

CARACTERIZING THE PUBLIC HEALTH SYSTEM REFORM USING THE STATISTICAL SURVEY APPROACH²⁸⁷

Andrei Tudorel

Academia de Studii Economice, București, andreitudorel@yahoo.com

Călin Cătălina Liliana

Universitatea de Medicină și Farmacie “Carol Davila”, București, ccatalina97@yahoo.com

Tusa Erika

Academia de Studii Economice, București, erika_tusa@yahoo.com

Stancu Stelian

Academia de Studii Economice, București, stelian_stancu@yahoo.com

Abstract

Assuring the health of the general public is a major objective of each country's public health system. To insure this goal the public health system needs to offer good quality and prompt services according to the population's needs.

The paper presents the main results of a two step sampling procedure applied within the medical institutions from Bucharest in July 2007.

Using a representative sample of 407 persons the paper presents the main descriptive statistics calculated on the most important variables that were taken into account in order to quantify the impact of the reform measures applied in the public health care system on the quality of the medical services provided to the general public.

Key words: Statistical sampling, Descriptive Statistics, Public Health Care System, Reform

1. Introduction

Assuring the health of the general public is a major objective of each country's public health system. To insure this goal the public health system needs to offer good quality and prompt services according to the population's needs. The latest economic evolutions in Romania have are determining a new approach of the medical care and are closely related to the following factors: financial constraints, the need of reforming the health care system and the integration of Romania in the European Union's structures.

In order to achieve a clear image of the reform process in the health care system, this paper presents a research based on a statistical survey of the public health system in Romania. The paper presents the characteristics of the sample, its structure and the main results of the analysis.

2. The characteristics of the sample

The sampling procedure was established based on the literature related to the main world tendencies of the public health system as well the reform strategy developed for Romania by the Ministry of Public Health. The main stakeholders considered in the implementation of the reform process in the health system were taken into account:

- Family doctors
- Medical personnel from hospitals and clinics
- Personalities from the medical world

The research is based on a statistical sampling procedure developed based on a questionnaire that considers three aspects related to the reform process in the public health system:

- the reform measures undertaken by the Ministry of Public Health,
- the models applied in the European Union for analyzing the performance of the public health system and

- the preliminary discussions with specialists from institutions with interests in this field.

The questionnaire has a set of questions addressing issues related to the quality of the reform process in the public health system, the policy of the MPH, the medical education of the population, the analysis of the improper behavior of some of the personnel from the public health institutions, the research capacity and the current activities characteristics of the public health institutions. The number of questions defined for each area of research is presented in the following table:

Table 1. The structure of the questionnaire, by area of research

| Nr. Crt. | Area of research | Number of closed questions | Number of variables |
|----------|--|----------------------------|---------------------|
| 1. | General aspects of the public health system reform process | 5 | 41 |
| 2. | The public policy framework defined by the MPH | 5 | 18 |
| 3. | The general public's education related to health aspects | 7 | 18 |
| 4. | The analysis of the improper behavior of some of the personnel from the public health institutions | 7 | 24 |
| 5. | The research capacity of the public health system | 6 | 23 |
| 6. | Current activities' characteristics of the public health institutions | 2 | 6 |
| 7. | Personal identification data | 12 | 32 |
| 8. | General data | 8 | 11 |

The sample was constructed using a two steps survey. The first step included the medical units from Bucharest (hospitals, clinics, health centers). The second step was represented by the selection of medical doctors for each primary sampling unit. For Bucharest municipality the statistically representative sample size was established at 407 persons and it was chosen a 95% confidence in the result and a representativity error of $\pm 5\%$.

The data was stored and tabulated using the SPSS program.

3. Significant results of the analysis

The main results of the descriptive statistics analysis at the sample level are presented below for the most relevant variables that are characterizing the reform process in the public health care system in Romania.

The first question tries to assess the perception of the medical personnel referring to the reform in the public health system.

The results presented as percentages from the total number of responses corresponding to each of the 5 qualitative measures are presented in the following table:

A. How do you appreciate the following aspects of the public health system reform?

| | Very weak | Weak | Satisfactory | Good | Very good |
|--|-----------|-------|--------------|-------|-----------|
| 1. Financing of health system | 38,12 | 46,78 | 13,12 | 1,73 | 0,25 |
| 2. reform measures in your institution | 19,10 | 42,96 | 26,88 | 9,55 | 1,51 |
| 3. Medicines acquisition system | 23,75 | 38,50 | 26,75 | 10,25 | 0,75 |
| 4. decentralization system | 22,40 | 44,27 | 24,74 | 8,33 | 0,26 |

| | | | | | |
|--|-------|-------|-------|------|------|
| 5. Hiring and promotion of medical doctors | 29,57 | 35,59 | 24,81 | 9,27 | 0,75 |
| 6. Hiring and promotion of nurses | 21,16 | 35,52 | 32,24 | 9,57 | 1,51 |

The major problem identified by most of the respondents is related to the financing of the public health system. More than 85% of the specialists from the medical field consider as negative or extremely negative this aspect directly related to the proper functioning of the system. Only an insignificant percent of around 2 perceives the financing of the health system good or excellent.

