

## Research Article

Tatjana Kitić Jaklič\*, Jure Kovač, Matjaž Maletič, Ksenija Tušek Bunc

# Analysis of patient satisfaction with emergency medical services

<https://doi.org/10.1515/med-2018-0073>

received October 27, 2017; accepted September 15, 2018

**Keywords:** Effectiveness; Organizational model; Patient satisfaction; Waiting time

**Abstract:** Background. This study analyses the degree of patient satisfaction regarding the Emergency Medical Services (EMS) by taking into account the waiting time which is considered to be associated with the success of the EMS organizational model.

**Methodology.** Between 1 Jan 2016 and 31 March 2016 a cross-sectional research study among visitors of the EMS clinics in the EMS of the Primary Health Services of Gorenjska was performed. The EUROPEP survey was used for rating the degree of patient satisfaction. Statistical methods were utilized to determine the differences among the studied variables, namely the t test, one way ANOVA, as well as post-hoc multiple comparisons, were used.

**Results.** Nearly all questions associated with the patient survey scored higher than 4.0, indicating patients were generally very satisfied with EMS treatment. Patients were least satisfied with the length of time spent waiting for an examination. The results showed that the waiting time is a statistically significant factor concerning all four dimensions of patient satisfaction: medical staff, clinical facilities, clinical equipment and organization of services ( $p < 0.05$ ).

**Conclusions.** Research results have confirmed that the effectiveness of the EMS organizational model impacts on the degree of patient satisfaction. The research also revealed a deficiency in the current EMS organizational services at the prehospital level, given that triage frequently failed to be carried out upon a patient's arrival at the EMS clinics.

\*Corresponding author: **Tatjana Kitić Jaklič**, Primary Health Care Gorenjska, Health Centre Kranj, Gosposvetska ulica 10, 4000 Kranj, Slovenia, e-mail: [tkitic@gmail.com](mailto:tkitic@gmail.com), telephone number: +386 (0) 4 2082 287

**Jure Kovač, Matjaž Maletič**, University of Maribor, Faculty of Organizational Sciences, Kidričeva cesta 55a, 4000 Kranj, Slovenia

**Ksenija Tušek Bunc**, University of Maribor, Faculty of Medicine, Taborska ulica 8, 2000 Maribor, Slovenia

## 1 Introduction

Nowadays, commitment to provide a high level of health care quality service, a high level of user (e.g., patient) and employee safety, as well as the rational use of existing resources still remains a basic guideline in carrying out medical services. One plausible approach to monitor and control operations or achieving the objectives of a health care institution is to measure the efficiency and success of its operations [1,2]. This means that the current international health care system faces significant obstacles, particularly due to unfavourable trends in its surrounding external environment: demographic changes, rapid technological development, increasing user demands on health services, high workload for health care workers and the rising cost of health care [3-5].

One of the key end goals in terms of health care quality is to achieve patient satisfaction. Patient satisfaction is an important indicator of the quality of health care [6-11]. Quality health care provision is multidimensional and is affected by complex factors. In large part, this depends on the efficiency and effectiveness of carrying out procedures, providing individuals and the general population with treatment results that are en par with current medical expertise, standards or best practices, while taking into account criteria such as effectiveness, safety, timeliness, efficiency, equality and a focus on the patient [12-15]. Patients most often associate satisfaction with the human factor and the behavioural traits of health care professionals. These include friendliness, timeliness, continuity, positive mutual relations both within the health care team and towards the user (the patient) as well as the professionalism of the health care provider [13]. The medical health care system that determines the organization, accessibility and affordability of health care, as well as a patient's peculiarities, his or her medical status, expecta-

tions and previous experience with health care treatment also plays an important role in patient satisfaction.

The level of patient satisfaction can only be evaluated within the framework of a comprehensive quality assessment programme, and by incorporating other sources of information, such as the analysis of work processes, employee satisfaction levels, and other objective quality indicators. Previous research studies have investigated the possible links between patient waiting times and their degree of satisfaction at the primary health care level [11, 16]. The good management of patient waiting time is extremely important, as overlong waiting times are also linked to higher illness and mortality rates [17, 18]. It has also been proven that waiting times not only affect general satisfaction levels, but also affect perceptions of information provided, instructions and every other aspect of the patient's experience [19]. However, the exact links between waiting times and patient satisfaction levels related to emergency medical services (EMS) clinics remains unclear, which is due, in part, to the lack of a validated evaluation tool to measure the effectiveness of the organizational model of this service.

