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The Romanian health care system in transition from the users' perspective

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Document Version

Publisher's PDF, also known as Version of record

Publication date:

2003

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Ionilă, A.-C. (2003). *The Romanian health care system in transition from the users' perspective*. s.n.

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Users' satisfaction with the Romanian health care system: an evaluation of recent health care reforms

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Submitted to European Journal of Public Health

*Published as an abstract in the European Journal of Public Health
2002 12 (4): 39-40, (Supplement).*

Abstract

Background: Satisfaction surveys are valuable instruments to evaluate the quality of a health care system and of changes in the system and to provide feedback for health care professionals and policymakers.

Objective: This study aims to explain the level of satisfaction by looking for predictors of satisfaction. The potential predictors include demographic variables, users health status, users opinions about the changes in the health care system and under-the-table payments.

Method: A survey on the new health care system in Romania was carried out using face-to-face interviews with 619 Romanian citizens from the Dolj region. The satisfaction questions included the evaluation of the health care system in general and the evaluation of relevant institutions and providers.

Results: There were three basic findings. Firstly, the level of users satisfaction with the new health care system is rather high, but not for hospital care in Romania. Secondly, satisfaction with the new health care system in general is relatively strongly related to satisfaction with health care providers, i.e. general practitioners, medical specialists, dentists and pharmacists. Thirdly, men, more educated people, people who offered "gifts" and those who judged the new system as more inaccessible, of less quality or showing no improvement in physicians behavior were less satisfied than their counterparts.

Conclusion and implications: The transition of the health care system in Romania is evaluated positively by the majority of the population but, at the same time, there is a necessity for programs to address inaccessibility, quality of care and under-the-table payments.

Keywords: *satisfaction with health care, predictors, under-the-table payments, reforms, Romania, countries in transition.*

5.1 Introduction

The evaluation of a health care system should include users views about acceptability and satisfaction with care [1]. As the most popular approach to eliciting user views in some countries [1], with many purposes [2, 3] widespread in the field of health care [4], the user satisfaction survey is of particular interest for countries in transition for several reasons. Firstly, the satisfaction survey enables comparison of the two different health care systems from the consumers perspective. In the Romanian case, and in most East European countries, the health care system is changing from a Semashko system to a Bismarck system. Secondly, information on consumer satisfaction may indicate how the health care system is performing and is, therefore, an interesting indicator for health policymakers regarding the desired changes and for health providers regarding their performance [3]. Thirdly, the satisfaction survey is a means of encouraging a higher level of commun participation [5]. Moreover, up to 2002 there had been 10 years of change with no assessment of these changes from the peoples point of view. Therefore, despite the well-known strengths of the qualitative approach [1], this first satisfaction survey provided an opportunity to generalize findings for the Romanian population.

During the last 10 years, many changes have occurred in the health care system in Romania. These changes addressed to the health insurance system, the general practitioners role, the role of hospitals and privatization [6]. An important question is, Are people satisfied with these changes? It may be expected that user satisfaction is related to satisfaction with the health care system in general. Because of the importance of the role of primary care in the new health care system, it may be expected that satisfaction with GPs is strongly related to satisfaction with the system in general as has been shown in other countries in transition [7]. At the same time, it should be realized that when a health care system and its providers are changing, the new state of affairs is not "taken for granted" and may become a matter of dispute. Changes may create a more critical attitude. A survey of Croatian patient satisfaction reported that 44% of respondents were dissatisfied with health care services in general and only 18% were satisfied after health care reforms [8]. In other countries with health care systems in transition, the "rule" of high level of general satisfaction is maintained [7]. This "rule" is primarily based on stable, Western European health care systems. It is reported, however, that when such a system is threatened by hospital reduction, satisfaction with health care in general is also threatened [9]. Whether Romanian citizens followed this "rule" after the health care reforms was one question in this study.

