AGEING AND HEALTH IN THE TRANSITION COUNTRIES OF EUROPE WITH FOCUS ON THE HUNGARIAN CASE

Etelka Daróczi, Demographic Research Institute, Hungary

During the twentieth century, the transition countries of Europe[1], as they are known today, experienced two upheavals. First was the communist take-over between 1917 and 1949. The period of communism lasted 77 years for the first member-republics of the Soviet Union and about 40-50 years in other transition countries (Magyar Nagylexikon, 2003). The second period of turbulence came in 1989-1991, when those regimes collapsed. Their peoples regained political independence and had to face the difficulties associated with establishing new, democratic institutions and transforming the command economies into market-oriented ones.

From a global perspective, these countries can justifiably be regarded as a distinct group. They formed an ideological, political, economic and partly military totality, separated from free capitalist Europe by the "iron curtain". Beyond the iron curtain, however, and despite all efforts at homogenisation, their diverse climatic and geographical conditions, deep historical roots, manifold cultures, languages, ethnicities and religions as well as the wide range of their modes of production, distribution and consumption have left imprints that are perceptible in their demographic behaviour, family and community lifestyles**.** This diversity is reflected in various features of these countries' demographic transition. Fertility has declined in all, but there has been much variation in timing, duration and speed of that decline. Total fertility rates (TFR) in 2003 ranged from 1.1 in Armenia, Bulgaria, Latvia, Russia and Slovenia to 3.0 in Tajikistan, while life expectancy at birth in 2002 ranged from 56 years in Kazakhstan and Turkmenistan to 73 years in Slovenia among males, and from 63 years in Tajikistan to 81 years in Slovenia among females (WHO, 2005).

During the second half of the twentieth century, increases in life expectancy at birth resulted mainly from reductions in infant and child mortality, particularly due to infectious diseases. For about 30 years from the late 1960s, there was little improvement in life expectancy of adults. In the 1970s and 1980s, survival probabilities of the middle-aged were relatively low and even worsening in the case of males. Following the change in political systems, there were further declines in life expectancy during the 1990s (Watson, 1995; Bobak and Marmot, 1996; Velkova, Wollesswinkel-van den Bosch and Mackenbach, 1997; Carlson, 1998; Marmot and Bobak, 2000; McKee and Shkolnikov, 2001; Meslé, 2002; European Communities and WHO, 2002; Nolte, McKee and Gilmore, 2004).

Recent improvements in mortality at higher ages have made longevity a new component of the demographic dynamics in transition countries, giving a new impetus to the ageing process in these countries. Little attention, however, has been paid to the health of the older population living in Central and Eastern Europe. On the one hand, international comparative studies on the health of older persons seldom include the former communist countries. On the other hand, studies on health in transition countries tend not to focus on the older population (Caselli and Lopez, 1996; Arnaudova and Charpak, 2004).

In view of this situation, the objectives of the present study are twofold: first, to provide a cross-national descriptive analysis of population ageing and health conditions of older persons in selected European countries, including transition and non-transition countries; secondly, to present a comprehensive picture of the health status of the older population in Hungary.

Ten transition countries and three non-transition countries of Europe have been included in the comparative analysis developed in the first part of the study. From among the former communist countries, Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia were chosen based on the principle of the "closest neighbour". These countries cover a contiguous area stretching from the Baltic to the Adriatic and the Black Sea and share a similar historical and cultural heritage. Except in Romania, their transition from socialism to capitalism was peaceful. By 2005, their economies had more or less recovered, some of them from deep crises. From the point of view of demographic transition, they form a relatively homogeneous group, in contrast with most other Eastern European or Central Asian post-Soviet republics. The selection of three non-transition countries, namely Austria, Finland and Portugal, was based on a similar premise. Austria and Finland are immediate neighbours, and have historical, cultural and economic ties with at least one transition country. Portugal represents a "virtual closest neighbour" of the transition countries, having parallel experiences in post-war levels of economic development, enclosure and isolation during the fascist era, and belated improvements in mortality.

The cross-national comparative review includes indicators of demographic ageing, underlying fertility and mortality trends, total and healthy life expectancies at birth and at age 60, and selected causes of death at age 65 and above. The data were taken from two major sources: the Council of Europe's demographic yearbook *(Recent Demographic Developments in Europe),* and the *European Health for All database* of the World Health Organization Regional Office for Europe.

The data used in the second part of the study on the health status of the Hungarian older population were taken from several sources, including population censuses, vital statistics, outpatient and inpatient services, dispensaries, and registers of specific diseases. In addition to these regular statistics, relevant results from two recent sample surveys—the National Health Interview Survey (NHIS) and the Hungarian Social and Demographic Panel Survey (DPA)—were also employed. These surveys do not focus explicitly on the older population, and only the first is a health survey. Nevertheless, most results are available by age categories, providing insights into the health status of the Hungarian older population.

A. AGE COMPOSITION AND OLD AGE HEALTH IN COMPARATIVE PERSPECTIVE

Population ageing

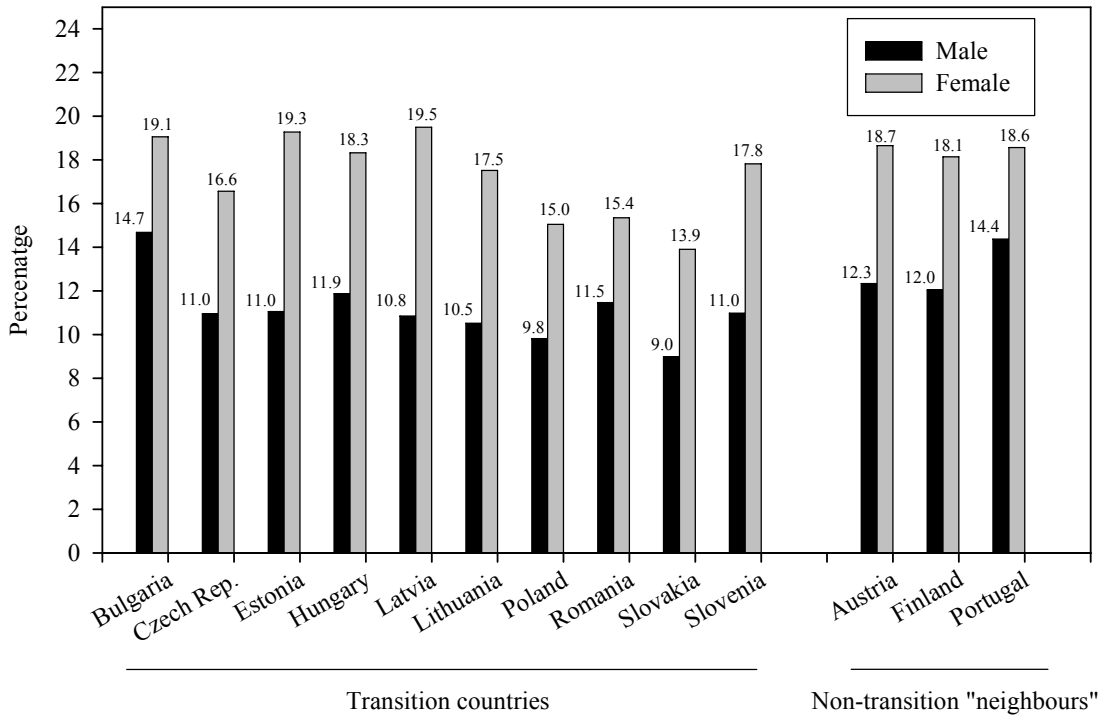
There are no significant "system-specific" differences between transition and non-transition countries in terms of the proportion of population aged 65 or over. Among the post-communist states, Slovakia has the lowest proportion of older persons among both men and women (9 and 14 per cent respectively), while Bulgaria has the highest proportion of older males (15 per cent) and Latvia the highest proportion of older females (20 per cent). The proportion of people aged 65 or over in the three non-transition countries—Austria, Finland, and Portugal—is 18-19 per cent for women and 12-14 per cent for men (figure 1).

The current old-age "burden" can be assessed by referring to the first column of the dependency ratios in table 1. Only Slovakia and Poland have a ratio of population aged 65 or over to that aged 15-64 that is below 20 per cent. Seven countries have ratios above 22 per cent, with Bulgaria at 25 per cent. Immanent changes in old-age dependency are indicated in the second column of table 1, which shows the ratio between those entering old age (60-64 years old) and those entering working age (ages 15-19). These figures are affected by the different sizes of cohorts born in 1938-1942 and 1983-1987, as well as by differing national levels of mortality. The combined effect of these factors varies considerably from country to country. During the early twenty-first century, population ageing is expected to be relatively less intense in the Baltic States and Slovenia, but it will accelerate in Hungary. In the somewhat longer run, as indicated by the dependency ratio between older persons and children in the third column of

table 1, ageing will become particularly rapid in Portugal and Bulgaria, and relatively less so in Slovakia and Poland.

The age composition of the older population is gaining increasing importance as longevity increases and much of the old-age dependency involves the need for care or support of the oldest. Table 2 shows that particularly for women, the proportion aged over 85, among those aged 65 or over, is highest in the non-transition countries and better-off transition countries. Thus, even though those countries do not stand out from the others in terms of the proportion aged 65 or over, the economically better-off countries do stand out with respect to the oldest-old.

Figure 1. Proportion of population aged 65 and over, by sex, January 2002



Source: Council of Europe, *Recent Demographic Developments 2002*.
NOTE: Data for Romania refer to January 2001.

Fertility rates

Past fertility levels are reflected in the present proportions of women aged 65 and over. There is a clear correlation, for example, between total fertility rates (TFR) in 1960 and the shares of older women in 2002 (r = -0.48). In 1960, fertility was just at or was below the replacement level of 2.1 in Latvia, Estonia, Hungary and the Czech Republic. In 2002, except for Czech Republic, these countries had the largest share of older women. For men, the correlation between past fertility and ageing is less salient, probably because male mortality rates are higher and more diverse across countries than female mortality rates.

TABLE 1. DEPENDENCY RATIOS, JANUARY 2002[a]
(Percentage)

Ages 65 or over relative to ages 15-64		*Ages 60-64 relative to ages 15-19*		*Ages 65 or over relative to ages 0-14*	
Slovakia……..	16	Latvia……	50	Slovakia…….	60
Poland……	18	Finland……..	50	Poland…….	69
Romania[b]…….....	20	Estonia……..	67	Romania[b]…….	75
Czech Republic……..	20	Lithuania……...	73	Lithuania…….	75
Slovenia …...…….	21	Slovenia……	74	Finland……	85
Lithuania……	21	Romania[b]……..	78	Czech Republic……...	87
Hungary…….	22	Bulgaria……	79	Estonia……	90
Finland……...	23	Czech Republic……	81	Latvia……..	93
Latvia…….	23	Slovakia……	81	Hungary……..	93
Austria ……..	23	Portugal……	81	Slovenia……..	94
Estonia …….....	23	Poland……...	82	Austria…….....	95
Portugal …….	24	Austria……..	83	Portugal……...	104
Bulgaria …….	25	Hungary……	100	Bulgaria……...	113

Source: Council of Europe, *Recent Demographic Developments 2002*.
[a] Countries are listed in increasing order of their respective ratios.
[b] January 2001.

