

# HIGHLIGHTS ON HEALTH IN UZBEKISTAN



Country Highlights give an overview of the health and health-related situation in a given country and compare, where possible, its position in relation with other countries in the region. The Highlights have been developed in collaboration with Member States for operational purposes and do not constitute a formal statistical publication. They are based on information provided by Member States and other sources as listed.

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## TECHNICAL NOTES

Highlights on Health provide an overview of the health of a country's population and the main factors related to it. When possible, comparisons are made with other countries in WHO's European Region, as one means of assessing the country's comparative strength and weaknesses. As a rule, data have been taken for this purpose from one common international source; nevertheless, even under these circumstances the comparability of data may be limited owing to differences in national definitions, registration systems, etc. Unless otherwise mentioned, the main source of all data is the "Health for All" (HFA) database of the WHO Regional Office for Europe (June 1999 version).

Where necessary, specific data from national sources are cited in the Highlights.

Two main types of graphical presentation are used in the Highlights to illustrate comparisons between countries:

- line charts, showing the trend in a particular indicator in the country in question (thicker line) compared with reference countries (thin lines);
- bar charts, showing a particular country's ranking compared with reference countries. The latest available data are used (i.e. the last year for which data are available may differ from one country to another). This type of chart is sensitive to small differences in the value of an indicator and should accordingly be interpreted with a certain amount of caution. For instance, a given country's position relative to other countries may change sharply one way or another when more recent data are included.

There are 51 Member States in WHO's European Region. It is not always appropriate to include all these countries in comparisons. For that reason, the charts mentioned above show a limited number of (usually geographically neighbouring) countries, which have certain similarities caused by their historical developments. In this case, comparisons are made with the other 14 countries that were formerly republics of the Soviet Union, with the average for all 15 newly independent states (NIS) formed following the break-up of the USSR, with the average for the five central Asian republics (CAR), and with the average for the 15 countries that are members of the European Union (EU).

Mortality data are the most complete and comparable, and they therefore constitute the main component of international comparisons. However, even in this case there is often some doubt about the completeness of the recording of deaths, especially at very young and old ages, and regarding the accuracy of coding of causes of death.

Unless otherwise stated, the charts are based on mortality rates standardized for the European standard population structure (for further details, see any issue of the *World Health Statistics Annual*). In most cases, so-called "premature mortality" in the age group 0–64 years is used.

In order to ensure comparability, the majority of indicators have been calculated at the WHO Regional Office for Europe (WHO/EURO), using a uniform methodology and software. For that reason, the values of some indicators in the HFA database may differ somewhat from national assessments based on other methods. This is true in particular for indicators such as life expectancy and maternal mortality.

Only a relatively small amount of the data contained in the HFA database is used in the Highlights. If further data are needed, readers are recommended to make use of the database itself, which can be downloaded from WHO/EURO's web site ([www.who.dk](http://www.who.dk).Country Information). A list of references and a glossary are given at the end of this document.

## OVERVIEW

During the 1990s the birth rate in Uzbekistan, like in other Central Asian Republics (CAR), showed a downward trend. Nonetheless, it remains one of the highest in WHO's European Region. The natural growth rate and the proportion of the population under 14 years of age are therefore also among the highest in the Region. The life expectancy in Uzbekistan rose sharply at the end of the 1980s, but then experienced a downturn in the first half of the 1990s. This fall was halted in 1994, and since 1995 the trend has again been upward. In 1998, the life expectancy in Uzbekistan, at 68.7 years, was higher than the averages for the newly independent states (NIS) and CAR.

The infant mortality rate has been falling steadily since 1992 and is one of the lowest in the CAR. However, the rate in Uzbekistan is approximately double the average for WHO's European Region.

According to available data, maternal mortality in Uzbekistan shows a very different pattern to the other CAR. In the 1980s it was close to the CAR average, in the range from 40 to 60 per 100 000 live births. From 1990, however, the rate fell steadily, to 9.6 per 100 000 live births in 1998, only a little higher than the EU average. Clearly, some cases of maternal mortality are being wrongly coded. According to clinical data, the rate was 65 per 100 000 live births in 1991 and 28 per 100 000 in 1997.

The level and trend of premature mortality due to cardiovascular diseases is close to the CAR average. There has been a slight fall in this indicator since 1995.

Cancer mortality has been falling steadily for the past ten years and is now one of the lowest in the Region.

The trend in mortality due to external causes of injury and poisoning in Uzbekistan does not reflect the characteristic pattern seen in most NIS – a fall in 1986, and then a rise following the end of the anti-alcohol campaign in the

former USSR. The rate is substantially lower than the average for the CAR. Mortality due to road traffic accidents in Uzbekistan is also comparatively low.

In the 1990s, the mortality rate due to infectious and parasitic diseases rose only slightly in Uzbekistan (unlike the other CAR); indeed, until 1995 it was falling. According to available data, it is the lowest in the CAR, but still significantly higher than in other countries in the Region. A similar situation is seen with diseases of the respiratory organs.

Mortality due to diseases of the digestive system (mainly cirrhosis and chronic liver diseases) has shown an upward trend since the end of the 1980s and, together with Kyrgyzstan and Turkmenistan, the rate is one of the highest in WHO's European Region.

As in the other CAR, a steady increase in diabetes mortality was seen until approximately 1995. Although it has subsequently begun to fall, it is still one of the highest of the CAR.

The incidence of tuberculosis and syphilis has increased in recent years, but not as sharply as the averages for the CAR and NIS. As in the other CAR, hepatitis morbidity is one of the highest in the European Region.

Health care expenditure in Uzbekistan in 1998 amounted to 3.3% of GDP. This is higher than the average for the CAR, but lower than the European average.

As in many other NIS, the hospitalization rate and the availability of hospital beds fell sharply in Uzbekistan in the 1990s.

The average length of hospital stay fell steadily throughout the 1990s, while in the other CAR a similar fall has occurred only in the past few years.

The physician to population ratio in Uzbekistan has declined slowly since the beginning of the 1990s and is currently close to the CAR average.

## THE COUNTRY AND ITS PEOPLE

Uzbekistan lies in the middle of central Asia, between the two major rivers Amu-Darya and Syr-Darya. It borders Kazakhstan to the north, Kyrgyzstan and Tajikistan to the east, Afghanistan to the south and Turkmenistan to the west. The country extends 1425 km from west to east and 930 km from north to south. The population density is approximately 54 people per km<sup>2</sup>.

State power in Uzbekistan is vested in the president and a 250-member parliament.

The Republic of Uzbekistan consists of the autonomous republic of Karakalpakstan and 12 provinces (*oblasts*). Uzbekistan has 121 cities, of which 55 are of national significance, as well as 113 urban settlements and 163 rural districts. Tashkent, the capital, has a population of 2.3 million (*Ministry of Macro-Economic Statistics, 1999*).

Basic data on Uzbekistan and the WHO European Region		
	Uzbekistan (1998)	Europe (1997)
Population (millions)	24.0	
Population aged		
• 0–14 years, %	39.4	20.1
• 15–64 years, %	56.4	66.3
• ≥ 65 years, %	4.2	13.6
Area, km <sup>2</sup>	447 400	
Population density per km <sup>2</sup>	53.6	31
Urban population (%)	37.9	72.7
Births per 1000 population	23.1	11.11
Deaths per 1000 population	5.9	10.94
Natural growth rate per 1000 population	17.2	0.17
Gross domestic product (GDP) per person in US\$, PPP*	2670	12 500

\* PPP – purchasing power parity

Age pyramid, 1981 and 1995



## Demographic situation

The mid-year population of Uzbekistan in 1998 was 24 million. It is the most populous and densely populated country of the CAR.

Uzbekistan has one of the highest natural rates of population increase in the Region, owing to the combination of a high birth rate and relatively low total mortality. The population increased by 1.4% in 1998 (compared with figures of between 2% and 2.5% in previous years). The birth rate fell from 34.5 per 1000 population in 1991 to 23.1 per 1000 in 1998.

The fall in the birth rate in the past ten years has changed the population structure. These changes are reflected in a relative reduction in the number of children and, correspondingly, an increase in the number of adults. Children under 14 years made up 41.5% of the population in 1991 and 39.4% in 1998, while corresponding figures for people older than 64 years were 4% and 4.2%.

## Family structure

The average family size in 1997 was 5.6 people (4.7 in cities, 6.1 in rural areas), a figure that was virtually the same as in 1989.

The marriage rate fell sharply in the initial period of reform. In 1991, there were 12.9 registered marriages per 1000 population, but in 1995 only 7.5. The number of people entering into family relationships or marriages then rose slightly, and in 1997 there were 7.7

marriages per 1000 inhabitants. The divorce rate has shown a similar trend. In 1997, 21 500 marriages were dissolved, 1300 more than the previous year but 1.6-fold less than in 1991.

## Migration and ethnic profile

Half as many people emigrated from the country in 1995–1997 as in 1991–1994 (186 000 compared with 363 200).

As a result of the fall in production and a substantial excess of workforce supply over demand, almost 70% of emigrants were people of working age. In recent years, there has been a sustained downward trend in external migration, and in 1997 it was at its lowest rate for 10 years (*UNDP, 1998*).

There are more than 120 nationalities in Uzbekistan: the largest group is Uzbeks (77.2%). Other nationalities each making up more than 1% of the population are: Russians – 1.2 million (5.2%), Tajiks – 1.1 million (4.8%), Kazakhs – 0.9 million (4.0%) and Tatars – 0.3 million (1.4%). The largest ethnic groups are Karakalpakhs, Koreans, Persians and Turks.

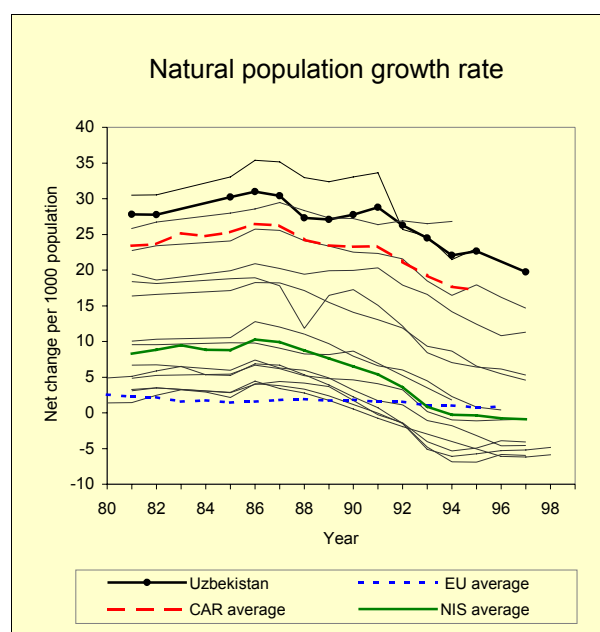
## Education, language, religion

The literacy rate in 1997 was 99.5%, compared with 97.7% in 1993. Most illiterate people are elderly, in the age groups 70 years and above. Despite the difficulties of the transition period, the country has managed to retain a state system for training human resources, thereby ensuring broad access to education by all strata of the population.

Some 14% of the working population have started or completed higher education, approximately 20% have undergone specialized secondary education and 48% have a general secondary education.

The official language is Uzbek. Instruction in secondary schools is given in six languages: Uzbek, Karakalpak, Russian, Kazakh, Tajik and Kyrgyz.

Freedom of religious belief was established in 1991. Uzbeks are Muslims, mainly of the Sunni branch. There are also small groups practising orthodox Christianity and Judaism.

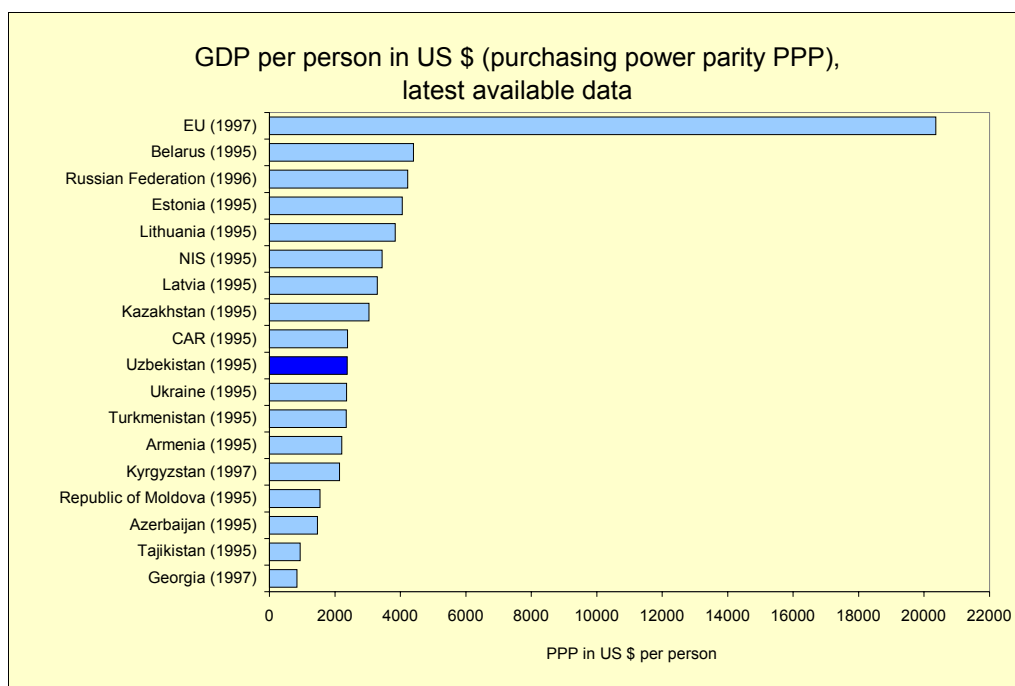


## Economy

Owing to the implementation of a programme of privatization a multi-layered economy has developed, in which the private sector is playing an increasingly important role. It accounts for some 70% of the country's GDP, 64% of industrial output, 99% of foreign currency agricultural output and more than 70% of construction work. Uzbekistan is rich in natural resources. The country has almost 74% of the central Asian region's total deposits of natural gas, 81% of its oil and 55% of its coal. The country's natural gas output places it third among the republics of the former USSR and tenth in the world. Structural changes in industry in the years before independence were primarily aimed at ensuring the country's self-sufficiency in energy and manufacturing. Development was accelerated in the fuel and energy sectors and in metallurgy and automobile manufacturing.

