Chapter 3

LOWER MORTALITY: THE CATEGORICAL IMPERATIVE

3.1. An intolerable gap

The mortality crisis is one of the clearest manifestations of Russia's long-term demographic crisis.

Signs of this crisis have been visible since the mid-1960s. At that time Russia has not yet caught up with Western countries with respect to mortality reduction, but had greatly reduced the gap, and seemed on track to draw level with the West. However, in 1965 the gap began to widen once again, and by the end of the 20th century Russia was as far behind as it had been 100 years before.

Life expectancy at birth is a summary index, which traces development of the mortality crisis in Russia since the middle of the 1960s and measures scale of the current gap compared with developed and developing countries.

The situation with female mortality can be more or less adequately described as 40 years of stagnation: life expectancy for women has stayed at the level of 1964, with a slight increase in 1986-1992. In 2006 women's life expectancy was 0.33 years less than in 1964. However, male mortality figures have worsened significantly. In 1964 men's life expectancy rose above 65 years for the one and only time in Russia's history. By 2006 male life expectancy was 4.75 years less than in 1964.

Figure 3.1 shows widening of the gap between Russia and other developed countries since 1964, and Figure 3.2 shows the results in other developed countries over 40 years. In 2004 life expectancy in Russia for both sexes was the shortest among 33 European countries. The USA and Japan also leave Russia far behind.

Many international publications now even rate Russia behind some developing countries, which could not compete with Russia by life expectancy 40 years ago. In particular, the UN Human Development Report for 2000-2005 places Russia 119th in the world in terms of life expectancy for both sex-

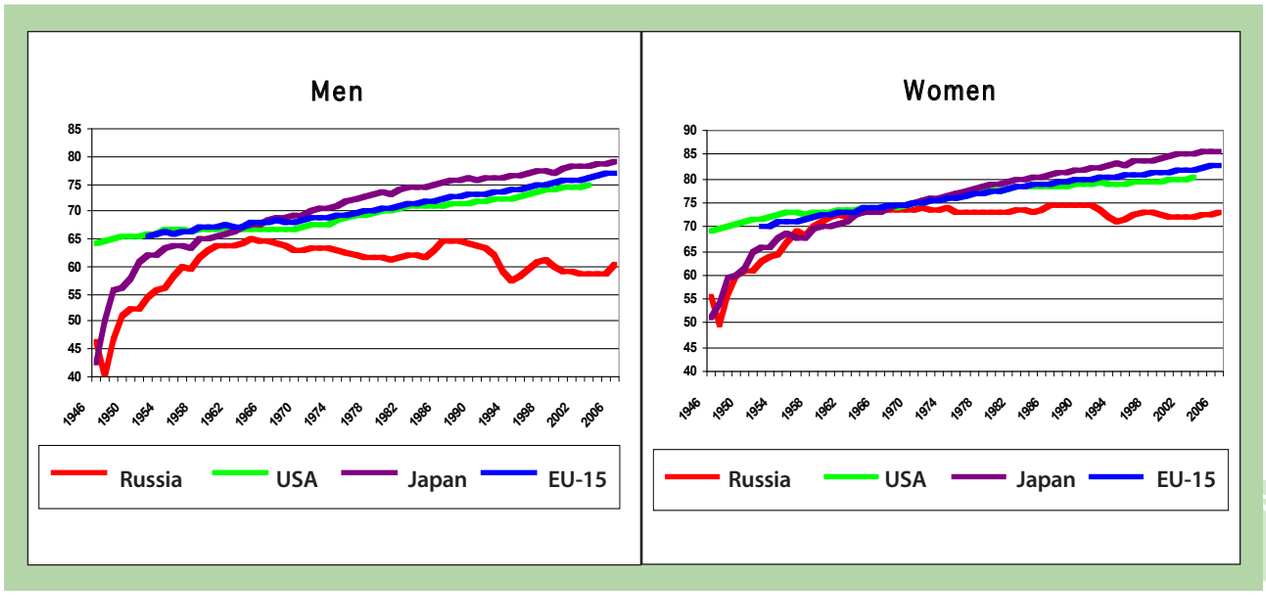


Figure 3.1. *Life expectancy in Russia, European Union, USA and Japan, 1946-2006, years*

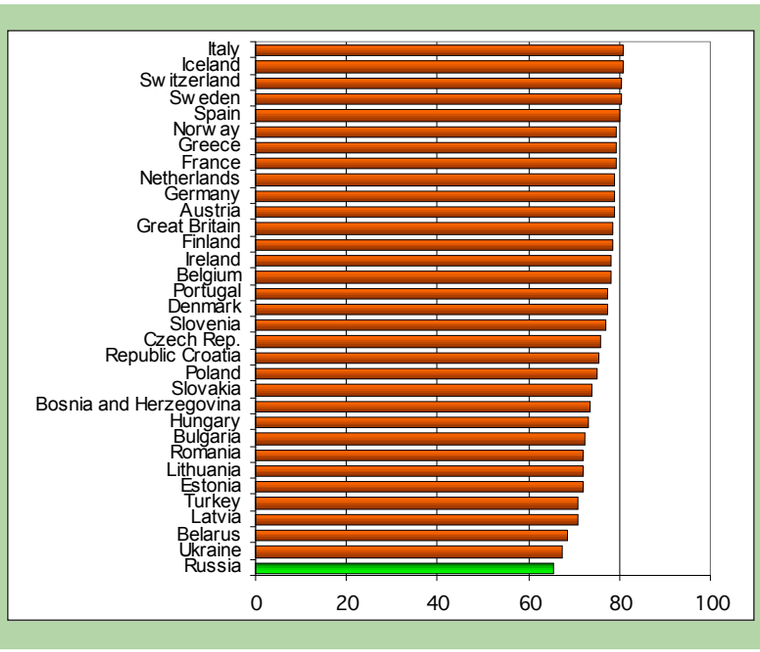


Figure 3.2. *Life expectancy in European countries in 2004, years*

es, behind many developing countries[1]. The nature of mortality statistics in these countries suggests that such data should be treated with caution, as they are sometimes based on local surveys and fail to encompass the whole country. Nevertheless, it is quite possible that Russia is now behind many countries of Asia and Latin America by life expectancy.

3.2. The crisis can be overcome

Russia is not the only industrially developed country where unfavorable mortality trends since the mid-1960s have caused an increasing gap compared with countries that have the same development level. The same processes were observed to varying degrees in all former "socialist" countries of Eastern Europe and in former European republics of the USSR.

Russia always stood out by high mortality rates, even among these countries, but the dynamics of mortality in the 1970s-80s in all these countries were similar (stagnation or decline of life expectancy, attaining crisis levels) (Figure 3.3).

However, trends became more varied from the end of 1980s and a steady increase of life expec-

Box 3.1. Regional inequalities in life expectancy

Life expectancies and speeds of change of life expectancies differ across Russia's regions (Table 3.A). However, trends in expectation of life in all of the Federal districts are in line with the overall national dynamic (Figure 3.A).

Table 3.A. *Life expectancy in Federal districts in 1990 and 2006, years*

	Men			Women		
	1990	2006	Changes	1990	2006	Changes
Russia	63.80	60.37	-3.43	74.40	73.23	-1.17
Federal districts						
Central	63.90	59.87	-4.03	74.80	73.32	-1.48
North-West	63.80	59.08	-4.72	74.10	72.52	-1.58
Southern[2]	64.40	63.22	-1.18	74.70	74.6	-0.1
Volga	64.40	60.01	-4.39	75.10	73.41	-1.69
Ural	64.10	60.54	-3.56	74.30	73.29	-1.01
Siberian	62.60	58.32	-4.28	73.40	71.52	-1.88
Far East	62.30	57.9	-4.4	72.60	70.65	-1.95

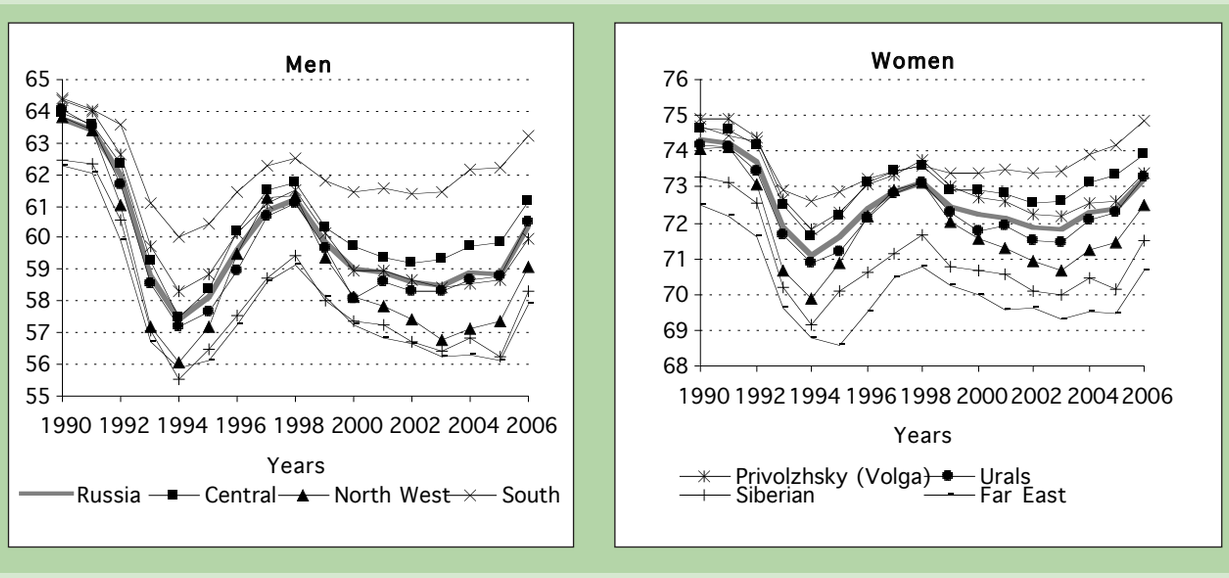


Figure 3.A. *Life expectancy at birth in Federal districts in 1990-2006, years*

Throughout the period under consideration highest life expectancy has been observed in the Southern Federal District, while the Siberian and Far East districts have been marked by lowest life expectancy. The period of mortality increase and declining life expectancy, which lasted until 2006, was accompanied by increasing heterogeneity between districts. The difference between maximum and minimum life expectancies in Federal districts increased from 2.1 to 6.1 years for men and from 2.5 to 4.7 years for women over a period of 15 years (1990-2005). But the difference decreased in 2006 to 5.3 years for men and 3.9 years for women.

The distribution of subjects of the Federation by life expectancy also saw major changes through the period (Figure 3.B).