TABLE 2. PROPORTION AGED 85 OR OVER AMONG PERSONS AGED 65 OR OVER, JANUARY 2002[a]
(Percentage)

Males		*Females*	
Bulgaria……..	4.5	Bulgaria……..	5.9
Estonia…….....	5.0	Romania[b]……	6.6
Romania[b]……	5.1	Slovakia…….....	7.7
Latvia…….	5.1	Poland…….	8.2
Slovenia…….	5.1	Lithuania…….	8.5
Poland……	5.2	Hungary……..	8.7
Czech Republic……..	5.2	Latvia……..	9.0
Slovakia…….	5.4	Slovenia……..	9.1
Lithuania……	5.8	Czech Republic……..	9.1
Hungary…….	5.9	Estonia……...	9.4
Finland…….....	6.2	Portugal……..	10.1
Portugal……..	7.1	Finland……	12.6
Austria……...	7.6	Austria…….....	13.5

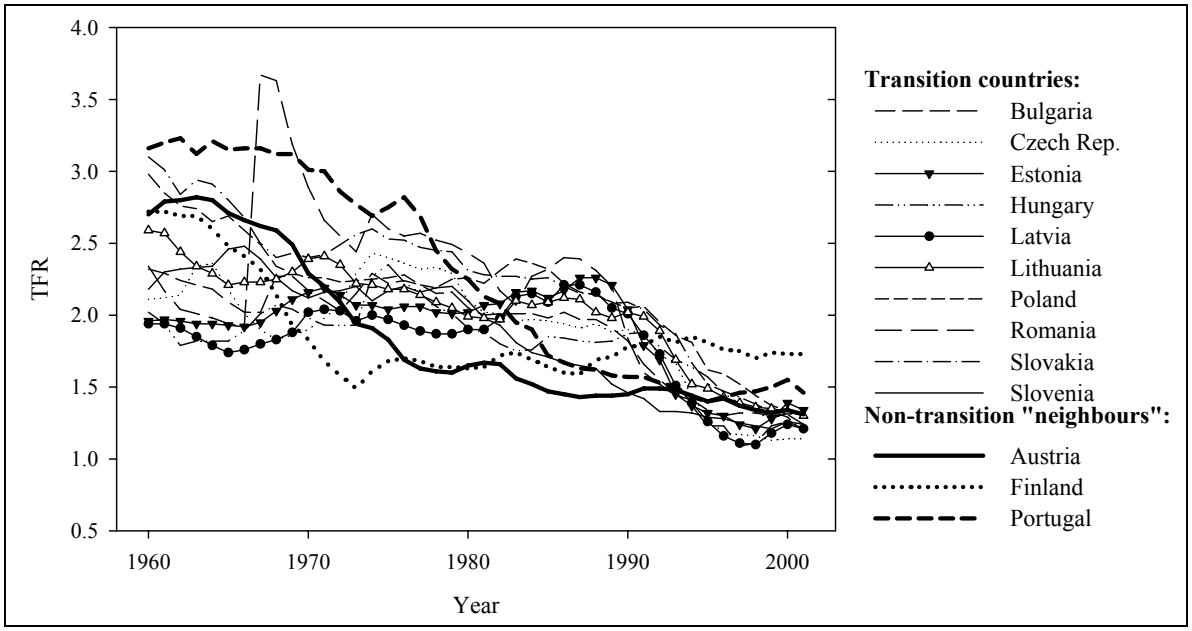
Source: Council of Europe, *Recent Demographic Developments 2002*.
[a] Countries are listed in increasing order of their respective ratios.
[b] January 2001.

In spite of the general downward trend of fertility (figure 2), some steep upward changes took place in the past in transition countries as a result of either direct or indirect pronatalist State interventions. For instance, rigourous censorship over abortion and contraceptives in Romania in 1967-1968 and pronatalist financial incentives in Hungary around 1968 and 1975 resulted in sudden spikes in the number of births.[2] These Government regulations produced only transient increases in period fertility so that completed fertility levels have remained almost unaffected. The resultant changes in the numbers of births in

successive years have long-term repercussions that will eventually become evident when "spike" cohorts start entering retirement age.

At the beginning of the 1960s, there was significant variation in TFRs among countries included in this study (Andorka, 1978; Tekse, 2005). By the end of the twentieth century, the cross-country variation had considerably decreased (figure 2). Convergence was largely due to general changes in norms and values, usually referred to as the second demographic transition. Convergence also resulted, in part, from the negative impact on births of political and economic crises and uncertainties. In Finland, Austria and Portugal, the total fertility rate in 2001 was almost the same as in 1988. In contrast, fertility rates declined significantly in most of the post-communist countries. The smallest post-transition change in TFR occurred in Slovenia—0.42 fewer children per woman—while the largest decline took place in Romania—more than one child per woman. In 2001, only Finland and Portugal had a TFR approaching or exceeding 1.50 children per woman. The other countries ranged between 1.14 (Czech Republic) and 1.34 (Estonia).

Figure 2. Trends in total fertility rate (TFR), 1960-2000



Source: Council of Europe, *Recent Demographic Developments 2002*.

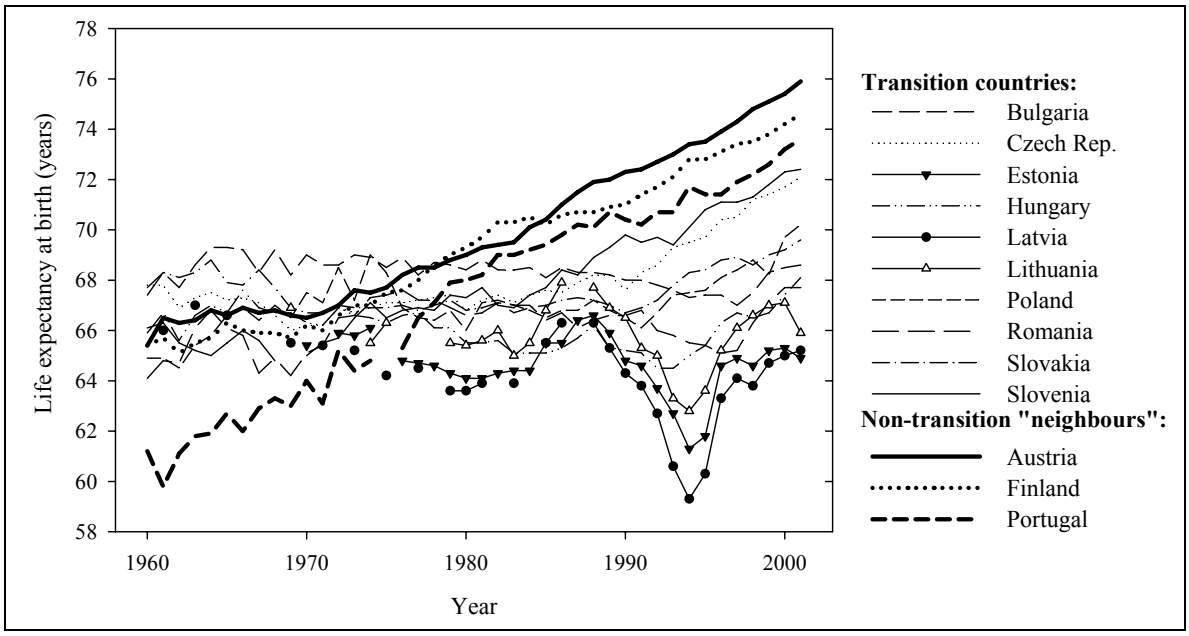
Life expectancy at birth

Trends in life expectancy at birth among the countries included in this analysis vary considerably. With respect to male life expectancy at birth, in 1960 nine countries had values in a narrow range between 64 and 68 years, with transition countries such as Bulgaria, Czech Republic and Slovakia ranking the highest (figure 3). By the end of the 1970s, Portugal caught up with the others and soon left all transition countries behind. During the late 1980s, Estonia and Lithuania progressed remarkably while Hungary made up some of its previous losses. The turbulent years of transition around 1990, however, led to divergence in levels of male life expectancy. In 1985, the range within the 13 countries was 5.3 years, between Austria and Hungary. In 2001, the range increased to 11 years (between Austria and Estonia). The ex-Soviet Baltic republics were the major losers of the post-transition period. Male life expectancies

at birth decreased by 4 to 6 years in a span of six calendar years. By 2001, these countries had not regained their 1988 levels of male life expectancy.

Trends in female life expectancy at birth have shown fewer and smaller reversals (figure 4), and in recent years the range of values across these countries has become narrower for female than male life expectancy. Data for 1960 on female life expectancy are not available for Estonia, Lithuania, or Latvia. Among the remaining ten countries, at that time eight had values in the range of 70.0 years to 73.5 years, with Romania (67.6 years) and Portugal (66.7 years) lagging behind. By 1980, ten countries clustered together within a narrow range of 73.8-76.0 years. The three outliers were Finland at the top with 77.8 years and Hungary and Romania at the lower end with 72.7 years and 71.8 years respectively. The period of transition had much less impact on female than on male life expectancies. The Baltic States experienced reductions in women's life expectancy during this period, although the decline was much smaller than for men. Between 1987-1988 and 1994, the Baltic States experienced a loss of about 2.5 years in female life expectancies at birth, but by 2001 all of them had surpassed their pre-transition levels.

Figure 3. Trends in male life expectancy at birth, 1960-2000



Source: Council of Europe, *Recent Demographic Developments 2002*.

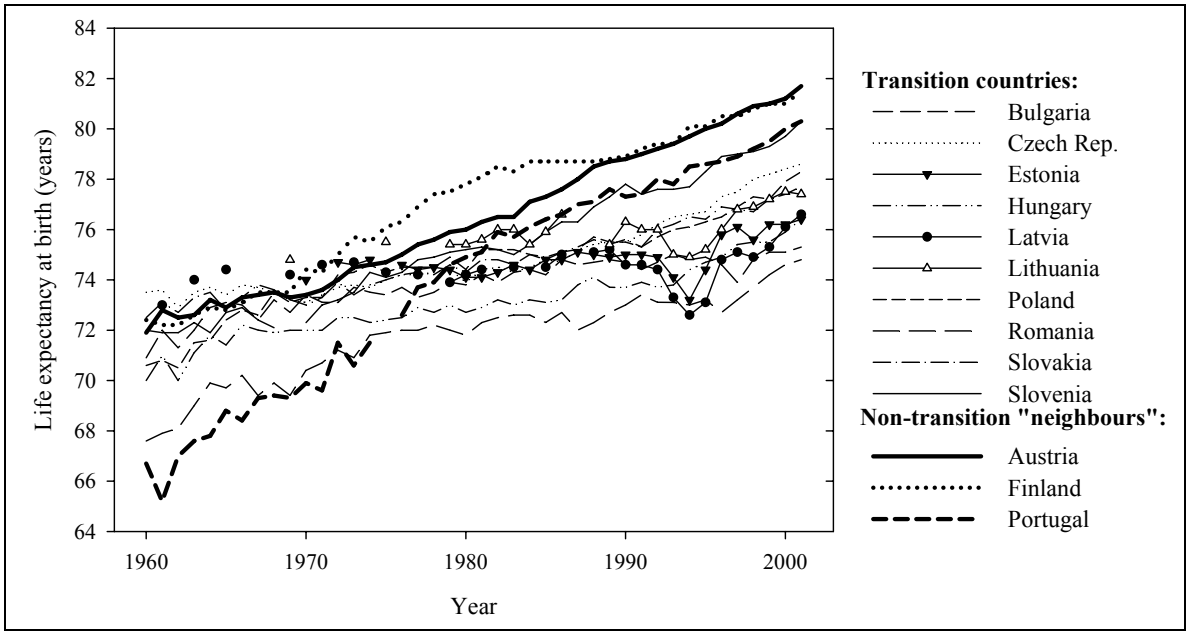
Life expectancy at age 65

Trends in life expectancies at age 65 differ from those in life expectancies at birth in that improvements at higher ages typically began later. Over the period since 1960, life expectancies at age 65 have diverged among the countries examined here, as some countries have shown remarkable gains in old-age survival, while others have experienced smaller improvements or even, in some cases, a regression for men.

