

Research paper

Factors associated with patient satisfaction with primary care in Europe: results from the EUprimecare project

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ABSTRACT

Background EUprimecare is a study funded by the Seventh Framework Programme of the European Union, aimed at analysing the quality of the different models of primary care in Europe. The objective of this study was to describe and analyse the determinants associated with patient satisfaction in primary care in Europe.

Methods We conducted telephone population surveys among primary care users in each EUprimecare consortium country (Germany, Spain, Estonia, Finland, Hungary, Italy and Lithuania). The survey was conducted with 3020 patients and the questionnaire included sociodemographic variables, health status, and use and satisfaction with primary care services. We undertook descriptive analyses, bivariate correlations and an ordinal regression model to study the direct relationship between levels of satisfaction and the explanatory variables for demographics, health status and health services for patients. We present the regression coefficients (β) with 95% confidence intervals and associated tests of statistical significance.

Results The mean age of the respondents was 51 years (SD 14.1). We found significant associations between the level of satisfaction and age ($\beta = 0.008$), specialist visits ($\beta = -0.030$), not having a general practitioner ($\beta = 0.70$), not measuring weight, cholesterol and blood pressure ($\beta = 0.52$), country (β_1 Germany = -1.08 and β_2 Lithuania = -0.60 ; β_3 Hungary = 0.50 and β_4 Italy = 0.53) and a better perception of health status ($\beta = 0.33$). Specialist visits had a negative association with satisfaction.

Conclusions Overall, the results indicate factors that may be related to greater satisfaction with primary care services: age, visits to a specialist, having a doctor assigned to primary care and measurement of control parameters are associated with a better perception of the care received.

Keywords: consumer satisfaction, general practice, patient satisfaction, primary healthcare, quality indicators

How this fits in with quality in primary care

What do we know?

Patient satisfaction is considered a valid indicator for measuring healthcare quality. Some studies consider the influence of communication and the relationship between the general practitioner (GP) and patient to explain consumer satisfaction, whereas other studies focus on demographic and ethnic variables.

What does this paper add?

Data from seven countries was used to study factors associated with patient satisfaction. The results suggest that patient satisfaction is associated with the relationship between GP and patient, self-perceived health status and age.

Introduction

Patient satisfaction is a widely emphasised indicator of healthcare quality.¹ Information on satisfaction, based on the perceptions and needs of users, allows policy-makers to identify areas for improvement. Consumers can evaluate several dimensions of health services such as waiting times or communication with staff, which can help providers to strengthen their services.² Moreover, patient satisfaction has also been linked to measures of healthcare delivery: better satisfaction has been linked with greater adherence to treatment and recommendations, and keeping appointments.^{3–7} Although satisfaction is used to create 'league tables' to rank healthcare systems, there are still some doubts about the proper interpretation of satisfaction: for example, Fenton has identified higher satisfaction with an increase in both health service utilisation and costs, and mortality.⁸

Primary care is considered the basic structure of many healthcare systems. Strong primary care systems have been related to better health outcomes, including mortality.^{9,10} The special and key features of primary care include first contact access to primary care facilities and practitioners; person-focused (not disease-focused) care over time; comprehensiveness of the services available and provided within primary care; and coordination of services when they are needed elsewhere. European countries show large variations in the configuration of primary care systems. Primary care services differ from each other as a result of different social, historical, economic and cultural factors. Features such as co-payments, gatekeeping or waiting times could influence patient satisfaction with primary care. Consequently, it is necessary to establish indicators that allow a comparison of systems and to explore ways to improve the quality and outcomes of the services provided.^{11–13}

An increasing number of studies describe satisfaction reported by patients or users of primary care.^{14–17} These studies indicate the effect on satisfaction, not only of individual patient characteristics, but also of

elements such as continuity of care^{18–20} or self-perceived health status.¹⁴ The aim of this study was to investigate satisfaction with primary care in seven European countries, and to explore which factors are associated with satisfaction with the primary care services in those countries.

