

# Patient, physician, and practice characteristics related to patient enablement in general practice in Croatia: cross-sectional survey study

---

Ožvačić Adžić, Zlata; Katić, Milica; Kern, Josipa; Lazić, Đurđica; Cerovečki Nekić, Venija; Soldo, Dragan

Source / Izvornik: **Croatian Medical Journal, 2008, 49, 813 - 823**

Journal article, Published version

Rad u časopisu, Objavljena verzija rada (izdavačev PDF)

<https://doi.org/10.3325/cmj.2008.49.813>

Permanent link / Trajna poveznica: <https://um.nsk.hr/um:nbn:hr:105:749952>

Rights / Prava: [In copyright](#)/[Zaštićeno autorskim pravom.](#)

Download date / Datum preuzimanja: **2024-07-24**



Repository / Repozitorij:

[Dr Med - University of Zagreb School of Medicine Digital Repository](#)



## Patient, Physician, and Practice Characteristics Related to Patient Enablement in General Practice in Croatia: Cross-sectional Survey Study

Zlata Ožvačić Adžić<sup>1</sup>, Milica Katić<sup>1</sup>, Josipa Kern<sup>2</sup>, Đurđica Lazić<sup>1</sup>, Venija Cerovečki Nekić<sup>1</sup>, Dragan Soldo<sup>1</sup>

<sup>1</sup>Department of Family Medicine, Andrija Štampar School of Public Health, Zagreb University School of Medicine, Zagreb, Croatia

<sup>2</sup>Department of Medical Statistics, Epidemiology and Medical Informatics, Andrija Štampar School of Public Health, Zagreb University School of Medicine, Zagreb, Croatia

> **Correspondence to:**

Zlata Ožvačić Adžić  
Department of Family Medicine  
Andrija Štampar School of Public Health  
Zagreb University School of Medicine  
Rockefellerova 4  
10000 Zagreb, Croatia  
zlata.ozvacic@zg.t-com.hr

> **Received:** September 15, 2008

> **Accepted:** October 13, 2008

> **Croat Med J. 2008;49:813-23**

> doi:10.3325/cmj.2008.49.813

**Aim** To investigate the quality of general practice care in Croatia by using patient enablement as a consultation outcome measure and its association with patient, physician, and practice characteristics.

**Methods** A cross-sectional questionnaire-based study performed from November 2003 to March 2004 included a national stratified random sample of 350 general practitioners, who were asked to collect data on 50 consecutive consultations with their patients aged  $\geq 18$  years. Patients provided data on patient enablement (Patient Enablement Instrument, score range 0-12), consultation length, sociodemographic data, how well they knew the physician, health self-assessment, quality of life, and reason for the visit. Physicians provided data on age, sex, vocational training, working experience, educational work, average number of patients per day, and type of practice.

**Results** In 5527 patients, the mean score ( $\pm$ standard deviation) for enablement at consultation was  $6.6 \pm 3.3$  and the mean consultation length was  $11.5 \pm 5.5$  minutes. Logistic regression analysis showed that lack of continuity of care (men: OR, 0.56; 95% CI, 0.47-0.67; women: OR, 0.52; 95% CI, 0.45-0.61), poor self-perceived health (men: OR, 1.76; 95% CI, 1.49-2.07; women: OR, 1.77; 95% CI, 1.53-2.04), low educational level, low quality of life for both sexes and older age in male patients predicted low enablement ( $P < 0.05$  for each). Physician age, sex, and average number of patients per day were significantly correlated with enablement for male patients and physician working experience with enablement for female patients ( $P < 0.05$  for each).

**Conclusion** Patient enablement score in Croatia is high in comparison with countries such as the UK and Poland. Enablement at consultations was related to the continuity of care and patient health status, and other patient, physician, and practice characteristics, suggesting that these parameters should be considered when assessing quality of care in general practice.

The term *quality of care* integrates the notions of access to care and effectiveness of care, which is further divided into clinical and interpersonal effectiveness (1). Although interpersonal effectiveness is more difficult to define and measure, it is widely regarded as one of the core attributes of good general practice (2). Focusing on interpersonal effectiveness at general practice consultation, Howie et al (3,4) developed the concept of patient enablement, a consultation outcome measure that reflects the extent to which patients understand their health problems and feel able to cope with them as a result of the consultation. Enablement is based on the assumption that important modifiers of consultation outcome are adjustment and coping, and that "what is important in predicting outcome is how the respondent actually feels and perceives life" (5). According to Wensing, patients find it very important to be able to understand the nature of their problem and manage their own illness (6), which supports the concept of enablement as a patient-specific health-related benefit resulting from a consultation.

