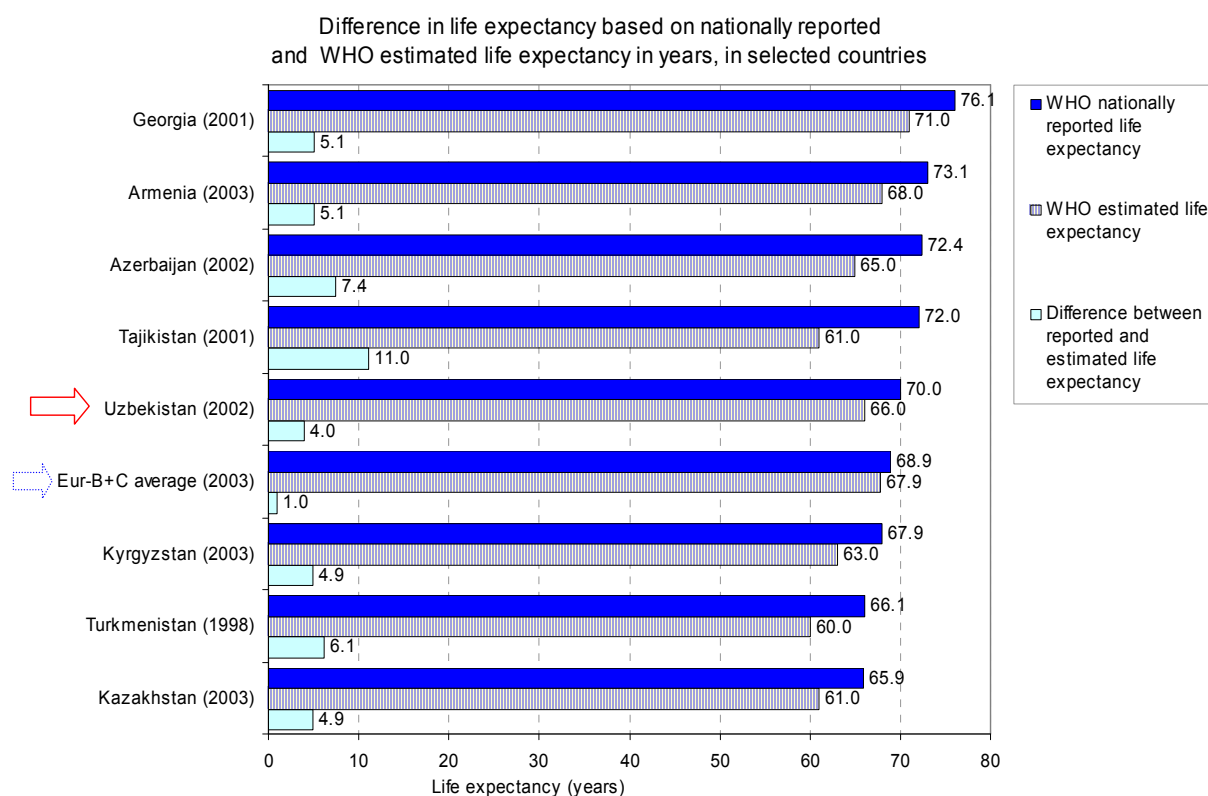
Life expectancy (LE) and healthy life expectancy (HALE)

According to WHO calculations a person born in Uzbekistan in 2003 can expect to live 66 years on average: 68 years if female and 63 years if male. Life expectancy (LE) in Uzbekistan is 3–6 years higher than in any other central Asian republic, which suggests that the population's health is better. If so, it would be important to know which indicators specifically contribute to this achievement and possibly understand why the health of people in Uzbekistan is so much better than that of some other countries.

The starting point must be a consideration of the reliability of the available data. These are of two types: official mortality statistics produced by Uzbekistan on the basis of regular registration of deaths by the statistical system and reported to WHO, and international mortality estimates produced by WHO staff aiming to compensate for gaps in availability, comparability and other factors in the official statistics.

The WHO estimates above are four years lower than the official LE figures of 70.0 years (2002) for both sexes, 72.5 years for women and 67.6 years for men. The difference is mostly due to under-registration of child mortality. The adult mortality data, however, is believed to be considerably more reliable. It is assumed that they reflect accurately enough the main pattern of mortality in Uzbekistan, if not always the levels. With these caveats and because the regular statistics can show trends and detail by all age and sex- specific population groups, they are used almost exclusively in the report. However, the regular mortality statistics are complemented by the available WHO estimates to help in the assessment of the most likely health situation, in particular as related to children's health.

A less obvious data problem is the quality of the causes of death certification. There are indications of misclassification that are difficult to quantify but which inevitably impact on the conclusions drawn from the regular statistics, particularly as far as international comparisons are concerned. Keeping this in mind, the mortality data indicate the following, in brief: Official LE in Uzbekistan is about one year above the official Eur-B+C average of 68.8 years. However, WHO estimates puts it about two years below a Eur-B+C average of 68 years. This means that overall mortality levels in Uzbekistan, while lower than in the other central Asian republics, are nevertheless higher than in the Eur-B+C group on average. Moreover, LE is likely about 13 years below the Eur-A average of 79.0 years (Figure. Difference in life expectancy).

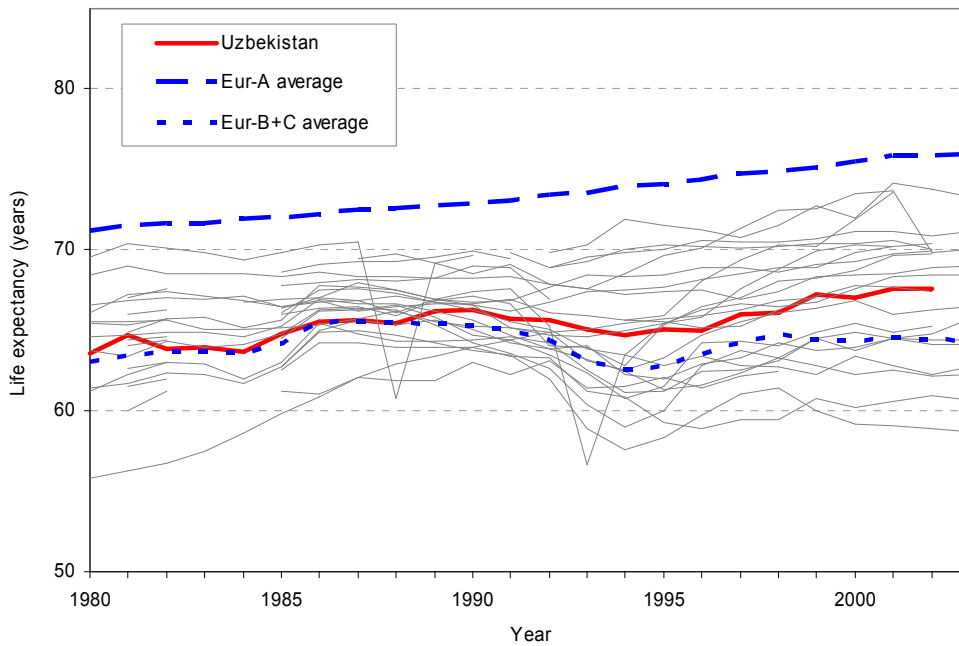


Source: WHO Regional Office for Europe (2005); WHO (2005).

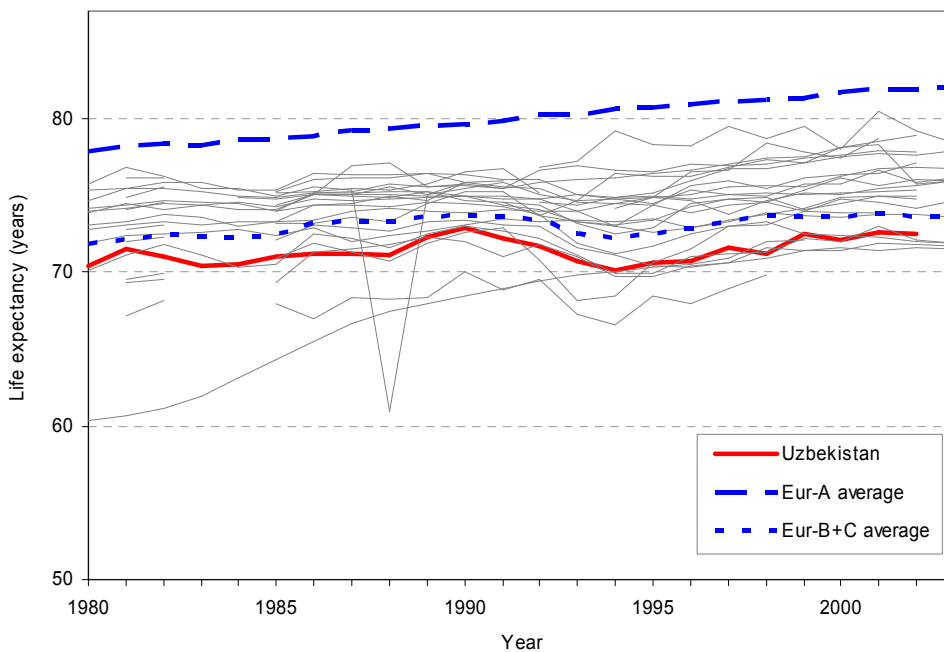
Time trends show that in 1990 the official LE in Uzbekistan was at the Eur-B+C average of about 70 years and followed exactly the fluctuations of the average in the first years of independence. By 1999, however, it had risen above the Eur-B+C average and a little above the 1990 level.

The female-male difference in Uzbek LE is 4.9, relatively low compared to the Eur-B+C 9-year average difference and the Eur-A six years. The smaller difference in Uzbekistan results from a relatively worse situation for females and better situation for males than in the Eur-B+C group on average (Figure. Life expectancy for males; Figure. Life expectancy for females).