Methods

Population survey and sample

EUprimecare is a study funded by the Seventh Framework Programme of the European Union (EU) which aims to analyse the quality of different models of primary care in Europe.¹³ As part of the analysis, a population survey was conducted among users of primary care services in seven European countries. The final questionnaire used satisfaction as the dependent variable, which assessed the patients' perceptions of the quality of primary care services.

Citizens from Estonia, Lithuania, Hungary, Finland, Spain, Italy and Germany were selected using a stratified sampling plan developed for each country, taking into account gender, age, household net monthly income, education level of householder, occupation of householder and region. Inclusion criteria were: having had at least one visit to a primary care doctor in the previous year and being aged 18 years or older. Individuals were interviewed during April 2012. The final sample used for the analysis consisted of 3020 (1502 men and 1518 women) primary care users selected from a random sample in these seven countries. We conducted a multistage sampling design, with the first step based on regional division, a second stage based on randomly selected municipalities, and the last stage selecting people between the ages of 25 and 75 years who had, in the last 12 months, consulted a general practitioner (GP) or primary care physician for a problem, pain or illness. During sampling, we took into account age and gender, considering the distribution of these variables in each country.

A questionnaire with clinical and no clinical indicators was developed by consensus between researchers from the EU primecare partners. The dimensions of quality were developed through a process that started from focus groups with both patients and professionals. The questionnaire was designed in English. Afterwards, the questionnaire was translated into the language of the participating countries using a dual focus method²¹ that sought to achieve conceptual, as well as wording and grammatical, equivalence. To ensure internal validity and comprehensible wording, the instrument was piloted on 25 individuals in each country and refinements were made to the instrument. The final version of the questionnaire included 24 items. The questionnaire included variables related to sociodemographic, health status and health services utilisation.

Data were collected through computer-assisted telephone interview (CATI). Random digit dialling in strata ensured a randomised representative sample from the seven countries' populations. Using this procedure, sampling continued until a previously defined number of complete interviews was achieved. Therefore, a country-dependent number of calls was made until approximately 431 interviews were completed from each country. In total, 3020 questionnaires were completed, corresponding to an average response rate of 16.0%.

Users of primary care services were questioned regarding their use of healthcare services (GP, specialists, others), health status and access to specific services: counselling/health education (tobacco, diet, exercise), control of chronic diseases and their perception of quality of primary care as measured by patient satisfaction.

Statistical analysis

We developed descriptive analyses, using bivariate correlations and ordinal regression analysis to model the association between satisfaction and the possible explanatory variables. From the questionnaire, we selected a single item from the patient satisfaction questionnaire as the dependent variable 'Overall satisfaction with the attention provided by primary care services' which was measured on a scale from 1, *very dissatisfied* to 5, *totally satisfied*. For this work, the values of this variable were recoded into three categories: low (1 and 2), mid (3) and high (4 and 5).

The independent variables were also items from the questionnaire. The following quantitative characteristics were studied: number of visits to primary care, number of visits to a specialist and age. Other variables were sex, self-perceived health, rural residence and activities conducted in primary care during the last year (measuring blood pressure, weight and height)

during the last year, chronic disease diagnosis and countries.

First, univariate ordinal logistic regression models were used to identify the effect of each independent variable on satisfaction. Second, multivariate analysis using ordinal regression was used to establish the independent effect of patient characteristics associated with patient satisfaction with services provided in primary care. The model included regression coefficients (β), 95% confidence intervals and associated statistical significance. In the ordinal regression analysis, Spain was entered as the reference category because the value of crude satisfaction left three countries with higher satisfaction and three countries with lower satisfaction in comparison.

Results

A total of 3020 patients using primary care services responded to the telephone survey. Table 1 summarises baseline characteristics including demographic, socio-economic and health characteristics. The average age of respondents was 51 years (SD 14.1 years). More than three quarters of participants are satisfied with the overall care received in primary care (76.8%). Table 2 shows baseline characteristics by each participating country. The lowest level of overall satisfaction was found in Germany (59.6%) and the highest level was found in Italy, where 87.4% of patients claimed they are satisfied with primary care services.