In 1990 the distribution was very pointed and asymmetrical for both men and women. By 1994, during the period of mortality increase, the distribution shifted to the right and became less concentrated, but gained a certain symmetry. Decrease of mortality in 1994-1998 was accompanied both by growth of concentration of regions and growth of asymmetry. But the levels of 1990 were not regained. Finally, changes of the mortality level in 1998-2005 returned the distribution for men to the level of 1994, but there is greater difference between the distributions of 1994 and 2005 for women: the 2005 distribution for women occupies an intermediate position

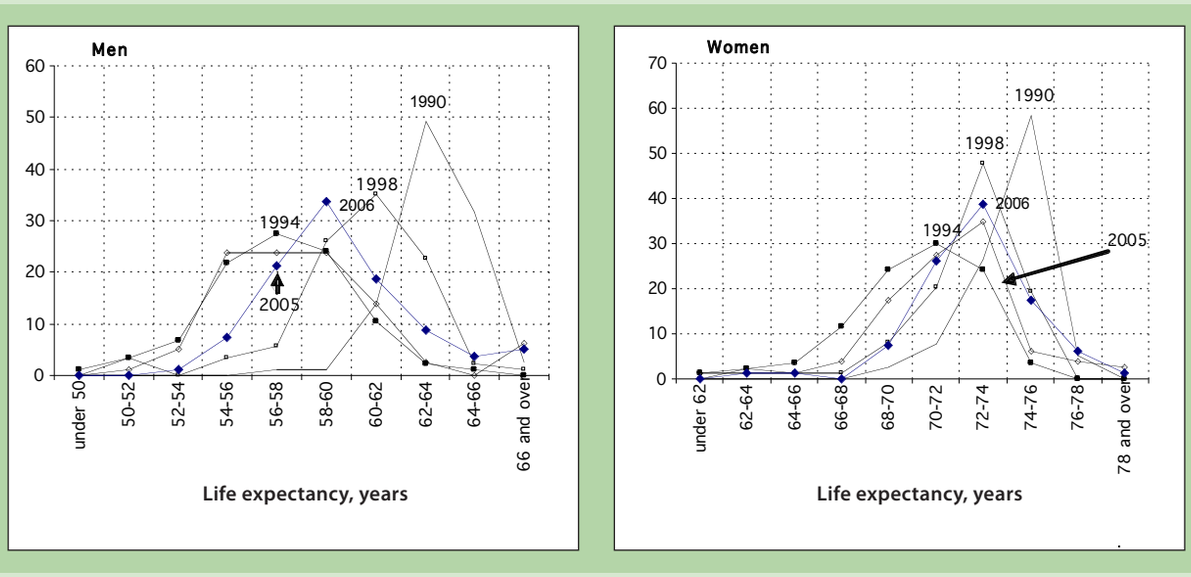


Figure 3.B. *Distribution of Russian regions by life expectancy for men and women at birth in 1990, 1994, 1998, 2005 and 2006, %*

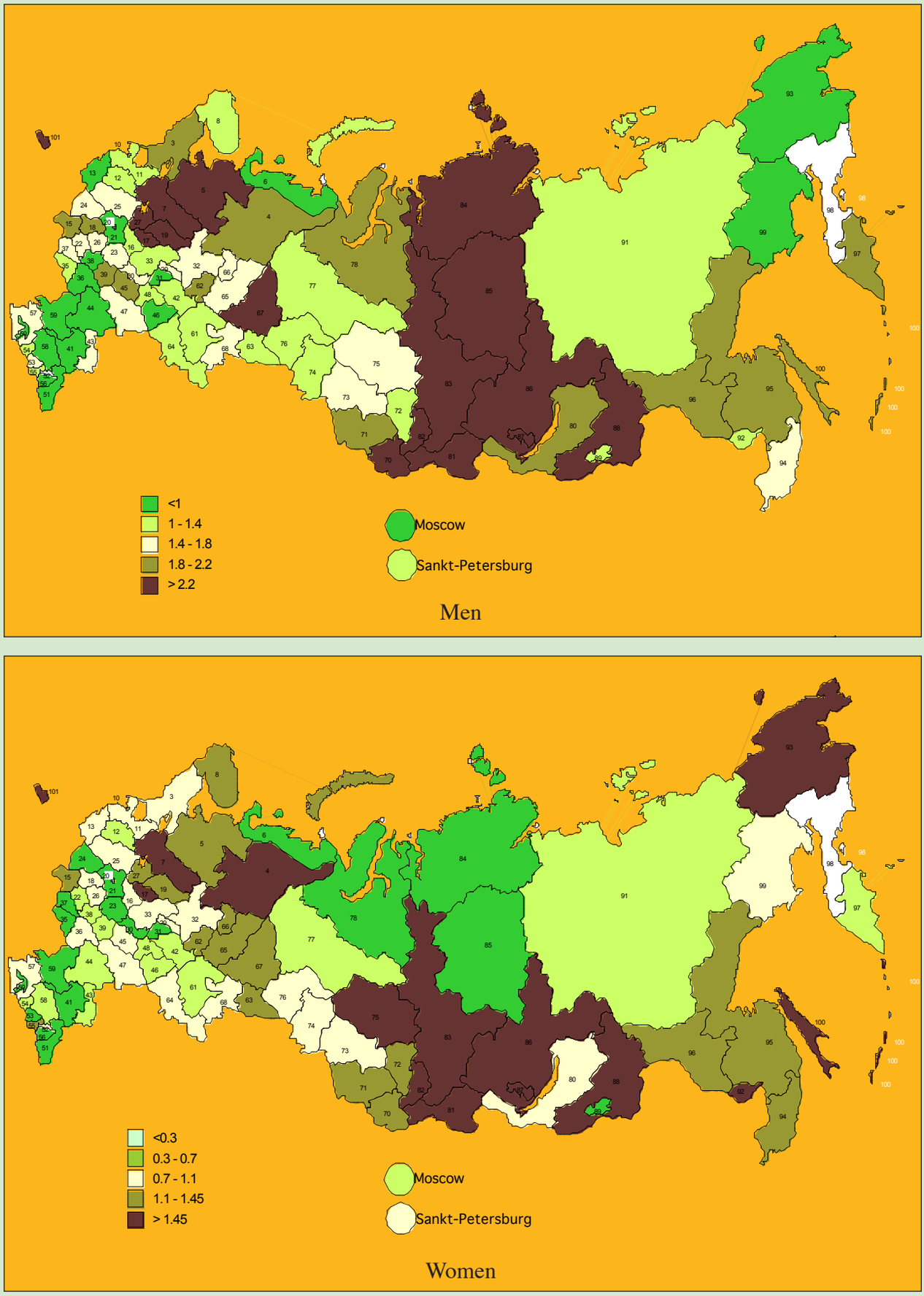


Figure 3.C. *Increase of life expectancy in 2005-2006 in Russian regions, years*

between 1995 and 1990. In 2006 the situation looks more like the end of the 1990s with increasing concentration and asymmetry.

Mortality levels declined throughout Russia in 2005-2006, but rates of decline in different regions varied (Figure 3.B).

The largest improvements in male life expectancy were in the Republic of Tyva, Krasnoyarsk Region, Irkutsk Region, Kaliningrad Region, Khakassia, Ust-Orda Buryat District, and Koryak Autonomous District. The smallest improvements were in regions of the Northern Caucasus, in Moscow and in the Chukotka Autonomous District. The problem of Chukotka requires special study as alcohol-related mortality has increased there. The role of alcoholism in mortality levels in Moscow and the Northern Caucasus is less significant.

Female life expectancy has seen strong growth in Chukotka. Other leading regions by development of female life expectancy are Krasnoyarsk, the Republic of Tyva, Sakhalin Region, the Jewish Autonomous District, and Khakassia. Female life expectancy has declined in the Nenets, Yamalo-Nenets, Agin-Buryat, Taimir, Evenk, and Koryak autonomous districts, as well as in the republics of Adigeya and Kabardino-Balkariya. It may be that measures to improve road safety and to resist alcohol-related mortality had little impact on women in these regions, while overall negative tendencies in the regions remained unchanged.

tancy has been seen in some Eastern European countries. Historical highs for male life expectancy, achieved at various times before 1990, have recently been surpassed in 6 out of 12 countries (Figure 3.4), and new records for female life expectancy were set in 9 out of 12 countries. Only in Russia, Belarus and Ukraine best achievements after 2000 failed to regain levels, seen before the mortality crisis gathered strength.

It seems that the mortality crisis in these three countries was deeper, more chronic and harder to escape than that of neighboring countries, which had developed in similar political and economic conditions in the post-war period. Nevertheless, the experience of Eastern European countries shows that the mortality crisis can be addressed, and that a sustainable positive trend is achievable.

3.3. Russia's main problem is high mortality in middle age

The crisis has affected mortality in all age groups, though to different extents.

3.3.1. Child mortality is decreasing

Infant mortality. Since the mid-1960s infant mortality trends in Russia have been contrary to global trends for countries with a similar level of development.

During the 1960s, Russia was mid-ranking by infant mortality levels among European countries (subsequently making up the EU-15). But reduc-

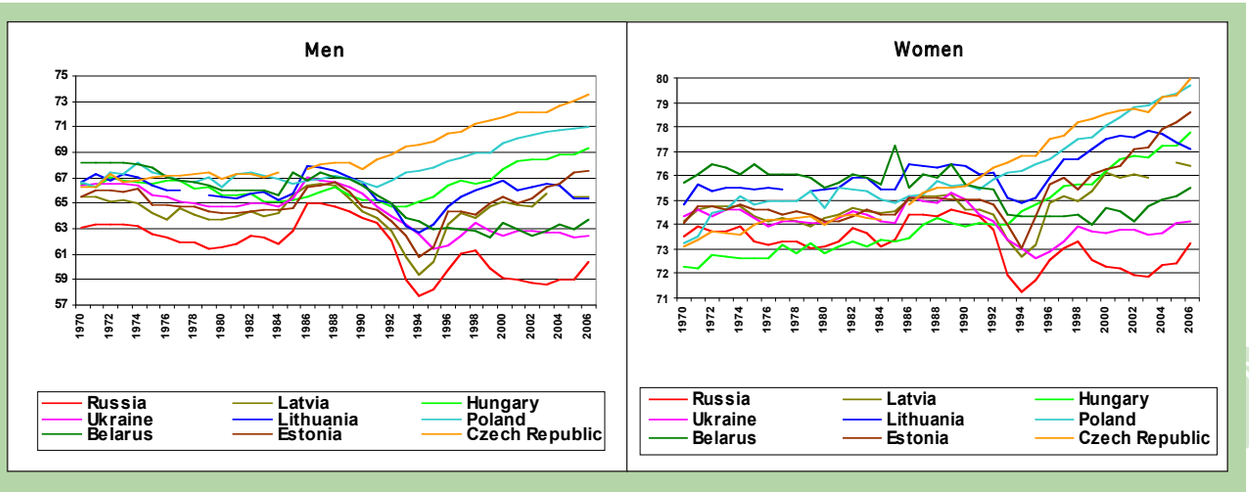


Figure 3.3. *Life expectancy in several countries of Eastern Europe, 1970-2006, years*

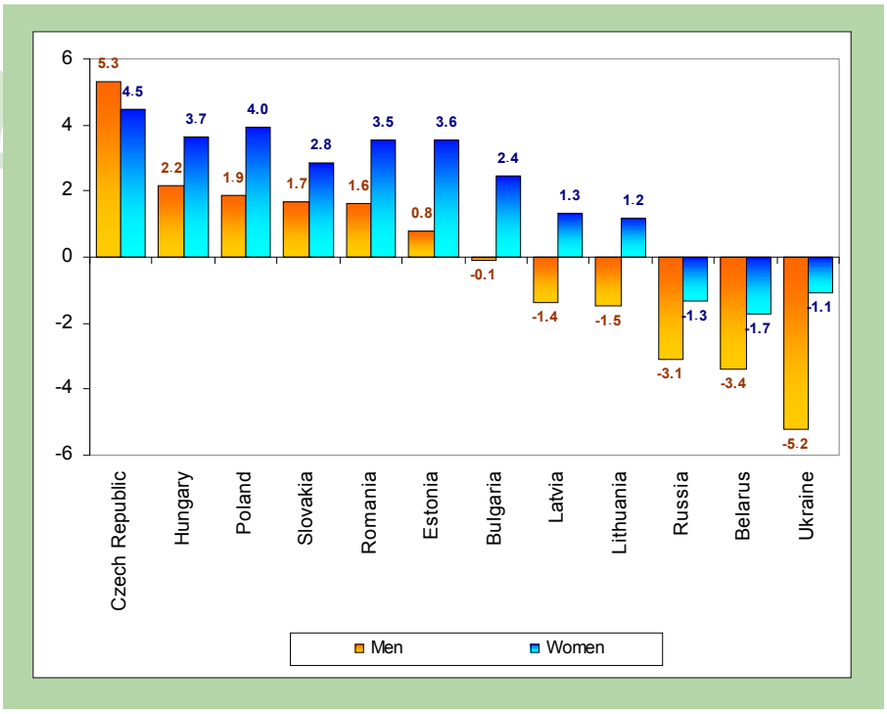


Figure 3.4. *Difference between maximum life expectancy peaks before 1990 and after 2000, years*

tion of infant mortality in Russia then slowed down, and there was even some increase of the death rate among newborns in the first half of the 1970s. Most other countries were still making rapid progress at this time and Russia was overtaken by several of them. By the middle of the 1980s, infant mortality in Russia was three times worse than in countries of the European Union, the USA and Japan (Figure 3.5).