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



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

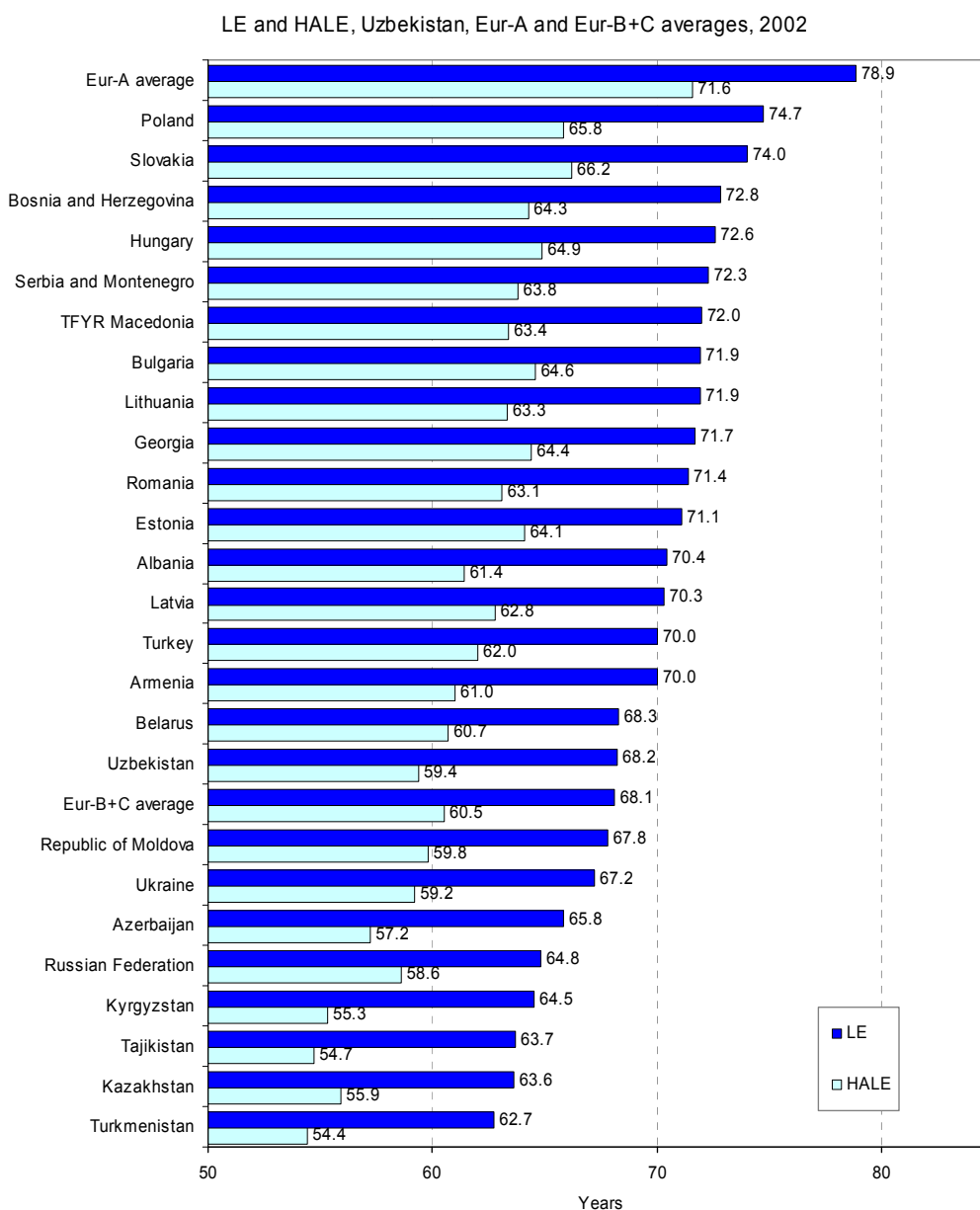


Healthy life expectancy

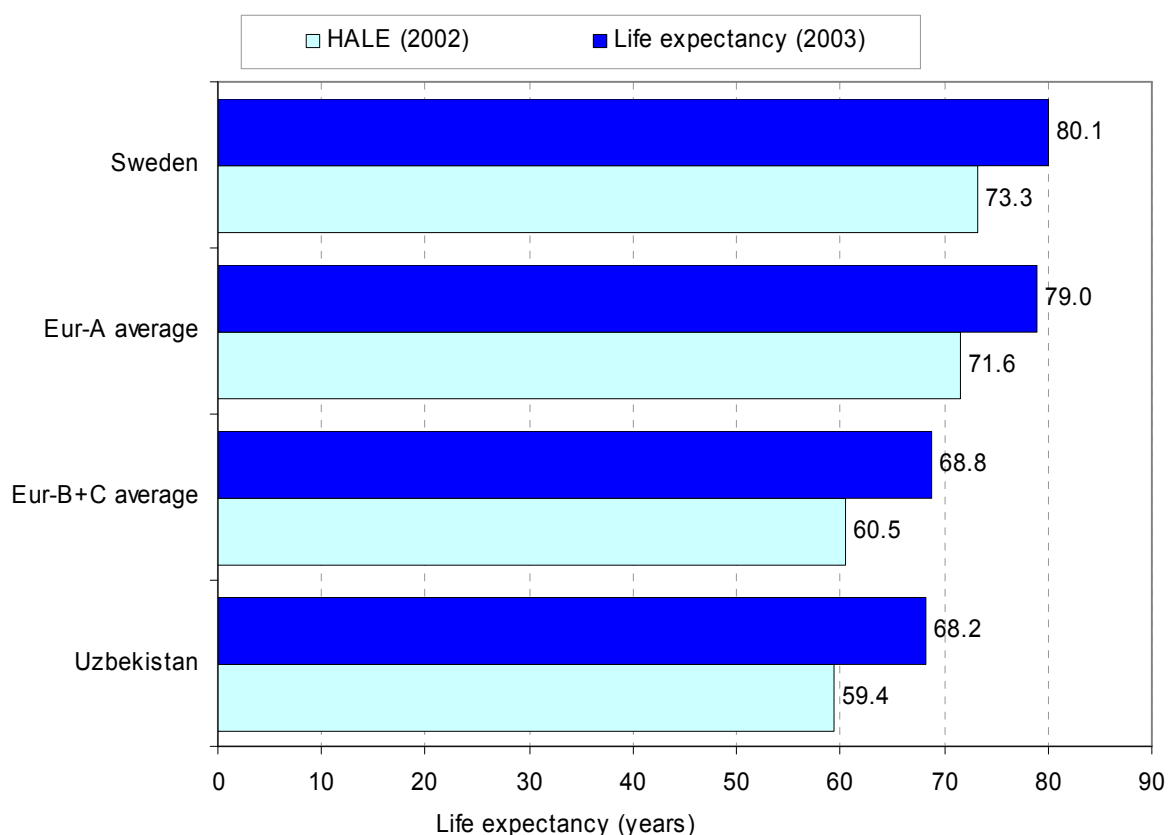
In addition to longevity in general it is increasingly important to consider the length of life spent in good health. WHO uses a relatively new indicator for this purpose – healthy life expectancy (HALE), subtracting estimated years of life spent with illness and disability from estimated LE. WHO has produced HALE estimates that should be used in conjunction with the WHO estimates of total LE, not in relation to the regular country-reported LE statistics.

WHO (2004) estimated for the year 2002 that people in Uzbekistan have 59.4 healthy years on average (60.9 for women, 57.9 for men), about 12.2 years less than the Eur-A average of 71.6 years and 1.1 years below the Eur-B+C average of 60.5 years. The best achievement in the European region is 73.3 years in Sweden (74.8 for women, 71.9 for men). At the age of 60, healthy life expectancy in Uzbekistan is 12.6 years for women and 10.8 years for men, while in Sweden those estimates are 19.6 and 17.1 years, respectively.

An alternative way to present the concept is the expectation of life years spent in less than good health. In Uzbekistan this is 10.0 years for women and 7.6 years for men. The respective estimates for Sweden are 7.9 and 6.2 years (Figure. LE and HALE in Uzbekistan; Figure. LE and HALE).



LE and HALE in Uzbekistan, Sweden, Eur-A and Eur B+C averages, latest available year



Note: data for life expectancy for Sweden is 2002.

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 table below has the top 10 conditions, in descending order, that account for approximately 90% of the burden of disease among males and females in Uzbekistan. 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 (Table. Ten leading disability groups).

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

Rank	Males		Females	
	Disability groups	Total DALYs (%)	Disability groups	Total DALYs (%)
1	Cardiovascular diseases	18.7	Neuropsychiatric conditions	21.9
2	Neuropsychiatric conditions	16.6	Cardiovascular diseases	18.3
3	Unintentional injuries	12.5	Respiratory infections	7.4
4	Respiratory infections	9.1	Digestive diseases	6.3
5	Digestive diseases	6.2	Infectious and parasitic diseases	5.3
6	Infectious and parasitic diseases	6.1	Sense organ diseases	4.7
7	Perinatal conditions	5.4	Malignant neoplasms	4.6
8	Malignant neoplasms	3.7	Unintentional injuries	4.5
9	Respiratory diseases	3.6	Nutritional deficiencies	4.2
10	Sense organ diseases	3.4	Perinatal conditions	4.2

Source: Background data from WHO (2003^c).

Main risk factors

This table has the top 10 risk factors with their relative contributions, in descending order, to burden of disease in the male and female populations of Uzbekistan. According to DALYs, alcohol and high BMI place the greatest burden of disease on the Uzbekistan male population and high BMI and high blood pressure on females (Table. Ten leading risk factors).

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

Rank	Males		Females	
	Risk factors	Total DALYs (%)	Risk factors	Total DALYs (%)
1	Alcohol	7.4	High BMI	7.2
2	High BMI	5.7	High blood pressure	6.7
3	High blood pressure	5.7	High cholesterol	5.2
4	High cholesterol	5.5	Indoor smoke from solid fuels	3.7
5	Tobacco	5.4	Iron deficiency	3.4
6	Indoor smoke from solid fuels	4.1	Childhood and maternal underweight	3.3
7	Childhood and maternal underweight	4.0	Physical inactivity	2.6
8	Low fruit and vegetable intake	2.7	Low fruit and vegetable intake	2.5
9	Physical inactivity	2.5	Unsafe sex	1.8
10	Lead	1.5	Alcohol	1.6

Source: Background data from WHO (2003^c).