A process of deepening reform is continuing in agriculture. Work is being done on transforming agricultural enterprises and creating a class of landowners. Production of cereals, meat, milk and eggs has increased. The scope of retail trade is increasing, as is the proportion of the population who are economically active.

According to official data, the unemployment rate in 1997 was 0.4%, which is substantially lower than the averages for the CAR and the European Region as a whole. Taking account of hidden unemployment, however, this figure is close to 5% (*WHO Liaison Office in Uzbekistan, 1999*). GDP growth reached 5.2% in 1997, outstripping the trend in population growth for the first time. According to available data, per capita income in Uzbekistan is roughly equal to the CAR average. The inflation rate remains high compared with developed western European countries.



## HEALTH STATUS

Uzbekistan has not been marked by the trends in life expectancy and mortality that are characteristic of the majority of the NIS. The steady increase in life expectancy at the end of the 1980s was replaced by a sharp fall in the first half of the 1990s. This was halted in 1994, and an upturn was seen in 1995.

However, there are still high levels of mortality from cardiovascular infectious and parasitic and respiratory diseases. As in most other NIS, the incidence of tuberculosis and sexually transmitted infections is increasing.

### Life expectancy

The fall in life expectancy in Uzbekistan between 1990 and 1994 was not as significant as in most other NIS. This indicator has been rising since 1995. According to the latest available data, the life expectancy in Uzbekistan (68.7 years in 1998) is higher than

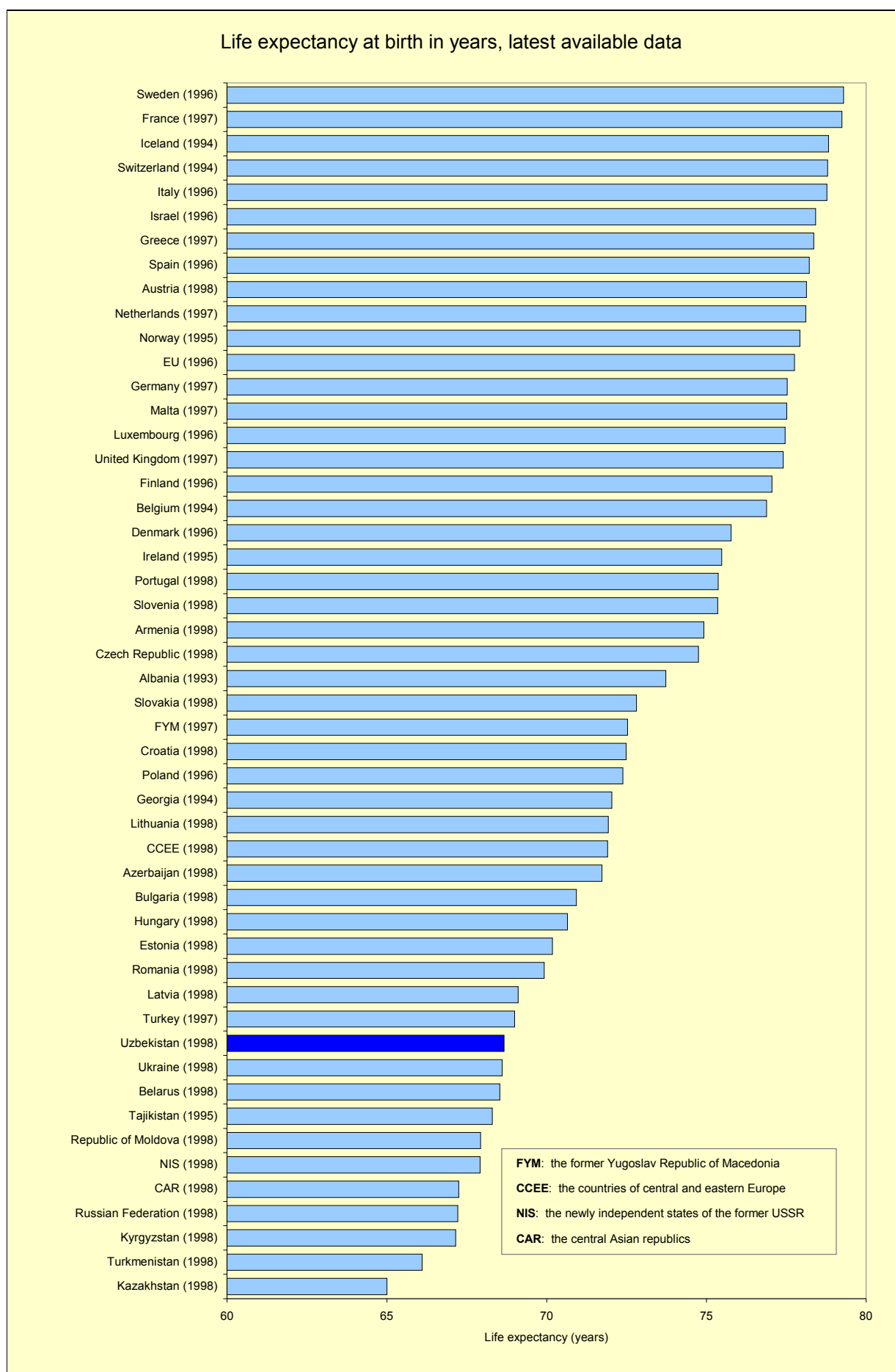
the average for the NIS and CAR. However, it is substantially lower than life expectancy in EU countries.

While life expectancy among women is close to the CAR average, the figure for men is significantly higher than the average for both the CAR and NIS.

### Main causes of death and disease

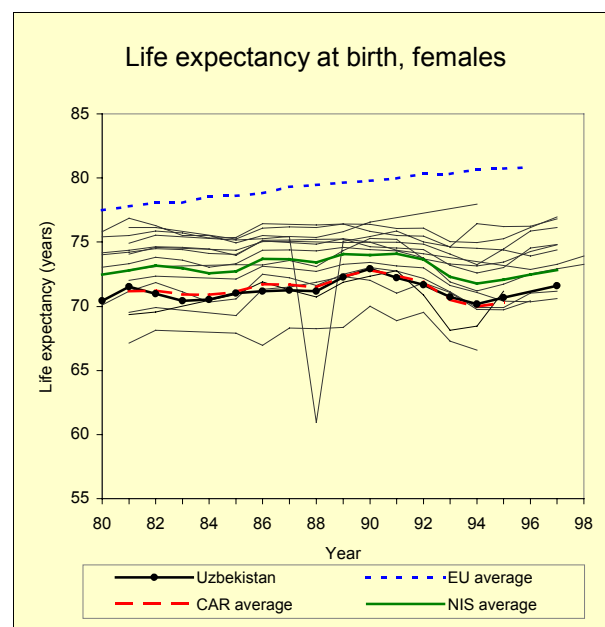
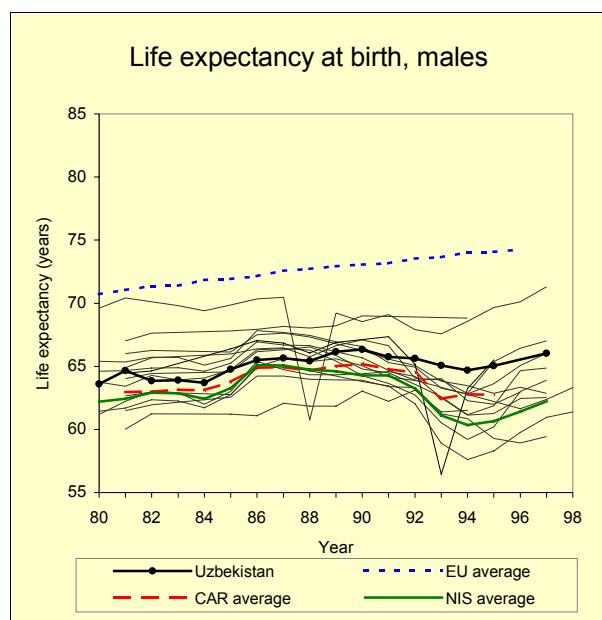
As in most other countries, cardiovascular diseases (CVD) are the leading cause of death, both in people up to 65 years and in older age groups. The share of under-65 mortality attributable to CVD, diseases of the respiratory and digestive systems, and infectious and parasitic diseases is higher than the European average, whereas that due to cancer is lower. These differences are even more marked when compared with the averages for western European countries alone.

Selected health indicators in Uzbekistan and the European Region		
	<b>Uzbekistan (1998)</b>	Europe (1997)
Life expectancy	<b>68.7</b>	73.3
• Men	<b>66.1</b>	69.2
• Women	<b>71.2</b>	77.4
Infant mortality per 1000 live birth	<b>22.3</b>	12.0
Maternal mortality per 1000 live birth	<b>8.7</b>	19.4
Standardized death rate (SDR) for all causes of death per 100 000 population	<b>1236.2</b>	980.1
SDR for cardiovascular diseases per 100 000 population	<b>782.5</b>	482.7
SDR for malignant neoplasms per 100 000 population	<b>86.7</b>	184.6
SDR for injuries and poisoning per 100 000 population	<b>53.5</b>	86.4
SDR for diseases of the respiratory organs per 100 000 population	<b>110.7</b>	63.5
SDR for diseases of the digestive system per 100 000 population	<b>64.4</b>	39.1
SDR for infectious and parasitic diseases per 100 000 population	<b>28.6</b>	13.8
New cases of tuberculosis per 100 000 population	<b>58.3</b>	39.8 <sup>a</sup>
New cases of syphilis per 100 000 population	<b>44.9</b>	74.0 <sup>a</sup>
New cases of malaria per 100 000 population	<b>0.02</b>	1.94 <sup>a</sup>
<sup>a</sup> 1998		



As in a number of other CAR, the main reasons for inpatient treatment are diseases of the respiratory and digestive systems and infectious and parasitic diseases. It is

noteworthy that in Uzbekistan the figure for inpatient treatment with a diagnosis of diseases of the digestive system is higher than that for diseases of the circulatory system.

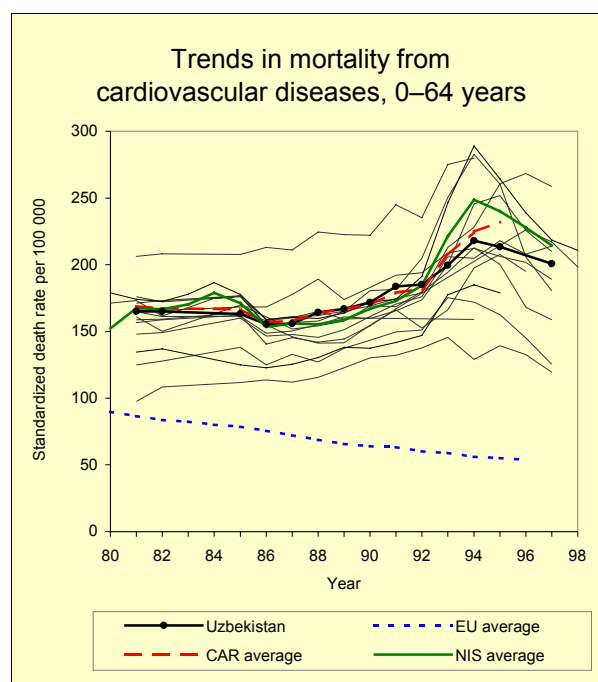


Structure of mortality (in %) by main cause of death and age group in Uzbekistan (1998), compared with the average for the European Region (1997)				
Cause of death	0–64 years		65 years and above	
	Uzbekistan	Europe	Uzbekistan	Europe
Cardiovascular diseases	<b>39.1</b>	30.7	<b>77.8</b>	59.9
Malignant neoplasms	<b>10.6</b>	22.8	<b>4.8</b>	16.5
Accidents, injury and poisoning	<b>10.0</b>	19.5	<b>0.9</b>	2.6
Diseases of the respiratory system	<b>13.6</b>	5.6	<b>6.2</b>	7.0
Infectious and parasitic diseases	<b>5.2</b>	3.0	<b>0.6</b>	0.5
Diseases of the digestive system	<b>8.5</b>	5.7	<b>3.2</b>	3.0
Ill-defined conditions	<b>1.6</b>	2.7	<b>3.9</b>	4.3
Other diseases	<b>11.4</b>	10.0	<b>2.5</b>	6.1

