

## **A patient's expectations of and satisfaction from primary care medical services**

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### **ABSTRACT**

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**Purpose:** To establish the relation between the reasons one registers to a primary care physician and a patient's expectations of and satisfaction from the medical services provided.

**Material and methods:** A total of 422 patients from public and non-public health care centres participated in the research. The research was carried out in 20 institutions of public and non-public centres for primary care in the Świętokrzyskie Voivodeship. A Patient Request Form was used as the research tool. The Polish version of the Patient Request Form (PRF) is composed of 18 statements concerning different reasons for the present contacting of a general practitioner. Comparative analysis of interval or ratio scale type variables was performed using variance analysis, which in the case of significance of the main effects or interactions was supplemented by post-hoc analysis

**Results:** After a repeated measures analysis of variance was done, a significant variation was found in terms of the type of institution: a public and non-public health care centre ( $p=0.01955$ ). The effect of

the type of expectation also proved significant ( $p=0.00000$ ). A significant interaction was also found between the type of institution and the kind of PRF (Patient Request Form) ( $p=0.00985$ ). A significant effect ( $p=0.00805$ ) was obtained using single-classification analysis of variance upon analysing the assessment of the treatment conditions at a primary care clinic (JUM2) in terms of the type of institution.

**Conclusions.** Patients participating in the study indicated expectations related with an explanation of the illness and obtaining information about test results and further treatment as the reasons for the present registration to a primary care physician. As regards assessment of the treatment conditions (JUM2) at primary care clinics in view of the type of institution and area of services, the patients participating in the study assessed non-public health care centres more highly.

**Key words:** satisfaction of patient, Patient Request Form (PRF), patient's expectations

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## **INTRODUCTION**

The good and satisfaction of a patient are the basis for the process of treatment. The quality of medical services in a patient's opinion is very important. One wants to receive service of good quality and consistent with one's expectations. The features of the provision should prompt the patient to use the array of services that a health care centre offers again [1].

Achieving patients' satisfaction with medical services is a complex process dependent on many factors. The following components of a medical service, that influence the final assessment by patients of the service received at health care institutions may be defined:

- the competence of the doctors and nurses, which determines a professional provision of service. This requires the doctor and other medical staff to have good communication with a patient, which will result in building trust not only for the doctor but also the nurse as people, and for the institution they represent [2]. The medical personnel is only credible when the information they provide does not have a commercial undertone, but is directed towards helping and supporting the patient [3];
- a regular interaction of the doctor with a patient, the manner in which information about the patient's health is presented, its reliability and credibility, and co-decision about the manner of treatment. The doctor should treat a patient individually, remaining open to the patient's needs. A patient has the right to decide about their health; the doctor, in their interaction with the patient should show engagement, and at the same time respect to the patient's autonomy in making decisions regarding further treatment. In view of respecting the patient's will, a doctor is obliged to provide the patient with information on the condition of their health, a diagnosis and the possible alternatives for treatment. In a doctor-patient interaction, it is also important to have a mutual respect for the individuals and no superiority of either of them [2,4,5];
- improving the patient registration system by putting into operation a separate post for telephone registration, setting up on-line registration and increasing the professional qualifications of the staff responsible for the said system, as well as improving communication with patients and other staff of the health care centre [3,6,7];
- access to advanced equipment and technological solutions which aim at improving the functioning of health care centres. An information management system encompasses a certain IT architecture, equipment, software and participants of the process (the patients and medical personnel). The problem of an ageing

society will result in redistribution of work and new places of work in health care centres; which will result in the need to develop new modules within the IT systems, which could cope with the new situation [8].

Health care is a complex and, above all, diverse system. It is made up of structures, processes and results. Structures of the health care system function to facilitate the carrying out of activities that fall within the scope of every health care employee's duties.

According to Piestrzyńska-Bukowska, two factors influence a patient's satisfaction [2].

- a subjective assessment of the level of a medical service that was carried out; including an assessment of the appearance of a medical office, an assessment of the atmosphere in the place that a service was carried out and an assessment of the medical personnel.
- the patient's expectations of a given medical service, which comprise the appearance of the office, quality and communicativeness, and patients' experiences of previously received medical services.

The process of care is a human activity, especially that of doctors, nurses and assistants. However, it is not just one side that decides about the quality of care; quality is built by an appropriately occurring interaction between two individuals – the doctor and the patient. The process of treatment is an interaction connected with appropriate norms, and it meets a certain value/goal. It leads to a result, i.e. an observable change in the patients' health.