There is no universally accepted standard instrument for measuring patient satisfaction [20], even though a number of questionnaires have been developed worldwide to measure satisfaction. An important drawback of most questionnaires is that, as a rule, they were developed for a specific environment and reflect the characteristics of the particular healthcare system of a country, so the results of individual studies are more difficult to compare [13]. Even in the early phase of our research study, the European Patient Evaluate General/Family Practice (EUROPEP) survey proved to be the most appropriate for our use, even though it is principally designed to measure patient satisfaction with the work of general practitioners. Its advantage is that it is standardized, internationally established and validated, and it evaluates satisfaction levels in relation to all areas of treatment (communication, the provision of medical care in its strictest sense, and the giving of instructions and information). The Consumer Emergency Care Satisfaction Scale (CECSS), for example, only examines patient satisfaction levels primarily related to the provision of nursing care and patient instruction [21].

This paper takes as its starting point the quality management of medical care. It demonstrates an analysis of the degree of patient satisfaction in EMS for the Gorenjska region, Slovenia. EMS is a public service that provides medical care for suddenly sick or injured persons and forms an integral component in the public health service network at the primary (prehospital) and secondary levels of health care. There are several reasons for the current

trend in the reorganization of the EMS within Slovenia. Among other factors, EMS must be understood from the perspective of the increasing number of medical treatments [22-24]. A number of studies have found that EMS clinics are also heavily burdened by the large number of treatments for non-urgent conditions that they carry out on patients [25-27]. This means that a contemporary and well-structured EMS is conceived, particularly at the primary level, as a precondition for improved medical treatment outcomes as well as for reducing health care costs by taking into account future treatment at all levels of health care [28].

The purpose of our study was to analyse the degree of patient satisfaction within the EMS as well as to study the influence of waiting time as an important factor that is associated with the success of the EMS organizational model. Based on these important quality indicators, a study that represents the starting point for developing a successful organizational model, is conducted.

## 2 Materials and methods

### 2.1 Instrument

The survey for assessing patient satisfaction comprised 43 questions. Mainly it was formulated on the basis of the standardized EUROPEP survey. For the needs of our research, we included additional questions in the survey for the purpose of obtaining general demographic data, overall satisfaction levels of patients with their dealings with the EMS, and some questions to evaluate the organization of the EMS in the narrowest sense (questions 20 to 43). In this way, we wanted to conduct an in depth analysis of all factors affecting the organizational model, especially in light of the reorganization process which the EMS are currently undergoing in Slovenia. To assess the responses, several scales were used, of which participants were clearly informed. Mainly, the five-point Likert scale was used, with a score of 1 indicating complete disagreement with the statement presented and a score of 5 indicating complete agreement. Surveys scored level of satisfaction on a scale from 1 to 5, where a score of 1 was deemed insufficient and a score of 5, excellent.

To confirm the association between the effectiveness of the EMS organizational model and the level of patient satisfaction, we used the length of time spent waiting for an examination as an indicator. In many studies, waiting time proved to be a very important source of patient discontent and had a significant impact on the perception of

the quality of health care provided, which is relevant to the operation of EMS clinics and other outpatient clinics at the primary level of health care [19, 29-34]. Waiting times can be an important indicator of success, and the management of waiting times requires that specific measures are implemented to ensure safe healthcare provision [35].

## 2.2 Participants

The surveys were submitted to all EMS organizational units of the Primary Health Services of Gorenjska (PHSoG). PHSoG is a public institution providing healthcare at the primary level in one of the regions of Slovenia, namely, the Gorenjska region. Surveys for scoring patient satisfaction were placed in the clinic waiting rooms. Respondents placed the completed surveys in specially placed and sealed cardboard boxes, in order to ensure anonymity. The link to the online survey was also written on the boxes, but few individuals responded online, and their number was therefore negligible. Patients were informed by employees about the satisfaction survey in process and encouraged to complete the surveys. Patients participated in the study voluntarily and anonymously, with confidentiality and privacy of data assured. Each unit received 100 questionnaires for patients, with a total of 700 questionnaires submitted. The cross-sectional survey took place between 1 Jan 2016 and 31 March 2016.

