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SOCIO-INDICATORS RELATED TO SOCIAL PERCEPTION OF REFORMS IN THE PUBLIC HEALTH SYSTEM. THE ROMANIAN CASE

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ABSTRACT

The paper approaches the social perception of the reform in the public health system through statistic modelling and analyses.
Based upon the general framework of the European and international activities on improving the public health policies, the structure of the first part of the paper comprises the description of the health security models, analyses for Central and Eastern European countries, SWOT analysis on the health system in Romania. The socio indicators are empirically described, taking into consideration the measurement of the medical staff opinion on the quality of the reform process.

KEY WORDS

models of public health systems, social perception, socio indicators, empirical analysis.

I. PUBLIC HEALTH SYSTEM REFORM

In the last decade of the 20th century, most Western European countries and developing countries were undergoing profound transformation of the health systems, addressing the financial, organizational and regulatory framework, the knowledge and axiological system.

Romania joined the trend of transformation of the social and health systems, the health sector being involved in one of the most significant reform of the entire Romanian society. In that process, changes have occurred in all major subsystems composing the health system, ranging from the introduction of new mechanisms for collecting and allocating funds, to the core principles of social health insurance and the change of medical service providers' status.

I.1. Models of health insurance systems

In this context, in 1997, a new health insurance system was introduced by Law no. 145/ 1997, based on an amended version of Bismarck model. Currently some structures of the following models coexist in the Romanian health system (taking into consideration the funding of the system) (Andrei, Matei, Stancu and Andrei, 2009, 17-24):

- *Semashko* model - the state social security budget (state treasury);
- *Beveridge* model - the principle of the role of "filter" (played by family physicians - chosen freely by patients and financed by taxes);
- *Bismarck* model - health insurance system (based on compulsory insurance bonuses, related to income).

It is worth to mention several types of social insurance systems throughout history. The most important are Bismarck-type social security system, Beveridge-type social security system, continuous flow insurance systems (Pay-As-You-Go) and systems with capital funds. In order to distinguish specific characteristics of security systems, we can consider grouping them as follows:

a. The *Bismarck* –type versus *Beveridge- type social security system.*

Bismarck-type social security system, owns its name to Otto von Bismarck, Chancellor of the Second Reich. He introduced for the first time in Europe, a statutory social security system. The Chancellor is considered the creator of the first modern German state through institutional and organizational reforms initiated to address the problems caused by industrialization in Europe.

In the late eighteenth century, social protection in Europe, following a strong economic downturn was to some extent a matter of interest for state. Before, it was been limited to a rudimentary form of social assistance, based on charity and voluntary actions. In most European countries, the State involved in subsidizing and supporting the private initiatives. In 1881, Bismarck introduced a compulsory state social insurance system; in 1883 added payments for sickness, in 1884 insurance for accidents at work and in 1889 a comprehensive scheme of pensions and disabilities. The most important remark for this system is that it is binding associated with employment contracts. The system is supported by three parties: employer, employee and state.

The system administration has developed initially through regional structures, led by tripartite arrangements. The first social insurance system covered relatively small groups of people, addressing in particular to the stable workers in factories.

Bismarck insurance system has a historical significance, being the first anti-liberal state initiative in Europe. For Bismarck, social security played the role of "red cross stations behind the capitalism front." This system bears largely the authoritarian-paternalist mark of his beliefs.

This system was not motivated by the principle of social solidarity, but rather by political reasons. Bismarck's goal was to maintain the class distinctions, without social explosion, based on loyalty for monarchy.

The access to health services should be measured taking into account the individual's wish to go to the doctor, the nature/frequency of the need for consultation, the costs and limitations of the health services (distance to the doctor, waiting time, doctor's schedule, perception concerning the need to provide gifts, etc.).

Western Europe has undertaken the Bismarck system, "becoming the alternative model to Beveridge insurance system or Anglo-Saxon system", characterized by relatively low and fixed benefits, financed from the state budget, from general taxes and charges, representing a minimal level of protection, combined often with private insurance systems.

Lord Beveridge published in 1942 a report on the state of British society, proposing to adopt a system of pensions paid from general taxes and charges, the state budget, with a constant level for all recipients. In the Beveridge system, the significant social actors - unions, employers - are not involved in any management structure and system. The Continental system represents a comprehensive protection, not accompanied by private schemes, with benefits proportional to contributions, namely the incomes.

The table presents the main characteristics in order to remark better the differences between the two insurance schemes.

	Bismarck type Insurance	Beveridge type Insurance
Source of financing	Social Insurance Fund - contributions of individuals in order to constitute a separate fund	State budget - financing from general taxes and charges
Administration of the fund for social security	The Fund is administered frequently in the tripartite system: state, taxpayers and beneficiaries through representatives of their associations. Unemployment: state - unions – employers Pensions: state - pensioners - employers Health: state - doctors - unions	Administration exclusively by State
Level of benefits	The benefits are linked to incomes, respectively, the level of contribution	The benefits are constant and relative low
The importance of private insurance	Low	High

b. *Continuous flow* insurance systems *(Pay-As-You-Go)* versus systems with *capital funds.*

Systems with capital funds: the contributions are invested in various economic activities generating profit.