Patients sociodemographic characteristics are the variables most often studied in relation to satisfaction because this data is easily collected [10]. The literature shows that characteristics such as age [10-15], educational level [11], health status [10, 16-21], and amount of information conveyed by the provider [10, 22, 23] are constant predictors of satisfaction with health care services. But other factors will also be at stake in a system in transition. It may be expected that positive appreciation of changes in accessibility and quality are related to user satisfaction with the health care system. There is also the perception that if information is better and doctors are more communicative, this may result in a higher level of satisfaction. Therefore, these variables are expected to be predictors of satisfaction. In the literature, access to care and quality of care are sometimes seen as operationalizations of satisfaction [24]. Access to care and quality of care are facts that can be measured objectively and can be perceived by citizens; they are not considered in this study as aspects of satisfaction

Despite the in-depth changes in the health care system, the practice of under-the-table payment continues rather persistently in Romania. It may be expected that this habit is related to satisfaction. The question, however, is in what way. It may be argued that people who pay additional money have reason to be more satisfied since they expect and/or get better services. It may also be argued that people feel very dissatisfied with the fact that they have to pay "under the table" to get proper services. This study aims to clarify the relationship between opinions about under-the-table payment and satisfaction.

This study intends to explain satisfaction with the health care system in general according to Romanian citizens by focusing on different types of predictors. Firstly, the level of satisfaction with health care in general is described. Secondly, satisfaction with the health care system in general is associated with different components of this system, i.e., which kind of professional/institutional satisfaction can "predict" general satisfaction. And thirdly, demographic variables and opinions about the transition of the health care system and under-the-table payment are considered as predictors of actual satisfaction.

5.2 Methods

5.2.1 Instruments

In order to evaluate the level of satisfaction with the health care system in general and its components, i.e., the general practitioner, the medical specialist, the dentist, the pharmacist and the hospital, closed questions with a

four-point Likert scale as response category were asked. Opinions about the changes due to reform of the health care system from a user perspective were measured by 12 closed questions. These were described in three dimensions: quality of care (three questions), accessibility (five questions), and attitude of politicians and mass media to health care (three questions). Also, one question indicated peoples opinions on changes by asking for their preference between the previous and the present health care systems [25].

Health status was measured by physical function and general self-appraisal. Physical functioning [26] and general appreciation of health status were measured by the MOS-20 [27].

The variable of under-the-table payments was measured by a closed dichotomy question.

5.2.2 Sample and data collection

Population was defined as the adult citizens of the Dolj district, i.e., 18 years of age and older. The sampling was based on the population of 10 GP practices in the Dolj region (741,800 inhabitants, South-East of Romania). The GPs were stratified according to urban and rural area and after stratification (60% urban, 40% rural) selected at random in the region. For each of the 10 GPs, a random list of 100 patients was made. Thus, a sample of 1,000 randomly selected addresses was used to obtain a net result of 600 completed questionnaires. The response rate was 68%. After verifying the questionnaires and eliminating cases of health care providers as respondents, 619 completed questionnaires were used for analysis.

The data was gathered using face-to-face interviews; 379 questionnaires in the urban area and 240 questionnaires in the rural area were administered (N =619) by trained interviewers.

5.2.3 Statistical analysis

a) Frequency analysis was used to describe peoples satisfaction with health care in general and with specific satisfaction related to the General Practitioner (GP), medical specialist, hospital, dentist and pharmacist.

b) Non-parametric bivariate correlation analysis was performed to find out the strength and direction of associations between satisfaction with the health care system in general and specific satisfaction with different providers of health care.

c) Multivariable analysis was performed to assess the association of sociodemographic characteristics, health status, opinions about changes in the health care system, under-the-table payments and satisfaction with the health

care system. The potential predictors were chosen based on the bivariate correlation between satisfaction with the health care system in general. The variables with significant Spearman's rho coefficients within bivariate correlation analysis were used for the multivariate analysis.

To find out which of the selected independent variables predict satisfaction with the health care system in general, an ordinal logistic regression model to fit to the data was chosen.

Levels of education and opinions on changes were modelled as numeric variables (although they were ordinal variables) for two reasons. Firstly, treating the ordinal variables as nominal causes a loss of information regarding the ordering [28]. Secondly, SPSS converts categorical variables within the ordinal regression procedure into dummy variables, automatically leaving out the last category, which then becomes the reference category without being selected for a theoretical reason. Gender and under-the-table payments were modelled as categorical variables.