## 2.3 Statistical analysis

The statistical software analysis package SPSS was used for all major statistical analysis. Statistical methods were utilized to determine the differences among the studied variables, namely the t test statistical method and the ANOVA analysis variance, as well as post-hoc multiple

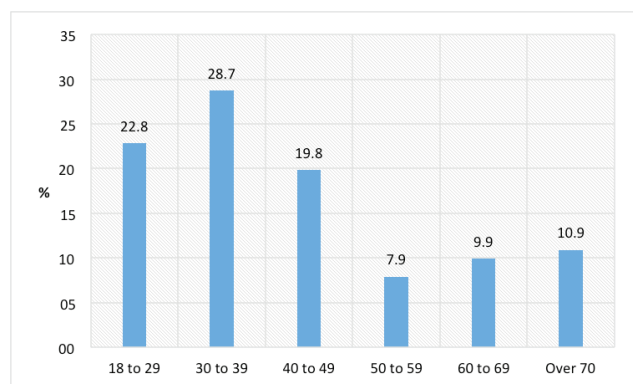


Figure 1: Age structure of sample – patients

comparisons, were used. Cronbach’s alpha was used as a measure to assess reliability, in particular the internal consistency of the measurement scales [36].

**Ethical standards** This study has been approved by the Slovenian National Ethics Committee (No. 70/12/14).

**Informed consent:** No written consent was sought, as there were no personal identifiers on the surveys. Separate verbal informed consent in Slovenian was taken for the participants in the key informant interviews with staff. The voluntary nature of participating in the survey was made explicit and unambiguous in the cover letter.

## 3 Results

### 3.1 Sample description

The survey was completed by 102 patients (the response rate was 14.6%). Of these, 83 patients (81%) filled out the entire survey, 19 respondents (19%) skipped the response of between one and up to a maximum of four questions. Among the patients surveyed, 43% were men and 57% were women. The age structure of the participants is depicted in Figure 1. Of these, 79% of the patients had a chronic illness. 60% of the participants had completed secondary school, 18% higher education, 14% were university educated and 8% of the participants had completed primary education or lower.

Over the course of the last year, 52.5% of the patients visited an EMS clinic less than twice, 11.9% of the patients visited more than three times, while in the last year, 35.6% of the patients did not visit an EMS clinic. Most patients visited an EMS clinic due to acute illness (61.4%) or injury (22.8%) (see Figure 2).

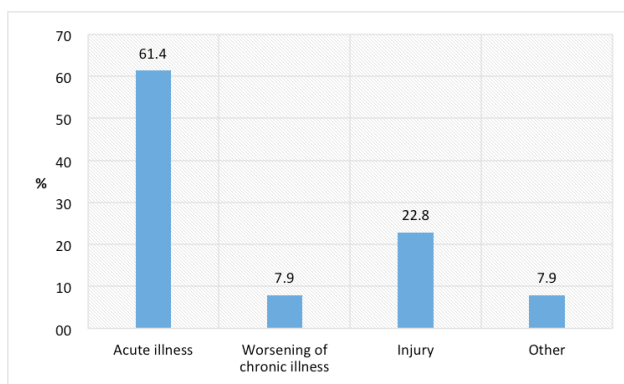


Figure 2: Reason for visiting the EMS clinic

45.5% of the patients waited less than 30 minutes in the EMS clinic, 32.7% of the patients waited between 30 and 60 minutes, 17.8% of the patients waited between 1 and 2 hours and 4% of the patients waited over 2 hours.

A test performed to establish internal consistency (reliability) showed that, despite our modifications of the EUROPEP survey, we had succeeded in formulating a questionnaire that could reliably measure the level of satisfaction with EMS clinics. The Cronbach alpha coefficient for the entire questionnaire was 0.911, and the figures for its individual sections were: satisfaction with treatment at EMS clinics (questions 1 to 19) 0.957, general satisfaction with EMS (questions 31 to 34) 0.807, and satisfaction with the organization of the EMS (questions 20 to 30) 0.651. At this point, it is important to state that 0.7 is recommended as the minimum value of the coefficient [36].

