

#### E. HEALTH AND MORTALITY IN COUNTRIES WITH ECONOMIES IN TRANSITION

Martin Bobak reviewed health and mortality trends in countries with economies in transition, noting that whereas until the mid-1960s those countries had experienced declines of mortality similar to the ones recorded by the developed market-economy countries, since about 1965 life expectancy at age 15 in most of the countries of Central and Eastern Europe (including the former USSR) had been declining, especially among males. In recent years, however, some Central European countries had begun to experience a reversal of that trend. Thus, since 1990 life expectancy at age 15 had begun to rise in the former German Democratic Republic and the former Czechoslovakia, since 1992 in Poland and since 1994 in Hungary. The former USSR had also experienced a rise in life expectancy at age 15 between 1984 and 1987 but declines had set in thereafter. In the Russian Federation male life expectancy at age 15 had dropped by more than 7 years between 1989 and 1994, a decline of unprecedented magnitude in non-war situations. Reductions in life expectancy at age 15 were also recorded among women, though they were smaller in magnitude, and were also common among adults of both sexes in other successor States of the former USSR. In general, increased mortality due to cardiovascular disease and external causes was responsible for most of the increase recorded in the Russian Federation.

Bobak noted that the results of surveys using questions on self-rated health status corroborated the existence of poorer health in the former USSR than in the developed market-economy countries. Thus, whereas in Germany or Italy a low 5 per cent of the population reported having very poor health, in the Baltic States and the Russian Federation the equivalent proportion was 25 per cent. Bobak discussed the validity of the various reasons advanced to explain the stark differences in health status observed between the former USSR and other countries with economies in transition on the one hand and developed market-economy countries. He noted that differences in the health care system accounted for only a small fraction of the

disparity. Higher levels of environmental pollution were also not a major contributing factor. Differences in lifestyles, the high prevalence of high-risk behaviours (including smoking and excessive alcohol intake), and the high fat content of the diet were the major factors underlying the diverging trends observed. Such proximate determinants, however, had a variety of psycho-social factors as root causes, factors that were intrinsically related to the major socio-economic transformation that the populations of the countries with economies in transition and particularly the CIS countries were undergoing. A useful concept in trying to understand the effects of such transformation was that of "social capital", which encompassed all the trustworthy relationships that an individual could rely on. The erosion of trust that accompanied the transformation of society led to greater stress at the individual level and conditioned individual choice in ways that made high-risk behaviours appealing. Thus, individuals having lower "social capital" were expected to be subject to higher mortality risks. That seemed to be the case of men who were not currently married and had low levels of educational attainment, whose mortality rates were considerably higher than those of other groups. From the "social capital" perspective, sharp increases in mortality differentials by socio-economic status were expected.

Citing Powles, Bobak pointed out that several paths could be followed to effect the transition from high to low mortality. In the cases of some Northern European countries, such as England and Wales, the reduction of infectious and parasitic diseases had resulted in low mortality among children but had not reduced much mortality among adults, especially among men, who had remained subject to high risks of death from cardiovascular disease until the 1970s. According to Powles most developed market-economy countries had followed such a "central path", passing from high levels of mortality due to infectious diseases to initially intermediate levels of mortality due to non-communicable diseases among adults. Southern European countries (including Albania and the former Yugoslavia) had

followed a fast track, benefitting from the reduction of mortality due to infectious and parasitic diseases but also maintaining their traditional low levels of mortality caused by non-communicable disease, especially cardiovascular disease. Central and Eastern European countries had taken the slow route, controlling mortality due to infectious diseases but failing to reduce mortality from non-communicable diseases. Since the proximate determinants of high levels of mortality caused by non-communicable disease were known, the challenge was to establish which societal mechanisms could be used to modify behaviour.