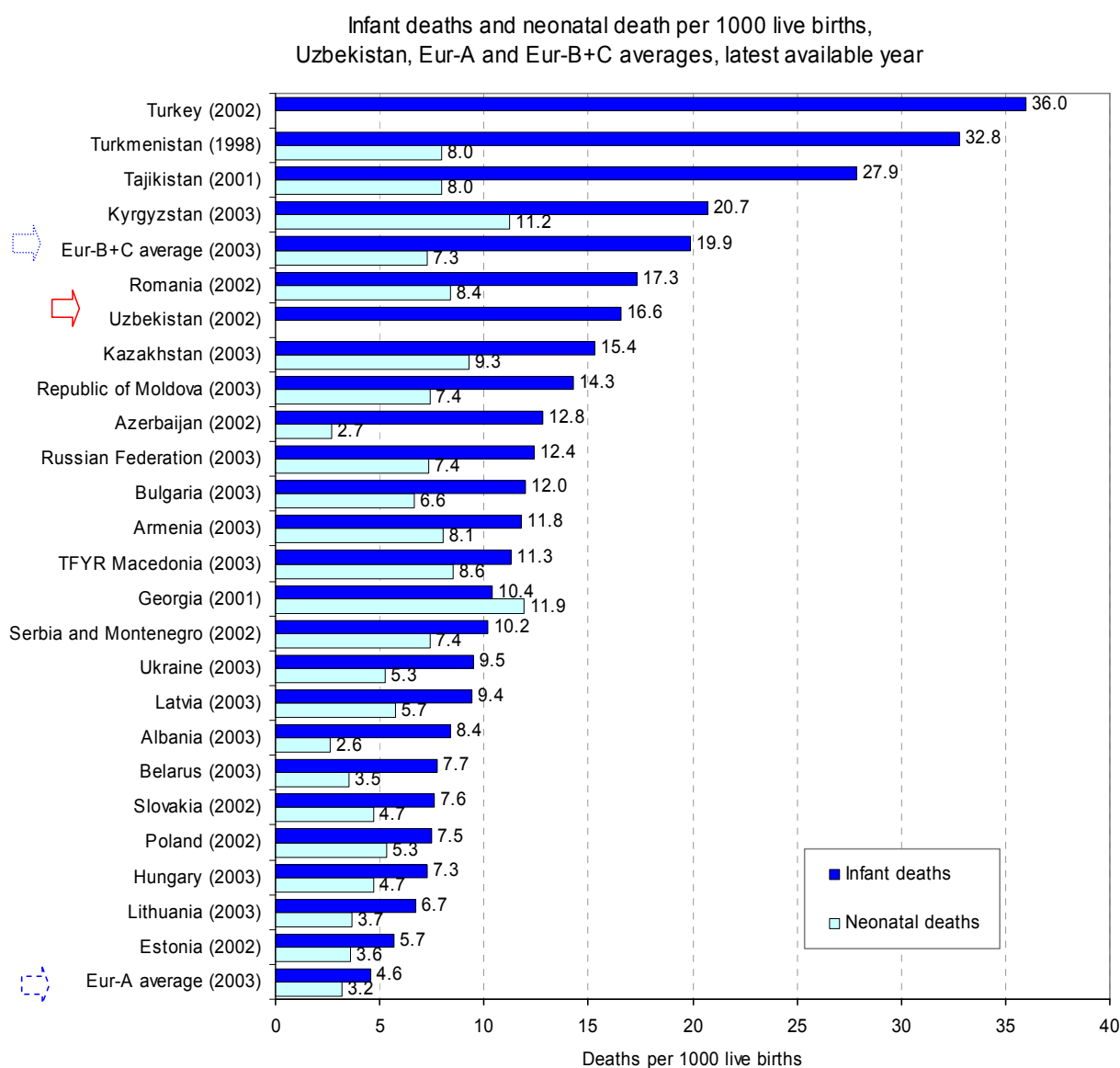
Mortality

Infant, neonatal and child mortality

By 2002, the infant mortality rate in Uzbekistan was about 17 per 1000 live births, compared to the 2003 Eur-B+C average of 19.9 and Lithuania's group-low of 6.7. Since 1990 the rate has decreased by half, a greater rate of improvement than either the Eur-B+C average or the central Asian republics' average.

Nationally reported deaths and births in 2002 show that there was a probability that out of every 1000 live births, about 24 Uzbek children would die before age 5 (the Millennium Development Goal [MDG] for the under-five mortality rate for Europe and central Asia is 15 deaths per 1000 live births by 2015). Adjusting for the known biases in national data (under-reporting of vital statistics), WHO estimates the under-five mortality rate for Uzbekistan to be almost 32 per 1000 live births. The WHO estimates for neighbouring countries are: Tajikistan 63, Turkmenistan 55, Kazakhstan 33 and Kyrgyzstan 59. The lowest WHO estimates for 2002 for the Eur-B+C countries are for Estonia and Slovakia, each at 8 deaths per 1000 live births. Whether Uzbekistan will reach the MDG by 2015 is uncertain, according to WHO estimates, as extrapolation of the current estimates is not certain (Figure. Infant deaths and neonatal deaths).

No country-reported data were available on neonatal mortality.



As mentioned, in an attempt to estimate possible under-reporting of mortality data in the official statistics, WHO produces concurrent estimates by systematically analyzing complementary information from various sources and statistical modelling. The following table compares the official and WHO estimates for four indicators particularly prone to under-registration (Table. Comparison of key indicators, child and maternal mortality).

Comparison of key indicators of child and maternal mortality in Uzbekistan based on nationally reported data and WHO estimates to assure comparability

Indicator	Nationally reported ^a	WHO estimates
Infant mortality per 1000 live births, 2000 (MDG indicator)	19	30 ^b
Neonatal mortality per 1000 live births, 2000	na	27 ^c
Under-5 mortality per 1000 live births (MDG indicator)	24 (2002)	69 (63–76) (2003) ^c
Maternal mortality per 100 000 live birth, 2000 (MDG indicator)	35	24 ^c

^a WHO Regional Office for Europe (2005); ^b WHO (2004); ^c WHO (2005).

The data show that regularly reported under-five mortality in Uzbekistan is probably about one-third of the estimated actual rate. As under-registration of child deaths mostly occurs for infants under one year old, this discrepancy indicates that infant mortality must be somewhat underestimated as well. The magnitude of the under-reporting, however, appears to be smaller than in the other central Asian republics.

In addition, WHO estimates that under-five mortality dropped in 2000–2003 at an average annual rate of around 1%. The rate for the WHO European Region as a whole is around 3.5%. The improvement in Uzbekistan is therefore slower than average, as is typical of Commonwealth of Independent States countries with high child mortality, and better progress is possible and necessary, notwithstanding resource limitations.

Maternal mortality

Maternal mortality is even more difficult to ascertain, even in countries with strong registration systems. Usually WHO estimates – derived by regression and similar methods – are higher than the country reports but the opposite is the case in Uzbekistan, as shown in the table. This apparent contradiction is probably due to the use of different sources of data (Central Statistical Office data, Ministry of Health data based on reports of health care institutions, sample population surveys, etc.) but the discrepancy is small and actually suggests that the maternal mortality levels are lower than would generally be expected.

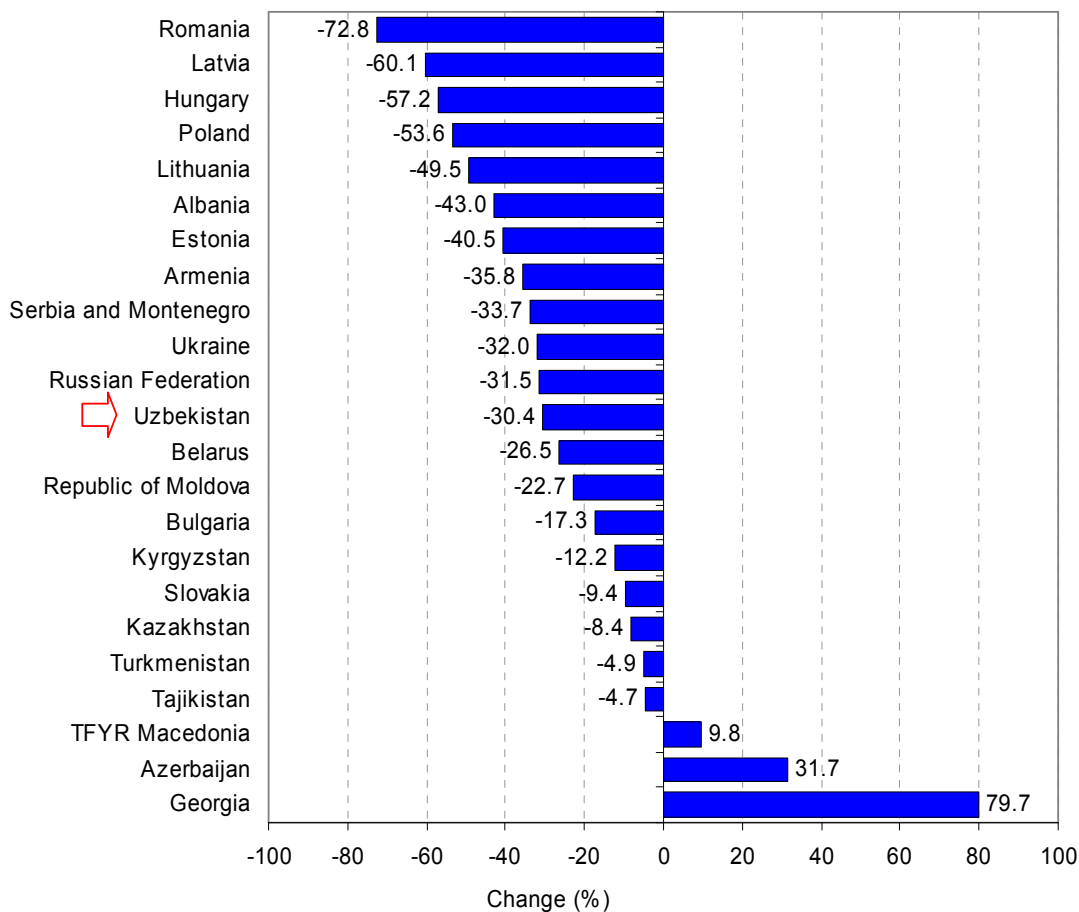
Maternal mortality rates (MMR) and the Millennium Development Goal (MDG)

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.

Between 1990 and 2002, the MMR in Uzbekistan fell by about 30%. From a peak rate in 1992 (52.8 maternal deaths per 100 000 live births), the rate dropped by 37% by 2002. MMR would have to fall another 64% to reach the MDG target (Figure. Per cent change for maternal mortality).

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

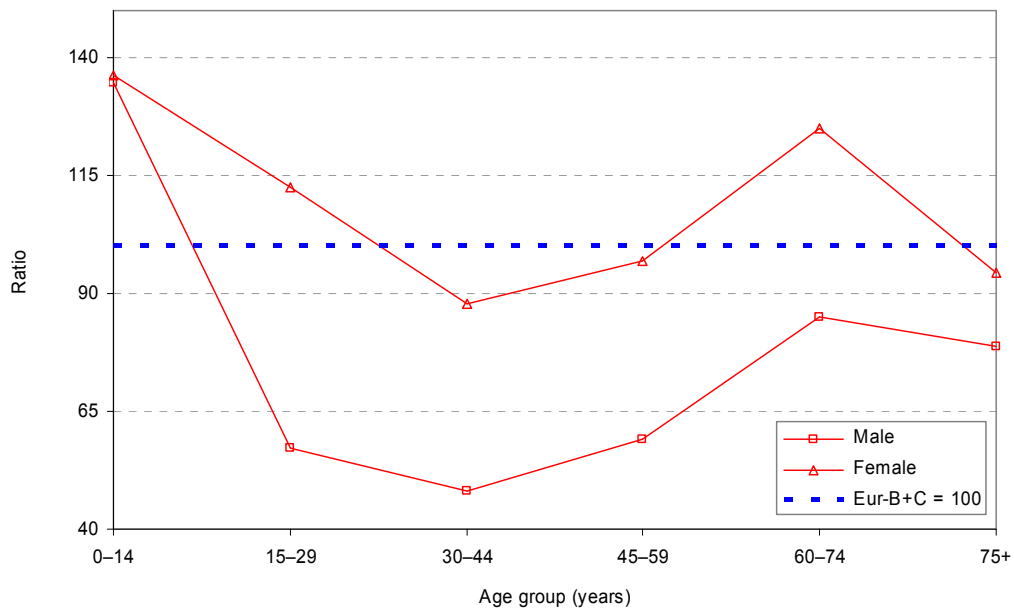


Of the 174 maternal deaths reported in 2002, four were attributed to abortion.

