

3. Public Health in Slovakia

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

World Health Organization, 1948

3.1 THE STATE OF HEALTH

The health condition of the country's population is a result of an intricate interaction of numerous factors. Knowledge of the health condition of a country's population is crucial for setting priorities in developing preventive measures. At the end of the day, the right priorities will be important not only with respect to improving the health condition of the population but also the economy. With respect to Slovakia's efforts to become integrated into European structures, it is desirable to achieve a health condition that is not diametrically different from that of the population of the European Union Member States.

3.1.1 Demographic Preconditions

The average population of Slovakia is currently around 5.4 million. The population of the Slovak Republic was 5,378,951 in May 2001, thereof 2,611,921 men (48.6 percent share) and 2,767,030 women (51.4 percent share). There were 944 men for every 1,000 women. In 1990, the population of Slovakia was 5,310,711, thereof 48.9 percent men and 51.1 percent women. There were 956 men for every 1,000 women at that time.

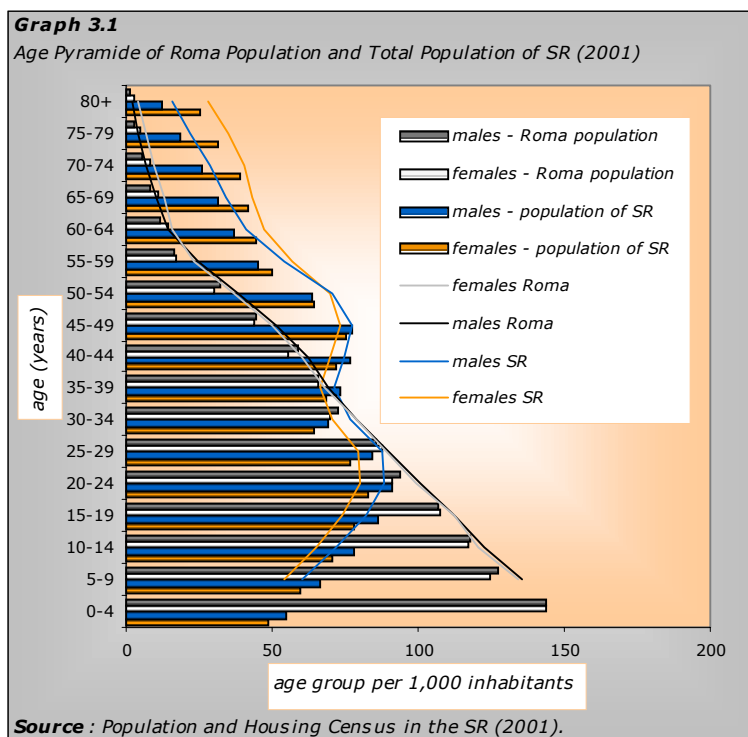
The natural migration of the population witnessed dramatic changes during the last twenty-five years. Natural increments keep decreasing as the overall mortality remains almost constant (being around 10 deaths per 1,000), while birth rates decrease. The numbers of live births reached historically the lowest level in 2001: 9.5 children per 1,000. The corresponding value was three times higher in 1923, being still two times higher in 1975. Therefore, it is not surprising that natural population growth in Slovakia completely stopped at the beginning of the 21st century (-0.2 per 1,000 in 2001). The contribution of women to natural increment has been higher over longer periods of time, and reached as much as 97.2 percent in 2000. This was due to high death rates of men that could not be outweighed by higher numbers of boys either.

Since the numerous population groups born during the post-war period and during the 1970s have now reached productive age, almost the whole growth of the population is concentrated in the groups of 20-29-year-old and 45-54-year-old persons. Due to the reduction of the population of children and to the growth of the numbers of productive and post-productive age individuals, also the average age of the population and the aging index increase. In 2000, the mean age of males and females was 34.4 and 37.5 years, respectively. Compared to 1990, this represents an increase of 2.3 and 1.1 years for males and females, respectively. The aging index defined as the ratio of post-productive population (men over 60 and women over 55 years of age) to pre-production age population (ages 0-14 years) keeps dramatically increasing in Slovakia, and showed an increase from 74.0 to 98.5 within 1993-2000. A similar trend can be observed in other European countries.