## 4 Analysis of patient satisfaction

In order to provide insight into the determinants of patient satisfaction, several indicators concerning patient satisfaction were also examined in this study. Nearly all questions associated with the patient survey scored higher than 4.0, indicating patients were generally very satisfied with EMS treatment. They were most satisfied that the doctor listened to them, that the doctor was confidential in dealing with their medical documentation and that the doctor was accurate and took care to ensure the rapid alleviation of their condition. Patients were least satisfied with the length of time spent waiting for an examination and with the doctor's interest in their personal situation. Health care staff was afforded the highest score, that is, a score of excellent, by 78.2% of the patients, while only 56.4% of the patients rated the organization of the EMS with the highest score. The results are depicted in Table 1.

Table 2 indicates that triage was not always carried out upon the patient's arrival at the clinic. The results of the study revealed that in 23.8% of the cases, triage was not performed upon a patient's arrival in the EMS. Patients indicated as most problematic the fact that information on the order of treatment was frequently not clearly indicated. Patients perceived health care providers as highly qualified and capable of carrying out their tasks. With respect to the EMS organization, patients primarily agreed that a doctor should always be present in the EMS clinic and that a paediatrician should be available 24 hours a day. At the same time, they were most satisfied if able to carry out the entire treatment in one place. Patients in least proportion agreed on the point that a team of trained

paramedics without a doctor could be placed in smaller and more remote areas.

In continuing the research, we sought to verify the relationship between the effectiveness of the EMS organizational model and the level of patient satisfaction. The length of time spent waiting for an examination was used as an indicator of the effectiveness of the EMS organizational model. For this purpose, one-way variance analysis (ANOVA) was used to determine whether there were any statistically significant differences between the means of the independent groups (i.e. those related to the waiting time and patient satisfaction). The results of the variance analysis depicted in Table 3 indicate that the effectiveness of the EMS organizational model or the length of time spent waiting for an examination has a statistically significant ( $p < 0.01$ ) impact on all four patient satisfaction indicators.

We also carried out post hoc tests to evaluate the discrepancies in the satisfaction of patient groups (Table 4). The results of the post hoc tests indicated that patients who waited for an examination for over 2 hours were statistically significantly ( $p < 0.05$ ) less satisfied with staff and the clinic facilities than groups of patients who waited for the examination less time. This group of patients was also less satisfied with the organization of EMS.

## 5 Discussion

This study represents one of the few to provide insight into the correlation between individual qualitative indicators such as patient satisfaction and the effectiveness of health care services. The main contribution of this study relates to three factors.

Firstly, we used the EUROPEP survey to measure patient satisfaction with EMS. Despite the fact that the survey was adapted to suit the needs of our study, it proved to be very reliable as the Cronbach's alpha coefficient for the entire questionnaire was calculated as 0.911, and 0.957 for EMS treatment in its strictest sense. We have, therefore, managed to create a questionnaire that could also be used in future research to measure patient satisfaction with EMS clinics. However, it would make sense to make further improvements. There is currently no universally accepted standard instrument for measuring patient satisfaction available for use by researchers [20]. Some questionnaires only assess the level of satisfaction with a particular segment of health care provision, that is they either focus on measuring satisfaction levels with treatment, or the work of doctors and nurses.

**Table 1:** Patient opinion on EMS and patient satisfaction with EMS clinic (legend: M – median value, SD – standard deviation)