Witold Zatonski focused on the path taken by the epidemiological transition in Poland. He remarked that in the early 1930s, life expectancy in Poland was about 12 years lower than in Germany. After the Second World War, with the introduction of antibiotics, mortality due to infectious disease declined rapidly so that by 1965 Poland and Western Germany had similar expectations of life at birth. However, from 1965 to 1990, the expectation of life in Poland changed little because, although mortality continued to decline among infants and children, the mortality of adult males increased. Thus, the age-standardized mortality rate of Polish men aged 45-64 rose markedly between 1965 and 1988. This increase was dominated by deaths caused by cardiovascular disease, cancer and external causes. Among women aged 45-64, mortality stagnated over the same period. Female mortality from cancer and external causes remained stable while that from cardiovascular disease showed a slight increase.

Special attention was given to changes in male mortality over the period 1980-1996, when Polish society underwent major social and economic transformations. Mortality due to external causes dropped during 1980-1982, partly because the imposition of martial law reduced traffic and imposed restrictions on alcohol sales. During 1989-1991 there was a significant increase of overall mortality among men aged 15-64, stemming primarily from a higher mortality rate because of external causes. During the period, lax border controls

facilitated the importation of vodka from the former USSR and, as standards of living rose, car ownership and road traffic increased. Both factors probably contributed to the rise of deaths caused by external causes. Lastly, since 1991 life expectancy in Poland began to rise again, with men posting larger gains than women. Mortality rates fell at all ages but particularly among adults aged 20-64. Reductions of mortality due to cardiovascular disease were the major contributors to such trend but, among men, a decline in mortality from lung cancer and external causes also had an effect.

Zatonski argued that the recent decline of mortality caused by cardiovascular disease could be attributed to changes in lifestyles brought about by the social and economic changes that Poland had undergone. During 1980-1982, many food products became scarce, particularly meat, animal fats, eggs and sugar. Average calorie intake fell by about 10 per cent. Later in the decade, as wages fell and government subsidies for food were discontinued, animal products became less accessible than plant products for many people. Furthermore, with the opening of the market, new low-fat products or those having less saturated fat became available. During the 1980s, although overall fat consumption remained almost constant, animal fats were replaced by vegetable fats, mainly because the latter were cheaper and because, being imported products, they were the subject of intensive advertisement campaigns. In addition, fresh fruits and vegetables became more accessible all year round both as a result of changes in national production and because of imports. Such changes led to a transformation of the Polish diet that probably played a major role in reducing mortality due to cardiovascular disease during the 1990s.

Changes in tobacco consumption also appear to have played a role in the reduction of mortality in Poland. Tobacco consumption among males in Poland increased steadily until the late 1970s and stabilized during the 1980s. Data on the prevalence of daily smoking among men suggested that it decreased during the 1980s. In the 1990s the organized health lobby in Poland prompted the first

democratically appointed Senate to draft a law to limit the detrimental effects of tobacco smoking in the country. The law came into effect in May 1996 and was expected to further spur the avoidance of tobacco smoking among the Polish population.

Evgueni Andreev discussed the dynamics of mortality change in the Russian Federation. He noted that during the Soviet period of Russia's history there were only two intervals over which life expectancy had increased steadily: from 1922 to 1928 and from 1948 to 1965. Since 1965 life expectancy had been declining, except during 1985-1987 when an anti-alcohol campaign seems to have reduced mortality rates somewhat. Increases of mortality were particularly marked during 1989-1994 so that, by 1994, males in all age groups above 10-14 were displaying the highest mortality rates observed since 1947.

Data on mortality by cause of death in the Russian Federation were only available since 1959 and only for urban areas at that time. They indicated that up to 1965 mortality caused by infectious diseases had been declining, especially that caused by tuberculosis in adults and by diarrhoea in children. More recently, during the rise of life expectancy in 1985-1987, data on cause of death indicated that mortality due to external causes (accidents and injuries) had been significantly reduced. Analysis of the components of change of life expectancy between 1959 and 1996 showed that, for males, 3 years of life had been lost because of cardiovascular disease and another 3 because of external causes (accidents, poisonings and violence). For females the equivalent estimates were 1.7 and 0.9 years. The life expectancy of both men and women also increased because of reductions in mortality due to other causes.