Patient enablement is based on the principles of patient-centered care and holism, which are the two core values of general practice (3,4). Patient-centered care is defined as the use of adequate consulting skills in identifying patients' priorities and concerns and the appropriate involvement of patients in making decisions about their care (2,7). Holism is an approach to construction of diagnoses in biopsychosocial terms. It is reflected in the two consultation process measures: how well the patient knows the general practitioner (proxy for continuity of care) and consultation length, both of which are positively correlated with enablement (3,4,8).

In the period from 1990 to 1999, Croatia underwent socio-economic and political changes, which also affected the organization of the health care system. The system has

been transformed from a national health insurance model with a high level of solidarity to a public-private mix (9). Primary health care was the first in which partial privatization was introduced (9). Recent research on quality of general practice care showed that, despite many restrictions introduced in the system, patient satisfaction with general practice care remained relatively high (10).

Our aim was to investigate the quality of care in general practice in Croatia using patient enablement as a consultation outcome measure and its association with patient, physician, and practice characteristics.

## Participants and methods

### Sampling and study design

This cross-sectional study was conducted as a part of the research project "Evidence-based Quality of Health Care," funded by the Croatian Ministry of Science, Education, and Sports. Data were collected from November 2003 to March 2004.

The target population of physicians consisted of 2418 physicians working in family medicine service in Croatia in 2002 (11). A multistage stratified proportional sample design was used to draw a random sample of 350 physicians; the five stratification criteria included physician's age ( $\leq 34$  years, 35-54 years,  $\geq 55$  years), sex, vocational training (physician without specialization, general practice/family medicine specialist, occupational health specialist, school medicine specialist), practice size ( $\leq 1200$  patients, 1201-1699 patients,  $\geq 1700$  patients), and geographical distribution of the practices (21 Croatian counties).

The selection of practices and physicians was made using national data from Croatian National Institute of Public Health (11) and Croatian Institute of Health Insurance. The selection of practices and physicians was made using national data from the Croatian

National Institute of Public Health (11) and Croatian Institute of Health Insurance. All physicians who worked in the family medicine service in Croatia in 2002, irrespective of their vocational training and covering the whole Croatian population, presented the initial sampling frame. In the initial stage of random sampling, practices were drawn proportional to their frequencies in Croatian counties. In the second stage, we performed proportional random sampling of practices according to physician age, sex, vocational training, and practice size.

Upon arrival to the consultations, 50 consecutive unselected patients aged 18 years and more of each of the participating physicians were asked by the practice nurse (in Croatia, the practice nurse performs the role of a receptionist) if they would be willing to complete a questionnaire. Patients were informed about the purpose of the study and were told that the study was anonymous and that they had the possibility to refuse to participate. Physicians were instructed to record the time of the beginning and end of the consultation using a watch and to calculate the consultation length rounded to the nearest half-minute.

Patients were asked to fill out the questionnaire immediately after the consultation and leave it in a sealed box at the office reception desk, to ensure confidentiality.

The Ethics Committee of the Medical School, University of Zagreb, approved the study.

#### **The survey instrument**

Physicians completed a self-administered questionnaire that included questions on physician and practice characteristics. Variables included in the analysis were physician's age (years), sex, vocational training (physician without specialization, general practice/family medicine specialist, occupational health specialist, school medicine specialist), working experience as a

general practitioner (years), educational work (ie, providing education to medical students, interns, or family medicine residents; yes/no), average number of patients seen per day, and type of practice (rural, urban, mixed). The questionnaire was designed originally for the purpose of this study and its applicability was established by a pilot study.

Patients completed a self-administered questionnaire. The first part of the questionnaire included the Patient Enablement Instrument (PEI), a standardized instrument developed to measure enablement at consultations (4). The PEI consists of six items addressing patients' ability to understand their illness and cope with it, and the degree to which they feel able to cope with life, keep themselves healthy, feel confident about their health, and help themselves after seeing the physician (4). Responses "much better," "better," and "same or less" were scored as 2, 1, and 0, respectively, giving an enablement score range of 0-12. The PEI questionnaire was translated into Croatian separately by two researchers and validated at a discussion group with other researchers including an English teacher employed at Zagreb Medical School and 10 patient representatives of different age, sex, and educational level. No adaptations of the questionnaire were necessary. The questionnaire was then translated back into English by another researcher and the translation was compared with the original. No major differences were found.

The other part of the patient's questionnaire was designed for the purpose of this study. Patient variables included in the analysis were age (years), sex, educational level (unfinished elementary school, elementary school, secondary school, college, university, unknown), self-perceived economic status in comparison with average economic status (much worse than average, somewhat worse than average, average, somewhat better than

average, much better than average), self-perceived health status (excellent, very good, good, satisfactory, poor), number of self-reported chronic diseases (0, 1, and  $\geq 2$ ), quality of life (11-point Likert scale, range from 0 – not satisfied at all to 10 – fully satisfied), consultation length (minutes), how well the patient knows the physician (not at all, not well, fairly well, well, very well), and the number of problems the patient wanted to discuss during the consultation (1, 2, and more).