Question	1	2	3	4	5	M	SD
	in %						
1 Did the doctor make you feel that you had enough time between clinic visits?	1.0	1.0	4.0	24.8	69.3	4.60	0.71
2 Was the doctor interested in your personal situation?	5.1	2.0	17.2	16.2	59.6	4.23	1.12
3 Did the doctor enable you to speak about your problems?	5.1	2.0	4.0	18.2	70.7	4.48	1.03
4 Did the doctor include you on decisions about your treatment?	4.0	1.0	8.0	28.0	59.0	4.37	0.97
5 Did the doctor listen to you?	1.0	2.0	1.0	10.9	85.1	4.77	0.66
6 Did the doctor deal confidentially with your medical documentation and personal information?	1.0	0.0	3.0	13.0	83.0	4.77	0.60
7 Did the doctor take care to ensure the rapid alleviation of your problems?	2.0	1.0	4.0	18.0	75.0	4.63	0.79
8 Did the doctor assist you in feeling better so that you could carry out your daily activities?	2.0	3.0	7.1	24.2	63.6	4.44	0.91
9 Was the doctor accurate?	1.0	1.0	4.0	21.0	73.0	4.64	0.70
10 ... in the method you were examined?	2.0	1.0	5.0	17.0	75.0	4.62	0.80
11 Did the doctor explain the purpose of the examinations and treatment?	2.0	1.0	4.0	22.0	71.0	4.59	0.79
12 Did the doctor tell you what you wanted to know about your symptoms and/or illness?	2.0	1.0	3.0	21.8	72.3	4.61	0.77
13 Did the doctor assist you in overcoming emotional difficulties in relation to your health status?	4.1	1.0	16.5	21.6	56.7	4.26	1.04
14 Did the doctor assist you in understanding the importance of following all the doctor's instructions and advice?	2.0	1.0	5.9	23.8	67.3	4.54	0.82
15 Did the doctor provide you with accurate and clear instructions prior to your leaving the medical facility?	3.0	0.0	4.0	18.0	75.0	4.62	0.83
16 Did the doctor prepare you for what you could expect from the examination and treatment at the specialized clinic or in the hospital?	3.0	1.0	13.1	19.2	63.6	4.39	0.97
17 In what way were the other staff members in the EMS clinic (other than the doctor) of assistance to you?	3.0	2.0	8.9	16.8	69.3	4.48	0.95
18 Did you wait long to receive a doctor's appointment?	5.0	9.0	22.0	18.0	46.0	3.91	1.22
19 Was it easy for you to get a phone connection to the clinic?	4.6	2.3	5.7	20.7	66.7	4.43	1.03
31 Satisfaction with staff	2.0	0.0	3.0	16.8	78.2	4.69	0.72
32 Satisfaction with clinic premises	1.0	1.0	3.0	21.8	73.3	4.65	0.68
33 Satisfaction with clinic facilities	1.0	0.0	7.9	21.8	69.3	4.58	0.72
34 Satisfaction with the organization of the EMS	2.0	7.9	9.9	23.8	56.4	4.25	1.05

Secondly, our research has demonstrated the link between waiting times and levels of patient satisfaction with EMS clinics, especially in connection with the organizational model of these clinics. Prior studies have empirically explored the link between patient waiting time and patient satisfaction within the primary care settings. Yet, the understanding of the link between waiting time and

patient satisfaction in the context of the effectiveness of EMS organizational model remains rather unclear [16]. Our study has confirmed that the effectiveness of the EMS organizational model, where the length of the time spent for an examination was used as an indicator of the effectiveness, impacts on the level of patient satisfaction. Other research studies also identified waiting time in the clinic

**Table 2:** Patient view on questions of an organizational nature (legend: M – median value, SD – standard deviation)

		1	2	3	4	5	M	SD
		in %						
<b>Triage upon patient arrival</b>								
20	A medical nurse asked me about my health condition immediately upon my arrival.	23.8	5.9	11.9	15.8	42.6	3.48	1.63
21	Upon my arrival at the clinic, a medical nurse assigned me based on the urgency of my medical treatment.	22.0	9.0	9.0	20.0	40.0	3.47	1.60
22	Information on the order of patient treatment was clearly marked.	25.0	14.0	14.0	11.0	36.0	3.19	1.64
<b>Qualification of health care providers</b>								
23	Health workers were highly qualified.	1.0	0.0	4.0	29.7	65.3	4.58	0.67
24	Health workers were capable of carrying out their tasks.	1.0	1.0	2.0	21.0	75.0	4.68	0.66
<b>Organization of EMS</b>								
25	A doctor should always be present in an EMS clinic.	1.0	1.0	9.0	15.0	74.0	4.60	0.78
26	Qualified teams without a doctor could be placed in smaller and more remote areas.	11.2	3.1	14.3	21.4	50.0	3.96	1.34
27	A paediatrician should be available 24 hours a day.	2.0	0.0	9.2	15.3	73.5	4.58	0.82
28	The current organization, where family doctors are assigned in the general clinic while at the same time covering emergencies, is inadequate.	4.0	3.0	13.0	18.0	62.0	4.31	1.07
29	I am more satisfied if I can carry out the entire treatment in one place (including all required examinations).	1.0	0.0	5.0	15.8	78.2	4.70	0.66
30	In the event I needed the help of a clinic on duty, I would also be prepared to drive to a more remote unit or emergency centre.	2.0	5.9	11.9	17.8	62.4	4.33	1.03

**Table 3:** Variance analysis – Impact of the effectiveness of the EMS organizational model on patient satisfaction (legend: SS – sum of squares, Df – degrees of freedom, MS – mean square)