The aim of the research

The aim of this research was to establish the relation between the reasons one registers to a primary care physician and a patient's expectations of and satisfaction from the medical services provided.

## **MATERIALS AND METHODS**

A total of 422 patients from public and non-public health care centres participated in the research. The research was carried out in 20 institutions of public and non-public centres for primary care in the Swietokrzyskie Voivodeship. 216 patients were examined in public HCCs, including 83 men (38.43%) and 133 women (61.57%). 206 people were examined in non-public health care centres, including 80 men (38.83%) and 126 women (61.17%). Taking into consideration the age of those under study, the age range of 45-64 predominated amongst the patients of the public institutions, with ranges of 20-29 (24.07%), 30-44 (19.91%), and 65 and over (13.43%) following. The least numerous group were those in the age range of 18-19 (6.94%). Amongst the examined patients of non-public health care institutions, the most

numerous group was that in the age range of 30-44 (29.61%), followed by 45-64 (28.64%), 20-29 (24.27%), and 65 and over (13.59%). Similarly as in the case of public institutions, the least numerous group was that in the age range of 18-19 (3.88%).

A Patient Request Form was used as the research tool. The Patient Request Form is a modification of the questionnaire developed by Good et al. (1983) and designed for primary care patients. The authors of the tool are Salmon and Quin from the Department of Psychology, The University of Liverpool; and Zygfryd Juczyński from the Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego was the one to adapt the test [9]. The Polish version of the Patient Request Form (PRF) is composed of 18 statements concerning different reasons for the present contacting of a general practitioner. The person taking part in the study indicates to what degree the contents of the statement express the reasons for contacting a doctor. The statements included in the PRF are one of the three factors which concern the expectations connected with having an illness explained, looking for support and obtaining information on tests and treatment.

The PRF results regarding the explanation of the illness are connected with the expectation of help from doctors and specialists, whereas the results regarding the obtaining of information on tests and treatment with expectation of help from the medical services' side. The feeling of satisfaction of both the patient and doctor depends on the fulfilment of the patient's expectations by the primary care physician.

PRF is a tool of self-description and should be filled out by the patient shortly before contact with a general practitioner. The person participating in the study must be provided with adequate conditions to give answers. A detailed instruction explains the rules of performing the task. For each statement, one of three answers regarding the reasons for the visit to the doctor must be chosen:

- yes – if the person taking part in the study agrees with the statement;
- I am unsure – if the participant is not sure;
- no – if the participant does not agree with a given statement.

The results for each factor are subject to separate evaluation. The theoretical range of results on each of the three scales is from 0 to 12 points. The higher the score, the greater the expectation of receiving a particular kind of help.

The questionnaire used for obtaining information about the patients' happiness (satisfaction) from the health care received at clinics was elaborated at the Department of Epidemiology and Health Promotion of the Public Health School at the Postgraduate Medical Education Centre, in collaboration with representatives of the Warsaw Center for Public Health and the Department of

Health Promotion and Postgraduate Education of the National Institute of Hygiene in 2005. The research project was realised with grant no. 501-2-4-01-34/05 for the PMEC [10].

The primary criterion for the selection of the methods was the type of analysed data. The following types of variables are taken into consideration: discrete variables and continuous variables.

Compatibility using normal distribution (Shapiro-Wilk test) and the values of skewness and kurtosis were used in selecting the method for statistical analysis. Basic statistical parameters concerning the central value (mean), as well as spread (standard deviation, 95% confidence interval, minimum and maximum) were calculated for the quantitative variables. Distributions of abundance relative to the category (discrete values) of a variable were determined for qualitative variables. Comparative analysis of interval or ratio scale type variables was realised using variance analysis, which in the case of significance of the main effects or interactions was supplemented by post-hoc analysis (the Bonferroni test).

In the case of variables which did not meet the presumptions required by parametric analysis of variance, the Kruskal–Wallis analysis of variance by ranks was used. Significance was assumed at  $p < 0.05$ . The data was collected in an Excel spreadsheet (Excel is part of the Microsoft MS Office suite). Spreadsheet functions were used for initial verification of the data. Statistical data analysis was realised using the STATISTICA software by StatSoft. Graphical illustrations of the results were realised partly using the STATISTICA software and partly using a graphical editor included in the MS Office suite.