These negative trends in infant mortality were broken at the end of the 1970s: the indicator declined steadily through the 1980s and at quicker rates through the 1990s. But, on the whole, Russian infant mortality trends in recent decades have been weak and the country has a long way to go in order to regain its ranking among developed countries on this count. At present Russia is placed near the bottom of the distribution of developed countries by infant mortality (Figure 3.7) with indicators three times worse than in majority of these countries. It should also be mentioned that Russia still maintains an archaic definition of "live-birth" (despite formal adoption in 1993 the definition of life-birth recommended by WHO) , according to which a newborn child of 500-999 grams, who is born alive, but dies before the age of 7 days, is not considered to be live-born and is not registered by the civilian registrar. If Russia really accepted the WHO definition of live-birth, the level of infant mortality in Russia would be even higher than official statistics suggest.[3]

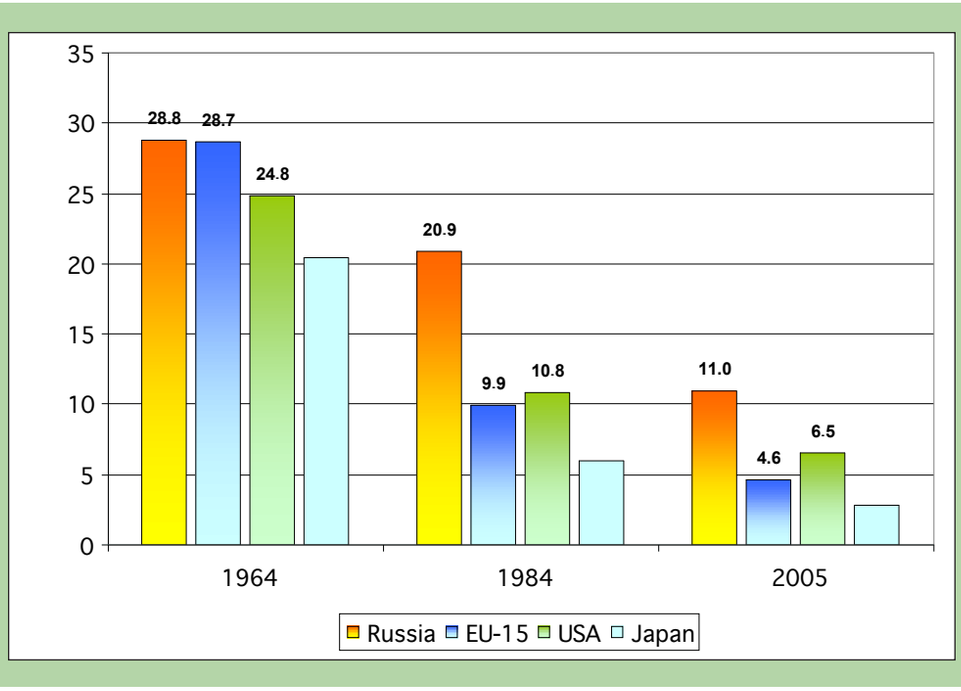


Figure 3.5. *Infant mortality rate in Russia, the European Union (EU-15), the USA, and Japan, per 1000.*

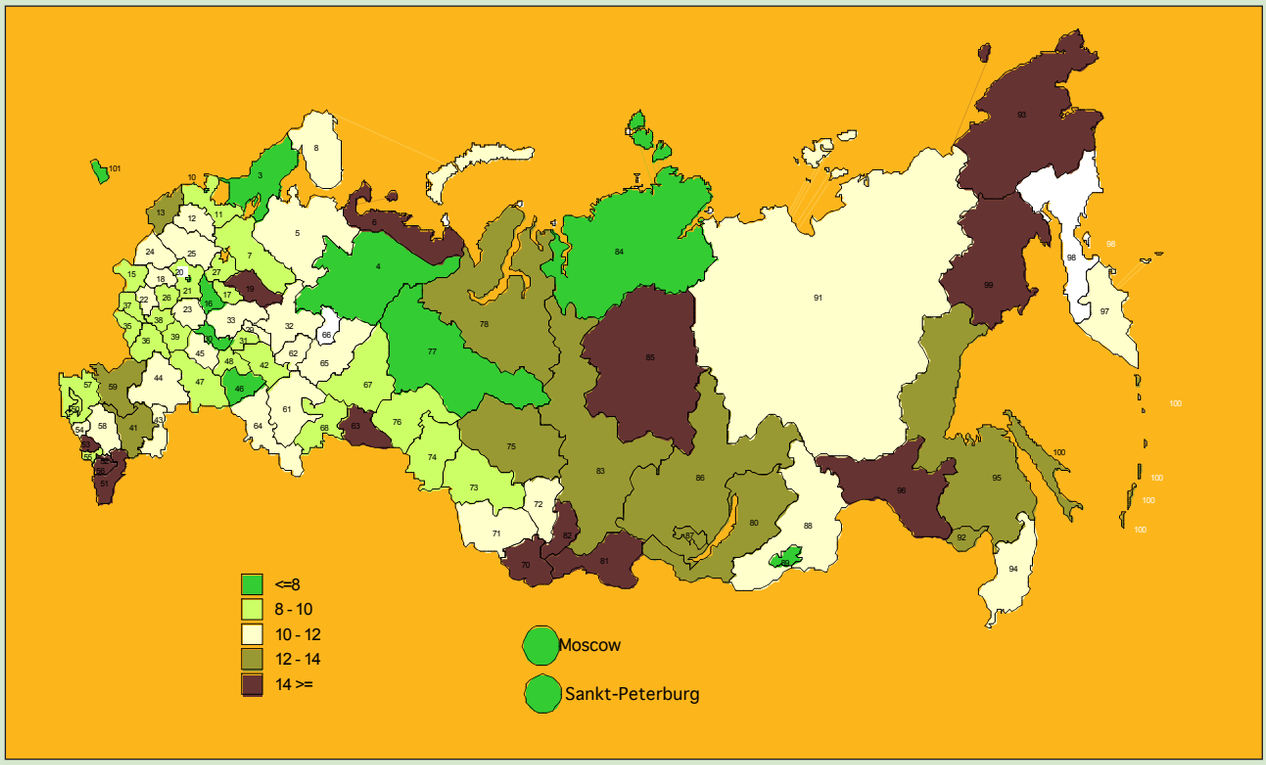
But, despite all this, it should be understood that current levels of infant mortality in Russia are low by historical standards, and do not make the main contribution to the problem of Russian mortality.

Mortality of children at ages from 1 year to 15. Trends in mortality children at age 1-5 are similar to trends in infant mor-

Box 3.2. Regional inequality in infant mortality

Though infant mortality in Russia has been in steady decline through the last decade, there are significant regional differences (Figure 3.D). In 2006 the gap between maximum and minimum indicators in different regions was 26.6‰ (minimum in St. Petersburg (4.7‰), maximum in Ingushetia (31.3‰)). This is a wider gap than existed in the 1990s. While regions with lowest levels of infant mortality are catching up with developed countries, regions with high infant mortality are lagging further and further behind.

Highest levels of infant mortality are in Siberia and the Far East, while the lowest are in the North-West and Central Federal districts. A total of 26 subjects of the Russian Federation registered a growth of infant mortality in the period from 2005 to 2006. The biggest increase (6.3‰) was registered in Kalmykia.



Picture 3.D. *Infant mortality rate in regions of Russia, 2006, per 1000*

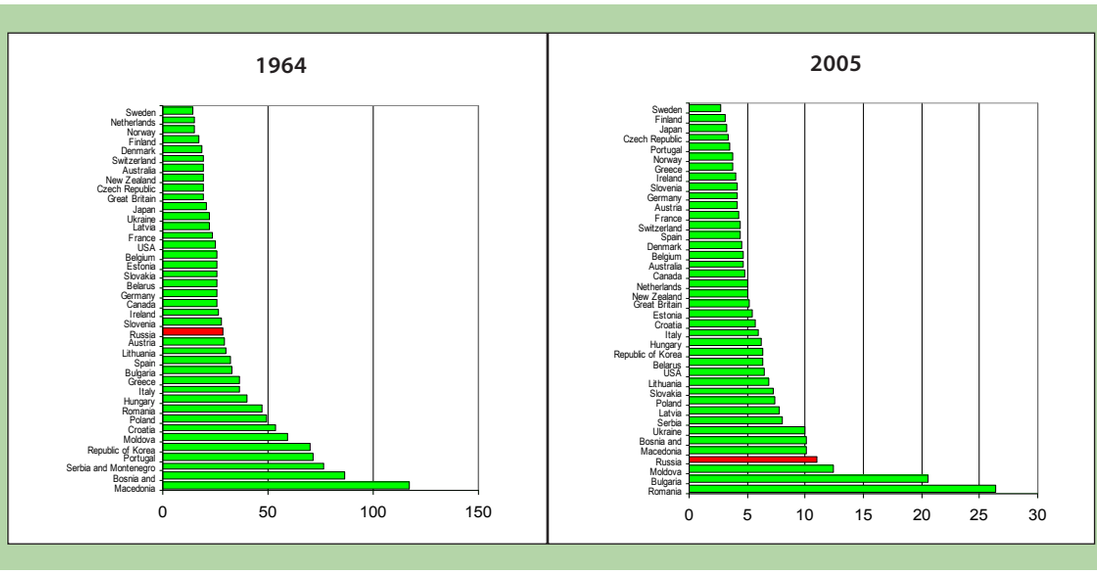


Figure 3.6. *Infant mortality rate in several developed countries in 1964 and 2005, per 1000.*

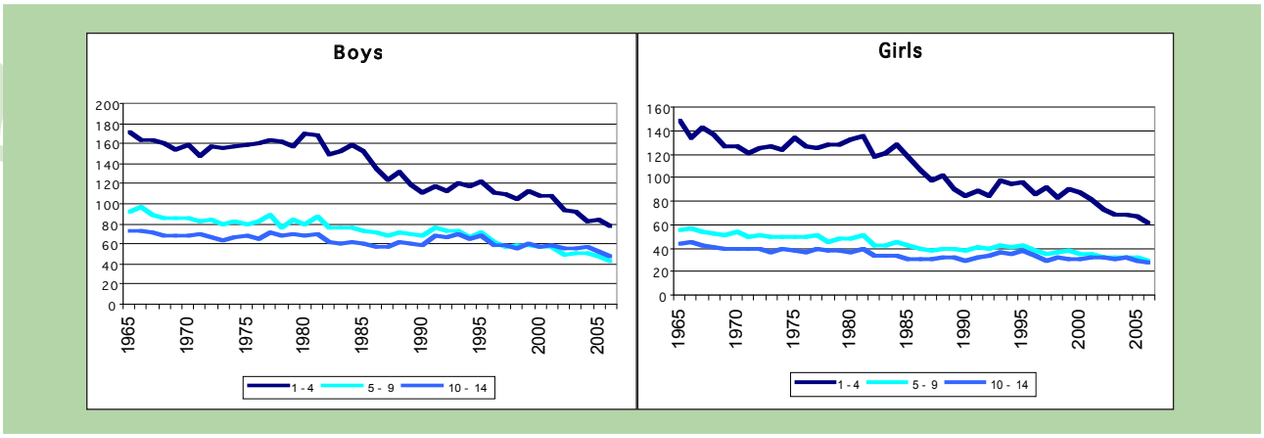


Figure 3.7. *Mortality among boys and girls at ages below 15, 1965-2006, age-sex specific death rate per 100,000*

tality: the indicator stagnated in the 1970s, then slowly declined (Figure 3.7), but not sufficiently to prevent a widening gap with the majority of developed countries, where mortality among young children was declining much faster. According to WHO data for 2005, the indicator for under-5 child death in Russia (14.1 per 1000) was 1.9 times higher than in Hungary or Poland (the difference was only 1.1 times in 1980), 2.4 times higher than in Great Britain (2 times in 1980), 2.8 times higher than in Austria (1.6 in 1980), 2.9 times higher than in Ireland (2.0), 3 times higher than in Spain (1.9) and Greece (1.4), 3.4 times higher than in Finland (3.1), 3.7 times higher than in Norway (2.9) and 4.6 times higher than in Iceland (2.8)[4].

