

DYNAMIC AND INEQUALITIES OF THE MORTALITY RATE IN THE NORTH-EAST REGION OF ROMANIA

ALINA MARECI*

The mortality rate increases and decreases over time due to a series of demographic, economic and social factors. We name among the most important: the demographic aging of the population, living standards, quality of the sanitary services received by the population, etc. The analysis of this indicator over a period of time will show the position of the counties one to another and a micro-scale study will emphasize the territorial inequalities of this indicator. The purpose of the article is though to identify within the North-East region if there are any areas with alarming levels of mortality and where are they situated.

Keywords: mortality rates, inequalities, development, north-east region.

Introduction

The value of the mortality rate in Romania was the same in 2009 as in 1995 of 12‰. Still, it registered numerous changes within this period of time, with two moments of increase followed by periods of decrease. The two moments took place in 1996 when the maximum value of 12.7‰ was manifested and the second peak of 12.4‰ was reached in 2002. The moments when the death rate reached its minimal values were the years 2000 with 11.4‰ and 2007 with 11.7‰ with a secondary one happening in 2004 with 11.9‰ (*fig. 1*).

Analysing the mortality levels reached in the counties within the Nord-East region in Romania, we can see that the values this indicators takes are lower than the average national rate with the exception of Botoşani County. The overall pattern of evolution for the values of the death rate follows closely the national one.

Considering each of the six counties, the lowest rates registered in Iaşi. Similar to Romania's case the mortality rate registered the same value at the beginning of the analyzed time period (1995) compared to the one from the last year (2009) and in the same time was inferior to the national rate. The evolution of this indicator in Iaşi County is also similar to the one at the national level, starting with a value of 10.2‰ in 1995, reaching the maximum level of 11.0‰

* PhD Student, University of Bucharest, Faculty of Geography, "Simion Mehedinţi – Nature and Sustainable Development" Doctoral School; alinamareci@gmail.com

in 1996, followed by a decrease up to the year 2000 when a rate of 9.7‰ was measured. From this point mortality made a new ascendant curve with a peak in 2003 when it reached 10.7‰. In the latest years the mortality's values increased again.

This indicator has lower values in Iași County due to the more powerful development of this county compared to the rest counties in this region and also due to the attractiveness that the city of Iași presents as a university centre thus having a higher percentage of young population.

The second position is occupied by Suceava County, where the mortality rate reaches a first peak in 1996 with a value of 11.1‰ followed by the now traditional decreasing period, this time registering the minimum value – 9.9‰ – in 2001. After that, a slight but constant increase was registered and at the end of the analyzed time period mortality registering a value of 10.6‰.

The mortality's values and evolution in Bacău County are similar with the ones in Neamț Counties, as the two regions present similar development stages. Thus, the mortality value was of 10.1‰ in 1995 in Bacău and of 10.4‰ in Neamț. Along the entire analyzed time period the mortality levels in Neamț were superior to the ones in Bacău though the difference between the two was not significant.

The county that has had mortality rates similar to the national ones, even surpassing them was Vaslui County: in 1996 the mortality was of 12.8‰ in Vaslui compared to the rate registered in Romania of 12.7‰ and in 2003 it measured 12.5‰ in this county and only 12.3‰ in Romania's case.

The highest mortality levels registered within the North – East region were the ones in Botoșani County, as they were superior to the national rate throughout the entire analyzed time period. It is worth mentioning that this indicator fluctuated the most in this county so that the amplitude of this indicator was of 2.1‰ for Botoșani and of only 1.2‰ for example in the case of Suceava County. This fact characterizes a population among which rapid changes are happening at a demographical and social level, a population that is situated in the development phase of the demographic transition process.

Following the evolution pattern of the general mortality the author enclosed the counties of the region into three categories sharing similar features: a first category formed by the Iași and Suceava counties presents low mortality levels specific to areas that find themselves in the final stages of the demographic transition process, a second category including Neamț and Bacău counties and a last one formed by Vaslui and Botoșani counties.

This last category constitutes, the one most prone to present problems regarding the standard of living with direct implication over the population health status and sanitary infrastructure; considering that high mortality levels are usually a sign of a demographically aging population that in turn has direct influences over the sanitary system or an area less developed with immediate echoes over the infant mortality rate.

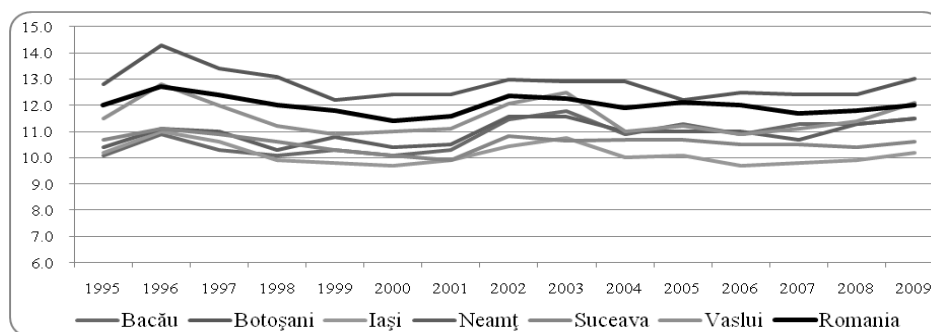


Fig. 1. Dynamic of the mortality rate in the North – east region between 1995 and 2009

Territorial Inequalities of the Mortality Rate in the North-East Region of Romania

The analysis of this indicator at a micro-regional scale will better emphasize the “sensitive” areas described above where mortality reached alarming levels. The author followed the territorial dispersion of these areas, their size and the differences existing between 1990 and 2008.