The main advantage of these systems is that they do not depend on the dependency ratio, or demographic trend; these funds will always have money to pay pensions.

But these systems have certain disadvantages and can not cope with unanticipated post-retirement inflation.

Pay-As-You-Go systems (exceptions: the differential system of pensions, associated to contribution, Sweden and Japan). This system involves the payment of pensions from money paid by taxpayers, respectively employees.

These systems have the advantage of protecting pensions against inflation, the real value of pensions may increase in line with the economic growth, the eligibility criteria for full pension may be changed at any time, the benefit is adjusted to the present economic situation.

The main problem of these systems is the strong link with the dependency ratio and the fact that it could be in impossibility of payment.

I.2. An analysis for Central and Eastern Europe

An analysis of the health systems in Central and Eastern European countries, includes common characteristics (Roemer, 1993, 91-106) which can be grouped as follows:

- Status quo

- almost all types of health services were a social right for everyone, at no cost or with very low personal expenses;
- health service delivery was the government responsibility;
- distribution of therapeutic and preventive services was essentially integrated, focusing on prevention;
- resources and health services were centrally planned as part of the general plan of economic policy and social integration;
- final decisions on major characteristics of national health care system were taken by the central and political authorities, although local groups of citizens were able to contribute to drawing up the health policy;
- as long as resources were limited, priorities in the health system were directed in particular to the needs of industrial workers and children;
- all parts of the health system were guided and supported by a major authority - Ministry of Health and its subdivisions;
- private medical practice (and related activities) was not prohibited, but it was subject to strict regulations;
- overall activity in healthcare was based on scientific principles, so that non-scientific or religious, mystical practices were not theoretically allowed;
- citizens complained about:
  a. quality and access to adequate health care and medicines;
  b. secondary markets in the health sector (non-audited payments "under the table");
  c. lack of the freedom to choose your doctor;
  d. limited and poor discretion.
- Staff in healthcare complained about:
  a) wages under the average wage in economy;
  b) lack of doctors' freedom to be chosen by patients and lack of pay based on performance;
  c) low social status;
  d) low power in health policy making.
- service managers complained of chronic under-funding, inadequate equipment, inadequate maintenance budget, lack of independence in the functioning of health institutions and lack of freedom in pricing, contracting, investments, regulation of labour relations, etc.

- Causes

- persistence of *ideological factors* / policies inherent in socialist philosophy: the State's duty to provide health care to citizens; competition, private initiative, private property and market forces have no value in the management of health services; the legal system is not connected with the administration or the protection of individual and social health of citizens.
- *management:* economic and social macro-management inherent to Soviet style (respectively Yugoslavian style) of governments, state / party monopoly on decision making, planned supply with medicines and materials in health care, rules and standards as instruments of planning and funding of health facilities, lack of planning and financing of the system based on analysis of health status, the hierarchical structure of government administration; the doctors are employees of government, with wages below the average wage in industry.
- *Financial causes:* lack of funding the offer for health care to boost demand for health care; requiring more forces for better care that the government should invest more in new health facilities; hiring more staff in health system; chronic under-funding does not provide equipment and incentives for quality health care; poor quality of health care demands higher quality services in the secondary market; lack of finances and funding rules and standards do not permit the introduction of health programs to control non-communicable diseases, occupational diseases or unhealthy lifestyle causes health problems and disabilities.
- *Structural causes:* providing primary health care through facilities related to age, sex, occupation, living place or type of illness does not allow the use of general and family practitioners in providing comprehensive care to all community members; poor quality of primary health care causes unjustified request of specialists in hospitals and reduces the time to treat acute or serious diseases, providing health care to higher privileged elites.
- *organization:* people subordinated to certain health facilities are not free to choose any health facilities and the doctors have no freedom to be chosen and paid by patients, except illegal situations on a secondary market; lack of standards and "practice guidelines "in health care and accreditation of health care providers does not to permit to assess and improve quality of activities.
- *education:* lack of practical training of general practitioners makes difficult to improve primary health care; inadequate training of epidemiologists, health service managers, health economists does not allow better management of health services.
- *information:* lack of information on the cost of health resources, labour productivity, the economic and social impact of diseases, disability and avoidable death and failure to evaluate, do not allow an efficient management of health care systems.

In health policies in Central and Eastern European countries there are many actors with different terms and objectives. Until at least the major players will not agree on their objectives and will not develop an operational platform, the health policies in those countries will remain dysfunctional.

I.3 Fundamental issues of change management in the health policies

Political mainstreaming of health reform has become easier using the methodologies of "political analysis" (Walt and Gilson, 1994) and "policy mapping" (Reich, 1995).

"Health policy analyses" focused on content, processes, context and "actors" involved in health policy and healthcare reform. Health advocates for policy change could use "Policy mapping" to understand and lead / influence the development of these policies.

