

HIGHLIGHTS ON HEALTH IN THE RUSSIAN FEDERATION



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. Country Information).

A list of references and a glossary are given at the end of this document.

OVERVIEW

From the mid-1980s the natural population growth rate in the Russian Federation has fallen steadily, and it became negative in 1992; this resulted in a downward trend in the total population of the country which is continuing to this day. In 1998, the population increase due to immigration compensated for only 40% of the natural population loss. The birth rate is continuing to fall (9.3 per 1000 population in 1995 and 8.8 in 1998).

As in most of the other former republics of the Soviet Union, the trends in life expectancy in the Russian Federation show a characteristic pattern: a rise in 1985–1986 as a result of the anti-alcohol campaign, a return to a pre-campaign level in 1992, a sharp fall in 1992–1994 and, lastly, an increase as from 1995. A downward trend in mortality rates from all main causes of death was seen from 1995, which led to a 2-year increase in life expectancy at birth between 1994 and 1998. However, life expectancy in the Russian Federation is still one of the lowest in Europe. In addition, there is still a large gap between male and female life expectancy.

The infant mortality rate in Russia has changed little over the past 10 years, but it remains lower than the average for the NIS. The apparent increase in 1993 can be accounted for mainly by the introduction in Russia of the WHO definition of “live birth”. In recent years the rate has continued to fall slowly.

Maternal mortality in Russia is one of the highest in Europe. From the late 1980s up to 1996 it rose slowly but then began to fall. The absolute number of abortions has fallen by 30% since 1992. However, because of a decrease in the number of births, the abortion rate fell only slightly and remained the highest in WHO’s European Region.

The main causes of death in Russia are diseases of the circulatory system. Mortality rates due to these diseases in Russia are among the highest in the Region. Trends in mortality from diseases of the circulatory system in general, and from individual disease categories within this group, show the same features as

trends in overall mortality. There is reason to suppose that a significant proportion of the increased number of deaths between 1992–1994 can be attributed to cases of sudden cardiac pathology (related to alcohol poisoning) in middle-aged men.

The rate of premature (0–64 years) mortality due to cancer in Russia is among the highest in the Region. However, in the older age groups (65 years and above), it is fairly low in comparison with the average for western European countries. The steady rise in the incidence of cancer mortality in the Russian Federation, as in most other NIS, levelled off in 1995 and then began to fall. Female mortality due to breast cancer is higher in the Russian Federation than the average for the NIS and continues to increase.

External causes of injury and poisoning are the second most frequent cause of death in the Russian Federation (after diseases of the circulatory system). The highest mortality rate from these causes was seen in 1994. Despite a subsequent fall, the Russian Federation continues to show the highest rate in WHO’s European Region.

The tuberculosis incidence rate has been on the increase since 1990 and is one of the highest in the European Region. The incidence of syphilis has been of epidemic proportions since 1994 and, according to the latest available data, is now the highest in the Region.

Diphtheria incidence peaked in 1994, second to that of Tajikistan within the Region. As a result of actions taken, the figure fell about tenfold in 1997, close to the average for the NIS.

The Russian Federation’s health care expenditure (as a % of GDP) is among the lowest in the European Region.

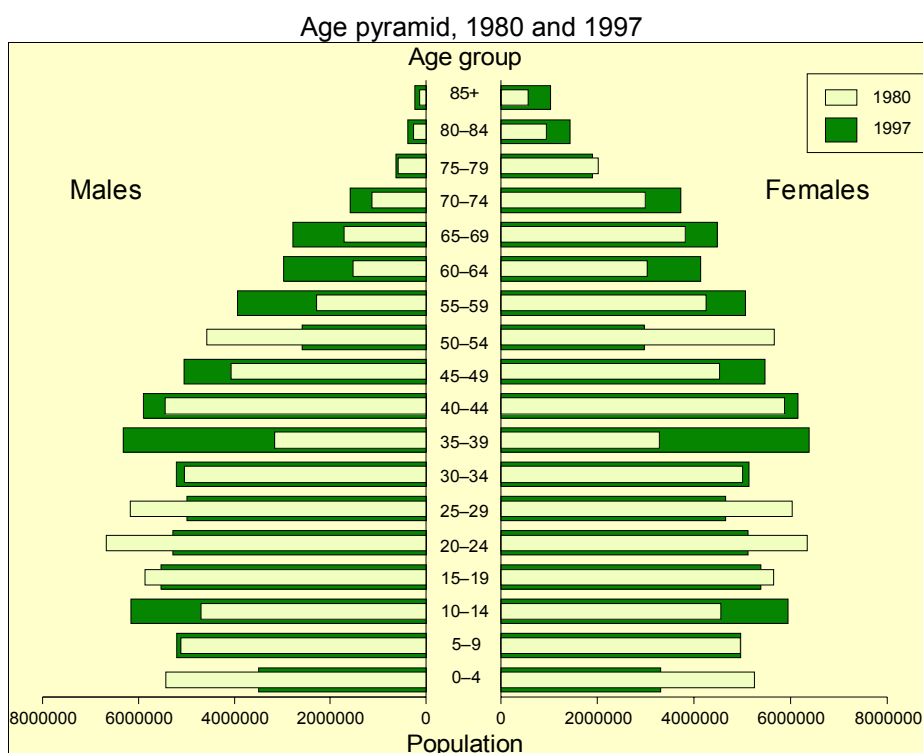
The number of hospital beds is among the highest in the Region, although numbers have been on the decrease since the early 1990s. The physician/population ratio has increased slightly in recent years, and the country has one of the highest figures in the European Region.

THE COUNTRY AND ITS PEOPLE

After the disintegration of the Soviet Union at the end of 1991, the Russian Federation became one of the founding members of the Commonwealth of Independent States (CIS). According to the Constitution, adopted in a universal referendum on 12 December 1993, the Russian Federation is a federal state with a republican form of government. The state is administered by the President of the Russian Federation, the Federal Assembly, the Government of the Russian Federation and the judges of the Russian Federation. The President of the Russian Federation is head of state and is elected for a period of four years in a secret ballot by universal, equal and direct election. The Federal Assembly consists of two chambers: the Federation Council and the State *Duma*. The Federation Council has two representatives from each constituent part or “subject” of the Russian Federation, one from the legislative and one from the executive. The State *Duma* is made up of 450 deputies, elected for a period of four years. The Russian Federation is divided into 49 provinces (*oblasty*), 6 regions (*krai*), 21 republics (including Chechnya) and 10 autonomous districts (*okrugy*).

The capital, Moscow, has a population of 8.6 million people.

Basic data on the Russian Federation and the WHO European Region		
	Russian Federation (1998)	Europe (1996)
Population (millions)	146.5	
Population aged		
• 0–14 years, %	19.3	20.4
• 15–64 years, %	68.1	66.2
• ≥ 65 years, %	12.6	13.4
Area, km ²	17 075.4	
Population density per km ²	8.5	31
Urban population (%)	73	71.6 ^a
Births per 1000 population	8.8	11.34
Deaths per 1000 population	13.7	11.15
Natural growth rate per 1000 population	-4.9	0.19
Gross domestic product (GDP) per person in US\$, PPP*	4 228 ^b	11 742 ^a
^a - 1995 ^b - 1996 * PPP - purchasing power parity		



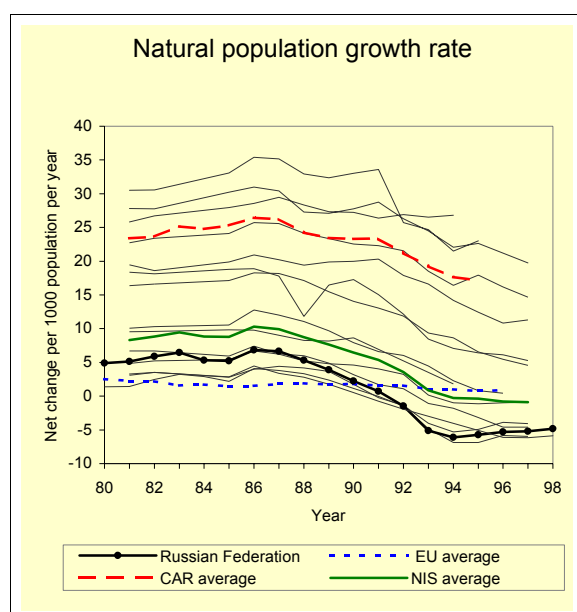
Demographic situation

At the beginning of 1999 there were estimated to be 146.3 million people in the Russian Federation. Over the past seven years (1992–1999), the population of the country has fallen by 1.7 million people or 1.2%. These losses were predetermined by a negative reproduction rate. The natural population loss, which was 200 000 in 1992, has risen to 800 000–900 000 in recent years. In other words, 60% more people are dying than are being born. Losses caused by unfavourable natural population changes were only partially (40% in 1998) compensated for by an increase in immigration.

According to provisional data from the Russian Federation's State Statistics Committee, growth from migration counterbalanced only 11.5% of natural population losses in the first eight months of 1999.

As a result, during this period the population of the Russian Federation fell more than it did in the whole of 1998 (*State Statistics Committee, 1999a*).

The total birth rate fell from 17.2 per 1000 population in 1986 to 8.8 in 1998 and is among the lowest in the European Region. The low birth rate, together with an increased number of people in the older age groups, means that the population will continue to age. Currently, one in nine people in the Russian Federation (12.6% of the population) is older than 64 years.



Family structure

Among the more positive changes in population development, there is a slight improvement in the situation of marital and family relationships. The number of marriages registered in the period 1991–1996 fell by 453 000 (34%), but divorces increased by 2 500 (0.4%). Conversely, in 1997 the number of marriages registered increased by 61 400 (7.1%) while the number of divorces fell by 7 900 (1.4%). In 1998 there were 5.8 registered marriages and 3.4 divorces per 1000 population (*State Statistics Committee, 1999*).

The proportion of births out of wedlock increased from 14.6% to 23% between 1990 and 1996.

Migrant population and ethnic profile

As stated above, in 1998 population growth as a result of international migration compensated for only 40% of natural population loss. There was a positive migratory balance with all the former republics of the USSR. The most noticeable population increases as a result of migration came from Azerbaijan, Kazakhstan, Uzbekistan and Ukraine. The majority of migrants to the Russian Federation are ethnic Russians (58%). Due to migration, the proportion of ethnic Russians in the population increased from 81.5% in 1991 to 83% in 1995. As regards internal migration, Russia is clearly divided into two zones, one gaining and the other losing population. The southern border zones of the European part of Russia and the Urals, along with the central region and western Siberia, are experiencing the greatest pressure from migration. The northern and eastern zones are almost all losing population. Within the Russian Federation, migrational drift is therefore towards the west and south-west.

Education

In 1997, the literacy rate of the adult population in the Russian Federation was 98.4%. Approximately 60% of the population over the age of 16 years have completed at least secondary education. In terms of the number of students (220 per 10 000 population) and graduates (32 per 10 000 population) from higher education institutions, the Russian Federation

is in the group of developed countries (*UNDP, Human Development Report for the Russian Federation, 1998*).

The official language is Russian.

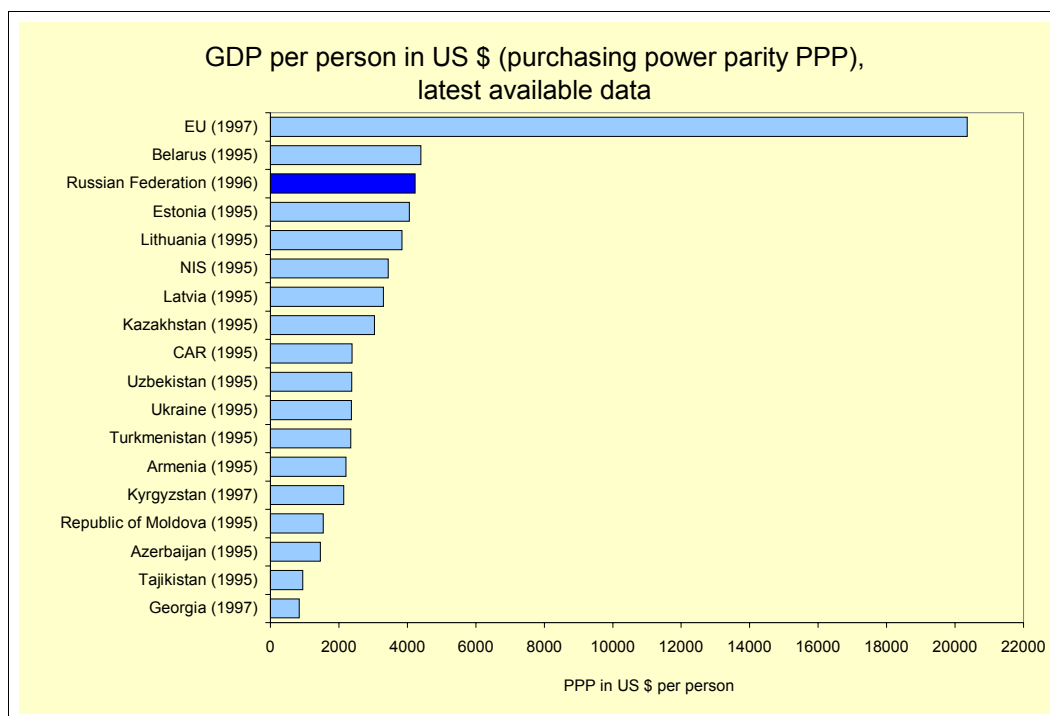
A substantial proportion of the population are atheists. The Russian Orthodox Church, whose head is the Patriarch, numbers 35–40 million adherents. Some of the population are Muslim.

Economy

Like that of other newly independent states (NIS), Russia's economy is experiencing significant transitional difficulties. In 1996–1997 the industrial recession was halted; there was growth in real incomes and in the level of consumption among low- and middle-income population groups. Incomes increased by 48% between 1995 and 1996. In 1996 the top 10% of the population in terms of wealth had approximately 34% of the income (in 1995 this figure was 32%), while the bottom 10% of the population had 2.6% (2.4% in 1995). Sixty-three per cent of the population had average-level incomes (the same in 1995). The poverty

level in Russia is measured against the minimum subsistence level, which is set using the Ministry of Labour's methodology. In 1996 21.6% of the population (32 million people) had incomes lower than the minimum subsistence level, a figure 13% lower than in 1995. In 1996 per capita gross domestic product in the Russian Federation was among the highest in the NIS, but substantially lower than in western European countries. Inflation fell to 10–12%. In 1997 real GDP increased by 0.4%, while industrial growth was 1.9%. (*UNDP, Human Development Report for the Russian Federation, 1998*).