Improvements in old-age life expectancy began earlier for women than for men (figures 5 and 6). There was little trend for women during the 1960s. During the 1970s, Austria, Finland and Slovenia progressed rapidly, while Poland and Slovenia experienced a negative change during the early 1980s. Three distinct groups of countries emerged around the mid-1980s: Finland, Lithuania, Austria and

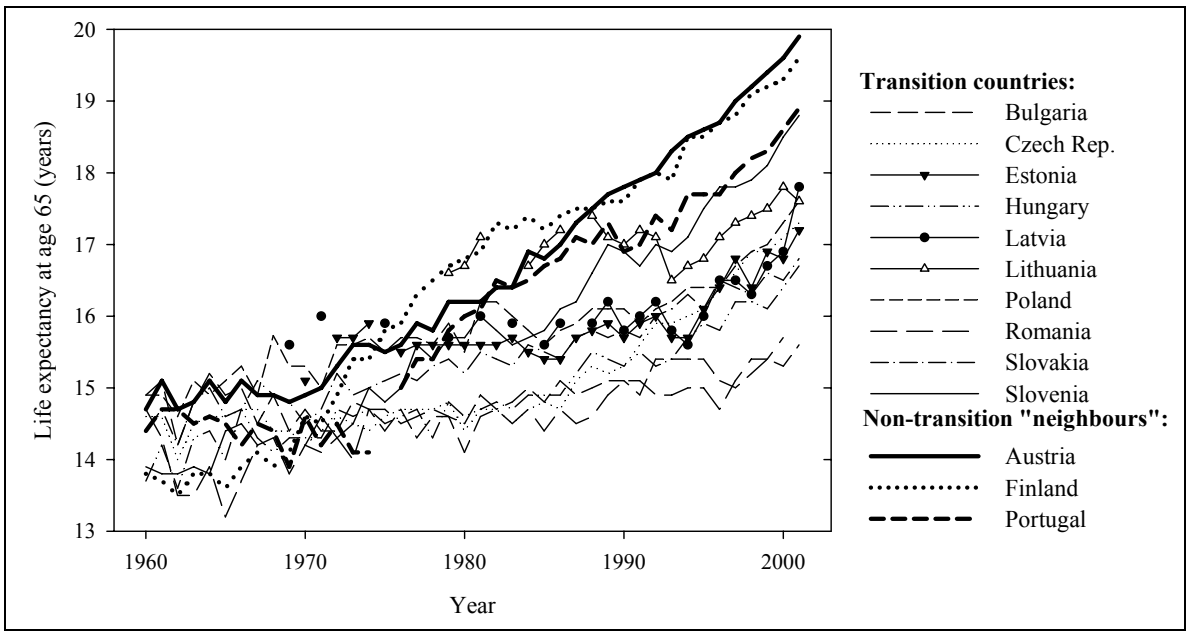
Portugal at the forefront; Slovenia, Latvia, Poland and Slovakia in the middle; and Bulgaria, Hungary, the Czech Republic and Romania at the bottom. The critical years of the 90s had little impact on older women's life expectancies.

Figure 4. Trends in female life expectancy at birth, 1960-2000



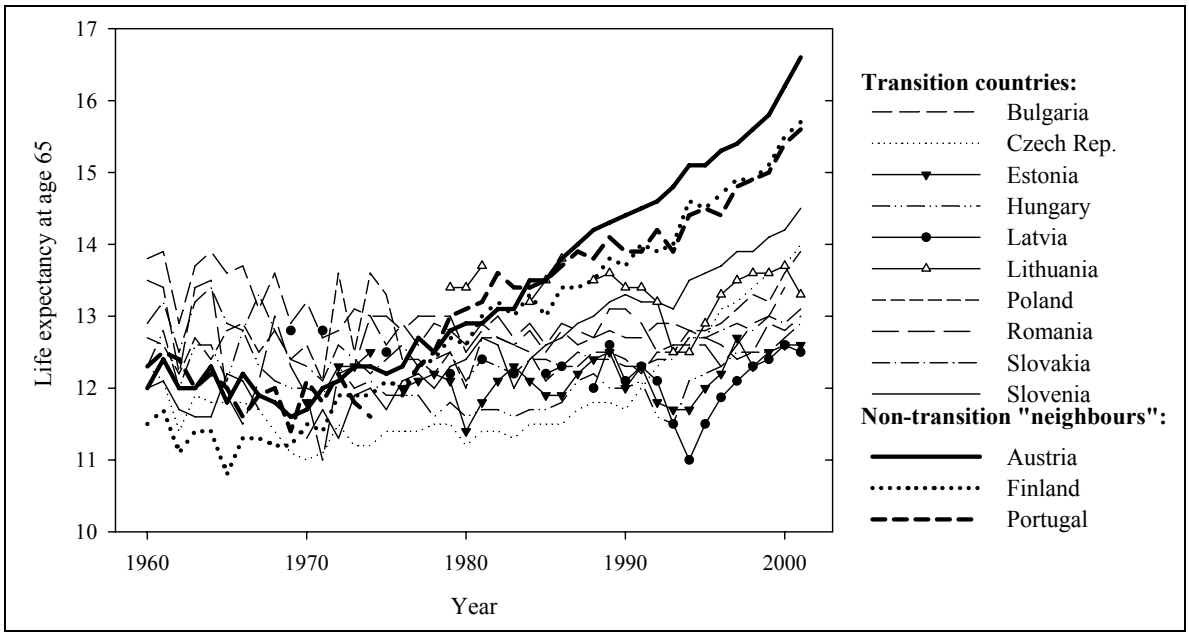
Source: Council of Europe, *Recent Demographic Developments 2002*.

Figure 5. Trends in female life expectancy at age 65, 1960-2000



Source: Council of Europe, *Recent Demographic Developments 2002*.

Figure 6. Trends in male life expectancy at age 65, 1960-2000



Source: Council of Europe, *Recent Demographic Developments 2002*.

Male life expectancy at age 65 remained within the limits of 11-14 years from 1960 up to the late 1980s. In non-transition countries and in Slovenia, old-age survival of men started to improve rapidly in the 1980s, and the trend accelerated in the 1990s. In most transition countries, however, downward movements and stagnation during the early years of transition indicate that the epidemiological crisis was not confined to middle-aged men, but also affected old-age mortality. Between the periods 1987-1989 and 1991-1994, life expectancy of men aged 65 decreased by 0.6-1.6 years in Romania, Hungary, Estonia, Lithuania, and Latvia. Bulgaria, Slovakia and Poland experienced smaller decreases, while there was a slight improvement in the Czech Republic.

Over the whole period 1960-2001, there were large improvements in old-age mortality for women in most transition countries. Slovenia achieved remarkable progress, with female life expectancy at age 65 being almost 5 years longer at the end of the period than at the beginning. The non-transition comparison countries also achieved large gains (from 4.5 years in Portugal to 5.8 years in Finland), while in most of the other transition countries the gain was in the range of 1-3 years. Male life expectancy at age 65 also improved in most transition countries over the whole period, with Slovenia again showing the largest gain of 2.5 years. The latter improvement, however, fell short of the gains of 3.3-4.6 years observed in the non-transition comparators. Poland and the Czech Republic were the only other countries to experience gains of over one year in male life expectancy at age 65.

Health in old age

As more people survive to old age, a major concern is whether the additional years of life will be lived in good or in poor health. Assessment of health status cross-nationally and over time is difficult, because it is not easy to separate out the underlying health differences from effects of incomparable measurement, such as differences in diagnostic standards and in responses to survey questions. It should be noted that the information about health in old age that is available for the transition countries is relatively limited and should be regarded with caution.

Health-adjusted life expectancies (HALE) at age 60 can be compared to total life expectancies at age 60 in order to assess the portion of time spent in poor health and good health when people grow old (table 3). Although a single-year, cross-country comparison cannot provide a complete picture of the situation, it can provide some insight into the relationship between longevity and health.

There is a positive correlation across countries between the total number of years of life to be expected at age 60 and the portion to be spent in good health—based on table 3, the longer the life over 60, the larger the share spent in good health. However, the correlation is of only moderate strength (r = 0.46 for females and 0.60 for males). This cross-national relationship does not apply across genders. Although male healthy life expectancy at age 60 is lower than that for females in each country studied, with the unweighted averages being 12.2 years for males and 15.4 years for females, the proportion of time in good health shows no consistent difference by gender. If a three percentage-point difference between female and male values is considered to be significant, older men appear to be healthier than older women in Finland, Austria, Bulgaria and Poland, while the reverse is true in Hungary, Lithuania and Latvia. It is unknown to what extent these variations reflect reality and to what extent they show uncertainties in measurement and estimates of health[3]. In any case, the unweighted averages of the relative lengths of healthy life expectancies at age 60 in the 13 countries (72.7 per cent for men and 72.2 per cent for women) conceal important differences between countries. Some health surveys report that women are less healthy than men, both physiologically and psychologically (European Opinion Research Group, 2003a and 2003b). Details on Hungary regarding this phenomenon are discussed later in this paper.

TABLE 3. TOTAL AND HEALTHY LIFE EXPECTANCY AT AGE 60, 2000-2001

	Male				*Female*			
Country	*Life expec-tancy at age 60* [a] *(years)*	*Healthy life expec-tancy at age 60* [b] *(years)*	*Number of years in ill health*	*Time in ill health as percent-age*	*Life expecta ncy at age 60* [a] *(years)*	*Healthy life expec-tancy at age 60* [b] *(years)*	*Number of years in ill health*	*Time in ill health as percent-age*
Austria……..	19.4	15.7	3.7	80.9	23.9	18.5	5.4	77.4
Bulgaria…….	15.5	11.5	4.0	74.2	19.6	13.9	5.7	70.9
Czech Republic…….	17.0	12.8	4.2	75.3	21.2	16.0	5.2	75.5
Estonia……..	15.3	11.1	4.2	72.5	21.0	15.0	6.0	71.4
Finland……..	18.7	15.2	3.5	81.3	23.5	18.1	5.4	77.0
Hungary……	14.9	10.4	4.5	69.8	19.6	14.4	5.2	73.5
Latvia……	15.8	10.0	5.8	63.3	20.8	14.4	6.4	69.2
Lithuania……...	17.1	11.0	6.1	64.3	22.0	14.8	7.2	67.3
Poland……...	16.8	11.9	4.9	70.8	21.5	14.6	6.9	67.9
Portugal…….	18.0	13.4	4.6	74.4	22.3	16.2	6.1	72.6
Romania……	15.4	11.1	4.3	72.1	18.9	13.5	5.4	71.4
Slovakia…….	16.0	11.5	4.5	71.9	20.9	14.6	6.3	69.9
Slovenia……	18.0	13.3	4.7	73.9	22.3	16.6	5.7	74.4

Source: WHO, Healthy Life Expectancy (HALE) in all Member States, estimates for 2000 and 2001 (www.who.int/countries).
[a] in 2000.
[b] in 2001.

Another indirect way to review health in old age in a cross-national perspective is to look at cause-specific standardized death rates (SDRs). Diagnostic practices change over time and vary by country. In addition, the unreliability of cause-specific mortality data increases with age due, for instance, to multiple pathologies and routine diagnoses. In order to minimize the impact of these problems, cause-specific SDRs were examined for two leading groups of causes: diseases of the circulatory system and malignant neoplasms. In addition, the group of external causes was also considered, as these may be especially sensitive to social and economic stresses. Age-standardized death rates of the male and female population aged 65 or over were compared over time, from 1985 to 2002, and across countries. Three-year averages of annual SDRs taken from the European Health for All database were used to smooth fluctuations.

Focusing first on SDR for all causes, old-age mortality decreased in each country between 1985-1987 and 1990-1992 as well as between 1995-1997 and 2000-2002 (table 4). Improvements were larger in the latter period, when even high-mortality transition countries such as Latvia, Poland and Hungary achieved considerable progress. Nevertheless, regional variations were not reduced because old-age mortality continued to fall in better-off countries such as Finland, Austria and Portugal. Changes in male old-age mortality between 1990-1992 and 1995-1997 varied between countries. In Finland, Czech Republic and Poland the rates declined significantly, while in Latvia, Lithuania, Romania and Bulgaria the rates increased. The splitting of transition countries into these two groups reflects the health consequences of the more or less successful, or rather the more or less painful, early stages of transition in the respective States.