Another aspect that has a negative impact on the efficiency of this public service regards the hiring and motivation of the medical staff – both doctors and nurses. This might justify the fact that in the last years an important number of doctors and nurses left Romania and went to practice medicine in different developed countries. According to an estimation of the Ministry of Public Health, the medical system lost around 5% of its staff that left Romania for better paid jobs. This trend might continue unless some rapid measures will be taken in order to stimulate the medical personnel.

The medical personnel have rather a negative view on the evolution of the public health sector in the near future. The respondents were asked about the improvement of the quality of medical services, their accessibility, financing, salaries and equipments.

The answers were given on a scale from 1 (extremely unfavorable evolution) to 5 (very positive evolution). The answers for hospitals, clinics and medical labs are presented in the following tables:

A. Hospitals

| | 1 | 2 | 3 | 4 | 5 |
|---|-------|-------|-------|-------|------|
| Improvement of the quality of medical services | 5,15 | 13,40 | 36,86 | 41,49 | 3,09 |
| Improvement of the public's accessibility of the medical services | 3,60 | 17,48 | 36,76 | 37,79 | 4,37 |
| Improvement of the financing of the public health system | 10,73 | 23,82 | 39,53 | 24,35 | 1,57 |
| Salary raise | 9,21 | 15,26 | 44,74 | 27,89 | 2,89 |
| Improvement of medical equipments | 6,61 | 12,17 | 33,07 | 44,71 | 3,44 |

B. Clinics

| | 1 | 2 | 3 | 4 | 5 |
|---|------|-------|-------|-------|------|
| Improvement of the quality of medical services | 3,18 | 11,56 | 43,93 | 37,86 | 3,47 |
| Improvement of the public's accessibility of the medical services | 1,98 | 13,03 | 42,21 | 35,98 | 6,80 |
| Improvement of the financing of the public health system | 5,19 | 22,48 | 47,55 | 21,90 | 2,88 |
| Salary raise | 5,51 | 13,33 | 51,01 | 26,67 | 3,48 |
| Improvement of medical equipments | 6,41 | 16,62 | 42,27 | 30,61 | 4,08 |

C. Medical labs

| | 1 | 2 | 3 | 4 | 5 |
|---|-----|------|------|------|------|
| Improvement of the quality of medical services | 2,6 | 6,5 | 22,3 | 57,8 | 10,9 |
| Improvement of the public's accessibility of the medical services | 0,9 | 10,2 | 24,4 | 53,2 | 11,3 |

| | | | | | |
|--|-----|------|------|------|------|
| Improvement of the financing of the public health system | 5,2 | 12,5 | 39,1 | 35,4 | 7,8 |
| Salary raise | 4,4 | 11,8 | 40,5 | 37,9 | 5,3 |
| Improvement of medical equipments | 3,9 | 10,4 | 23,8 | 50,0 | 11,9 |

The reform process requires insuring the medical institutions with all the needed resources (medical endowment, qualified staff, medicines, and management), an efficient organization system and coherent policy measures. The most important results related to these issues are summarized in the following table:

C. How do you appreciate the following aspects in your medical institution?

| | Very weak | Weak | Satisfactory | Good | Very good |
|---|-----------|-------|--------------|-------|-----------|
| 1. Medical endowment | 13,65 | 34,49 | 31,51 | 16,38 | 3,97 |
| 2. Assuring the required stock of medicines | 13,53 | 37,09 | 28,82 | 17,54 | 3,01 |
| 3. Internal organization of the institution | 9,55 | 21,36 | 41,46 | 19,35 | 8,29 |
| 4. Assuring highly qualified medical staff (with university degree) | 3,99 | 18,45 | 28,68 | 35,16 | 13,72 |
| 5. Assuring medical staff (nurses) | 9,50 | 29,25 | 26,50 | 29,75 | 5,00 |

Almost half of the specialists consider as the most important problems the poor condition of the medical endowment and the medicines in hospitals and clinics. The general opinion is favorable with respect to the quality of medical staff, both medical doctors and nurses.

