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**ATINER's Conference Paper Series
PUH2016-1930**

**Changes of Health Inequalities in Space
and Time in the Post-Socialist Period of
Hungary**

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This paper should be cited as follows:

Uzzoli, A. (2016). "Changes of Health Inequalities in Space and Time in the Post-Socialist Period of Hungary", Athens: ATINER'S Conference Paper Series, No: PUH2016-1930.

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www.atiner.gr
URL Conference Papers Series: www.atiner.gr/papers.htm
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ISSN: 2241-2891
07/08/2016

Changes of Health Inequalities in Space and Time in the Post-Socialist Period of Hungary

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Abstract

The marked deterioration in the health of the Hungarian population has been observed since the middle of the 1960s. The general health status is worse than justified by the level of the economic development. From 1989 essential political, economic and social changes took place in East-Central Europe as well as in Hungary. The social effects of this transformation such as the acute problems of unemployment and poverty among low-income population groups have gone together with a "health recession". Jointly the role of the epidemiological, demographic and economic crisis have shown some unique trends in the Hungarian health indicators over the recent years. The aim of the paper is to describe health conditions through health inequalities in Hungary, and to explain how the health situation has changed in terms of space and time in the last 25 years. The statistical analysis is based on the use of mortality and life expectancy indicators. The territorial range of the paper includes the level of the Hungarian counties and micro-regions/districts (LAU1). The examined period covered by the beginning of the 1990s until the year of 2014 which can give a hand to define health effects of the transition as well as the consequences of the recent crisis on health. The Hungarian health indicators have been reflecting a particularly unfavourable tendency for a number of decades. The mortality statistics sadly qualify the country for the international vanguard. The unfavourable health is characterised partly by mortality and morbidity data which are outstandingly high in the international comparison, and mainly by the high occurrence of risk factors.

Keywords: Health Inequality, Hungary, Post-socialist, Spatiality.

Introduction

The economic and political transformation in Hungary has been accompanied by new phenomena in the health processes from the end of the 1980s. However, the socioeconomic effects of the regime change have often contributed to the development of paradox situations both in the changes of health status and in the functioning of the health care system.

The epidemiological change supervened in mortality situations in the middle of the 1990s. Its background was the deepening of the epidemiological crisis at the beginning of the 1990s, which was the result of the decades-long worsening of health indicators. Life expectancy declined in each age group, especially in the case of middle-aged males; therefore health status in Hungary was one of the worst among the European countries, even on a global scale. From the middle of the 1990s, the epidemiological transition has resulted in the slow increase of life expectancy and by this in the emergence of chronic diseases at later ages and the significant decrease of early death. At the same time the sustained but moderate improvement in health status has generated the increase in health inequalities, which was determined socially and regionally. Actually, the increase in inequality can be observed in Hungary owing to the 2008/2009 economic crisis and its long-term effects.

The socioeconomic and political regime change also generated conflicting effects in the functioning and financing of the health care system and was accompanied by intense conflicts. On the one hand the effective treatment and the development of medical technology launched favourable processes in medication. However on the other hand the heritage of state socialist system, the weak role of preventive approach in the primary health care, and the conflicts of the health insurance system are the causes of serious dysfunctions in our days. The Hungarian health care system in the 21st century essentially combines the anomalies of the socialist system with the distortions of market mechanisms.

The paradox situations of health status and the division of the health care system are not a new and separate phenomena in Hungary: the East-Central and Eastern-European transition countries also have had to face these challenges since the end of the 1980s, and even at the present time the intentions of policies on a national level focus on the tackling of similar problems. Despite all these efforts there are significant inequalities between the Eastern-European post-socialist countries and even Hungary is one of the lagging countries due to the unfavourable health processes. In this context the primary aim of this study is to review the changes of health inequalities in space and time since the beginning of the regime change, namely 1989, in Hungary.

Data and Methods

The aim of the study is to evaluate how Hungarian health indicators have changed in the last 25 years. As a consequence the paper gives only some mentions to the issue of the problems and inequalities of the Hungarian health care system, mainly based on the analysis of previously published scientific literature. According to the objective of the study the relevant task is the identification of socio-spatial disparities in the health status of Hungarians and the interpretation of their underlying causes.