The economic crisis which broke out in the second half of 1998 led to a 4.6% drop in GDP. Inflation climbed to 84.4% (14.6% in 1997). Unemployment reached 11.8% (9.6% in 1997). In 1998 real incomes fell by 40% from 1997 levels. (*Economist Intelligence Unit, 1999*).



HEALTH STATUS

The main health indicators for the population of the Russian Federation, like in the other NIS, have shown some unique trends over recent years. A substantial improvement in 1987 was followed by a marked deterioration in 1992–1994. From 1995 onwards there was a trend towards better health indicators, but they are still a very long way from corresponding figures for wealthier European countries.

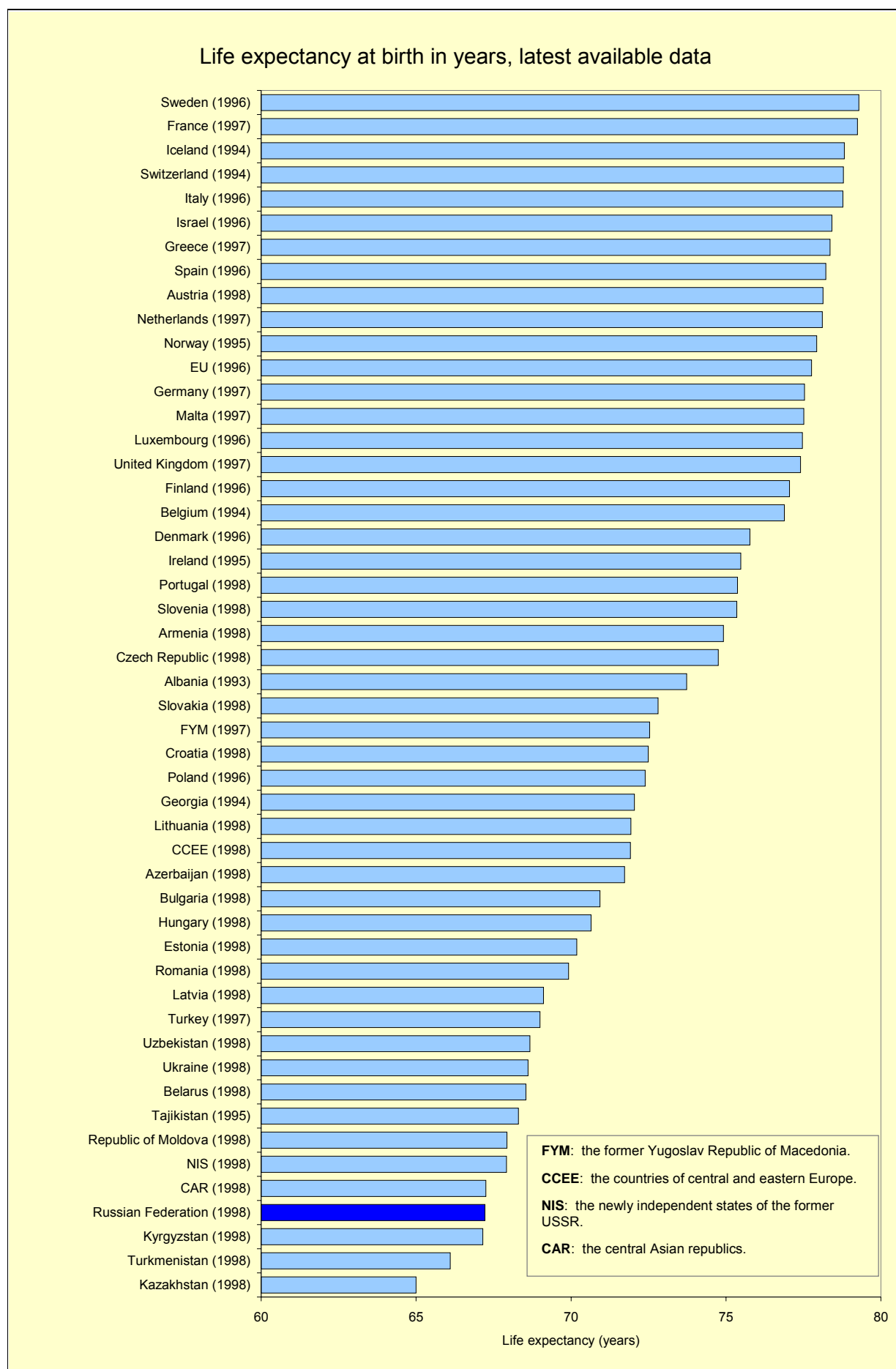
Life expectancy in the Russian Federation is among the lowest in the Region. Rates of maternal mortality, mortality due to external injuries and poisoning (including homicide and alcohol poisoning) and mortality due to cancer are among the highest in the European Region. An extremely difficult situation is developing as regards the prevalence of infectious diseases, particularly tuberculosis and syphilis.

The large variations between health indicators in various parts of the country are a substantial problem for the Russian Federation. Broadly speaking, the health status of the population in Siberia and the Far East is a great deal worse than that of the population in the European part of the country.

Life expectancy

The trend in life expectancy in Russia has a similar pattern to most other NIS: a sharp rise in 1986–1987 as a result of President Gorbachev's anti-alcohol campaign, then a gradual decrease to a level seen before the campaign in 1992, a sharp fall in 1993–1994 and, lastly, a gradual increase as from 1995. There is good reason to suppose that the fall in life expectancy in 1993–1994 may have been largely due to an increase in alcohol consumption.

Selected health indicators in the Russian Federation and the European Region		
	Russian Federation (1998)	Europe (1996)
Life expectancy	67.2	72.8
• Men	61.4	68.6
• Women	73.3	77.1
Infant mortality per 1000 live birth	16.4	12.6
Maternal mortality per 100 000 live birth	44.0	19.8
Standardized death rate (SDR) for all causes of death per 100 000 population	1334.5	1013.7
SDR for cardiovascular diseases per 100 000 population	722.1	497.9
SDR for malignant neoplasms per 100 000 population	193.1	188.3
SDR for injuries and poisoning per 100 000 population	186.0	93.1
SDR for diseases of the respiratory organs per 100 000 population	56.9	65.8
SDR for diseases of the digestive system per 100 000 population	37.3	40.3
SDR for infectious and parasitic diseases per 100 000 population	19.7	13.7
New cases of tuberculosis per 100 000 population	74.4 ^a	40.8 ^a
New cases of syphilis per 100 000 population	279.2 ^a	86.5 ^a
New cases of AIDS per 100 000 population	0.07	2.01 ^b
^a 1997		
^b 1998		

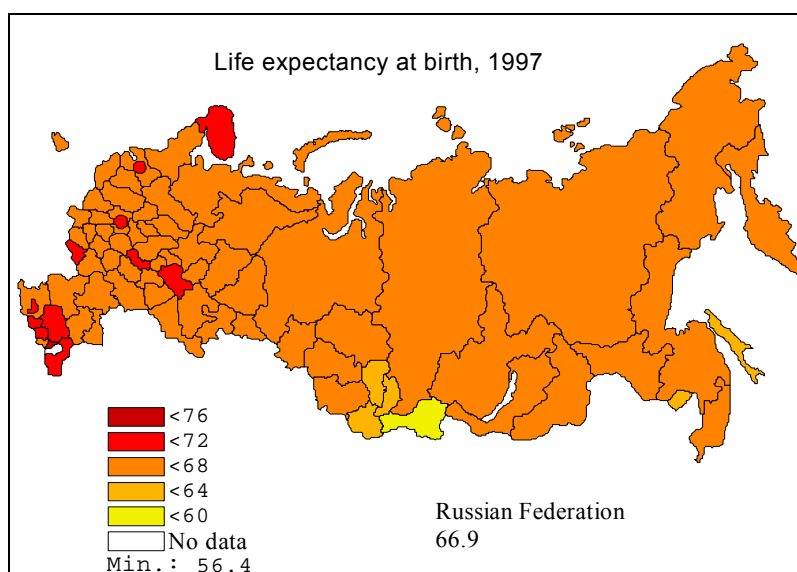
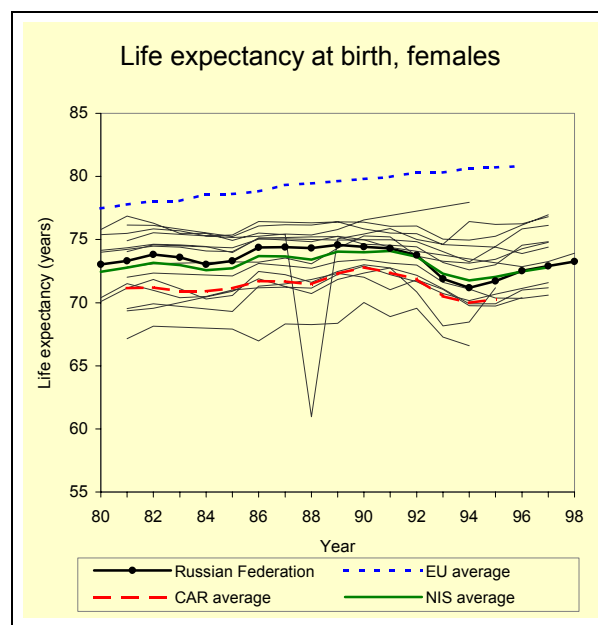
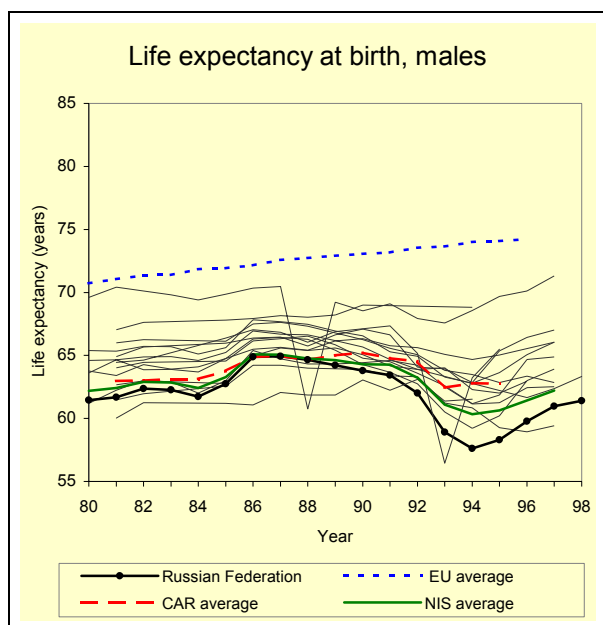


In 1994 life expectancy fell to unprecedented levels: 57.6, 71.2 and 64 years, respectively, for men, women and both sexes combined. According to the latest available data, life expectancy in Russia (67.2 years in 1998) remains among the lowest in the European Region.

Male life expectancy in Russia is particularly low (61.4 years in 1998). It is lower than the average figures for the central Asian republics (CAR) and the NIS, and almost 13 years less than the average for EU countries (74.2 in 1996). Female life expectancy (73.1 years) was higher than the averages for the CAR and NIS.

The difference between male and female life expectancy (11.9 years in 1998) has long been the greatest in the Region.

Life expectancy in the Russian Federation shows significant regional variations, a feature which is also typical of other indicators of health status. Although the figure for the Republic of Ingushetia in the northern Caucasus (72.5 years in 1997) is close to the average for the European Region as a whole and higher than the CIS average (67.4 years in 1997), the figure for the eastern Siberian Republic of Tyva is disastrously low at 56.4 years, giving a difference of as much as 16 years. This is a greater inequity in life expectancy than among countries in the European Region.



Main causes of death and disease

In the Russian Federation, as in most other countries, cardiovascular diseases are the most frequent cause of death. This is true both for premature mortality and for mortality in the age group over 65 years.

The main difference in the structure of premature mortality in the Russian Federation is the high proportion of deaths due to external causes of injury and poisoning, which is only slightly behind diseases of the circulatory system. It should be noted that, for the European Region as a whole, neoplasms are the second leading cause of death.

Although the structure of mortality in the group aged 65 years and above in the Russian Federation approximates to the average for Europe, the proportion of neoplasms and diseases of the respiratory system in this age group is substantially lower than the European average.