The preceding National Report pointed out discrepancies in demographic behavior of different ethnic groups in Slovakia. These differences are determined by several factors that are most pronounced with the Roma minority.⁶⁶ Graph 3.1 shows that the age structure of the Roma population differs rather markedly from that of the total population. Children below the age of 14 make up 38.7 percent of the Roma in Slovakia, compared to 18.9 percent for the entire population. There are 4.2 children per one Roma woman in Slovakia, i.e., more than three times the average for the entire population of women in Slovakia (1.2 child per mother in 2001). As stated by the authors of the previous National Report, the demographic behavior of the Roma population shows similarities with the situation of the non-Roma population several decades ago and/or is comparable with data from developing countries. It is apparent

⁶⁶ The factors include for instance the long-term different development of death rates and birth rates, degree of ethnic identity, the extent of assimilation, etc.

that the demographic structure and behavior correspond to the social, economic, and cultural conditions of the given population group.⁶⁷



The wide base of the Roma population pyramid becomes rapidly narrowed with the increasing age, due to high death rates at a relatively young age. The width of the age pyramid for the whole population of Slovakia, therefore, permanently exceeds the Roma pyramid from the age of thirty-five. The top of the pyramid for Roma virtually ends at the age of seventy-five due to the relatively short life expectancy compared with the majority population.⁶⁸ The lower longevity figures in Roma are associated not merely with socio-economic factors, but also with less frequent access to health care and the insufficient understanding of the importance of prevention; this concerns mainly Roma living in isolated colonies.

3.1.2 Life Expectancy of the Slovak Population

The health condition indicators of the population show a significant correlation with life expectancy parameters. Average life expectancy at birth is an important parameter that shows the number of estimated years to live provided that the current mortality patterns remain preserved. The last data from 2001 show the values of 69.5 and 77.6 years for the whole male and female population of the Slovak Republic, respectively. The life expectancy figures are relatively low in particular for the male population of Slovakia. Compared to the "healthiest" European countries, Iceland and Sweden, Slovak males live 8 years less. For women, the difference in longevity is not as dramatic; still the life expectancy of Slovak women is 6 years less than the case for French women. When compared to other former socialist States, Slovakia's position is slightly better. Slovak women and men live longer than do populations in Hungary, Romania, Bulgaria, the Baltic States, as well as in the Ukraine, Belarus and Russia.

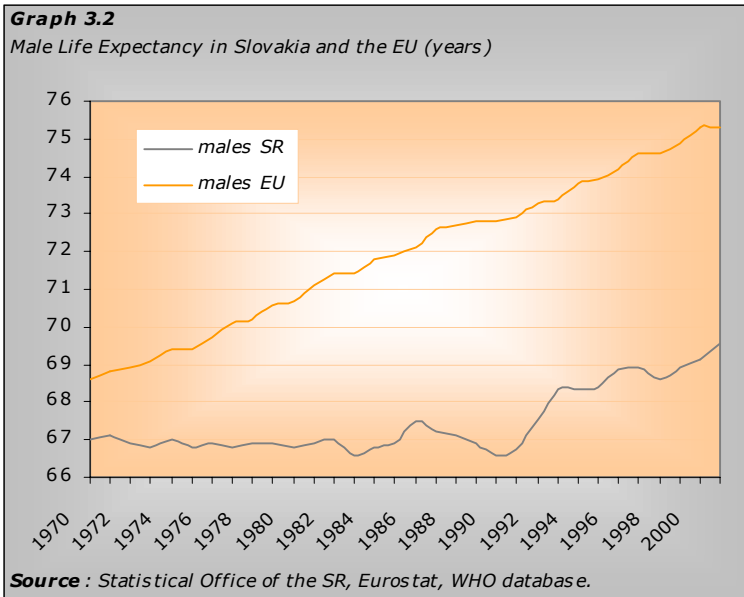
The development of life expectancy in Slovakia may be subdivided into several stages. The biggest increase was noted during the period after the Second World War. The reasons included reduction of overall mortality, reduction of infant mortality, reduction of mortality from infectious and parasitic diseases, and improvement of hygienic standards, etc. Slovakia's population at that time lived approximately as long as populations of developed democratic countries of Europe.