TABLE 4. THREE-YEAR UNWEIGHTED AVERAGES OF STANDARDIZED DEATH RATES (ALL CAUSES) FOR THE MALE POPULATION AGED 65 AND OVER
(Per 100,000)

	1985-1987	*1990-1992*	*1995-1997*	*2000-2002*
Austria…….....	7 252	6 567	6 006	5 281
Bulgaria……	8 627	8 216	8 720	8 122
Czech Republic……...	9 592	9 047	7 840	7 166
Estonia…….	8 961	8 844	8 629	8 213
Finland…….	7 587	7 066	6 422	5 787
Hungary……...	9 030	8 886	8 411	7 630
Latvia……...	8 699	8 586	8 995	8 152
Lithuania……..	7 484	7 396	7 637	7 281
Poland……..	8 851	8 411	7 802	7 010
Portugal……	7 626	7 043	6 581	5 897
Romania……	8 373	7 969	8 292	7 626
Slovakia……...	8 180	8 159	7 921	7 713
Slovenia……	7 979	7 564	7 089	6 657
Maximum…….	9 592	9 047	8 995	8 213
Mininum……..	7 252	6 567	6 006	5 281
Range……...	2 340	2 480	2 989	2 932
Standard deviation……...	682	763	905	922
Standard deviation, percentage……...	8.2	9.6	11.7	12.9

Source: European Health for All Database (www.euro.who.int).

TABLE 5. THREE-YEAR UNWEIGHTED AVERAGES OF STANDARDIZED DEATH RATES (ALL CAUSES) FOR THE FEMALE POPULATION AGED 65 AND OVER

(Per 100,000)

	1985-1987	1990-1992	1995-1997	2000-2002
Austria…….	4 879	4 352	3 938	3 549
Bulgaria……...	6 786	6 240	6 615	6 104
Czech Republic……	6 480	5 869	5 297	4 842
Estonia…….	5 958	5 693	5 320	4 885
Finland…….	4 654	4 380	3 981	3 612
Hungary……...	6 190	5 957	5 541	4 999
Latvia……...	5 897	5 594	5 507	5 044
Latvia……...	5 131	4 834	4 906	4 464
Poland……..	5 820	5 501	5 225	4 558
Portugal……	5 118	4 822	4 374	3 911
Romania……...	7 032	6 415	6 317	5 756
Slovakia……...	5 561	5 425	5 258	5 070
Slovenia……...	5 339	4 913	4 468	3 958
Maximum…….	7 032	6 415	6 615	6 104
Minimum…….	4 654	4 352	3 938	3 549
Range……...	2 378	2 062	2 677	2 555
Standard deviation……...	705	646	775	746
Standard deviation, percentage……...	12.2	12.0	15.1	16.0

Source: European Health for All Database (www.euro.who.int).

Changes in female old-age mortality are more complex. As in the case of males, the rates decreased in each country between 1985-1987 and 1990-1992 as well as between 1995-1997 and 2000-2002 (table 5). However, accelerated improvements were not observed in all countries. While Estonia, Poland, Slovakia, Hungary, and Slovenia showed rapid progress, in Austria and the Czech Republic, improvements have gradually decelerated. During the late 1990s, several countries with high mortality (such as the Baltic States, Poland, the Czech Republic, Hungary, Romania, and Bulgaria) reported larger reductions in female old-age SDRs than did Finland or Austria. During the early 1990s, this was already the case in the more advanced transition countries such as the Czech Republic, Hungary, and Slovenia while, in others, female old-age mortality showed little improvement (Slovakia), no change (Latvia, Lithuania, and Romania), or increase (Bulgaria). For both males and females, the variation in SDR among the 13 countries increased during the final decades of the twentieth century, as is indicated by the standard deviations in tables 4 and 5.

Diseases of the circulatory system represent the most important causes of death in old age. For males in 2000-2002, these diseases' relative weight ranged from 40-46 per cent in Finland, Portugal and Slovenia to over 70 per cent in Romania and Bulgaria, within all causes of death at ages 65 or over. Circulatory diseases caused 47-50 per cent of older women's deaths in Finland, Portugal and Slovenia, and 70 per cent or more in Latvia, Lithuania, Slovakia, Romania and Bulgaria. Some of these variations may reflect dissimilarities in coding practices, but there appear to be substantial inter-country differences in mortality due to these causes.

Male old-age mortality levels due to diseases of the circulatory system (figure 7) exhibit a clear-cut divide, with non-transition countries and Slovenia showing low levels and decreasing trends and all other transition countries showing high levels. The latter group can be further split into those with significant advances in the control of cardiovascular disease and hypertension (Estonia, Poland, Hungary, and the

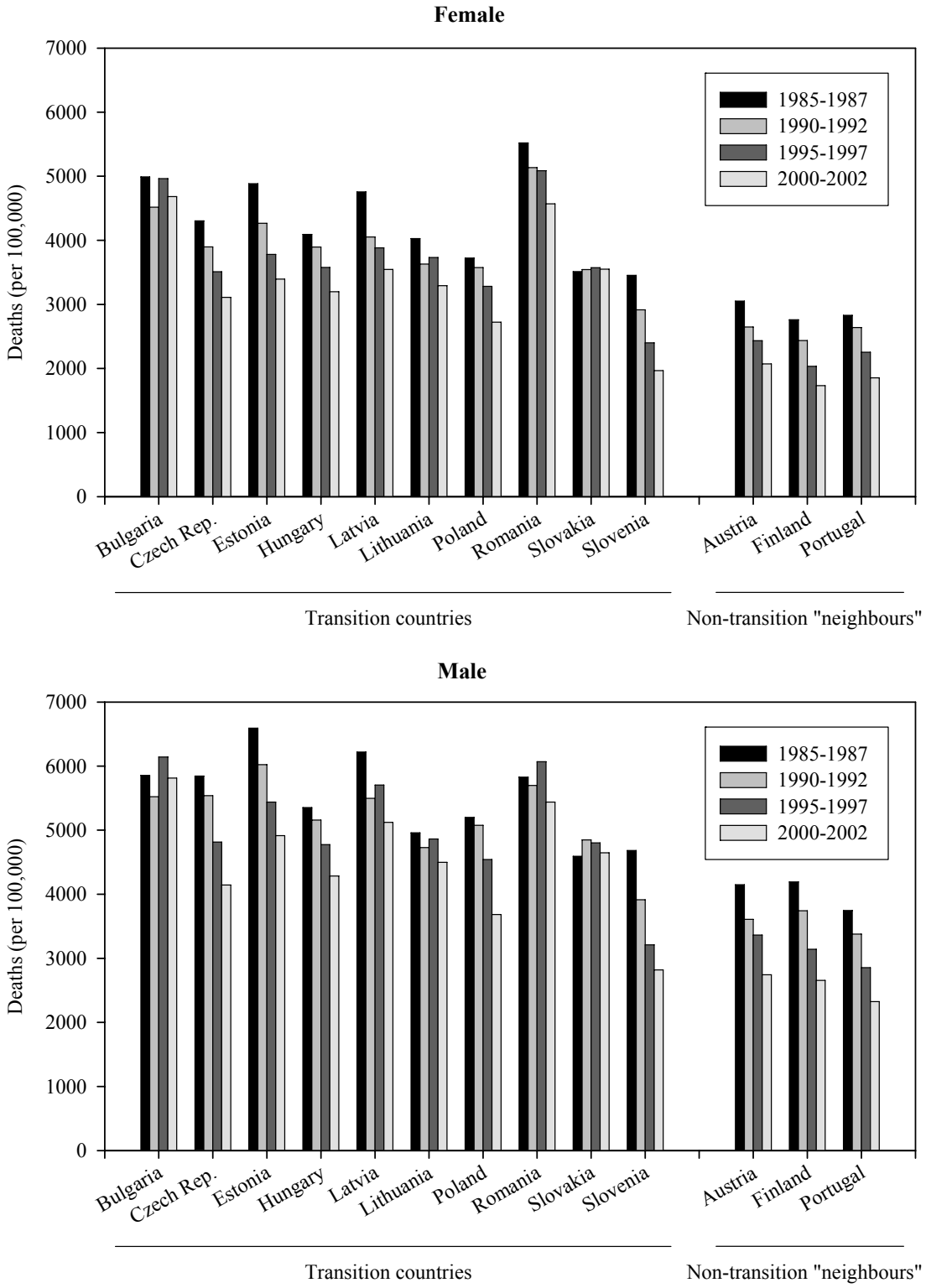
Czech Republic), and those with modest improvements (Latvia, Lithuania, Slovakia, Romania, and Bulgaria). It is not surprising that the first group is composed of more developed transition economies and the second of the less developed transition economies. Trends are similar for women, though the SDRs for women are lower than for men.

Malignant neoplasms represent the second most important group of causes. Cross-country differences in SDR levels for this group of causes are smaller than in the case of circulatory diseases but still significant. Bulgaria and Romania show surprisingly low old-age cancer mortality levels for both women and men (figure 8). Diagnostic practice may be the main reason. During the period studied, Finland and Austria showed sustained improvements in both female and male old-age mortality due to this group of causes. At the opposite extreme are the Baltic States, Poland, Slovakia and Romania where both female and male old-age SDRs due to cancer have been increasing, particularly among men. In Slovenia, cancer mortality has been rising only among older males while stagnating among older females. Stagnation or little change is seen for both men and women in the Czech Republic, Hungary, Portugal and Bulgaria.

Deaths due to external causes make up a small fraction of all deaths. However, significant changes in their levels are hypothesized to reflect societal turbulence (abrupt increase) or stability (steady decrease). The relative weight of external causes within all deaths of those aged 65 and over ranged between 2.0 per cent and 5.5 per cent among men and 1.0 per cent and 5.9 per cent among women during the four time periods considered in the analysis (figure 9). The lowest proportions were found in Poland, Portugal, Bulgaria and Romania and the highest in Finland, the Baltic States, Hungary and Slovenia. The dividing line between these two groups of countries does not appear to be either economic or political but rather, cultural-geographical.