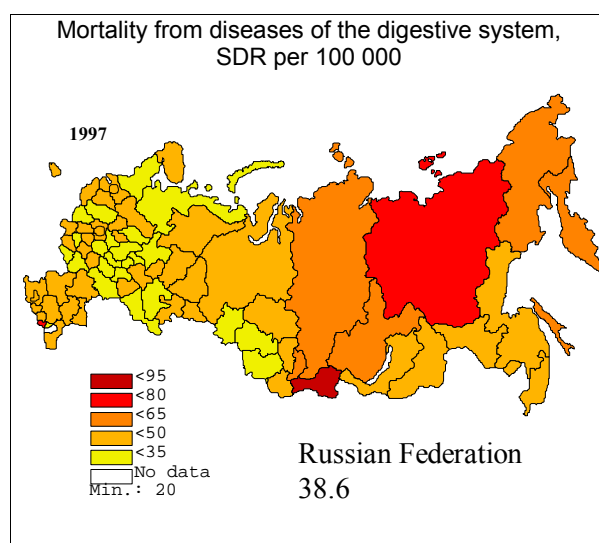
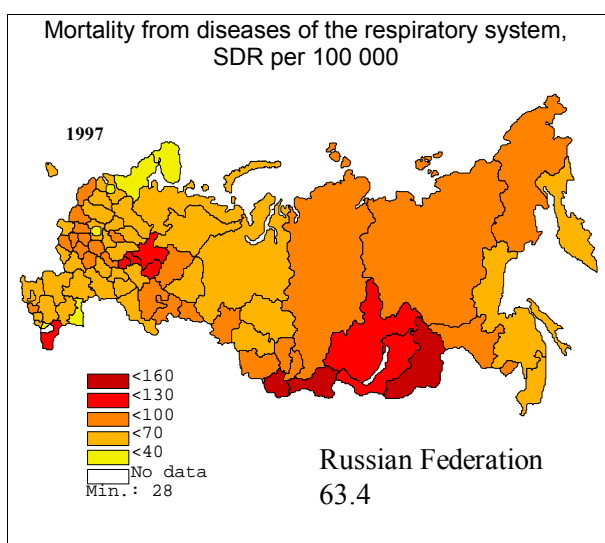
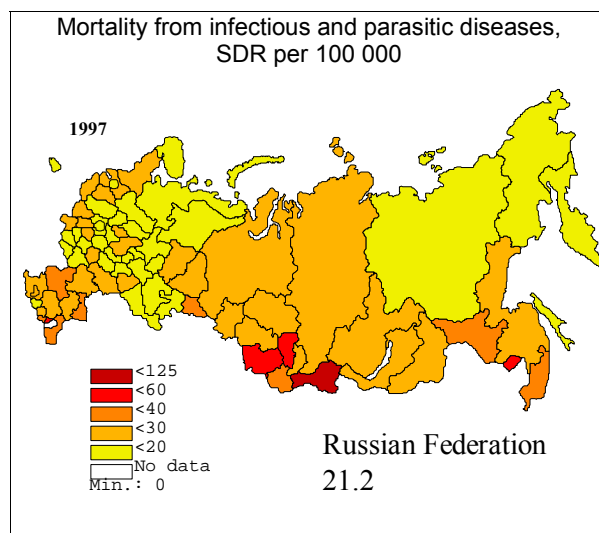
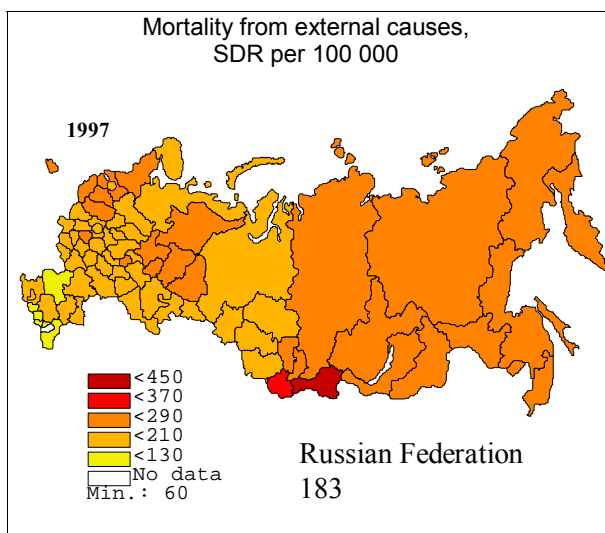
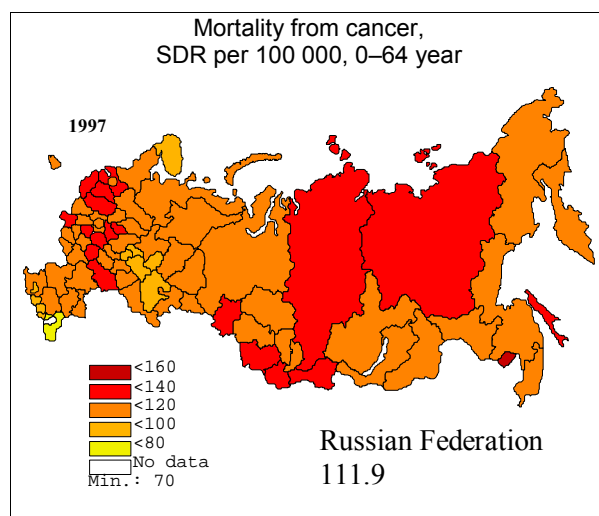
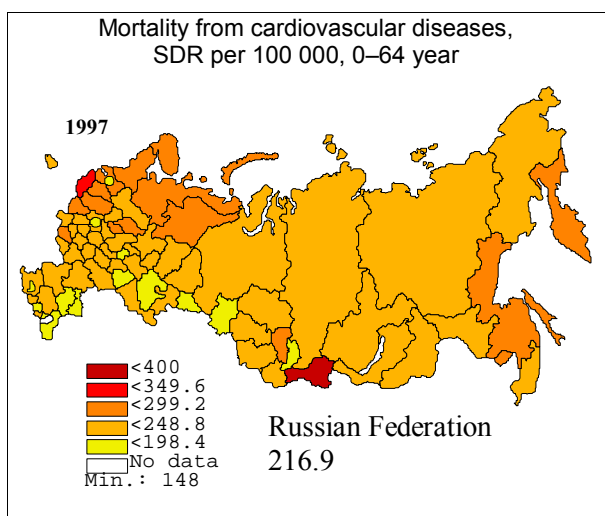
Hospital admission rates also differ somewhat from the average figures for Europe. In the Russian Federation, a substantially higher percentage of hospital admissions are due to diseases of the respiratory system and to infectious and parasitic diseases. On the other hand, there are nearly one third fewer hospital admissions due to cancer than the European average.

Regional variations in mortality rates in the Russian Federation

There are significant differences in premature mortality rates between the various regions of the country. The geographical distribution of the highest mortality rates for selected disease categories is as follows:

- cardiovascular diseases – the north and north-west of the European part of the Russian Federation, the Far East and a number of areas in the south of eastern Siberia;
- cancer – the central and north-western regions of European Russia, Siberia, a number of regions in the Far East;
- external causes of injury and poisoning – the republics of Tyva and Gorny Altay, both in the south of eastern Siberia;
- infectious and parasitic diseases – the regions on Russia's southern borders, especially in Siberia;
- diseases of the respiratory system – the northern Caucasus, the Urals and the south of eastern Siberia;
- diseases of the digestive system – Siberia and the Far East.

Structure of mortality (in %) by main cause of death and age group in the Russian Federation (1998), compared with the average for the European Region (1996)				
Cause of death	0–64 years		65 years and above	
	Russian Federation	Europe	Russian Federation	Europe
Cardiovascular diseases	32.8	30.6	70.1	60.0
Malignant neoplasms	17.2	22.6	12.4	16.3
Accidents, injury and poisoning	28.3	20.5	3.1	2.7
Diseases of the respiratory system	4.7	5.7	3.9	7.0
Infectious and parasitic diseases	3.1	2.7	0.3	0.5
Diseases of the digestive system	3.9	5.7	2.0	3.0
Ill-defined conditions	2.3	2.6	6.3	4.1
Other diseases	7.7	9.6	1.9	6.4



Inpatients by disease category, 1997 (% of all patients hospitalized)		
Disease category	Russian Federation	Europe
Infectious and parasitic diseases	5.3	3.5
Malignant neoplasms	4.4	6.5
Cardiovascular diseases	11.6	11.7
Diseases of the respiratory system	14.1	10.0
Diseases of the digestive system	10.7	9.7
Injury and poisoning	8.6	8.3
Other diseases	45.3	50.3

Cardiovascular diseases

Three periods can be distinguished as regards trends in CVD mortality over the past 10 years: first (1985–1987) a decrease as a result of the anti-alcohol campaign; then a sharp rise up to 1994; and thirdly, a decrease from 1995 onwards.

During this time standardized death rates (SDRs) for premature CVD mortality remained much higher than the average figure for EU countries, for both men and women. In 1998, the male mortality rate was among the highest in Europe, but the same year, female mortality was lower than average for the NIS.

A similar situation is seen for ischaemic heart disease and cerebrovascular diseases. The rates of premature mortality due to these diseases are among the highest in the Region

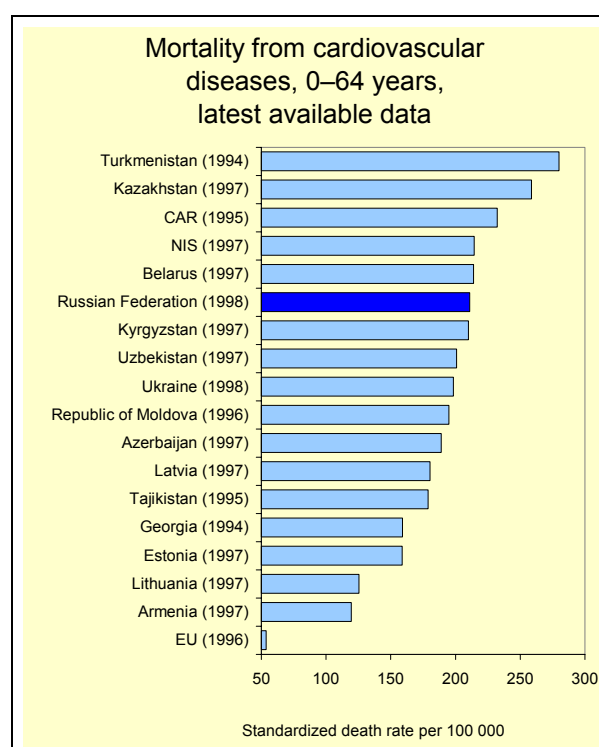
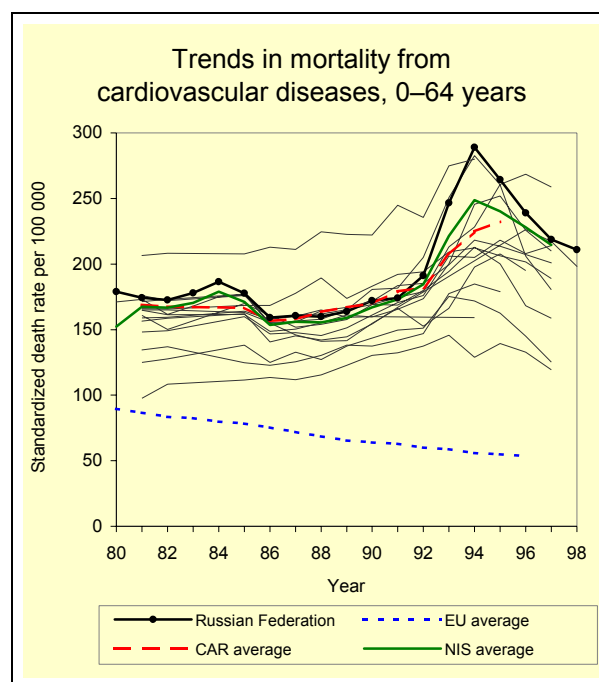
Cancer

The premature (0–64 years) mortality rate due to malignant neoplasms in the Russian Federation is among the highest in Europe, despite a clear downward trend since 1995. Furthermore, the decrease in male mortality is much more pronounced than that in female mortality. In the older age group (65 years and above), cancer mortality is lower than the average levels for EU countries and for the European Region as a whole.

Like in most other NIS, the trend in mortality due to cancer of the respiratory system differs from that in western Europe. This is mainly because of different trends in female mortality:

in western and central European countries, female mortality is increasing, but in the NIS it is falling. Female mortality from lung cancer in the Russian Federation is 4–5 times lower than in Denmark or Hungary, for example.

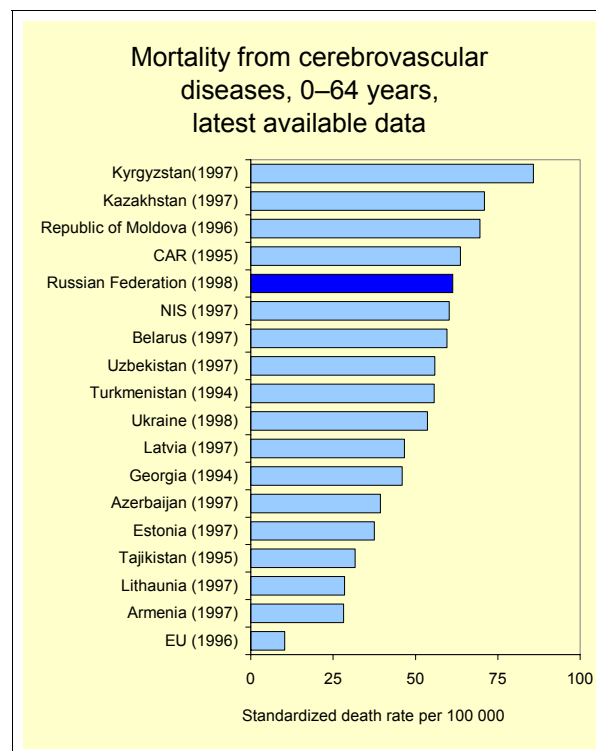
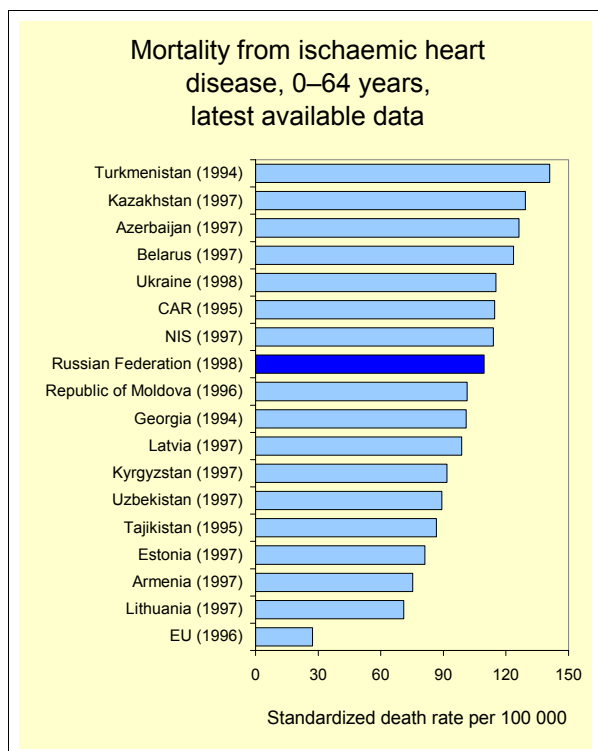
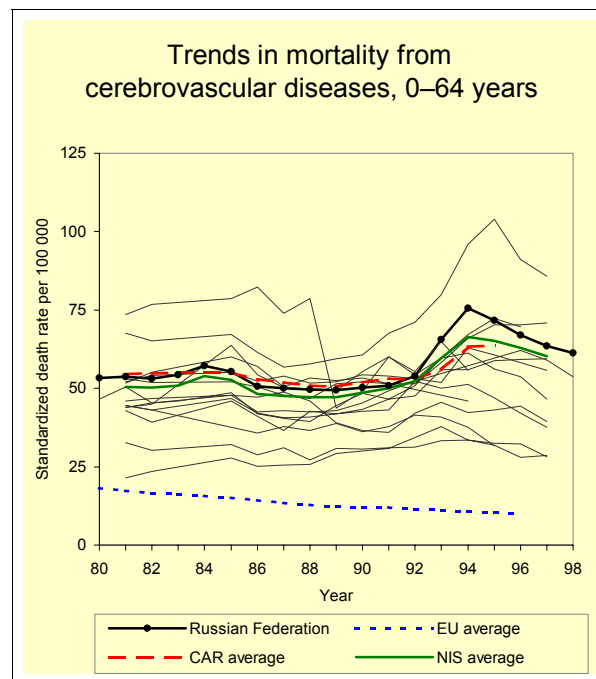
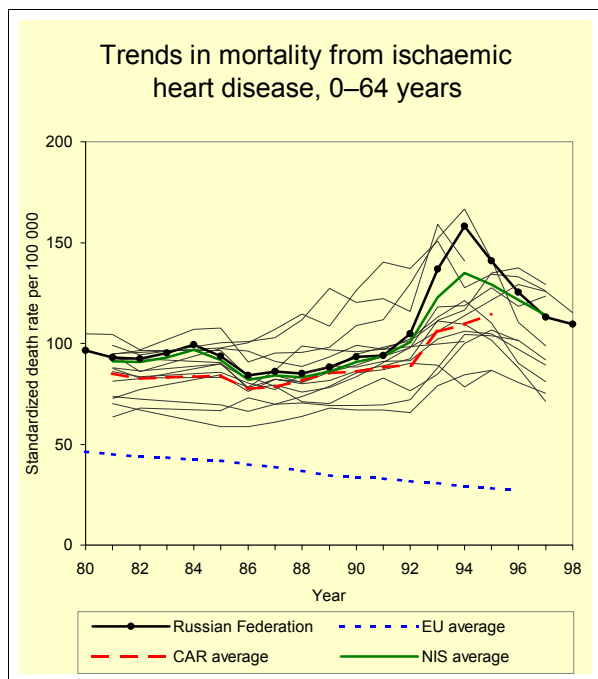
Male mortality due to lung cancer remains among the highest in WHO's European Region.