The measures used to describe patient characteristics, apart from consultation length and how well the patient knows the physician (4), were validated measures adopted from the Croatian Adult Health Survey, a representative epidemiological survey of the Croatian population designed in collaboration with Canadian Society for International Health and conducted in 2003 (12,13). The applicability of the patients' questionnaire was confirmed by the pilot study.

In November 2003, all questionnaires were sent to physicians by mail together with a cover letter in a prepaid and addressed envelope. No financial or educational incentives were provided to participating physicians. A reminder was sent one month later.

#### **Statistical analysis**

Mean enablement scores were calculated for individual physicians and for each physician and practice group; median and interquartile range were calculated for each patient group due to non-normal distribution of enablement scores in the subgroups of patients.

Patient enablement scores were divided according to the 25th, 50th, and 75th percentile into 3 groups as follows: low (<25th percentile, score 0-5), medium (25th-75th percentile, score 6-9), and high enablement (>75th percentile, score 10-12).

To determine associations between patient enablement and patient, physician, and prac-

tice characteristics, binary logistic regression was used. Low enablement at consultations (<25th percentile, patient enablement score 0-5) was used as the dependent variable, with a number of other predictor variables in the models. Predictor variables at patient level included patient age, educational level, self-perceived economic status, self-perceived health status, number of self-reported chronic diseases, quality of life, consultation length, how well the patient knows the physicians, and the number of problems patient wanted to discuss during consultation. Predictor variables at physician level included age, sex, vocational training (binary; general practice/family medicine specialist or other), working experience as a general practitioner, and educational work. Predictor variables at practice level included average number of patients per day and type of practice (binary; rural or other).

All confidence intervals that were estimated for adjusted odds ratios were calculated with 95% probability levels. All models were sex-specific at the patient level. *P* value <0.05 was considered statistically significant. Software SAS 8.0.2 (SAS Institute inc., Carry, NC, USA) was used for data analysis.

#### **Results**

Of 350 general practitioners, 125 returned completed physician and patient questionnaires, giving a response rate of 35.7%. The responding physicians had similar demographic characteristics to those who refused to participate in the study. They also represented the total population of physicians working in family medicine in Croatia in 2002 according to age, sex, and vocational training. The proportion of practices with a smaller number of patients ( $\leq 1200$  patients) might be underrepresented in the sample (Table 1).

A total of 6250 patients were approached. Questionnaires from 723 patients were not

**Table 1.** Analysis of responding physicians and total population of physicians working in the family medicine service in Croatia in 2002, according to Croatian Institute of Health Insurance (CIHI) database

Characteristic	No (%) of physicians		P <sup>‡</sup>
	total population (n = 2418)	responding (n = 125)	
Age* (years):			
≤34	91 (3.8)	2 (1.6)	0.065
35-54	1803 (75.0)	105 (84.0)	
≥55	510 (21.2)	18 (14.4)	
Sex:			
male	631 (26.1)	23 (18.4)	0.055
female	1787 (73.9)	102 (81.6)	
Vocational training <sup>†</sup> :			
physician without specialization	1363 (58.0)	78 (62.4)	0.598
general practice/family medicine specialist	696 (29.6)	37 (29.6)	
occupational health specialist	170 (7.2)	7 (5.6)	
school medicine specialist	123 (5.2)	3 (2.4)	
Practice size:			
≤1200 patients	511 (21.1)	8 (6.4)	0.001
1201-1699 patients	889 (36.8)	62 (49.6)	
≥1700 patients	1018 (42.1)	55 (44.0)	

\*CIHI database contains 2404 physicians with known age; data missing in 14 cases.

<sup>†</sup>CIHI database contains data on 2352 physicians with 4 selected primary health care vocational training types; 66 cases of physicians with other vocational training (eg, anesthesiology, radiology, clinical microbiology, etc.) were excluded from the sampling process.

<sup>‡</sup>χ<sup>2</sup> test.

returned or were returned uncompleted; responses from 5527 patients (response rate 88.4%) were available and used for statistical analysis. The responding patients did not differ substantially from the corresponding population of patients aged 18 years and more on the lists of participating physicians according to age.

Mean enablement score at consultations was  $6.6 \pm 3.3$  and mean consultation length was  $11.5 \pm 5.5$  minutes. Distribution of enablement scores according to the 25th, 50th, and 75th percentile in 3 groups of low, medium, and high enablement showed that 1740 (31.5%) consultations provided patients with low, 2588 (46.8%) with medium, and 1199 (21.7%) consultations with high level of enablement.