In order to test the significance of the individual logits for each independent variable, Wald's statistic was performed. The null hypothesis (i.e., a particular effect coefficient is zero) was rejected for six independent variables, four coefficients being significant at 0.01 level and the remainder at 0.05. Therefore, the model that fitted the data retained six independent variables as predictors due to their significance for both Spearman's correlation coefficients and logistic regression coefficients.

The model with six variables was tested for multicollinearity. Therefore, main effects are kept in the model without any interaction terms. The chi squared difference test assessed the overall logistic model and it was significant at 0.01 level, i.e., the estimated model yielded a significantly better fit to the data than the null model, which means that the regression parameters were statistically significant.

Also, the significance of the chi squared test for goodness-of-fit was more than 0.05; therefore there was no significant difference between the observed and predicted cell counts. Thus, the model did adequately fit the data.

The selected link function was logit over probit because of the computational advantages of the ordered logit model [29]. The assumption of the ordered logit model is that there is a continuous latent variable Satisfaction (S). A distinction was made between the dependent variable of theoretical interest S and the observed variable Y, i.e. the variable S was interval level and might satisfy the linear model [30]. Y is an ordinal version of S. Variable S had various threshold points. The value on the observed variable Y depended on whether or not it crossed a particular threshold.

Let y_1, y_2, y_3, y_4 indicate the categories of the variable Y. Therefore, we have:

$y_1 = 1$ if S is L d_1
 $y_2 = 2$ if d_1 L S L d_2
 $y_3 = 3$ if d_2 L S L d_3
 $y_4 = 4$ if S is L d_3 , where d_1, d_2 and d_3 are the thresholds.

The ordinal analysis in SPSS 10 and 11 was based on the proportional odds model, known also as the cumulative logit model. The model can be written [31] in the present case with six predictors and three thresholds as:

$$\text{Log} \left[\frac{\Pr(Y \leq Y_j / X_1, \dots, X_6)}{\Pr(Y > Y_j / X_1, \dots, X_6)} \right] = \alpha_j - (\beta_1 X_1 + \beta_2 X_2 + \dots + \beta_6 X_6),$$

where $j \in \{1, 2, 3\}$

The negative sign of the linear predictor is a convention ensuring that high values of $\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6$ lead to increased probability for the higher categories [32]. Additionally, the threshold parameters were calculated (see Table 1).

Table 1. Results of PoLtomous Universal Models (PLUM) for the satisfaction as dependent variable. Thresholds

No	Thresholds	Parameters estimates	Standard Error	Significance of Wald test	95% Confidence Interval
1.	Threshold1	-0.757	0.516	0.142	(-1.768, 0.254)
2.	Threshold2	1.733	0.497	0.000	(0.758, 2.707)
3.	Threshold3	7.150	0.604	0.000	(5.965, 8.334)

The threshold parameters provided a quantitative estimate of the underlying continuous scale to which the ordinal categories were being mapped by the model. The distances between thresholds indicated the relative "distances" between categories, based on the logistic scale used in the model. The confidence intervals of threshold parameters were not difficult to separate because they did not overlap. Two of these three thresholds, i.e. the first between dissatisfied and satisfied, and the second between satisfied and extremely satisfied, were significant from a statistical point of view, i.e. there were differences between these categories within the study population.

5.3 Results

Satisfaction with the health care system in general was 78% of those surveyed, while 21% were dissatisfied. This relatively high level of satisfaction with the health care system in general was even higher when it came to specific providers, i.e. 96% were satisfied with GPs, 93% with pharmacists, 88% with medical specialists and 86% with dentists.

Table 2. The distributions of respondents after their satisfaction with health care system and its providers and institutions (%)

Health care system and its components	Extremely dissatisfied	Dissatisfied	Satisfied	Extremely satisfied	Number of respondents
Health care system	3	18	75	3	619
General Practitioner	1	3	60	36	364
Medical specialist	1	9	62	27	197
Hospital	6	30	48	15	143
Dentist	2	12	51	35	134
Pharmacist	1	5	78	15	465

All these percentages showed a population that was very satisfied with health care providers. This figure was different for hospitals, but it has to be noted that all these figures only applied to people who had actual experience of the system during the last year. A total of 143 respondents had experienced hospital care during the past year. Of those, 64% was satisfied with hospital care; 36% was dissatisfied.