Injury and poisoning

Mortality rates due to external causes of injury and poisoning have undergone the greatest changes in the Russian Federation. Specific trends can be clearly seen, arising from the influence of the anti-alcohol campaigns in 1985–1986 and the subsequent negative impact of social and economic reforms (1992–1994). This is also the case for most other CIS and

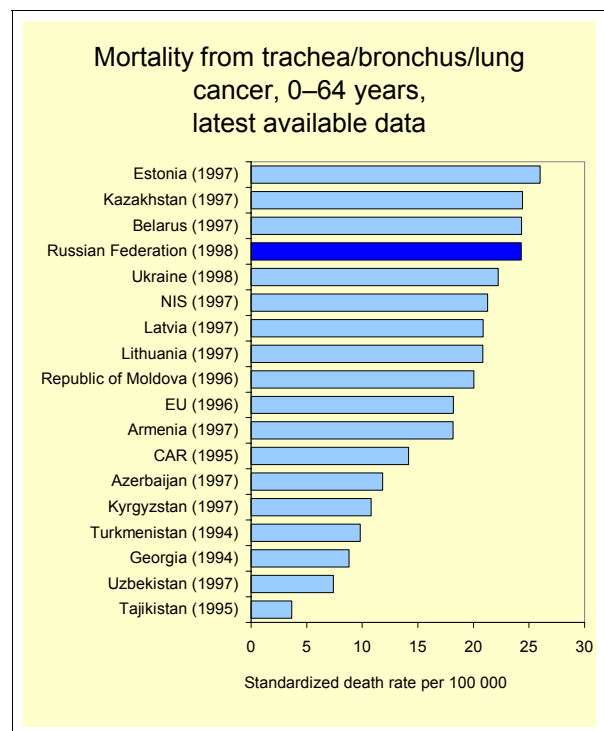
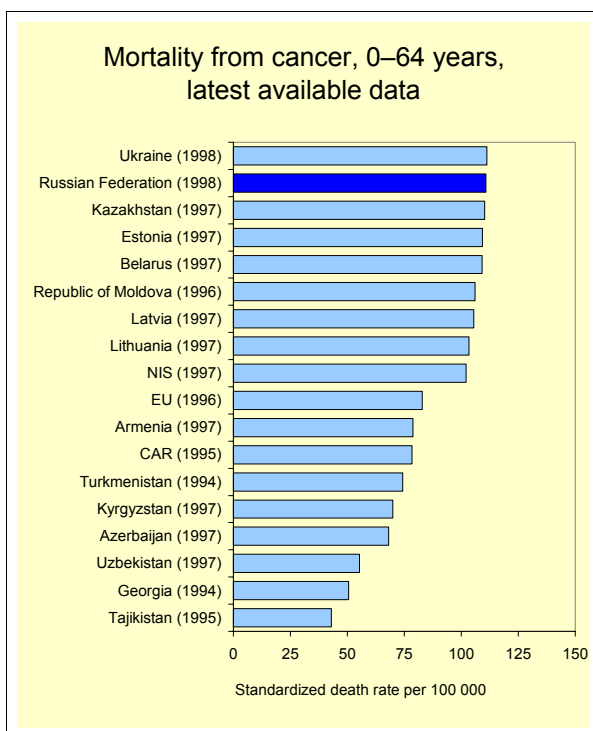
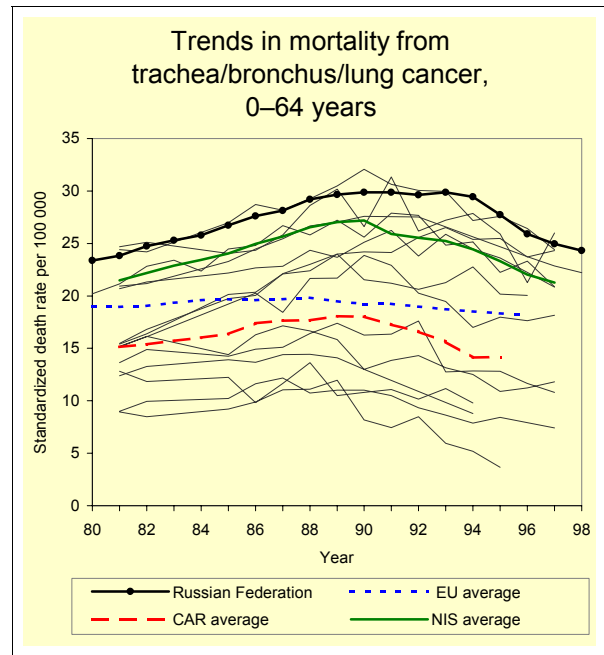
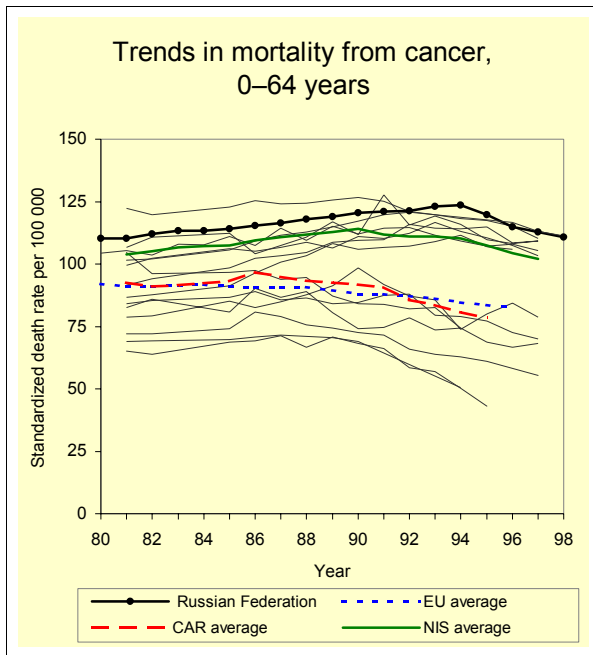
Baltic countries. In three of these countries – the Russian Federation, Ukraine and Belarus – mortality rates due to these causes have more than doubled. In 1994, the SDR for injury and poisoning for males in the Russian Federation was the same as in Armenia in 1988 at the time of the earthquake. Despite the decreases seen, male and female SDRs due to injuries in the



Russian Federation remain the highest in WHO's European Region. Moreover, there is a pronounced "excess mortality" among Russian men as compared with women. The male mortality rate is 4.4 times higher than that among women.

Mortality from homicide in the Russian Federation is one of the highest in the Region. In the structure of mortality from injury and

poisoning, there is a striking proportion of accidental poisonings (17.5%), including 12.5% of deaths caused by alcohol poisoning (1995 data). This means that accidental alcohol poisoning was the cause of a greater number of deaths than traffic accidents (11.1%). Accidents of undetermined cause accounted for 14% of deaths. Accidental falls, drowning and other accidents accounted for 27% of all deaths



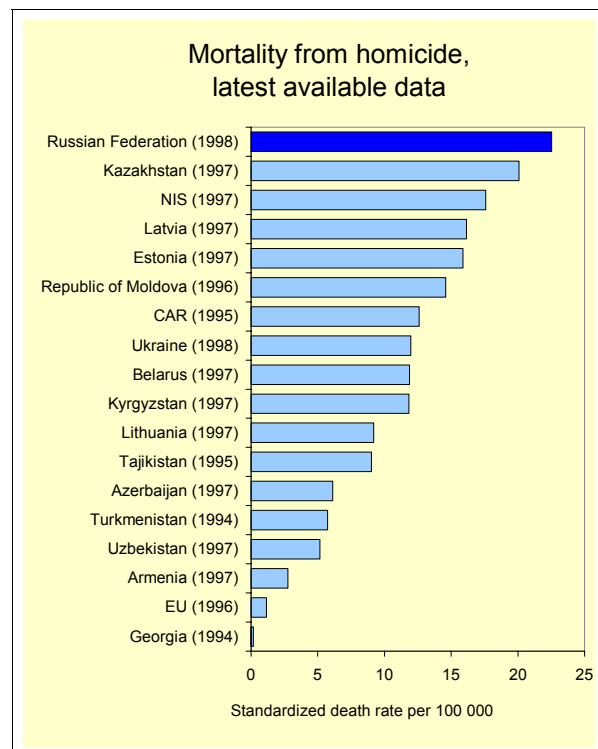
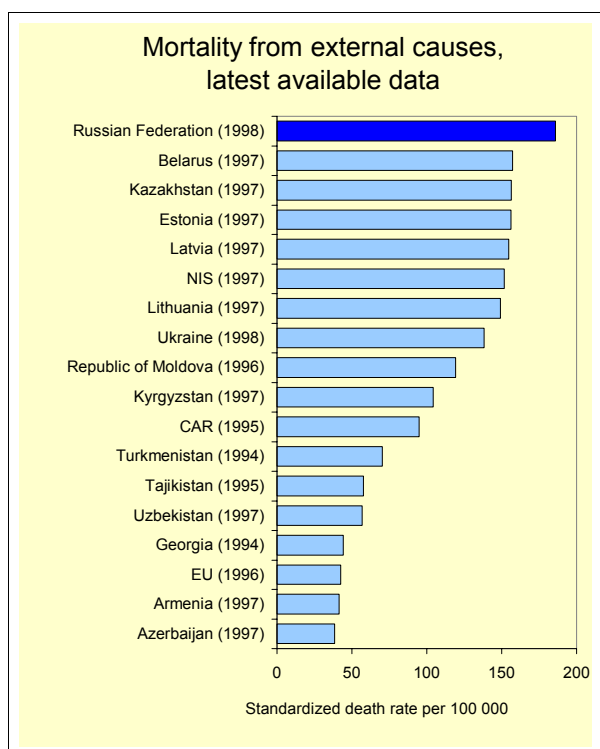
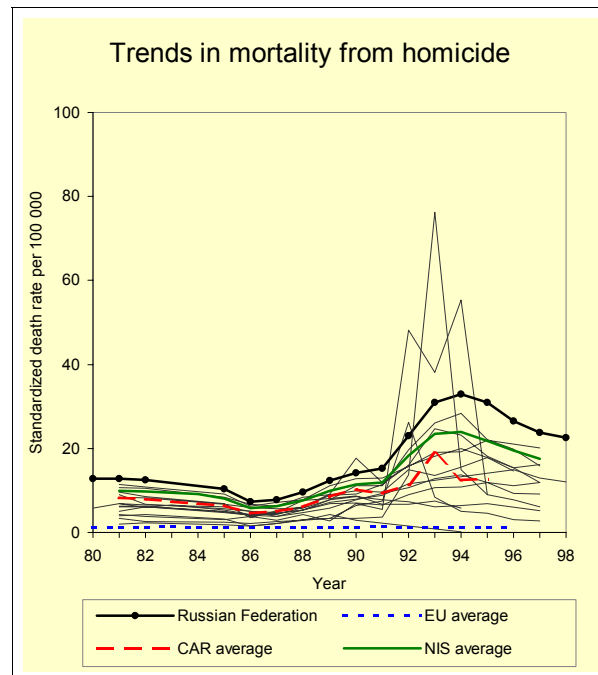
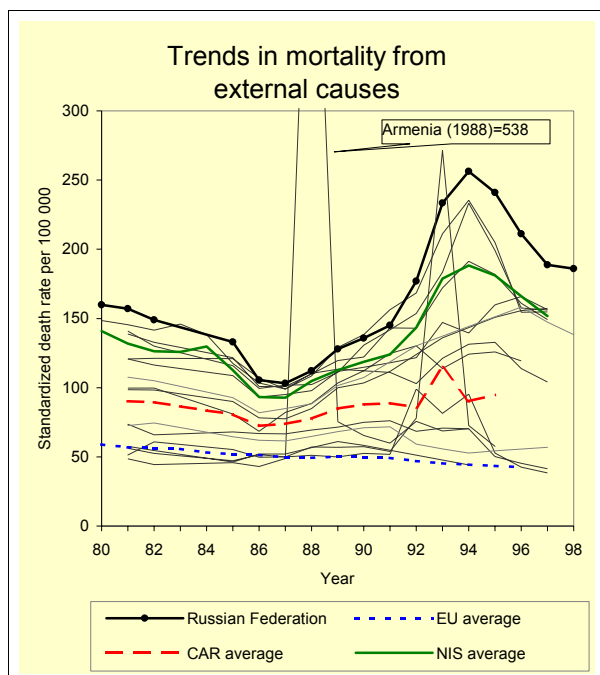
from injury and poisoning. It should be noted that a significant number of these deaths were also related to the consumption of alcohol.