Excess mortality

In this remaining part of the mortality analysis we consider exclusively the regular country-reported statistics. In general, rates in Uzbekistan are about 10% lower than the Eur-B+C average but 80% higher than the Eur-A average (Annex. Selected mortality). In middle-aged adults, mortality is below the Eur-B+C average while child mortality is above average. With due consideration of data completeness, this suggests that the level of adult health is better than in several other Commonwealth of Independent States countries, which suffer extremely high middle-age adult mortality (Figure. Total mortality by sex and age group).

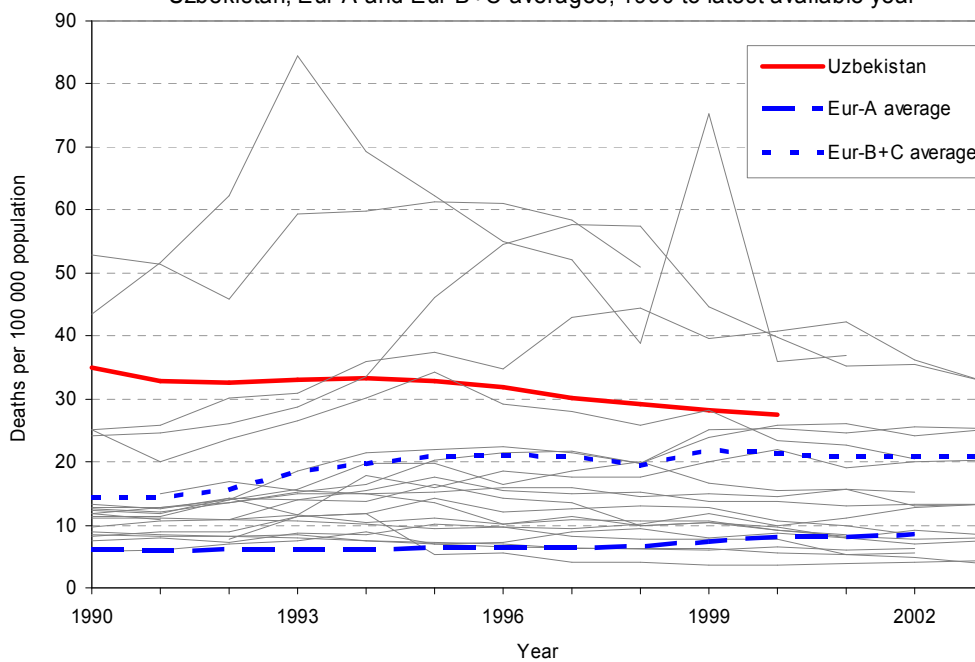
Total mortality by sex and age group in Uzbekistan in comparison with Eur-B+C (Eur-B+C = 100), 2003



As in other central Asian republics, there is no excess mortality over the Eur-B+C average from external causes in Uzbekistan. In people over 14 years old mortality from external causes is actually around the Eur-A average and very much lower than the Eur-B+C average.

As expected, mortality from cancer is also lower than the Eur-B+C average while mortality from communicable conditions, respiratory and digestive diseases is higher than the average (Figure. SDR for communicable conditions in people of all ages).

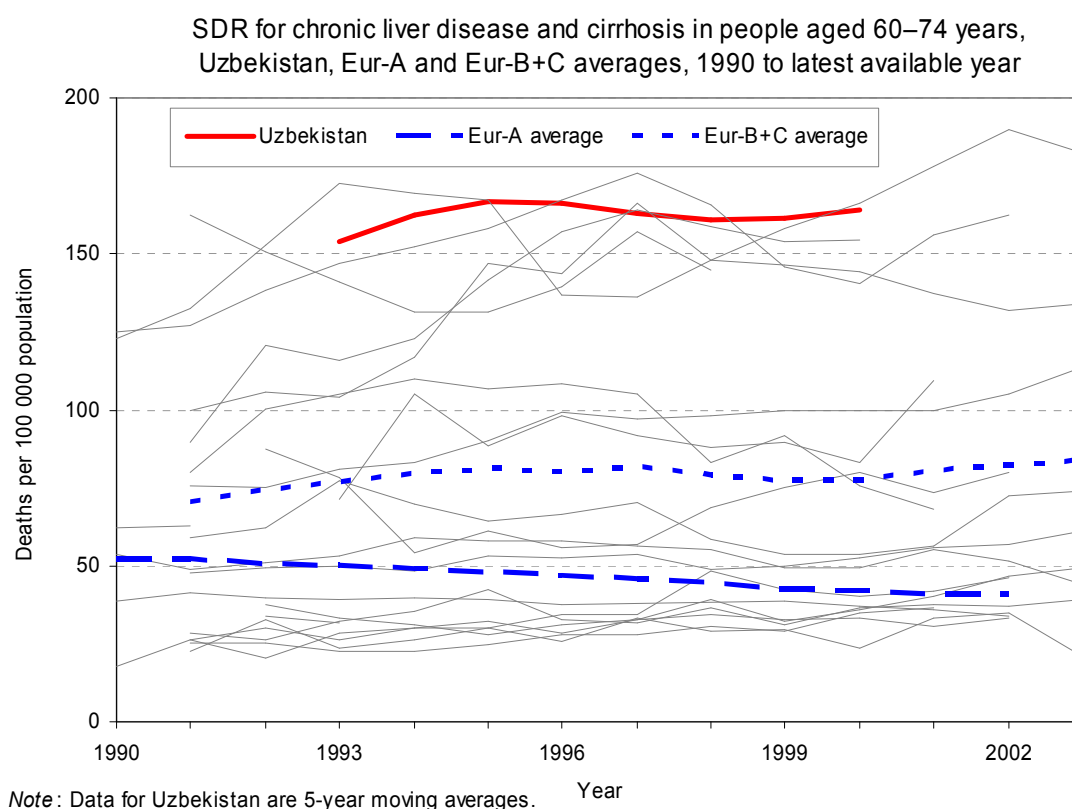
SDR for communicable conditions in people of all ages, Uzbekistan, Eur-A and Eur-B+C averages, 1990 to latest available year



Note: Data for Uzbekistan are 5-year moving averages.

The most prominent cause of excess mortality is chronic liver disease and cirrhosis – at 50% higher than the Eur-B+C average. This would generally indicate that alcohol consumption is high. As the

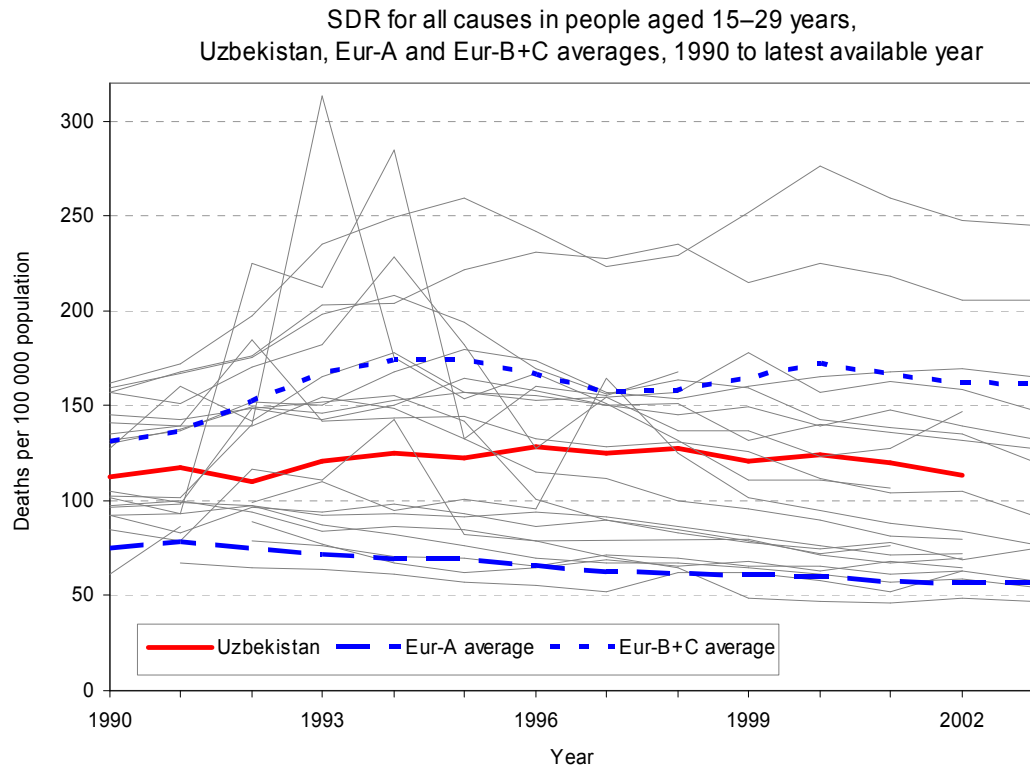
mortality from external causes is low, the reason for this unlikely combination is not clear. Inaccurate coding of causes of death cannot explain the apparent lack of association but this phenomenon may be a useful entry point for further analyses (Figure. SDR for chronic liver disease and cirrhosis in people aged 60–74 years).



One should also keep in mind that the mortality crisis in the Commonwealth of Independent States countries peaked around 1994 or 1995 (in the aftermath of the collapse of the Soviet Union). Therefore the trends of the period 1995–2003 are generally more favourable than those for the whole period 1990–2003.

In the 0–14 years age group (Annex. Mortality data), the Uzbek rate of 205 deaths per 100 000 (2002) is about 30% higher than the Eur-B+C average of 152 and four times higher than the Eur-A average of 49. It has improved by 6.0% since 1995, while the average Eur-B+C rate of improvement was 3.8%. The improvement is comprehensive across all causes of death and by sex, except for congenital malformations. The reported deaths due to perinatal causes are at the Eur-B+C average but more than twice the Eur-A average and remain a major problem, also because the number of non-registered deaths is probably high.

In the 15–29 years age group (Annex. Mortality data) the Uzbek rate of 113 deaths per 100 000 is considerably lower than the Eur-B+C average of 161, mainly due to the lower rates from external causes. This is an important observation which points to a different pattern of mortality emerging in younger adults compared to several other Commonwealth of Independent States countries, namely less violent behaviour (Figure. SDR for all causes of death in people aged 15–29 years).