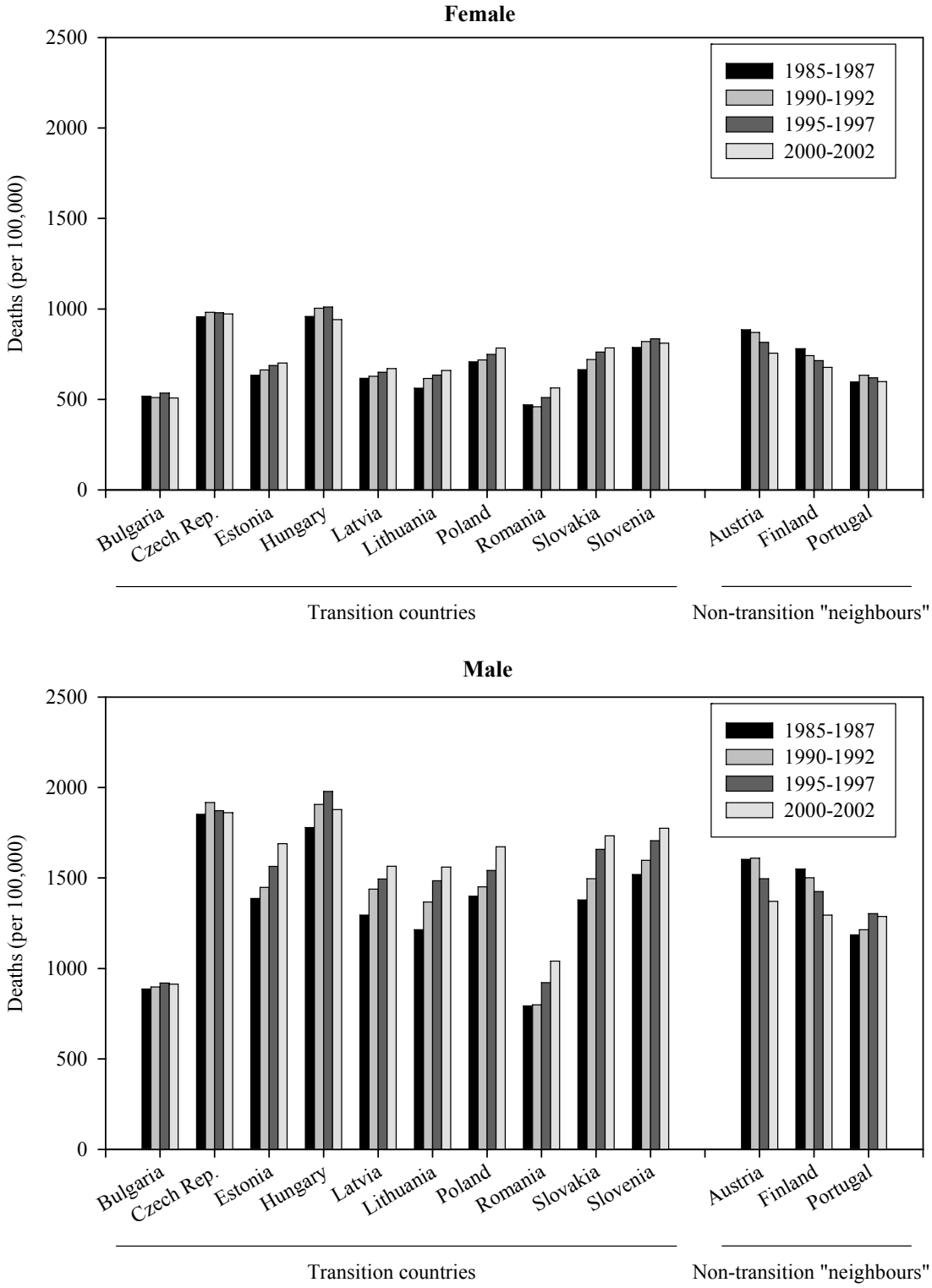
Over time, the general trend is a decline or stagnation in the levels of SDR due to external causes for those aged 65 or over. Among non-transition countries, Austria and Portugal reinforced their favourable position while Finland experienced very little improvement. Important declines occurred in the Czech Republic, Hungary and Slovenia where both male and female old-age mortality due to external causes was outstandingly high during the 1980s. In the three Baltic States, however, the change was in the opposite direction. In 2000-2002, levels of old-age mortality due to external causes were much higher than in 1985-1987, but only among men. Thus gender differences increased considerably. Male excess mortality at ages 65 or over due to external causes has remained high in Finland and Slovenia; moderate in Slovakia, Hungary, Portugal and Bulgaria; and relatively low in Poland, Austria, the Czech Republic and Romania.

Figure 7. Three-year unweighted averages of standardized death rates due to diseases of the circulatory system for male and female population aged 65 and over



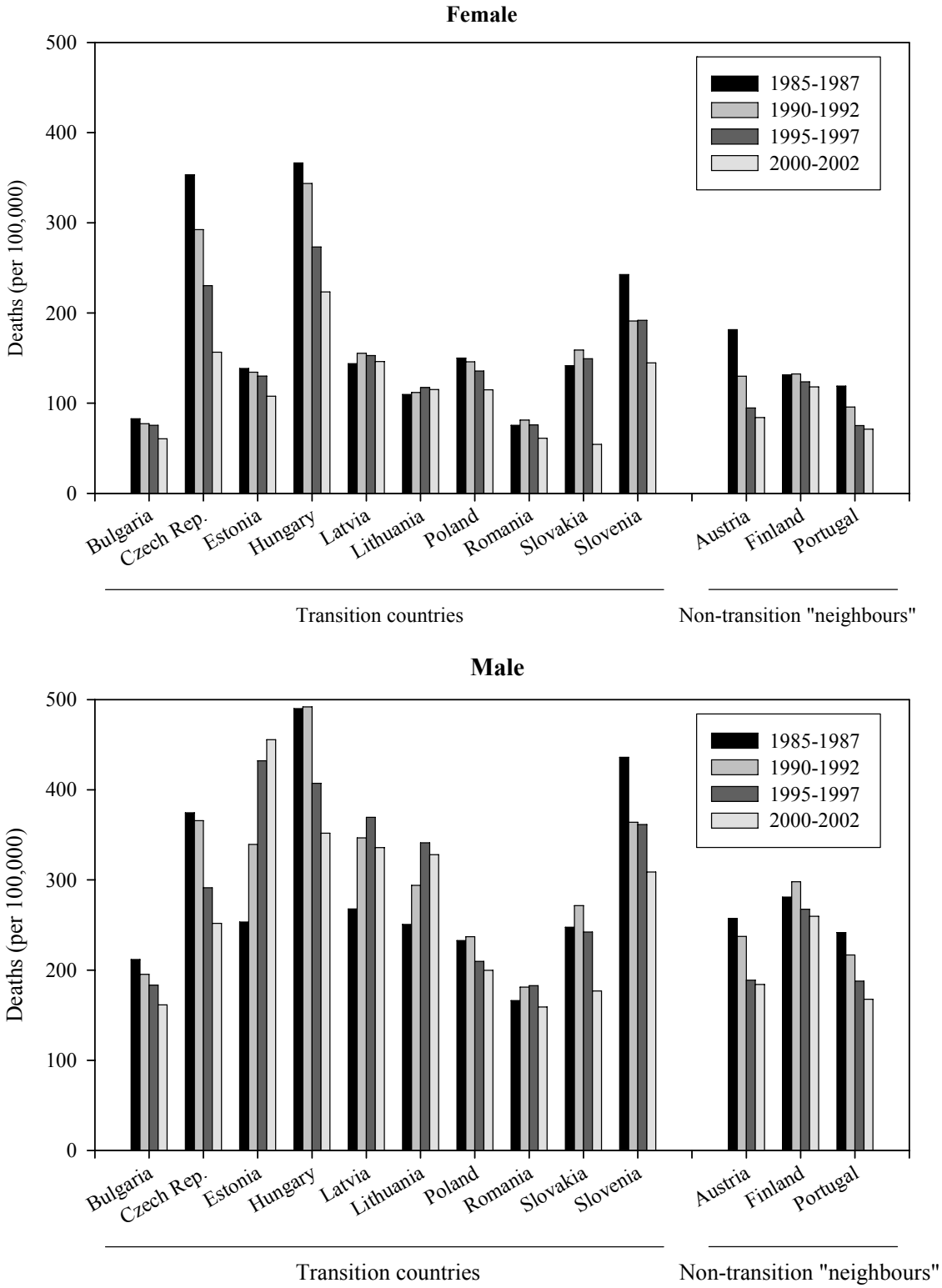
Source: European Health for All Database (www.euro.who.int).

Figure 8. Three-year unweighted averages of standardized death rates due to malignant neoplasm for male and female population aged 65 and over



Source: European Health for All Database (www.euro.who.int).

Figure 9. Three-year unweighted averages of standardized death rates due to external causes for male and female population aged 65 and over



Source: European Health for All Database (www.euro.who.int).

Discussion

In contrast with the long-standing fertility decline, falling old-age mortality is a more recent contributor to demographic ageing in the transition countries of Europe. The decline in old-age mortality became evident first among females, as in other countries. The calendar year from which female life expectancy at age 65 constantly surpassed its 1960 level by at least one year was 1972 in Finland, 1976 in Slovenia, and 1977 in Austria and Portugal. In Poland, the Czech Republic, Slovakia and Hungary, this moment was deferred to dates between 1981 and 1991, and in Romania, to 2001; in Bulgaria, it is yet to come. The time series available for the Baltic countries are shorter. From 1986 onwards, in Estonia and Latvia the absolute changes in female life expectancy at age 65 are similar to developments in Slovakia and Hungary, while the Lithuanian trend is closer to Romania's and Bulgaria's.

Male old-age mortality has shown less improvement. Slovenia surpassed its 1960 level of male life expectancy at age 65 by at least one year as late as 1988, the Czech Republic in 1998 and Poland in 2001. This has still not occurred in Slovakia, Hungary, Bulgaria and Romania or (to judge from their post-1986 trends) in the Baltic States.

The figures presented above show that the decline in life expectancy at birth during the turbulent years of the early 1990s was not solely due to increased mortality levels during the working ages; life prospects in old age were also affected. The downturns were more pronounced in the post-Soviet States than in other transition countries and were steeper for men than women. However, improvements from the mid- or late 1990s onwards also point to a new, swifter process of demographic ageing.

Healthy life expectancy at age 60 could be examined at only one time, specifically 2000-2001, when the East-West divide was no longer definite. In Austria, Finland, Portugal, Slovenia and the Czech Republic, men and women can expect to live longer in good health, with an average of 12.8-15.7 years for men and 16.0-18.5 years for women. In contrast, in the other eight transition countries, healthy life expectancy at age 60 was in the range of 10.0-11.9 years for men and 13.5-15.0 years for women. There was a positive correlation cross-nationally between the total number of additional years to be expected at age 60 and the percentage expected to be spent in good health. In several countries elderly men spend larger portions of their total life expectancies in good health than women while in several others it is the reverse.

In the post-transition group, only Slovenia seems to have completed the cardio- and cerebro-vascular revolution. In Estonia, Latvia, Poland, the Czech Republic and Hungary, the levels of SDR due to circulatory system diseases have improved but remain high. Little or no progress has been made in Lithuania, Slovakia, Romania and Bulgaria. As for malignant neoplasms, only Finland and Austria achieved substantial improvements in old-age mortality for both males and females. In all other countries, including Portugal, the levels either stagnated or increased.

In the Baltic States for older males, particularly in Estonia, SDRs due to external causes rose sharply between 1985-1987 and the mid- or late 1990s, and then stagnated. In the Czech Republic, Hungary and Slovenia, on the contrary, the previously high levels of old-age mortality due to external causes were significantly reduced for both men and women.

In summary, abrupt changes in old-age mortality appear to be over in the transition countries of Europe, where recent improvements in the health of the older population are likely to continue. However, the pace and rhythm of the process may vary in ways that are hard to predict, depending on underlying socio-economic, cultural and political factors.

B. HEALTH STATUS OF THE OLDER POPULATION IN HUNGARY

In order to assess the health conditions of older Hungarians, information on health and health-related indicators was taken from four sources: the 2001 Population Census; the General Practitioners' Database; the 2001 and 2003 National Health Interview Surveys (NHIS); and the 2001/2002 Hungarian Social and Demographic Panel Survey (DPA). Although none of these sources has an explicit focus on the older population, they all provide information disaggregated by sex and age.

Population Census

Between 1980 and 2005, the population of Hungary decreased from 10.7 million to 10.1 million inhabitants. During this same period, however, the number of people aged 60 or over continued to grow. The 2001 census found more than two million older persons in Hungary, 805,000 men and 1,277,000 women. According to the Central Statistical Office, between 2001 and 2005, the number aged 60-74 increased by only one per cent while the number aged 75 or over grew by 8.6 per cent for men and 10.1 per cent for women. During this four-year period, the population aged 80-84 increased by almost 50 per cent. This resulted mainly from the "generation effect" or the postponement of births owing to the First World War and ensuing accumulation during the 1920s. At the beginning of 2005, Hungarians aged 65 and over represented 18.9 per cent among females and 12.0 per cent among males, and dependency ratios amounted to 23 per cent for age group 65 or over relative to age group 15-64, and 100 per cent for age group 65 or over relative to age group 0-14.