In order to obtain the most accurate picture of the territorial inequalities there were selected four classes of values considered relevant for the studied region.

Thus a first class of values comprises localities where the mortality rate registered values inferior to 10‰ considered *small*, the next category integrates localities with a *medium* level of mortality rates (10‰-15.4‰) and a last category with *high* and *very high* mortality values (15.5-17‰ and higher than 17‰).

According to fig. 2 in 1990 there were identified four areas that presented *low* mortality levels:

- A first one situated in Iași County, with a north-south extension. It is comprising 46 localities and it includes the main urban centres and rural areas surrounding them.
- A second area covers the central and south-west part of Bacău County, with 31 localities. In the same manner, this category comprises the urban centres and the rural areas included in their sphere of influence.
- Neamț County presents two sub-areas of low mortality: one situated in its western part and one in the south.
- A last area is found in the western part of Suceava County.

The localities included in the category with *medium* mortality levels, are territorially distributed as “buffer” areas between the first category and the ones where the mortality rate has superior values. They don’t constitute areas in

themselves, but surround in most cases the four areas described above. The one exception is found in Botoşani, where these localities form a compact area in the centre of the county.

A third category is formed by the localities with a *high* and *very high* mortality values, namely higher than 15.5‰. There were identified two such areas where the presence of these localities was noticeable: the north of Botoşani county (with 40% of the total number of localities forming this category) and the central part of Vaslui County (with a percentage of 24% for these settlements).

It can be observed that in 1990 all the urban centres and large territories surrounding them presented *low* mortality values which in turn implied satisfactory living conditions and the “problematic” areas discovered are the ones situated in the northern and southern part of the region, namely parts of Botoşani and Vaslui counties (*fig. 2*).

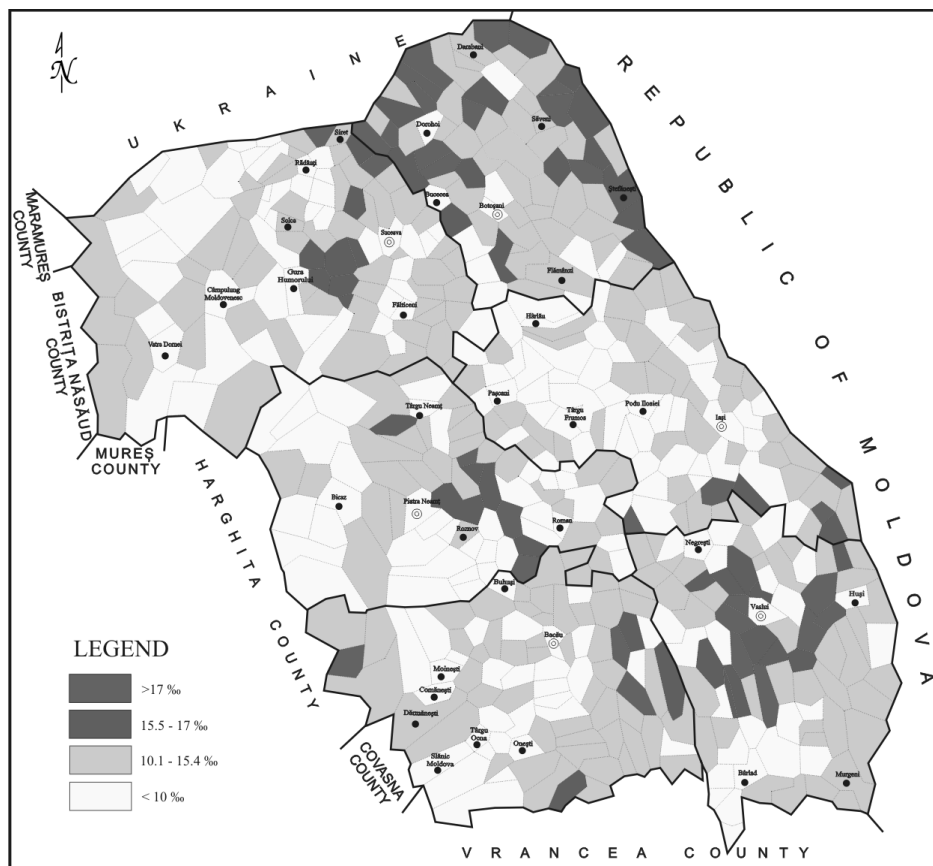


Fig. 2. Territorial inequalities of the mortality rate in 1990

Eighteen years later, after a few periods of economic flourish but numerous moments in which the country's economy suffered, the dispersion of the territorial inequalities observed for the mortality rate was different (*fig. 3*).