The mortality rate among children aged 5-15 has been in steady decline (Figure 3.7). During the last forty years (1965 to 2006), mortality among 5-9 y.o. children halved and mortality among children of 10-14 y.o. declined by about 40%.

3.3.2. Mortality among working-age people: overall long-term growth with occasional respites

Very unfavorable mortality trends among the working-age population of (at ages from 15 to 60) are the central feature of Russia's mortality crisis. The four decades since 1964 have seen an overall decline of child mortality, albeit with interruptions, and the widening gap compared with other countries in this respect has been mainly due to faster declines in these countries than in Russia. But working-age mortality in Russia, and particularly its male component, has been predominantly increasing. Episodes, when working-age mortality decreased, were only short-term respites.

Mortality among all age groups of men from 20 to 60 and of women from 30 to 60 was increasing through the 1970s. At the beginning of the 1980s there were signs of a mortality decline for all ages, which became more pronounced after 1985, during anti-alcohol campaign. But growth trends resumed at the end of the decade, leading to a mortality peak in 1994. This peak, and the decline which followed, suggest a concentration in 1993-1994 of deaths in risk groups, which were postponed from the previous period, and of premature deaths in groups, which would be at high risk later on. This peak subsided, but the crisis endured, and the factors that were fuelling high mortality among people of working age continued to operate, as illustrated by the upward movement of all curves in the graph below (Figure 3.8).

Death rates have been in decline again since 2003, but this reduction is reminiscent of that seen in the 1980s, which failed to break the long-term trend. And besides the latest improvements still leave mortality levels much higher than at any time before its climb in the early-1990s and already then much exceeded corresponding indicators for the developed countries. So it is wrong to pretend that we have even begun to resolve the mortality crisis.

3.3.3. Mortality of the elderly: Long-term stagnation

A specific feature of the Russian mortality crisis is that it affects the most naturally vulnerable age groups to the least extent. This has already been seen with respect to child mortality. The other most vulnerable age group – the elderly – have not matched the decline in mortality seen in recent decades among children, but there has also been no increase in mortality among the elderly (Figure 3.9) excepted women older 85 and men older 90 (the latter not shown in the figure). The trend in other age groups has been considered as fluctuation around a more or less stable level.

3.4 Causes of death make the Russian mortality structure atypical

3.4.1. Causes of death in the "Western" mortality structure, and the Russian anomaly

The current age pattern of Russian mortality is the result of the differences in mortality trends in various age groups, described above. This pattern differs greatly from the typical mortality pattern observed in all countries with high life expectancy.

The Russian model of mortality combines relatively low infant mortality – typical for countries that have high expectancies, – with adult mortality levels, which significantly exceed those seen in countries where overall life expectancy is much lower. Russia's current level of infant mortality should entail that much more of its adult deaths occur after age 70, instead of which they occur at age 20-70. This anomalous age pattern of mortality is particularly typical for Russian men.

The nature of Russian mortality can be better understood by comparing age distribution of deaths in Russia and in countries with low mortality. For this purpose data on deaths, by age and by causes, were collected for 13 countries (Austria, Great Britain, Germany, Greece, Ireland, Spain, Luxemburg, Netherlands, the USA, Finland, Sweden and Japan) for the year 2005. An averaged table, formed on the basis of these data, will be conditionally referred to as the "Western model of mortality in 2005". Life expectancy for men in this model is 76.5 years and 82.5 years for women.

Comparison of Russian and western life tables by causes of death show that general unfavorable characteristics of Russian mortality are inseparably linked with its atypical structure by causes of death. In what does this atypical structure consist?

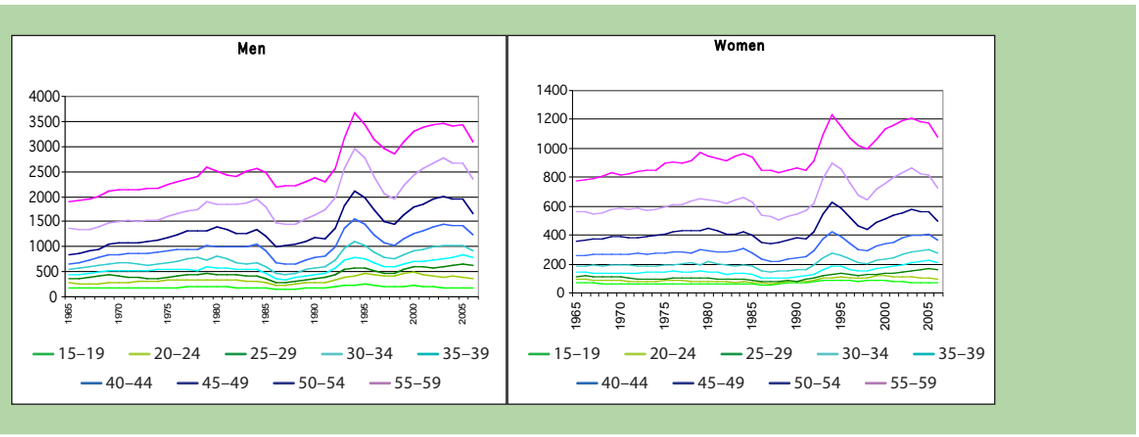


Figure 3.8. *Death rates among men and women aged 15-60 by 5-years age groups, 1965-2006 per 100,000*

Figure 3.9. *Mortality among men and women at age 60 and older, 1965-2006, per 100000*

Table 3.1. *Causes of infant mortality in Russia, 1970-2006 (per 10,000 live-births)*

	1970	1980	1990	1995	2000	2001	2002	2003	2004	2005	2006
All causes	230.5	220.8	174	181.3	153.3	146.5	133.1	124.6	115.7	109.7	102.2
Perinatal	70.1	57.6	80.1	78.6	67.7	66.4	61.6	57	51.7	49.1	47.3
Congenital anomalies	30.8	34.6	37	41.8	35.5	34.4	31.3	30.2	28.5	26.9	24.5
Respiratory diseases	86	73.6	24.7	24.2	16.5	14.4	12.2	10.5	9.4	8.3	7.8
Infectious diseases	12.8	31.7	13.4	12.7	9.2	8	6.7	5.9	5.5	5	4.1
Diseases of digestive appar.	10.7	4.1	1.1	1.1	0.9	0.9	0.8	0.8	0.8	0.7	0.7
External causes	10.5	10.4	7.1	10.1	9.7	9.2	8.2	8.6	8.1	7.6	6.6
Other causes	9.6	8.8	10.6	12.8	13.8	13.1	12.3	11.5	11.7	12.1	11.1

3.4.2. Post-neonatal mortality in Russia is too high

Although, as discussed above, Russian infant mortality trends are more favorable than mortality trends at any other age, the archaic structure of causes of death, which are characteristic of the country's overall mortality, also have impact on infant mortality.

For many years (from 1970 to 2006) the general decline of infant mortality in Russia has been mainly due to elimination of causes of an exogenous nature. Mortality caused by diseases of the respiratory system has decreased 11-fold and provided 61% of the overall decrease, diseases of the digestive system have fallen 16-fold (8% of infant mortality decline), and infectious diseases by 3 times (7% of the overall improvement). Still in 1980 more than half of all deaths at ages below 1 year were from these three groups of causes of death. In 2006 this share had decreased to 12%. Meanwhile, decrease of perinatal mortality, which generally reflects defects in the system of obstetric aid and considered all over the world as the important reserve of infant mortality decrease, is 18% of the total decrease in mortality. (in second place after respiratory diseases). During the period from 1970 to 2006 in Russia mortality from this causes has been reduced by 37% but they half of all infant deaths are now occurs by these causes. Unfortunately, contribution of external causes remains noticeable though it also tends to reduction.

There has been even less success in dealing with congenital anomalies. In 1970-2006 mortality rates

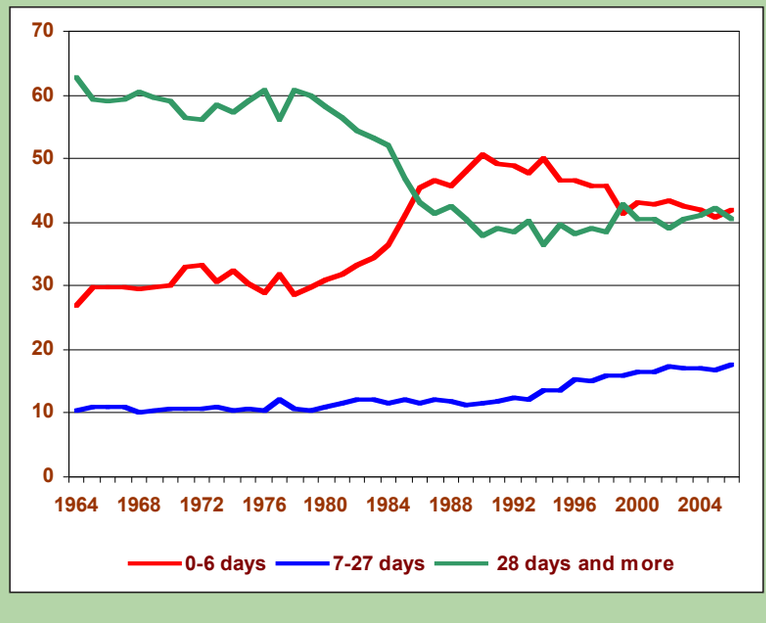


Figure 3.10. *Dynamics of age distribution of infant mortality in Russia, 1964-2006, (%)*

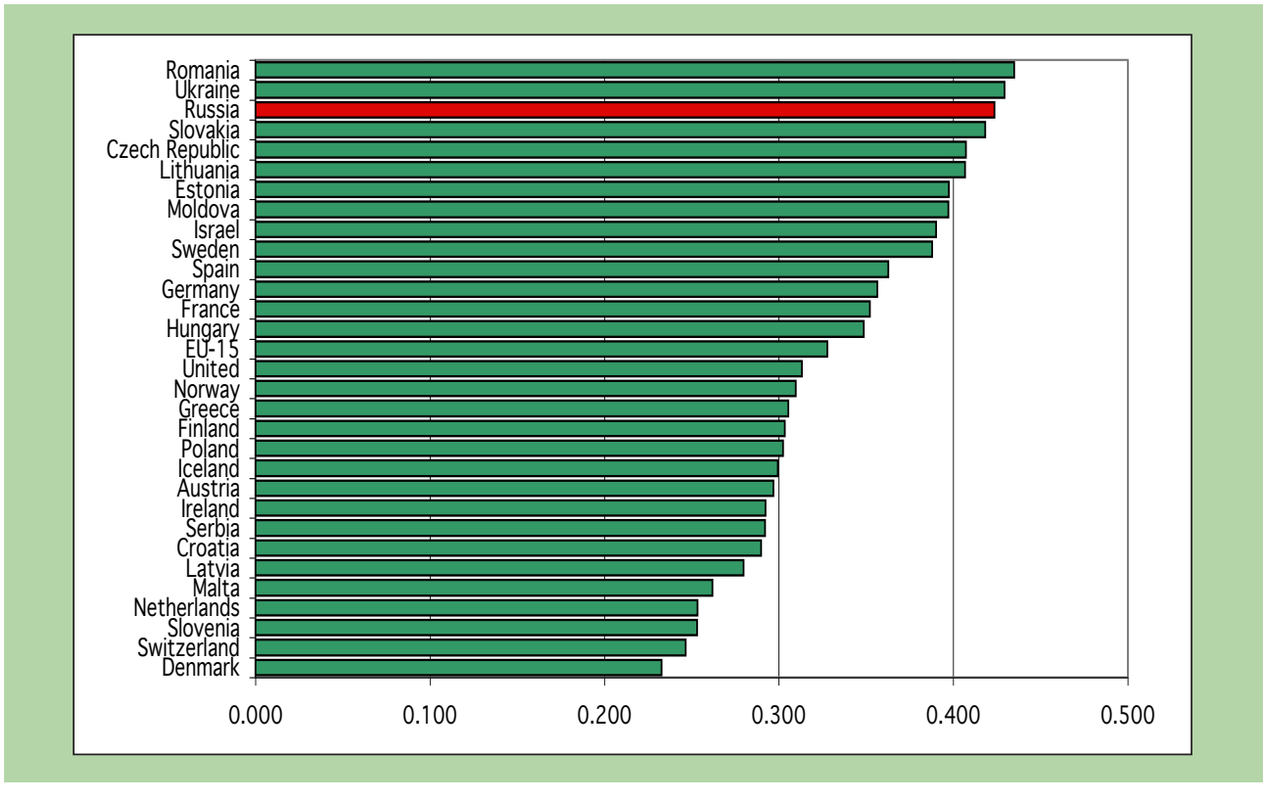


Figure 3.11. *Share of post-neonatal mortality in general infant mortality in 2005 or in nearest available years*

(per 10,000 newborn) from congenital anomalies declined by less than 20%, and they account for about a quarter of all infant deaths under 1 year of age (Table 3.1).