Reich (1995) proposed three models of political identification and use of opportunities for change in health policies in those countries:

- model of political will;
- model political faction;
- model of political survival.

Change management in health sector could be more successful if it was divided into two phases: before decision (pre-decision), the political one and post-decision, the managerial one.

Political or pre- decision phase includes everything that creates political will and consensus or at least a sufficient domestic and international pressure to reorient health policy objectives and to implement health reform.

The managerial phase or post-decision phase is similar with the objectives and strategies of WHO initiative "Health for All".

The person who attempts to lead change during the pre- decision period of health reform will be involved in political battles, will have to negotiate, establish and break alliances, to reach compromises with the four main groups of "actors":

- foreign and international "actors" involved in health policy arena;
- governments, members of parliament, political parties, corporations, professional organizations and other authorized personnel;
- citizens and their associations;
- own and international scientific community.

The "actors" in governmental institutions have different positions, often conflicts of interests and decide percentages / amounts and types of different power. Therefore, for these "actors" different methods and tools, could be used. The actors could be bombed with proposals for change in health policy or criticized for not doing what it is necessary. The decision makers, even when not interested in health issues, could undertake certain reforms if those comply with their political survival or group interests.

I.4. The health care system in Romania. A SWOT analysis

Health care system in Romania until 1989, was inspired (in the late 1940s and 1950s) from the Soviet model (Semashko), but it had similarities with systems in some Western European countries – United Kingdom, or the Nordic countries.

In 1970's the system principles, many of them consistent with recommendations made by the World Health Organization, were based on prevention, management unit of the whole system, planning, free of charge and wide accessibility to healthcare, scientific nature of health policy and conscious participation of the population to defend their own health.

If many of these principles are hard to be criticized, some of them were used as slogans, their practical application became increasingly more difficult.

Strengths	Weaknesses
• availability of skilled specialists	• different degrees of technical competence for persons with the same pay level
• a significant percentage of young staff, able to behave according to the new exigencies arising from the principles stipulated in Law no. 95/2006.	• deficiencies in taking responsibilities.
• availability to work over-time	• low intrinsic motivation due to low capacity to differentiate between people with different outputs.
• trained personnel in different areas (both in medical and other related or complementary fields), which increases the ability of complex problems - solving.	• an organizational climate which does not foster teamwork.
	• weak capacity to monitor how the tasks are performed at individual and departments level.
	• lack of continuity in the allocation of tasks
	• lack of a career plan for employees and a coherent policy for training and maintaining the staff.
	• presence of numerous institutions for coordination / subordination.
	• lack of an integrated information system.

For the analysis of the external environment, we find out that the Ministry of Public Health (MPH) collaborates with both international bodies (World Health Organization, European institutions, the World Bank, International Monetary Fund, etc..) and with the central and local government, professional organizations (College of Physicians of Romania, the College of Pharmacists of Romania, Order of Nurses and Midwives in Romania), with domestic and international businesses, associations legally constituted of patients and civil society.

Opportunities	Threats
• health is a field with major social impact, which can provide arguments for adopting policies	• the increase awareness of patients, the progress and diversification of diagnostic and therapeutic technologies will increase their expectations and hence an increased demand for complex medical services; the health system must have mechanisms to ensure targeting of financial resources in the name of efficiency.
• EU membership requires the adoption of standards and recommendations, in view to increase efficiency and quality.	• free movement of persons and services enables users to contact the service providers in different countries and to change expectations.

• EU membership opens up new opportunities for project financing from European funds.	• the development of the private system represents a competitive environment for the public system.
• interest of local authorities to take some of MPH. responsibilities	• free movement of persons and the facilities created by Romania's accession to the EU for employment induce migration risk of specialist staff, especially the highly skilled and efficient one.
	• aging and migration of young staff. • increased costs induced by amounts to cover the treatment of rare but very serious diseases, or by policies practiced by some drug dealers.
	• lack of specific training in healthcare at local government level.

Concerning system decentralization several steps could be outlined.

The main issues, in order to start the health reform, in the first phase of decentralization were as follows:

- transition from a system financed by general taxes toward a system financed by health social security;
- transition from an integrated system to a system based on contracts, separating the funding institution and the health care provider;
- emergence of new payment modalities and introduction of competition;
- change of service delivery by emergence of medical offices.

The key moment in the *political and fiscal decentralization* was the occurrence of the Law 145/1997 on health insurance, now repealed. Promulgated in 1997, with amendments in April 1999 the law has substantiated:

- change of health care financing system;
- introduction of contracting between providers and payers;
- need for accreditation of service delivery;
- free choice of doctor.

The decision and authority relationships are complex and the number of actors is greater. The main actors who were involved in the health care system since 1999:

- Ministry of Health, county public health directorates and institutions under its authority or coordination;
- National Health Insurance Chamber and the county health insurance chambers;
- College of Physicians of Romania at national level and county boards of doctors;
- Health care providers at different levels: primary, secondary and tertiary.

