

SUSTAINABLE DEVELOPMENT IN PUBLIC HEALTH IN THE SOUTH MUNTENIA REGION AND SOUTH WEST OLTENIA REGION

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Abstract

The purpose of this paper is to highlight sustainable development in terms of health in two development regions of Romania, the South Muntenia region and South West Oltenia region. "Sustainable development is development which aims to meet the needs of the present without compromising the ability of future generations to meet their own needs". Sustainable development objectives can not be achieved in conditions of ill health, and health is maintained in a functional and a healthy environment. To highlight the evolution of public health in the two regions for regional development and related counties, we used indicators of sustainable development in Romania, based on data provided by the Romanian Statistical Yearbooks for 2011, 2012 and 2013. Indicators used to assess health development in the two regions are: The mortality rate, the infant mortality rate, natural growth rate, hospital beds (per 1,000 inhabitants), population/doctor (per 1000 inhabitants). Research methods applied are clues fixed base and chain base. Factors that increase the mortality rate are represented by a larger proportion of the elderly population, origin, given that rural health services are weak comparing to urban areas.

Key words: public health, South West Oltenia region, South Muntenia region, sustainable development

INTRODUCTION

“Sustainable development is development which aims to meet the needs of the present without compromising the ability of future generations to meet their own needs”, as defined in the Brundtland Report.[6] Sustainable development is a concept of balancing different human needs while striving for progress in one area of endeavour, humans should not create problems in other areas now or for future generations.[10] One of the principles of the Rio Declaration on Environment and Development states that people are at the center of concerns for sustainable development, they having the right to a healthy life in harmony with nature. [5] Sustainable development objectives are settled based on the what is desired to be achieved sustainability in a time period greater or less. [3] Sustainable development objectives can not be achieved in conditions of ill health, and health is maintained in a functional and a healthy environment.

Between economic development, environmental status, on the one hand, and human health, on the other hand, there is a strong inter-

relationship. It is important that economic development to be also a social development, for positively influence the environment and, in this way, to provide support to human health. [3] Health is an integral part of the concept of sustainable development, but it was and is still regarded as a separate domain, many of those dealing with formulation, respectively, implementing sustainable development strategies and policies pursued for this purpose. [2] The health of future generations should be protected, by providing them with skills and education, by bequeathing a clean and biodiverse environment and preventing health risks from climate change and other long-term environmental threats. [9]

In 2002 at the Summit WEHAB (Water, Energy, Health, Agriculture, Biodiversity) for sustainable development, along with water, energy, agriculture and biodiversity, health was considered one of the five objectives of sustainable development.[7] National Strategy for Sustainable Development provides for the following public health objectives: for 2013 improving health system, improving quality of care, improving the health of the population. For

2020 goals are the health and quality of health services to be close the parameters of the EU countries, this being achieved by continuing the downward trend of mortality rate and infant mortality. 2030 goals are aligning with the average performance of the other EU countries, including in terms of funding. [8]

The purpose of this paper is to highlight sustainable development in terms of health in two development regions of Romania, the South Muntenia region and South West Oltenia region. These two regions as the six others were created in 1998, now not having administrative powers, but this may change in the event of a territorial administrative reforms. The South Muntenia region is made up of seven counties of Arges, Calarasi, Dâmbovița, Giurgiu, Prahova and Teleorman, and 3136446 people. The South West Oltenia region is composed of five counties: Dolj, Gorj, Mehedinți, Olt and Valcea and have 2075642 [4]

MATERIALS AND METHODS

To highlight the evolution of public health in the two regions for regional development and related counties, we used indicators of sustainable development in Romania, based on data provided by the Romanian Statistical Yearbooks for 2011, 2012 and 2013.

Indicators used to assess health development in the two regions are:

The mortality rate indicates the number of deaths per 1000 residents.