Though exogenous mortality decreased 9-fold in 1970-2006, remaining exogenous causes still have to be dealt with, and this is clearly not happening in Russia as quickly as it needs to.

Interrelation of child mortality in different periods of the first year of life confirms this. Reduction of infant mortality usually leads to increasing concentration of mortality in the first month of life (neonatal mortality), when the child's organism is most vulnerable and death in case of disease is very hard to prevent. As soon as a child has left this period of maximum risk behind, his chances of survival increase, and are greatly helped by the modern system of health care, which has excellent means at its disposal to defend the child's life at this development stage. So reduction of infant mortality should be accompanied by change in the interrelation between neonatal components (up to 28 days) and post-neonatal components (from 28 days to 1 year): post-neonatal mortality becomes more controllable and its contribution to general infant mortality gets smaller.

As seen in Figure 3.10, this has been the case in Russia. Transition from stagnation in the 1970s to a marked decline of infant mortality was associated with decline in the share of post-neonatal mortality, which continued at fairly rapid rates until the 1990s.

However, in the 1990s decline in the share of post-neonatal mortality in the general infant mortality came to a halt, again in stark contrast with global trends. Today Russia differs from the majority of European countries by having a large share of post-neonatal mortality in general infant mortality. But it should be noted that neonatal mortality in Russia is 2-3 times greater than in many countries of Western Europe too (Figure 3.11).

3.4.3. People in Russia die earlier than people in the West, from all causes

What is the best thing to die of? This apparently ridiculous question has a very important meaning in demography, and there is a simple answer to it: it is better to die of things, which cause death in later life. Increase of life expectancy is what happens when causes of death in early life are squeezed out by causes of death, which operate at more advanced ages. As a first approximation, we can say that the former causes are mainly exogenous and the latter mainly endogenous.

Change in the average age of death from each cause is part of this process. As medicine and development of health care advances, the age of death from all causes

Table 3.2. *Difference of average age of death in Russia and "Western model" countries*[5]

Causes of death	Average age of death, years		Difference
	Russia 2006	Western model, 2005	
Men			
All causes	60.35	76.54	16.19
of which (in inverse order of importance):			
Neoplasms	65.13	75.37	10.24
Diseases of circulatory system	67.93	79.79	11.87
External causes	43.60	56.88	13.28
Diseases of the digestive system	54.99	73.33	18.34
Diseases of the respiratory system	60.26	82.38	22.11
Other diseases	50.34	76.28	25.93
Infectious and parasitic diseases	44.17	72.21	28.04
Women			
All causes	73.23	82.47	9.24
of which (in inverse order of importance):			
Diseases of circulatory system	77.95	85.80	7.85
Neoplasms	67.46	76.69	9.24
Other diseases	68.68	83.34	14.66
Diseases of the digestive system	62.67	81.36	18.69
External causes	50.09	69.06	18.98
Diseases of the respiratory system	66.13	85.49	19.37
Infectious and parasitic diseases	43.07	79.28	36.21

Table 3.3. *Ranking of causes of death by average age of death*

	Causes of death	Average age of death, years		Causes of death	Average age of death, years
Men					
Russia 2006			Western model, 2005		
1	Diseases of circulatory system	67.9	1	Diseases of the respiratory system	82.4
2	Neoplasms	65.1	2	Diseases of circulatory system	79.8
3	Diseases of the respiratory system	60.3	3	Other diseases	76.3
4	Diseases of the digestive system	55.0	4	Neoplasms	75.4
5	Other diseases	47.7	5	Diseases of the digestive system	73.3
6	Infectious and parasitic diseases	44.2	6	Infectious and parasitic diseases	72.2
7	External causes	43.6	7	External causes	56.9
Women					
Russia 2006			Western model, 2005		
1	Diseases of circulatory system	77.9	1	Diseases of circulatory system	85.8
2	Other diseases	69.1	2	Diseases of the respiratory system	85.5
3	Neoplasms	67.4	3	Other diseases	83.3
4	Diseases of the respiratory system	66.1	4	Diseases of the digestive system	81.4
5	Diseases of the digestive system	62.7	5	Infectious and parasitic diseases	79.3
6	External causes	50.1	6	Neoplasms	76.7
7	Infectious and parasitic diseases	43.2	7	External causes	69.1

rises. One of the main problems of Russian mortality is that, compared with world standards, successes in this direction have been very modest, and the age of death from all groups of causes, remains much lower than in more advanced countries (Table 3.2).

Table 3.2 shows, firstly, that there is a huge difference in favor of the Western model in the average age of death from all groups of causes and, secondly, that the hierarchy of causes of death qua "preferable" (i.e. later-acting) causes is very different in Russia and the West (Table 3.3).

In Russia men and women who die from cardio-vascular diseases live the longest lives (although not as long as in the West countries). In the West countries cardio-vascular disease is the preferable cause for men only, while women tend to have a longer life span if they die from respiratory disorders. Overall, though, circulatory diseases are the preferable cause of death.

In Russia the second place for men and the third place for women, in terms of long life, is taken by death from cancer while in the "Western model" cancer rates fourth for men and sixth for women.

External causes are by far the youngest cause of death in the Western model, but in Russia the bottom place in the list for women is taken by infectious diseases.

Average age of death from each cause, is determined by distribution of deaths from that cause across various ages. In Russia this distribution is shifted towards younger ages. Age distribution of deaths from diseases of respiratory diseases is an example. In the West it is one of the most "preferable" causes of death, but in Russia one of the least "preferable". Figure 3.12 shows the number of deaths from respiratory diseases in Russia and the West. In the West only 3.6% of men's death and 2.8% of women's deaths from these diseases happen before age 60 y.o., while the figures in Russia are 44.5% and 30.7%, respectively.

Respiratory diseases are not an isolated case. In Russia all causes show a distribution shift towards young ages as compared with developed countries that have low mortality.

3.4.4. Which causes of death need to be addressed first?

The second important feature of Russia's atypical mortality structure is a very high share of deaths from causes with a relatively young age of death.

This is less apparent from a direct comparison of the Russian and Western distributions of deaths by their causes, but is better shown by simple comparison of average ages of death from each cause, as represented in Table 3.2. Table 3.4 does not present clear grounds for saying that the Western distribution is better than the Russian distribution.

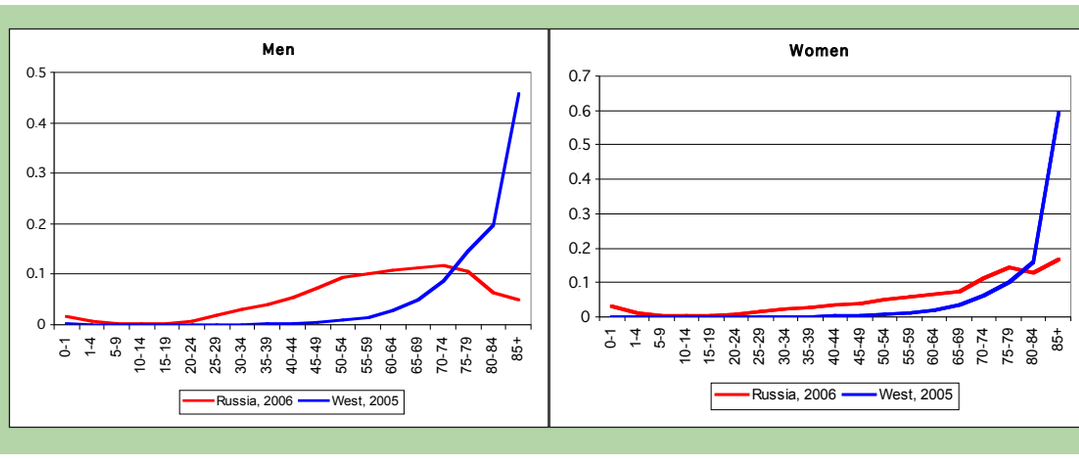


Figure 3.12. *Life table number of deaths from respiratory diseases in Russia and in Western countries*

The "Western model" features higher share of deaths caused by respiratory diseases. Is that a deficiency or an advantage of the Russian structure? There is no simple answer to this question. What is good for the West with its high average age of deaths from this cause that is not good for Russia where the average age of deaths caused by respiratory diseases is very low and where, therefore, keeping down the share of deaths from this cause is desirable. In the West respiratory diseases cause the deaths of 127 men per 1000, but only 14 of them are at age younger 70 In Russia diseases of the respiratory system kill 51 per 1000 life lost, but 34 of them are at age younger 70. If the share of deaths from this cause in Russia was similar to that in the West, it would mean 85 deaths age below 70 vs. 14 in the West.

The share of deaths from infectious diseases is almost equal in Russia and in the West: for men it is 23 per 1000 and 21 per 1000, respectively. But in Russia 22 of these 23 are dead at age below 70, while in the West that is only the case for 7 out of 21.

The chances of dying from cardio-vascular diseases are much higher in Russia than in the Western model. But that also cannot be viewed as a deficiency of the Russia distribution of causes of death, since this cause has no competitors, causes with higher average age of death. In the West there is such a competitor: among men the average age of death from respiratory diseases is higher than that from diseases circulatory system, and among women it is about the same. Adding "other diseases", which in the West are cases of death of mainly very old people, these three causes account for 604 and 697 deaths in every 1000 men and women. This is what mainly determines the long life expectancy of Europeans, Americans and Japanese. In Russia reduction of the share of deaths from cardio-vascular diseases would mean their crowding out by deaths from other causes with younger average age of death that would apparently entail reduction of life expectancy.

So the difference between Russian and Western of death distributions by causes is related to the Russian distribution of causes of death by age incidence and cannot be considered outside this context.

Nevertheless, high contribution of certain causes to general mortality is very undesirable in any case. While all causes of death are capable of being forced up the age structure to some extent, this types of success is particularly hard to achieve for causes, which are most dependent on exogenous factors – specifically, external causes of death such as accidents, suicide, homicide, etc. Healthy individuals at all ages are vulnerable to these causes, so distribution of deaths as a result of them is least biased towards higher age groups. Although diseases of circulatory system have a young average age of death in Russia, the average age of deaths from external causes is much younger: by 24.3 years for men and by 27.9 years for women. Out of 18.2% total share of death from external causes, 16% occurs at ages from 20 to 70, which is only 1.6 times less than the share of deaths from disease of circulatory system in these ages.

External causes account for an outrageously high share of mortality in Russia, particularly among men: their share in male mortality is almost three times higher than in the West (Table. 3.4). This is the main negative feature of Russian distribution of causes of death. External causes are responsible for 18.2% of male deaths in Russia, while cancer claims only 13.25% of men's lives. In the West, external causes are 4 times less probable than cancer as causes of death.

3.4.5. Mortality age-and-cause groups and health care priorities

Complex analysis of mortality distribution by causes of death and by age of death from each cause is a necessary condition for setting priorities in the health care system and society as a whole in order to address Russia's mortality crisis. Such analysis should be used to define government targets and policy by state agencies in tackling mortality, and to ensure that efforts and resources are concentrated on priority tasks.