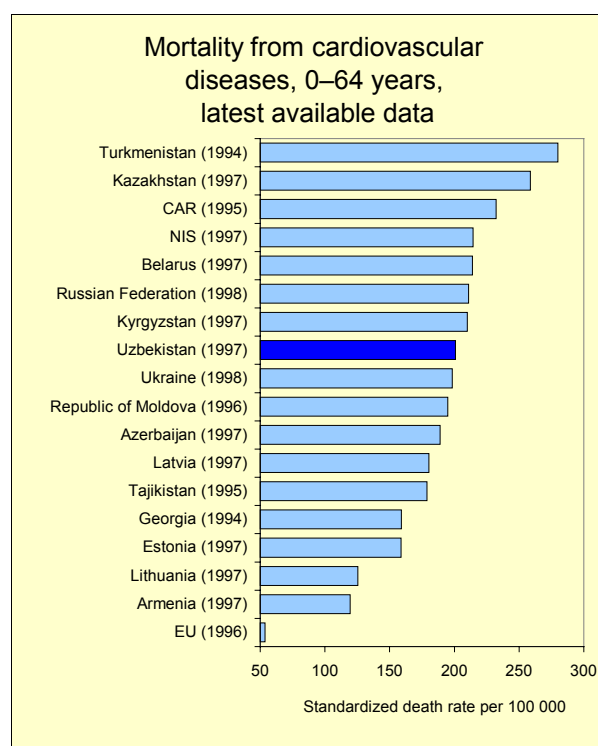
### Cardiovascular diseases

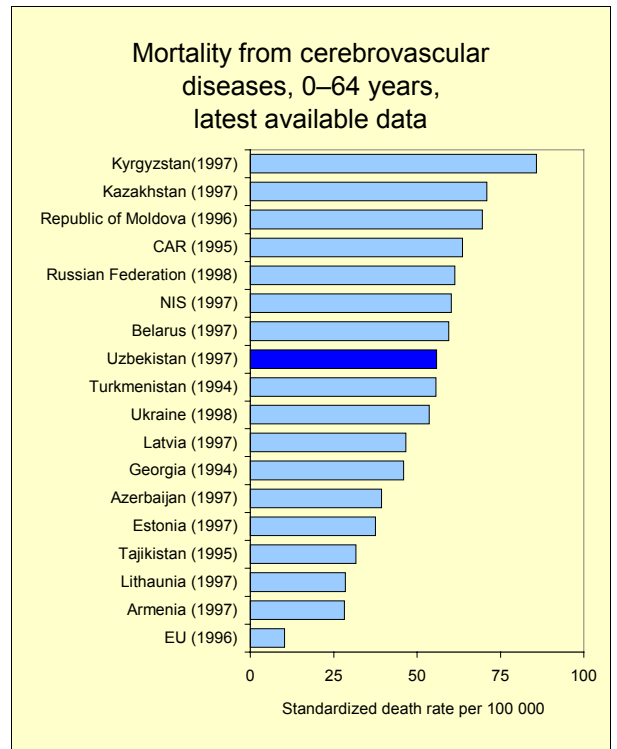
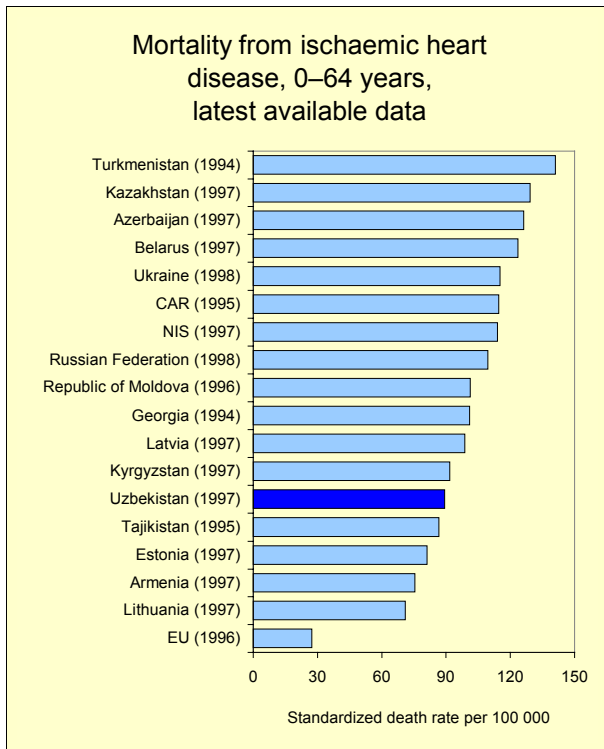
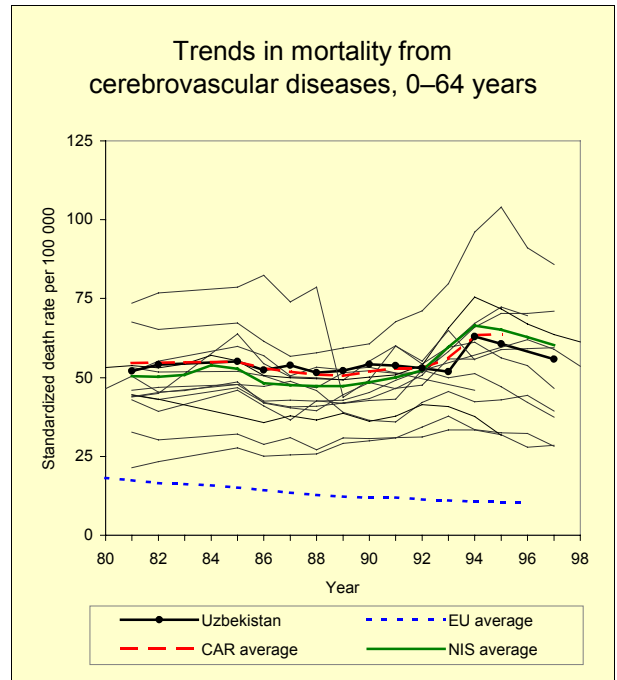
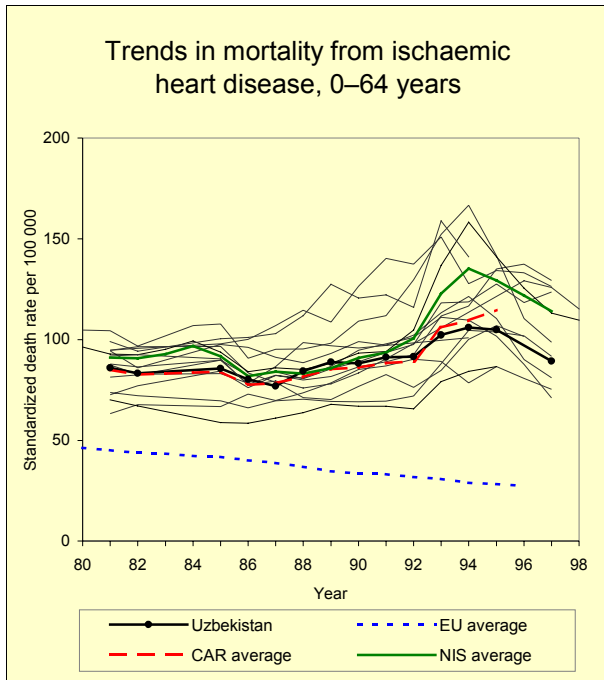
The trend in premature mortality due to CVD, like that of total mortality, is distinguished by a less marked rise than the average for the CAR. Nonetheless, this increase has been very substantial and, according to available data, CVD mortality in Uzbekistan remains one of the highest in WHO's European Region.

The increase in CVD mortality in Uzbekistan up to 1994 was mainly due to ischaemic heart disease and other diseases of the circulatory system. At the same time, mortality due to cerebrovascular diseases remained virtually stable, but then increased sharply in 1994; it has subsequently declined slowly. To some extent, this may be due to changes in the practice of coding causes of death.



Inpatients by disease category (% of all patients hospitalized)		
Disease category	Uzbekistan	Europe
Infectious and parasitic diseases	8.4	3.5
Malignant neoplasms	1.3	6.3
Cardiovascular diseases	6.3	11.7
Diseases of the respiratory system	15.7	10.1
Diseases of the digestive system	9.0	9.7
Injury and poisoning	4.1	8.3
Other diseases	55.1	50.4

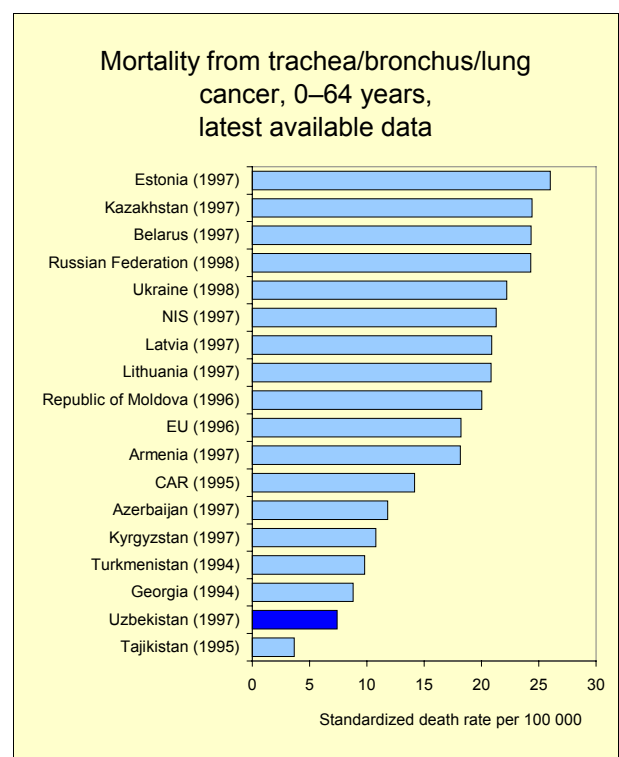
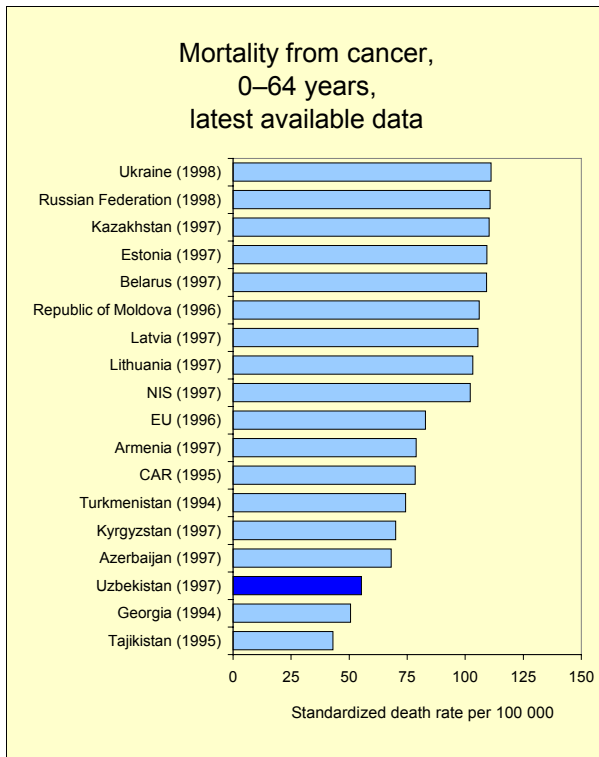
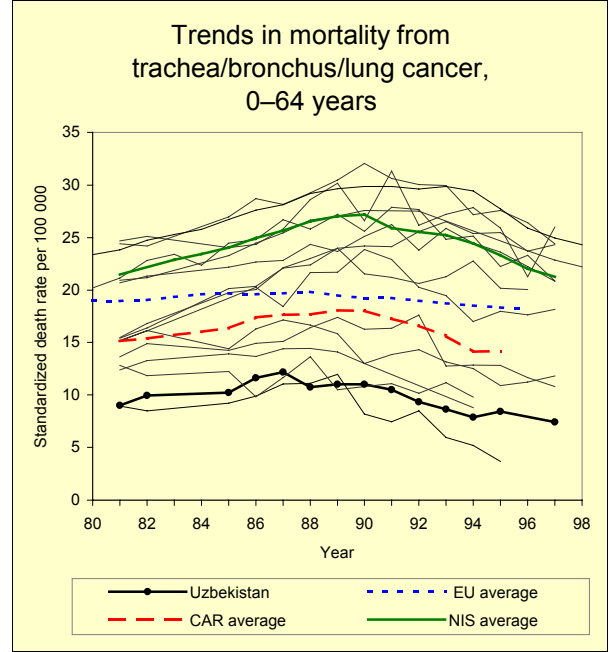
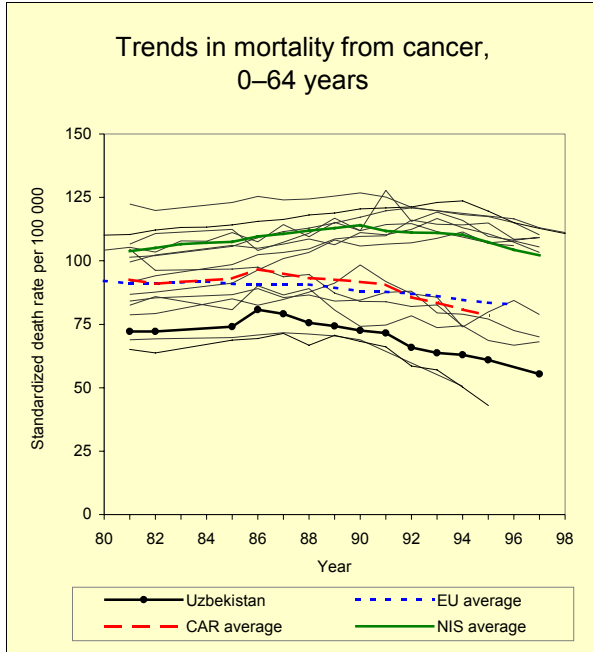




**Cancer**

Cancer mortality in Uzbekistan, one of the lowest in the Region, has fallen steadily since 1986.

