

ABSTRACTS OF DRI RESEARCH REPORTS

DOUBLE CONSTRAINT LIFE AND HEALTH OF THE MIDDLE AGED IN HUNGARY No. 74.

DARÓCZI, E. (editor)

Age and sex are of primary importance in demography. It was along these factors that a conference was held at the Demographic Research Institute on January 16th, 2003 in Budapest, Hungary. The conference entitled *Double constraint* dealt with mortality and morbidity characteristics of the middle aged population in Hungary. The present volume contains the edited text of papers presented at the conference, discussing not only statistical and demographical aspects but relevant road safety and environmental health issues as well. They resulted from studies on *Trends and socio-economic determinants of health and mortality* within the frame of a larger research project entitled *Socio-economic embeddedness of demographic processes*. The project was supported by the National Research and Development Programme (NKFP/5/128).

Little explanation is required to demonstrate that the most characteristic feature of the middle aged – which influences their life and health – is their ‘sandwich’ position. They care about their children whose independence is being postponed by prolonged studies, and often do care about their parents or elderly relatives who can survive to higher and higher ages. If we add to this the risk of unemployment, the escalating demands and expectations of the labour market and the burden they carry (or ought to carry) by saving for their own old age, we could just as well be talking about a four-fold constraint.

The choice of the conference subject was also motivated by the fact that extremely high mortality levels in Hungary – high even in an European context – are largely due to poor life chances of the middle generation.

In the introductory paper to this volume, Éva Gárdos reviews various sources of statistical data on mortality and morbidity, highlighting information on causes of death and morbidity provided by general practitioners. Collection of cause-specific mortality data has a strong tradition and is based on compulsory data provision. The only novelty in this field is the introduction of automated coding, using the software developed by the *National Center of Health Statistics* in the United States. General practitioners who participate in this programme started morbidity data collection in 1995. These data are based on medical diagnoses, not on patients’ subjective perception of their health status,

and thus offer a very precious piece of information. GPs provide data on major chronic and acute illnesses of their patients every second year.

With regard to diseases of utmost importance from the point of view of public health (e.g. cancer), each incidence is recorded on a mandatory basis and is entered in a special register. Following lengthy debates, the *National Cancer Register* opened in Hungary with a great delay, in 1999. In the second contribution to this volume István Gaudi reports on the initial difficulties of starting the Register, the results and medical use of systematic data control, performed, among others, for melanoma malignum. In perfect accord with the previous author, István Gaudi also emphasises the importance of data controls, the precise work and continuous training of medical doctors and IT specialists alike.

József Kiss and Imre Boncz present data collected by the *National Health Insurance Fund* and the *National Administration for Pension Insurance*. They offer an insight into broken working careers of middle-aged people due to ill health. Nevertheless, they also point out that the number of applications for disabled pension was rapidly increasing during the early years of transition. Though about half of such applications were rejected in lack of available funds, a temporal and regional correlation can be found between the number of new disabled pensioners and the rate of unemployment. Social problems generated by political and economic transformation also appear in the question of major social redistribution systems.

Morbidity and mortality for external reasons (accidents, self-injury, etc.) is much higher in Hungary than in Western Europe. Péter Holló investigates road traffic accident trends by type of casualties (light and heavy injuries, cases of death), location (built-up/non built-up roads) and participation in traffic (drivers, passengers, riders, pedestrians). Data on Hungary are presented in an international perspective. Reducing the speed limit to 50 km/h in built-up areas in 1993, and of increasing it in non built-up areas to 90, 110 and 130 km/h – depending on road categories – in 2001, as well as the consequences of wearing a seat-belt on not, have opposing effects according to statistics of accidents.

Ilona Antal examines the connection between environmental hazards (the quality of air, water, soil, waste-management, built environment, working conditions) and morbidity or mortality of the middle aged who are the most exposed to such hazards. Her versatile and thorough analysis points out that “Physical strain, risk of accidents, exposure to noise and non optimal psychosocial and ergonomic conditions are the most common risk factors at work in Hungary. These are followed by chemical and biological factors. 5% of employees are engaged in high risk activities, 26% in medium high risk activities

(Pintér 2001)¹. The impact of working environment is clearly indicated by the high number of excessive exposures and that of occupational diseases.” (p. 81)

Statistics based on patients' visits to (and stay at) health care institutions are restricted to the recipients of health services. It is more difficult to obtain data on the health status of the total population, which pieces of information are therefore extremely valuable. The *National Population Health Survey (OLEF2000)* carried out in the autumn of 2000 provides such information. Survey results – with special emphasis on findings concerning the middle aged – are presented by Péter Csizmadia. It is quite a striking result that probabilities of ill health (defined as a constraint in a person's habitual way of living or by self-perception) are barely lower among people aged 34–64 than among the 65 plusses.