The last two Hungarian censuses included a single item about health, which concerned disability and impairment. In 1990, this item was ascertained from a random sample representing 20 per cent of the total population while in 2001 it was addressed to all the participants in the census together with other questions for which answers were optional. Although the refusal rate was only 2 per cent, it should be noted that the information is based on self-assessment with no medical certificate requested. In addition, "it has remained unclear whether older people define themselves as 'old', or regard the locomotion disorders, hearing and vision impairments that came with age as disabilities."[4] Despite these limitations, the data clearly indicate that disability prevalence increases with age. In 2001, 5.7 per cent of the total population reported some kind of disability. Among people aged 60 or over those with disability numbered 12.4 per cent.

TABLE 6. DISABILITY PREVALENCE RATES FOR MEN AND WOMEN AGED 65 AND OVER, BY AGE AND TYPE OF DISABILITY, HUNGARY, 2001
(Percentage)

	Age					
Type of disability	*60-64*	*65-69*	*70-74*	*75-79*	*80+*	*65+*
			Male			
Corporal impairment	5.8	6.5	7.2	7.8	7.7	7.1
Vision impairment	1.2	1.5	1.8	2.5	4.0	2.2
Mental impairment	0.5	0.4	0.4	0.4	0.4	0.4
Hearing/speech impairment	1.1	1.5	1.9	2.7	4.8	2.4
Other disability	2.3	2.0	1.9	2.0	1.9	1.9
			Female			
Corporal impairment	4.3	5.4	6.6	7.7	7.9	6.7
Vision impairment	1.2	1.6	2.1	2.9	4.5	2.6
Mental impairment	0.4	0.4	0.4	0.4	0.6	0.4
Hearing/speech impairment	0.7	0.9	1.2	1.9	3.5	1.7
Other disability	1.6	1.6	1.7	1.7	1.9	1.7

Source: 2001 Hungarian Census.

Table 6 displays disability prevalence rates among the older population by age, sex and aggregate groups of disability. Corporal impairment, including locomotion disorder (which accounted for 80 to 90 per cent of this group of disabilities), is the most prevalent kind of disability among older persons. Its frequency increases rapidly between 60 and 80 years of age, while vision and hearing impairments have steep gradients above age 80.

The quality of life of older persons, particularly those with disability, is usually affected by their living arrangement. According to the 2001 census, 40 per cent of the 3.1 million Hungarian households included at least one older person, either living alone or with another person or persons. Of older persons living alone, 37 per cent were aged 60-69, 45 per cent were aged 70-79, and 18 per cent were aged 80 or over. The proportion living in institutions represented about 8 per cent of those living alone. In 2001, there were approximately 14,000 men and 30,000 women living in institutions. Among the institutionalized, 82 per cent of men and 85 per cent of women lived in long-term care social (community) homes. About 38 per cent of those living in such homes were at least 80 years old, 37 per cent were between 70 and 80 years old, and about a quarter were aged 60 to 69.

As for informal support, people living with a spouse or partner and those with living children are the most likely to have someone to rely on in case of disability, illness, psychological problems or need for emotional support. According to the 2001 census, 23 per cent of men and 63 per cent of women aged 60 and over lived without a spouse or partner. The number of living children is unknown, but about 38 per cent of older persons had no children or only one child born during their lifetime. Table 7 displays the number and percentage of those living without a spouse/partner in 2001 and with no children or one child ever born. Due to excess male mortality, almost one in four women aged 60 and over belongs to this group while only one in every nine men does. Since older women outnumber older men, this means that about 80 per cent of older persons who belonged to this particularly vulnerable group were women.

TABLE 7. NUMBER AND PROPORTION OF OLDER PERSONS LIVING WITHOUT A SPOUSE OR A PARTNER AND HAVING NO CHILDREN OR ONLY ONE CHILD EVER BORN
HUNGARY 2001

	Men		*Women*	
Age group	*Number of persons*	*Percentage*	*Number of persons*	*Percentage*
60-64	22 238	9.7	53 457	17.5
65-69	18 848	9.3	59 583	20.7
70-74	17 860	10.6	66,724	24.8
75-79	15 144	12.8	65 773	29.9
80-84	7 419	15.0	35 816	34.2
85-89	5 258	20.2	24 460	38.6
90-94	1 911	25.2	8 668	40.1
95-99	467	27.1	1 583	37.1
100 +	129	35.9	198	34.7
Total	89 274	11.1	316 262	24.8

Source: 2001 Hungarian Population Census.

Another group of older persons facing particular difficulties are those living in small settlements. Villages with fewer than 200 inhabitants have no local general medical practitioner. Data from the Central Statistical Office show that only 8 per cent of villages with 200-499 people and 45 per cent of those with 500-999 population have a doctor. In the census year of 2001, 9 per cent of older persons lived in small settlements with fewer than 1,000 inhabitants where they made up on average 24 per cent of the

total number of local residents. This involved about 131,000 persons aged 60-74 and 55,000 aged 75 or over.

For several reasons, the health conditions of more educated people tend to be better than those of less educated people. In general, more educated people have higher living standards, are less exposed to environmental risks both at home and in the workplace, are better informed about healthy lifestyles, have easier access to health services and have stronger self-assertion. In Hungary, the gap in health conditions between people with and without a secondary school certificate is particularly large (Klinger, 2001; Daróczi, 2005). It is therefore of interest to examine the educational profile of the older population.

The number of illiterate persons in Hungary is insignificant. In 2001, around 1 per cent among people aged 75 and over had not attended school (table 8). Among those aged 60-64, 89 per cent of men and 85 per cent of women had successfully completed at least eight years of school. Substantially lower proportions—32 per cent and 27 per cent, respectively—had a secondary school certificate, and only 13 per cent and 7 per cent, respectively, had a college or university degree. Since college enrolment rates have increased significantly since the 1990s, it is likely that the educational composition of the older population, particularly that of females, will change dramatically in the future.

TABLE 8. PERCENTAGE DISTRIBUTION OF OLDER POPULATION BY AGE, SEX AND LEVEL OF EDUCATION, HUNGARY, 2001

Schooling	*Age*									
	60–64		*65–69*		*70–74*		*75–79*		*80+*	
	Male	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*
None	0.8	1.0	0.9	1.1	0.7	1.2	0.7	1.5	1.1	1.7
1-7 classes	9.9	14.2	18.3	30.0	28.0	44.7	43.9	62.4	50.7	65.5
8 classes	57.4	57.4	52.0	50.0	41.9	40.2	30.1	26.2	25.3	24.2
Secondary	18.5	20.8	14.9	14.0	15.3	10.4	13.9	7.6	12.1	6.7
Tertiary	13.4	6.6	13.9	4.8	14.0	3.5	11.5	2.3	10.9	1.9

Source: 2001 Hungarian Census.

General Practitioners' Database

Most information on health and morbidity is provided by the staff of medical institutions such as general practitioners, specialists, dispensaries or hospitals, as required by the National Statistical Data Collection Program (NSDCP). Despite their limitations[5], data provided by general practitioners every second year are those, among all regular NSDCP health data, most suitable for reporting on the health status of older persons.

The analysis that follows—based on the latest general practitioners' data available (2003)—is disaggregated into 3 age groups (55-64, 65-74 and 75+) and considers the top ten groups of diseases among the population aged 75 and over:

1. Hypertensive diseases
2. Ischaemic heart diseases
3. Disorders of bone density and structure
4. Spondylopathies
5. Diabetes mellitus
6. Cerebrovascular diseases
7. Disorders of lipoprotein metabolism and other lipidaemias

8. Chronic lower respiratory diseases
9. Malignant neoplasms
10. Transient cerebral ischaemic attacks and related syndromes

In general, the relative frequency of these diseases was found to increase with age. Diabetes mellitus and disorders of lipoprotein metabolism and other lipidaemias were the exceptions. Their prevalence was smaller among those aged 75 and over than in the next younger age group (65-74), and this holds for women and men alike (table 9).

TABLE 9. PREVALENCE RATES OF MAJOR DISEASES REGISTERED BY GENERAL PRACTITIONERS, BY SEX AND AGE, HUNGARY, 2003
(*Percentage*)

Diseases[a]	*Male*			*Female*			*Male/Female ratio*		
	55-64	*65-74*	*75+*	*55-64*	*65-74*	*75+*	*55-64*	*65-74*	*75+*
Hypertensive diseases	37.2	49.8	58.0	40.7	50.9	55.7	0.9	1.0	1.0
Ischaemic heart diseases	14.4	25.1	36.1	12.8	20.6	28.2	1.1	1.2	1.3
Disorders of bone density and structure	2.2	4.0	6.9	9.1	12.9	14.5	0.2	0.3	0.5
Spondylopathies	10.2	13.2	16.7	11.9	13.7	14.3	0.9	1.0	1.2
Diabetes mellitus	11.6	15.9	15.8	10.5	14.6	13.8	1.1	1.1	1.1
Cerebrovascular diseases	4.7	9.7	16.1	3.7	6.6	10.6	1.3	1.5	1.5
Lipidaemias	9.5	10.3	8.7	8.9	9.4	6.7	1.1	1.1	1.3
Chronic lower respiratory diseases	6.2	10.2	14.9	4.0	5.2	6.6	1.5	2.0	2.2
Malignant neoplasms	3.2	5.5	8.0	3.7	4.5	5.1	0.9	1.2	1.6
Transient cerebral ischaemic attacks	2.6	4.7	7.0	2.5	3.6	4.3	1.0	1.3	1.6

Source: Yearbook of Health Statistics 2003. Budapest, Hungary: KSH, 2004.

[a] According to the International Classification of Diseases-ICD Revision X.

A comparison between NSDCP and a more recent source of health data—the Network of Sentinel Stations Based in Primary Care Facilities[6]—in terms of the prevalence rates of the two most widespread diseases among those who visited general practitioners (hypertensive disease and ischaemic heart diseases) showed important variations by age, sex and region. In general, prevalence figures from the NSDCP exceed those from the other data source. Although these results cannot be extrapolated to the other diseases, they suggest that caution should be exercised when analysing data from the NSDCP.

Male/female ratio

In tandem with excess male mortality, men are relatively more likely to suffer from several types of disease. This is particularly evident in the highest age group. Men aged 75 or over are more likely to be affected than women of the same age by nine out of the ten types of disease, even though the average age of men in this age group is lower than that of women. Male/female ratios among those aged 75 and over ranged between 0.5 and 2.3, respectively, for disorders of bone density and structure and chronic lower respiratory diseases (table 9). The former is the only disease to affect older men significantly less often than women. Chronic lower respiratory diseases and cerebrovascular disorders are much more common among men (with prevalence about 25 per cent higher than for women) in all three age groups shown.

For most diseases not mentioned so far, male/female morbidity ratios in the 55-64 and 65-74 age groups were close to 1.0, indicating no excess male morbidity. They range between 0.9 for hypertensive diseases and 1.1 for diabetes mellitus. Ischaemic heart disease and transient cerebral ischaemic attacks, however, are significantly more frequent among men than women at ages 65 or over. For most diseases the sex differential in prevalence is smaller among those aged 55-64 than at higher ages.

Age gradient

Age gradients, measured by the ratio between prevalence rates in two adjacent age groups, vary by gender and type of disease. Age gradients are steeper for men than women in almost all cases. Morbidity rates of cerebrovascular diseases are more than twice as high among men aged 65-74 than among their younger counterparts, aged 55-64 (table 10). Cerebrovascular diseases also show the steepest rise with age for women (a ratio of 1.8). While prevalence of most conditions increases substantially with age for both men and women, some conditions show small increases: lipidaemias (ratio of 1.1 for both sexes), and for women, spondylopathies, hypertensive diseases and diabetes (ratios of 1.1-1.2). Reported prevalence of malignant neoplasms rises substantially more rapidly with age for men than for women (ratios of 1.7 and 1.2, respectively).