Economic decentralization in the health sector involved:

- Privatization of primary medical care offices (family and specialist ones) based on G.O. 124/1999 on the organization of medical offices;
- Medical offices and diagnostic and treatment centers set up by private initiative;
- Establishment of new hospital units by private investments;

- Privatization of distribution of pharmaceutical products.

I.5. The international context of public health system reforms

The World Health Organization (WHO) achieved annual reports on the status of health systems in the world. The 2008 Report, draws attention to the needs of primary health care (PHC) "Now more than ever" (WHR, 2008). The Alma Ata conference, referring to PHC, decided to tackle the health inequalities in all countries, political, social and economically unacceptable. 2008 Report asserts the view that "improvements in health are still deeply unequal" (WHR, 2008, 3). Meanwhile, the health problems are changing due to urbanization, modernization and other factors that accelerate the transmission of contagious diseases. However, climate change and food insecurity will have a significant impact on health in coming years, creating obstacles for the implementation of effective and fair measures.

According to the public policies promoted by WHO, the 2008 Report identifies four sets of PHC reform aimed at: ensuring universal access and social protection in order to improve equity in health; reorganization of services to the needs and expectations of the public; extending healthier communities through better public policies and reshaping health leadership for a more effective governance and active participation of key actors. These goals define essentially four sets of PHC reforms relating to:

- universal coverage reforms to improve equity in health;
- reforms of the service delivery in order to insert the individual in the heart of health systems;
- public policy reforms to promote and protect health in communities;
- leadership reforms to make reliable health authorities (WHR, 2008, 10).

In view of those four sets of reforms, the Romanian authorities are making efforts to reform the national public health.

Ensuring the health represents the main purpose of a healthcare system. Therefore, the main goals are:

- achieving a high level of health;
- equitable distribution of health services;
- ensuring the autonomy and privacy, respect for the individual, to be beneficiary-oriented through prompt services and quality facilities.

Another objective is the fair financing, reflecting the payment ability, and not necessarily the risk of getting ill.

In June 2000, WHO released a comparative study of health systems in different countries. The results, published in World Health Report 2000, have delighted some governments, such as France, which was very well ranked, but others were angry, as Brazil, a country ranked on 125 level. The classifications are based on evaluating the proposed objectives, including that related to health insurance.

The British Medical Journal (2002) described the methods they have used for objective assessment (Evans, Tandom, Murray and Lauer, 2001, 307-310). They relate to health care spending, adjusted according to the local prices for health insurance. After adjustment for the education level of the population, the authors classified the health systems of the world according to the efficiency of changes in health spending. In other words, the WHO report in 2000, achieves specific performance criteria of public health services.

Inevitably, a number of problems occur for such a wide approach. A problem refers to the definition of the health system. As reported in World Health Report, it includes "all activities, in view to promote, restore or maintain health. The definition is welcome, as it emphasizes the

importance of inter sectoral work in health promotion; unfortunately it involves a problem, since any assessment of health for a country's population does not comprise a relevant figure for "all activities" .

WHO has clearly defined the responsibility of governments for their own health systems and raised the concept of management (Saltman, Ferroussier-Davis, 2000), which means playing a more active role in promoting health (McKee, 1999). Secondly, it offered a useful conceptual framework, outlining the objectives of health systems. Thirdly, it stressed the need to elucidate the impact of the sanitary systems on health. However, the WHO Report has failed to give a valid answer those who ask to what extent the health system is better than another.

EU law may have a major impact on the provision of medical services, despite the governments' attempts to maintain control over health care. The result is that in medical perspective, EU intervention can be considered randomly and sometimes ineffective. One solution is to promote an open EU health policy. Although at EU various levels it is inevitable to discuss health issues such as new public health program, there are limits on the size and speed of the EU actions. Health systems in Member States are very different as organization and funding. It is difficult for new Members to follow a unified system. EU and especially, the latest Members have developed their own combination of systems and modes of financing the health system. We find such a situation regarding the national health system in Romania.

II. REFORM OF SOCIAL PERCEPTION ON PUBLIC HEALTH IN ROMANIA

II.1. Organization of research

In order to collect data series it has been initiated a research based on statistical survey among health professionals from medical establishments in Bucharest. In view to define the sample, statistical survey techniques were used. The definition of statistical tools in the collection of statistical data is based on the following observations:

- Considering the number of family doctors, hospital doctors and the medical world personalities, we made an **observation based on statistical survey.** The criteria for defining the size of survey and definition of sample will be presented.
- In view to develop effectively statistical questionnaires, there were identified **major topics included in the strategy to reform the public health system.** Thus, the questionnaires comprised questions in the following priority areas of public health system:
  - i. general issues concerning the reform of the public health system;
  - ii. ministry policy in this area;
  - iii. public health education;
  - iv. analysis on the non-academic behaviour of the staff in public health institutions;
  - v. research capacity of the public health system and characteristics of current activities undertaken in public health institutions;
  - vi. the questionnaires included a series of questions about some personal aspects of respondents. These features are used to develop econometric models that will be used to analyze some aspects of this system.
- For data collection, for the entire sample a database was defined and turned into account using the SPSS statistical program. The structure of the database was defined by the structure of questionnaire and primary and aggregate variables. The information in this database is to calculate descriptive statistics and to estimate parameters of econometric models.