Mortality due to cancer of the trachea/bronchus/lung is also substantially lower than the average for the NIS and EU, and it remains one of the lowest in the European Region.

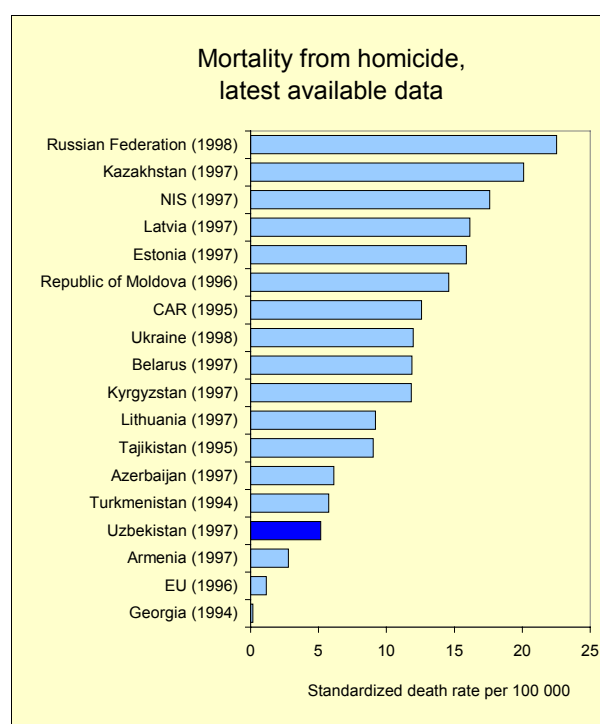
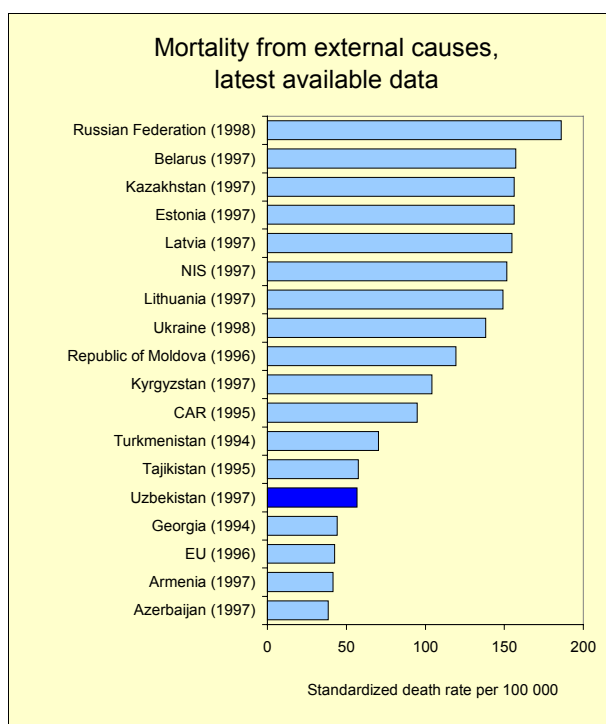
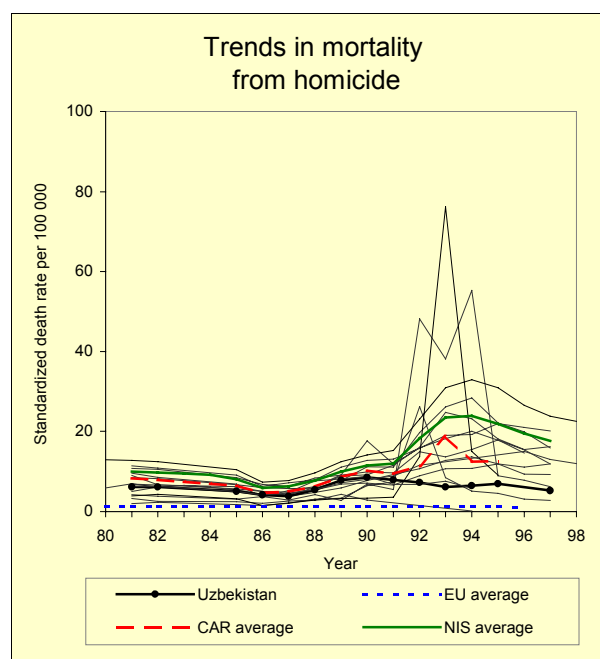
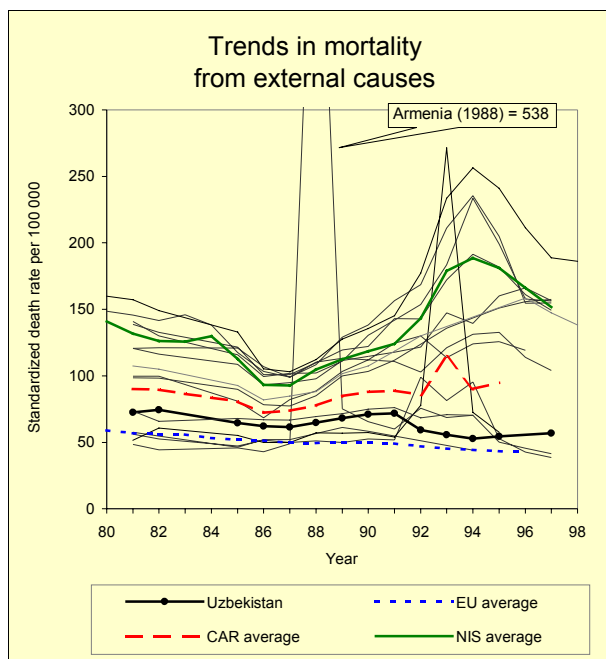


### Injury and poisoning

National and religious characteristics mean that mortality due to injury and poisoning in Uzbekistan has not been so strongly affected by alcohol consumption as in most NIS. It did not therefore undergo as significant an increase after the end of the anti-alcohol campaign in the former USSR.

Mortality due to homicide in Uzbekistan is lower than the averages for the CAR and NIS, but still substantially higher than in countries of western and central Europe.

Mortality due to road traffic accidents is also comparatively low.



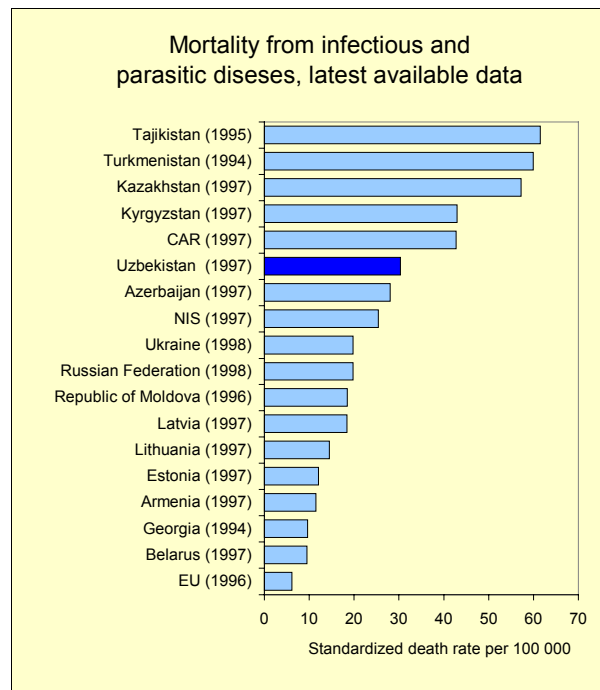
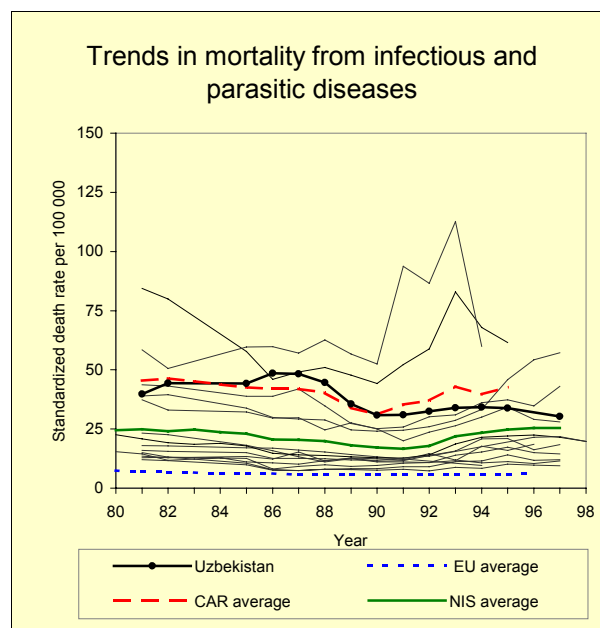
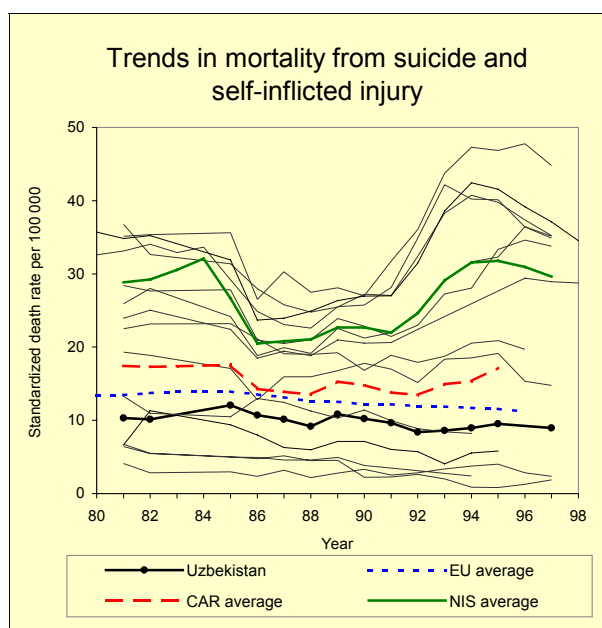
### Mental health

For a number of years, mortality due to suicide in Uzbekistan has remained at a relatively low level, somewhat lower than the EU average and significantly lower than in most NIS. The suicide trend has not shown the sharp changes characteristic of most NIS. The incidence of mental disorders has been almost stable for a number of years, at around 130–140 per 100 000 population. The incidence of disorders related to abuse of narcotic substances and that of alcoholic psychoses are substantially lower than in most other NIS.

### Infectious diseases

Mortality due to infectious diseases stabilized from the start of the 1990s, after a significant fall in the second half of the 1980s. Unlike the other CAR, there has been virtually no increase in this indicator in Uzbekistan.

As a result, the latest data show that infectious disease mortality in Uzbekistan is lower than in the other CAR, although it is higher than in other countries of the Region.



Tuberculosis incidence has risen sharply since 1994 in Uzbekistan, as in the other CAR. Cases of “family tuberculosis” have been reported.

The dominant component of tuberculosis morbidity is active tuberculosis of the respiratory organs, especially among inhabitants of Karakalpakstan who have moved to the environmental disaster area around the Aral Sea (*Ministry of Health, 1999*).

According to data from the Ministry of Health, 1.8 million people (including 1.2 million children) suffered from infectious diseases in 1997. The group most at risk of infection were children under five years of age. Intestinal diseases accounted for 70% of all infections. The most common diseases were viral hepatitis, acute intestinal infections, dysentery and *Salmonella* infections. For a number of years, the incidence of viral hepatitis in Uzbekistan was the highest in the European Region.