Relative differences in morbidity levels between the two oldest age groups (75 and over and 65-74) are smaller than those between age groups 65-74 and 55-64. However, the prevalence of cerebrovascular diseases continues to increase rapidly in both sexes after age 75, with age gradients of 1.7 for men and 1.6 for women relative to age group 64-74. Although prevalence of most other conditions also continues to rise at higher ages, especially for men, diabetes and lipidaemias are less frequent among those aged 75 and over than in the next younger age group. Declines after age 65 are larger for women than men.

TABLE 10. AGE GRADIENTS FOR PREVALENCE RATES OF MAJOR DISEASES REGISTERED BY GENERAL PRACTITIONERS, BY SEX, HUNGARY, 2003

Diseases[a]	*Male*		*Female*	
	65-74 / 55-64	*75+ / 65-74*	*65-74 / 55-64*	*75+ / 65-74*
Hypertensive diseases	1.3	1.2	1.2	1.1
Ischaemic heart diseases	1.7	1.4	1.6	1.4
Disorders of bone density and structure	1.8	1.7	1.4	1.1
Spondylopathies	1.3	1.3	1.1	1.0
Diabetes mellitus	1.4	1.0	1.4	0.9
Cerebrovascular diseases	2.1	1.7	1.8	1.6
Lipidaemias	1.1	0.8	1.1	0.7
Chronic lower respiratory diseases	1.7	1.5	1.3	1.3
Malignant neoplasms	1.7	1.4	1.2	1.1
Transient cerebral ischaemic attacks	1.9	1.5	1.4	1.2

Source: Yearbook of Health Statistics 2003. Budapest, Hungary: KSH, 2004.

[a] According to the International Classification of Diseases-ICD Revision X.

National Health Interview Surveys (NHIS)

During the post-transition period and in preparation for European Union membership, Hungary's Ministry of Health, Social and Family Affairs (now Ministry of Health) commissioned a new health survey program in the framework of the National Public Health Program. The survey followed international standards in health-monitoring methodology and aimed at introducing a series of regular,

periodically repeated health surveys and at fostering the practical use of the results (Boros, Németh and Vitrai, 2002). So far, two rounds of the survey have been held, the first in 2000 (NHIS2000) and the second in 2003 (NHIS2003).[7] Both surveys were based on cross-section random samples representative of non-institutionalized adults aged 18 and over by age, sex, region and settlement size of residence. The 2000 survey included 5,503 individuals from 440 settlements while the 2003 survey included 5,072 individuals from 447 settlements (Boros, Németh and Vitrai, 2002; Boros and others, 2004).

The analysis that follows refers to selected aspects included in the NHIS that are particularly relevant for the health of older persons. Since data processing of NHIS2003 was not yet complete at the time of the present study, it will only occasionally be possible to refer to changes between 2000 and 2003.

Vision, hearing and functional capacity

The 2000 NHIS survey included questions in which people were asked to describe their vision, hearing and functional conditions according to the following classification:

(i) Vision problems

None:	Can recognize a person he/she knows across the road.
Mild:	Can only recognize a person he/she knows across the road if wearing glasses or contact lenses.
Moderate:	Can only recognize a person he/she knows at arm's length.
Severe:	Unable to recognize a person he/she knows at arm's length

(ii) Hearing problems

None:	Can listen to the TV or radio at normal volume
Mild:	Can only listen to the TV or radio at high volume
Moderate:	Can only listen to the TV or radio with hearing aid
Severe:	Unable to listen to the TV or radio due to hearing difficulties

(iii) Functional impairment

None:	No restriction
Mild:	Permanent impediment but no help from another person is needed
Moderate:	Another person's help is needed in self-care or participation in the community but can get up from bed on his/her own
Severe:	Another person's help is needed to get up from bed

The results indicate that vision problems are more common than hearing problems. The gender gap was larger for vision problems than hearing problems, and women's vision problems tended to emerge earlier and increase more rapidly with age than men's. The age gradient of hearing impairment, however, was steeper than that of vision impairment, particularly among women.

The prevalence of moderate or severe visual problems was 10.6 per cent in men and 14.5 per cent in women aged 65 and over (table 11). These figures are significantly higher than those recorded by the 2001 census regarding visual impairment—2.2 per cent for men and 2.6 per cent for women. These latter percentages seem, in fact, to correspond to the prevalence of severe visual difficulties registered by NHIS2000.

The proportion of people aged 65 or over who reported either moderate or severe hearing impairment in the NHIS2000 survey was 3.1 per cent among men and 3.3 per cent among women (table 11). As in the case of vision problems, these proportions are also higher than those reported in the 2001 census (2.4 per cent for older men and 1.7 per cent for older women).[8]

TABLE 11. PREVALENCE RATES OF VISION AND HEARING IMPAIRMENTS AND FUNCTIONAL IMPEDIMENT, BY SEX AND AGE, HUNGARY, 2000
(*Percentage*)

Level of impairment	*Male*		*Female*	
	35-64	*65+*	*35-64*	*65+*
		Vision impairment		
Mild	14.4	26.4	27.7	45.5
Moderate	2.0	8.2	4.5	11.6
Severe	0.2	2.4	0.5	2.9
		Hearing impairment		
Mild	13.3	31.5	8.1	23.2
Moderate	0.5	2.2	0.3	2.7
Severe	0.1	0.9	0.1	0.6
		Functional impediment		
Mild	22.4	35.8	23.5	36.8
Moderate	3.1	6.8	1.9	7.3
Severe	0.3	3.2	0.5	2.1

Source: Vokó (2002), using data from NHS2000.

Regarding functional impairment, moderate or severe levels were reported for 10.0 per cent of men and 9.4 per cent of women aged 65 and over in the NHIS2000 survey (table 11). Severe cases were more frequent among older men (3.2 per cent) than among women (2.1 per cent). According to the NHIS2003 Executive Report, functional impairment increased among older men and women between 2000 and 2003. In 2003, the prevalence of severe functional impairment increased to almost 4 per cent among older men and almost 3 per cent among older women (Boros and others, 2004).

In another study using data from the NHIS2003, Görög (2005) applied an alternative scheme to identify levels of functional capacity, based on the ability to perform a number of activities of daily living. The activities included walking, going to and getting up from bed, sitting down and standing up, dressing and undressing, washing hands, eating, toileting, hearing, and seeing. The respondents were classified into three categories: (a) Retained functional capacity (able to perform all activities without difficulty); (b) Moderate functional restriction (difficulty in performing at least one activity); and (c) Severe functional restriction (need another person's help to perform at least one activity). In general, the study finds prevalence rates of functional impairment that are considerably higher than those shown in table 11 for 2000, for both the middle-aged and older persons (table 12). In particular, the results show that more than one out of every five men and one out of every four women aged 65 and over needed assistance in at least one basic function in 2003. It is worth noting that, while middle-aged (35-64 years old) men and women had practically the same distribution by functional capacity, older women (65 and over) scored worse than older men. This may be due, at least in part, to the lower selection effect and the greater concentration of older women at the highest ages.

Chronic diseases

In the NHIS2000 survey, respondents were asked to identify, among 8 chronic diseases, those which had ever been diagnosed by a medical doctor, regardless of whether they were being treated at the time of the interview. The chronic diseases were listed in the following order: (1) high blood pressure or hypertension; (2) heart attack or myocardial infarction (MCI); (3) any other heart disease; (4) cerebral

haemorrhage, stroke, cerebral spasm (excluding cerebral sclerosis); (5) high cholesterol level; (6) diabetes; (7) asthma (only lung asthma); and (8) allergic diseases.

TABLE 12. FUNCTIONAL RESTRICTION BY AGE AND SEX, HUNGARY, 2003
(Percentage)

	Men		*Women*	
Degree	*35–64*	*65 or over*	*35–64*	*65 or over*
None	67	34	66	25
Moderate	28	44	28	50
Severe	5	22	6	25
Total	100	100	100	100

Source: Görög (2005), using data from NHIS2003.

Taken together, the diseases of the circulatory system were more common among women than men for both the middle-aged and the older population. The prevalence of diabetes was greater among women only in the older age group (table 13). Considering the two most important circulatory diseases, hypertension was more frequent among women than men while stroke was more common among men. Among persons aged 65 and over, men had higher occurrence of MCI (11 per cent for women and 14 per cent for men), while high cholesterol levels were more common among women (18 per cent for women and 12 per cent for men). The age gradient was particularly steep for stroke (4.1 for men and 3.2 for women). The age gradient of diabetes prevalence was substantially higher for women than for men (2.8 versus 1.8).

TABLE 13. PREVALENCE RATES OF SELECTED CHRONIC DISEASES BY SEX AND AGE, AND AGE GRADIENTS, HUNGARY, 2000
(*Percentage*)

Chronic diseases	*Male*			*Female*		
	Age		Gradient	*Age*		Gradient
	35-64	*65+*	*65+ / 35-64*	*35-64*	*65+*	*65+ / 35-64*
Circulatory diseases	36.2	65.3	1.8	42.7	73.8	1.7
Hypertensive diseases	28.8	45.8	1.6	35.4	64.9	1.8
Stroke	3.1	12.8	4.1	2.4	7.7	3.2
Diabetes mellitus	7.7	13.6	1.8	6.6	18.2	2.8

Source: 2000 National Health Interview Survey (NHS2000).

The 2003 National Health Interview Survey (NHIS2003) also gathered information about the prevalence of chronic illnesses or states. In 2003, however, 15 instead of 8 chronic diseases were listed,[9] and the formulation of the question was more elaborate than in the 2000 survey.[10] Table 14 displays the estimated frequency rank of these 15 chronic diseases among older persons, based on a study by Hermann (2005).

TABLE 14. PREVALENCE RATES OF CHRONIC DISEASES OR STATES AMONG PERSONS AGED 65 OR OVER, HUNGARY, 2003
(*Percentage)*

	Women	*Men*
1. High blood pressure	60	45
2. Arthritis, rheumatoid arthritis	51	37
3. Any other heart disease	36	19
4. Disorders of bone density	25	5
5. High cholesterol level	21	10
6. Diabetes	17	18
7. Anxiety or depression	15	5
8. Migraine or frequent headache	11	2
9. Allergic diseases (hay fever, eczema)	11	4
10. Gastric or duodenal ulcer	6	6
11. Asthma	6	7
12. Chronic bronchitis, emphysema	6	10
13. Heart attack, MCI	5	5
14. Cerebral haemorrhage, stroke, cerebral spasm	4	5
15. Malignant neoplasm	2	3

Source: Hermann (2005), using data from NHIS2003.

Comparing the prevalence of diseases in the NHIS2000 and NHIS2003 surveys, one can find surprising improvements in the cases of stroke and hypertension. Within this short period of time, estimates of stroke prevalence decreased by almost one third among men, and by half among women aged 65 or over. Although part of this sudden drop might be due to differences in accuracy of reporting, the results point to a decline in the prevalence of stroke among the older population**.** As for prevalence of high blood pressure, there was a notable decrease of five percentage points among older women. Some improvements can also be noted for diabetes among older women although not among older men. These improvements in morbidity conditions of older persons probably began prior to 2000 in Hungary and are likely to have contributed to recent increases in life expectancy at older ages (Daróczi, 2000 and 2003; Daróczi and Kovács, 2004).

Socio-Demographic Panel Survey

In cross-sectional surveys, the composition of samples changes over time and causal relationships cannot be confirmed by examining trends. While longitudinal or panel surveys can provide more valuable information, the costs associated with this kind of survey in money, time and effort are considerably higher. The Socio-Demographic Panel Survey, called *Turning Points in Life-Course,* is at present the most significant of its type in Hungary and deserves particular attention. It was organized and implemented by the Demographic Research Institute of the Hungarian Central Statistical Office with the aim of exploring ongoing demographic changes and the motivations behind them.

The first wave of the survey was held in 2001/2002.[11] The sample included 16,363 individuals aged 18-75, 20 per cent of whom were at least 60 years old at the time of the interview (Spéder, 2002; Kapitány, 2003; Dobossy, S.Molnár and Virágh, 2002 and 2003). Among many other topics such as family and household, life in retirement, informal support transfers, financial situation, and housing, the questionnaire included a section on health conditions. The analysis that follows examines responses to three of these questions:

1) Are you restricted in your daily activities by any health problem, illness, or disability? If yes, to what extent (seriously, moderately, it depends/varies, does not know)?