The paper comprises two large structural units, a theoretical and a practice oriented one. The theoretical unit includes the analysis of the scientific literature, while the practical unit reflects on the results of previous researches with the help of statistical analysis.

The main issues of the study are the followings:

- How have mortality indicators changed after the regime change in Hungary? What kind of tendencies can be observed in the former 25 years?
- Is the improving tendency of changes in life expectancy an unambiguous one? If yes, to what extent can it be observed and how does it affect the different territories of the country?
- Has the epidemiological transition had impact on the spatial structure of health inequalities in Hungary? Namely, is it still true that the improving life expectancy is combined with territorial disparities?

My hypothesis is that the economic spatial structure of Hungary determines the territorial pattern of health inequalities.

The statistical researches are based on the analysis of mortality and life expectancy indicators, respectively on the distribution of indicators by gender and age groups. The examined period for the interpretation of the impact of post-socialist development on the health inequalities starts from the beginning of the regime change (1989). The recent available statistical data refer to the years 2012-2014. In this way the period considered allows the research of health impacts of regime change and the 2008/2009 economic crisis. In the case of several indicators the study includes short retrospections to the period before 1989: this helps in the understanding of the health processes after 1989.

The territorial disparities are primarily researched on a level of counties (NUTS3), but, where available, the districts at micro-regional level (LAU1) are also present in the analyses.

[Note: the former administrative system of micro-regions (LAU1) in Hungary has been transformed into the system of district from the 1st January, 2013.]

The research results are suitable for formulating decision-support policy recommendations which concentrate on strategic aspects.

Health Inequalities versus Health Inequities

The social and spatial distribution of health, diseases and causes of death characteristics is the best described with the term of inequality. It is not only Hungary but also other developed countries where inequalities are easy to detect in these respects.

The health status of population living in different geographical regions, in various settlements as well as in different social groups, is determined by biological, individual, environmental, socioeconomic, socio-cultural and lifestyle factors (e.g., Dahlgren & Whitehead, 2006; Lalonde, 1974; Marmot & Wilkinson, 2006). Some of the health inequalities are independent of social and economic relations (like genetic faculties, old age illnesses), but a larger number of them are dependent on socioeconomic inequalities (e.g., Elstad, 2005; Evans & Stoddart, 1990). These latter factors are called health inequities in both the literature and the policy in this field. Thus, health inequities are part of health inequalities, and in order to improve the health of the population, these inequities should be decreased by means of effective policy and productive intervention.

As a result, partly of the Black Report in the 1980s (Black and Townsend 1985), and later the Whitehall Studies (Marmot & Shipley, 1996), the concept of health inequity was formulated according to the notion of a social gradient which states that the more disadvantageous the social status, the worse the state of health becomes (e.g., Jones & Moon, 1987). What is more, the socially determined nature of health has recently gained an institutional. In 2005, the United Nations formed the Commission on Social Determinants of Health to summarise the scientific proofs concerning social and economic factors determining health inequities and to make suggestions for a global strategy to decrease inequalities. The committee stated that equity in relation to health can be established through socioeconomic determinants of health (World Health Organisation, 2008)

The formation of health inequalities is determined by a complicated system of inter-relations between many simultaneously effective (determinative and influential) factors (Raphael, 2008). The most important factors are mostly referred to by the acronym "PROGRESS": Place of Residence, Race/Ethnicity, Occupation, Gender, Religion, Education, Socioeconomic status, Social capital/Resources (Oliver et al., 2008). These basic factors influencing health inequities show significant local differences on both global (countries, regions) and local (regional, settlement) levels.

The relationship between equal opportunity and health that is present in every country mostly depends on macro-economic conditions. Behind inequalities related to health there are economic inequalities, injustices of distribution, obstacles in the access to education and health supply, bad housing and life circumstances, and a lack of opportunities for a healthy life (Benach et al., 2008). Thus, socioeconomic trends and factors basically influence the state of health, and, as a consequence of methodological negotiations, the importance of social environment clearly emerged in the

research of health inequalities (e.g., Dunn, 2000; Mackenbach, 1993; Mackenbach & Bakker, 2002).

In life expectancy the most deterministic factors are the mortality conditions of the given population which are influenced by many circumstances in quality of life (e.g. income, socio-cultural position, health behaviour, housing condition, accessibility etc.)