Research carried out in the 1990s showed that unfavorable mortality, and the huge gap between Russia and most developed countries in this respect, does not relates to all causes of death or to all ages, but is concentrated in particular causes and age groups[6]. As can be seen from Table 3.5, the situation has not changed much since then. This table represents dif-

Table 3.4. *Probability of dying from main groups of causes of death in Russia and in the West*

	Men		Women	
	Russia, 2006	West, 2005	Russia, 2006	West, 2005
All causes	1000	1000	1000	1000
of which:				
Infectious and parasitic diseases	23	21	7	20
Neoplasms	132	273	122	208
Diseases of circulatory system	496	337	671	382
Diseases of respiratory system	51	127	23	117
Diseases of the digestive system	43	37	35	38
Other diseases	74	140	85	198
External causes	182	65	58	37

Table 3.5. *Excess deaths at ages before 70 y.o. in Russia compared with Western countries (per 100,000 deaths from all causes and at all ages), Russia (2006), Western model (2005)*

Age	Infectious diseases	Neoplasms	Diseases of circulatory system	of which, ischemic heart disease	Diseases of respiratory system	Diseases of the digestive system	External causes	All causes
0	34	4	1	0	73	-1	47	575
0-4	13	13	4	0	21	0	85	200
5-9	3	3	1	0	6	1	96	141
10-14	1	8	3	0	3	1	110	146
15-19	7	13	22	5	8	7	351	438
20-24	56	13	83	18	26	43	866	1157
25-29	199	22	278	71	81	140	1488	2412
30-34	244	29	496	146	144	228	1604	3010
35-39	237	41	748	288	189	270	1490	3228
40-44	225	85	1227	541	253	306	1595	3987
45-49	219	124	1820	920	319	296	1566	4633
50-54	189	237	2628	1453	377	291	1521	5547
55-59	120	315	3364	1937	344	273	1172	5785
60-64	53	-126	4048	2330	237	198	827	5292
65-69	-46	-819	4088	2336	-2	53	480	3494
Total	1554	-39	18811	10045	2078	2106	13297	40045
Women								
0	31	4	-1	0	62	-1	43	424
0-4	11	11	3	0	17	1	57	147
5-9	3	4	1	0	4	0	51	87
10-14	1	5	0	0	2	1	48	73
15-19	4	8	14	2	4	5	113	161
20-24	27	13	21	3	11	18	169	282
25-29	63	30	66	12	26	56	256	547
30-34	61	48	124	28	45	100	286	723
35-39	48	70	207	50	52	127	297	866
40-44	37	86	326	102	54	151	306	1026
45-49	24	80	525	187	53	170	340	1252
50-54	18	111	905	363	52	223	380	1750
55-59	2	117	1639	753	20	292	367	2505
60-64	-27	-18	2554	1241	-61	224	314	2999
65-69	-65	-234	3899	1936	-187	147	233	3657
Total	239	334	10283	4678	154	1512	3259	16499

Number of excess deaths

over 1000 | 500-1000 | 300-500

100-300 | 50-100 | below 50

ferences in numbers of deaths per 100,000 from main classes of causes (ischemic heart disease is separated out from the cardio-vascular diseases) up to age 70 in Russia and in the Western model. Essentially, the table shows where Russia's "excess mortality" is concentrated.

Uncolored boxes are zones of tranquility, where Russia shows no major differences compared with successful Western countries. Blue and green cells point to relatively mild problems. Yellow cells are cause for concern, but red and brown cells are what set the alarm bells ringing. Most of Russian mortality is focused here and the causal-age nexuses in these cells are what have to be addressed most urgently.

The most salient problem is middle-age mortality from external causes, especially among men. Another very significant share of excess deaths at relatively young ages is caused by cardio-vascular disease (particularly ischemic heart disease and disorders of cerebral circulation). If we could achieve a breakthrough in these two directions, the entire picture of Russian mortality would change. All current challenges for improvement of the health-care system would continue to exist (as they do in all countries) and some Russian specifics would still be visible. But the gap compared with other countries would be radically narrowed.

3.5. What prevents solution of the mortality crisis in Russia?

3.5.1. Incompleteness of the epidemiological transition

Russia's archaic mortality structure by causes of death reflects incompleteness of the country's epidemiological transition. This transition started long ago and Russia, like many other countries, successfully completed the first stage. But it has still not succeeded in implementing the second stage, which began in the 1960s in the majority of developed countries and which those countries have now also successfully completed. Indeed, the Russian situation does not accord with traditional structure of the epidemiological transition: the country's unprecedented growth of violent death and death from circulatory disease at young ages is a reversal, compared with the progress in developed countries. It would be fair to say that, in Russia, the second stage of epidemiological transition has only affected children and, possibly, some small groups of the adult population.

Success of Western countries in reducing mortality during the second stage of epidemiological transition was due to correct analysis of its main specific causes.

While main efforts in the previous stage had been directed to combating mortality due to infectious and other acute diseases, efforts in the new stage were focused on reduction and redistribution towards older age mortality from circulatory diseases, cancer and other chronic illnesses, such as diabetes, stomach ulcers, diseases of the urinary system, etc., accompanied by general reduction of mortality from external causes. Resources of the health care system were directed accordingly. Understanding of the nature of the challenges in this second stage of epidemiological transition (sometimes called the "second epidemiological revolution") helped to define a new strategy of action.

This strategy was understood very broadly: there had to be improvements in environmental protection, accident prevention, development of individual prophylaxis, campaigns against dangerous and harmful habits, and changes in people's way of life. Not all the required changes have been realized, even in the West, but much has been done. Public health, and successes in delaying mortality until older ages have reached new levels.

At this stage, the healthcare system and the general public have to change places. The initiative passes to the general public, because the main sources of risk to life and health are often no longer subject to direct influence by medicine: they come from diet, environment, habits, behavior and overall way of life. The new strategy for mortality reduction requires people to take an active part in improving their environment, way of life and health instead of passively accepting measures proposed by the health care system (epidemiological control, mass vaccination, etc.).

This has already happened to a large extent in Western countries, with corresponding changes in medical science, the system of health care, etc. Epidemiology of non-infectious diseases and even of external factors of mortality and morbidity has developed. Requirements for professional qualification of medical personal have changed. It is no longer indispensable to be a "good clinician", and it is even important to have a " non-clinical mentality", since a good clinician may be excellent at dealing with individual patients, but inefficient in addressing public health issues. The general public has become better informed about health risks and ways of averting them.

These measures have made early death an increasingly rare and unusual event, and this progress, in turn, has focused public consciousness on the value

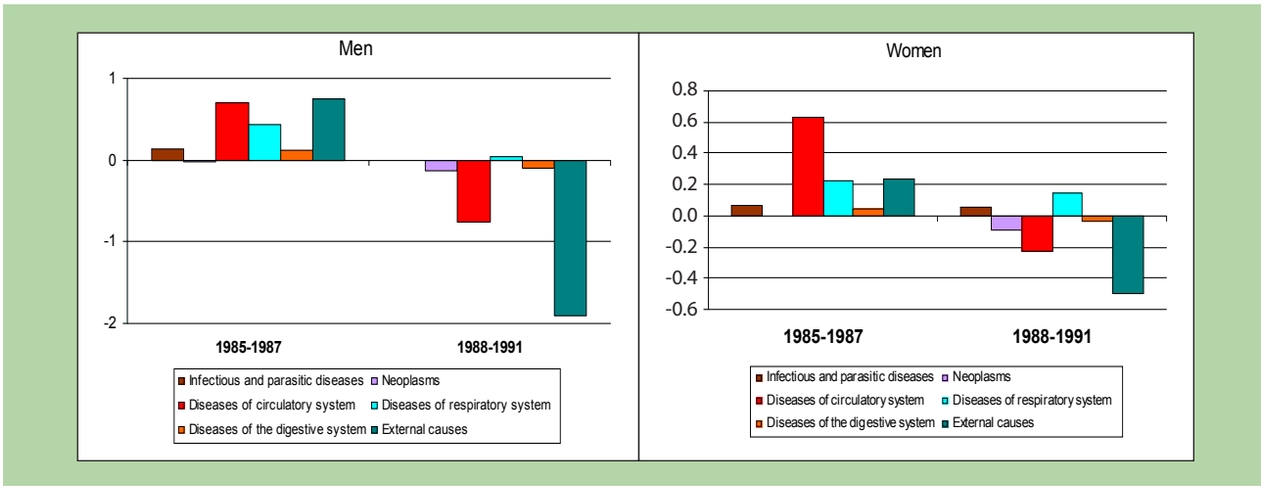


Figure 3.13. *Contribution of major classes of causes of death to change of life expectancy during the anti-alcohol campaign, years*

of life and good health, justifying increased expenditure on public health and even making people demand such expenditure.

Unfortunately, Russia is still at the beginning of the second stage of epidemiological transition. The emphasis is still on paternalistic efforts of the health care system, the medicalist approach continues to triumph, placing main hopes in new types of treatments, development of new medical technology, etc. Meanwhile, there has been very little progress as regards self-preservative behavior by the general public, and this is the main obstacle to reduction of mortality.

The clearest example of dependence between the level of mortality in Russia and lifestyle and mass behavior is, of course, hazardous drinking. Nothing better illustrates the connection between mortality and heavy drinking than trends in the death rate during the years of the government's anti-alcohol campaign. Over a period of three years (1985-1987) life expectancy for men increased by 3.1 years and almost returned to its maximum level of 1964, while the indicator for women rose by 1.3 years to a historical maximum in Russia. The campaign was not continued, but the positive impact of reduced alcohol consumption is unmistakable. There is a suggestion, which requires additional analysis and confirmation, that the latest decline of mortality, in 2004, was also the result of certain restrictions on alcohol consumption.

In any case, experts are certain that the "alcohol factor" makes a very large contribution to the level of early deaths from circulatory diseases and external causes. This was conclusively proved by analysis of the part, which decline of these two causes played in overall mortality decline at the time of the anti-alcohol campaign and in resurgence of mortality when the campaign came to an end. Change of the mortality level from these two groups of causes determined total life expectancy dynamics at that time[7] (Figure 3.13). According to data of an epidemiological survey, carried out in a typical Russian city (Izhevsk), 40% of deaths of men aged 25-54 are related to hazardous drinking[8].

Certainly, impact of alcohol on mortality from circulatory diseases and on overall mortality needs further investigation. For the moment, this issue is not being taken seriously by the Russian government or Russian science, and para-scientific literature has even thrown up such a term as "the myth of alcoholization"[9], claiming that : "the supposed main role of heavy drinking in Russia's hyper-mortality epidemic is a myth, propagated by ignorance or ill design"[10].

Overall, the situation with alcohol-related mortality illustrates underestimation of new problems, which have arisen in the second stage of epidemiological transition, when successes in combating mortality and ill health (associated with behavior and life style of the greater part of the population) are proving much harder to achieve than previously.

3.5.2. Archaism of the Russian social structure

There are major social reasons, which explain why Russia is underestimating its public health problems. The main point is that the epidemiological transition is primarily a social – and not a medical – process, requiring a certain state of society, which has not yet been achieved in Russia.

Everywhere in the world the standard bearer for behavior stereotypes and associated values, favoring better health and longer life, is the middle class. The principles and values of new self-preservative behavior gradually came to maturity as the European

bourgeoisie took shape, and were transmitted to ever broader social strata, mainly in cities. When the time came, these strata were ready and willing to adopt new behavioral stereotypes and to influence behavior in other parts of society.

Analysis of social differentiation of mortality in Russia shows that we also have strata, which are committed to life-preserving behavior on the model of the European middle classes. These are Russian social groups with higher levels of education, usually engaged in intellectual work (Russia's "white collar workers")

A series of studies carried out recently gave assessments of mortality in these social strata. In particular, it was shown that the decline in life expectancy of adult Russians, both men and women, between 1970 and 1989 was mainly due to mortality dynamics among manual workers, while mortality trends for those in white-collar jobs had a positive contribution[11]. In periods of mortality growth, aggravation among persons with higher education was minimal, while in favorable periods their life expectancy was similar to that of less educated groups. Analysis of the mortality structure by causes in 1989 depending on level of education showed that difference between the highest and the lowest educational strata was linked with the same causes of death, which have determined growth of mortality in Russia since 1965, and which represent the biggest differences between Russian mortality and that in developed countries[12]. A link between level of mortality and belonging to a certain social class is typical for children as well as adults (this is not surprising as health and mortality of children cannot fail to be closely connected with behavior of their parents[13]).