Details regarding the composition of statistical research can be found in Andrei, Matei, Stancu and Andrei (2009, Ch. 2) and Andrei, Matei and Oancea (2009, 4-5)

In order to calculate the sample size we used the relationship:

$$n = \frac{N \cdot (c \cdot t_\alpha)^2}{N \cdot e_r + (c \cdot t_\alpha)^2}$$

In the above relationship we have used the following notations:

- N is the total number of doctors that is equal to 47 388, according to the National Institute of Statistics;
- c is the coefficient of variation, calculated for the distribution of doctors in relation to their age;
- e_r represents the relative error or precision of parameter estimation;
- t_α is the value of cuartila statistics t-Student for the significance threshold α.

In order to calculate the coefficient of variation in the above relationship we used the distribution of the doctors' age. The data were available from National Statistics Institute.

Under these conditions, the sample distribution was as follows:

Staff	**Number of persons**
Physicians	75
Doctors in hospitals	279
Doctors in clinics	53

In the questionnaire, the topic of analysis, "General issues on the reform of the public health system" included five close questions, which led to 41 primary variables.

II.2. Tools and models

In view to measure the opinion on the quality of health care reform process in the public health system an aggregate variable is defined, based on five basic features that are considering several issues related to financing the public health system, the reform process of the medical units, drug procurement, decentralization and staff recruitment and promotion policy.

Six questions were formulated on certain issues of the reform process:

How would you rate the following aspects of the public health reform: *(Circle one option per row)*

	Very poor	**Weak**	**Satisfactory**	**Good**	**Very good**
1. Funding the public health system					
2. Reform measures in the institution where you work					
3. Drug procurement system					
4. Decentralization process of health					
5. Employment and promotion system of the medical staff with undergraduate studies					
6. Employment and promotion system of the medical staff with secondary education					

Based on questions from the questionnaire, the following four primary variables and a secondary variable were defined:

- Quality of funding the public health system (A1_1)
- Reform measures in the institution (A1_2)
- Drug procurement system (A1_3)
- Decentralization process of health (A1_4)
- System for employment and promotion of medical staff with undergraduate studies and secondary education (RPS).

The four primary characteristics are measured on a scale with five values.

- 1 - is awarded if the public health system reform has a very low impact on the element considered;
- 2 - the impact of the reform process is poorly perceived in relation to the element considered;
- 3 - the impact is satisfactory;
- 4 - the impact of the reform process is good;
- 5 - the impact is very positive.

The aggregated variable of 1 level is calculated as an average of the primary variables defined directly on the responses to the questions from the questionnaire. In these circumstances, the aggregated variable is defined as follows:

$$RSS: P \rightarrow [1, 4]$$

The values of RSS variable are defined on the basis of based on average operator applied to the primary variables:

$$RSS_i = E(A_i1\_1,..., A_i1\_4, RPS)$$

In the above relationship, E (.) is the average operator of the values of the five primary variables defined on the basis of the five questions in the questionnaire.

RPS is the variable in order to measure the medical staff opinion on the quality of the health care reform process, taking into consideration the employment and promotion system of medical staff with undergraduate studies and secondary education.

A high level for *RSS* variable indicates a positive perception among the medical staff on the public health reform.

We shall present a series of descriptive characteristics of variables of 1 level in order to analyze the characteristics of the reform process.

II.3. Descriptive analysis of primary variables

The average indicators, of variation and asymmetry, obtained for the five primary characteristics are presented in Table II.1. Based on the five series of data, histograms were drawn up in charts in Figure II.1. For *RPS,* a series of descriptive characteristics of the two primary characteristics will be presented.

Table II.1.

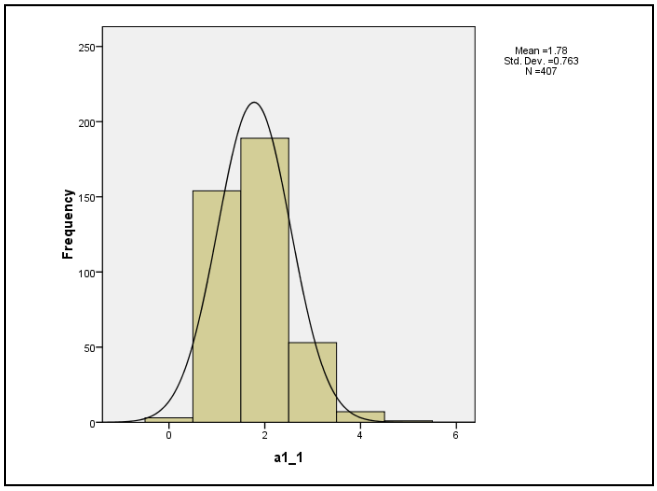
Descriptive characteristics of variables concerning the reform on the medical staff with undergraduate studies and secondary education