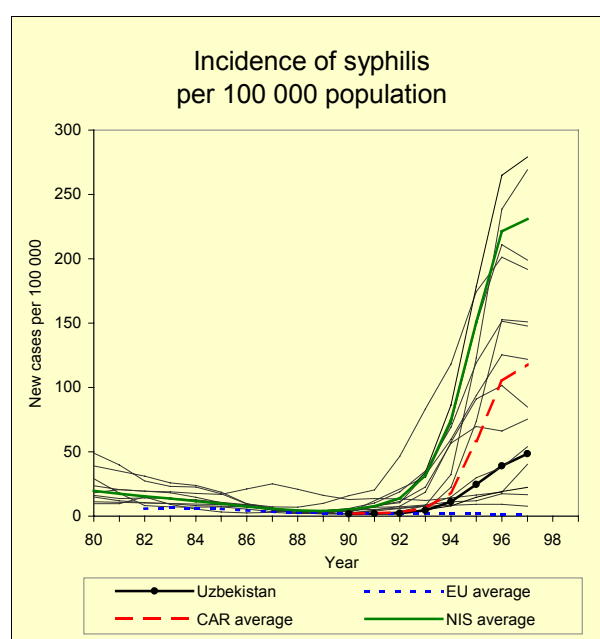
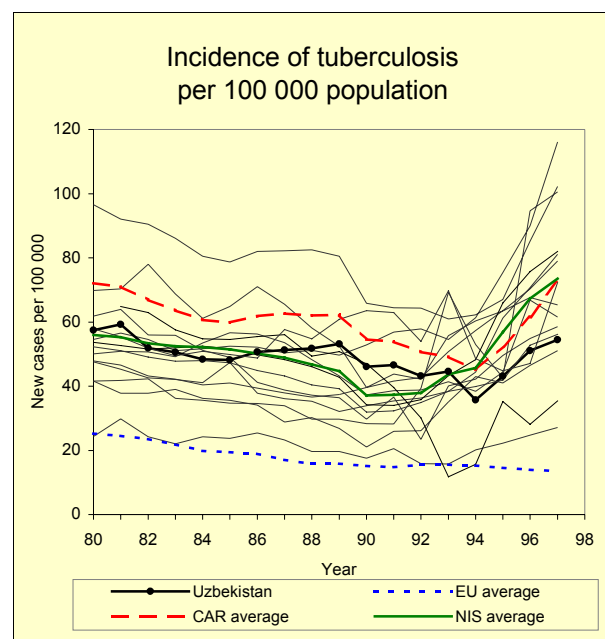
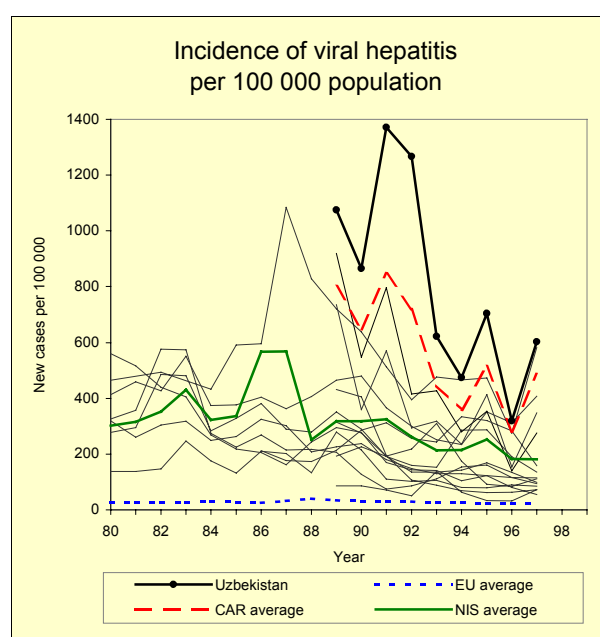
Until recently, AIDS was not a problem for Uzbekistan. In 1998, 15 carriers of HIV infection and five cases of AIDS were registered in the country.

An increase is being seen in the incidence of syphilis, similar to that in other republics of the former USSR, but on average the extent of this increase is lower than in neighbouring CAR, with the exception of Tajikistan.

## Other diseases

Mortality due to diseases of the respiratory system continues to show one of the highest rates in the Region, although somewhat lower than in the other CAR. One problem specific to Uzbekistan is the high incidence of bronchial asthma in Karakalpakstan, in the environmental disaster area around the Aral Sea (*WHO Information Centre for the CAR, 1998*).

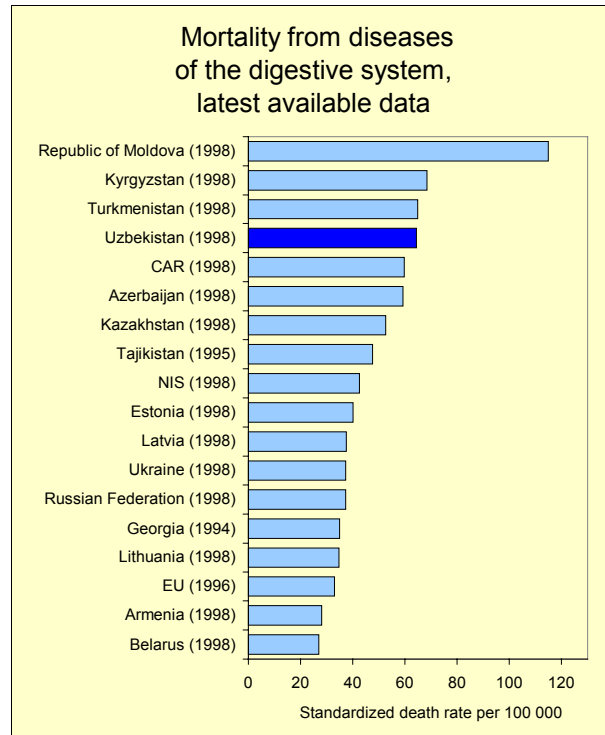
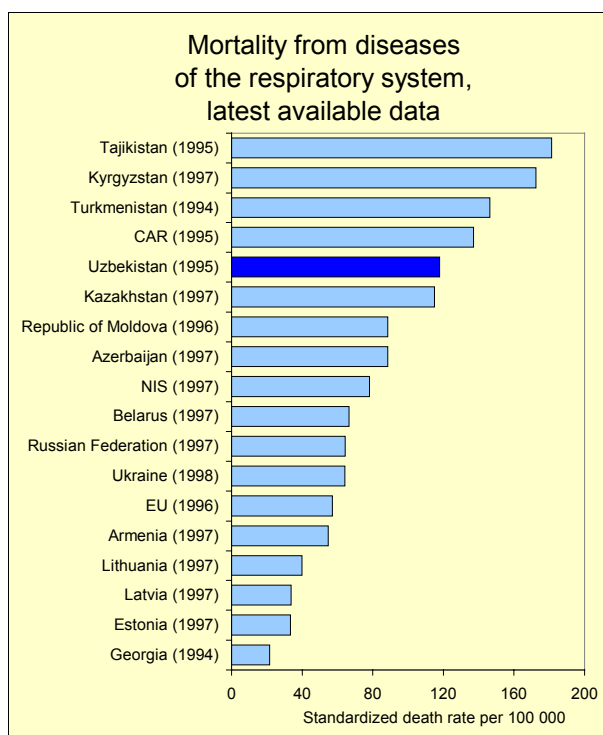
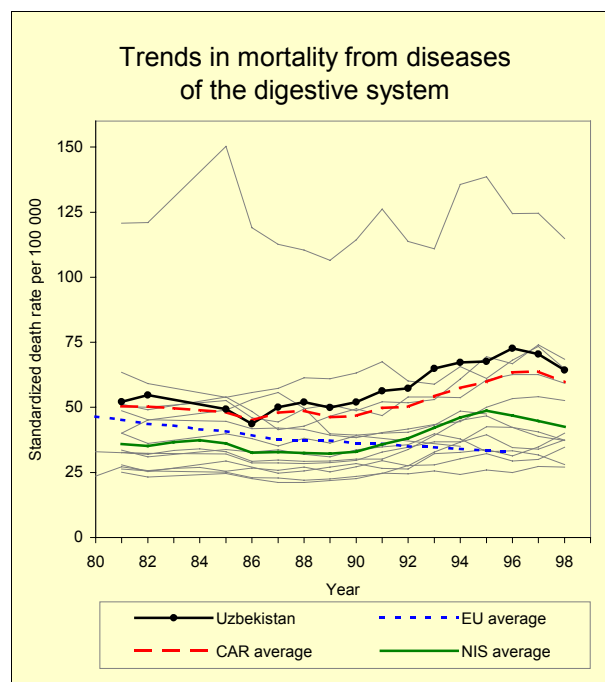
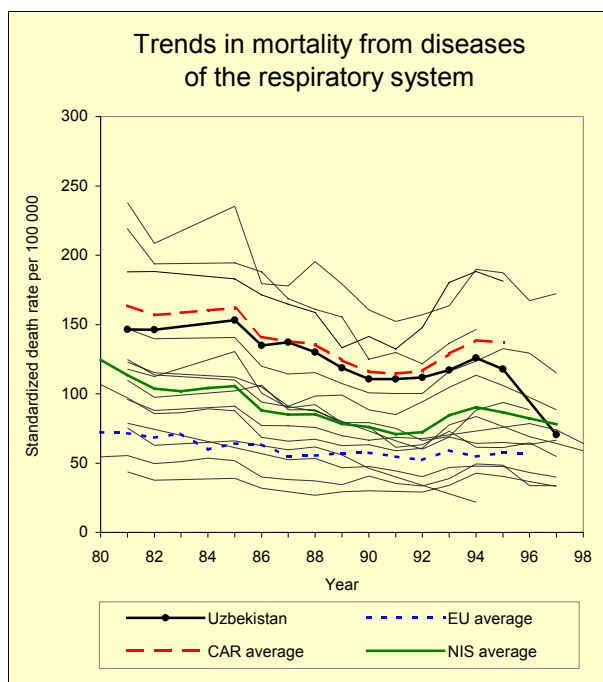
Mortality due to diseases of the digestive system has risen steadily since the mid-1980s. The rate fell slightly in 1997–1998 but remains



one of the highest in WHO's European Region. A substantial proportion of this increase may be attributed to chronic liver diseases and cirrhosis.

Like in most other NIS and CAR, diabetes mortality in Uzbekistan rose steadily up to the

mid-1990s but has begun to fall in the past few years. Nonetheless, it remains higher than in the majority of NIS and CAR. Very high diabetes incidence has been recorded in Karakalpakstan (*WHO Information Centre for the CAR, 1998*).

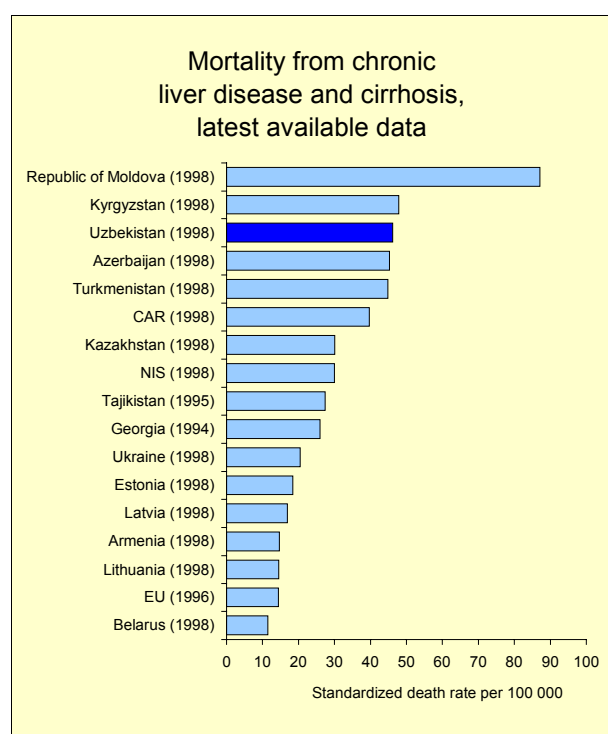
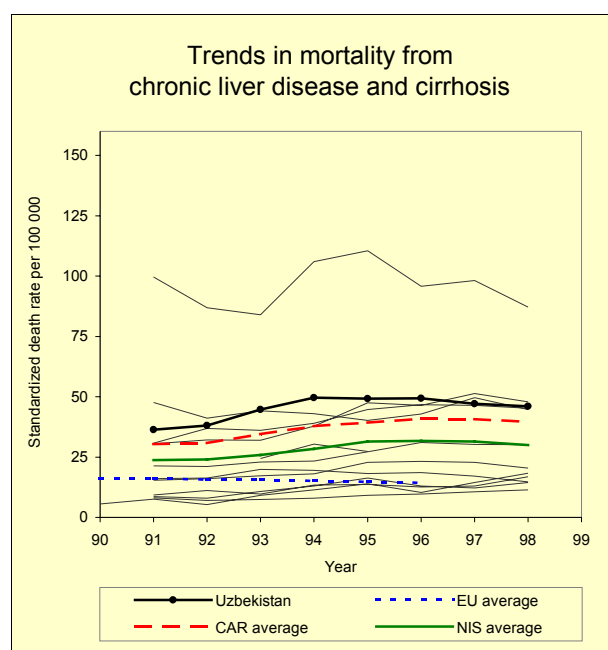


## Disability

The incidence of new cases of disability in Uzbekistan in 1997 was 343 per 10 000 population, roughly average for the CAR.

Some 400 000 people in the country are registered as disabled. There continues to be a high level of disability among people of working age.

The main causes of disability are diseases of the circulatory system and diseases of the nervous system and sense organs.