Differential mortality analysis has strong traditions in demography. This is demonstrated by three papers included in the present volume. The first is on cause-specific mortality of middle aged men and women in Hungary. In the introduction, Etelka Daróczi draws a parallel between demographic and epidemiological transitions. Changes in life table indices are presented for three, transition- and post-transition, periods (between 1988 and 1993, 1993 and 1997, 1997 and 2001). Annual changes in cause-specific life expectancies are shown for eight major causes of death between 1987 and 2001. Life expectancy at birth of Hungarian men deceased from infectious diseases dropped from the pre-transition 63.2 years to 56.1 in 1995, and could only reach 60.0 years by 2001. Life expectancy of male and female victims of digestive diseases (especially diseases of liver) also declined remarkably. Improving life expectancies at higher ages during the second half of the 1990's could not as yet compensate for serious losses suffered in active ages.

Following a review of the rich scholarly literature on social differences in mortality, Katalin Kovács focuses her paper on the analysis of mortality by the level of education and by occupation. Comparisons are based on standardised mortality rates and ratios. She finds that mortality of Hungarian people with secondary education does not seem to be particularly high in an international comparison. But mortality rates of people with low education are much worse in Hungary than in other European countries. The author presents original results by calculating disability-free life expectancies at the age of 25 by education, by identifying occupations with extremely high mortality and demonstrating excess general mortality due to social inequalities in cause-specific mortality.

Geographical mortality differences in Hungary are mostly studied by regions and counties or by large groups of settlement types (Budapest, urban and

¹ Pintér, Alán (ed.) 2001. Magyarország lakosságának egészségi állapota – Okok, befolyásoló tényezők 1999. (Health status in Hungary – reasons and conditions 1999.) Budapest: Országos Tisztifőorvosi Hivatal (National Public Health and Medical Officer Service).

rural areas). László Hablicsek uses a more refined analysis in his paper. Abridged life tables for 150 subregions are prepared for two periods (1980–1984 and 1997–2001) with a detailed description of the methodology used. Subregions are classified into five categories according to the dynamics of their socio-economic development. Several measures of variation are used to analyse changes in mortality differentials among them. The author demonstrates that spatial differences have increased markedly among the 150 subregions over the 15–20 years covered by the analysis. “Life expectancy and the probability of reaching very high ages increased rapidly in the group of dynamically developing subregions. This was due to a sharp decline in middle aged mortality following a transitory increase. Such a decline did not happen in the groups of stagnating and declining small regions. Life expectancy at birth of their inhabitants increased at a much slower pace, and there was a significant decline in probabilities of survival to very old ages; actually more middle aged died than 20 years ago.” (p. 164)

**HUNGARIAN MORTALITY PATTERNS IN A EUROPEAN
PERSPECTIVE AROUND THE YEAR 2000: SOCIAL AND
GEOGRAPHICAL DIVIDES**

No. 77.

DARÓCZI, E., KOVÁCS, K.

The present volume contains six essays on various aspects of health status and mortality trends in Hungary in a European comparative perspective. Findings derive from studies on *Trends and socio-economic determinants of health and mortality* prepared by the authors within the frame of a larger research project entitled *Socio-economic embeddedness of demographic processes*. The project was initiated and coordinated by the Demographic Research Institute of the Hungarian Central Statistical Office and supported by the National Research and Development Programme (NKFP/5/128). The authors are research scholars at the same institute.

The introductory paper of the volume offers a historical review of the stagnating or increasing mortality levels in the former socialist countries of Europe during the last third of the 20th century. The role of changing demographic composition of population and epidemiological transition is discussed in this process. Changes in male and female mortality levels are presented for 43 European countries by broad age categories (infants, young and middle aged population and the elderly) as well as by major causes of death. The author

relies mainly on publications of the Council of Europe² and a comprehensive study by Vallin and Meslé in this field (2001)³.

Concerning the formation of the sharp East–West divide on the mortality map of Europe, the paper emphasizes that it did not simply derive from the stagnating/increasing mortality levels in former socialist countries – which failed to accomplish the so called ‘cardio-vascular revolution’ – but also due to spectacular improvements in the Mediterranean. The economic and political transition around 1990 created a new fault line between the ‘Visegrád Four’ – i.e. Czech Republic, Hungary, Poland and Slovakia which succeeded to reorientate their negative mortality trends—and the other former socialist countries where such a turnover was not attained or mortality still increases (e.g. Russia).