However, people with a middle-class life style are not as numerous in Russia as in the West and their self-preservative behavior has failed to convince the rest of the population. If the Russian middle classes were more numerous and if their behavior was imitated, there could be a very large reduction of mortality levels and increase of overall life expectancy in Russia. So continuation and completion of reforms for modernization of Russia's social structure, development of the middle classes, and creation of the liberal economic and political environment, which they require for survival, is a key requisite for solving Russia's mortality problem and enabling the country to catch up with most developed countries.

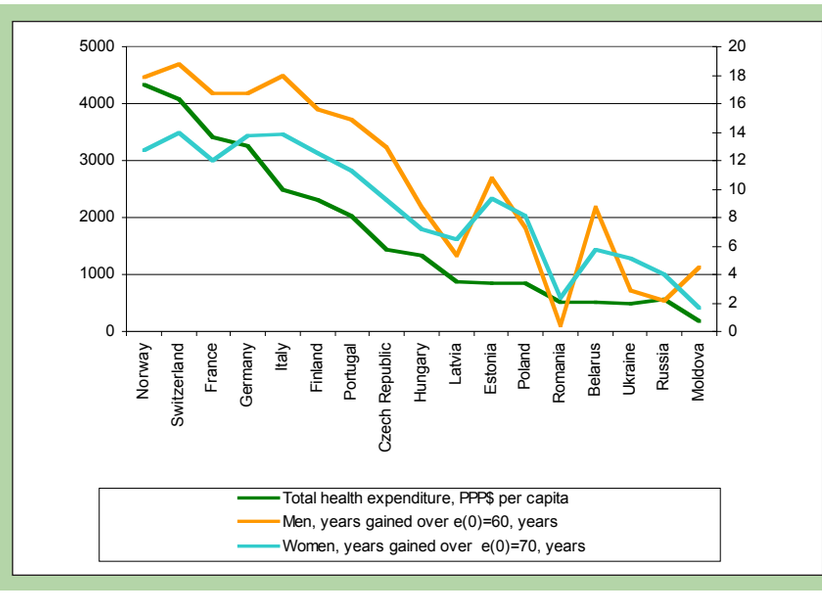


Figure 3.14. *Health care expenditure in USD by purchasing power parity PPP$ (left scale) and years gained life expectancy over 60 years for men and over 70 years for women, (right scale), 2005.*

3.5.3. Expenditure levels are inadequate

Another key factor, which is preventing completion of epidemiological transition in Russia, is inadequate spending on health protection and health care.

The achievements of Western countries would not have been possible if increase in the importance attached by people to healthy and long life had not been accompanied by redistribution of material resources. It was understood that healthier and longer lives had to be paid for and spending on health rose in both absolute and relative terms. As discussed in more detail in Chapter 9 of the present Report, Russia has never benefited from such an increase in spending, and current spending on health care in Russia is incomparably less than in the majority of developed countries. Certainly, money is not a panacea, but correlation between the level of spending and the level of mortality undoubtedly exists.

Figure 3.15 shows correlation between per capita spending on health care in various countries and the number of years gained as compared to the level e(0)=60 years for men and e(0)=70 years for women.

The graphs on Figure 3.14 show that every year of life-expectancy increase must be paid for. The lower the spending, the less the increase. Life expectancy for men in Russia in 2005 was short of 60 years, while in 17 of 33 represented countries it exceeded this lev-

el by 15-20 years. But it is also true that Russia's data look even worse than they should do at the current level of spending.

In any case, it would be unrealistic to expect the same progress in health and mortality indicators as has been seen in countries, where spending on health exceeds that in Russia by several times. Soviet experience showed that extensive growth of some key characteristics of the health care system (increase of the number of medical personnel, number of places in hospitals, etc.) is inefficient and does not lead to growth of life expectancy unless supported by faster growth of spending to raise wages of medical personnel and to improve health infrastructure.

3.5.4. The health system needs reform

Low efficiency of the health care system reflects insufficient financing and absence of modern strategy, but the system also suffers from poor management and organization, which fails to ensure feedback from society and efficient use of the financing, which is available. The issue of health care reform has been pending for many years, but there has been little progress in implementation, and many essential mechanisms for improvement of health and lowering of mortality are not in place

The key problem is lack of efficient feedback between those who provide finance, those who provide treatment and those who are treated. In the West these three parties work together to further health care development based on the principal, "money follow the patient" and, to some extent, by participation of the consumer of medical services in payment for those services. At the same time, state guarantees of medical care are firmly in place, and the only issue to be resolved is the best way of structuring those guarantees.

Foreign experience offers plentiful material for selecting and adapting new models of medical provision and financing. Various Western countries use different approaches, although long-term evolution has given rise to a number of common features.

Medical care in most Western European countries is mainly (up to 90%) financed from the budget, i.e. by taxation. Financing from non-budgetary medical insurance funds, paid in by employees, employers and state subsidies, is prevalent in Germany (78%), Italy (87%), France (71%), Sweden (91%), and also Japan (73%). In the USA, Israel and South Korea the share of private financing of medical care is high, including voluntary medical insurance and direct payment for medical services by patients. All these systems are subject to criticism, but they are generally efficient and offer certain guarantees to those in need of medical care.

In Russia at present there are no clear guarantees: health care guarantees under law have only declarative nature. This is due to lack of financing and policy confusion. People who need medical care are increasingly required to pay for it out of their own pockets. According to statistics, such payments now represent 32% of overall (state and private) spending on health care[14]. And the state is failing to guarantee quality of the services, which people are increasingly expected to pay for.

So there are two priorities at present: to increase the amounts spent on health care, and to make the whole system more socially and economically efficient. These are among the most important tasks for Russian society in coming years and there is no time to waste in addressing them.

3.5.5. Lack of scientifically grounded policy

In February 2008 the Russian Ministry of Health Care and Social Development announced creation of a special internet site for discussion of the concept of health care development up to the year 2020. The Ministry expressed hope that "representatives of the general public as well as medical specialists" will take part in the discussion.

This is a very democratic approach, but there are some doubts about its efficacy. Such an approach is suitable for entirely new challenges, on which no work has yet been carried out. A "brain storm" with participation of non-experts then allows quick formulation of a rough plan of action, which can be followed by expert investigation of difficulties, which are non apparent to the untrained eye, and by proposal and testing of solutions. At the latter stage a community of experts, which is alone capable of designing efficient mechanisms, will already be in place. Reduction of mortality is a no less complex problem than construction of a bridge or creation of a spacecraft. It would be strange for the bridge builders to ask advice from people who are standing on the shore, even if these are the people, for whom this bridge is being constructed.

Reduction of mortality is not a new challenge for Russia. In 40 years of negative trends, we should have progressed far beyond the initial stages of understanding the problem, and sufficient knowledge should already have been accumulated. There is no shortage of specialists to put forward a strategic concept for breaking the trend. Which is not to deny, of course, that much can be gained from presenting the concept (or, possibly, several variants of the concept) for discussion by representatives of broad society – the issue here, after all, is not construction of a bridge, but solution of a complex social problem,

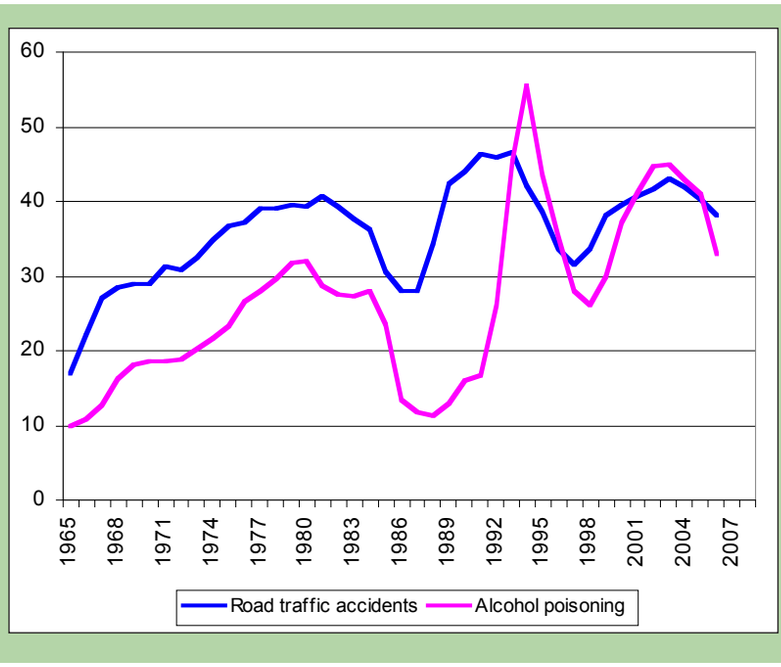


Figure 3.15. *Russian deaths from transport accidents and alcohol poisoning, 1965-2006, 1000 persons*

which cannot be achieved without active participation of the general public.

But the approach chosen by the Ministry of Health Care and Social Development is best proof of the fact that we are, in fact, still only beginning to come to terms with the problem, and that the expert community is not ready to offer a solution. No serious preparations have been made and there does not seem to be an awareness that such preparations are necessary.

This is apparent from conceptual documents, which have been produced to date concerning the healthcare system. They are filled with formulaic expressions, usually with use of the same verbs and verbal expressions – "to ameliorate", "to promote", "to implement", "to reduce through increase", "to increase through reduction," etc. They try to run through all the issues, but refuse to admit that the issues are changing and that it is useless to set new objectives without taking account of objectives attained to date and without reviewing priorities. Reading these documents, there is usually nothing to indicate whether they were written in 1960, 1980 or 2008 – they fail to reflect specifics of the problems and of the moment, for which they are intended. They could be written by any government official, completely unacquainted with the essence of what is at stake. Priorities are not defined at all or are defined in a cursory fashion, and it is often hard to see any reason why certain priorities have been discussed and others omitted.

For example, the demographic policy concept adopted in 2007 for the period until 2025 sets reduction of mortality in road traffic accidents as one of the main tasks, and the importance of combating this particular cause of death has been cited repeatedly by officials. It is not clear why, of all the external causes of death, which need to be combated, the emphasis should have been placed on road accidents. They are undeniably a serious problem, but deaths due to road accidents were only about 9% of all Russian deaths from external causes in 2006 (13.55% if we take account of accidents relating to all forms of transport). Worldwide, road accidents are indeed the largest cause of death from external causes, but that is not the case in Russia, because we have such high death rates from other external causes, such as alcohol poisoning, suicide and homi-

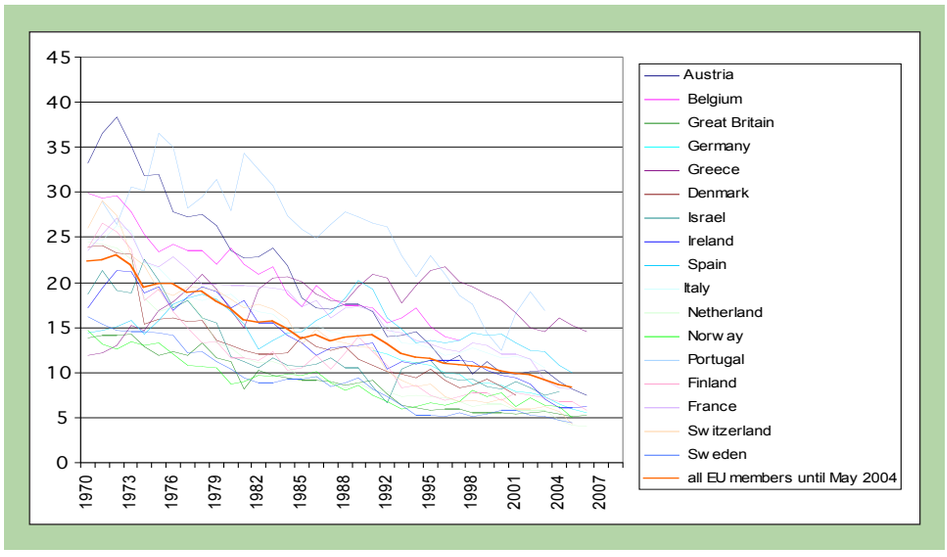


Figure 3.16. *Standardized death rate from road traffic accidents in several countries, 1970-2006 per 100,000 population*

cide. In 1965-2006 over 1.5 million Russians were killed in road traffic accidents and the annual number of road deaths has increased by 2.3-2.4 times since the since the middle of the 1960s (Figure 3.15). They are also a major cause of incapacitation, since for every road death there are several people who have been left crippled after accidents on the road.