The differences in average life expectancy between Slovakia and Western Europe developed gradually. As far back as in 1960, the differences were minimal, as illustrated by Graph 3.2, two years

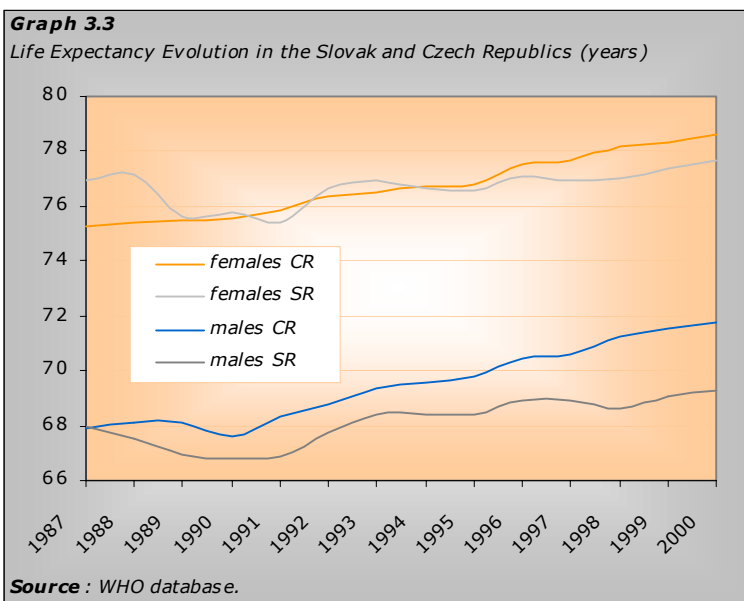
⁶⁷ For details see chapter *Poverty of the Roma* in the National Human Development Report SR 2000.

⁶⁸ Experts' estimates differ: Based on 1979 and 1980 censuses the average life expectancy for Roma men and women was estimated at 55.3 and 59.5 years, respectively (Kalibová, 1989). More recent estimates indicate life expectancy of 62.4 years for Roma men and 71.6 years for Roma women. The difference of 6 years seems to be a more realistic estimate of the current state.

after the occupation of Czechoslovakia, in 1970, the difference between Slovakia and EU was still about one and a half year for males. Further developments were however entirely different. The gradual improvement of the quality of life and of medical care in EU countries resulted in continuous growth whereas in Slovakia (similarly as in the Czech Republic and other countries of the communist block) there was stagnation. As a result and irrespective of the new disclosures in the field of medicine, the average life expectancy for males in the Slovak Republic in 1989 was the same as it had been in 1970. After the democratic changes in 1989, there was hope for improvement, and the average life expectancy actually increased 1.5 to 2 years for both men and women during 1990-1993. Subsequently however, the growth rate reduced, so that life expectancy only slightly increased in recent years for both men and women.



Graph 3.3 shows a surprising difference in the trends of life expectancy for men and women between the Slovak and the Czech Republics. In the Czech Republic, there is a pronounced increase in the life expectancy of men; the Czechs have already caught up with the life expectancy values for the lowest country of the European Union, Portugal, and the difference compared to Slovakia approaches three years. The trend is similar for women as well, with the difference between Slovakia and the Czech Republic being not large.



Looking at Graphs 3.2. and 3.3, the question arises what happened between 1960 and 1990. The baseline value of life expectancy in 1960 were very similar for Western Europe and the former Czechoslovakia, whereas the difference in life expectancy of men in EU countries and those in Slovakia represented more than six years thirty years down the road. What caused the shears characterizing life expectancy to open as wide between the EU and Slovakia?

The invasion of Warsaw Treaty troops in 1968 abolished any hopes for a reform of the communist system. The population of Slovakia was isolated from the developments in Western Europe. Under these circumstances, people mainly focused on the construction of their own homes. A rather widespread was the category of manual workers with low earnings, who tried to increase their income by working in the fields and in gardens, and by keeping animals. This way of life was rather exhausting; they returned home after the official job, started to work in the garden, looked after animals or constructed the new home. Holidays were spent by constructing houses or gardening rather than resting. The relaxation of such overburdened men often consisted of visiting the local pub, drinking alcoholic beverages, and consuming large amounts of cigarettes.