Univariate analysis of the selected variables showed the relationship with overall satisfaction (Table 3). Satisfaction showed statistically significant and positive associations with age, visits to the GP, visits to a specialist, residence (city/town), if the patient considers that he/she had a GP, and the measurement of different clinical parameters in primary care during the previous year. Sex, self-perception of health and having being diagnosed of a chronic disease had no statistically significant effect on satisfaction.

We studied the effect of the independent variables selected on overall satisfaction in a multivariate model. The reference category for the dependent variable of overall satisfaction was higher satisfaction, and all odds ratios (OR) were expressed in relation to this category. Table 4 presents the ordinal logistic regression results.

There was a positive and statistically significant effect of respondent age (OR = 1.01), having a doctor considered to be their GP (OR = 2.01), control of weight, cholesterol and blood pressure (OR = 1.69), certain countries (OR Hungary = 1.64 and OR Italy = 1.71) and a better perception of health status (OR = 1.39). There was a negative and statistically significant

Table 1 Baseline characteristics

Variable	Overall satisfaction			<i>p</i>
	Satisfied <i>n</i> = 2255	Mild <i>n</i> = 560	Dissatisfied <i>n</i> = 167	
Age, mean (SE)	51.45 (13.34)	49.09 (13.28)	48.03 (13.34)	< 0.001
Visits to GP, mean (SE)	4.43 (4.92)	3.88 (4.33)	4.05 (6.06)	0.073
Visits to specialists, mean (SE)	1.84 (3.71)	1.83 (2.94)	2.36 (3.72)	0.145
Country, %				
Spain	78.89	18.10	3.02	
Estonia	81.16	15.70	3.14	
Germany	57.21	30.50	12.29	
Lithuania	65.81	25.53	8.67	< 0.001
Italy	86.74	11.86	1.40	
Hungary	85.31	12.35	2.33	
Finland	74.07	17.52	8.41	
Male, %	49.40	51.43	49.70	0.691
Residence in rural area, %	37.69	32.14	32.34	0.027
Having a GP, %	93.22	90.54	85.03	< 0.001
Self-perceived health fair, good or very good, %	92.43	92.29	88.02	0.122
Have a chronic disease (Yes), %	51.31	50.18	49.10	0.788
Measured weight, cholesterol and blood pressure during the last year, %	77.96	68.75	70.06	< 0.001

effect of respondent's visits to specialists (OR = 0.97) and certain countries (OR Germany = 0.34 and OR Lithuania = -0.52). German and Lithuanian patients were less satisfied with primary care services compared with those from Spain, whereas Hungarian and Italian patients were more satisfied. Visits to specialists had a negative association with patient satisfaction. The model fitted the parallel lines test. This test assumes proportionality of effects (i.e. effects of the independent variables [beta] were the same for all categories of the dependent variable) and is a necessary condition for determining the validity of an ordinal regression model.

Discussion

This study reports the results of an EUprimecare population survey investigating patient satisfaction with primary care. The main finding was the high level of satisfaction with primary care: 76.8% of participants were satisfied with overall care. The other finding was of variables associated with satisfaction.

Variables related to the doctor-patient relationship had a strong impact on satisfaction. Having a GP was one of the most important variables to explain satisfaction among primary care users in Europe. Variables related to the management of health problems in primary care, such as measuring weight, cholesterol and blood pressure also influenced the level of satisfaction.

Previous studies have shown the importance of the relationship between GP and patient in terms of patients' perception of quality of healthcare. Rincón-Gómez *et al* found that patients reported higher perceived quality when they were able to identify their clinical team.²² A qualitative study conducted in Denmark concluded that the relationship between the GP and the patient may be reinforced by greater continuity and recognition.²³ Gajovic *et al* considered direct contact between doctor and patient the most important predictor of patient satisfaction.²⁴ Having a continuous relationship with a physician, along with first contact, comprehensiveness and coordination of care, are considered the key features of primary care.²⁵ This could be interpreted in terms of patients' belief in the value of continuity with a regular provider who