Changes of Health Inequalities after the Regime Change

The Hungarian mortality trends were basically determined by two factors in the second half of the 20th century (Szvitecz, 2002):

1. The gradual ageing of population implied an increase in mortality numbers.
2. The age-adjusted mortality rate had definitely improved in each age group during the first twenty years after the Second World War, and then a slow decline could be observed in the case of people over 30 years of age from the 1970s, then a faster one from 1989.

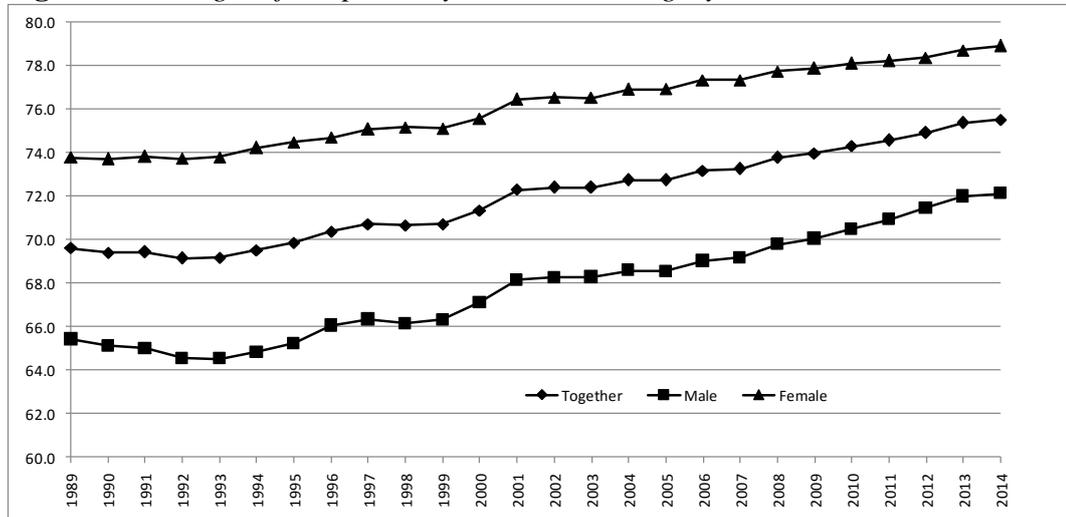
Three basic trends of mortality situations took shape in the second half of the 20th century in Hungary: the mortality rate decreased to a low level between 1945 and 1965, while gradually increased between 1966 and 1993 (Józan and Forster 1999). Accordingly, the gradually increase in the number of deaths and their proportion in ratio to the number of population, as well as the decline of health status of the Hungarian population began from 1966. The decline affected mainly the population aged between 35 and 70 with the increase in the proportion of chronic non-communicable diseases. In this period 73% of the rising trend in mortality rate can be explained with the aging of population, while 27% with the increasing prevalence of age-adjusted mortality (Józan, 1996). From the 1980s it can be observed that the rising mortality has not only been the result of the advanced aging process but also the effect of the further worsening mortality data of population over 30 years of age. The decline of mortality rate from 1966 touched its lowest point between 1983 and 1985 before the regime change (13.9‰, 147,000 deaths/year). Then the presumable improvement of mortality tendencies was impeded by the crisis of socioeconomic and political transition in Hungary, which has had impact on the health and healthcare until the present (Figure 1).

Shortly after the starting year of the regime change, 1989, the rapid and exceptional worsening of the mortality rate could be observed: it reached its lowest point in 1993 (14.5‰, 150,000 deaths/year). In the second half of the 20th century the highest mortality rate in Hungary was reported in this year. After 1994 this index stagnated, and then a lasting, but very slow decreasing has been experienced from 2000: further worsening has not happened, but the rate has remained relatively unchanged on a high level (between 12.8-13.0‰).