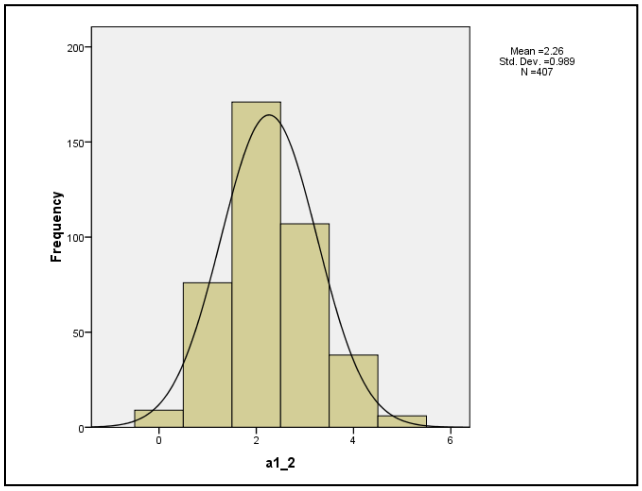
	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
a1_5	0	5	2.12	1.015	0.344	-0.488
a1_6	0	5	2.29	1.022	0.119	-0.293
RPS	0	5	2.20	0.937	0.313	-0.341

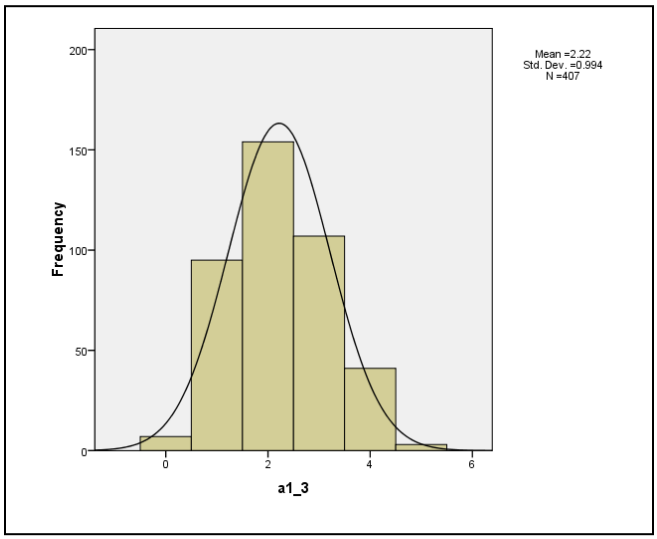
Table II.2.

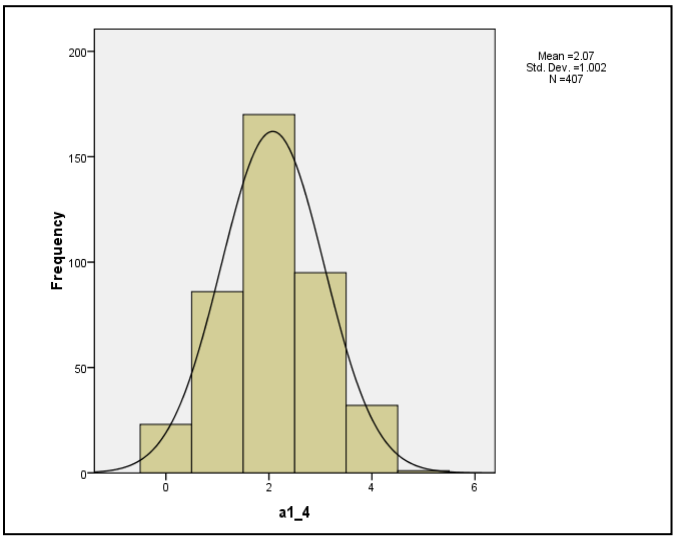
Descriptive indicators for primary variables used to characterize the reform process in the public health system

	Funding the public health system (A1_1)	Reform measures in the institution (A1_2)	Drug procurement system (A1_3)	Decentralization process of health (A1_4)	Employment and promotion system of medical staff (RPS)
Media	1.78	2.26	2.22	2.07	2.20
Median	2.00	2.00	2.00	2.00	2.00
Standard deviation	0.763	0.989	0.994	1.002	0.937
Asymmetry coefficient (Skewness)	0.664	0.268	0.245	0.043	0.313
Flattening coefficient (Kurtosis)	0.548	-0.028	-0.437	-0.238	-0.341