## **RESULTS**

Using the Patient Request Form (PRF), an evaluation was made to what degree a patient who visits a general practitioner expects help which involves an explanation of the illness, obtaining information concerning the treatment, and emotional support. The analysed PRF variable comprised the following areas:

- PRF1 – expectation of an explanation of the illness
- PRF2 – looking for emotional support
- PRF3 – obtaining information about tests and treatment.

The reasons why patients register to see a primary care physician are foremost that of expecting an explanation of the illness and obtaining information about tests and further treatment. The patients under study expect emotional support from the GP the least (Tables 1,2).

**Table 1.** Analysis of dependent variables, Patient Request Form (PRF)

Dependent variable	N of significant	Mean	Minimum	Maximum	SD	Skewness	Kurtosis
PRF1	422	8.870	0	12	3.806	-1.157	0.153
PRF2	422	3.521	0	12	3.677	0.837	-0.289
PRF3	422	7.967	0	12	3.662	-0.702	-0.555

**Table 2.** Expectations of the patients under study (PRF) and the type of institution

	Institution_type	EXPECTATION	ZZ_1 Mean	ZZ_1 SE	ZZ_1 -95.00%	ZZ_1 95.00%	N
1	public	PRF1_explanation	8.944	0.259	8.435	9.454	216
2	public	PRF2_support	4.079	0.247	3.592	4.565	216
3	public	PRF3_information	8.380	0.248	7.893	8.867	216
4	non-public	PRF1_explanation	8.791	0.265	8.270	9.313	206
5	non-public	PRF2_support	2.937	0.253	2.439	3.435	206
6	non-public	PRF3_information	7.534	0.254	7.035	8.033	206

After a repeated measures analysis of variance was done, a significant variation was found in terms of the type of institution: a public and non-public health care centre (p=0.01955). The effect of the type of expectation also proved

significant (p=0.00000). A significant interaction was also found between the type of institution and the kind of PRF (Patient Request Form) (p=0.00985) (Tables 3,4).

**Table 3.** Expectations of the patients under study (PRF) and the type of institution – repeated measures analysis of variance

Independent variable	SS	Degrees of freedom	MS	F	P value
intercept	58120.18	1	58120.18	1982.453	0
Institution_type	161.06	1	161.06	5.494	0.01955
Error	12313.27	420	29.32		
Expectations	6938.54	2	3469.27	593.755	0.00000
Expectations*Institution_type	54.29	2	27.14	4.646	0.00985
Error	4908.06	840	5.84		

**Table 4.** Expectations of primary care medical services of the patients under study and the type of the Institution in the context of the Bonferroni test

	Institution_type	Expectations	{1}	{2}	{3}	{4}	{5}	{6}
			8.9444	4.0787	8.3796	8.7913	2.9369	7.534
1	public	PRF1_explanation		0.00000	0.23068	1.00000	0.00000	0.00146
2	public	PRF2_support	0.00000		0.00000	0.00000	0.46380	0.00000
3	public	PRF3_information	0.23068	0.00000		1.00000	0.00000	1.00000
4	non-public	PRF1_explanation	1.00000	0.00000	1.00000		0.00000	0.00000
5	non-public	PRF2_support	0.00000	0.46380	0.00000	0.00000		0.00000
6	non-public	PRF3_information	0.00146	0.00000	1.00000	0.00000	0.00000	

Explanation has the highest values in public and non-public health care institutions, followed by obtaining information, and the lowest values were received for emotional support. Assessment of the treatment conditions at primary

care clinics (JUM) has influence on the satisfaction of the patients under study from the medical services. The variable under analysis comprised of such areas as the possibility of free choice of a GP, the manner of registration for a GP visit, the

waiting time for a visit to the GP, the waiting time for admittance outside a GP's office, and an assessment of the strenuousness of the wait.

Given the constituents of the dependent variable of the assessment of treatment conditions at a primary care institution (JUM2), statistical significance was obtained in the following areas:

- the possibility of free choice of a GP (p=0.03938). Amongst the patients from non-public health care centres, 91.26% indicated such a possibility, with 84.72% declarations from patients of public health care institutions,
- waiting time for a GP's visit (p=0.01892). Patients of non-public health care centres receive medical advice on the day of seeking medical aid 93.69% of the time. 85.19% patients of public institutions indicated such a possibility,
- waiting time for admittance outside a GP's office

- (p=0.00063). Patients of non-public health care centres spend less time in the waiting room of a primary care clinic; 21.36% of the participants indicated below 15 minutes,
- with 16.67% of such responses from patients of public HCIs. 12.50% of the participants from public health care centres chose the answer of above 60 minutes, with 2.43% of indications from participants from non-public ones,
- admittance to a GP in an emergency (p=0.01664). Almost 70% of the patients from non-public institutions did not have a problem with obtaining medical aid from a GP in an emergency.