#### Patient characteristics

Among 5527 patients included in the analysis, there were 3238 (58.8%) women and 2265 (41.2%) men. Mean age ( $\pm$ standard deviation) of the patients was  $49.9 \pm 16.7$  years. Most pa-

tients had completed high school ( $n = 2841$ , 51.7%) and perceived their own economic status as average ( $n = 2803$ , 51.1%). The majority of patients reported that they were in satisfactory ( $n = 1929$ , 35.0%) or good ( $n = 1626$ , 30.1%) health and had two or more chronic diseases ( $n = 3035$ , 54.9%) (Table 2). The average quality of life score was  $5.9 \pm 2.7$  on a 0-10 scale. Most patients knew the physician well ( $n = 2595$ , 47.3%) or very well ( $n = 1148$ , 20.9%) and came to the consultation to discuss one problem ( $n = 4118$ , 77.1%) (Table 3).

Distribution of patient enablement scores, presented as median and interquartile range, showed a decrease in reported enablement with the increase in patient age and number of self-reported chronic diseases (Table 2). Patient enablement scores increased with the patient educational level, self-perceived economic status, self-perceived health status (Table 2),

**Table 2.** Distribution of patients by sociodemographic characteristics, self-perceived economic status, and self-perceived health status, with enablement scores (median and interquartile range) for each patient group ( $n = 5527$ )

Characteristic	No (%) of patients	Enablement score (median, interquartile range)
Age (years):		
18-34	1127 (20.5)	7.0 (4.0)
35-64	3089 (56.2)	6.0 (4.0)
≥65	1283 (23.3)	6.0 (3.0)
Sex:		
male	2265 (41.2)	6.0 (5.0)
female	3238 (58.8)	6.0 (4.0)
Education:		
unfinished elementary school	426 (7.8)	5.5 (5.0)
elementary school	1125 (20.5)	6.0 (5.0)
secondary school	2841 (51.7)	6.0 (4.0)
college	495 (9.0)	7.0 (4.0)
university	583 (10.6)	7.0 (4.0)
unknown	25 (0.4)	6.0 (1.0)
Self-perceived economic status:		
much worse than average	749 (13.7)	6.0 (5.0)
somewhat worse than average	1099 (20.0)	6.0 (4.0)
average	2803 (51.1)	6.0 (4.0)
somewhat better than average	677 (12.3)	7.0 (4.0)
much better than average	161 (2.9)	8.0 (5.0)
Self-perceived health status:		
excellent	207 (3.8)	10 (5.0)
very good	754 (13.7)	8.0 (5.0)
good	1656 (30.1)	7.0 (3.0)
satisfactory	1929 (35.0)	6.0 (4.0)
poor	960 (17.4)	4.0 (5.0)
No. of self-reported chronic diseases per patient:		
0	1370 (24.8)	7.0 (4.0)
1	1122 (20.3)	7.0 (4.0)
≥2	3035 (54.9)	6.0 (4.0)

**Table 3.** Distribution of patients by consultation length, level of knowing the physician, and number of problems patient wanted to discuss, with enablement scores (median and interquartile range) for each patient group (n = 5527)

Characteristic	No (%) of patients	Enablement score (median, interquartile range)
Consultation length (minutes):		
0-9	1556 (28.2)	6.0 (4.0)
10-15	3245 (58.7)	6.0 (5.0)
≥16	726 (13.1)	6.0 (5.0)
Level of knowing the physician:		
not at all	39 (0.7)	5.0 (6.0)
not well	276 (5.0)	6.0 (5.5)
fairly well	1434 (26.1)	6.0 (4.0)
well	2595 (47.3)	6.0 (4.0)
very well	1148 (20.9)	7.0 (4.0)
No. of problems the patient wanted to discuss:		
1	4118 (77.1)	6.0 (4.0)
≥2	1222 (22.9)	6.0 (5.0)

and how well the patient knew the physician (Table 3).

#### Physicians and practices

Of 125 physicians in the analysis, 102 (81.6%) were women and 23 (18.4%) were men. The physician mean age was  $46.0 \pm 7.0$  years and they had  $13.3 \pm 7.4$  years of working experience as a general practitioners. Majority of the participating physicians had no vocational training (n = 78, 62.4%), worked in mixed (rural-urban) type of practice (n = 48, 38.4%) (Table 4), had the average number of

**Table 4.** Distribution of physician and practice characteristics with mean enablement scores for each physician/practice group (n = 125)

Characteristic	No (%) of physicians/practices	Enablement score (mean ± standard deviation)
Age (years):		
≤34	2 (1.6)	6.8 ± 1.2
35-54	105 (84.0)	6.6 ± 1.1
≥55	18 (14.4)	6.8 ± 1.3
Sex:		
male	23 (18.4)	6.4 ± 1.4
female	102 (81.6)	6.7 ± 1.1
Vocational training:		
physician without specialization	78 (62.4)	6.6 ± 1.2
general practice/family medicine specialist	37 (29.6)	6.8 ± 1.1
occupational health specialist	7 (5.6)	6.6 ± 2.0
school medicine specialist	3 (2.4)	7.3 ± 2.0
Educational work:		
yes	65 (52.0)	6.8 ± 1.2
no	60 (48.0)	6.5 ± 1.2
Type of practice:		
rural	37 (29.6)	6.4 ± 1.4
urban	40 (32.0)	6.7 ± 0.8
mixed	48 (38.4)	6.9 ± 1.3

$1678.9 \pm 314.7$  patients, and saw an average of  $49.2 \pm 9.8$  patients per day. There were 65 (52.0%) physicians who provided education to students, interns, or family medicine residents in their practices (Table 4).