The infant mortality rate indicates the number of children who died before the age of one year, expressed per thousand live births again.

$$\text{The infant mortality rate} = \frac{\text{deaths in children under one year}}{\text{number of births}} \times 1000$$

Natural growth rate, measured intensity increase / decrease in population because of a surplus or deficit of births compared to deaths.

$$\text{Natural growth rate} = \frac{\text{birth rate} - \text{death rate}}{10}$$

Hospital beds (per 1,000 inhabitants) indicates the population providing hospital beds, for a period of time (usually 1 year).

$$\text{Hospital beds (per 1,000 inhabitants)} = \frac{\text{number of hospital beds}}{\text{total population}} \times 1000$$

Population/Doctor (per 1000 inhabitants) indicates the degree of population with doctors insurance (excluding dentists), in a specified period (usually one year).

$$\text{Population/Doctor (per 1000 inhabitants)} = \frac{\text{total population}}{\text{number of doctors}} \times 1000$$

Research methods applied are clues fixed base and chain base.

RESULTS AND DISCUSSIONS

South-West Oltenia region has a higher percentage of the population in urban areas versus South Muntenia region.

Table 1. Evolution of mortality rate

Specificati on	2010	2011	2012	2011/ 2010	2012/ 2010	2012/ 2011
South Muntenia region	13,3	13,1	12,7	98,5	95,5	96,9
Arges	11,7	11,8	13,7	100,8	117,1	116,1
Calarasi	14,1	13,8	11,9	97,9	84,4	86,2
Dambovița	12,1	11,5	14,1	95,0	116,5	122,6
Giurgiu	16,2	15,3	12,0	94,4	74,1	78,4
Ialomita	13,3	13,6	15,7	102,3	118,0	115,4
Prahova	12,2	12,1	14,0	99,2	114,7	115,7
Teleorman	17,2	17,3	13,3	100,6	77,3	76,8
South West Oltenia region	13,2	12,7	13,6	96,2	103,0	107,1
Dolj	14,3	13,7	14,4	95,8	100,7	105,1
Gorj	11,3	10,9	12,1	96,5	107,1	111,0
Mehedinți	14,3	13,9	15,1	97,2	105,6	108,6
Olt	13,9	13,5	14,7	97,1	105,7	108,9
Valcea	11,5	10,5	11,2	91,3	97,4	106,7

Source: Statistical Yearbook of Romania 2011,2012, 2013; Own calculations based on Romanian Statistical Yearbooks 2011,2012,2013

Analysing the mortality rate in the two regions can be observed that the South Region has a decreasing trend, while in the South West Oltenia region, the trend is increasing, with the exception of 2011 when compared to 2010 there is a decrease of 3,8%. It can be seen that in the South Muntenia region highest mortality rate in 2011 a Teleorman county had about 17%, but it dropped to about 13,5%. In 2012 the highest mortality rate can be found in Ialomita county approximately 16%. In the South West region Oltenia in 2011 the highest rate of mortality was recorded in Dolj and Mehedinți 14.3% and in 2013 in Mehedinți County, approximately 15.1%. (table1.)

Analysing the infant mortality rate it is found that in the South Muntenia region is decreasing trend in 2011 and 2012 compared with 2010, but there was an increase in 2012 compared to 2011. The highest rate of infant mortality is observed in Calarasi County and lowest in Dâmbovița County. Analysing the infant mortality rate in South West Oltenia region is observed an upward trend in this period. Județul Mehedinți are cea mai mare rată a mortalității infantile, ajungând la 17,3% în 2012. It can be seen that in 2011 Dolj County has the lowest infant mortality rate, but this increases to 66.4% in 2012 compared with 2010, in Valcea County is a decrease of 42.11% over the same period.(table 2)