The diet of these people contained large amounts of animal fats, mainly pork. During the winter and spring seasons, the diet contained but a minimum of protective substances because of low intake of fresh vegetables and fruits. Imported southern fruits were rare and also rather expensive. Many families would attempt to save on food in order to afford buying a car. In this way, they created a chronic disbalance. On the one hand, there were favorable conditions for enhanced production of harmful oxygen radicals that play role in the pathogenesis of vascular and neoplastic diseases (frequently polluted working and general environment, large quantities of cigarettes and distilled spirits consumed); on the other hand, men had a low intake of protective substances from vegetables and fruits that help abolish the radicals harmful to health.⁶⁹

The socialist health care system could, to a certain extent, cope with contagious diseases and substantially reduced infant mortality. The shortage of foreign currencies, on the other hand, has prevented imports of modern diagnostic technologies and drugs. In economically developed countries with market mechanisms, the quality of life improved, as did the interest of the individual in one's own health and the quality of food and its structure. In the health sector, scientific progress has shown an improved standard of diagnostics and therapy. All factors mentioned, however, are insufficient to completely explain the gap between the West and the East.

3.1.3 Analysis of Mortality Structure

Infant mortality⁷⁰ significantly influences average life expectancy in developing countries. In economically developed countries, infant mortality ranges around 5 (EU average), being close to the EU average in the Czech Republic (5.9) and being slightly higher in Slovakia (8.6 in 2000). In Slovakia, this factor has but a slight effect on average life expectancy.

There have been no substantial changes in the structure of causes of death in Slovakia during the recent years. The most frequent cause of death is diseases of the circulatory system, followed by tumors, external causes (injuries, poisonings, homicides, etc.), diseases of the digestive system, and diseases of the respiratory system. The five most frequent causes of death accounted for 94 percent of all deaths in Slovakia in 2000; more than three fourths of the deaths were due to disturbances of the cardiovascular system and malignant tumors. It is typical of the Slovak Republic that the above two types of diseases threaten already relatively young parts of the population. Premature mortality is a parameter more significant than total mortality as it is key for overall life expectancy as well as for the economy of the country. The resulting average life expectancy for men and women reflects mainly cardiovascular and oncological mortality at a relatively young age. According to these indices, Slovakia's position compared to that of the Western Europe is rather unfavorable.

Box 3.1

HALE – New Indicator of Healthy Life

A new important parameter has occurred in WHO documents in recent years, so-called DALE (disability-adjusted life expectancy). In the past two years this indicator was converted to HALE (health-adjusted life expectancy). The values of this indicator are lower than those for conventional life expectancy as the former only reflects estimated years of healthy life. For the male population of the Slovak Republic, HALE ranges currently around 61.6 years, which means that Slovak men lose approximately 8 years of life as a result of diseases and/or disability. Several less developed countries (based on HDI) rank higher than Slovakia, e.g. Costa Rica, Jamaica, and Cuba. The value of HALE for Slovak women is substantially higher – 66.6, and they also rank higher within the WHO ranking. Slovak women however spend as much as almost 11 years in ill health, which equals to 14 percent of total life span (11 percent in males). *Source: WHO (2002).*

⁶⁹ Source: Ginter (1996).

⁷⁰ Persons dying within one year of their life per 1,000 live births.

Table 3.1

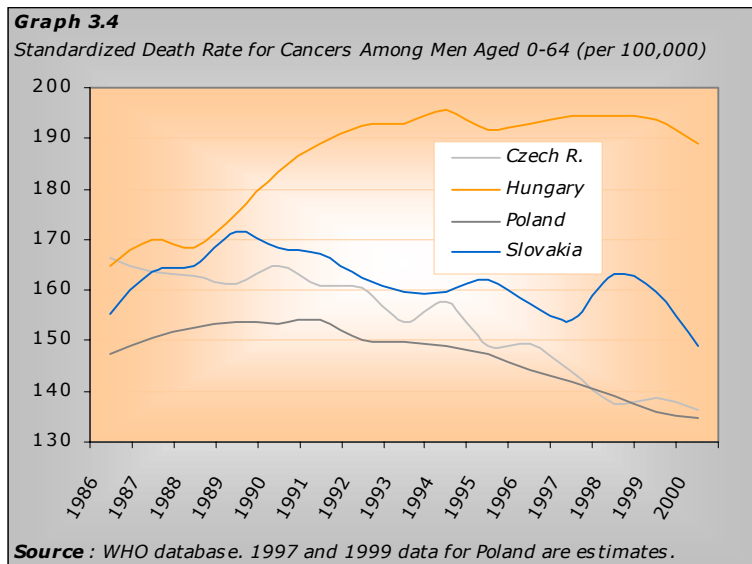
Premature Mortality from Cardiovascular Diseases in Europe (Standardized death rate for the age group 0-64 years/100 000; data mostly from 2000)