The second essay looks into the development of East–West mortality divide from a ‘local’ point of view. In search for reasons behind high Hungarian mortality rates, Etelka Daróczy introduces a multi-factor analysis to investigate cross-national variations in mortality levels in Europe at the end of the 20th century. While the previous analysis merely relied on demographic components of change, this study introduces macro economic and social indicators as explanatory variables for cross-national variations in mortality. The general level of economic development, measured by GNP per capita (at purchasing power parity), was found to be the most powerful explanatory factor for cross-country variations in male and female life expectancies, both at birth and at the age of 65. When differences in GNP per capita were controlled for, only one variable proved to be significant for ‘explaining’ both male and female life expectancies at birth and at the age of 65 alike: the indicator of income (consumption) inequalities. From among the other macro level explanatory variables used in the analysis (indicators of unemployment, level of education, health care and smoking), only the relative number of physicians proved to be significant and only in the case of female life expectancy (both at birth and at the age of 65). Thereby the author considers the availability of medical doctors as a typical ‘feminine’ factor of influence in understanding cross-national variations in mortality.

Katalin Kovács’ paper offers a critical review of the ample literature discussing the relationship between income inequalities and mortality. Following a highly informative summary of conflicting views and research findings, she concludes: “Richard Wilson’s original tenet according to which there is a statistically significant, positive relationship between high level income inequalities and mortality levels, could not be proved. Does this mean that income inequalities have no effect

² *Recent demographic developments in Europe 2002.*

http://www.coe.int/t/te/tsocial_cohesion/population/d/E9mo211960EN.PDF

³ Vallin, J. and Meslé, F. 2001. „Trends in mortality in Europe since 1950: age-, sex- and cause-specific mortality.” In Vallin, J., Meslé, F. and Valkonen, T. (eds.): *Trend in mortality and differential mortality. Population Studies* (36): 31–184.

on mortality? Not at all. Income inequalities were found to have an influence on the levels of *infant* mortality in welfare states even though welfare was measured by such a rough indicator as national income (...). In countries where some sort of cultural homogeneity can be assumed for the country as a whole but their major geographical units markedly differ in their levels of income inequality (as in the United Kingdom or the United States), income inequalities were found to have an influence on the general level of mortality, in particular on that of the middle aged.” (p. 97)

The fourth paper analyses mortality differentials among Hungarian middle aged men and women by education and region of residence at the turn of the 20th century. Earlier studies on Hungarian mortality differentials only introduced either one or the other dimension in their analyses. The novelty of this paper is the combination of educational levels (expressed in five categories) with the regions of residence (Budapest and 19 counties). Thereby it was possible to separate population composition effects from geographical impact. The study demonstrated variations in the ‘hierarchical slope’ of mortality levels from county to county and variations in the geographical mortality pattern by the level of education. It was found that regional mortality differentials cannot be fully explained by varied social composition of counties. Significant regional differences can also be found in mortality levels of people having the same level of education: the difference being larger among the less educated than among those with high education. This stands for both sexes. When social status and region of residence are taken into account in combination, female mortality differentials get accentuated. The author concludes that excess male mortality and larger mortality differentials among groups men than among groups of women – if measured along a single dimension – should not conceal important social differences in female mortality.

The next paper adds a new dimension to the analysis of differential mortality. Katalin Kovács first presents various explanatory models and research results focussing on excess mortality of single, widowed and divorced persons over married people. Then she analyses temporal changes in excess mortality of various non-married groups in Hungary, using standardised mortality ratios. The subject is particularly relevant since mortality differentials by marital status are not only significant but have been recently increasing in this country. The author concludes the paper by saying that “... the extent of relative excess mortality of the non-married over the married population is similar in Hungary to that experienced in other [European] countries. Nevertheless – due to large absolute mortality differentials in this country – there are highly important variations in health status and survival probabilities, hidden by this ‘average’ relative excess mortality, which deserve special attention.” (p. 174)

The analysis of demographic phenomena, including mortality differentials, typically requires interdisciplinary approach. This is demonstrated by the last paper of the volume in which Katalin Kovács examines a stimulating theoretic-

cal and methodological issue: in what way is it possible to use the individual causes of death—classified according to medical diagnostic criteria and listed in the International Classification of Diseases—in sociological analyses where the aim is to find relationship between social processes and cause-specific mortality?