Tabel.2 Evolution of infant mortality rate

Specificati on	2010	2011	2012	2011/ 2010	2012/ 2010	2012/ 2011
South Muntenia region	10,9	10,3	10,7	94,5	98,2	103,9
Arges	11,2	9,1	10,1	81,2	90,1	110,9
Calarasi	15,1	10,9	15,0	72,2	99,3	137,6
Dambovita	8,2	7,8	7,5	95,1	91,5	96,2
Giurgiu	12,3	13,0	12,5	105,7	101,6	96,1
Ialomita	10,6	12,7	13,7	119,8	129,2	107,9
Prahova	9,3	10,5	9,9	112,9	106,4	94,3
Teleorman	13,5	11,0	10,1	81,5	74,8	91,8
South West Oltenia region	9,3	9,3	11,0	100,0	118,3	118,3
Dolj	5,3	8,1	8,8	152,8	166,0	108,6
Gorj	9,3	9,9	13,3	106,4	143,0	134,3
Mehedinți	11,6	16,1	17,3	138,8	149,1	107,4
Olt	10,8	6,6	11,2	61,1	103,7	169,7
Valcea	13,3	8,6	7,7	64,6	57,9	89,5

Source: Statistical Yearbook of Romania 2011,2012, 2013; Own calculations based on Romanian Statistical Yearbooks 2011,2012,2013

Given that this indicator measure the effectiveness of health services and general framework in which children are born, we can say that South West Oltenia region health services are worse than those in the South Muntenia region.

Analyzing natural increase it is found that in both regions is recorded negative values also can be observed that in the South West Oltenia region are bigger problems, negative values being higher. Since the mortality rate is higher than in the South Muntenia region South West Oltenia region, we conclude that the birth rate is lower in the South West

Oltenia region, as recorded higher values compared to the South Muntenia region. In the South Muntenia region county with the highest value of negative natural increase is Teleorman, with 11.3% in 2012.(table 3)

Table .3 Evolution of natural increase

Specification	2010	2011	2012	2011/ 2010	2012/ 2010	2012/ 2011
South Muntenia region	-3,9	-4,5	-5,4	115,38	138,46	120,00
Arges	-2,5	-3,4	-3,5	136,00	140,00	102,94
Calarasi	-3,6	-4,1	-4,9	113,89	136,11	119,51
Dambovita	-2,3	-2,6	-3,8	113,04	165,22	146,15
Giurgiu	-6,7	-5,9	-6,9	88,06	102,99	116,95
Ialomita	-2,2	-3,2	-4,7	145,45	213,64	146,88
Prahova	-3,4	-4,1	-5,1	120,59	150,00	124,39
Teleorman	-9,4	10,1	11,3	107,45	120,21	111,88
South West Oltenia region	-4,8	-4,7	-5,7	97,92	118,75	121,28
Dolj	-5,5	-5,0	-6,2	90,91	112,73	124,00
Gorj	-3,1	-3,2	-4,2	103,23	135,48	131,25
Mehedinți	-5,5	-5,3	-6,8	96,36	123,64	128,30
Olt	-6,2	-6,2	-7,6	100,00	122,58	122,58
Valcea	-3,2	-3,1	-3,2	96,88	100,00	103,23

Source: Statistical Yearbook of Romania 2011, 2012, 2013; Own calculations based on Romanian Statistical Yearbooks 2011,2012, 2013

Table 1.4 Evolution of the number of hospital beds per 1000 inhabitants

Specification	2010	2011	2012	2011/ 2010	2012/ 2010	2012/ 2011
South Muntenia region	4,76	4,48	4,67	94,12	98,11	104,24
Arges	5,69	5,40	5,70	94,90	100,18	105,56
Calarasi	4,03	3,76	3,81	93,30	94,54	101,33
Dambovita	5,09	4,85	4,95	95,28	97,25	102,06
Giurgiu	3,10	2,93	2,87	94,52	92,58	97,95
Ialomita	3,10	2,76	2,88	89,03	92,90	104,35
Prahova	4,96	4,71	5,08	94,96	102,42	107,86
Teleorman	5,31	4,95	5,11	93,22	96,23	103,23
South West Oltenia region	5,70	5,55	5,96	97,37	104,56	107,39
Dolj	6,39	6,43	6,80	100,63	106,42	105,75
Gorj	6,14	5,87	6,44	95,60	104,89	109,71
Mehedinți	5,63	5,00	5,44	88,81	96,63	108,80
Olt	4,56	4,50	4,72	98,68	103,51	104,89
Valcea	5,45	5,33	5,82	97,80	106,79	109,19