Country	Cardiovascular mortality, total		Mortality from coronary heart disease	
	Males	Females	Males	Females
Russian Federation	371	135	224	54
Ukraine	336	122	208	64
Hungary	210	73	108	30
Slovakia	178	57	92	27
Poland	164	53	77	17
Czech Republic	132	43	73	18
Austria	79	28	46	10
Germany	79	28	42	10
Greece	89	30	54	11
France	52	16	22	4

Source: Statistical Yearbook of Health of the SR, Institute of Health Information and Statistics.

Table 3.1 shows the latest data on premature mortality of men and women from cardiovascular diseases in Europe. Slovakia's position is slightly better when compared to countries of the former Soviet Union and Hungary, but markedly worse than EU countries. The overall mortality from cardiovascular diseases in Slovakia for both men and women is twice that compared with neighboring Austria and almost four times higher than France. Mortality from coronary heart disease (myocardial infarction) is four times higher in men and seven times higher in women as compared to France. In comparison with neighboring countries, reduction in early cardiovascular mortality is slower in Slovakia; however, it is promising. The situation is worse compared to the Czech Republic and Poland; this may relate to the high incidence of cardiovascular risk factors in the Roma community.

The most frequent cause of death, under cardiovascular diseases, is coronary heart disease (ICD, I 20-25)⁷¹; deaths of acute myocardial infarction make up one-fifth of the cases. Strokes rank second, representing about twenty percent of the deaths of cardiovascular diseases. About ten percent of individuals die of hypertensive disease.



Graph 3.4 illustrates the rather unfavorable development in Slovakia of premature mortality in men from all types of tumors. Slovak men aged 25-64 take a leading position in Europe's oncological mortality, overtaken by Hungary, the Russian Federation, and Ukraine. Compared to Greece, England, and Switzerland, Slovak men die of oncological diseases almost twice as frequently. For the Slovak male population, this indicator is characterized by stagnation; death rates from cancer for 2000 remained at

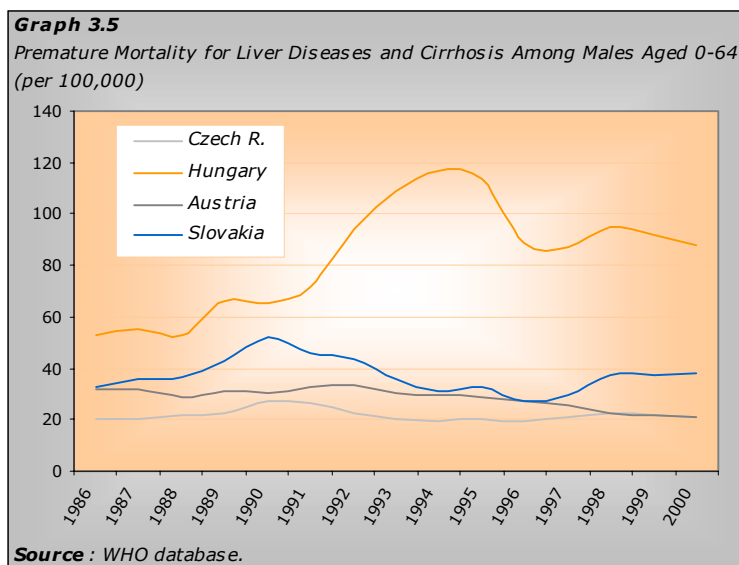
⁷¹ International Classification of Diseases, I 20-25 represents the various forms of coronary heart disease.

the same level as they were in 1986. In neighboring countries (with the exception of Hungary), e.g., the Czech Republic, Austria, Poland, death rates of men from tumors keep decreasing. Slovak women show lower death rates of cancer than women in the neighboring countries. Premature mortality of women from breast cancer has been lower in Slovakia over long periods of time than in the Czech Republic and even lower than the average for the European Union; however, there has been a sudden growth in recent years.