Mean enablement scores of physicians ranged from 3.2 to 9.6, with an overall physician-specific mean enablement score of  $6.6 \pm 1.2$ .

Enablement scores for individual physicians were approximately normally distributed as follows: 32 (25.6%) physicians had mean enablement score in the bottom quartile of the distribution (<25th percentile, mean enablement score 3.2-5.8), 63 (50.4%) physicians between the bottom and top quartile (25th-75th percentile, mean score 5.9-7.5), and 30 (24.0%) physicians in the top quartile of the distribution (>75th percentile, mean score 7.6-9.6).

Mean physician-specific enablement scores were higher in female physicians, physicians who provided education to medical students, interns, or residents in their practices, school medicine specialists (although there were only 3 in the sample), and general practice/family medicine specialists, and lower in rural practices (Table 4).

#### Binary logistic regression analysis

A binary logistic regression model of enablement at consultations indicated that patients' education, self perceived health status, quality of life, and how well the patient knows the physician were all significantly associated with enablement for both sexes. Patients' age was significantly associated with enablement for male patients (Table 5).

Physician age, sex, and average number of patients seen per day were significantly correlated with enablement for male patients, and working experience of the physician was significantly associated with enablement for female patients (Table 5).

**Table 5.** Logistic regression models on the association of low enablement at consultations (<25th percentile, patient enablement score 0-5) and patient, physician, and practice characteristics

Predictor	Odds ratios (OR) with 95% confidence intervals (CI) and P values (low enablement)			
	men	P	women	P
<b>Patient characteristics:</b>				
age	1.02 (1.01-1.03)	0.003	1.01 (1.00-1.02)	0.054
education	0.83 (0.71-0.98)	0.024	0.70 (0.62-0.80)	<0.001
self-perceived economic status	1.11 (0.94-1.31)	0.240	1.07 (0.93-1.23)	0.303
self-perceived health status	1.76 (1.49-2.07)	<0.001	1.77 (1.53-2.04)	<0.001
No. of self-reported chronic diseases per patient	1.06 (0.97-1.15)	0.208	1.02 (0.96-1.10)	0.497
quality of life	0.80 (0.75-0.86)	<0.001	0.81 (0.77-0.86)	<0.001
consultation length	0.98 (0.96-1.01)	0.178	0.99 (0.96-1.01)	0.329
knowing the physician	0.56 (0.47-0.67)	<0.001	0.52 (0.45-0.61)	<0.001
No. of problems the patient wanted to discuss	0.81 (0.60-1.07)	0.140	1.07 (0.85-1.33)	0.578
<b>Physician characteristics:</b>				
age	0.97 (0.95-0.99)	0.008	0.98 (0.97-1.00)	0.085
sex:				
female (ref)	1.00		1.00	
male	1.36 (1.06-1.75)	0.016	1.11 (0.88-1.39)	0.381
vocational training:				
general practice/family medicine specialist (ref)	1.00		1.00	
other	0.96 (0.74-1.23)	0.735	1.15 (0.92-1.43)	0.218
working experience as a general practitioner	1.02 (0.998-1.04)	0.074	1.02 (1.01-1.04)	0.009
educational work:				
yes (ref)	1.00		1.00	
no	0.97 (0.78-1.21)	0.794	0.84 (0.70-1.01)	0.066
<b>Practice characteristics:</b>				
No. of patients per day	0.98 (0.97-0.99)	0.015	0.99 (0.98-1.00)	0.226
type of practice:				
other (ref)	1.00		1.00	
rural	0.87 (0.69-1.09)	0.221	1.17 (0.96-1.43)	0.113

## Discussion

We found that consultations in general practice resulted in a relatively high average level of enablement. Enablement score of 6.6 at consultations in our study was higher than in studies conducted in the UK (3.1 for English speaking patients and 4.5 for patients consulting in other languages) (4) and Poland (3.6) (8). Higher enablement scores in our patients may be explained by cultural differences between the countries. Howie et al (4) found significantly higher enablement scores in “other language patients,” while Freeman et al (14) found even higher enablement scores (mean 5.0) when these patients had consultations in their own language. Ethnic differences in enablement could be explained by different primary care needs in different populations, cultural differences in willingness to report unfavorable responses, different interpretation of the “enablement” concept, or actual differences in the quality of delivered care

(15). Croatia is a country with a strong tradition of comprehensive and community-oriented primary health care, based on the principles of equity, accessibility, continuity, and integrated care (9). Consequently, higher enablement scores might thus result from the fact that Croatian patients have greater expectations than patients from other countries in terms of benefits that they can get from general practice consultations (9). Patient expectations in terms of health benefits have been reported as a key determinant of enablement (16). Also, Mead et al (15) have suggested that patient needs are most likely to be met when the cultural contexts of the physician and patient are well matched.