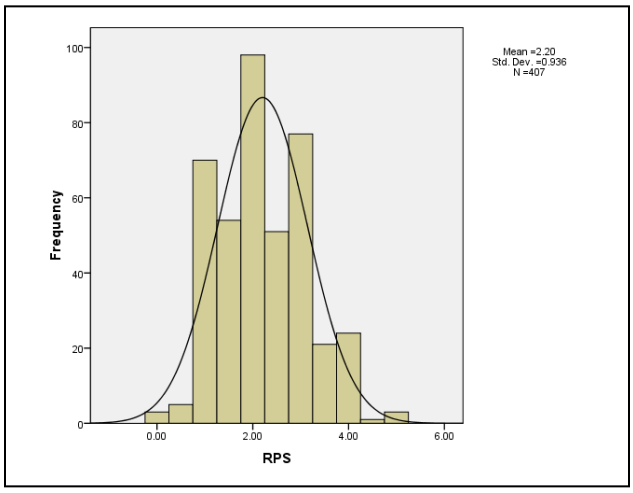


Figure II.1. Distribution of responses for measuring the opinion on characteristics of the reform process in the public health system

Average and variance indicators

Table II.3.

Descriptive indicators of *RSS* variable

Persons	**Minimum**	**Maximum**	**Average**	**Standard deviation**	**Asymmetry coefficient (Skewness)**	**Flattening coefficient (Kurtosis)**
Total	0.00	3.83	2.124	0.666	0.401	-0.044

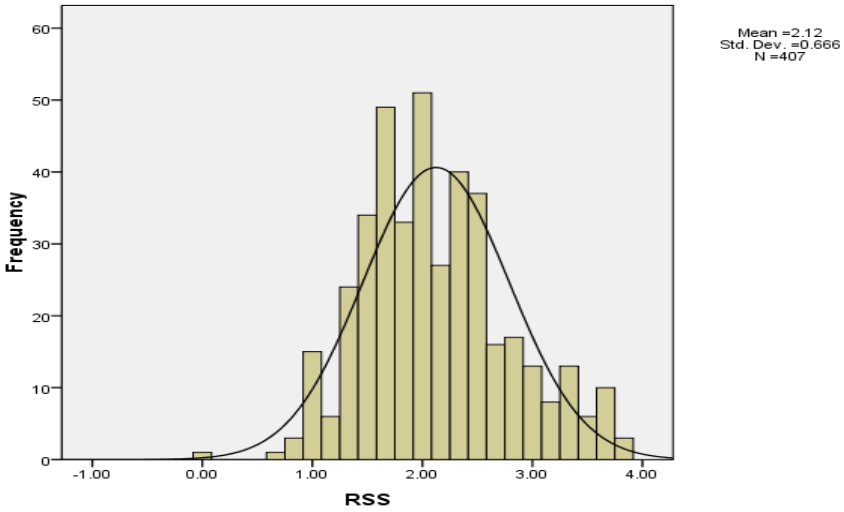


Figure II.2. Distribution *RSS* feature

Table II.4.

Correlation matrix of the primary characteristics

	a1_1	a1_2	a1_3	a1_4	RPS
a1_1	1.000	0.345 **	0.366 **	0.276 **	0.391 **
a1_2	0.345 **	1.000	0.310 **	0.279 **	0.403 **
a1_3	0.366 **	0.310 **	1.000	0.396 **	0.406 **
a1_4	0.276 **	0.279 **	.396 **	1000	0.355 **
RPS	0.391 **	0.403 **	0.406 **	0.355 **	1.000

Note: ** Linear correlation coefficient significantly different from zero for $\alpha \leq 0{,}01$

We shall analyze the differences in relation to RSS variable if the medical staff with higher education is grouped according to various characteristics. For each case, the values of descriptive indicators are presented in order to analyse the central trend, variance and shape of distribution. In order to determine whether the averages for groups have significant differences, we used ANOVA dispersion analysis method. For each case we determine the value of statistics F and the significance threshold.

Table II.5.

Differences in groups of persons by sex

Persons		Minimum	Maximum	Average	Standard deviation
By sex	M	0.00	3.83	2.204	0.666
	F	0.00	3.83	2.086	0.664

The value of statistics F, 2.77, shows that for a threshold of significance equal to 0.09, there is a significant difference between the two categories of persons. The opinion of male persons on public health reform is better compared to female persons. It must be emphasized that for the two groups of people, the opinion is quite negative on the reform process in the public health system.

Table II.6.

Differences in groups of persons by age

Age (Years)	Average	Standard deviation	Minimum value	Maximum
Under 30 years	1.85	0.572	1.00	3.67
31-40	2.12	0.632	0.83	3.83
41-50	2.21	0.720	0.83	3.83
51-60	2.18	0.708	0.00	3.83
Over 61 years	2.24	0.518	1.50	3.33
Total	2.12	0.666	0.00	3.83

The value of statistics F, 2.73 indicates that the averages differ significantly between the groups. Results are guaranteed for a significance threshold of 0.03. Moreover, perception is more negative on behalf of young persons. In all cases, the average is below three, showing a negative perception of the staff with higher education on the health care reform process in this system. Using a test of homogeneity of variances, we get that the six groups are not different. The value of statistics F is equal to 1.77.