External causes of death most frequently include traffic accidents, intentional self-injuries, and falls. The standardized death rate is slightly higher than for EU countries, but almost exclusively in men. Women have roughly four times lower mortality rates from external causes than men and in many ways more favorable statistics than women in EU countries. In general terms, external causes were behind 5.9 percent of all deaths in 2000 (8.7 percent in males, 2.7 percent in females).

There has been a long-term decreasing trend of mortality from respiratory system diseases in both men and women in Slovakia, approaching the EU average. However, a relatively marked increase occurred in deaths from respiratory system diseases in 2000, when a total of 2,912 individuals died (increase by 11 percent as compared to 1999), i.e., 5.5 percent of the total deaths. This represents 62.5 and 45.8 deaths per 100,000 for men and women respectively, the European average being 85 and 44 deaths for men and women respectively.⁷² Diseases of the respiratory system represent the most frequent cause of short-term work disability. Their contribution toward total morbidity was 46.9 percent in 2000. There were 1,111 reports of tuberculosis, representing a reduction of 111 cases compared to 1999.

Digestive tract diseases ranked fifth as the leading cause of death in Slovakia, accounting for 2,630 deaths, and representing 5 percent of the number of deaths. For men, they represented 66.7 deaths per 100,000; the corresponding figure for women was 31.7 deaths per 100,000, with the European average being 41.1 and 23.7 for men and women, respectively.⁷³ On the other hand, data on premature mortality of women and men from chronic liver diseases and cirrhosis are worrisome. Graph 3.5 shows that men in Slovakia have much higher death rates than do men in the EU. Remarkable is the growth of mortality that occurred around 1990; the same applies to the Czech Republic, and it may reflect political instability of that period. The growing death rates, during recent years, indicate that men die of cirrhosis about 2.5 times more frequently than do men in the EU. This phenomenon undoubtedly has to do with the high consumption of distilled beverages which often contain harmful substances, in particular homemade beverages.



Some data for the Slovak Republic are also positive in nature; mortality from diseases of the nervous system, mental diseases and suicides, as well as from diseases of the urinary and genital system, are decreasing and approaching European Union averages. Mortality from infectious and parasitic diseases is lower in Slovakia than in the EU.

⁷² Source: Statistical Office of the SR, WHO.

⁷³ Ditto.

3.1.4 Morbidity of the Population

The structure of the morbidity has shown no significant changes. Chronic non-infectious diseases, mainly cardiovascular diseases and malignant tumors, usually take the top positions. What follows are injuries, diseases of the respiratory and digestive system and diabetes whose incidence has rapidly increased. In addition, there is an increasing trend of psychiatric diseases, ranking third among the causes of disability. The number of drug addicts and cases of syphilis are on the rise. So far, AIDS has shown substantially lower occurrence in Slovakia than all over the European Union. In addition, incidences of viral hepatitis A and B have decreased; the values are virtually identical with those for the EU, thanks to immunization.

Cardiovascular Morbidity

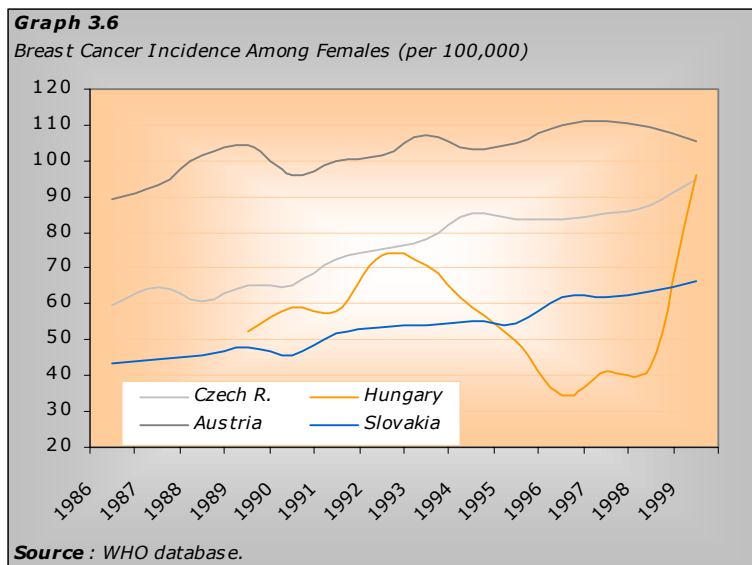
Circulatory system diseases (CSD) represent about 3-4 percent of completed sick leave cases, due to diseases and injuries of all types. In 2000, there were 2,419 cases per 100,000 employees-insured persons recorded of SL because of CSD, including 2,688 cases in males and 2,717 cases in females, representing a significant reduction as compared to 1990. In 1990, there were 3,354 cases in males and 3,582 cases in females per 100,000 insured recorded.