The age-adjusted mortality takes a U-curve shape: one arch is for the infant- and the other one for the old-age population (60 years and older)

mortality. Fundamental changes have happened regarding the age-specific mortality in Hungary from the middle of the 1960s. A clear worsening of mortality could be observed in the case of population aged between 30 and 59, affecting especially people aged between 40 and 49. At the same time the age-related mortality has slightly changed in case of 60 or over age group despite the changing in the population age structure in which the proportion of over-60 persons has increased. This can be interpreted with the actual worsening of the mortality in middle-aged (premature death). The greatest concern is that in the latest decade the relative weight of the mortality in the 15-39 age group has risen at a higher rate than their proportion in the population. In the middle of the 1990s the proportion of people aged between 40 and 59 in the total mortality events was higher than ten years before, however their proportion in the population slightly increased between 1980 and 1994 (Józán, 1998). The mortality situation of middle aged women has taken a turn for the better, although the age-specific mortality for females has risen from the second half of the 1960s in Hungary. At the same time in the population group of women over 30 the worsening mortality situation can be detected in fewer age groups and in less proportion compared to the males (Józán, 1996). It is also problematic that the mortality of Hungarian population generally is higher in each age group than the age-specific mortality in industrialised countries with developed health culture, and it is true both for the male and female population (Józán and Forster 1999).

Figure 1. Average Life Expectancy at Birth in Hungary, 1989-2014



Source: Hungarian Central Statistical Office 2014.

Men have been more affected by the worsening of the gender ratio of mortality after 1966 in Hungary. The minor mortality worsening of women was also due to the mortality rate improvement affecting women in the two decades before 1966. Male mortality worsening was more significant in each age group compared to that for females (Józán, 1996). The greatest worsening occurred in men aged from 40 to 49: the mortality doubled between the middle of the

1960s and the beginning of the 1990s. The divergent mortality trends of the two genders have increased the high mortality surplus of males. The difference between the age-specific mortality rates of males and females has gradually grown for decades. The mortality in each five-year age group of male population between 15-69 years has been two times or two-and-a-half times higher than the mortality of the female population (Józán, 1998).

Measured by European standards, the mortality situation of the Hungarian population has worsened from the middle of the 1960s; the backwardness in epidemiological development has also been reflected in the average life expectancy at birth.

The average life expectancy at birth increased spectacularly between 1949 and 1970: from 61.3 to 69.1 years. It remained at the same level in the 1970s, and then the average life expectancy at birth has decreased, but to varying degrees from the 1980s. Before the regime change it reached its lowest point in 1985. Owing to the crisis of regime change the average life expectancy at birth decreased to the 1985 level in 1993, and then its value remained unchanged for years. A slow rising happened exceeding 70 years from 1996, and then 71 years from 2000, 72 years from 2002, 73 years from 2006 and 74 years from 2009. The life expectancy essentially increased with 5.1 years between 1996 and 2014 in Hungary.

Gender differences in mortality are also reflected in life expectancy indicators. The life expectancy of females continuously increased during the second half of the 20th century, while it decreased for males between 1989 and 1993. Consequently, the decrease of life expectancy after 1989 in Hungary has been primarily due to the worsening life expectancy of males. The life expectancy improved by 6 years for males, and by 4.2 years for females from 1996 to 2014. It is essential that the life expectancy of males reached 70 years only in 2009.

The life expectancy of females always exceeded the values of males during the 20th century, the difference between them increased gradually. This difference was less than 7 years before 1980, more than 8 years until the middle of the 1980s, more than 9 years until the beginning of the 1990s: the record was 9.4 years in 1994. Currently, the difference between the life chances of the two genders is 6.8 years. As regards these great differences Hungary is in the first position in Europe.

Changes of Territorial Pattern of Health Inequalities after the Regime Change

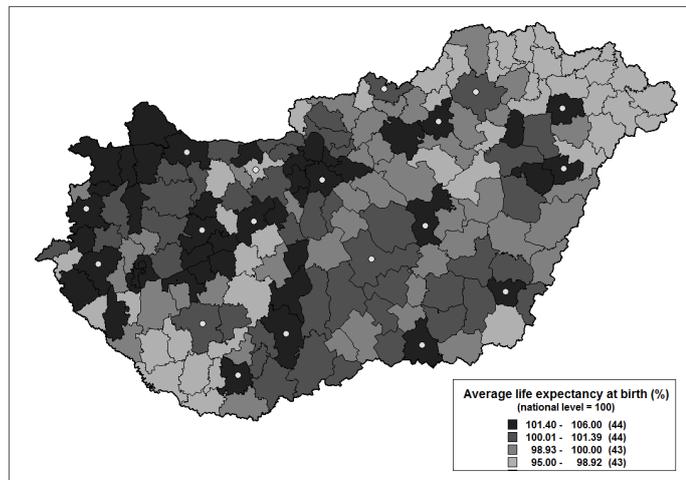
Regarding the average life expectancy at birth the spatial pattern was quite complex even in the early 1990s in Hungary. Territorially, coherent areas in a better or worse situation were situated in North-Western, South-Eastern and North-Eastern part of the country. The highest life expectancy could be observed in the capital and its agglomeration situated in the Middle of the country and also in the North-Western part of Hungary. The North-Eastern and