Mental health

The mortality rate due to suicides in the Russian Federation in 1998 was among the highest in WHO's European Region. The SDR for men (63.4 per 100 000) is six times higher than for women (10.5).

Between 1991 and 1994 the mortality rate due to suicides and self-inflicted injury rose sharply. The number of suicides in Russia increased by 60% over this period and reached a level of 42.4 per 100 000 population in 1994. In recent years (1995–1998), the rate for this indicator has fallen substantially but it remains higher than the average for the NIS.

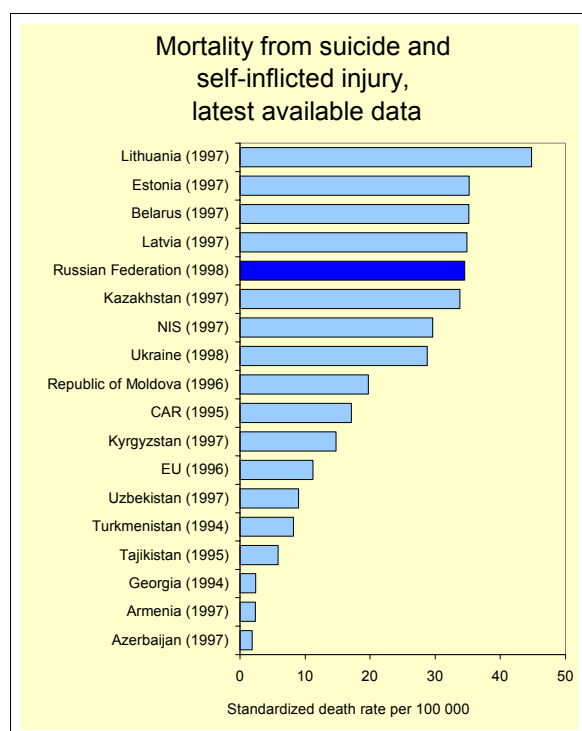
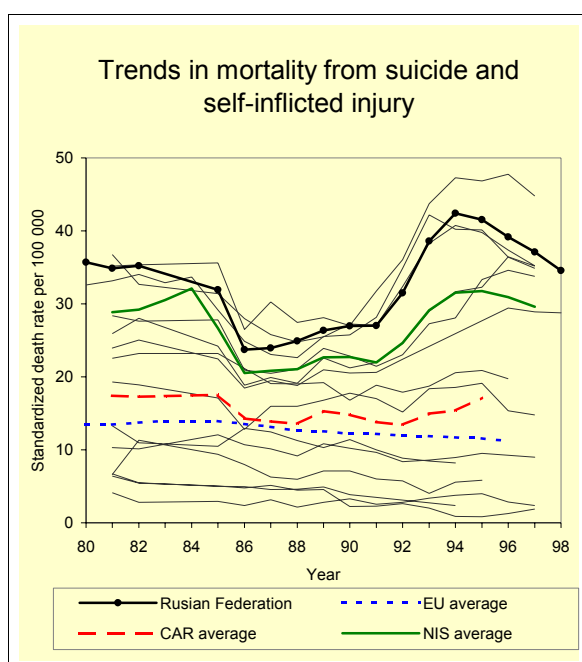
The period from 1990 to 1994 is characterized by rapid increases in the numbers of people



diagnosed for the first time with mental disorders or disorders related to substance abuse. Morbidity due to alcoholic psychosis, for instance, rose five-fold, but it has subsequently begun to fall.

Infectious diseases

Mortality from infectious and parasitic diseases in Russia almost doubled during the period 1991–1996. Presently mortality is stable and close to the average for the NIS which is well above the average for western Europe.



After a period of gradual decrease, the incidence of tuberculosis has been rising sharply since 1990. In 1997, the figure was 82 per 100 000 population, one of the highest in WHO's European Region. The increase in tuberculosis incidence is also related to the fact that patients diagnosed in corrective labour institutions are included in the Ministry of Health's statistics. Similar trends can be seen in most of the NIS. However, in this same period, rates have continued to fall gradually in EU countries.

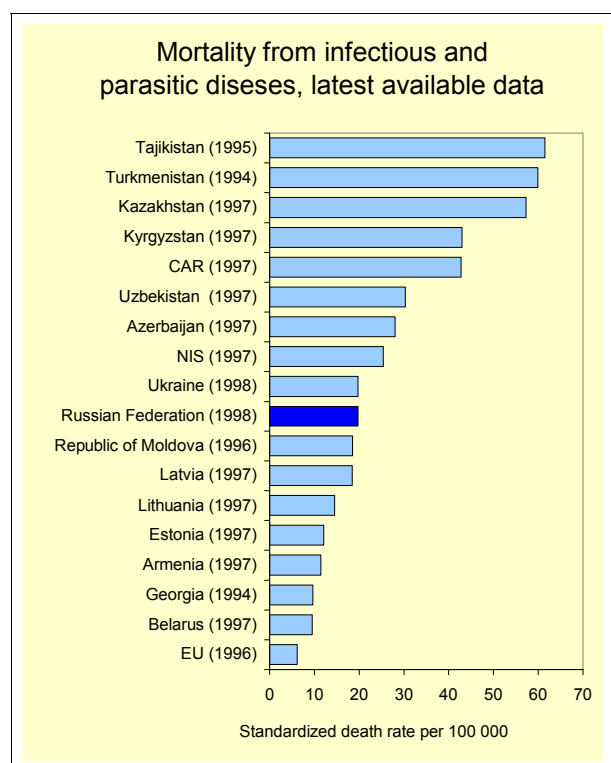
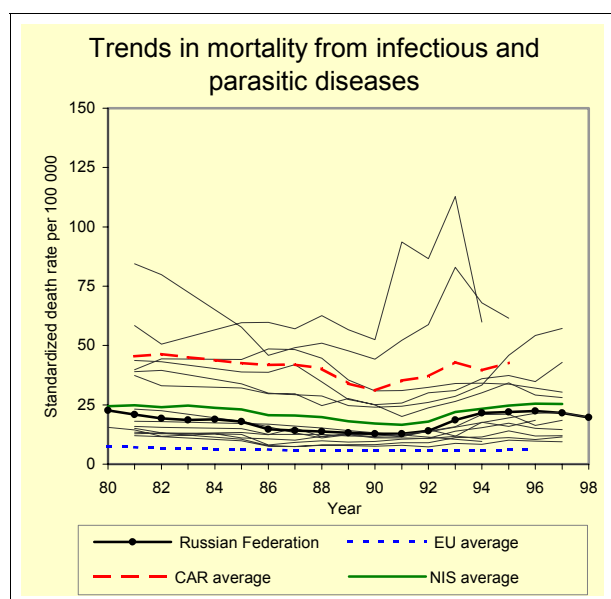
The epidemiological situation for diphtheria markedly deteriorated in the early 1990s; by 1994 all the constituent parts of the Russian Federation were affected, with a 54-fold increase in diphtheria incidence to 27 per 100 000 population. The mortality rate increased 35-fold. More than half of those who died were in the age group 40–49 years, of whom 95% had not been vaccinated. As a result of a series of preventive measures taken in 1996, the number of those infected has fallen by 62%. In 1996, vaccination coverage of young children reached more than 90% for the first time. Ninety-seven million people in the country have been vaccinated against diphtheria, included 70.8 million adults, or 83% of the total adult population. A rise in diphtheria incidence has also been seen in the other NIS. This is evidently related to a relaxation of preventive measures by health care services during this period of economic difficulties.

The incidence of venereal diseases and other sexually transmitted infections is reaching epidemic proportions. The situation with regard to syphilis is particularly disturbing: the incidence rate has increased 60-fold since 1989, and in 1997 it was 279.2 per 100 000 population, the highest in the European Region. In a number of regions (such as the republics of Tuva and Khakass, and Sakhalin and Kaliningrad provinces), the rate is double the national average. Particularly disturbing is the 77-fold increase in the incidence of syphilis among children, including an almost 9-fold increase in congenital syphilis. It should be noted that this is not a uniquely Russian problem. Similar trends are being seen in most NIS.

Until 1996, the Russian Federation was a country with a low prevalence of HIV infection. In 1996 the rate began to rise sharply, increasing

8-fold from 1995 levels. From when the first AIDS patient was notified to January 1996, 1062 people were registered as infected with HIV. In 1997, 4007 people were newly identified as carrying the virus.

In 1998, 98 cases of AIDS were clinically diagnosed. The sharp increase in the number of people carrying the infection is mainly due to intravenous drug users being infected. The spread of the virus among drug abusers does not bode well for the future course of the HIV epidemic in Russia, since the number of people using drugs is steadily increasing.



Disability

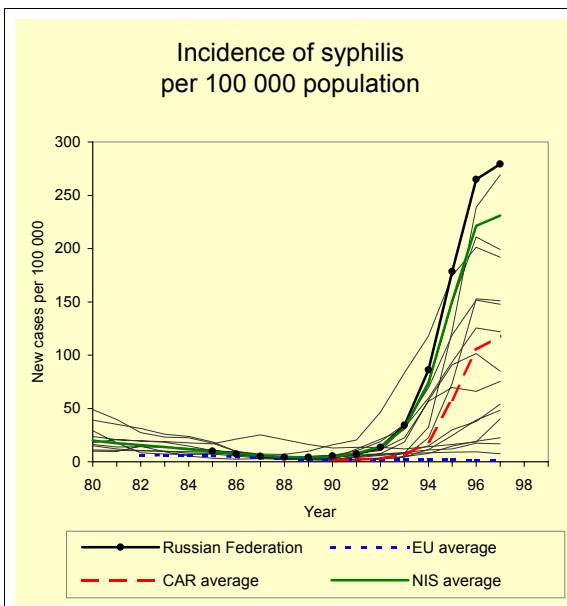
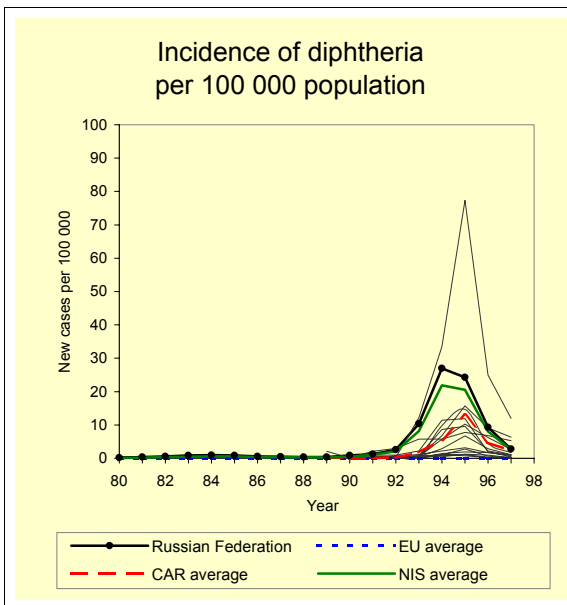
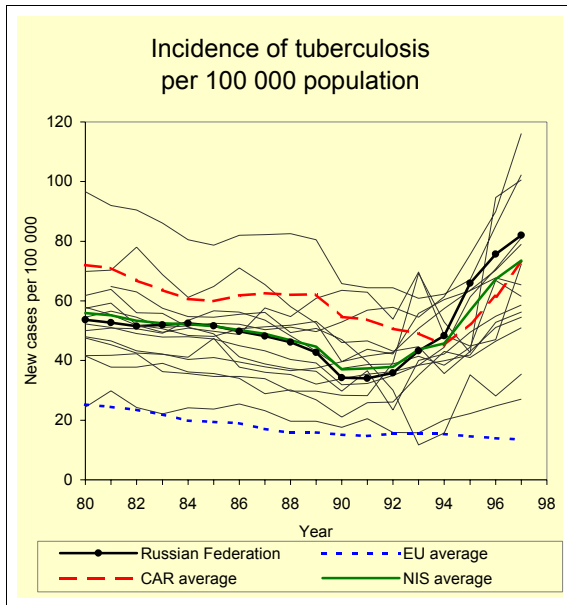
According to data from the Russian Ministry of Health, 1 142 000 people were registered as disabled for the first time in 1997.

Cardiovascular disease is the main cause of disability in the Russian Federation. New cases of disability decreased from 79.9 per 10 000 population in 1996 to 77.6 in 1997; this fall was due to decreases in disability owing to diseases of the cardiovascular system, diseases of the respiratory system and injuries. However, an increase is being seen in rates from malignant neoplasms, tuberculosis and endocrine diseases (including diabetes).