All the variables on satisfaction with health care professionals and institutions were significantly associated with satisfaction with the health care system in general.

Table 3. The significant correlations coefficients between the satisfaction with health care and the satisfaction with health care providers/institutions: Spearmans coefficients correlations

Satisfaction with:	Health care system	General Practitioner	Medical Specialist	Hospital	Dentist	Pharmacist
Health care System	1					
General Practitioner	.203**	1				
Medical Specialist	.349**	.359**	1			
Hospital	.442**	.257**	.451**	1		
Dentist	.357**	.412**	.429**	.327*	1	
Pharmacist	.114*	.234**	.212**	.185*	.294**	1

Therefore, the more satisfied a person was with the health care system in general, the more likely the person was to be satisfied with his/her general practitioner, medical specialist, dentist, pharmacist and hospital, or vice versa. The findings are consistent with the expectations and findings in the literature. The strongest association was between satisfaction with hospital and satisfaction with the health care system but this was related to a small sub-sample of the population.

** Correlation is significant at the .01 level (2-tailed).

* Correlation is significant at the .05 level (2-tailed).

A correlation analysis performed between satisfaction with the health care system in general and sociodemographic characteristics health status, opinions about changes in the health care system and under-the-table payments showed significant associations with 13 variables.

Table 4. The significant correlations coefficients between the satisfaction with health care and structural variables, statements on changes under-the-table payments

No	Structural variables and statements on changes	Spearman's coefficients correlations
1.	Gender of respondent	-.106**
2.	Level of education	-.116**
3.	The quality of care improved as compared to ten years ago	.286**
4.	Doctors are much more friendly as compared to ten years ago	.302**
5.	Doctors give you more information these days as ten years ago	.196**
6.	Health care is easier to get as compared to a decade ago	.283**
7.	Drugs and treatment are more difficult to get as ten years ago	-.144**
8.	You have to pay more for medical treatment compared to ten years ago	-.168**
9.	Medical treatment is more accessible now for everybody as compared to ten years ago	.230**
10.	Patients have to wait longer for medical treatment now as compared to ten years ago	-.166**
11.	Health care gets more attention of politicians as compared ten years ago	.132**
12.	I would like it when we could go back to the health care system as it was ten years ago	-.165**
13.	Have you offered some gifts to the health care providers in the last 10 years?	.200**

The highest correlations were found between "more satisfied with the health care system in general" and "more friendly doctors", "improvement of quality", "health care is easier to get", "medical treatment is more accessible now" and "gifts offered to health care providers". Sociodemographic variables played a modest role in the bivariate correlations.

The ordinal regression analysis showed the following outcomes (Table 5). The presented estimated coefficients reflect how changes in the predictors affected satisfaction with the health care system in general.

The significant coefficients derived by ordinal regression were interpreted in terms of the log probability ratios. The results indicate that women were 1.5 times more likely to be extremely satisfied versus satisfied and dissatisfied and extremely dissatisfied, or satisfied versus dissatisfied and extremely dissatisfied, or dissatisfied versus extremely dissatisfied, as compared to men. The odds ratio of education means that people with a high education are more likely to be dissatisfied as compared to less educated people. People who believed there was an increase/improvement in quality of care, accessibility and physicians behavior were more often satisfied with the health care system in general (odds ratios of 1.55, 1.39, respectively, 1.60). Under-the-table payment to health care providers was associated with less (extreme) satisfaction.

** Correlation is significant at the .01 level (2-tailed).

Table 5. Results of PoLitomous Universal Models (PLUM) for the satisfaction as dependent variable. Location parameters.