South-Western part of Hungary was a territorially coherent area in a bad situation, affecting each or almost each district at micro-regional level.

The situation of country's Middle and Western part improved spectacularly until the early 2000s. In the Eastern part of Hungary the headquarters (chief towns) of the counties and their surrounding districts (LAU1) appeared as territorial units offering better life chances.

At the early 2010s the territorial pattern of the average life expectancy at birth already became clear-cut, so the micro-regions/districts (LAU1) offering better life expectancy became territorially more differentiated from the areas offering more unfavourable conditions in this sense (Figure 2). Division of the country has become evident: Western Hungary, where the majority of the districts have higher life expectancy and Eastern Hungary, where districts with low life expectancy prevail and co-exist coherently. Even so the Western and Eastern part of the country cannot be identified with the good and the bad situation. As long as in Western Hungary the Southern and South-western areas are taking shape, where the indicator is lower than the national average, the "uniform" disadvantage of Southern Hungary is dissolved by the chief towns of the counties and their surrounding districts (LAU1), where the value of life expectancy is higher than the national average.

Figure 2. *Average Life Expectancy at Birth (year) in the Hungarian Micro-regions in Comparison with the National Level, 2010*



Source: Based on Szilágyi and Uzzoli, 2013 with own supplement (Egedy & Uzzoli, 2016).

To conclude, the mosaic structure has strongly predominated in the territorial pattern of average life expectancy at birth, but mainly the trended, more homogenous space structure has become prevalent during the past 25 years. On the basis of mortality rates and life expectancy lagging regions already appeared in the early 90s, but these became territorially constant at the beginning of the 2000s: the territorial pattern taking shape in this way did not significantly changed until the 2010s (Uzzoli & Szilágyi, 2009).

Conclusion

It is a fact that the unfavourable public health situation, the structural and financial dysfunction of the Hungarian health care, and the long-term effects of both health impacts and health consequences of the economic crisis in the previous years present challenges to the policy decision-making (Uzzoli, 2012). Even in the identification of mid-term development guidelines and priorities it is necessary to take into account that the stake is not only the solution of financial and structural problems, but also the promotion of equal opportunities for all. According to the forecasts, if the already recognized unfavourable health processes and trends cannot be reversed or reduced in the following years in Hungary, even 3.5-4 million people will not have access to proper primary health care and the number of general practitioners practicing in the country will decrease by four thousand owing to the accumulation of system-specific elements.

In order to improve the health status of the Hungarian population the aim is the implementation of the following tasks:

- Promotion of equal opportunities: the reduction of existing health inequalities by ensuring access.
- Underlining the preventive approach: implementation of disease management and the strengthening of specialized care.
- Effective operation of health care system: the evolving of an effective structure, financing and capacity for functioning.
- Creation of the conditions of a high standard patient care: the adaptation of diagnostic and therapeutic guidelines, the adaptation of qualitative indicators necessary for the supply quality monitoring.
- Practical implementation of progressivity principle: structure change in favour of the integrated supply, the introduction of a systematic and continuous cost management.

The social determinants of health specify important socioeconomic differences in the background of the health status inequalities of the Hungarian population. The determining factors of health inequalities can be and are needed to be influenced by policy and public policy instruments. It shall be taken into account that each political decision has direct and also spill-over effects on the quality of life and the health related quality of life. This is the reason that the issue of health inequalities also have to be addressed outside the health sector: on the one hand inter-sectoral co-operations might be encouraged; on the other hand the complementary policy strategy should consider the possible health impacts of the planned actions.

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