	SS	Df	MS	F	p
Satisfaction with staff	12.453	3	4.151	10.316	0.000
Satisfaction with clinic premises	7.055	3	2.352	5.729	0.001
Satisfaction with clinic facilities	7.572	3	2.524	5.445	0.002
Satisfaction with the organization of EMS	15.477	3	5.159	5.249	0.002

as an important indicator of patient satisfaction [19, 29-34]. One study demonstrated that longer waiting times were a particular independent risk factor for patient dissatisfaction [33]. In general, waiting time may be categorised as a waste and may be associated with many problems [37]. Indeed, root causes behind the problems must be identified so as to enable the elimination of waste and improve upon health care performance [38]. Some preliminary studies from the field of EMS were concerned with the question of how to develop relevant qualitative indicators and how to identify relevant attributes of the indicators [39, 40]. Patient satisfaction is an important qualitative indicator, which existing literature particularly emphasizes in the context of a focus on the patient and the acquisition of feedback [37, 41]. Patient satisfaction is a complex

issue, and though it has been at the forefront of research since the 1980s, there is still no solid conceptual/theoretical basis for measuring it [8, 42, 43]. Our study showed statistically significant differences ( $p < 0.05$ ) were revealed in all four dimensions of patient satisfaction in terms of the effectiveness of the EMS organizational model. These are: staff ( $F=10.316$ ;  $p=0.000$ ), clinic premises ( $F=5.729$ ;  $p=0.001$ ), clinic facilities ( $F=5.445$ ;  $p=0.002$ ) and the organization of the EMS ( $F=5.249$ ;  $p=0.002$ ). Patients who waited for an appointment for over 2 hours were statistically significantly less satisfied in all four dimensions of satisfaction. Other studies have also identified waiting time as an important area that needs to be improved [31, 44, 45].

**Table 4:** Results of post hoc tests – impact of the effectiveness of the EMS organizational model on patient satisfaction

	(I) I waited for my medical examination	(II) I waited for my medical examination	M difference	p
<b>Satisfaction with staff</b>	Less than 30 min	30 to 60 min	0.0165	1.000
		1 to 2 hours	0.1932	0.753
		Over 2 hours	1.8043*	<b>0.000</b>
	30 to 60 min	Less than 30 min	-0.0165	1.000
		1 to 2 hours	0.1768	0.824
		Over 2 hours	1.7879*	<b>0.000</b>
	1 to 2 hours	Less than 30 min	-0.1932	0.753
		30 to 60 min	-0.1768	0.824
		Over 2 hours	1.6111*	<b>0.000</b>
<b>Satisfaction with clinic premises</b>	Less than 30 min	30 to 60 min	0.0553	0.986
		1 to 2 hours	0.3382	0.313
		Over 2 hours	1.2826*	<b>0.003</b>
	30 to 60 min	Less than 30 min	-0.0553	0.986
		1 to 2 hours	0.2828	0.521
		Over 2 hours	1.2273*	<b>0.006</b>
	1 to 2 hours	Less than 30 min	-0.3382	0.313
		30 to 60 min	-0.2828	0.521
		Over 2 hours	0.9444	0.075
<b>Satisfaction with clinic facilities</b>	Less than 30 min	30 to 60 min	-0.0145	1.000
		1 to 2 hours	0.0966	0.967
		Over 2 hours	1.4022*	<b>0.002</b>
	30 to 60 min	Less than 30 min	0.0145	1.000
		1 to 2 hours	0.1111	0.958
		Over 2 hours	1.4167*	<b>0.002</b>
	1 to 2 hours	Less than 30 min	-0.0966	0.967
		30 to 60 min	-0.1111	0.958
		Over 2 hours	1.3056*	<b>0.010</b>
<b>Satisfaction with organization of EMS</b>	Less than 30 min	30 to 60 min	.6693*	<b>0.038</b>
		1 to 2 hours	0.442	0.466
		Over 2 hours	1.6087*	<b>0.026</b>
	30 to 60 min	Less than 30 min	-.6693*	0.038
		1 to 2 hours	-0.2273	0.893
		Over 2 hours	0.9394	0.367
	1 to 2 hours	Less than 30 min	-0.442	0.466
		30 to 60 min	0.2273	0.893
		Over 2 hours	1.1667	0.217

\*the difference is statistically significant at the level  $p < 0.05$ .