Table II.7.

Differences in groups of persons by category of staff

Staff category	Average	Standard deviation	Minimum value	Maximum
Personnel management function	2.4143	0.69354	1.00	3.50
Specialists	2.0653	0.61543	0.00	3.83
MD	2.1975	0.69035	0.67	3.83
Residents	1.7939	0.52112	0.83	3.00
Another category	2.2308	0.72181	1.33	3.83
Total	2.1237	0.66594	0.00	3.83

The value of statistics F, 6.22, shows that for a threshold of significance of 0.00, there are significant differences in the perception on the reform process by category of persons. In all cases the opinion is unfavourable, with two exceptions: the persons with a leadership position

have a more positive perception and the residents have a negative opinion. The homogeneity test (F = 2.14 and significance threshold is 0.08) shows that the five groups are different in relation to the homogeneity degree of perception related to the characteristic considered. The most homogeneous group is the residents' group. Another aspect for this variable is related to the range of values. Thus, the persons having a management position, appreciate below 3.50 and the residents below 3.00.

III. CONCLUSIONS

The following conclusions are drawn from both the empirical research and the qualitative analyses developed by several authors on the process of reforming the public health system. We are referring here to both governments and NGOs with competences in the field and experts and specialists whose concern is public health. It is worth to mention the analyses in the research project "Models of economic-financial analysis of the impact of reform measures in the public health system" funded by the National Authority for Scientific Research in Romania.

Public health system reform is complex and lengthy, involving different categories of persons. In analyzing the current reform process, we should keep in mind that changes in the health system have focused mostly *on curative interventions rather than on some integrated network of preventive, curative and rehabilitative services* (GRASP - USAID, 2004). During the nineties, the actions of all governments aimed at solving current problems rather than defining a new philosophy for the system. In these circumstances, the public health system becomes expensive and often non-functional. Most often, ineffective solutions were chosen to solve those problems in the system, both professionally, but also economically. Networks of health providers in Romania do not respond to the need to improve the health of the population.

In the last 18 years, several measures were taken to decentralize and privatize the health services. However, currently we witness a *fragmentation of the system,* which has increased inequality in the distribution of medical staff and a reduction of access to certain types of medical services. We note that the number of doctors per capita in rural areas is only 20% of the number in urban area. Another major shortcoming of the system is linked to the financing system and its correlation with decentralization strategies. Often decentralization seemed a way of placing the central tasks in the task of local government.

Difficulties in the transition process in economy and poor quality health services available to citizens have led to a significant reduction of demographic indicators such as life expectancy, infant mortality, etc. In order to reduce costs and increase quality of the public system an extensive reform should be achieved, considering the following key issues:

- development of those health services that take into account the citizens' requirements;
- redefinition of a rational structure of health services in the territory in order to take into account the territorial economic and social development;
- redefining quality standards to induce greater accountability at the level of medical services;
- strengthening the universal rights on access to basic services;
- defining a sound funding strategy that will lead to better use of resources in the system.

The public health system reform in Romania should take into consideration diagnostic studies as well as the trends in the EU countries:

1. In the next 50 years it is expected a growth by 30% in public health expenditures that will be allocated from GDP.

Due to increasing the material support in these countries, people will spend more on health, which will lead to greater pressure on public health systems in these countries. The proposed solutions include the increase of insurance and compensation limits. A negative aspect of this measure is to downsize the number of insured persons, as people with low incomes are unable to pay medical insurance.

2. Universal accessibility of medical service is guaranteed in all countries of the OECD less USA.

The principle *treatment according to the need,* concerning the treatment by a physician, is respected in all OECD countries. Difficulties arise in providing consultation to physicians. This situation highlights an uneven distribution of health services for people with high incomes.

3. The concept of quality of a health *'product'* is difficult to be measured in economic terms.

OECD is going to develop a system of indicators to measure with accuracy the quality of services in public health systems.

More than 60% of EU countries are facing increasing costs for health. Only in Denmark, Spain and Luxembourg the are no problems in this regard;

4. In most EU countries, the main problems encountered do not aim the financial viability of the health care system, but the effectiveness of health care and universal accessibility to citizens.

Only in Czech Republic, Slovenia, Slovakia and Poland the health costs are at a high level. Universal accessibility poses problems in some countries due to unequal distribution of health facilities. For example, in Romania and in those countries there are significant differences between urban and provincial centers.

5. Low payment of medical staff is another problem in several EU countries.

6. Outsourcing the health services and observing the rules of market economy represent other solution adopted by other countries in light to increase efficiency of health services.

Some field papers indicate that privatization of services is an effective solution for improving the profitability of the health sector (Woolhandler, 2003).

7. Adoption of new systems of financing, more flexible and efficient represents a major issue of reform processes in public health systems.

8. Developing policies to increase public confidence in the public health system is another important component of the reform process in Europe.

9. Creating an appropriate statistical system at the EU level for health and job security represents another priority at European level.

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