Health of children and adolescents

Infant mortality in the Russian Federation in 1998 was 16.4 per 1000 live births. Although this indicator is lower in Russia than in most NIS, it is substantially higher than the European average. Over the past ten years, infant mortality has fallen by 8.6%, mainly due to a decrease in post-neonatal mortality. In 1993 there was an increase, but this was mainly because of the transition to an international definition of "live birth". However, the Russian definition of "live birth" differs, as it did before, from WHO's definition as regards extremely premature live births. In the Russian Federation, an extremely premature infant (weighing less than 1000 grams, born after less than 28 weeks gestation or less than 28cm long at birth) has to live for seven days before being

Disability, new cases, by causes, per 10 000 population		
Cause of disability	1996	1997
All causes	79.8	77.6
Including:		
Cardiovascular diseases	40.2	37.6
Malignant neoplasms	8.5	8.7
Diseases of the nervous system and sense organs	5.6	5.7
Accidents, injury and poisoning	5.2	4.6
Mental disorders	4.5	4.6
Diseases of the musculoskeletal system and connective tissue	4.1	4.4
Diseases of the respiratory system	3.4	3.0
Incl. Tuberculosis	2.1	2.3
Endocrine diseases	1.9	2.1
Incl., diabetes mellitus	1.6	1.7
Diseases of the digestive system	1.4	1.3
Other diseases	2.4	2.3



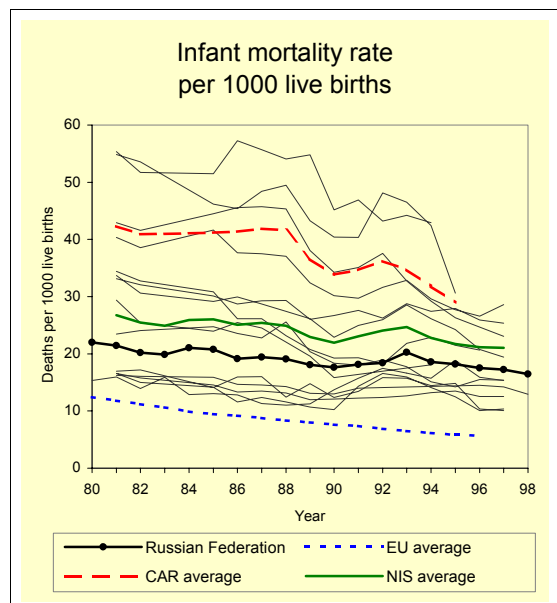
classified as a live birth. If this distinction is removed, then the infant mortality rate in Russia might increase by approximately 25% (*US National Centre for Health Statistics, NPO Medsocsekonominform, 1999*).

The mortality rate for children aged 0 to 14 years continues to show a downward trend. By 1997 it had fallen by 11% from 1987 levels (from 207.2 to 184.4 per 100 000 children). Respiratory diseases, infectious and parasitic diseases, and injury and poisoning continue to be leading causes of death in children aged 0 to 14 years.

Since 1995 there has been a steady decline in the incidence of diphtheria: in 1997 it affected 4.5 per 100 000 children, an almost ten-fold decrease from the 1994 peak (41.4 per 100 000). The diphtheria vaccination coverage rate in 1997 was 95.6%. There has been substantial success in lowering the incidence of measles, to 5.6 per 100 000 children in 1997. This was achieved through high vaccination coverage of children in the first two years of life (96.4% in 1997).

In 1997 there were increases in the incidence of pertussis (88.8 per 100 000 children) and mumps (238.0 per 100 000). Vaccination coverage against these diseases in 1997 was 88.8% and 86.8%, respectively.

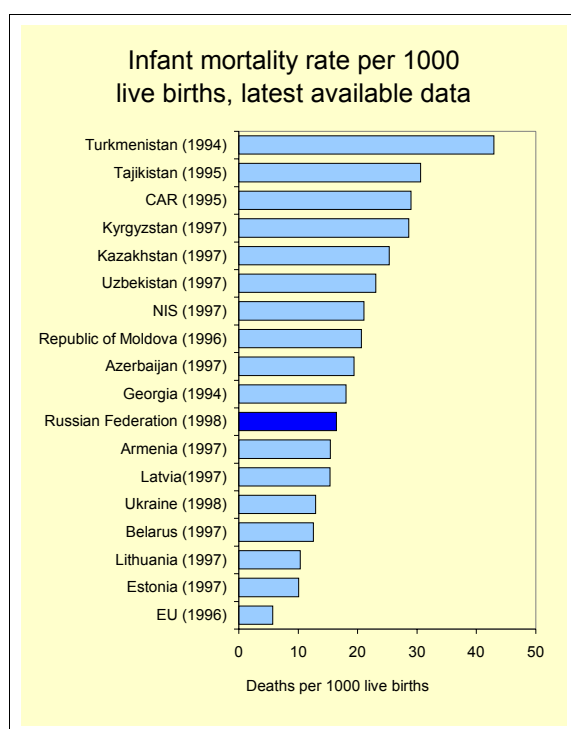
In 1996 vaccination coverage rates among infants aged under one year were 97% for poliomyelitis and 96% for tuberculosis and tetanus.



In 1997 300 children in the Russian Federation were registered as infected with HIV; 73 of these children were born to HIV-infected mothers (*Ministry of Health, 1998a*).

Women's health

In the Russian Federation women outlive men by 12 years and have lower mortality due to the main causes of death. Recent trends in female mortality show the same features as male mortality (but the amplitude is not as great),



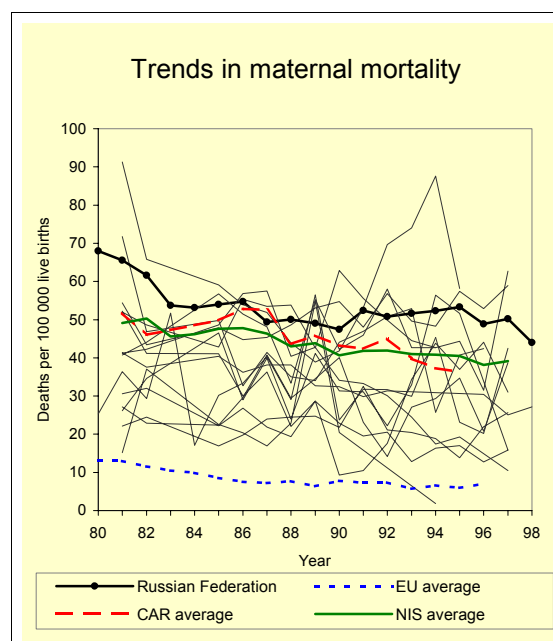
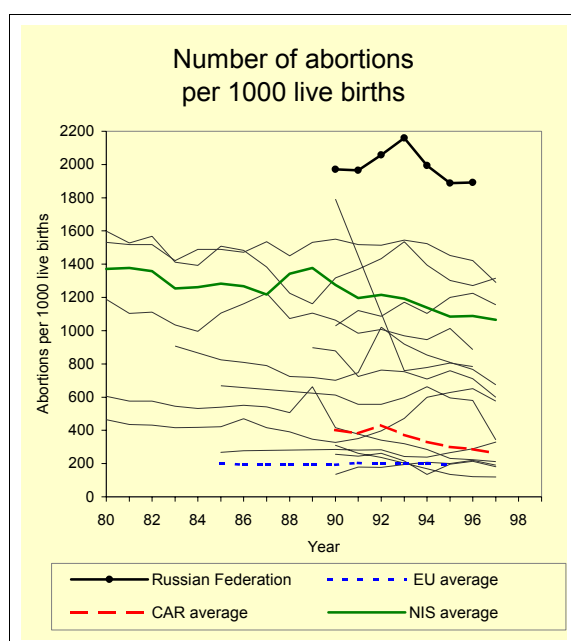
with an increase of approximately 25% in the period from 1990 to 1994, followed by a gradual decline. By 1998 mortality had fallen to approximately the same levels as 1984. The main causes of death in women are diseases of the circulatory system (60.6%), malignant neoplasms (14.0%), injury and poisoning (7.7%), diseases of the respiratory system (3.4%) and diseases of the digestive system (2.6%).

Maternal mortality fell slightly in 1998 (to 44.0 per 100 000 live births) but continues to be one of the highest among countries in the European Region.

The abortion rate has been falling since 1993; in 1997, it was 1860 per 1000 live births, but this is still the highest figure for this indicator in the Region.

Abortions remain the main cause of maternal mortality (24.3%), followed by haemorrhage during pregnancy or birth (11.4%), toxicosis (10.6), ectopic pregnancy (8.5%) and sepsis during birth (4.7%).

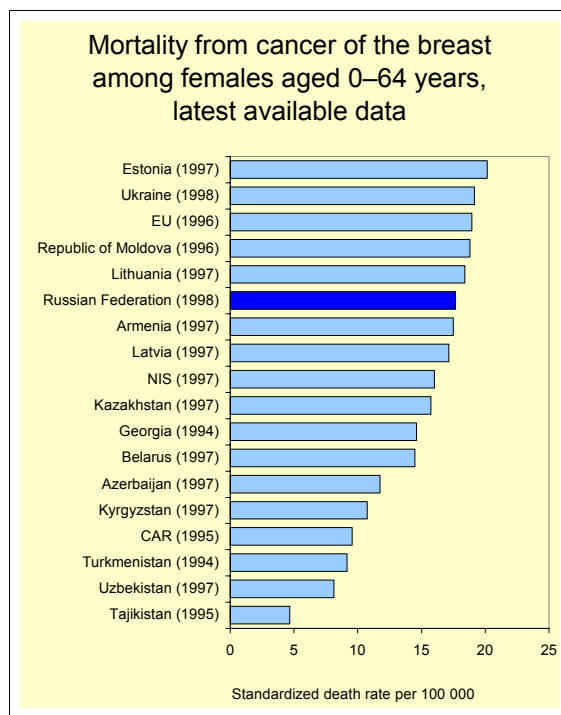
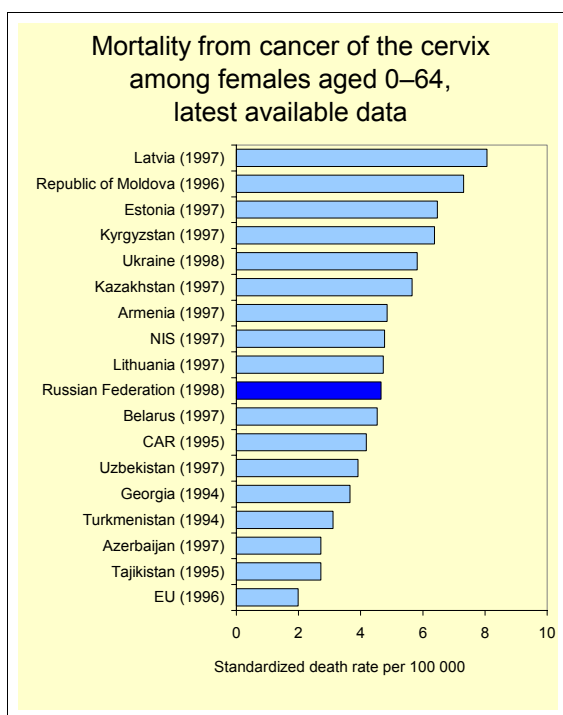
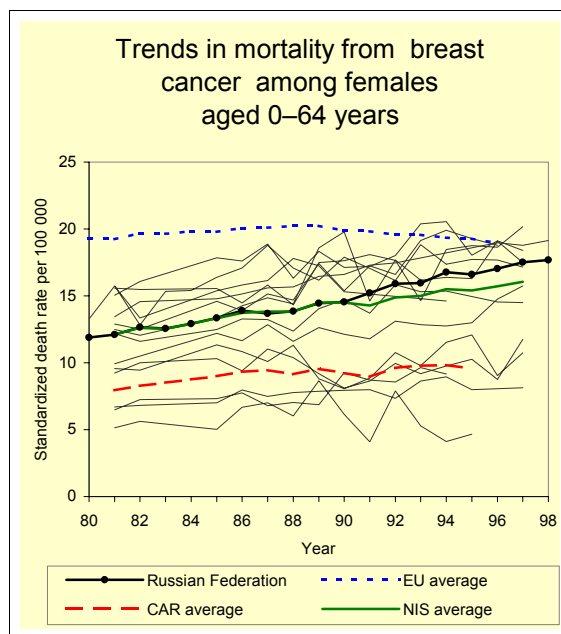
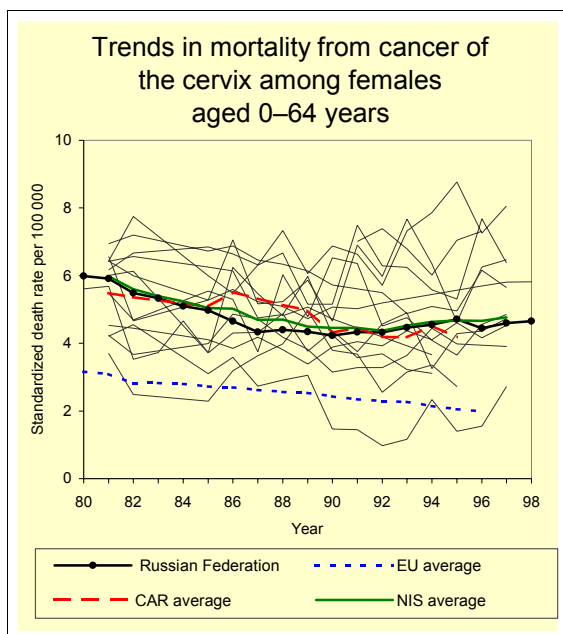
Women's reproductive health is not improving in the Russian Federation. Over the past five years the following incidence rates have increased: endometriosis (by 46.0%), complications of pregnancy, birth and the postnatal period (21.8%), and female infertility (3.2%). The incidence of anaemia has increased more than six fold over the past 10 years. The proportion of births without complications has



continued to fall, from 55.8% in 1985 to 31.8% in 1997 – this means that more than two thirds of births now have complications (*Ministry of Health, 1998a*).

The rate of premature mortality among Russian women due to cancer of the cervix in 1998 was roughly the same as to the average for the NIS, but twice as high as for EU countries.

In 1998 the rate of premature mortality due to breast cancer was close to the European average. However, there is a steady upward trend in this indicator in the Russian Federation: from 1980 to 1998 it increased by almost 50%.



LIFESTYLES

Tobacco consumption

Smoking prevalence in the Russian Federation has been estimated by epidemiological surveys conducted mainly in the largest cities (Moscow and Saint Petersburg). According to data from the Ministry of Health, smoking prevalence among adult men increased from 53% in 1985 to 67% in 1993, one of the highest rates not only in Europe but in the world.

The increase among women over this period was of the order of 15–20% (from 10% in 1985 to 25–30% in 1993).

Evidence concerning the prevalence of smoking among adolescents is alarming. Surveys have shown that 19.4% of boys and 9.7% of girls aged 15 smoke at least once a week (*WHO/EURO, 1997*).

