

SPECIFIC DETERMINANTS OF QUALITY AND ACCESS TO MEDICAL SERVICES

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Abstract:

The aim of our paper is to assess the importance of self-perceived health status in relation to a number of influential factors determining the health status, such as access to health services and the quality of these services, as well as demographic, social, cultural, economic, and other factors. The study was carried out at the level of the EU member countries, based on data obtained from the Eurofound's European Quality of Life Survey (EQLS) and statistical data provided by Eurostat, using the commissioned probit models. The self-perceived health status of the interviewed subjects was determined by reference to indicators reflecting a certain distress, in the form of a chronic disease or a certain degree of physical disability. The results of the study revealed the existence of statistical correlations between the self-perceived health status of the interviewed subjects and influencing factors such as age, marital status, the level of education, the professional expertise of the medical staff, the distance to be travelled to the doctor's office, or the average waiting time to get an appointment for a specialist medical examination..

Key words: *Healthcare quality, Access to health services, Self perceived Health status, Health determinants*

JEL classification: I1, I18

1. INTRODUCTION

States and five candidate countries (Albania, Northern Macedonia, Montenegro, Serbia and Turkey). The assessment is based on primary observations from the Eurofound survey on quality of life European Quality Life Survey 2016 (EQLS) and Eurostat. Through the Ordered Probit models, we assessed the self-perceived health in relation to a series of characteristics regarding the quality of primary and hospital services in the field, as a whole or related to conditions, the professionalism of medical staff, the attention paid or the level of information on services provided, risks and so on. Access to health services also has a multidimensional component, related to certain spatio-temporal or financial dimensions that could be barriers in improving health. As predictors of health we also considered indicators on mental health or certain chronic diseases (exceeding 6 months).

Literature review

The empirical literature is limited in terms of studies conducted on the impact that competition has on price / quality and fairness in the health care system. In any competitive environment, healthcare providers make decisions based on several variables such as price and quality. Competition can be beneficial for maintaining a certain level of quality when the price of the services provided by the provider is regulated (fixed). If the regulated price is too low, it will directly influence the quality of the services provided, and service providers will be interested in discouraging demand.

When healthcare providers are free to set prices for services provided (unregulated and non-negotiated prices with insurers), high competition increases patients' bargaining power. Increased competition reduces prices, which directly affects the incentives needed to provide quality. If the patient chooses the medical service based on quality and not price, greater competition leads to increased costs and fees. Providing a high standard of quality may involve a higher cost per treatment, although, in the medium and long term, a high quality treatment may minimize future costs. The occurrence of these effects is based on the presumption that the patient knows the quality of medical services and this information is available and reliable.

Various authors have pointed out that no economic study has shown any evidence that the competitive environment should be effectively integrated into all health services. An important obstacle in terms of adequate knowledge of the competitive environment specific to the health industry is the difficulty of obtaining relevant information that could facilitate a rigorous analysis of this environment (Smith, Mossialo and Papanicolas, 2008).

The problem of obtaining the information necessary to perform an analysis generates at least two difficulties (Barros, Brouwer, Thomson and Varkevisser, 2016):

a) imperfect information - the inability to measure the quality of services does not allow the establishment of a specific quality objectives. Some health services are characterized by intrinsic uncertainty, and information on the final results obtained is not available from the beginning;

b) asymmetric information: If only the providers know the parameters of the quality of the services provided they can reduce the quality of the services in order to obtain a low cost on the market and to be more competitive. It is an asymmetry of information between third party service buyers and suppliers. It is extremely difficult for buyers to judge and evaluate the quality of medical services.

Most of the time patients choose medical services according to criteria, such as: waiting time for a medical consultation, recommendations received from acquaintances, comfort during hospitalization, dining conditions, interior design, attitude shown by hospital employees in relations with patients, etc. Payers, through their special status in relation to health care providers, have the opportunity to obtain from them information essential for determining the performance and effectiveness of the services purchased. Payers do not request this information, preferring to obtain from providers only the data regarding the price / services or service packages purchased. Information that could be provided to patients includes (Van Ginneken, Thomson, Blümel, Quentin, and Sagan, 2014): information about the achievements / clinical outcomes of hospitals; comparative information about the professional quality of doctors; comparative information about hospitals; patient satisfaction information (collected systematically or occasionally); information on legal benefits; comparative information about the buyers of medical services (health houses / insurers); comparative information on the quality of hospitals; waiting time information; information on how to gain access to their own medical data.