In particular, it is unclear why mortality due to alcohol poisoning is not included in the list of priority tasks. The omission is strange because, in terms of number of victims, alcohol poisoning competes with mortality due to road accidents (Figure 3.15), but the omission is particularly strange when we take note that alcohol poisoning (which usually means consumption of deathful quantity of alcohol) is an indicator of the general alcoholization of the population, which makes the greatest overall contribution to Russia's (predominantly male) adult hyper-mortality – including mortality due to road traffic accidents. There is no mention whatsoever of alcoholism among the ills to be combated for reduction of mortality. "Development of measures for reduction of alcohol consumption" is only mentioned as one of several objectives for improvement of public health.

It seems that ranking of priorities for an anti-mortality policy has not yet been carried out – perhaps the task has not even been set. But if the priorities had been decided, the next requirement would be a reasoned programme of action. Supposing, then, that goals of an anti-mortality policy has been reviewed and reformulated and that alcoholization had been recognized as the main problem. Are we ready to design an action programme for tackling the problem?

The anti-alcohol campaign of the 1980s had only short-term impact because it was inadequately planned and failed to take account of deep-rooted patterns of behavior. The scourge of alcoholism cannot be dealt with by impulsive actions on the part of government, by "taking people off guard" to achieve short-term improvement of demographic and social indicators. Success depends on a reasonable, coherent policy with respect to alcohol use, and on enlisting public support for this policy. But today we lack even the prerequisites for formulation of such a policy. There is a not a single specialized center, which could take responsibility for designing policy measures to tackle this devastating social disease. Individual researchers are doing their best to study and formulate aspects of a policy, but their isolated efforts are hopelessly inadequate for the task and only serve to emphasize the government's inaction in face of what is essentially a national disaster.

Presumably, the huge task of reducing demographic havoc due to heavy drinking is simply too daunting, and reduction of mortality in road accidents is viewed as a more achievable aim. But even this requires a reasonable and well-planned programme of action.

Traffic accidents are acknowledged worldwide as a key mortality and public health problem. Their treatment as "something that happens" is a thing of the past and efforts to reduce their incidence and ill effects are well-organized, structured and have been made the subject of serious scientific research, which nowadays receives more financial support than research into tuberculosis[15]. The work of many scientific centers and government organizations is nowadays directed to reduction of death and injury on roads. Relevant issues include road network planning, organization of traffic systems, vehicle safety design, rules of the road, policing, medical assistance in case of accidents and study of the "human factor".

This work has led to major decline of traffic traumatism in countries with even higher traffic density than in Russia (Figure 3.16). But in Russia good intentions

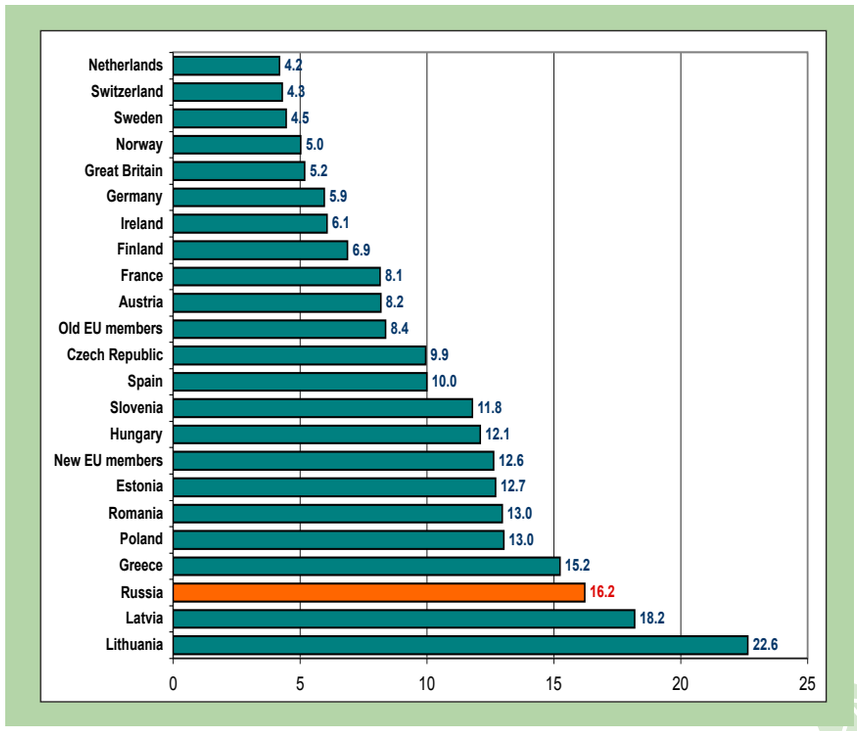


Figure 3.17. *Standardized death rate from road traffic accidents in Russia (2006) and in several other countries (2005), per 100,000 population*

Box 3.3. The history of traffic safety research in the USSR

1954 A traffic safety department (5 people) was set up as part of the Scientific Research Institute of Criminal Law at the Ministry of Internal Affairs of the USSR

1962 A traffic safety group was created in the rapid response communications department of the Scientific Research Institute of the Militia (part of the Ministry of Internal Affairs of the Russian Federal Republics).

1965 A traffic safety department was created as part of the Scientific Research Institute of the Militia (part of the Ministry of Public Order of the Russian Federal Republics).

1974 The Council of Ministers of the USSR ordered creation of the All-Russian Scientific Research Institute of Traffic Safety of the Ministry of Internal Affairs of the USSR with its own laboratory, computer center, printing house and scientific library.

1985 The All-Russian Scientific Research Institute of Traffic Safety of the Ministry of Internal Affairs USSR was created. A scientific laboratory for work on problems of traffic safety was set up as part of the Institute.

1988 The Council of Ministers of the USSR ordered creation of the Scientific Research Centre of Traffic Safety (ARSRCTS) at the Ministry of Internal Affairs of the USSR (with rights of Institute).

1992 A Scientific Research Center of the State Auto-Vehicle Inspectorate was created to replace the ARCRITS.

GAI.RU Information Portal, http://www.gai.ru/articles/?art=30

have not led to effective action: mortality from road accidents has been twice higher than in EU countries (before EU expansion in 2004) (Figure 3.17).

There is a long history of initiatives by the Ministry of Internal Affairs, which has chief responsibility for Russian roads, to set up bodies for serious study of road safety issues (see Box 3.3), but nothing has ever come of these initiatives. There have not been any serious analytical works on road accidents in Russia, and there are no specialists in the field, let alone competent scientific communities. Even the study of available foreign experience requires specialists, since successful initiatives in other countries cannot be recreated in Russia without preliminary analysis and adaptation to local conditions. Good intentions for lowering mortality from road accidents are of no use unless they are translated into programmes of action. But there is nobody in Russia capable of working out such a programme, which, in any case would require some time to prepare. One-off measures are inefficient and money spent on their implementation would be inefficiently spent.

Russia lacks any serious research on key problems of mortality, and even lacks elementary data, which are usually provided by state statistics in other countries. This is partly due to ill-conceived provisions of a law from 1997, "On civil acts", by which information about educational background, family status and occupation of a deceased person was excluded from the death certificate, making analysis of mortality much more difficult.

Comparison of Russian and foreign data is also difficult. In 1999 Russia began to register data on deaths using the 10th International Classification of Diseases (ICD-10). However, official data compilation is still carried out using the short subset of ICD-10 (less than 260 groups of causes of death), which complicates international comparison and analysis of mortality by causes. Use of the subset was justified at the initial stage of transition, since physicians were not prepared for description of death using the 10,000 nosological units of the whole ICD-10. But many post-Soviet countries have already progressed to the full list of causes concerning ICD-10. Russia has not yet done so.

Russian data that are usable for comparison with data of other countries are often lacking. For example, since 1979 the European Bureau of WHO uses national data to calculate and publish a standardized death rate from alcohol-related causes. While emphasizing that this is a very rough index, which does not enable precise estimate of mortality related to alcohol consumption, WHO experts believe that "this simple pooling of alcohol related deaths can help to better rank countries by alcohol related mortality and can be used to better track trends in deaths associated with alcohol than using separate causes".

Not counting mini-states, such as Andorra, Monaco and San-Marino, the European region of WHO includes 50 countries (with former USSR republics). In 2004, WHO published a death rate related to alcohol consumption for 36 countries. Data for most

other countries are available for earlier years. Only 3 countries – Turkey, Montenegro and Russia – have never been included in the WHO data base.

Road traffic accident mortality is another example. WHO has published data for 2004 or some later year for 8 of 15 former republics of the USSR, and data for 2000-2003 for 5 republics. But there are no data later than 1998 for Russia and Turkmenistan. Whatever the reasons for these omissions, the outcome is impossibility of making international comparisons in a sphere, where Russia is far behind other countries and where use of positive international experience is very important.

The list of examples could be continued, but enough has been said to make it clear that these are no isolated instances, but reflections of generally inadequate coverage, understanding and strategic thinking inside Russia about the issue of hypermortality. There can be no escaping the conclusion that Russian society is not facing up to one its most serious problems.

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The Russian mortality crisis is not an isolated phenomenon. In the 1960-80s this crisis infected not only Russia but all former socialist countries of the Eastern Europe and European republics of the USSR, in more or less acute form. However, since the end of the 1980s many East European countries have seen steady growth of life expectancy. Their experience shows that the mortality crisis is tractable and transition from negative to consistently positive trends is achievable. In Russia, this turning point has not been reached. The reduction of mortality achieved in 2005-2007 still left indicators at very high levels, far in excess of what is observed in developed countries. There is no justification for saying that the problem has even begun to be addressed.

The Russian crisis has affected different sex and age groups to different degrees. Very unfavorable mortality trends among the working population from 15 to 60 y.o., and particularly among men, is the principal and most dangerous feature of the Russian mortality crisis.

Unfortunately, Russia is still delaying implementation of the second stage of epidemiological transition and has failed to establish efficient control over mortality from the causes, which become prominent at this stage. The most dangerous of them are diseases of circulatory system at young ages and external causes, particularly among men their share in male deaths is three times higher than in the West.

Seriousness of the Russian mortality crisis is so great and its consequences are so unfavorable that more vigorous efforts have to be made by Russian government and society to overcome it. There has to be a reorganization of the health care system and significant increase in financing of the system. There also has to be a review of the entire strategy for combating mortality in order to make it suitable for tasks of the second stage of epidemiological transition and for today's demographic challenges.

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[1] Human Development Report 2007/2008. UNDP, 2007, p. 261-264.
[2] Here and in what follows data for the Southern Federal District do not include the Republic of Chechnya.
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[4] WHO Health for All (HFA) data base, updated July 2008.
[5] The "Western model" is an averaged table of mortality for 13 countries: Austria, Great Britain, Germany, Greece, Spain, Luxemburg, Netherlands, the USA, Finland, France, Sweden, Japan.
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[13] For more detailed information concerning differences in infant mortality for women from different educational groups see: 13 E.M. Andreyev, E.A.Kvasha, Infant mortality in different educational groups at the end of the 1980s and beginning of the 1990s// Voprosy statistiki. 2005, № 2, p.54-58; E.A.Kvasha, Social differentiation of infant mortality in Russia//Mortality and health: tendencies, methods of study, prognosis. Edited by. M.B. Denisenko and G.Sh.Bekhmetova. Moscow, Max Press, 2007. p. 237-255; E.A.Kvasha. Differentiation of infant mortality by level of mothers' education in regions of Russia at the end of the 1980s and beginning of the 1990s //Demoscope-weekly (Internet-edition), 2008, № 331-332 (http://demoscope.ru/weekly/2008/0331/analit06.php).
[14] Health care in Russia. 2007: Collection of materials/Rosstat - Moscow, 2007. p. 311, 315, 340.
[15] World report on prevention of traffic accidents. WHO, 2004, p. 6.