Table 2 Characteristics by country

Variable	Germany	Lithuania	Finland	Spain	Estonia	Hungary	Italy	Total	<i>p</i>
Age, mean (SE)	50.35 (14.28)	48.13 (13.85)	50.70 (13.79)	48.48 (14.86)	53.84 (13.96)	48.37 (14.33)	56.04 (11.80)	50.85 (14.14)	< 0.001
Visits to GP, mean (SE)	3.88 (5.29)	4.67 (6.12)	2.73 (3.16)	3.96 (4.26)	3.50 (3.67)	5.73 (7.13)	5.53 (5.72)	4.29 (5.31)	< 0.001
Visits to specialists, mean (SE)	1.64 (2.63)	2.49 (3.71)	1.12 (2.02)	1.27 (2.58)	2.13 (3.80)	2.84 (4.56)	1.54 (2.83)	1.86 (3.31)	< 0.001
Overall satisfaction, %									< 0.001
Dissatisfied	12.29	8.67	8.41	3.02	3.14	2.33	1.40	4.15	
Mild	30.50	25.53	17.52	18.10	15.70	12.35	11.86	19.07	
Satisfied	57.21	65.81	74.07	78.89	81.16	85.31	86.74	76.78	
Male, %	49.88	49.88	49.77	48.72	50.00	49.88	50.00	49.74	0.212
Residence in a rural area	28.07	29.93	34.72	57.08	36.11	43.16	24.77	36.26	< 0.001
Having a GP, %	100	98.84	48.61	100	99.54	98.38	100	92.20	< 0.001
Self-reported health fair, good or very good, %	93.50	88.84	96.52	95.58	85.71	89.74	94.68	92.10	< 0.001
Having a chronic disease (Yes), %	44.32	63.81	53.24	36.89	57.18	59.86	41.90	51.00	< 0.001
Measured weight, cholesterol and blood pressure during the last year, %	80.51	87.01	63.89	65.66	81.94	77.03	73.61	75.70	< 0.001

Table 3 Univariate analysis

Variable	OR	95% CI	Wald	P
Age	1.013	1.007–1.019	17.258	< 0.001
Visits to GP	1.026	1.006–1.046	6.316	0.012
Visits to specialists	0.990	0.967–1.015	0.565	0.013
Men	0.928	0.783–1.101	0.741	0.389
Residence in a rural area	1.256	1.048–1.504	6.106	0.013
Have a GP	1.540	1.146–2.071	8.197	0.004
Self-reported health fair, good, very good	1.116	0.817–1.525	0.476	0.490
Measured weight, cholesterol and blood pressure during the last year	1.581	1.309–1.910	22.593	< 0.001
Have a chronic disease	0.928	0.782–1.100	0.750	0.387

OR, odds ratio; 95% CI, 95% confidence interval.

can develop an intimate knowledge of their clinical condition and establish a trusting, healing relationship. 'Having a primary physician' is a key element determining perceptions of quality.¹⁹ Variables related to more active management of health problems in primary care, such as measurement of weight, cholesterol and blood pressure, positively influence the level of satisfaction. Patients indicate their preference for primary care doctors who show greater engagement in managing chronic diseases, such as diabetes, hypertension or hypercholesterolemia.

The data reported here also show a lack of effect for the number of visits to primary care on patient satisfaction; however, referrals to specialists decrease satisfaction. The experience of being referred to a specialist provider is clearly important for patients. A specialist referral requires coordination and continuity of care, some of the dimensions of patient-centred care. However, primary and specialist care are usually separate settings, with patients having to navigate transition between them by themselves and that may reduce continuity. Communication and shared information between primary care and specialists are identified as a bridge for providing seamless integrated care,^{26,27} but it appears that patient expectations of a seamless transition are often not met.