One of the strongest associations in our study was found between the continuity of care and enablement; patients achieving the lowest enablement scores were those who knew their physician the least. This result mirrors previous findings (3,4,15). Primary care system in Croatia is currently organized as a



list-based system where patients register with a single physician who acts as a gatekeeper for other services and provides continuing and comprehensive personal care. In 2005, 82.7% of general practitioners in Croatia had contracts with the Croatian Institute for Health Insurance, working as individual practitioners (17). Continuity of general practice care in Croatia is reflected in the finding that 68.2% of our patients reported knowing their physician well or very well – a much higher proportion than in the study by Howie et al (4), which might be responsible for higher enablement scores.

Consultations in Croatia were longer than in the UK (4), but of similar length, as in some other European countries (18). In general practice, there has recently been a shift of focus from care for acute self-limiting diseases to a continuing care for multimorbid chronic patients, which includes not only treatment, but also health promotion, prevention, and rehabilitation, resulting in need for longer consultations (19).

Our study included large proportion of patients who reported having a chronic disease, especially multimorbid patients, which might have contributed to longer consultation times. Although we found no associations between consultation length and enablement, which is not in accordance with previous studies (3,4,8,20), more detailed analysis is needed to explore possible relations between consultation times, enablement, and different patient, physician, and practice characteristics.

Older age in male patients and lower educational level, lower quality of life, and poorer self-perceived health status in both sexes predicted low enablement at consultations in our study. Research has demonstrated that health status is an important independent predictor of enablement, with patients having a long-standing illness or disability reporting significantly lower enablement scores (15). Our

findings partially reflect the “inverse care law,” which states that the increased burden of ill health and multimorbidity in the socially-deprived areas results in high demands on consultations in primary care, but is also related to generally shorter consultation times and lower patient enablement for psychosocial problems (21).

Male patients consulting male physicians in our study had a higher risk of achieving low enablement. This result is in line with the studies reporting that male physicians are less patient-centered (22) and practice less participatory decision-making style, especially in consultations with male patients (23). The negative effect of the younger age of physician on enablement of male patients could be explained by a combination of physician’s inexperience and lower consultation rates of male patients (24), resulting in a lower level of knowing the younger physicians by male patients. In line with this, less experienced physicians from our study were at lower risk of providing female patients with low enablement, again probably due to the positive effect of higher consultation rates of female patients (24).

The negative impact of seeing fewer patients per day on the enablement of male patients has to be interpreted in the light of Croatian primary health care reform. The reform introduced partially privatized primary care system with capitation fee model of financing, which stimulated physicians to accumulate preferably young and healthy patients on their lists (9). As a result, physicians who were excluded from the privatization process, predominantly either very young or old physicians with smaller patient lists, accumulated patients with increased health needs (eg, chronically ill and elderly) and patients from socially vulnerable groups. These physicians would have fewer consultations per day but the consultations would be more complex, resulting in lower en-

ablement. This is another example of “inverse care law” (21) operating within the Croatian primary health care system.

This study has several limitations. The response rate was 35.7% and a rather small number of practices with list size  $\leq 1200$  patients was included (6.4% vs 21.1% in the Croatian population of family physicians), suggesting that these practices might be underrepresented in the sample. Considering our finding that having fewer patients per day has a negative impact on enablement, underrepresentation of smaller practices in the sample might have influenced the enablement scores.

However, our analyses suggest that our respondents did not differ substantially in demographic (age, sex) and professional (vocational training) characteristics from the total population of physicians working in the family medicine service in Croatia in 2002. Although at this point our data are 4 to 5 years old, we believe they represent a significant contribution to continuing research on patient enablement and other consultation outcome measures of interpersonal care in general practice (15,25). These data also present a solid base for our upcoming national follow-up study using Consultation Quality Index – 2 (CQI-2) (25), a new measure of holistic interpersonal care in primary care consultations.

Patient response rate was 88.4%. Due to anonymity of the study and limited availability of information on demographic characteristics of patients provided by Croatian Institute for Health Insurance, we were only able to compare the age of the responding patients (77.8% aged 18-65, 21.7% aged  $\geq 66$ , and 0.5% of unknown age) and the matching population of patients aged  $\geq 18$  on physicians' lists (77.7% aged 18-65, 22.3% aged  $\geq 66$ ) and found no significant difference. Although patients' response rate was quite high, it is possible that non-participating patients would have reported lower enablement scores.