In an effort to explain the dynamics of mortality change in the Russian Federation in relation to changing causes of death, Andreev used principal component analysis to determine which were the main clusters of causes of death associated with increases or decreases of mortality. Such analysis suggested that the factors leading to mortality increase were global in nature since the

principal components identified included causes of death of a diverse etiological character. Furthermore, when the relevance of the components identified was measured with respect to the decline of mortality registered during 1985-1987, it was found that the clusters of causes explaining such decline were different from those related to the increase of mortality. These findings plus the corroboration that the rise in mortality was larger among men with lower levels of educational attainment than among the better educated suggested that the factors ultimately responsible for the mortality trends observed in the Russian Federation operated at the societal level.

Lastly, Andreev noted the wide regional disparities in survival that existed within the Russian Federation, with the expectation of life at birth in 1996 ranging from 50 to 65 years for males and from 62 to 75 years for females. In general, life expectancy tended to be higher in the western and southern regions of European Russia, where population density was higher and the rural population was substantial, and lower in the more sparsely settled northern and far eastern parts of the country.

The discussion underscored the similarity of mortality trends experienced by the countries of Central and Eastern Europe until 1990. However, although it was accepted that the general traits of those trends were known, some questions were raised about possible biases in the estimates available. The quality of information on infant mortality in the former USSR, for instance, was questioned since there were different assessments of the impact that a change of definition introduced in 1993 would have. Yet, it was recognized that even if mortality in childhood had not declined as much as estimated, its impact on the overall change of life expectancy would not be large. There were also questions raised about the reasons for the stagnation or increase of adult mortality in the different countries. It was noted, in particular, that the reporting of causes of death in the former USSR lacked accuracy and that in 1987, at the initiative of the Ministry of Health, deaths of unknown cause that were formerly reported as caused by

cardiovascular disease began to be reported in the ill-defined category. Hence, a reduction of mortality due to cardiovascular disease since that date would be spurious. There were also questions raised about the rapid rise of mortality caused by lung cancer and cirrhosis of the liver in Hungary. Several participants noted that information on the level of alcohol consumption did not always correlate well with the level of mortality due to cirrhosis. In some cases, as in certain regions of the Russian Federation, cirrhosis was also caused by exposure to pesticides.

Although it was recognized that care should be taken to ensure that the estimates used were as free of bias as possible, there was general agreement that in most Central and Eastern European countries the quality of the data on mortality in general and on mortality by cause of death were adequate. There were, however, severe limitations in the availability of data on key factors affecting health and mortality. In the Russian Federation, for instance, there was no information on smoking or on alcohol consumption at the individual level. Only rough estimates based on overall consumption could be made.

Participants noted that it was important to bear in mind that risk factors often acted in a multiplicative fashion, so that the interaction between them could not be discounted. The inadequacy of data and limitations in analytical methods often precluded the identification of the risks related to each factor separately as, for example, environmental pollution vs. behavioural risk-factors. The practice of comparing similar populations in different geographical locations to deduce the relative importance of various factors in determining mortality differentials between them could be misleading because it was unlikely that all possible determinants of those differentials could be controlled for.

There was some discussion of societal factors that might be at the root of the mortality increases observed in Central and Eastern European countries. Mention was made of the sense of hopelessness that many people might have felt under a regime that offered few prospects for social or economic

mobility. Especially in periods of transformation, the situation of many people was likely to have worsened. Under those circumstances, the weakest members of society might be persons that had low "social capital", that is, few meaningful relationships with other persons. Such considerations would explain the high mortality rates observed among men who were not currently married. However, several participants pointed out the dangers of focusing on such a group, since selectivity effects might be involved. That is, men who remained single or those who were divorced might have done so because their health was worse to begin with than that of other men.

Lastly, the experience of Finland was cited as a good example of what Central and Eastern Europe could learn from the experience of developed market-economy countries. In the 1960s, Finland was facing the same prospects of continued high mortality in adult ages as Central and Eastern European countries today but, because Finland had good data on mortality by cause of death, the immediate reasons for the stagnation of mortality could be detected early on. Furthermore, epidemiologists soon became engaged in finding factors that correlated with increased survivorship and were vocal in disseminating their findings. Lastly, there was the political and societal will to implement measures or undertake campaigns that would change the behaviour of individuals. In Finland both political parties and non-governmental organizations collaborated in achieving that goal.