A significant effect (p=0.00805) was obtained using single-classification analysis of variance upon analysing the assessment of the treatment conditions at a primary care clinic (JUM2) in terms of the type of institution (Table 5).

**Table 5.** The type of institution and an assessment of the treatment conditions at a primary care clinic

Type of institution	JUM2						
	Mean	Confidence -95.00%	Confidence 95.00%	N	SD	Minimum	Maximum
public	0.702	0.672	0.732	216	0.223	0.083	1.000
non-public	0.755	0.730	0.780	206	0.183	0.222	1.000
Total of the group	0.728	0.708	0.748	422	0.206	0.083	1.000

As regards assessment of the treatment conditions (JUM2) at primary care clinics in view of the type of institution and area of services, the

patients participating in the study assessed non-public health care centres more highly (Table 6).

**Table 6.** Single-classification analysis of variance for the type of institution and the assessment of treatment conditions at a primary care clinic (JUM2)

Dependent variable	SS Effect	df Effect	MS Effect	SS Error	df Error	MS Error	F	P value
JUM2	0.297214	1	0.297214	17.60677	420	0.041921	7.089881	0.00805

## DISCUSSION

The authors' research was focused on establishing the reasons why one registers at a primary care physician's and establishing a patient's expectations of and satisfaction from the medical services provided in the area of the Świętokrzyskie Voivodeship.

Upon carrying out an analysis of the research results regarding the reasons for the present registration at a primary care physician's, using the PRF tool, the effect of the kind of expectation was found significant (p=0.0000). A significant interaction between the type of institution and the kind of PRF was also found (p=0.00985).

Explanation is valued the highest in public and non-public health care institutions, followed by obtaining information about tests and treatment, and emotional support is valued the lowest. Expectations connected with the reason for registering at a primary care physician's are connected with the age of the patients participating in the study.

The reason for a visit to a primary care physician is for older people a need to receive emotional support. Younger patients expect foremost an explanation and information. In this group of participants, emotional support has the lowest value.

Research conducted by Grywalska et al. [11] showed that older patients do not expect an

explanation in the fields of medical orders and necessary tests, but foremost expect help in solving personal and social problems. Seniors feel lonely and socially excluded, and a visit to the doctor can be for them a factor influencing improvement of the emotional sphere [12].

In the research of Kemicer-Chmielewska et al. [13], where the elderly were studied, the highest indications were obtained for expectations related to emotional support during a visit to the doctor.

Marcinowicz et al. [14] presented in their research that patients need foremost an explanation of the illness and information about test results and further treatment.

In research regarding the assessment of services provided by primary care, the patients under study valued more highly the quality of health services offered at non-public (49.51%) as opposed to public (33.33%) health care institutions. The patients of public ones, taking part in the study, indicated that the waiting time for a visit was 15-30 min (3.33%) and 30-45 min (26.39%). In the case of non-public health care centres, the average waiting time for a visit was 15-30 min (41.26%). The waiting time for a visit to the doctor is far longer in case of public institutions and amounts to above 60 minutes in the case of 12.50% of patients' indications.

Given the assessment of treatment conditions at public and non-public primary care clinics, a statistical significance of  $p=0.00063$  was obtained.

In the research of M. Miller et al. [8] most of the patients (70.2%) chose a strongly positive assessment, 25.6% chose a moderately positive one, and 4.2% chose a negative one. Half of the patients waited up to 15 minutes in front of the office for admission to a GP, every third of them waited 15-30 min, and every sixth over half an hour [8,10].

## CONCLUSIONS

1. The patients participating in the study indicated expectations connected with an explanation of the illness and obtaining information about test results and further treatment as the reasons for the present registration to a primary care physician.
2. The patients of non-public primary care institutions, participating in the study, assessed received medical services higher than patients of public institutions.
3. The waiting time for a visit to the doctor in non-public primary care institutions is shorter than in public HCIs.

## Conflicts of interest

There are no conflicts of interest

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