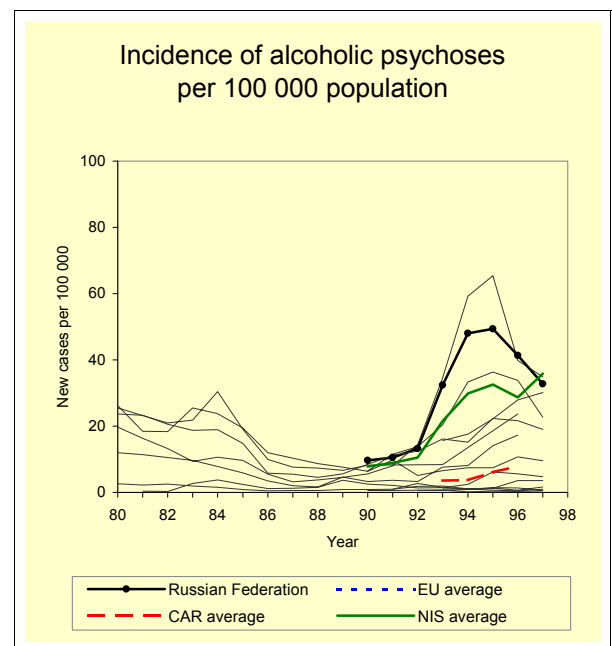
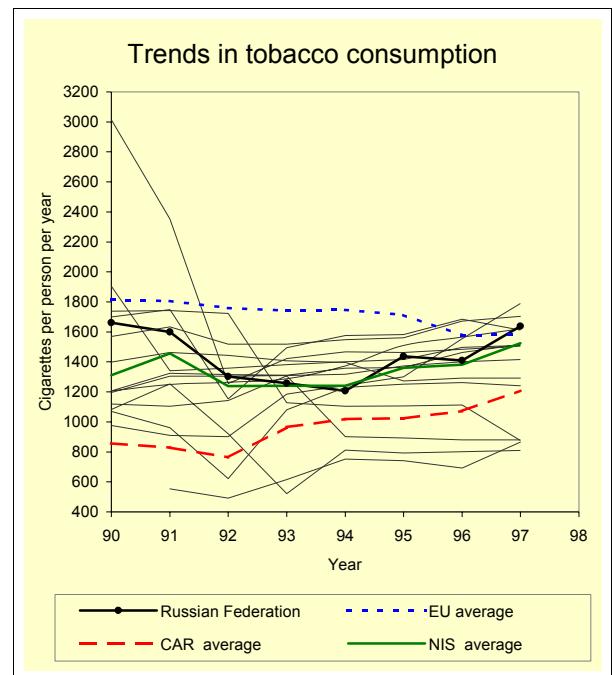
Cigarette smoking in Russia increased by 30% between 1995 and 1997.

Alcohol consumption

Alcohol consumption in Russia ranges, according to various estimates, from 11 to 14.5 litres of pure alcohol per person per year (1993 data). However, 7.5 to 8.5 litres of this comes from illicit sources. Alcohol consumption increased sharply after the bans introduced during the anti-alcohol campaign from 1985 to 1987 were lifted. Furthermore, alcohol prices have increased much more slowly than prices for other consumer goods, including foodstuffs. The structure of alcohol consumption is an important factor: the proportion of vodka is over 80% (*WHO/EURO, 1997*).

In the Russian Federation, like in the other NIS, trends in the number of first-time referrals to substance abuse clinics have shown a complex pattern over the past ten years. According to official medical statistics, the incidence of alcoholic psychosis increased 10-fold between 1988 and 1994 inclusive (from 5.1 per 100 000 population in 1988 to 50.0 in 1994). Between 1994 and 1997, however, the number of people diagnosed for the first time with alcoholic psychosis fell by 34%, and in 1997 the figure was 32.9 per 100 000 population.

In addition, there is a strong negative trend as regards the prevalence of alcoholism among women and children. The proportion of women among those registered as alcoholics was 12.2% in 1987, but rose to 14.5% in 1997. More than 54 000 adolescents and 5500 children were referred to substance abuse centres for the treatment of alcohol abuse (*Ministry of Health, 1998a*).



Illicit drug use

Drug abuse has now reached epidemic proportions in the Russian Federation. In 1997 231 000 people, or 152.8 per 100 000 population, were referred to substance abuse centres for drug problems or problems with other psychoactive substances. The number of registered drug abusers increased almost five fold between 1988 and 1999. The number of adolescent drug abusers increased 10 fold over the same period.

In 1997 the incidence of first diagnoses of drug abuse was 28.4 per 100 000 population, an increase of 37% since 1996 (for women the figure is 42%). According to data from the substance abuse register, the incidence of drug abuse among adolescents is almost 2.5 times greater than among the general population, and that of substance abuse is 8.8 times greater (*Ministry of Health, 1998a*).

Nutrition

At 2704 kCal in 1996, average daily calorie consumption per head was at the average for the NIS, but approximately 30% lower than the level recommended by WHO. This is related to a decrease in the proportion of energy obtained from fat and protein. In the years following the break-up of the USSR, the Russian Federation, like most other NIS, saw an increase in the consumption of potatoes and bread, and decreased consumption of meat, vegetables and fruit (*Bobadilla et al., 1997*).

The diet of all population groups, including children, contains an inadequate amount of B group vitamins, particularly B₂ (60–80% of the recommended amount), and of ascorbic acid. The minerals lacking in the diet are calcium salts and the more readily absorbed forms of iron.

An outline state policy has been drafted on a healthy diet for the population of the Russian Federation; it is aimed at improving the structure of the diet by increasing the proportion of widely consumed foods with a high nutritional and biological value. There is a proposal to increase by 20–30% the number of foods forti-

fied with vitamins and minerals (*Nutrition Institute of the Russian Academy of Medical Sciences, 1999*).

Overweight

Excess weight is one of the main risk factors for cardiovascular diseases. According to results from surveys of the urban population in Russia, which were conducted within the framework of the countrywide integrated non-communicable disease intervention (CINDI) programme, there is a high prevalence of overweight (BMI \geq 25), varying from 44% to 59% among men and from 59% to 74% among women in the age group 25–64 years.

According to WHO/EURO data, the prevalence of obesity (BMI \geq 30) in Russia's population in 1996 was also substantially higher (particularly among women) than in western European countries.

Blood pressure and blood cholesterol levels

Arterial hypertension and a high serum cholesterol level are among the main risk factors for cardiovascular diseases. Under the CINDI programme, a study was carried out in the Russian Federation of the prevalence of arterial hypertension, using “soft” (\geq 160/95 mm Hg) and “hard” (\geq 140/90 mm Hg) criteria. Of those surveyed, 24% to 37% of men suffered from high blood pressure according to the “soft” criteria, while this figure was as high as 60% when the “hard” criteria were applied. Among women these figures were somewhat lower, with 18 to 28% according to the “soft” criteria. Applying the “hard” criteria the figures almost doubled, ranging from 34% to 51% depending on the region.

The prevalence of raised cholesterol levels (total cholesterol \geq 250mg%) varied from 9% to 32% among men and from 12% to 26% among women (*State Research Centre for Preventive Medicine, 1999*).

Raised total serum cholesterol levels have been found in 21.3% of men and 17.8% of women aged 20–59 years.

ENVIRONMENT AND HEALTH

Air quality

Because of a decline in industrial production in the Russian Federation in recent years, levels of air pollution caused by particulates and sulphur dioxide from stationary sources have fallen. However, the rise in the number of motor vehicles is leading to an increase in pollutants such as carbon dioxide, nitrogen dioxide and particulates. In towns with heavy traffic, concentrations of lead in the air are 10–15 times higher than the health and safety standards, owing to the continued use of tetraethyl lead additives in petrol.

More than two thirds of the population of the Russian Federation live in areas affected by air pollution at levels which exceed the health and safety standards in force. More than 50 million people are subject to the effects of harmful substances in concentrations that are more than 10 times the maximum permissible limits.

Heavily industrialized areas, such as the Urals, have become particularly bad in this respect. In Sverdlovsk Province, for instance, approximately 3 million people live in an area of high air pollution (*Ministry of Health, 1999*).

Safe water and water supplies

Drinking water supply has been a problem in the Russian Federation for a number of years and is still an acute issue. Approximately one third of the samples taken from piped water supplies do not meet hygiene standards in terms of chemical indicators. In some regions (the Republic of Kalmykiya, the provinces of Kemerovo and Kurgan), this proportion is more than 50% (*Ministry of Health, 1998b*).

The state of water sources in the Russian Federation also remains a serious problem. Practically all surface water sources are being significantly polluted, either by industrial or by human waste. Microbial pollution of surface water sources increased from 12.5% in 1991 to 22.8% in 1997. In 1997, 18.3% of sources of piped water did not meet hygiene standards because they did not have a sanitary protection zone. In areas where drinking water supplies are obtained from surface water, pesticides were found in 1% of samples (*Ministry of Health, 1999*).

Waste disposal and treatment

The main branches of industry which create and accumulate toxic waste are still ferrous and non-ferrous metallurgy, power stations, and the chemical and oil refining industry. The total amount of toxic waste accumulated in slag heaps and dumps is now as high as 1.5 thousand million tonnes. Fourteen thousand tonnes of pesticides need to be neutralized. In 1997, 89.4 million tonnes of toxic waste were produced, twice as much as is recycled or neutralized.

The problem of recycling solid household waste is being solved too slowly. In 1997, 130 million m³ of solid household waste was produced as a result of municipal cleansing operations. Solid waste processing plants and incinerators processed only 3% of this total volume (*Ministry of Health, 1999*).

Because of the industrial recession and the decrease in the volume of industrial atmospheric pollutants, the potential industrial burden on the land in populated areas is also falling. However, there is still a tendency for toxic substances to accumulate in the soil near to sources of industrial pollution and main roads. In the Russian Federation as a whole, an average of 13% of soil samples in 1997 (13.4% in 1996) did not meet health and safety standards out of which 2.7% had higher levels of pesticides, 15.7% contained heavy metals, and 5.4% were found to contain higher levels of radioactive substances (*Ministry of Health, 1998a*).

Food quality

In the Russian Federation, 1–3% of food samples tested in various years have contained levels of chemicals exceeding the health and safety limits. Nitrates are present, in quantities exceeding maximum permissible levels, in 2% of samples. The proportion of samples which do not meet standards for mycotoxin and toxic metals (mercury, lead, cadmium) content is decreasing year on year. The presence of pesticides in food can be qualified as insignificant, since only 0.4% of samples exceeded the limits.

The situation as regards microbiological contamination of foodstuffs has tended to improve over the past 5–7 years. The proportion of samples failing to meet standards in terms of microbiological indicators decreased over the period 1992–1997 from 9.8% to 7.2% (*Ministry of Health, 1999*).

Occupational health and safety

Working conditions have tended to deteriorate in all branches of industry and in agriculture, despite decreased levels of output. Action to promote health is not at all adequately funded. Measures to improve working conditions and health and safety at work are being implemented at a rate of only 50–70%.

In industry, construction and transport, one in five workers has to work in conditions which do not meet health and safety standards. Furthermore, the number of such workplaces is

constantly increasing. A high proportion of samples contain the most toxic substances in excess of the limits set, and for gases and aerosols this figure is 15%. In 1997 the largest numbers of serious poisonings were caused by chlorine, carbon monoxide, hydrogen sulphide and ammonia. Cases of chronic poisoning in industry were caused mainly by mercury, carbon disulfide and lead.

The rate of registered occupational diseases in the Russian Federation is approximately 2 per 10 000 workers. However, they are underdiagnosed: of the total number of new chronic occupational diseases registered in 1997, only 54.6% were detected in routine medical examinations at work.

Approximately 15% of women working in industry do so in conditions which do not meet health and safety standards (*Ministry of Health, 1999*).

HEALTH CARE SYSTEM

Health system reform

The reform of the health care system in Russia, begun in 1991, was precipitated by the pressing need to create the necessary conditions to curb costs and improve efficiency. The main aims of the various stages of the reform were to secure the constitutional rights of the public to health care, to create a multi-layered health care system with the state still as the main provider, and to ensure continuity in the work of health care establishments (*Ministry of Health, 1998a*).

The main thrust of the reform was to use two key mechanisms – decentralization and financial restructuring – to solve a large number of problems.

Decentralization involved giving the regions some independence in decision-making and allowing regional government or local authorities a greater degree of responsibility, which was reflected in the corresponding legislation. The Department for Relations with the Regions (part of the Directorate for the Organization of Public Medical Care under the Health Ministry) is currently collaborating with the regions. The most important element of this collaboration is the tripartite agreement on “Collaboration in implementing government policy on developing health care” with the Federal Fund of Compulsory Medical Insurance and the governments of the constituent parts of the Russian Federation.

Given the sharp increase in the cost of medical services and the economic crisis of 1991–1992, it was no longer possible to rely on general taxation as the main source of funding. In 1993 the Russian Federation therefore adopted a scheme of compulsory social/state medical insurance, to be funded by statutory employers’ contributions amounting to 3.6% of the total payroll. (*Government of the Russian Federation, 1993*)

Continuing reform is currently based on two main documents: the outline plan (the Concept) for developing health care and medical science, approved by the Government of the Russian Federation on 5 November 1997 (Law

no.1387) and the Programme of State guarantees to provide free medical care to the citizens of the Russian Federation.

According to the outline plan, the main approaches to improving the organization of medical care were to be the development of primary health care using municipal health care as the basis, and a shift from inpatient to outpatient care. A special role is accorded to development of the institution of general practitioner (family doctor) and to the development of cost-saving technologies.

The Programme of State guarantees encompasses most of the range of health care services and indicates which services are provided under the basic programme of compulsory medical insurance and which are met from the budgets of the different levels of government. Guideline figures have been given for the volume of medical care (by category), and per capita norms are defined but not quantified. However, this programme may not be implemented in many regions, unless some indication is given as to how it should be funded.

At the moment the basic documents therefore exist to determine the direction of further reform. In practice, however, the success of reform is in many respects determined by the available funding opportunities in these times of continuing social and economic crisis.

Health care expenditure and health system funding

Although free medical care is guaranteed by the Constitution of the Russian Federation increasingly lower levels of funding mean that this cannot be achieved in full.