No Regressors	Parameters estimates	Standard Error	Significance of Wald test	95% Confidence Interval	Odds ratio
1. Gender	0.416	0.201	0.038	(2.271E-02, 570)	0,65
2. Education	-0.173	0.075	0.022	(-0.321, -2.506E-02)	0,84
3. Improved quality	0.438	0.129	0.001	(0.186, 0.691)	1.55
4. Friendly doctors	0.469	0.124	0.000	(0.227, 0.712)	1.39
5. Accessibility	0.326	0.125	0.009	(8.161E-02, 0.570)	1.60
6. Under-the- table payment	-0.778	0.206	0.000	(-1.182, -0.374)	0,50

5.4 Discussion

This study shows that the level of satisfaction with the health care system in general and its components is very high. On the one hand, these results are concordant with the international literature, where most surveys report high satisfaction levels [4], as high as 80% according to Fitzpatrick [33]. On the other hand, these outcomes may be unusual because the Romanian health care system is undergoing major changes. However, this has also been observed in some other countries in transition, e.g. in Slovenia the overall satisfaction is high at 86.4 points on a scale of 0-100 [7]. Furthermore, the findings of national representative research (1,600 respondents) carried out in 2002 are in line with the present study and show that respondents are satisfied with the following health care services: pharmacies (90%), hospital service (75%), state dentistry (67%), private dentistry (85%), and 92% of the respondents were satisfied with GP attitude [34].

The high level of satisfaction with the health care system is a well-known fact. This study, however, presents an explanatory model for such satisfaction.

The small portion of explained variance (18% to 23% depending on the statistical method used) within the model of user satisfaction is in line with the findings of the literature where less than 20% is mentioned [35]. Despite the numerous satisfaction surveys, many factors that predict patient satisfaction remain largely unknown [26]. For this reason, opinions about changes and under-the-table payments were used as predictors, as well as the socio-demographic variables.

As is often found in the literature, higher educated people are less satisfied with their health care services [9]. They are more critical about the services they receive in general and more knowledgeable about social developments and their "rights". It is indeed the latter which explains why higher educated people are more satisfied with the current health care system as compared to 10 years ago [25].

The under-the-table payments variable used as a predictor may be an

unexpected variable for "Western" studies. This habit was sometimes considered to be a sign of gratitude in South Eastern European countries [36]. However, it is more than gratitude. In fact, the under-the-table payments have multiple connections with satisfaction with health care. One assumption was that patients often offer gifts to health care providers in order to receive good quality care from them. This idea has its roots in the respondents comments on questions and this fact was later confirmed by analysis. The data showed a very high association between the habit of offering gifts and the opinion "in order to be treated fairly, there is a need to offer gifts to the health care providers". Therefore, under-the-table payments are seen as necessary to get good treatment. But this does not mean that people are satisfied. It is more than a self-fulfilling prophecy in the Romanian case. People who had paid "under-the table" in the last 10 years were likely to be less satisfied than those who had not. This may lead to the conclusion that this habit is seen as a necessary "evil" to receive proper care.

Although seen as the most consistent determinant characteristic for satisfaction [10], age was not found to be a significant predictor in another study in a country in transition [8]. With respect to health status, the theoretical assumption is that it influences peoples satisfaction more in the case of specific groups of patients than in the case of potential patients, as is the case in this study.

Six significant predictors of user satisfaction were found in this study. For policymakers, it may be of interest that, in order to be satisfied with the health care system, one should have a perception of improved quality and accessibility and not have to pay physicians under-the-table. The policy implications may be that there is a need for programs that are targeted at some specific categories of people with the goal of improving the quality and the accessibility of health care services, especially in the case of hospitals, in order to assure a higher level of satisfaction with these services.

With respect to under-the-table payments, the solutions found in the literature include formalizing payments, introducing social insurance [37], sanctions, control and higher incomes for health care providers [38-40]. There is no easy or unique solution (see Hungarian experiment) [41]. Therefore, studies should be carried out to focus on the feasibility and affordability of each solution/combination of solutions. Moreover, the long tradition of this "culture of gifts" [37] and the social meaning of giving gifts requires not only an external/formal way to remove it but also a more qualitative approach.

This study provides an insight into Romanian user satisfaction with their reformed health care system. As a useful tool for assessment of reforms in a health care system, the satisfaction survey produced several findings that allow some suggestions of what may be done to improve both the user satisfaction and the consequences of the reforms.

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