## Health of children and adolescents

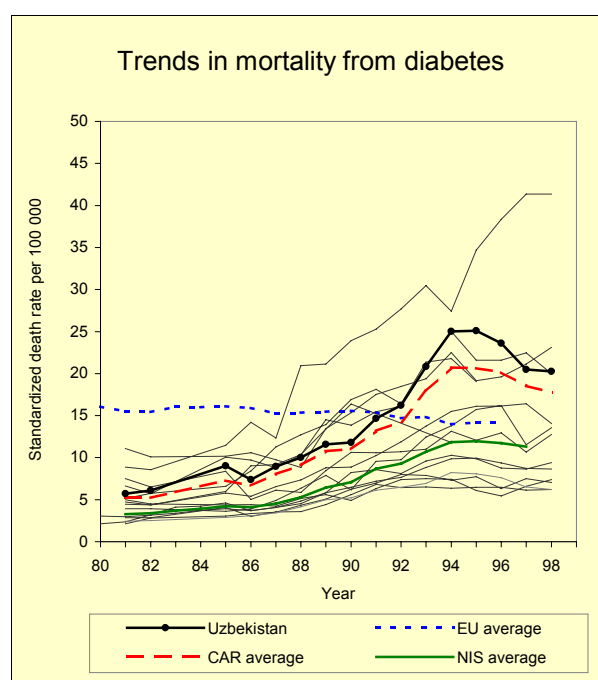
The infant mortality rate has been falling steadily in Uzbekistan since 1992 and is one of the lowest in the CAR. However, in a European context the rate continues to be high (approximately twice the European average).

According to Ministry of Health data, the leading cause of infant mortality in 1998 was diseases of the respiratory system (50% of all deaths). Twenty-five per cent of children died from conditions arising in the perinatal period, while infectious and parasitic diseases were the cause of 9% of the deaths. Congenital disorders accounted for 4.5% of deaths. The incidence of congenital disorders has been rising since 1995. In Uzbekistan, vaccination coverage of infants up to one year of age against tuberculosis and diphtheria, pertussis and tetanus is more than 95% (89.3% for measles).

## Women's health

Total female mortality is close to the CAR average and, as in other CAR, is one of the highest in the European Region.

Almost 40% of deaths in the age group 0–64 years are due to diseases of the circulatory system, which is higher than the European average.



Cancer is the cause of a total of 12% of premature mortality among women in Uzbekistan (European average 28%).

Compared with other CAR, female mortality in Uzbekistan is higher for diseases of the digestive system but lower for cancer and external cause of injury and poisoning.

According to available data, the trend in maternal mortality in Uzbekistan is markedly different from that in the other CAR. In the

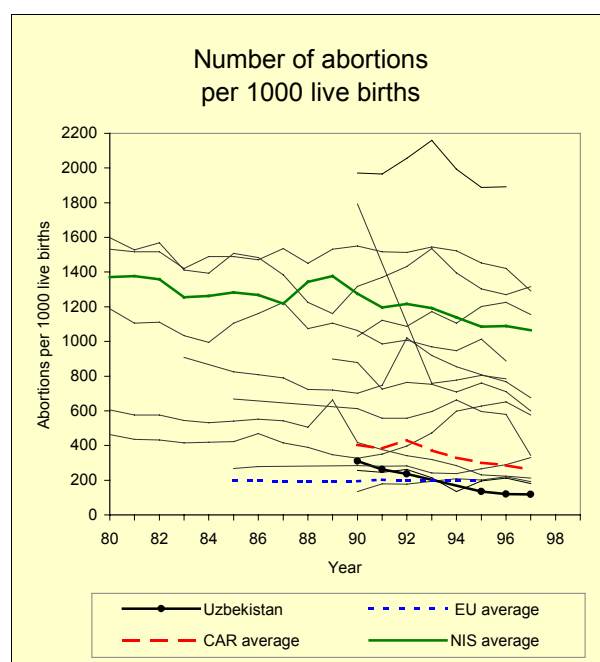
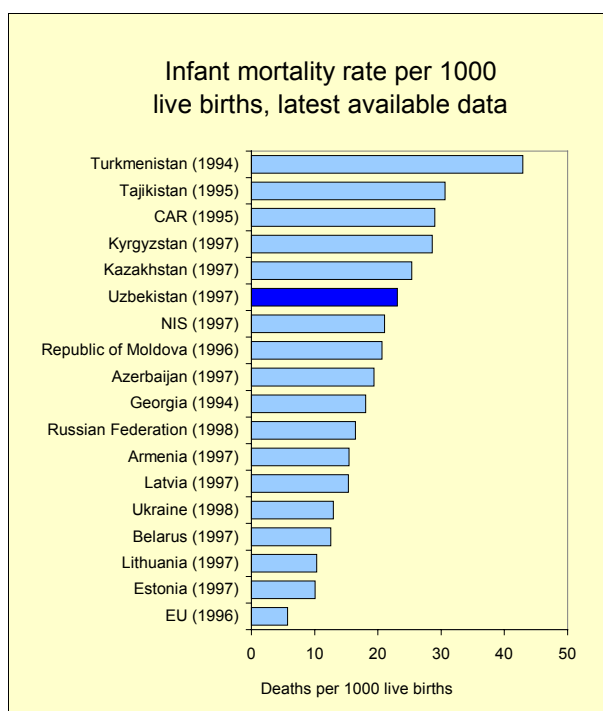
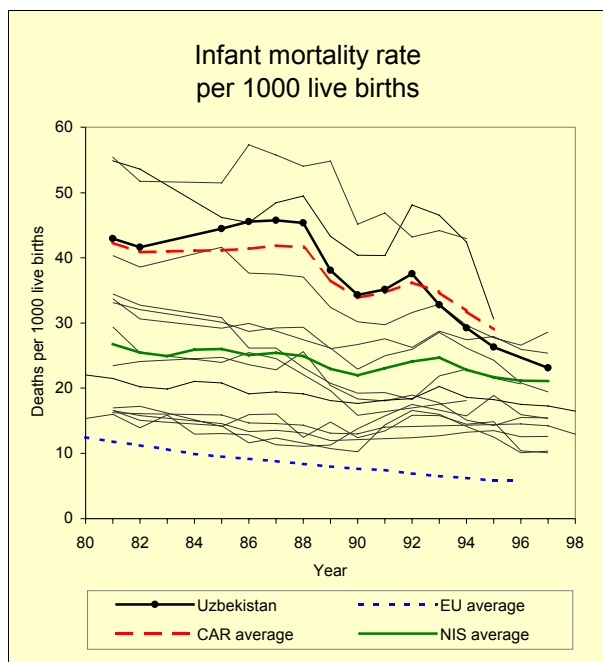
1980s it was close to the CAR average, but in the 1990s it has fallen steadily, to 9.6 per 100 000 live births in 1998, which is only slightly higher than the EU average. Clearly some cases of maternal mortality are being wrongly coded.

According to data from the Ministry of Health, this rate was 65.3 per 100 000 live births in 1991 and 28.6 per 100 000 in 1998.

None the less, clinical data show that in 1998 the maternal mortality rate in Nawoiy province was 76.3 per 100 000 live births, while in the Republic of Karakalpakstan it was 60.1 per 100 000. On the other hand, the rates in the provinces of Andijon and Khorazm were 17.7 and 16.1 per 100 000, respectively (*Ministry of Health, 1999*).

According to Ministry of Health data, the main causes of maternal mortality in Tashkent are haemorrhage (27.1%), hypertensive disorders in pregnancy (17.4%), sepsis (16%), complications of labour (4%), obstetrical embolism (2.8%), indirect obstetrical causes (15%) and other direct obstetrical causes (13.2%). In recent years, there have been no cases of maternal mortality due to abortion.

The number of abortions in the country has been falling each year since 1990. By 1997 there had been an almost three-fold decrease (from 309 to 118 per 1000 live births).

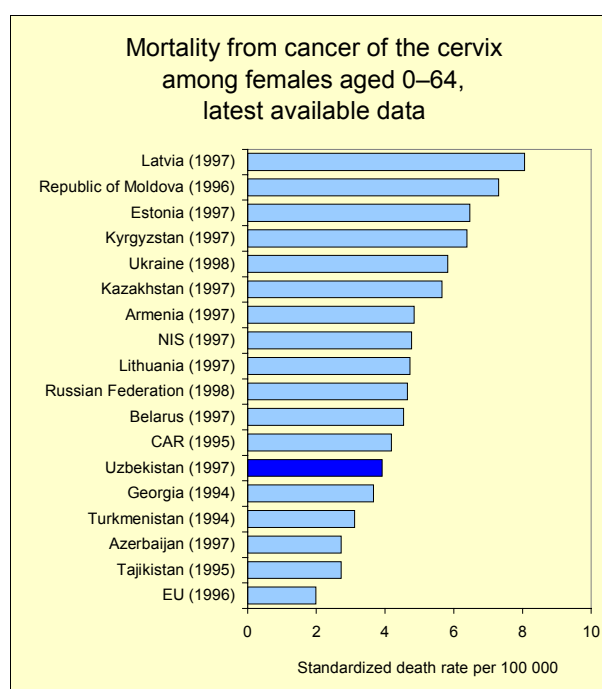
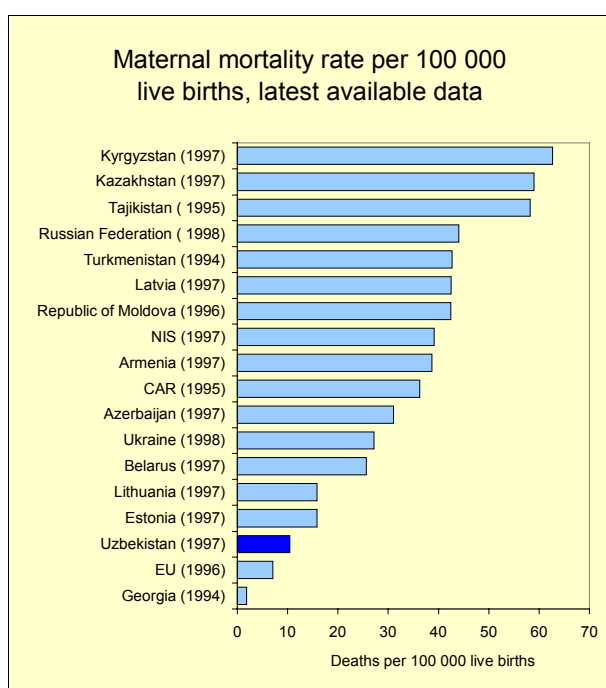
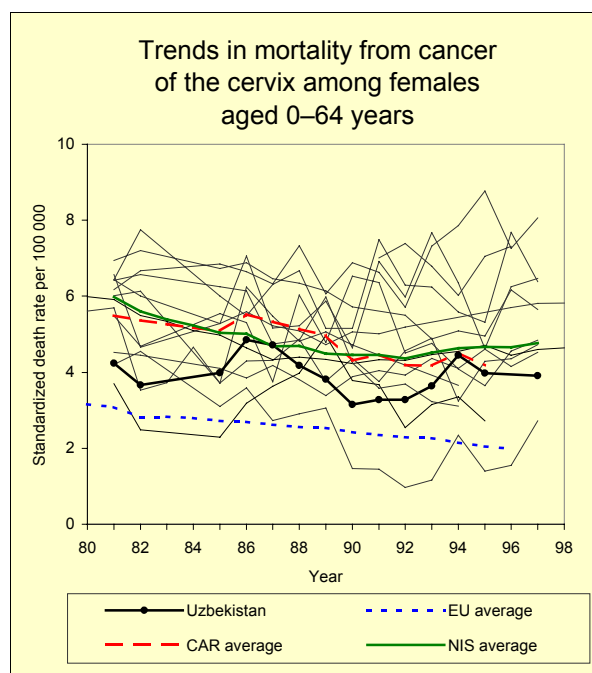
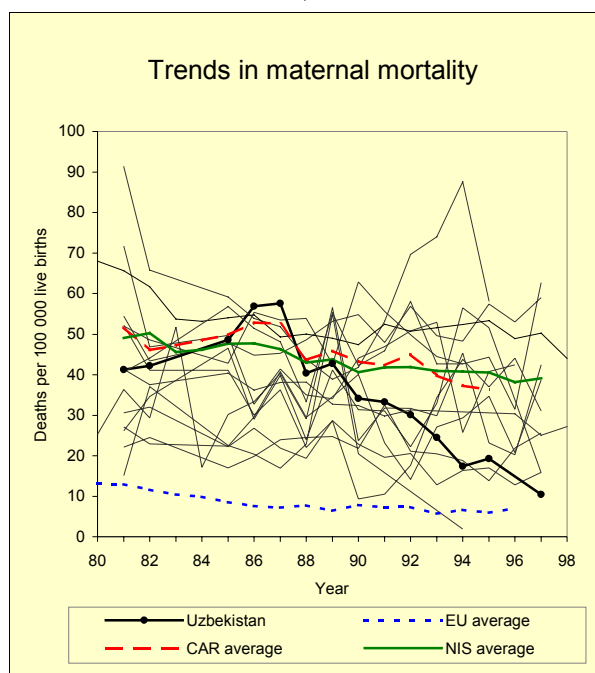