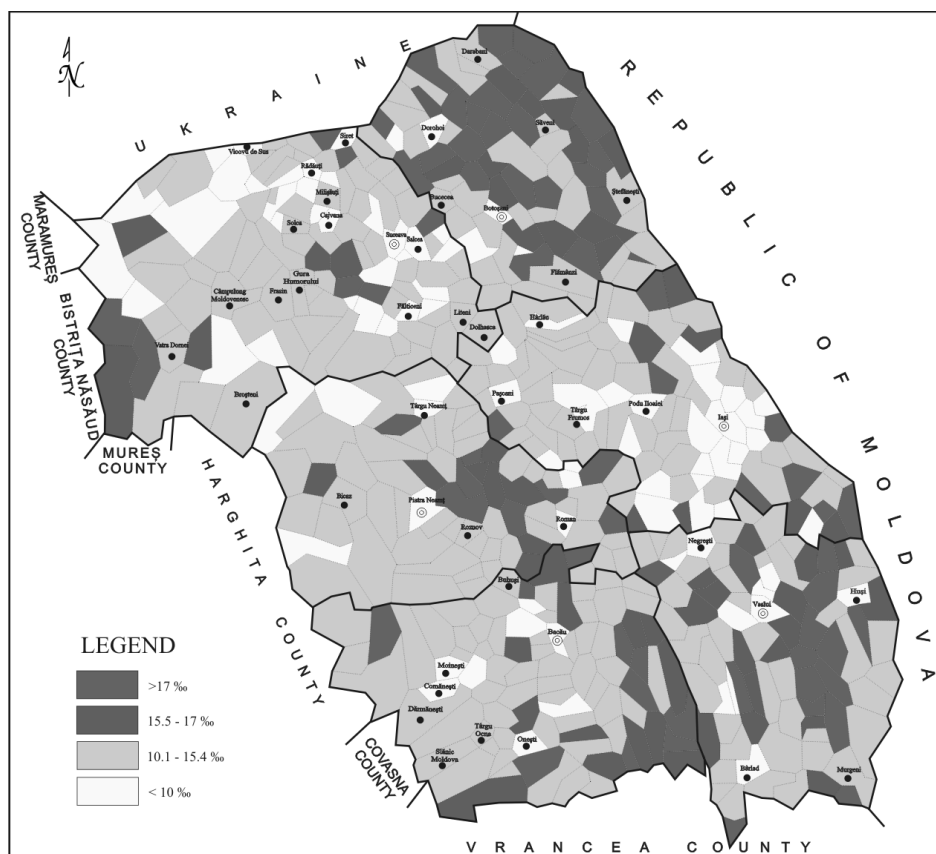


Fig. 3. Territorial inequalities of the mortality rate in 2008

A first issue worth mentioning is the fact that the localities belonging to the first category, with *low* mortality values do not prevail any longer as they did in 1990. On the contrary in 2008 this category only extends to some urban centres and sometimes (like in the case of Iași County) to the neighbouring areas. If in 1990 the first category included more than half of the total number of localities, in 2008 this percentage only rose to 24%. Although most of them are located in Suceava County, the ones from Iași form a more compacted area, which reveals two features of the studied region: on one side in the case of Iași County the low levels of mortality depend on the presence and development of the county seat and its sphere of influence as shown by the location of most

settlements with low mortality rates around the city of Iași; and on the other hand a totally different situation in Suceava County where a more balanced image is shown which leads us to believe that the values this indicator reaches do not exclusively depend on a single urban centre.

A much more important position is occupied in 2008 by the localities from the second category, with *medium* levels of mortality. If in 1990 they only had the status of transit areas, in 2008 they form extensive areas and in many cases come to replace the ones that in 1990 had *low* mortality levels. The author identified four such types of areas:

- The central part of Suceava County, including the cities of Gura Humorului, Frasin, Câmpulung Moldovenesc and the surrounding rural areas.
- Most of Neamț County with the exception of the villages situated in the eastern part of the county somewhere between the influence areas of Piatra Neamț and Roman.
- Another area having a start shape starting from the central part of Bacău County.
- The northern and western part of Iași County.

The third category and the one that presents the most interest in identifying the areas with an “increased sensitivity”, occupies larger areas in 2008. They are still located in Botoșani and Vaslui counties where first of all they increased their prevalence and second of all the number of localities with *very high* mortality values increased. If in 1990 in Botoșani County there were 11 localities with *very high* mortality values and only 10 with *high* mortality, in 2008 up to 25 locations presented *very high* mortality levels and 15 of them had *high* values. A similar phenomenon presented in Vaslui County where *high* values of mortality were registered in 7 locations in 1990 and 17 in 2008 and *very high* existed in 7 localities in 1990 and in a double number of settlements in 2008.

Conclusions

The analysis of this indicator in the North-East region of Romania showed that it has a tendency to slightly increase in all six counties after the year 2008. At a micro-regional level the areas that registered very high values of mortality, which is usually a red flag as far as the living standards are concern, both in 1990 and in 2008 are located in the northern part of Botoșani County and Vaslui County.

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