2) Do you regularly take any medicine prescribed by a doctor due to illness?

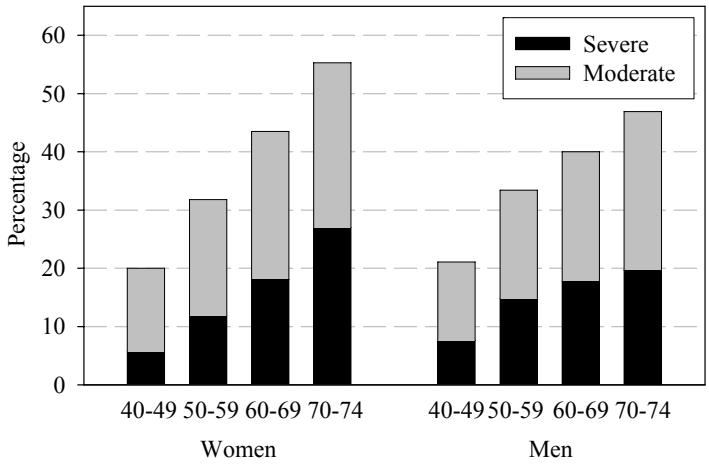
3) Please indicate on a scale from 0 to 10 (0 = not at all; 10 = fully) how much you are satisfied with your health status.

Prevalence of functional restrictions was similar among women and men aged 40-49 and 50-59, although severe restrictions were more frequent among middle-aged males. From age 60 onwards, women's health seems to deteriorate faster than men's. First, at ages 60-69, moderate restrictions become more prevalent among women than men. Then, at ages 70-74, the prevalence of severe restrictions increases sharply among women (figure 10). This is in line with the process of vision impairment discussed earlier, in which female visual difficulties start at younger ages and progress more rapidly with age than for men (see table 11). This is also in line with the results shown above in table 12.

Subjective health evaluations corroborate the idea that women's health deteriorates more rapidly than men's at older ages. Results from the 2001/2002 Socio-Demographic Panel Survey, for instance, show that men and women in their fifties have similar perception of their own health but from age 60 onwards, the gender gap increases, with men scoring their health higher (figure 11).

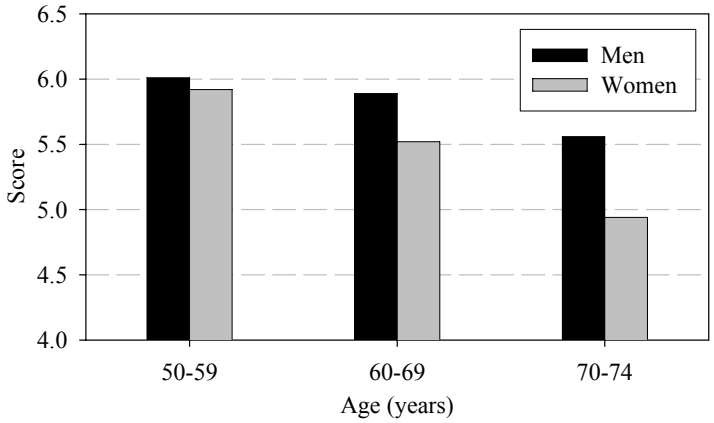
Another important aspect of ageing and health concerns the consumption of medicines. High proportions of older persons under medication not only indicate poor health but also represent a heavy financial burden for the older population. Political and economic transitions in Hungary involved large-scale privatization and introduced market-determined prices in the health sector. At the same time, the relative contribution of health insurance to health expenditures has drastically decreased and pension adjustments have lagged far behind price increases. As a result, the number of older persons who cannot afford efficient drugs without reducing expenditures on other basic needs has drastically increased. Figure 12 shows that the proportion of middle-aged and especially older adults regularly taking medicines prescribed by a doctor was high in Hungary in 2001/2002. In all age groups, the proportion was significantly higher among women than among men.

Figure 10. Prevalence of moderate and severe functional restrictions by age and sex, Hungary 2001/2002



Source: Dobossy, Molnár and Virágh (2003).

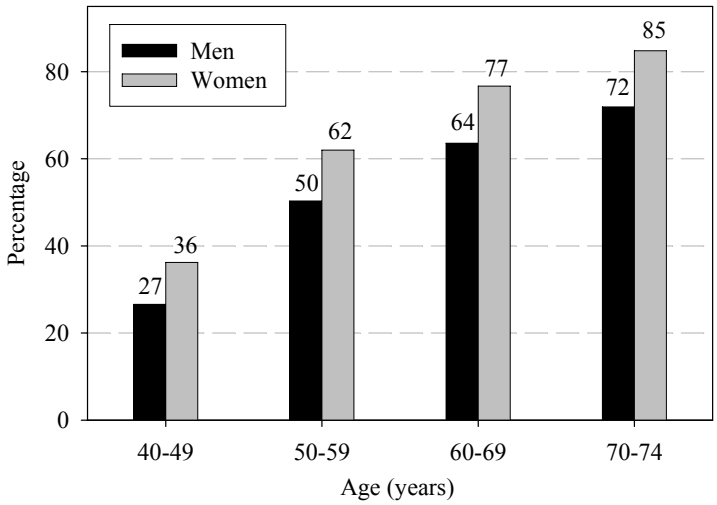
Figure 11. Average score of perceived health by age group and sex, Hungary, 2001/2002



Source: Dobossy, Molnár and Virágh (2003).

An additional item of interest collected by the Socio-Demographic Panel Survey refers to the feelings and concerns among retired people about the future and getting old. Table 15 shows the prominence of concerns about health among retired Hungarians. Health-related topics were mentioned as a concern by the retired more often than were finances, loneliness, or family relationships. Interestingly, these results for retirees did not differ significantly from the concerns expressed by the middle-aged (aged 46 and over and economically active). Both the retired and the middle-aged were found to be deeply concerned about the future and the health of their children, and their own health and subsistence.

Figure 12. Percentage of people regularly taking prescribed medications by age group and sex, Hungary, 2001/2002



Source: Dobossy, Molnár and Virágh (2003).

TABLE 15. SOURCE OF CONCERN REGARDING THE FUTURE AND GETTING OLD AMONG RETIRED PEOPLE, HUNGARY, 2001/2002
(Percentage)

Thinking of your future and getting old, how much do you worry …….	*A lot*	*A little*	*Not at all*	*Does not know*	*Total*
About your own health?	47.7	38.3	13.7	0.3	100.0
If you have a family: about the health of your family?	45.2	34.5	10.3	10.0	100.0
If you have child/ren: about the life, subsistence, security of your child/ren?	47.8	30.0	9.5	12.7	100.0
About subsistence?	36.1	40.8	22.7	0.4	100.0
About your mental degradation?	23.6	44.0	31.5	0.9	100.0
About widowhood, remaining alone?	26.9	21.2	17.5	34.4	100.0
About lack of activities, feeling idle?	9.2	24.2	65.8	0.8	100.0
If you have child/ren, grandchild/ren: about your weakening relationship with your child/ren and grandchild/ren?	12.6	18.4	55.3	13.7	100.0
If you have a spouse/partner: about future problems in the relationship with your spouse/partner?	4.2	8.4	52.3	35.1	100.0

Source: Dobossy, Molnár and Virágh (2002: 92), using data from the 2001/2002 Socio-Demografic Panel Survey

Final comments

Ageing in Hungary has reached an advanced level and will progress in the future. Several circumstances point in this direction, including the low and stagnating levels of fertility, the relatively large cohorts born in the mid-1950s who will soon enter old age, the low level of net in-migration, and the increases in life expectancy.

In spite of recent improvements, the mortality and morbidity conditions of the older (and also the middle-aged) population are far worse than they should be given Hungarian living standards, in particular its GDP per capita. In this sense, policies should be pursued with the aim of optimizing human and financial resource allocation, increasing efficiency in education and health management, expanding access to health services, improving environmental conditions and changing lifestyles.

There have been some positive developments. The expansion of preventive measures (measuring blood pressure, level of cholesterol, diabetes, weight control and mobility, and anti-smoking measures) has brought results. It is promising that those entering old age in the future will have more education, and that the number of the very poor can be expected to decline.

However, while the political and economic transition provided an impetus to civil, charitable and religious organizations to help the needy, the prospects for the older population, particularly regarding their health, have been of increasing concern. The health sector has experienced extremely difficult situations wherein medical and paramedical personnel are generally overburdened yet underpaid. Formal care is not readily accessible to everyone due to spatial, temporal or financial constraints. In particular, financing long-term care either from private or from Government resources seems problematic. At the same time, fewer relatives are expected to be available to older people in the future to provide informal care.

Documented scientific knowledge about health and morbidity of the population has been increasing in Hungary, and important steps have been made to raise awareness of these problems. Within the limits of the present paper, which was restricted to regular statistics and to a selected group of nationally representative studies containing information on the health of older people, it was possible to portray a reasonably comprehensive picture of the distressing health conditions of the aged in Hungary.

NOTES

[1] The group of transition countries of Europe includes the following states (in alphabetical order):

1. Albania
2. Armenia
3. Azerbaijan
4. Belarus
5. Bosnia and Herzegovina
6. Bulgaria
7. Croatia
8. Czech Republic
9. Estonia
10. Georgia
11. Hungary
12. Kazakhstan
13. Kyrgyzstan
14. Latvia
15. Lithuania
16. Poland
17. Republic of Moldova
18. Romania
19. Russian Federation
20. Serbia and Montenegro
21. Slovakia
22. Slovenia
23. Tajikistan
24. The former Yugoslav Republic of Macedonia
25. Turkmenistan
26. Ukraine
27. Uzbekistan

[2] Transition countries did not experience post-war baby booms. This was one of the reasons why pro-natalist policies were widely applied. In 1953 Hungary introduced strict anti-abortion regulations which resulted in an increased number of births—children born in this period were known as "Ratkó children" in reference to the then Minister of health Anna Ratkó. These regulations were essentially abolished in 1956.

[3] A note of caution in the explanatory notes says: "HALE uncertainty is a function of the uncertainty in age-specific mortality measurement for each country, of the uncertainty in burden of disease based estimates of country-level disability prevalence, and of uncertainty in the health state prevalence derived from health surveys." (www3.who.int/whosis/hale/hale.cfm?path=whosis,burden_statistics,hale&language=english)

[4] Free translation from the 2001 Hungarian Census, Volume 12: *Disabled* (www.nepszamlalas.hu).

[5] According to Hoffer (2004), data providers do not have strong incentives to provide accurate data, which could have an adverse effect on the quality of the database.

[6] The Network of Sentinel Stations Based in Primary Care Facilities was first established in four Hungarian counties in 1998. In 2001, it was extended to two more counties. The great advantage of the network is the use of standardized protocols and methodology and the provision of valid and internationally comparable pictures of prevalence rates of particular diseases (Széles and others, 2003 and 2005).

[7] These surveys were designed and initially supervised by the Health Development Research Institute. Since 2001, it has been under the supervision of the Béla Johan National Center for Epidemiology. The analysis of NHIS2003 survey data was in process at the time of writing. The results relative to 2003 presented in this study were drawn from presentations made at the Health Information Forum held in November 17, 2005 in Budapest, available at www.oek.hu.

[8] These proportions also include people with speech impairments.

[9] It was also possible to report any disease or complaint other than the 15 listed by name.

[10] For each disease, it was asked: "Do you have or have you ever had such a disease? Was it a medical doctor who diagnosed this disease? Have you had this disease during the last 12 months? Have you taken medication or received treatment for this disease during the last 12 months?"

[11] Data analysis of the second wave (2004/2005) was still in process at the time of writing.

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