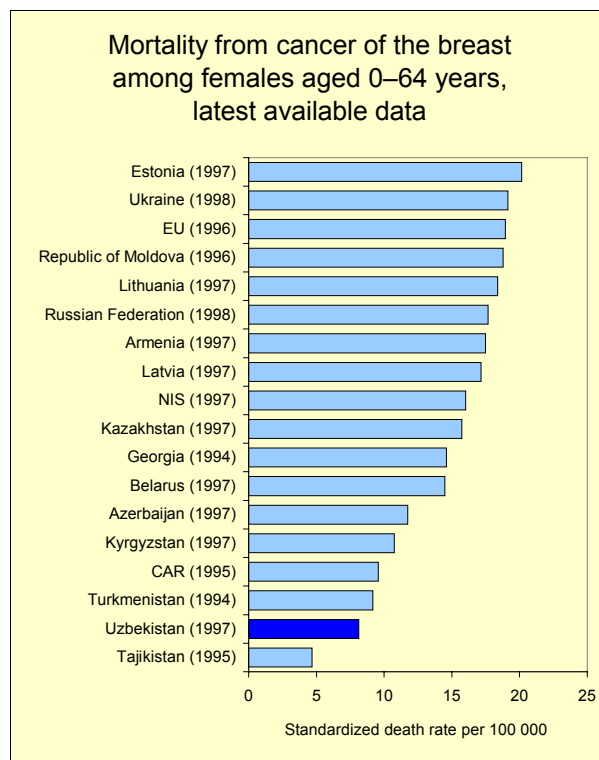
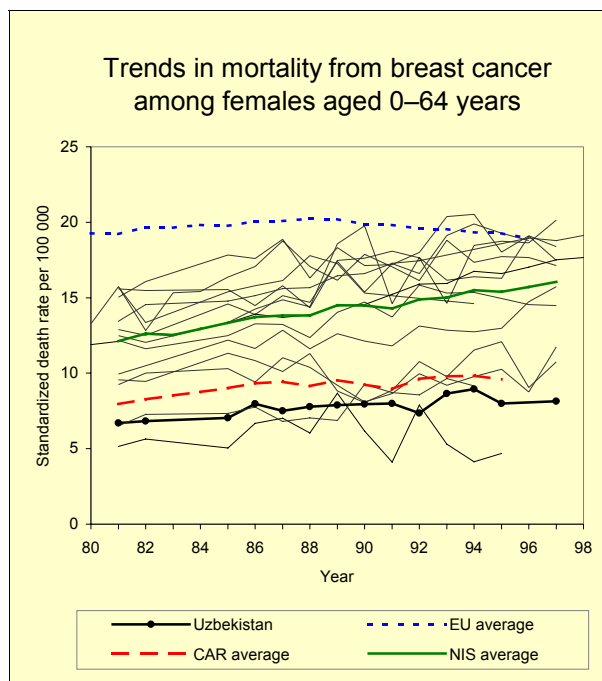
According to the latest data, this figure is lower than in the other CAR and close to the lowest rate in the European Region. The fall may be the result of the family planning policy being carried out in the Republic, mass education about the prevention of unwanted pregnancies, and extension of the supply of contraceptives.

The majority of women (95%) receive medical care from early pregnancy. Anaemia (which affects some 60% of pregnant women) is a significant problem for Uzbekistan (*Macro International Inc., 1997*).

In recent years the number of Caesarean sections has been increasing, but the rate is substantially lower than the average figures for the European Region.

The breast cancer mortality rate in Uzbekistan is one of the lowest in the Region. Cervical cancer mortality has risen slightly since the early 1990s and, according to the latest data, is close to the averages for the CAR and the European Region.





## LIFESTYLES

### Tobacco consumption

Estimates of smoking prevalence in Uzbekistan vary somewhat, depending on the source of data. One source gives rates of approximately 50% in men and more than 10% in women (*Harkin et al., 1997*).

According to data from the Ministry of Health's Institute of Cardiology, more than half (50–55%) of the men surveyed and approximately 1.5% of women consumed tobacco (sample surveys). It has been found that smoking prevalence is highest (70%) in the age groups 20–29 years and 30–39 years.

The average number of cigarettes smoked per person in Uzbekistan is close to the lowest figure in the European Region and, according to the latest data, somewhat lower than in the other CAR. It is noteworthy that the figure for consumption of tobacco products in Tashkent is twice the national average. There is extensive use of the cigarette substitute “nas” (chewing tobacco).

Lung cancer mortality (a proxy measure of smoking prevalence) is also one of the lowest in the European Region.

### Alcohol consumption

Per capital alcohol consumption in Uzbekistan fell from 2.2 litres in 1990 to 0.8 litres in 1996.

The incidence of chronic alcohol abuse and alcoholic psychosis has been low and stable (20–25 per 100 000 population) in recent years.

At the same time, mortality due to cirrhosis and chronic liver diseases in Uzbekistan is one of the highest in WHO's European Region; this may be related to the high level of viral hepatitis.

### Illicit drug use

According to available data, the incidence of drug abuse in Uzbekistan is the lowest among the CAR (*WHO Information Centre for the CAR, 1998*). The number of patients is increasing, however: from 4033 registered drug abusers in 1993 to 5281 in 1997 (an

increase in incidence from 18 to 22 per 100 000 population).

There are no data on the extent of marijuana consumption, although the plant is found growing in the wild. The Ministry of the Interior is endeavouring to ban its cultivation. Together with the United Nations Drug Control Programme (UNDCP), the government is carrying out measures to prevent the illegal transportation of drugs across the country (*WHO Liaison Office in Uzbekistan, 1999*).

### Nutrition

With an average daily calorie consumption per head of 2590 kCal in 1998, Uzbekistan (like the other CAR) has one of the lowest levels of this indicator in the European Region. Fats are the source of 24.7% of this energy, and protein of 12.4%.

Overall per capita food consumption in the Republic as a whole increased between 1992 and 1996, with the exception of milk and milk products. Consumption of meat and meat products accordingly rose from 27 to 35 kg per person, while that of milk and milk products fell from 176 to 160 kg. Consumption of bread and other baked products has remained virtually unchanged since 1992 (*Ministry of Macro-economic Statistics, 1999*).

### Overweight

In surveys of random groups of the population aged 20–59 years, 17.8 % of those surveyed were found to be overweight. The prevalence of overweight is related to an unbalanced diet.

Carbohydrates (rice, flour, groats and farinaceous products) form a predominant part of most people's diet.

### Blood pressure and blood cholesterol levels

According to data from a survey carried out by the Institute of Cardiology, 26.6% of a random group of men aged 40–59 years in one district

of the city Tashkent had high blood pressure. The corresponding figure among men and women of working age surveyed was 14.4%. Roughly the same incidence (14.5%) was found among the rural population.

In screening surveys of the population aged 20–59 years, the high blood cholesterol was found in between 19.4% and 21% of those surveyed.

Average daily cholesterol consumption was 2.8 grams in 1970, 2.1 grams in 1990 and 1.7 grams in 1998.

### **Promotion of healthy lifestyles**

With the aim of advocating a healthy lifestyle, bans were imposed in Uzbekistan in 1996 on the advertising of tobacco and alcohol

products on television before 10 p.m. and on their sale in the vicinity of schools and children's establishments. A joint BBC/WHO project has been carried out in Uzbekistan on the promotion of healthy lifestyles.

As a result of this project, a national programme has been established to promote healthy lifestyles. The Advertising Act sets clear limits on the advertising of tobacco and alcohol products. Discotheques with the slogan "Young people free of drugs and tobacco", a show with the title "We are against AIDS", an exhibition entitled "Healthy children – a healthy nation", etc. are being held in the country.

## ENVIRONMENT AND HEALTH

Uzbekistan has been facing a serious deterioration of the environmental situation, owing to the economic and social policy carried on the Soviet era, which ignored negative environmental impacts and mistakes in the distribution of resources (primarily water). One distinguishing feature of this policy was excessive development of the agricultural sector, based on extensive use of irrigation and cotton monoculture. There was thus considerable demand for new land, construction of an irrigation network and control of river flows, which have all led to the current water crisis. Irresponsible misuse of water resources has resulted in a sharp reduction in the flows of the rivers Amu-Darya and Syr-Darya into the Aral Sea, which has shrunk catastrophically as a result (*UNDP, 1996*).

The population of the area surrounding the Aral Sea (Karakalpakstan and certain districts of the provinces of Khorazm, Bukhoro and Nawoiy has a level of morbidity 1.5–2 times higher than the country as a whole. The pollution of water, air and soil by waste discharges from industrial and agricultural enterprises creates an unsatisfactory background for public health. More than 80% of companies and firms in the country do not have pollution control equipment.

### Air quality

For the country as a whole, a total of 2194 million tonnes of pollutants were released into the atmosphere from stationary and moving sources in 1998, a reduction of 1 611 000 tonnes compared with 1991. Carbon monoxide accounts for more than 50% of the total, sulphur dioxide and specific highly toxic substances (vanadium pentoxide, hydrogen cyanide, benzpyrene, methylmercaptane, etc.) for 15%, hydrocarbons for 8%, solids for 5% and nitrogen oxides for 4%.

Nominally, 800 000 tonnes of more than 150 named pollutants each year are attributable to stationary sources from industrial plants in the country. Of this figure, more than 72% comes from plants in the districts of Tashkent,

Kashkadarin, Bukhoro, Farghona and Nawoiy, where the main industrial potential of the country is concentrated (and where most of the industry is “dirty”).

Automobile transport is the largest source of air pollution. It accounts for more than 60% of total releases of air pollutants, and for approximately 80% in cities such as Tashkent, Andijon, Bukhoro, Guliston and Samarkand (*Nature Conservancy Committee, 1999*).

### Safe water and water supplies

The problem of water and drinking-water supplies is a critical one for Uzbekistan. Sources of drinking-water are both on the surface and underground.

Piped water supplies are available to 89.8% of the urban population and to 64.5% of the rural population. Despite the fact that more than 60% of the country’s population live in rural areas, some 30% of villages do not have piped water, while the majority of existing systems (which were built 20–30 years ago) need rebuilding. In recent years, water supplies to the rural population have increased 1.5-fold, as a result of extensive construction of water supply systems. In the past 5–6 years, main aqueducts have been brought into operation from Tujamujun to Nukus (355 kilometres) and from Tujamujun to Urganch (283 kilometres), to provide domestic drinking-water supplies to cities and villages in the region surrounding the Aral Sea. Extensive use is being made of modern imported desalination plants. Nonetheless, the technologies for purification and disinfection of water do not meet international standards.

Owing to the lack of sanitary protection zones, purification equipment and disinfection plants, 9% of municipal water supplies and 35% of departmental supplies in the country do not meet sanitary standards. As a result, 6.5% of samples of drinking-water from municipal water supplies do not meet bacteriological standards, and 30.0% of samples do not meet chemical ones; corresponding figures for departmental water supplies are 8.3% and 18.9%.

The rivers flowing through the territory of Uzbekistan are polluted throughout their length when they flow through several central Asian republics. In the upper reaches, the main sources of pollution are livestock farms, power plants and industrial enterprises. It is estimated that industrial waste amounts to 300 million m<sup>3</sup> per year, up to 230 million m<sup>3</sup> of which are discharged in open water basins without treatment. Since 1991, measures have been taken at national and regional levels to solve these problems. The use of pesticides and fertilizers has been significantly reduced. Stricter management of water resources has been organized, but the damage done is so great that considerable time will be needed to turn the trend around (*UNDP, 1996*).

### **Waste disposal and treatment**

More than one thousand million tonnes of domestic and industrial waste have accumulated as a result of economic and industrial activity in the Republic. Solid domestic waste is utilized at 261 specialized waste sites (although 256 do not comply with the requirements laid down), and at one waste processing plant in Tashkent. Facilities for the storage of domestic garbage are most often not well built, and garbage is only composted. One hundred and twenty-five licensed dumps are currently in operation in the country, occupying an area of more than 5000 hectares of formerly quite good agricultural land (*Nature Conservancy Committee, 1999*).

### **Food quality**

The reduction in the output of food companies, the appearance of small producers and widespread street trading have led to a significant increase in the amount of unsatisfactory produce on the consumer market. The rise in imports of foods that are often of poor quality is making the situation worse.

A food quality and safety act has been adopted, in order to reduce the morbidity related to poor quality food.

### **Occupational health and safety**

At the beginning of 1998, there were 11 123 industrial units in operation in the country. More than 3 million people (including more than 1 million women) worked in these units, and 21.5% of them were working under harmful conditions. In the country as a whole, 29.1% of industrial enterprises were covered by laboratory testing for workplace air pollutants in 1998, compared with 25.2% in 1997. Levels of harmful and unpleasant factors in workplace air were found to exceed health standards in samples from 35% of facilities surveyed, compared with 44.5% in 1997.

For the country as a whole, 11.8% of samples of workplace air exceeded health standards in terms of fumes and gases (12.2% in 1997), while 20.6% (21.8% in 1997) did so in terms of dust and aerosols. In the latter category, the highest percentages (more than 30%) were found in enterprises in the gold mining, chemical and construction industries.

Among workers in industrial plants, 484 cases of occupational diseases were registered in 1998, compared with 413 in 1997. The most significant work-related factors in the etiology of occupational diseases were noise (30.9%), vibration (17.3%), chemicals (15.4%), dust (14.4%) and allergens (4.1%). The following disease categories predominate among occupational diseases: cochlear neuritis (30.9%); vibration disease (17.3%); diseases of the peripheral nervous system (7.8%); chemical poisoning (15.4%); and dust-induced bronchitis (14.4%) (*Nature Conservancy Committee, 1999*).

## HEALTH CARE SYSTEM

### Health system reform

Targeted reforms of the health care system have been under way in the country for a number of years. In line with the decree issued by the President of the Republic, a government programme was adopted in 1998 on reform of the health care system during the period up to 2006.

The main thrusts of health system reform in Uzbekistan are to:

- organize maternal and child health care;
- improve and develop primary health care;
- monitor and prevent infectious diseases; and
- advocate healthy lifestyles (*WHO Liaison Office in Uzbekistan, 1999*).