2. METHODOLOGY

Health is promoted or inhibited by several factors beyond access to health care, including what foods and exercise alternatives are available and accessible, as well as what educational, employment and housing opportunities are available. A general model describes a holistic view of population health, highlighting several factors and their contributions to life expectancy (measured by premature death) and quality of life (measured by low birth weight and poor mental or physical health).

The empirical analysis is based on a broad framework, in which determinants of health include dimensions of care services, on two components, their quality and access to them, to which are added socio-demographic, economic or psychological factors. We used Ordered Probit models using the microdata database (Eurofound survey on quality of living conditions, 2016), assessing self-perceived health in relation to a series of characteristics on the quality of primary services in the field, as a whole or related to conditions, staff professionalism medical care, attention paid or level of information on services provided, risks, etc. Access to health services also has a multidimensional component, linked to certain spatio-temporal or financial dimensions that could be barriers to improving health. As predictors of health we also considered indicators of mental health or certain chronic diseases (exceeding 6 months) The model can be designed, in a general way, as follows:

Where, the dependent variable is the self-perceived state of health ($Y16_Q48$), influenced or at least associated with multiple determinants. ε_{it} it is the error term of the normal zero mean law, reflecting other unidentified influences not included in the models.

The independent variables are:

- $Y16_HH2$ – Gender: $HH2a$ Male and $HH2b$ Female
- $Y16_Q37$ – Marital status ($Q37_1$ married, $Q37_2$ widow, $Q37_3$ separated or divorced, $Q37_4$ single)
- $Y16_income$ – income by the 4 quartiles
- $Y16_Education$ – 3 levels
- $Y16_Q61e$: Possibility to find time because of work, care for children (*Difficult and not at all difficult*)
- $Y16_SocEx$: Social exclusion index
- $Q58a$: Quality of public health services (Very poor, poor, good, very good)
- $Q59a$: Quality of primary medical services (Very poor, poor, good, very good)
- $Q59b$: The quality of hospital or specialized medical services (Very poor, poor, good, very good)
- $Q61a$: Access to medical services from the perspective of distance to the doctor (Difficult and not at all difficult)
- $Q61b$: Access to medical services, in view of the long waiting time required to obtain a doctor's appointment (Difficult and not at all difficult)
- $Q61c$: Difficulties in accessing health services in view of the long waiting time for consultation on the scheduled day (Difficult and not at all difficult)
- $Q61d$: Access to medical services from the perspective of the cost of the visit to the doctor (Difficult and not at all difficult)
- $Y16_Q62a$: Primary services satisfaction: quality of the facilities (1: Very poor, 2: poor, 3: good, 4: very good)
- $Y16_Q62b$: Primary services satisfaction: expertise and professionalism of staff (Very poor, poor, good, very good)

- Y16_Q62c: Primary services satisfaction: personal attention you were given (Very poor, poor, good, very good)
- Y16_Q62d: Primary services satisfaction: being informed or consulted about your care (Very poor, poor, good, very good)
- Y16_Q64a: Hospital and specialized services satisfaction: quality of the facilities (Very poor, poor, good, very good)
- Y16_Q64b: Hospital and specialized services satisfaction: expertise and professionalism of staff (Very poor, poor, good, very good)
- Y16_Q64c: Hospital and specialized services satisfaction: personal attention you were given (Very poor, poor, good, very good)
- Y16_Q64d: Hospital and specialized services satisfaction: being informed or consulted about your care (Very poor, poor, good, very good)
- Chronic diseases (lasting more than 6 months).

3. RESULTS

The quality of primary medical services is assessed differently in relation to: a) Quality of conditions (building, room, equipment); b) Competence and professionalism of the staff; c) The personal attention given to you, including the attitude of the staff and the time allotted; d) Being informed or consulted about your care.

Following the marital status of the respondents, a proportion of 53.59% represent the married (19,714 out of a total of 36,785 persons who declared their marital status), the separated and divorced represent 11.34% (4,173 persons), widows - 12.07% (4,440 people) and those never married 22.99% (8,458 people). Thus, we can appreciate that, given the high proportion of married people, marital status seems to play an important role in health. Referring to married persons, the estimated data indicate a negative association between health and those who are widowed, separated or divorced. However, for people who have never been married, their health is more likely to be better, given that most of them are very young people who are still in some form of education.