Almost fifty percent of the sick leave cases due CSD concern hypertension. The number of sick leave cases due to diseases of cerebral arteries and coronary heart diseases (including myocardial infarction) have decreased; sick leave for hypertension keeps increasing, more to the disadvantage of females. Women aged 50-59 years represent the most exposed group, with 4,000 cases of sick leave per 100,000 insured in 1999, exceeding the males of the same age group by almost one-third.

Oncological Morbidity

The proportions of individual localization and types of malignancies have gradually changed in recent decades. Stomach tumors were the predominate type of cancer in both genders in 1970, whereas it were malignant lung tumors within 1980-1994, and tumors of the colon and rectum (colon-rectal cancer) have had a leading position in recent years. The incidence and mortality of tumors of the colon showed a sudden growth for men in particular, while showing a tendency toward stabilization in recent years. Malignancies of the rectum also recorded marked growth, in particular in males. It is malignancies of the colon and rectum (both localization are referred to as one since they affect the same organ) can be expected to rapidly grow in the future and prevention should be targeted, in particular through intervention into the dietary habits of the population.

Breast cancer has also recorded rapid growth in recent years, similarly as in other developed countries, though incidence values reported for Western and Northern Europe and North America have not yet been reached. The upward trend is similar all over Central Europe (see Graph 3.6), with Austria and the Czech Republic being worse off than Slovakia in this respect. Further increases in the incidence and mortality for such tumors must be expected in the future because of the increasing mean age and a number of negative factors; the number of women smokers (also during pregnancy), higher age of women at first delivery, reducing numbers of births, alcohol consumption, etc. The development of mortality of breast cancer could have been stabilized in recent years, although significant reserves still exist in this respect. Many women (almost half of them) come to consult doctors at advanced stages of their disease, when prospects for successful therapy are rather small. It should be mentioned that many developed countries could not only keep the numbers of the deceased at constant levels but even reduced mortality, despite a rapid growth and large numbers of cases of breast tumors; this was achieved by well targeted and organized secondary prevention.



A majority of developed countries could already have successfully coped with the problem of incidence and mortality of malignancies of uterine neck (this is a disease that can be fully managed at early stages of its development). The development in Slovakia is not satisfactory; when compared to other countries, very low proportions of tumors are being identified by preventive examinations at a very early, so-called "in situ" stage⁷⁴. At the present, there are about 300 in situ tumors per 900 invasive tumors⁷⁵, whereas such early stages predominate in developed countries. Obviously, secondary prevention of this disease is inadequate in our country, and the numbers of examinations does not correlate with the outcome, as the examinations do not cover the whole population equally.

Despite the number of cases of oncological diseases in adult persons, numbers of newly diagnosed cases in children aged 0 – 15 years have not changed very much over the last 30 years. About 170-180 new cases were reported annually; the numbers have dropped to less than 150 during the last few years. The reduction is due to the reduction of children in the population.⁷⁶

An oncological time bomb is generally expected to explode in the 21st century. The sudden growth of oncological diseases will evidently be connected with a reduction in the incidence of cardiovascular diseases and deaths of them, thanks to the success of preventive programs and due to the growth of proportions of older individuals in the population. Also a contribution toward the growth of oncological diseases and deaths of them will be made by the development of AIDS pandemic since persons affected by the disease can be cured of trivial infections but frequently die of malignancies.

External and Other Causes

A total of 287,569 injuries were reported in 1990, including 55,868 (20 percent) occupational related injuries. In 2000, 87,788 injuries were reported for employees. Compared to 1990, this represents a reduction by more than 70 percent. Occupational injuries dropped to 22,116, i.e., by 57 percent. As compared to 1990, the number of fatal accidents in 2000 dropped from 229 to 88 (by 60 percent).

⁷⁴ Findings identified in early stages in the place where originally arising.

⁷⁵ Tumors in advanced stages that grow from the site of the original arise into the adjacent tissues.

⁷⁶ Source: Institute of Health Information and Statistics (ÚZIS).