The physicians were instructed to record the time of the beginning and end of the consultation and to calculate the consultation length rounded to the nearest half-minute. Although this is not the most accurate way of measuring the consultation length, we could not provide stop-watches to all participating physicians due to limited financial resources. This might have also caused some bias, since physicians, knowing their performance is being observed, might have influenced (ie, prolonged) the consultation time. In the recent evaluation study of the CQI-2, Mercer and Howie (25) even considered omitting mean consultation length item from the new version of the instrument, given the reliability of the instrument is preserved.

In conclusion, we found that general practice consultations resulted in a relatively high average level of enablement, indicating a satisfying quality of general practice consultations in terms of interpersonal effectiveness. We also found higher mean patient enablement scores than in other countries, which may indicate cultural differences in patient experience, supporting the need for further research in this area. There are other factors, which are not measured in the current study, but which could explain a part of the difference in enablement scores. One of these factors is physician empathy, which has recently been proven to have a strong effect on enablement (16).

Our results confirmed that enablement was associated with continuity of care, a core principle in general practice. The substantial benefit of interpersonal continuity of care has been reported in a number of studies and is related to better care outcomes (26-29), including patient enablement (2,4,15). This seems to be important to majority of patients, particularly those from vulnerable groups (27,30). In the context of population aging and increased number of patients with more chronic conditions, continuity of care confirms itself as one

of the core principles of family medicine and these issues should be considered by policy makers when addressing future organization of primary health care services in Croatia.

Lower educational level, lower quality of life, and poorer self-perceived health status predicted low enablement at consultations, proving that individual needs and characteristics of patients are related to consultation outcomes and cannot be neglected when assessing quality of care.

#### Acknowledgment

We thank the general practitioners who participated in the study and completed the questionnaires and Croatian Institute for Health Insurance for supplying the physicians' sample frame data.

This cross-sectional study was conducted as a part of the research project No. 0108331, sponsored by the Croatian Ministry of Science, Education, and Sports.

Part of the preliminary results of this study entitled "The Relation between Patient Characteristics and Patient Enablement in General Practice in Croatia" was presented at the international conference Quality of primary health care: the perspective of patients, Ljubljana, Slovenia, March 28-29 2008, and has been included in the conference proceedings in the form of an abstract.