D. How do you appreciate the evaluation system of the quality of the medical services in your institutions?

| | Unsatisfactory | Satisfactory | Good | Very good |
|--|----------------|--------------|-------|-----------|
| 1. Performance indicators system in evaluating the institution's performance | 25,75 | 51,00 | 21,75 | 1,50 |
| 2. Annual evaluations of the employees performance | 24,50 | 44,00 | 25,00 | 6,50 |
| 3. Permanent feedback from the patients on the quality of medical services | 38,13 | 36,11 | 21,97 | 3,79 |

The results from the table above show the following aspects: a poor performance evaluation system in the medical care institutions and a lack of feedback from the patients regarding the quality of the medical services. These deficiencies could be corrected on a relatively short period of time if the management of change in the medical sector would be tackled in two distinct phases: the political pre-decision followed by a managerial (post)decision

E. How do you appreciate the transparency of the Ministry of Public Health regarding the measures taken during the reform process in the public health system?

| | Unsatisfactory | Satisfactory | Good | Very good |
|---|----------------|--------------|-------|-----------|
| 1. Consulting the professional associations when passing legislation related to the reform in health system | 60,65 | 23,31 | 13,78 | 2,26 |
| 2. Informing the mass media about them | 47,25 | 30,25 | 18,75 | 3,75 |

The transparency as well good communication from the decision makers to all the stakeholders represents a condition of success in a reform process. Unfortunately, the results in the sample show major deficiencies in the communication between the Ministry and the stakeholders. More than 83% of the medical doctors have a negative opinion regarding the consultation of the professional associations when passing legal acts.

F. How do you appreciate the following aspects related to the policy measures in the public health system?

| | Unsatisfactory | Satisfactory | Good | Very good |
|--|----------------|--------------|------|-----------|
| 1. The public expenses on health (as % in GDP) | 76,50 | 19,00 | 4,5 | 0,00 |
| 2. The national policy measures developed by MPH | 49,11 | 39,75 | 10,4 | 0,76 |
| 3. The transparency in using the public funds when acquiring compensated or free medicines | 64,65 | 26,52 | 8,1 | 0,76 |

The formulation and implementation of the policy measures in the public health as well as the level of public funds spent on medical care is view as unsatisfactory by most of the respondents.

G. Appreciate the level of public's accessibility of the medical services

| | Very small | Small | Medium | Large | Very large |
|--------------|------------|-------|--------|-------|------------|
| 1. primary | 6,72 | 14,18 | 44,03 | 28,86 | 6,22 |
| 2. secondary | 6,31 | 21,46 | 51,01 | 19,19 | 2,02 |
| 3. tertiary | 9,87 | 29,87 | 44,30 | 13,16 | 2,78 |

By contrary, the level of public's accessibility of medical care services if viewed as a good one by most of the medical doctors.

When asked about the influence of the new legislation on the hospitalization of a patient, the opinions varied among the medical doctors. Some of them perceive that the new legislation will increase the hospital costs or the expenses on compensated medicines, other the opposite.

H. How do you think the new legislation will impact on when hospitalizing a patient?

| | Negative | Moderately negative | No influence | Moderately positive | Positive |
|--|----------|---------------------|--------------|---------------------|----------|
| 1. Hospital costs | 7,03 | 25,00 | 31,77 | 35,68 | 0,52 |
| 2. Expenses on compensated medication | 8,09 | 21,67 | 43,86 | 25,85 | 0,52 |
| 3. Public health | 10,70 | 15,67 | 43,34 | 28,72 | 1,57 |
| 4. Administrative activity in the hospital | 21,41 | 27,68 | 31,85 | 16,45 | 2,61 |

An agreement of the medical doctors is achieved regarding the impact of new legislation on the administrative activity in the hospital – more than 80% of them expecting a negative impact or no influence regarding this aspect.

4. Conclusions

Several reform measures in the public health sector were backed up with some programs that received external financing (such as the PAL program of the World Bank or the Post Accession Structural Adjustment Program).

The reform process in the public health system will be a long time one and will involve not only the Ministry of Public Health but the medical institutions and staff as well.

This paper showed the opinion of the medical doctors selected in a representative sample from Bucharest regarding the impact of the reform measures applied in the public health care system on the quality of the medical services provided to the general public.

It becomes clear the need of improving the financing of the public health care system as well as the improvement of the staff motivation and evaluation process.

In order to evaluate the quality of the medical services it is recommended to construct a frame model for this system that will allow the analysis of the dependency between the results of the public health care system and the market policies and the management process

References

1. A. Jevcak, Healthcare reform – unpopular even in Slovakia, Economic Analysis from the European Commission's Directorate-General for Economic and Financial Affairs, Ecfm Country Focus, Volume 3, Issue 2, 2006;
2. C. AbouZhar, T. Boerma, *Health information systems : the foundations of public health*, Bulletin of the World Health Organization, August 2005, 83(8), pg. 578-583, 2005;
3. C. Jagger, B. Cox, S. Le Roy et al., *Health Expectancy Calculation by the Sullivan Method: A Practical Guide*, EHEMU Technical Report 2006_3, June 2007;
4. T. Andrei, *Statistică și Econometrie*, Editura Economică, Bucuresti, 2003