While health expenditure in EU countries is more than 8% of GDP per year and is continuing to increase gradually, health expenditure in Russia is around 2.2% of GDP. In terms of health expenditure, Russia has one of the lowest figures in the European Region.

As of 1 January 1998, 86.7% of the total population were insured under compulsory medical insurance agreements.

In 1997 income from compulsory medical insurance covered on average 35% of health expenditure. Of this amount, 76% was spent directly on the delivery of public medical services and the remaining 24% went on administrative costs. Arrears in insurance contributions remain a problem; as of 1 January 1998 they amounted to almost twice the annual income of the regional medical insurance funds (*Ministry of Health, 1998a*).

Outpatient services

In 1997 the Russian Health Ministry had 18 231 medical establishments with outpatient facilities. This figure includes 6152 independent outpatient polyclinics and 11 131 polyclinical departments in hospitals and clinics. Dental care was provided in 948 independent dental polyclinics.

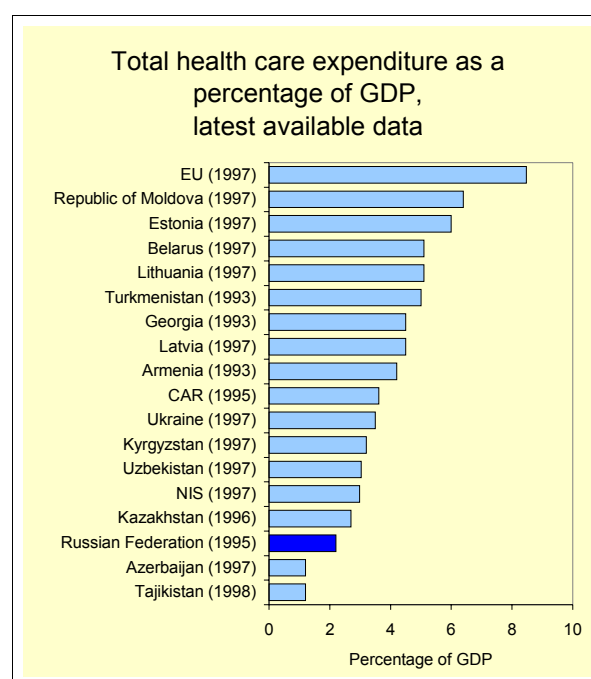
In addition to this, primary health care facilities included 3150 ambulance stations and departments, 631 first aid posts staffed by doctors, 10 483 first aid posts staffed by auxiliaries, and 43 951 obstetric posts staffed by midwives and auxiliaries.

A general comparison with 1996 shows a slight decrease in the number of primary health care facilities.

The average number of visits per person (including to doctors at first aid posts and in casualty departments) in 1998 was 9.1, one of the highest figures in the European Region.

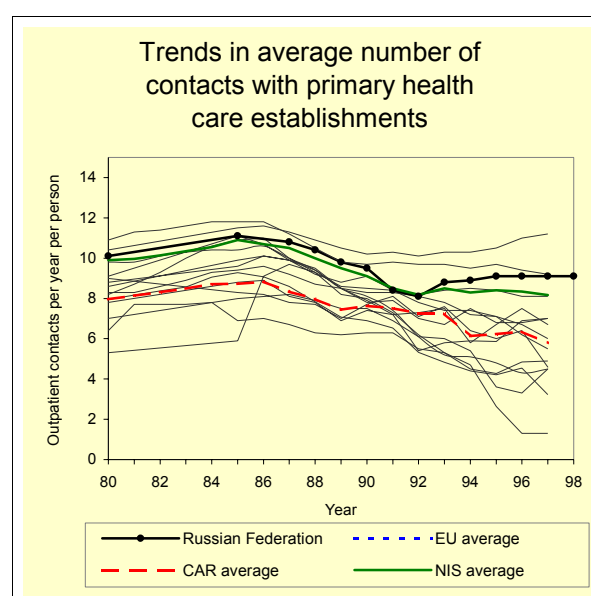
There continue to be promising developments in the organization of medical care such as day inpatient care and “hospital at home” initiatives. In 1997, day inpatient facilities were available in 1622 outpatient polyclinics; they treated 867 000 patients. In addition, 708 establishments introduced “hospital at home” initiatives. More than 227 000 people were treated in this way.

In 1997, particular attention was paid to integrating general practitioners (family doctors) into the health care system. At the instructions of the Government, the Ministry of Health drafted a federal targeted programme on “Family medicine” (*Ministry of Health, 1998a*).



Health care resources and their utilization in the Russian Federation, compared with European averages		
	Russian Federation (1998)	Europe (1996)
Hospital beds per 100 000 population	1140.6	828.0
Physicians per 100 000 population	418.6	352.0
Hospital admissions per 100 population	20.6	18.5
Average hospital stay, days	16.3	12.9
Health care expenditure as a percentage of GDP (1997)	2.2 ^a	6.0

^a 1997

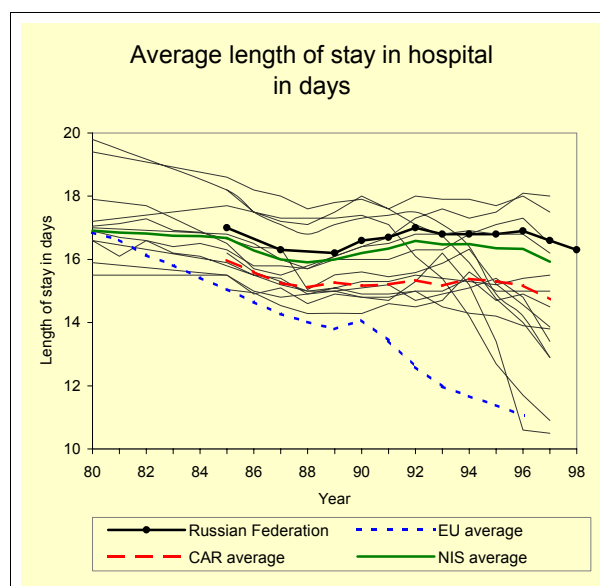
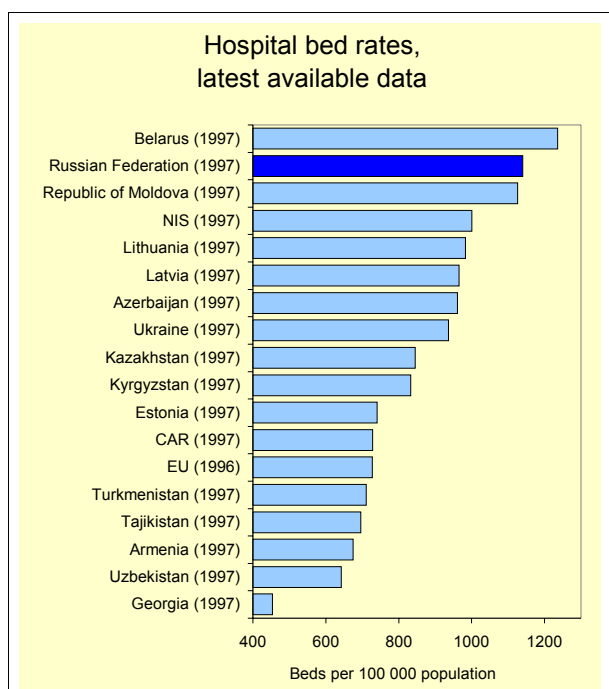
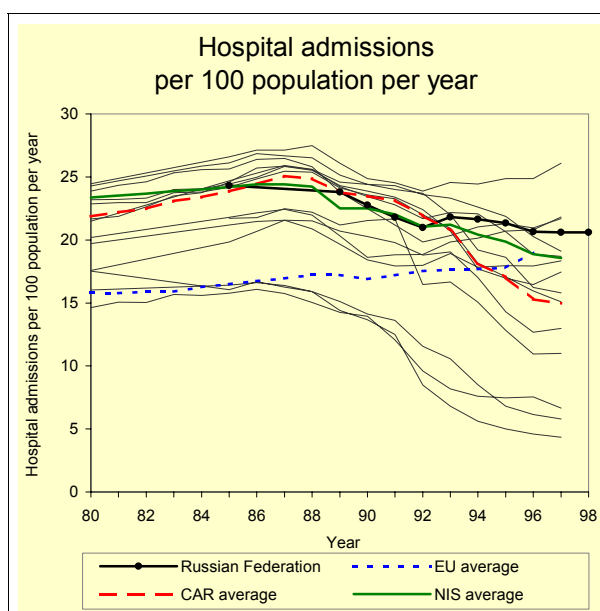
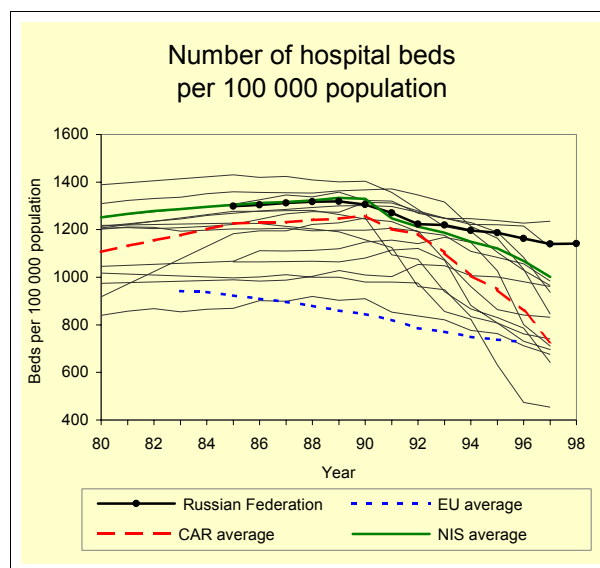


Inpatient services

Health care reform in Russia is aimed at restructuring and optimizing the work of inpatient care facilities. This restructuring led to a decrease in the number of beds, although not by so much as occurred in most other NIS. In 1998 the number of beds in the Russian Federation had fallen by 13.5% from 1989 levels, to 1140.6 beds per 100 000 population, approximately one third more than in EU countries (727.6 per 100 000).

The number of hospital admissions has generally stabilized (20.6 per 100 people in 1998) at a level higher than average for EU countries and the CAR.

The average duration of inpatient treatment in 1998 was 16.3 days, and this shows no clear sign of decreasing as it does in the EU countries and the CAR. The Russian Federation is among the group of NIS with an average hospital stay of longer than 16 days, and has a similar trend in terms of this indicator to Azerbaijan, Kazakhstan, the Republic of Moldova and Ukraine.

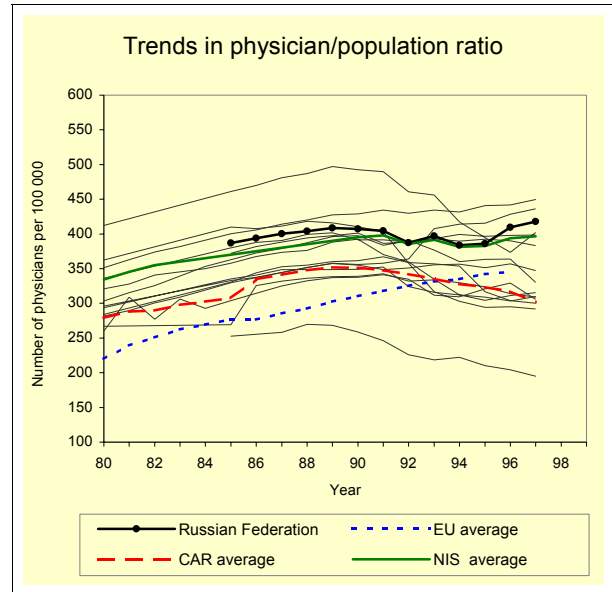


Medical personnel

After a slight decrease in the ratio of medical personnel to the population in 1992–1995, the trend is now upwards, like in EU countries. In 1998 the ratio was 419 per 100 000 population, one of the highest in the European Region.

The low ratio of physicians to intermediate-level medical personnel (1:2 in 1997) is still a major problem.

Data on the numbers of medical personnel should be approached with caution, since the statistical definitions of “physician” and, in particular, of “nurse” in the Russian Federation differs from those used in many other countries.



REFERENCES

- STATE STATISTICS COMMITTEE (GOSKOMSTAT), 1999. *Information on the socio-economic situation in Russia, Demography*. (www.gks.ru)
- MINISTRY OF HEALTH, 1998A. *Government report on the health status of the population of the Russian Federation in 1997*, Moscow.
- MINISTRY OF HEALTH, 1998B. *The health of Russia's population and the activity of medical establishments in 1997 (statistical material)*, Moscow.
- MINISTRY OF HEALTH, 1999. *National Environmental Health Action Plan of the Russian Federation for 1999–2002 (draft)*, Moscow.
- US NATIONAL CENTRE FOR HEALTH STATISTICS, NPO “MEDSOCSEKONOMINFORM [SCIENTIFIC AND INDUSTRIAL ASSOCIATION OF MEDICAL AND SOCIAL STUDIES, ECONOMICS AND INFORMATION TECHNOLOGY], 1999. *Maternal and Child Health Statistics. Russian Federation and United States of America, selected years 1985–1995. Health and Health Care Statistics Vol. 5 (10)*.
- GOVERNMENT OF THE RUSSIAN FEDERATION, 1993. *Law of the Russian Federation No. 4543–1, dated 24 February 1993, on establishing a Federal Fund of Compulsory Medical Insurance*, Moscow.
- UNDP OFFICE IN RUSSIA, 1999. *Human Development Report 1998, Russian Federation*.
- STATE RESEARCH CENTRE FOR PREVENTIVE MEDICINE UNDER THE MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION, CINDI–RUSSIA, 1999. *Monitoring risk factors for noncommunicable diseases, mortality and other indicators of the development of the CINDI programme. Report*. Moscow.
- ECONOMIST INTELLIGENCE UNIT, 1999. *Russia 1999–00 Country profile*.
- WHO REGIONAL OFFICE FOR EUROPE, 1997, Copenhagen, Denmark. *Smoking, drinking and drug taking in the European Region*.
- UN ECONOMIC COMMISSION FOR EUROPE, 1999. *Trends in Europe and North America*, UN Economic Commission for Europe, 1998/1999.

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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