### Health care expenditure and health systems funding

In 1998, health care expenditure in Uzbekistan amounted to 3.3% of the GDP. This is higher than the average for the CAR, but lower than the figure for Europe as a whole. Local health care establishments are primarily funded from local budgets. The extensive development of inpatient facilities has been halted, and the budget for inpatient services has been cut down to 60% of the total resources envisaged for health care, while funding for the outpatient service has been increased to 40%.

Health care resources and their utilization in Uzbekistan, compared with European averages		
	Uzbekistan (1998)	Europe (1996)
Hospital beds per 100 000 population	555.5	828.0
Physicians per 100 000 population	308.5	352.0
Hospital admissions per 100 population	12.9	18.5
Average hospital stay, days	13.8	12.9
Health care expenditure as a percentage of GDP	3.3	6.0

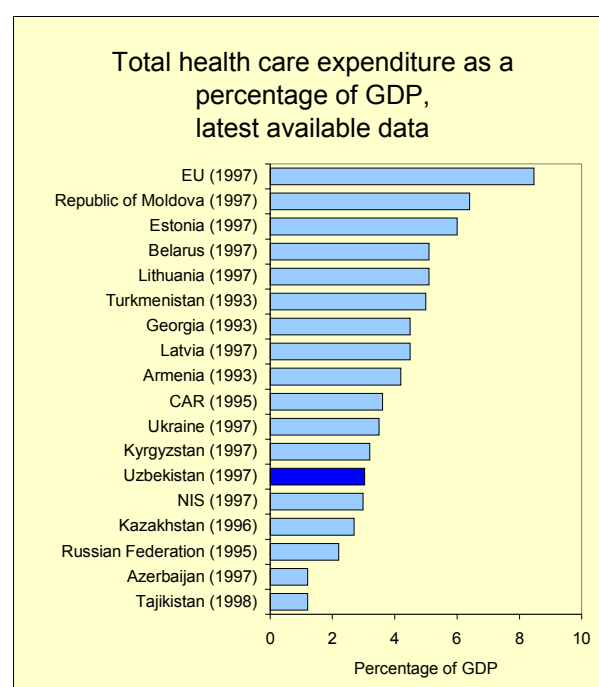
The country currently has a number of private health care establishments, where some 1 million patients are treated each year. More than 2000 physicians have been licensed for individual practice. The pharmacy service has been decentralized. In 1997, the private sector delivered some 10% all medical services.

The limited financial resources available to the state health care system currently dictate the need to seek additional sources of financing.

### Outpatient services

According to data from the Ministry of Health, the number of outpatient/polyclinic establishments increased from 3027 in 1991 to 4074 in 1997.

Arrangements for delivering medical care to patients on a day inpatient basis are currently functioning effectively throughout the country. This has reduced the number of patients treated in 24-hour inpatient facilities from 5.1 million to 3.8 million, while the number of those treated in day inpatient units has increased to 2.4 million. The development of outpatient surgical centres has changed the relationship between the numbers of operations carried out in inpatient and

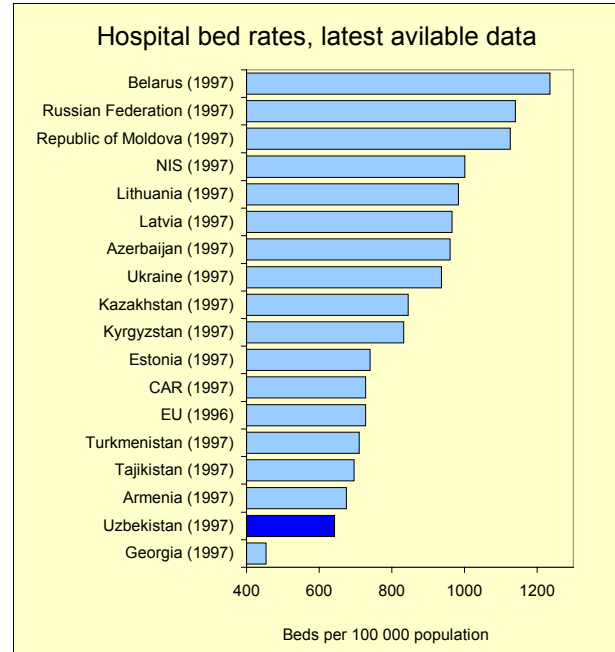
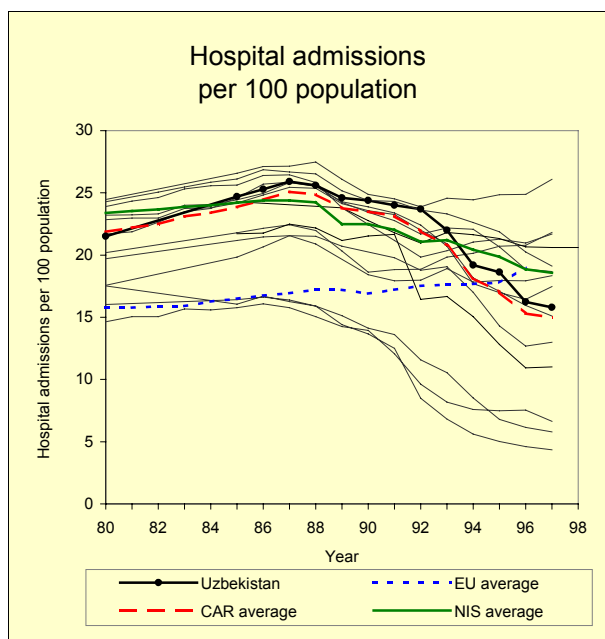
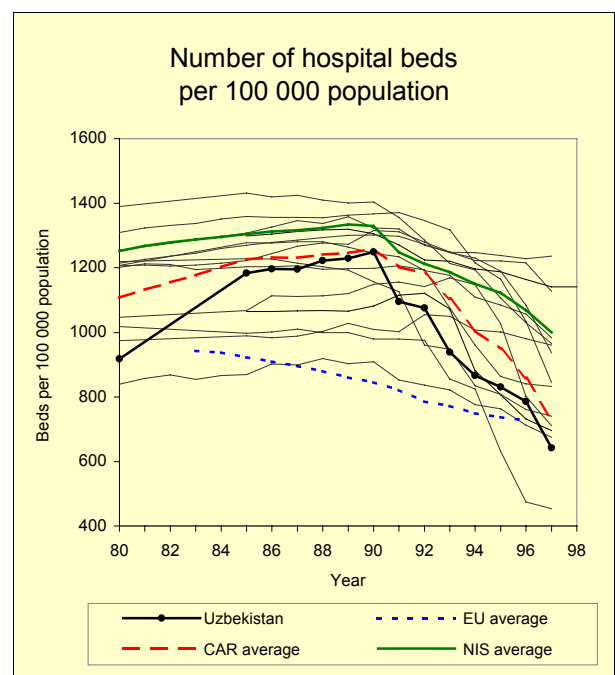
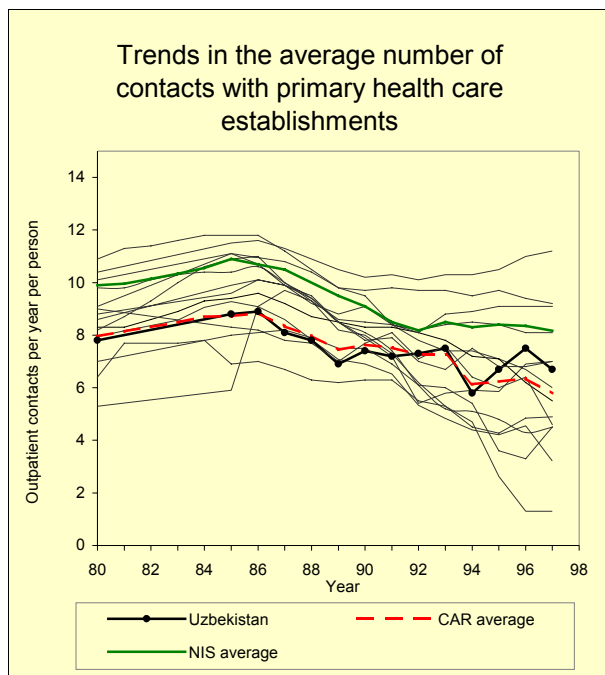


outpatient facilities. At present, 55% of operations are done in outpatient settings, including 23% in outpatient surgical centres. The Council of Minister's decree no. 182 of 21 May 1996 on "A programme for development of the social infrastructure in villages" provides for the organization of rural medical posts (RMPs), together with the introduction of general medical practice. In 1996–1997, 255 RMPs were built and 404 were created by transforming rural district hospitals, rural medical outpatient facilities and feldsher/midwife posts.

**Inpatient services**

The hospital bed rate in Uzbekistan in 1997 was lower than the average for the Region as a whole. This is a result of the policy on reform of inpatient care in Uzbekistan. Between 1991 and 1997, more than 46% of all hospital beds (i.e. those that were not being used in a rational way) were closed.

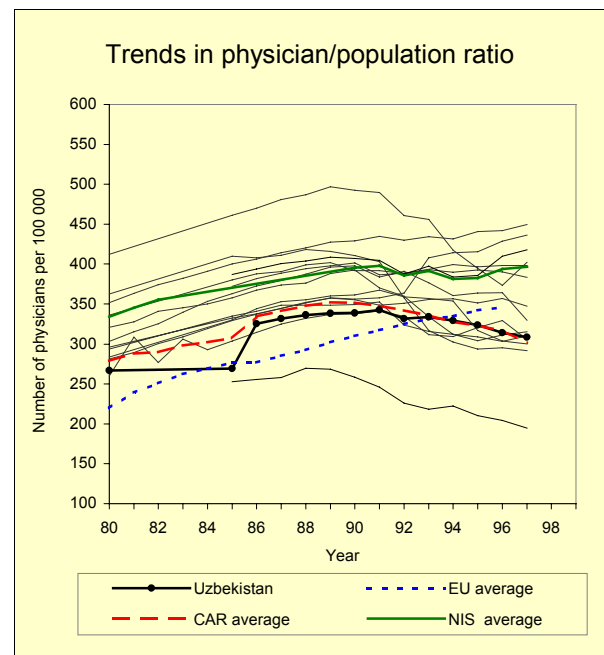
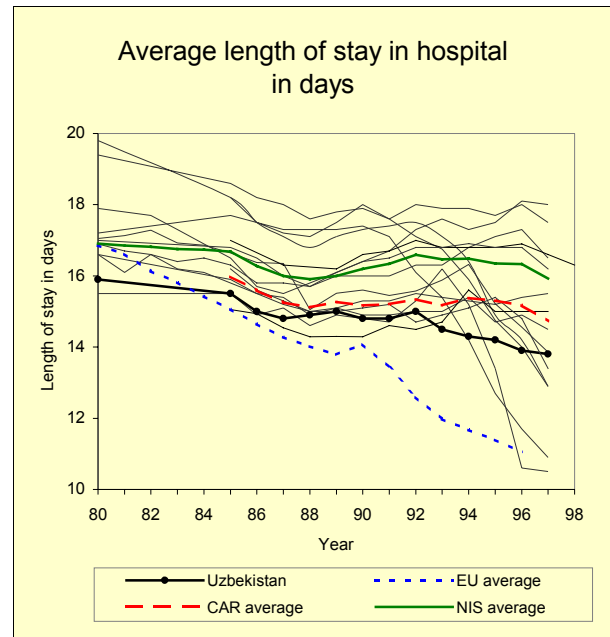
The hospital admission rate fell from 24.4 per 100 population per year in 1991 to 16.3 in 1997, a figure that was lower than the average for the European Region.



The average length of stay in hospital also fell from 14.9 days to 13.5 days: this decline was not so significant, however, and the indicator remains higher than the European average.

**Medical personnel**

The physician/population ratio in Uzbekistan, like in other CAR, has fallen slightly since the early 1990s, and in 1997 it was lower than the European average. In recent years, graduates of the country's medical colleges have been trained following the new curriculum, and they now receive multi-stage training from general practitioner to specialized training at master's degree level. Intermediate-level medical personnel also have a clear gradation of specialties, with priority given to training universal specialists in general practice.



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## GLOSSARY

**Incidence rate:** the number of new cases of a disease occurring in a population per 100 000 people during a specified period (usually 1 year).

**Infant mortality rate:** the yearly number of deaths of children aged less than 1 year per 1000 live births.

**Life expectancy at birth:** an estimate of the average number of years a newborn child can expect to live provided that the prevailing age-specific patterns of mortality at the time of birth were to stay the same throughout the child's life.

**Prevalence rate:** the total number of people in a population who have a disease or any other attribute at a given time or during a specified period per 100 000 of that population.

**Purchasing power parity (PPP):** a standardized measure of the purchasing power of a country's currency, based on a comparison of the number of units of that currency required to purchase the same representative basket of goods and services in a reference country and its currency (usually US dollars) The EU uses the purchasing power standard to measure this.

**Standardized death rate (SDR):** a death rate (usually per 100 000 population) adjusted to the age structure of a standard European population.

**Total fertility rate:** the average number of children that would be born alive per woman during her lifetime if she were to bear children at each age in accordance with prevailing age-specific birth rates.

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