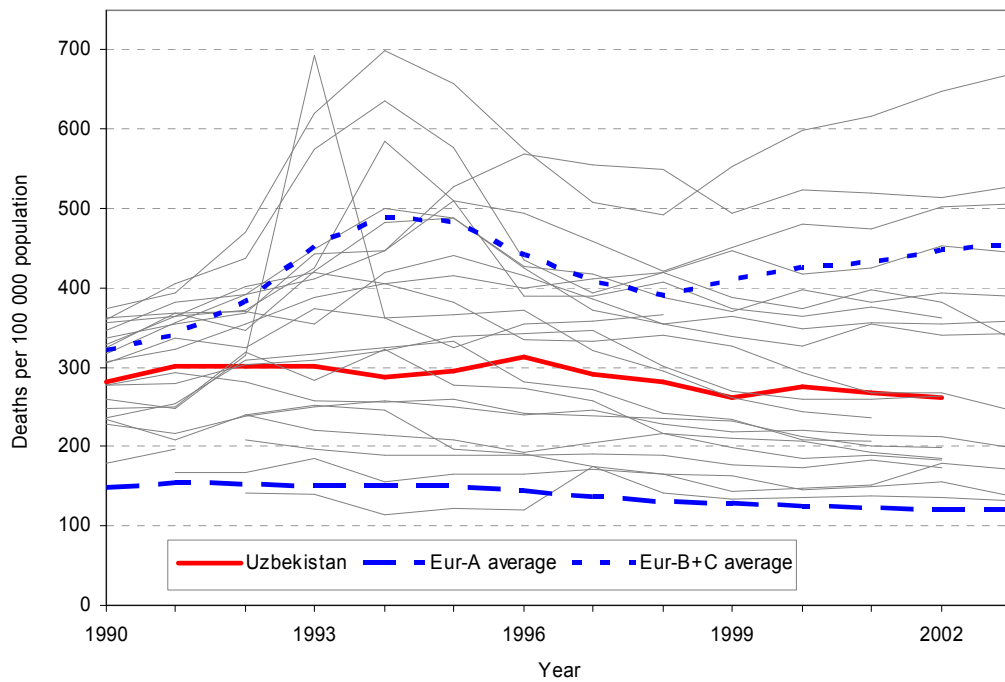


It should be mentioned that mortality from infectious and respiratory diseases is only slightly above average, provided the coding of deaths is accurate.

After 1990, total mortality levels deteriorated only slightly and by 2002 had returned to the 1990 levels. This is a very good achievement in the Commonwealth of Independent States context, if the data are accurate. It should be mentioned again that male mortality is below the very high Eur-B+C average, while female mortality is above the Eur-B+C average. This general finding needs to be analysed by looking at detailed data.

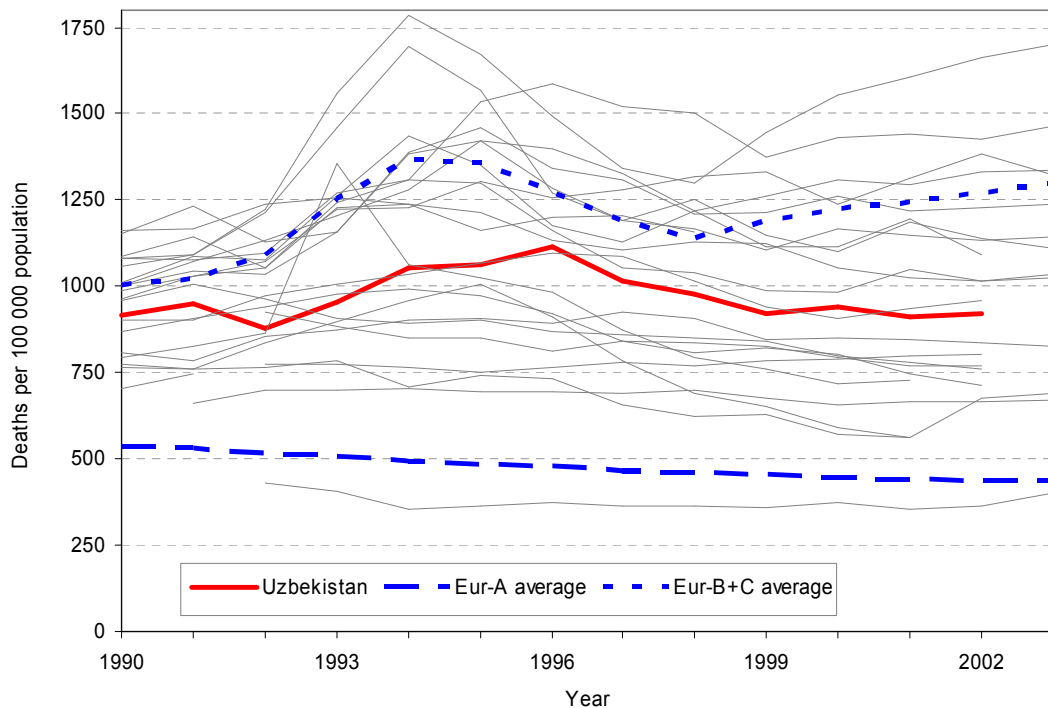
In the 30–44 years age group (Annex. Mortality data) the situation is similar to the above in that the country performs better than the Eur-B+C average overall, mainly due to considerably fewer deaths from external causes. Interestingly, although the trends closely followed the Eur-B+C average until about 1991, since independence the overall mortality trend in Uzbekistan remained flat while the Eur-B+C average showed the typical transition curve of increasing mortality until 1994–1995 and slow normalization with fluctuations after that. The 1990 level of mortality remained practically unchanged through the 1990s (Figure. SDR for all causes of death in people aged 30–44 years).

SDR for all causes in people aged 30–44 years, Uzbekistan, Eur-A and Eur-B+C averages, 1990 to latest available year



In the 45–59 years age group (Annex. Mortality data) external causes mortality is also low (Figure. SDR for all causes of death in people aged 45–59 years).

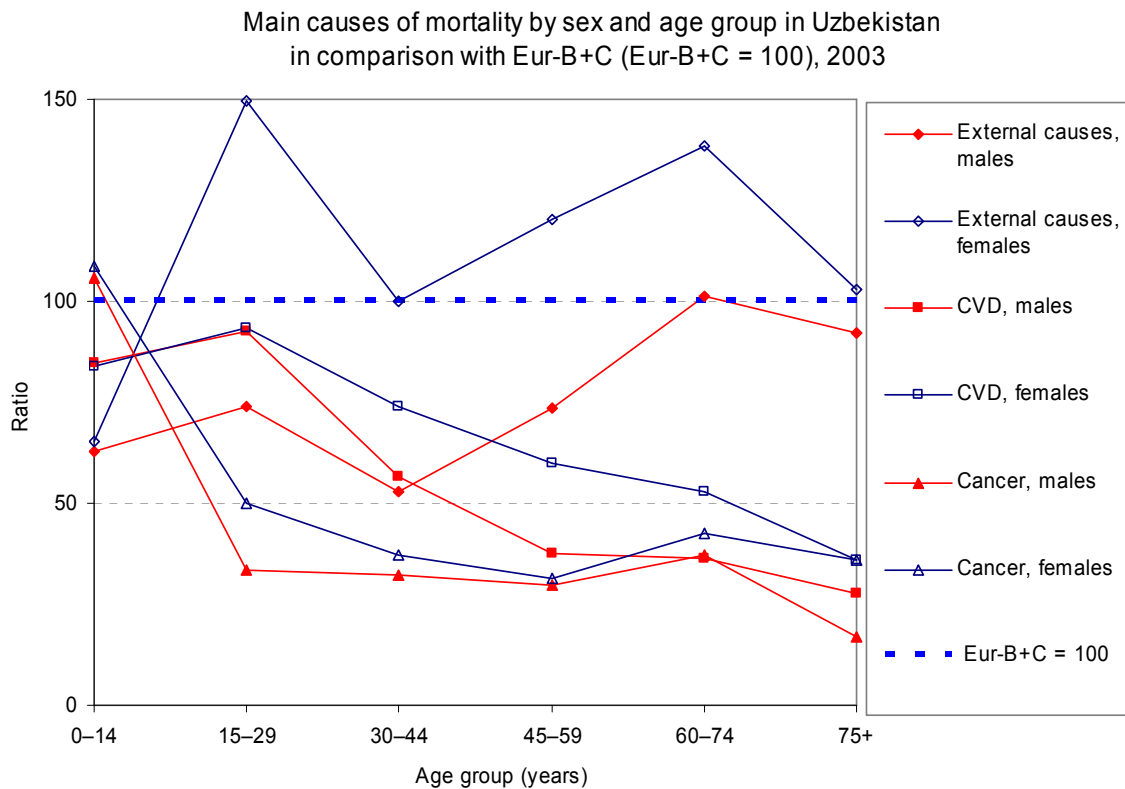
SDR for all causes in people aged 45–59 years, Uzbekistan, Eur-A and Eur-B+C averages, 1990 to latest available year



The trends in the older age groups are very close to the Eur-B+C averages for both sexes but male mortality is below average while female mortality is above average.

Main causes of death

With the exception of children 0–14 years old and external causes in females, all other main causes of death in all age groups present lower rates than the Eur-B+C averages. As mentioned above, the observations about the causes of mortality should be interpreted with some caution (Figure. Main causes of mortality by sex and age group).

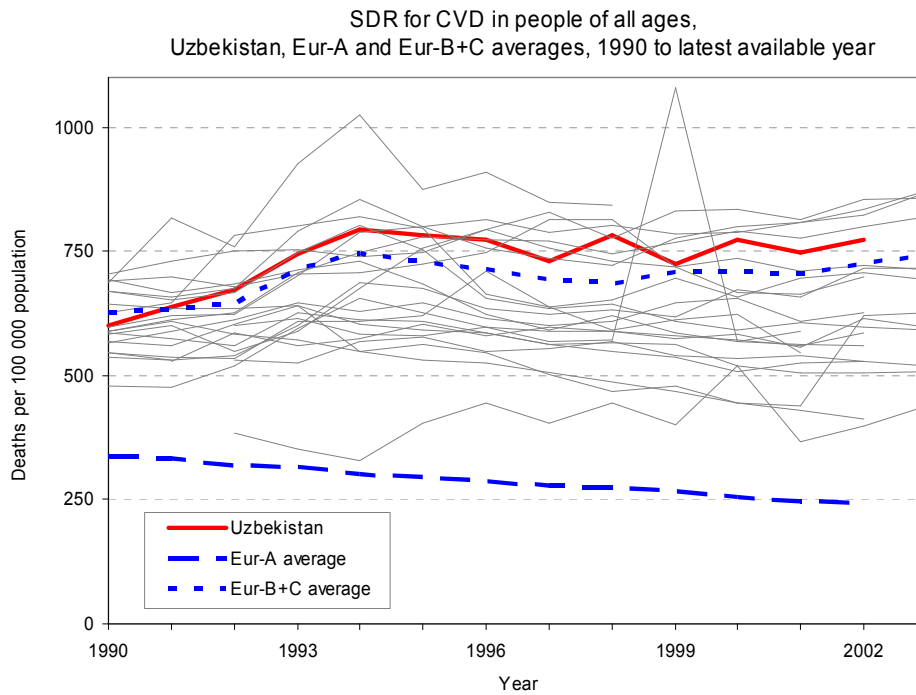


In 2002, noncommunicable diseases (NCD) accounted for about 90% of all deaths in Uzbekistan, external causes for about 5%, communicable diseases for about 2% and ill-defined conditions about 2% (Annex. Selected mortality). In the Eur-B+C group the average proportion of deaths from external causes is considerably larger (10.6%) and that from NCD respectively smaller.