The educational level proved to be strongly associated with a better state of health. Grouped into three categories, the reference is those who have only primary school graduates and if the estimates are not conclusive (statistically significant) for people who have only completed secondary education, clearly those with tertiary education are more likely to fall in the category of those in good and very good health, *ceteris paribus*.

The quality of medical services: The competence and professionalism of primary / emergency staff are determinants that are associated with good health: those who have been satisfied, even to an average extent by staff, are more likely to be in better health (Models 1 and 3). The same observation does not follow with regard to the other aspects (points a, c and d). It should be noted, however, that the same estimate without differentiating between response groups / categories (when the models do not include specific factor i) shows that the health coefficients in relation to these conditions are significant but negative, suggesting that no Mandatory conditions in primary medicine would be associated with good health, as is the case with the professionalism and competence of medical staff. It is very important for the patient to be consulted and informed.

Table 1: Overall quality and access to health services - estimated results

Y16_Q48_~x	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Socio-economic indicators							
age_3groups	-0.407***	-0.427***	-0.403***	-0.431***	-0.429***	-0.429***	-0.431***
1.Y16_HH2a	0	0	0	0	0	0	0
2.Y16_HH2a	-0.0160	-0.0461*	-0.0148	-0.0435*	-0.0448**	-0.0422*	-0.0410*
1.Y16_Q37_1	0	0	0	0	0	0	0
2.Y16_Q37_2	0.169***	0.121***	0.156***	0.111***	0.109***	0.118***	0.112***
3.Y16_Q37_3	-0.161***	-0.217***	-0.186***	-0.219***	-0.219***	-0.224***	-0.224***
4.Y16_Q37_4	-0.0415	-0.0491	-0.0419	-0.0581*	-0.0613*	-0.0540*	-0.0549*
Y16_SocExclus	-0.179***	-0.182***	-0.176***	-0.179***	-0.181***	-0.176***	-0.172***
1.Y16_income_1	0	0	0	0	0	0	0
2.Y16_income_2	0.0756**	0.0429	0.0667*	0.0500*	0.0511*	0.0425	0.0427
3.Y16_income_3	0.189***	0.156***	0.187***	0.166***	0.166***	0.160***	0.156***
4.Y16_income_4	0.216***	0.187***	0.206***	0.202***	0.202***	0.191***	0.191***
1.Y16_Primary_Education	0	0	0	0	0	0	0
2.Y16_Secondary_Education	0.0552*	0.0577**	0.0492*	0.0621**	0.0590**	0.0586**	0.0677***
3.Y16_Tertiary_Education	0.369***	0.320***	0.325***	0.320***	0.321***	0.322***	0.320***
Access to medical services							
1.Q61a_Difficult	0	0	0	0	0	0	0
2.Q61a_Not_difficult	0.290***	0.322***	0.322***	0.322***	0.322***	0.292***	0.292***
1.Q61b_Difficult	0	0	0	0	0	0	0
2.Q61b_Not_difficult	0.0224	0.0294	0.0294	0.0294	0.0294	0.0111	0.0130
1.Q61c_Difficult	0	0	0	0	0	0	0
2.Q61c_Not_difficult	0.122***	0.153***	0.153***	0.153***	0.153***	0.110**	0.107**
1.Q61d_Difficult	0	0	0	0	0	0	0
2.Q61d_Not_difficult	0.0619	0.0960	0.0960	0.0960	0.0960	0.0431	0.0426
1.Q61e_Difficult	0	0	0	0	0	0	0
2.Q61e_Not_difficult	-0.127***	-0.185***	-0.185***	-0.185***	-0.185***	-0.141***	-0.127***
Quality of public health services							
1.Q58a_Very_poor	0	0	0	0	0	0	0
2.Q58a_Poor	0	0	0	0	0	0	0.0211
3.Q58a_Good	0	0	0	0	0	0	0.179***
4.Q58a_Very_good	0	0	0	0	0	0	0.206***
Mental health / chronic illness							
Y16_MHDS_index	0.0196***	0.0170***	0.0179***	0.0172***	0.0172***	0.0169***	0.0167***
0.chronic diseases (No)	0	0	0	0	0	0	0
1.chronic diseases (Yes)	-1.209***	-1.256***	-1.205***	-1.264***	-1.265***	-1.260***	-1.262***
Quality of medical services							
Primary services							
1.Q62a_1	0	0	0	0	0	0	0
2.Q62a_2	0.0801	0.0801	0.0811	0.0811	0.0811	0.0811	0.0811
3.Q62a_3	0.0280	0.0280	0.0280	0.0280	0.0280	0.0280	0.0280
4.Q62a_4	-0.00279	-0.00279	-0.00279	-0.00279	-0.00279	-0.00279	-0.00279
1.Q62b_1	0	0	0	0	0	0	0
2.Q62b_2	0.163	0.163	0.163	0.163	0.163	0.163	0.163
3.Q62b_3	0.276**	0.276**	0.276**	0.276**	0.276**	0.276**	0.276**
4.Q62b_4	0.280*	0.280*	0.280*	0.280*	0.280*	0.280*	0.280*
1.Q62c_1	0	0	0	0	0	0	0
2.Q62c_2	-0.0797	-0.0797	-0.164	-0.164	-0.164	-0.164	-0.164
3.Q62c_3	-0.142	-0.142	-0.228	-0.228	-0.228	-0.228	-0.228
4.Q62c_4	-0.137	-0.137	-0.236	-0.236	-0.236	-0.236	-0.236
1.Q62d_1	0	0	0	0	0	0	0
2.Q62d_2	0.0933	0.0933	0.137	0.137	0.137	0.137	0.137
3.Q62d_3	0.180	0.180	0.214*	0.214*	0.214*	0.214*	0.214*
4.Q62d_4	0.159	0.159	0.184	0.184	0.184	0.184	0.184
1.Q59a_1	0	0	0	0	0	0	0
2.Q59a_2	0	0	0	0.132**	0.132**	0.115*	0.115*
3.Q59a_3	0	0	0	0.201***	0.201***	0.173**	0.173**
4.Q59a_4	0	0	0	0.144**	0.144**	0.120*	0.120*
Hospital services							
1.Q59b_1	0	0	0	0	0	0	0
2.Q59b_2	0	0	0	-0.0164	-0.0164	0.0335	-0.0432
3.Q59b_3	0	0	0	0.0759	0.0759	0.155***	0.0519
4.Q59b_4	0	0	0	0.0577	0.0577	0.108**	0.0247
N	18598	25676	16510	27895	28049	24912	25551