#### References

- Campbell SM, Roland MO, Buetow SA. Defining quality of care. *Soc Sci Med*. 2000;51:1611-25. [Medline:11072882](#) [doi:10.1016/S0277-9536\(00\)00057-5](#)
- Howie JG, Heaney D, Maxwell M. Quality, core values and the general practice consultation: issues of definition, measurement and delivery. *Fam Pract*. 2004;21:458-68. [Medline:15249538](#) [doi:10.1093/fampra/cmh419](#)
- Howie JG, Heaney DJ, Maxwell M. Measuring quality in general practice. Pilot study of a needs, process and outcome measure. *Occas Pap R Coll Gen Pract*. 1997;75:1-32. [Medline:9141884](#)
- Howie JG, Heaney DJ, Maxwell M, Walker JJ, Freeman GK, Rai H. Quality at general practice consultations: cross sectional survey. *BMJ*. 1999;319:738-43. [Medline:10487999](#)
- Lazarus RS. Patterns of adjustment. New York: McGraw-Hill; 1976.
- Wensing M, Jung HP, Mainz J, Olesen F, Grol R. A systematic review of the literature on patient priorities for general practice care. Part I: Description of the research domain. *Soc Sci Med*. 1998;47:1573-88. [Medline:9823053](#) [doi:10.1016/S0277-9536\(98\)00222-6](#)
- Little P, Everitt H, Williamson I, Warner G, Moore M, Gould C, et al. Observational study of effect of patient centredness and positive approach on outcomes of general practice consultations. *BMJ*. 2001;323:908-11. [Medline:11668137](#) [doi:10.1136/bmj.323.7318.908](#)
- Pawlikowska TR, Nowak PR, Szumilo-Grzesik W, Walker JJ. Primary care reform: a pilot study to test the evaluative potential of the Patient Enablement Instrument in Poland. *Fam Pract*. 2002;19:197-201. [Medline:11906988](#) [doi:10.1093/fampra/19.2.197](#)
- Katic M, Juresa V, Oreskovic S. Family medicine in Croatia: past, present, and forthcoming challenges. *Croat Med J*. 2004;45:543-9. [Medline:15495277](#)
- Katic M, Budak A, Ivankovic D, Mastilica M, Lazic D, Babic-Banaszak A, et al. Patients' views on the professional behaviour of family physicians. *Fam Pract*. 2001;18:42-7. [Medline:11145627](#) [doi:10.1093/fampra/18.1.42](#)
- Croatian National Institute of Public Health. Croatian Health Service Yearbook 2002 [in Croatian]. Zagreb: Hrvatski zavod za javno zdravstvo; 2003.
- Beland Y, Bailie L, Page J. Statistics Canada, Croatian Ministry of Health and Central Bureau of Statistics: a joint effort in implementing the 2003 Croatian Adult Health Survey. Proceedings of the American Statistical Association Meeting on Survey Research Methods, 2004. Toronto: American Statistical Association; 2004.
- Kern J, Strnad M, Coric T, Vuletic S. Cardiovascular risk factors in Croatia: struggling to provide the evidence for developing policy recommendations. *BMJ*. 2005;331:208-10. [Medline:16037458](#) [doi:10.1136/bmj.331.7510.208](#)
- Freeman GK, Rai H, Walker JJ, Howie JG, Heaney DJ, Maxwell M. Non-English speakers consulting with the GP in their own language: a cross-sectional survey. *Br J Gen Pract*. 2002;52:36-8. [Medline:11794324](#)
- Mead N, Bower P, Roland M. Factors associated with enablement in general practice: cross-sectional study using routinely-collected data. *Br J Gen Pract*. 2008;58:346-52. [Medline:18482489](#) [doi:10.3399/bjgp08X280218](#)
- Mercer SW, Reilly D, Watt GC. The importance of empathy in the enablement of patients attending the Glasgow Homoeopathic Hospital. *Br J Gen Pract*. 2002;52:901-5. [Medline:12434958](#)
- Croatian National Institute of Public Health. Croatian Health Service Yearbook 2005 [in Croatian]. Zagreb: Hrvatski zavod za javno zdravstvo; 2006.
- Deveugle M, Derese A, van den Brink-Muinen A, Bensing J, De Maeseneer J. Consultation length in general practice: cross sectional study in six European countries. *BMJ*. 2002;325:472-7. [Medline:12202329](#) [doi:10.1136/bmj.325.7362.472](#)
- Freeman GK, Horder JP, Howie JG, Hungin AP, Hill AP, Shah NC, et al. Evolving general practice consultation in Britain: issues of length and context. *BMJ*. 2002;324:880-2. [Medline:11950738](#) [doi:10.1136/bmj.324.7342.880](#)
- Mercer SW, Fitzpatrick B, Gourlay G, Vojt G, McConnachie A, Watt GC. More time for complex consultations in a high-deprivation practice is associated with increased patient enablement. *Br J Gen Pract*. 2007;57:960-6. [Medline:18252071](#) [doi:10.3399/096016407782604910](#)
- Mercer SW, Watt GC. The inverse care law: clinical primary care encounters in deprived and affluent areas of Scotland. *Ann Fam Med*. 2007;5:503-10. [Medline:18025487](#) [doi:10.1370/afm.778](#)
- Law SA, Britten N. Factors that influence the patient centredness of a consultation. *Br J Gen Pract*. 1995;45:520-4. [Medline:7492420](#)
- Kaplan SH, Gandek B, Greenfield S, Rogers W, Ware JE. Patient and visit characteristics related to physicians'

- participatory decision-making style. Results from the Medical Outcomes Study. *Med Care.* 1995;33:1176-87. [Medline:7500658](#) [doi:10.1097/00005650-199512000-00002](#)
- 24 Scaife B, Gill P, Heywood P, Neal R. Socio-economic characteristics of adult frequent attenders in general practice: secondary analysis of data. *Fam Pract.* 2000;17:298-304. [Medline:10934176](#) [doi:10.1093/fampra/17.4.298](#)
- 25 Mercer SW, Howie JG. CQI-2—a new measure of holistic interpersonal care in primary care consultations. *Br J Gen Pract.* 2006;56:262-8. [Medline:16611514](#)
- 26 Saultz JW. Defining and measuring interpersonal continuity of care. *Ann Fam Med.* 2003;1:134-43. [Medline:15043374](#) [doi:10.1370/afm.23](#)
- 27 Pandhi N, Saultz JW. Patients' perceptions of interpersonal continuity of care. *J Am Board Fam Med.* 2006;19:390-7. [Medline:16809654](#)
- 28 Saultz JW, Lochner J. Interpersonal continuity of care and care outcomes: a critical review. *Ann Fam Med.* 2005;3:159-66. [Medline:15798043](#) [doi:10.1370/afm.285](#)
- 29 Starfield B, Horder J. Interpersonal continuity: old and new perspectives. *Br J Gen Pract.* 2007;57:527-9. [Medline:17727744](#)
- 30 Guthrie B, Wyke S. Personal continuity and access in UK general practice: a qualitative study of general practitioners' and patients' perceptions of when and how they matter. *BMC Fam Pract.* 2006;7:11. [Medline:16504130](#) [doi:10.1186/1471-2296-7-11](#)