CVD

CVD are the main group of causes of death in Uzbekistan, responsible for 66% of the overall mortality (2002), 10% above the Eur-B+C average. A considerable part of the difference is probably due to inaccurate coding. About half of all CVD mortality is due to ischemic heart disease and one-quarter is attributed to cerebrovascular diseases. Overall, the situation is similar to that in other countries within the Commonwealth of Independent States and the Eur-B+C group.

Unfortunately, since 1990 the rates have increased considerably, in line with the general Eur-B+C trend, but may have stabilized in the recent years. Nevertheless, CVD are by far the largest mortality problem and the prospects are uncertain (Figure. SDR for CVD in people of all ages).

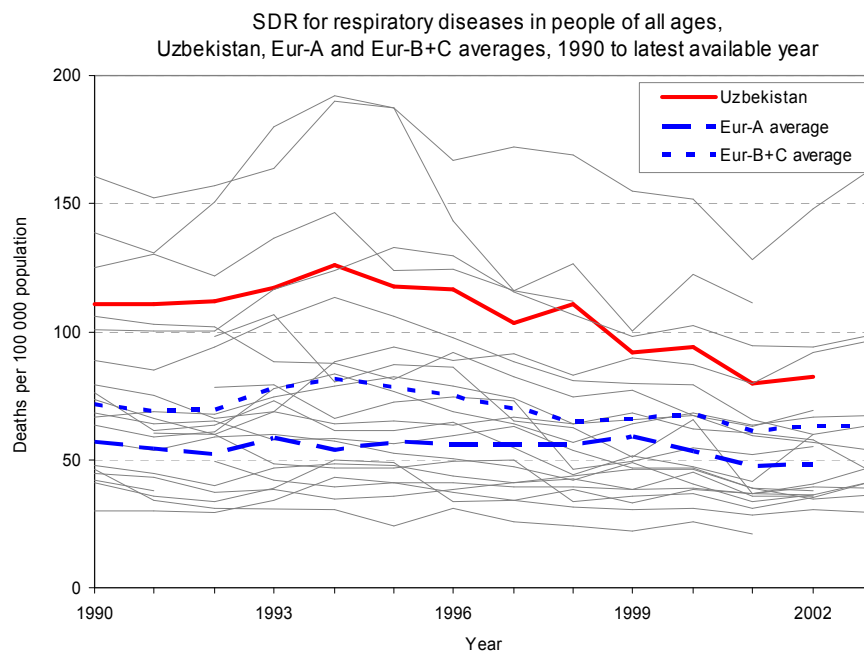


Cancer

Cancer mortality is relatively equally distributed across the WHO European Region. The rates in Uzbekistan are considerably lower than the Eur-B+C and Eur-A averages. Interpretation of the observation is not straightforward as the possibilities for detailed analyses are limited by the completeness and quality of the registration and coding of cancer deaths, a common problem in the central Asian republics.

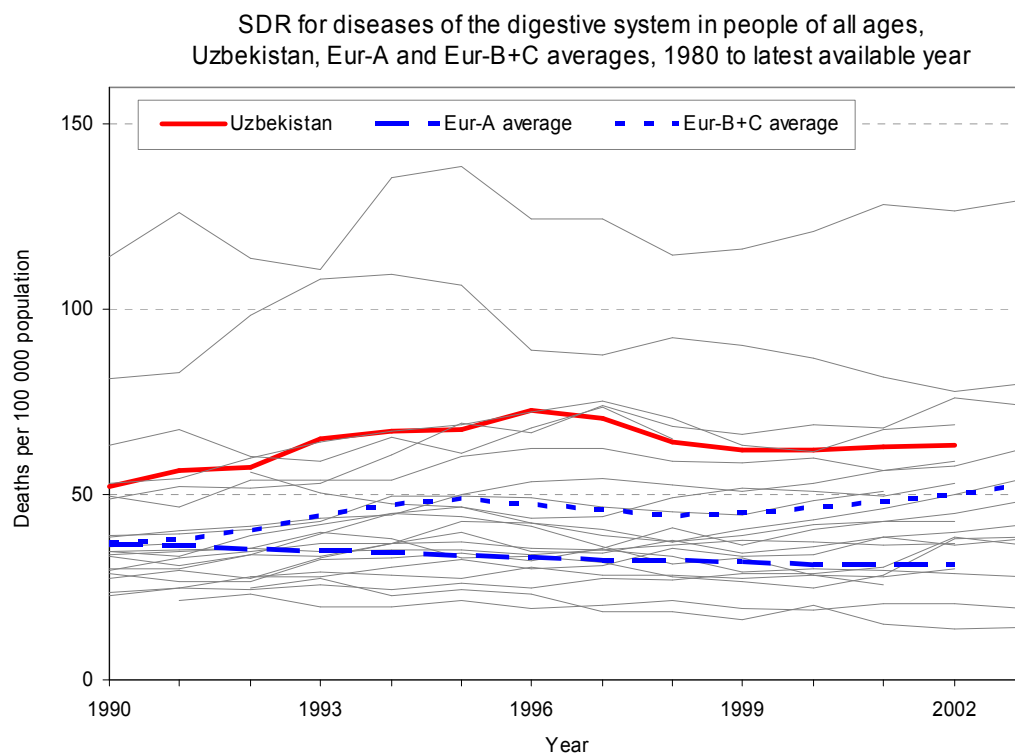
Respiratory diseases

Respiratory diseases account for about 7% of total mortality in Uzbekistan (2003), higher than the Eur-B+C average but lower than would be expected. Rates per 100 000 population for females are more frequently above the average than for males. The rates may be artificially inflated by miscoding (Figure. SDR for respiratory diseases in people of all ages).



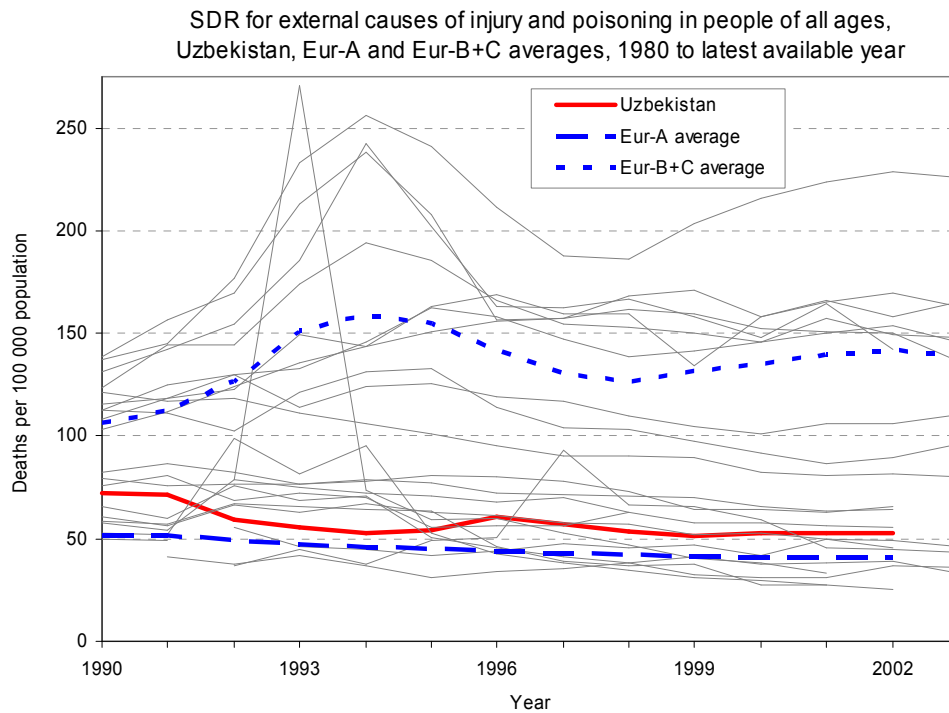
Digestive diseases

Mortality from digestive diseases has dropped steadily in Eur-A over the last 20 years but increased notably in Eur-B+C, including Uzbekistan. By 2002, the rate was about 20% above the Eur-B+C average. As already mentioned, much of the problem is excess mortality from chronic liver disease and cirrhosis. While history of high morbidity from hepatitis may play a role, it is probably compounded by high alcohol consumption (Figure. SDR for diseases of the digestive system in people of all ages).



External causes

External causes of injury include unintentional injuries (transport injury, poisoning, injury due to falls, fires and drowning and others) as well as intentional injuries (self-inflicted injuries, injuries due to violence and war and others). Overall, external causes are responsible for 52 deaths per 100 000 population in Uzbekistan (2002) while the Eur-B+C average is 140 and the Eur-A average 40 (Figure. SDR for external causes of injury and poisoning in people of all ages)



As mentioned, the low level of violent deaths is a very important characteristic of the overall pattern of middle-aged mortality in Uzbekistan. The situation is similar in other central Asian republics. In contrast to the Eur-B+C average, the rates tended to decrease rather than increase from 1990 to 2003. The Uzbek advantage over the Eur-B+C average is large and important for understanding the health situation and prospects. The causes could be related to the depressed economy, which might be responsible for the decrease in transport accidents, or some county-specific policies and trends.

References

- Council of Europe (2005). *Recent demographic developments in Europe 2004*. Strasbourg, Council of Europe.
- Council of Europe (2005). *Recent demographic developments in Europe 2004*. Strasbourg, Council of Europe.
- 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, accessed 28 May 2004).
- 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, accessed 28 May 2004).
- 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, accessed 28 May 2004).
- 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, accessed 14 November 2005).
- UNESCO Institute for Statistics (2005). *Country/Regional profiles* [web site]. Montreal (http://www.uis.unesco.org/profiles/selectCountry_en.aspx, accessed 2 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 30 November 2005).
- WHO (2002). *The world health report 2002 – Reducing risks, promoting healthy life*. Geneva, World Health Organization (http://www.who.int/whr/2002/en/whr02_en.pdf, accessed 30 November 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 25 May 2004).
- WHO (2004). *The world health report 2004 – Changing history*. Geneva, World Health Organization (<http://www.who.int/whr/2004/en/>, accessed 6 September 2004).
- WHO (2005). *The world health report 2005 – Make every mother and child count*. Geneva, World Health Organization (<http://www.who.int/whr/2005/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 28 May 2004).
- 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).
- 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 26 October 2004).
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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/hfadb>, accessed 20 July 2004 and January 2005).