The data confirm previous information on the effect of age on patient satisfaction with primary care. This was studied recently in the 2007/8 Access Survey in England by Kontopantelis *et al* who found a positive relationship between increasing age and satisfaction.¹⁶ The authors considered that differences in satisfaction by age group may have been due to

differences in actual care received or different response tendencies by age.¹⁶

Our results also confirm evidence that poorer physical health status, disability, low quality of life and psychological distress are associated with lower levels of reported satisfaction.²⁸ People who perceive themselves to be in poorer health may have lower patient satisfaction because they associate their poorer health status with the healthcare they receive. Conversely, individuals who feel well may project that sense of wellness to being satisfied with their healthcare environment. These findings suggest that patient satisfaction may not be as closely associated with tangible measures of quality care, but also a function of patient well-being and other personal characteristics unrelated to care.²⁹

We found differences in patient satisfaction by country after adjusting for patient individual characteristics and healthcare utilisation variables. Different expectations, response tendencies or even differences in primary care organisation could account for this. The extent to which these differences in patient satisfaction with primary care across countries are explained by the differences in the healthcare systems or by cultural differences cannot be determined. Countries included in this study showed differences in organisational, financial, regulatory and payment characteristics that may have influenced physician behaviours, professional–patient relationships and thus patient satisfaction. We should also not assume that a single question would capture all the complexities of satisfaction with healthcare.

Table 4 Ordinal regression results

	Variables	β	Wald	<i>P</i>	OR	95% CI
Threshold (Ref. Satisfied)	Dissatisfied	-1.189	10.332	< 0.001	0.304	0.147–0.629
	Mild	0.595	2.641	0.104	1.813	1.012–3.714
Location	Age	0.008	5.442	0.02	1.008	1.001–1.015
	Visits to GP	0.012	1.361	0.243	1.012	0.992–1.031
	Visits to specialists	-0.029	4.584	0.032	0.971	0.946–0.998
	Men	-0.010	0.012	0.912	0.990	0.832–1.178
	Residence in rural areas	0.175	3.343	0.068	1.191	0.987–1.438
	Has a GP	0.700	10.780	0.001	2.014	1.326–3.059
	Self-perceived health fair, good, very good	0.332	3.895	0.048	1.394	1.002–1.937
	Measured weight, cholesterol and blood pressure during the last year (Ref: No)	0.523	24.408	< 0.001	1.687	1.370–2.075
	Having a chronic disease	0.124	1.519	0.218	1.132	0.930–1.377
	Country					
	Estonia	0.133	0.529	0.467	1.142	0.799–1.634
	Germany	-1.080	46.790	< 0.001	0.341	0.250–0.463
	Finland	0.132	0.388	0.533	1.141	1.3226–1.725
Lithuania	-0.660	16.020	< 0.001	0.519	0.376–0.715	
Italy	0.534	7.727	0.005	1.706	1.170–2.484	
Hungary	0.497	7.108	0.008	1.644	1.141–2.370	
Ref: Spain						
R^2 Nagelkerke = 0.1			Chi ² model: 222.724; gl: 15; <i>P</i> < 0.001			
Parallel lines test: <i>P</i> = 0.122			Goodness-of-fit: 0.985			

OR, odds ratio; 95% CI, 95% confidence interval.

The strength of this study lies in the use of a stratified sample of users of primary care services in seven countries with a questionnaire developed from focus groups with patients and professionals. To our knowledge, patient satisfaction with primary care services using data from a population survey in different European countries has not been reported previously.

The limitations of this study include the low response rate to the questionnaire. The sampling process was designed to recruit a sample representative of the total population. However, the low response rate might limit the representativeness of the data. The role of income and race or ethnicity has not been considered and some studies describe their relationship with satisfaction. The study did not cover all European

countries. Owing to problems of language and logistics, the survey was conducted by an external company, which made it more difficult to control for potential selection bias.

Our findings indicate that patient satisfaction is dependent on complex factors. Some of the essential characteristics of strong primary care were also highly valued by patients, and although few would disagree that consumers are important judges of the care they receive, the data also indicate that direct cross-country comparisons of patients satisfaction with healthcare systems should be viewed with caution. Analysis of data on satisfaction requires us to consider a wide range of issues in order to make recommendations for potential quality improvement, including which

population subgroups might require targeted interventions to improve their satisfaction with primary care in Europe.

A significant contribution to the variation in patient satisfaction was attributed to factors endogenous to the patient and thus not amenable to provider intervention, and because satisfaction with the health-care system also depends on factors external to patients' experience of care,³⁰ patient satisfaction data should be used cautiously.

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