Source: Own calculations based on Romanian Statistical Yearbooks 2011, 2012, 2013

Analysing the number of hospital beds per 1000 inhabitants is observed that the South Muntenia region is approximately 5 beds and in the South West Oltenia region is 6 beds, so higher. Number of hospital beds per 1000 inhabitants in South Muntenia region declined in 2011 and 2012 compared with 2010 and increased in 2012 compared with 2011. But in

the South West Oltenia region number of hospital beds per 1000 inhabitants declined in 2011 compared to 2010 and increased in 2012 compared to 2010 and 2011.

This decrease in the number of hospital beds per 1000 inhabitants is a consequence of desființării and reparcelling of hospitals in 2011. (table 4)

Analyzing the number of doctors per 1,000 inhabitants is found to be higher in South West Oltenia region compared with South Muntenia region. Analysing the number of doctors per 1,000 inhabitants in both regions is a decrease in in 2011 compared to 2010 and increased in 2012 compared to 2010 and 2011. (table 5)

Table 1.5 Evolution of the number of doctors per 1000 inhabitants

Specification	2010	2011	2012	2011/ 2010	2012/ 2010	2012/ 2011
South Muntenia region	1,41	1,39	1,45	98,6	102,8	104,3
Arges	2,11	2,13	2,15	100,9	101,9	100,9
Calarasi	1,00	1,00	1,02	100,0	102,0	102,0
Dambovita	1,23	1,21	1,20	98,4	97,6	99,1
Giurgiu	1,06	1,06	1,12	100,0	105,7	105,6
Ialomita	1,01	1,01	1,09	100,0	107,9	107,9
Prahova	1,45	1,34	1,51	92,4	104,1	112,6
Teleorman	1,33	1,34	1,40	100,7	105,3	104,4
South West Oltenia region	2,09	2,08	2,25	99,5	107,6	108,1
Dolj	3,02	3,00	3,19	99,3	105,6	106,3
Gorj	1,75	1,79	1,96	102,3	112,0	109,5
Mehedinti	1,70	1,62	1,79	95,3	105,3	110,5
Olt	1,49	1,51	1,64	101,3	110,1	108,6
Valcea	1,75	1,75	1,91	100,0	109,1	109,1

Source: Own calculations based on Romanian Statistical Yearbooks 2011, 2012, 2013

CONCLUSIONS

Mortality rate in South Muntenia region is higher in 2010 and 2011 compared to the South West Oltenia region and lowest in 2012. Factors that increase the mortality rate are represented by a larger proportion of the elderly population, origin, given that rural health services are weak comparing to urban areas.

Infant mortality rate is higher in the South Muntenia region compared to South West Oltenia region, but can see a downward trend in the first region compared to the the second. Infant mortality rate is the best indicator of socio-economic development also the factors

that influence may be of socio-economic nature, environmental, and health care system. Given the above we can conclude that the highest infant mortality rate in the South West Oltenia region compared to the South Muntenia region because of economic and social factors, because in this region urban population is higher than in the South Muntenia region, the number of beds and doctors are higher.

Negative natural increase in both regions demonstrated increased mortality and decreased birth rate, given the increasing rate of emigration, especially to the young people, decreased fertility, and low number of children for a family.

Providing the population with hospital beds and doctors is better in the South West Oltenia region compared to the South Muntenia region.

Given the national strategy for sustainable development of Romania that aims lower mortality rates, infant mortality rate, improving access to health services, urgent action is required to be met 2020 targets and 2030.

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