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

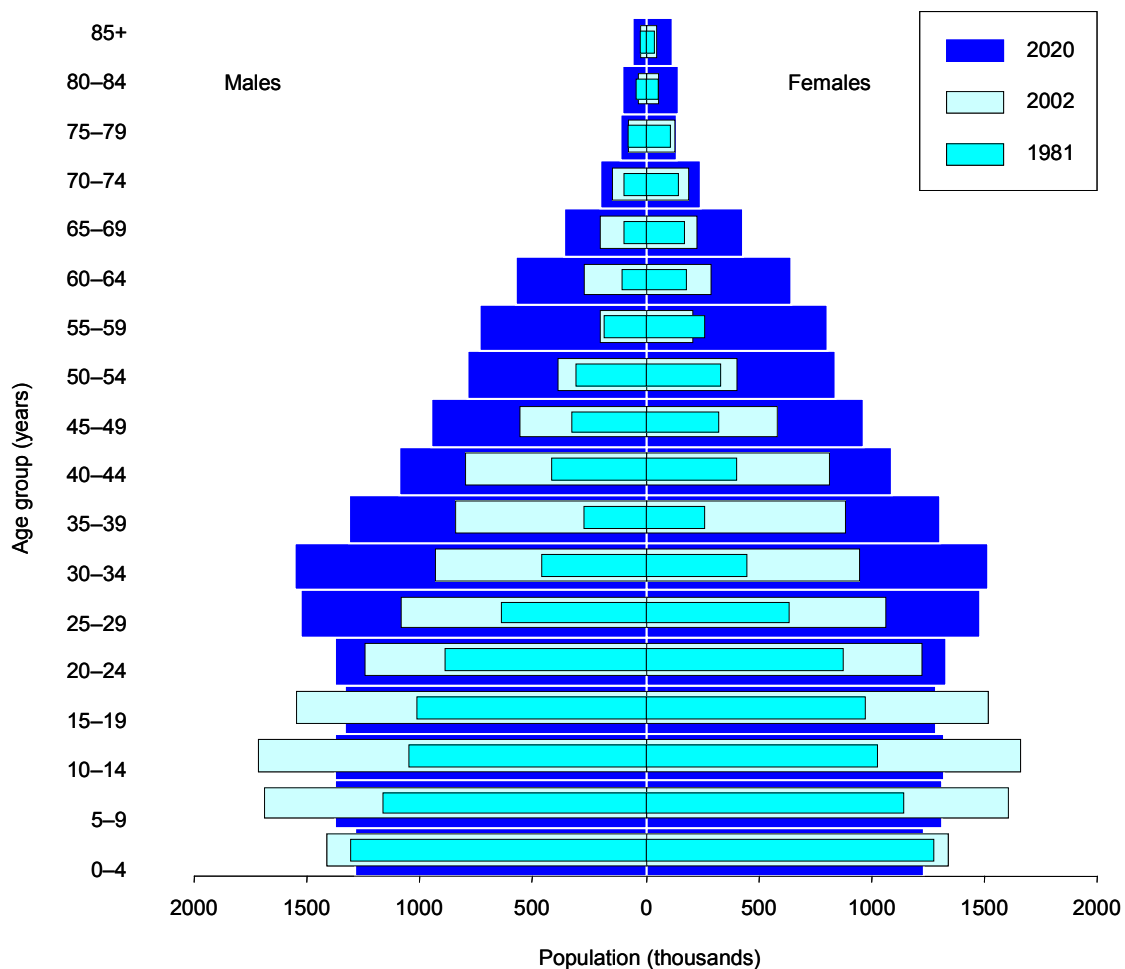
World Bank (2004b). World development indicators 2004. Washington, DC, World Bank.

World Bank (2005). World development indicators 2005. Washington, DC, World Bank (<http://devdata.worldbank.org/wdi2005/home.htm>, accessed 30 November 2005).

Annexes

Annex. Age pyramid

Age pyramid for Uzbekistan



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

Annex. Selected mortality

Selected mortality in Uzbekistan compared with Eur-A or B+C averages

Condition	SDR per 100 000		Excess mortality in Uzbekistan (%)	Total deaths in Uzbekistan (%)	Total deaths in Eur-B+C (%)	Eur-A average	Excess Uzbekistan to Eur-A (%)	Total deaths in Eur-A (%)
	Uzbekistan (2002)	Eur-B+C average (2003)						
Selected non-communicable conditions	1010.4	1044.9	-3.3	85.8	79.6	533.8	89.3	82.4
<i>Cardiovascular diseases</i>	772.7	741.8	4.2	65.6	56.5	243.4	217.5	37.6
Ischaemic heart disease	404.0	362.7	11.4	34.3	27.6	95.9	321.3	14.8
Cerebrovascular diseases	176.7	221.7	-20.3	15.0	16.9	61.1	189.2	9.4
Diseases of pulmonary circulation and other heart disease	24.9	68.9	-63.9	2.1	5.3	56.6	-56.0	8.7
<i>Malignant neoplasms</i>	79.4	172.0	-53.8	6.7	13.1	181.5	-56.3	28.0
Trachea/bronchus/lung cancer	9.7	33.9	-71.4	0.8	2.6	37.1	-73.9	5.7
Female breast cancer	10.7	22.1	-51.6	0.9	1.7	27.0	-60.4	4.2
Colon/rectal/anal cancer	4.5	19.0	-76.3	0.4	1.4	20.7	-78.3	3.2
Prostate	3.3	14.3	-76.9	0.3	1.1	25.1	-86.9	3.9
<i>Respiratory diseases</i>	82.5	63.1	30.7	7.0	4.8	47.8	72.6	7.4
Chronic lower respiratory diseases	32.9	31.2	5.4	2.8	2.4	20.2	62.9	3.1
Pneumonia	21.5	23.6	-8.9	1.8	1.8	16.2	32.7	2.5
<i>Digestive diseases</i>	63.2	52.3	20.8	5.4	4.0	30.8	105.2	4.8
Chronic liver disease and cirrhosis	48.4	32.0	51.3	4.1	2.4	12.6	284.1	1.9
<i>Neuropsychiatric disorders</i>	48.4	32.0	51.3	4.1	2.4	12.6	284.1	4.7
Communicable conditions	12.5	15.7	-20.4	1.1	1.2	30.3	-58.7	1.3
AIDS/HIV	27.5	20.8	32.2	2.3	1.6	8.4	227.4	0.2
External causes	0.0	0.8	-100.0	0.0	0.1	1.1	-100.0	6.2
<i>Unintentional</i>	52.5	139.6	-62.4	4.5	10.6	40.3	30.3	4.4
Road traffic injuries	41.2	102.2	-59.7	3.5	7.8	28.7	43.6	1.5
Falls	6.1	14.7	-58.5	0.5	1.1	9.9	-38.4	0.9
<i>Intentional</i>	2.0	7.5	-73.3	0.2	0.6	6.1	-67.2	1.8
Self-inflicted (suicide)	11.4	37.4	-69.5	1.0	2.9	11.6	-1.7	1.6
Violence (homicide)	7.3	23.2	-68.5	0.6	1.8	10.6	-31.1	0.2
Ill-defined conditions	4.0	14.2	-71.8	0.3	1.1	1.0	300.0	3.2
All causes	27.5	64.0	-57.0	2.3	4.9	20.9	31.6	100.0

Annex. Mortality data

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

Causes of death	Sex	Uzbekistan (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	205.2	-6.0	49.4	-2.4	151.7	-3.8
	M	229.6	-6.0	55.3	-2.5	170.5	-3.9
	F	179.5	-6.1	43.3	-2.4	131.9	-3.8
<i>Infectious and parasitic diseases</i>	M	12.8	-11.1	1.4	-1.1	10.9	-7.0
	F	10.3	-11.2	1.1	-3.0	9.5	-6.6
Intestinal infectious diseases	M	4.0	-12.8	0.2	-0.7	5.1	-8.2
	F	3.3	-12.9	0.1	-7.3	4.7	-7.9
<i>Malignant neoplasms</i>	M	4.3	-1.8	3.3	-1.8	5.1	-1.9
	F	3.5	-1.6	2.6	-1.8	4.2	-1.9
<i>Cardiovascular diseases</i>	M	2.1	6.5	1.4	-3.1	3.3	1.1
	F	1.7	5.3	1.3	-2.5	2.6	0.1
<i>Respiratory diseases</i>	M	99.8	-6.9	1.4	-4.3	35.9	-5.0
	F	85.6	-6.6	1.0	-4.2	30.7	-5.0
Pneumonia	M	46.2	-5.9	0.5	-6.0	20.9	-4.9
	F	37.7	-5.8	0.4	-5.1	17.9	-4.7
<i>Certain conditions originating in perinatal period</i>	M	660.7	-1.1	255.3	-2.1	607.6	-2.7
	F	456.9	-0.3	202.3	-1.6	427.5	-2.7
Congenital malformations & chromosomal abnormalities	M	15.5	2.9	11.6	-2.9	24.2	-2.8
	F	12.5	1.6	10.0	-3.3	21.0	-2.6
<i>Ill-defined causes</i>	M	1.3	-8.7	5.0	-3.9	5.6	-0.6
	F	1.2	-7.4	3.4	-4.2	4.6	-1.0
<i>External causes of injury & poisoning</i>	M	30.7	-4.0	7.0	-4.0	29.0	-3.4
	F	19.6	-4.7	4.6	-3.2	18.1	-3.1
Road traffic injuries	M	3.7	-2.2	2.5	-4.5	4.7	-2.6
	F	1.8	-0.8	1.7	-4.8	3.0	-1.6