Despite all of the problems related to healthcare systems, research still shows high levels of patient satis-

faction with EMS staff. In France, for example, 89.7% of patients were satisfied with EMS clinics, where they gave

the highest scores to the quality of reception (92.5%), and the lowest scores to doctor provided information (71.9) and waiting times (72.6%) [32]. According to one study, which included a general patient satisfaction survey of EMS clinics, 48% of patients were satisfied with physician service, 41% of patients with waiting times, and only 11% of patients with nursing care [8]. Our research has confirmed that patients are in general most satisfied with staff and least satisfied with the organization of EMS. Health care staff were given the highest score, that is, a score of excellent, by 78.2% of the patients, while only 56.4% of the patients rated the organization of the EMS with the highest score. Patients perceived health care workers as highly qualified and able to carry out their tasks. It is vital to understand how health care providers can impact on patient experience in terms of the quality of care. From this perspective, the elements of health care practices and their effect on patient satisfaction should be addressed [46]. For each health care indicator, for example as in the study carried out in EMS Maribor, over two thirds of the patients surveyed rated the service as excellent [47]. Most prominent in the negative direction was the indicator that pertained to the explanation of the purpose of the scope of treatment, which was rated as worse by 4.2% of the respondents. As shown by Sendlhofer et al. patients perceive information on patient safety measures as well as explanation of treatment and information on associated risks as very important [48]. Prior studies have revealed that factors such as 'relationship and communication of doctor', 'adequate organization', 'adequate system of appointments', and 'relationship and communication of medical nurses' play an important role in achieving patient satisfaction [29, 49-52].

Thirdly, our research has also revealed an important weakness in the current organization of the EMS at the prehospital level in Slovenia, since triage was not performed upon a patient's arrival in the EMS in 23.8% of the cases. This is a major problem within the system, as it is the first point of contact between the health care provider and the patient, and the way information is provided at this time, and the interest shown in a patient's problems, are important elements influencing satisfaction levels with the service [9]. The same study found that 82.3% of patients were asked the reason for their visit, 53.5% received advice, and only 48.9% were given information in some form on therapy procedures. In our study patients also identified as most problematic the fact that information on the order of treatment was frequently not clearly indicated. With respect to the organization of the EMS, patients most agreed on the point that a doctor should always be present in the emergency health clinic and that

a paediatrician should be available 24 hours a day. At the same time, they were most satisfied if they could complete the entire treatment in one place. There was least agreement on whether it was acceptable to place a team of trained paramedics in smaller and more remote regions without a doctor.

Our research also has some limitations. The small sample size (14.6% response rate) represents a weakness in our research, which limits the possibility of generalizing the results obtained. Nevertheless, the survey revealed some significant findings that may serve as a guideline in the ambitious reorganization of EMS that we are witness to today. The study analyzed only one of the factors that influence the effectiveness of the EMS clinics. In particular, from the viewpoint of quality control and patient safety in EMS clinics, it would be useful to determine the influence of other factors that were not included in our survey. In addition, it would be sensible to create a reliable questionnaire to measure the level of satisfaction with the work of EMS clinics, with the questionnaire covering all dimensions of health care treatment, not just particular sections.

## 6 Conclusion

Our study has analysed one of the factors that influence on patient satisfaction and has studied its impact on the effectiveness of the organization model. The study has confirmed that the performance of the EMS organizational model impacts on the level of patient satisfaction. The study has also revealed a weakness in the current organization of EMS at the prehospital level in Slovenia, given that triage was often not performed upon a patient's admission to the EMS clinic. One of the challenges of the modern time is certainly how to retain the level and accessibility of health care services at the current level. Developing a financially viable health care system with an efficient use of human and other resources as well as achieving efficient and effective health care, from the perspectives of the health care field, health care providers and patients, has thus become the central goal of health care policy activities in all developed countries.

### List of abbreviations

CECSS – Consumer Emergency Care Satisfaction Scale  
EMS – Emergency Medical Services



EUROPEP – European Patient Evaluate General/Family Practice

PHSoG – Primary Health Services of Gorenjska

**Acknowledgments:** The authors are grateful to Mr. Nikola Komes for his assistance in the statistical analysis. We are also very grateful to Ms. Mojca Kodric for her assistance in the Slovene-English translation.

**Funding:** No funding has been received for the conduct of this study and/or preparation of this manuscript.

**Conflict of interest:** Authors state no conflict of interest.

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