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Sources: own processing in Stata

The quality of primary services in general is positively associated with the state of health, highlighting their importance as a whole for all individuals, regardless of their assessment. The estimated coefficients have statistical significance and the plus sign in Model 7, which highlights the relationship between health and quality of primary services as a whole, but also in Model 9, in which we also introduced variables on access to health services.

Primary services in combination with hospital services: The quality of specialized services, generally considered, is also positively associated with health status (Model 5), but only in combination with the influence of access indicators. This difference between the overall quality of primary services compared to specialized ones proves that there is easier access to primary services, which does not change the importance of their quality, while the quality of hospital services is combined with easier access to them.

The access to services is approached through the prism of five spatio-temporal and financial dimensions: distance to the doctor, waiting times for appointments, respectively consultation, the cost of the visit and the time available to benefit from medical services. Distance is obviously a factor that can limit access to medical services. In the models, the reference considered is the difficulty related to distance, the positive and significant coefficients allow the assessment of the fact that once the distance is not perceived as difficult to travel, it means easier access to health services, associated / more likely to be in better health. Distantion reveals to be important for primary services (Models 2-3), as well as for all health services (Model 6)

Physical health (objective indicator) is assessed with the help of indicators that reflect a certain physical (or mental) suffering, in the form of chronic diseases (lasting more than 6 months) or certain degrees of physical disability. Analyzing the daily ability to carry out the activity, in the conditions of chronic diseases and symptoms that affect people in their daily lives, we found the consistency of associating these people with a poorer state of health.

Quality of public services: Model 10 has as an explanatory variable and indicators that reflect the perception of the quality of public health services, in combination with the spatio-temporal dimensions of access. We chose this specification because both separately and combined with access indicators, the quality of public services is more likely to reflect a health status in a higher category. This highlights the importance of increasing attention and support for improving the quality of health services.

4. CONCLUSIONS

The result of the econometric analysis carried out highlighted, in essence, that how access to health services is achieved, the quality of health services and other general factorial dimensions, such as demographic, educational, social, occupational status, number of hours worked in a week, the existence of chronic diseases, the use of modern means of information, influence the general subjective perception of health.

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