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

Causes of death	Sex	Uzbekistan (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	113.8	-1.1	56.0	-2.3	161.0	-0.9
	M	138.3	-0.9	82.0	-2.3	241.7	-1.0
	F	88.8	-1.3	29.3	-2.2	79.0	-0.6
<i>Infectious and parasitic diseases</i>	M	15.9	1.9	1.2	1.5	12.3	3.0
	F	10.7	1.5	0.8	1.9	5.1	2.5
Malignant neoplasms	M	8.1	-2.6	6.2	-1.0	8.8	-1.9
	F	7.2	-0.5	4.7	-1.4	7.7	-1.9
<i>Cardiovascular diseases</i>	M	13.0	-0.7	4.1	-2.4	17.6	0.0
	F	10.9	-3.2	2.3	-2.0	7.3	-0.9
<i>Respiratory diseases</i>	M	9.0	-2.9	1.4	-3.6	6.9	0.2
	F	8.4	-3.1	0.9	-2.7	3.8	-1.1
<i>Digestive diseases</i>	M	13.3	3.5	0.9	-3.5	8.0	3.0
	F	9.0	-1.0	0.5	-3.8	3.7	3.1
Ill-defined causes	M	2.4	-5.5	4.0	-3.1	11.6	7.1
	F	1.1	-8	1.4	-1.3	3.3	5.8
<i>External causes</i>	M	54.5	-1.5	58.3	-1.4	162.4	-1.6
	F	18.4	0.6	14.4	-1.6	36.9	-0.2
Road traffic injuries	M	6.5	-5.6	28.5	-1.3	27.8	-1.5
	F	1.7	0.4	7.3	-1.4	8.0	0.3
Accidental drowning	M	3.3	0.2	1.3	-2.2	10.8	-3.9
	F	1.5	0.7	0.2	-2.1	1.9	-2.2
Accidental poisoning	M	2.4	1.4	2.8	0.0	19.1	3.3
	F	1.0	5.7	0.7	0.8	4.4	2.5
Self-inflicted (suicide)	M	13.4	0.9	12.7	-1.8	36.8	0.0
	F	5.5	4.3	3.1	-2.2	5.8	-1.3

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

Causes of death	Sex	Uzbekistan (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	261.5	-1.6	120.3	-2.5	453.8	-0.7
	M	336.4	-1.7	161.6	-2.6	700.0	-0.8
	F	189.1	-1.5	78.5	-2.1	215.6	-0.2
<i>Malignant neoplasms</i>	M	22.7	-4.0	27.6	-2.3	40.2	-2.8
	F	32.4	-1.3	31.3	-2.0	43.8	-1.4
Trachea/bronchus/lung cancer	M	2.4	-7.1	5.0	-3.4	7.3	-4.2
Female breast cancer	F	1.5	0.4	2.8	-0.6	2.2	-1.0
<i>Cardiovascular diseases</i>	F	6.6	-0.5	10.0	-2.6	10.0	-2.3
	M	84.0	-2.3	26.1	-2.5	158.6	-0.4
Ischaemic heart disease	F	45.4	-2.0	10.4	-2.1	45.3	0.0
	M	40.6	-3.1	11.8	-3.1	73.7	-2.2
Cerebrovascular diseases	F	13.5	-2.2	2.4	-2.7	14.4	-1.3
	M	15.1	-3.2	4.4	-3.2	24.6	-0.4
<i>Respiratory diseases</i>	F	7.6	-6.1	3.6	-2.5	10.6	-1.3
	M	20.3	-3.1	3.9	-3.5	34.3	0.9
<i>Digestive diseases</i>	F	13.6	-2.7	2.2	-2.0	9.8	0.8
	M	29.6	-2.8	12.6	-2.4	50.2	1.4
<i>External causes</i>	F	23.5	0.1	5.4	-1.7	19.4	4.1
	M	97.1	0.1	58.8	-1.2	299.5	-1.9
Road traffic injuries	F	21.9	1.6	15.1	-1.8	58.9	-1.0
	M	12.0	-5.4	16.0	-0.5	31.4	-1.7
Self-inflicted (suicide)	F	2.2	-3.1	3.9	-2.0	7.1	-0.5
	M	15.3	-2.9	21.2	-1.5	54.9	-2.4
	F	4.1	0.8	5.8	-2.2	7.9	-2.5

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

Causes of death	Sex	Uzbekistan (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	919.4	-1.9	435.6	-1.3	1294.9	-0.6
	M	1171.6	-2.1	580.1	-1.4	1981.7	-0.6
	F	676.9	-1.5	293.3	-1.0	698.9	-0.5
<i>Malignant neoplasms</i>	M	121.9	-4.0	218.2	-1.2	323.2	-1.9
	F	111.5	-1.7	155.0	-1.0	186.1	-0.5
Trachea/bronchus/lung cancer	M	24.4	-4.8	65.9	-1.5	101.4	-2.9
Female breast cancer	F	6.0	-4.1	21.8	3.4	15.4	1.0
<i>Cardiovascular diseases</i>	F	24.1	2.0	44.0	-2.2	45.3	0.1
	M	582.5	-1.0	156.4	-2.6	793.1	-0.1
Ischaemic heart disease	F	326.4	-1.3	50.9	-2.5	271.7	-0.6
	M	299.6	-1.4	86.2	-3.3	435.3	-0.7
Cerebrovascular diseases	F	127.5	-1.5	17.8	-3.4	111.1	-0.6
	M	132.9	-3.2	23.7	-2.6	168.6	-0.9
<i>Respiratory diseases</i>	F	90.3	-3.5	14.5	-2.1	88.4	-1.4
	M	65.4	-4.2	20.3	-1.7	108.7	-1.4
<i>Digestive diseases</i>	F	40.2	-2.9	10.2	-1.3	24.5	-0.7
	M	110.6	-2.3	49.6	-0.8	129.7	0.7
<i>External causes</i>	F	75.5	-2.0	20.3	-0.7	57.3	1.9
	M	122.5	-0.6	62.8	-1.0	409.2	-0.9
Road traffic injuries	F	27.8	0.4	20.9	-0.9	89.1	-1.1
	M	13.9	-3.0	13.0	-1.3	28.5	-1.8
Self-inflicted (suicide)	F	3.7	0.2	4.1	-2.1	7.5	-1.4
	M	16.8	-6.0	23.1	-1.1	68.1	-2.4
	F	3.6	-5.0	8.5	-1.2	10.2	-3.4

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

Causes of death	Sex	Uzbekistan (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	3538.8	0.7	1570.9	-1.9	3411.7	-0.1
	M	4247.5	0.5	2156.9	-2.1	4996.4	0.1
	F	2924.1	0.5	1069.2	-1.9	2339.0	-0.6
<i>Malignant neoplasms</i>	M	364.9	-2.7	851.3	-1.4	1002.5	-0.8
	F	232.5	-2.2	439.8	-1.1	438.9	-0.7
Trachea/bronchus/lung cancer	M	66.6	-3.5	261.8	-1.9	321.7	-1.5
	F	17.8	-3.0	59.0	0.2	37.1	-1.4
Female breast cancer							
	F	27.2	-0.2	79.7	-1.6	68.7	1.3
<i>Cardiovascular diseases</i>	M	2935.7	1.8	744.9	-3.6	2903.0	0.6
	F	2085.9	1.4	335.7	-3.9	1507.8	-0.3
Ischaemic heart disease	M	1600.5	0.6	381.3	-4.2	1582.2	1.2
	F	1101.0	0.3	133.5	-4.6	731.4	0.5
Cerebrovascular diseases	M	600.6	-2.4	143.3	-3.7	833.7	0.2
	F	447.6	-2.4	86.7	-4.1	528.9	-0.8
<i>Respiratory diseases</i>	M	268.7	-2.7	144.0	-3.5	303.0	-2.4
	F	164.3	-2.3	62.5	-2.4	68.6	-3.6
<i>Digestive diseases</i>	M	261.5	-0.9	111.6	-1.6	193.0	0.1
	F	188.3	0.4	54.1	-1.7	94.2	0.2
<i>External causes</i>	M	118.5	2.9	79.3	-1.4	320.0	1.0
	F	37.8	0.6	32.1	-2.1	88.7	-0.5
Road traffic injuries	M	14.4	-2.3	14.8	-3.0	24.3	-1.5
	F	4.7	-4.0	5.9	-3.4	9.5	-1.0
Self-inflicted (suicide)	M	11.4	-5.1	24.5	-1.6	60.5	-0.8
	F	2.8	-9.0	8.7	-2.6	12.7	-3.1

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

Causes of death	Sex	Uzbekistan (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	11120.7	-1.3	8059.6	-1.0	12338.8	0.0
	M	11686.2	-2.2	9832.0	-1.1	14838.0	0.1
	F	10782.9	-0.9	7112.5	-0.9	11421.7	0.0
<i>Malignant neoplasms</i>	M	413.1	-3.3	2231.1	-0.4	1489.3	1.2
	F	258.9	-2.6	1136.2	-0.4	721.7	0.8
Trachea/bronchus/lung cancer	M	60.2	-1.9	457.1	-0.7	323.5	1.0
	F	18.9	-1.8	102.7	1.5	55.6	0.5
Female breast cancer							
	F	28.4	-2.9	159.6	-0.4	92.0	3.1
<i>Cardiovascular diseases</i>	M	9420.9	-1.9	4356.2	-2.1	10221.2	0.4
	F	9057.7	-0.8	3577.9	-1.9	8805.6	0.4
Ischaemic heart disease	M	5134.2	-4.4	1708.0	-2.2	4925.6	1.4
	F	4742.6	-3.7	1150.0	-2.2	4028.6	1.2
Cerebrovascular diseases	M	2027.9	-3.2	1119.8	-2.5	3004.4	0.7
	F	2325.3	-1.1	1026.9	-2.4	2967.6	0.5
<i>Respiratory diseases</i>	M	655.3	-4.2	1156.5	-2.4	824.1	-2.1
	F	447.4	-3.2	591.9	-2.1	302.3	-3.2
<i>Digestive diseases</i>	M	263.5	-1.7	340.3	-1.1	270.4	0.3
	F	222.6	1.2	279.8	-0.4	175.0	1.1
<i>External causes</i>	M	102.5	-2.4	275.0	-0.6	604.2	0.1
	F	61.8	1.7	187.8	-1.2	172.4	-1.2
Road traffic injuries	M	13.1	-6.9	28.1	-2.2	34.6	-3.1
	F	6.8	-4.5	10.0	-3.1	14.7	-1.7
Self-inflicted (suicide)	M	12.2	-0.7	49.5	-1.6	86.6	-1.1
	F	6.2	-2.5	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 groups¹ used for comparison are called reference groups and comprise:

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

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

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

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

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

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

Glossary

Causes of death

	ICD-10 code
Cerebrovascular diseases	I60–I69
Chronic liver disease and cirrhosis	K70, K73, K74, K76
Chronic obstructive pulmonary disease	J40–J47
Colon/rectal/anal cancer	C18–C21
Diseases of pulmonary circulation and other heart disease	I26–I51
Falls	W00–W19
Female breast cancer	C50
Ischaemic heart disease	I20–I25
Pneumonia	J12–J18
Prostate cancer	C61
Neuropsychiatric disorders	F00–99, G00–99, H00–95
Road traffic injuries	V02–V04, V09, V12–V14, V19–V79, V82–V87, V89
Self-inflicted (suicide)	X60–X84
Trachea/bronchus/lung cancer	C33–C34
Violence	X85–Y09

Technical terminology

Disability-adjusted life-year (DALY)	The DALY combines in one measure the time lived with disability and the time lost 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.

¹WHO 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).