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**WORK ORGANISATION EVALUATION  
IN HEALTHCARE INSTITUTIONS**

**OCENA ORGANIZACJI PRACY W PODMIOTACH  
LECZNICZYCH**

**Abstract:** The objective of the paper was an assessment of particular work organization elements in healthcare institutions and a description of the research that has led to the formulation of conclusions. The research was conducted in non-public healthcare settings located in the area of Czeszochowa in the group of 554 respondents – patients benefiting from the services rendered by health centres. The analysis of empirical data was conducted with the use of statistical methods, using STATISTICA software. The results demonstrate occurrences of significant differences in the evaluations, depending on demographic features of the respondents, such as: age, education and represented professional group.

**Keywords:** work organisation elements, communication between patient and healthcare institution, healthcare institutions, legislative changes

**Streszczenie:** Celem artykułu była ocena poszczególnych elementów organizacji pracy w podmiotach leczniczych oraz opis przeprowadzonych badań, które pozwoliły na sformułowanie wniosków. Badania zostały przeprowadzone w niepublicznych zakładach opieki zdrowotnej zlokalizowanych na terenie miasta Częstochowa w grupie 554 respondentów – pacjentów aktualnie korzystających z usług świadczonych przez przychodnie lekarskie. Analiza materiału empirycznego została przeprowadzona z wykorzystaniem metod statystycznych przy użyciu oprogramowania STATISTICA. Wyniki wskazują na występowanie istotnych różnic w ocenach w zależności od cech demograficznych respondentów, takich jak: wiek, wykształcenie oraz reprezentowaną grupę zawodową.

**Słowa kluczowe:** elementy organizacji pracy, komunikacja przychodni z pacjentem, obsługa klienta, podmioty lecznicze, zmiany legislacyjne

## Introduction

Contemporary market of medical services is developing very dynamically. There is a large number of healthcare institutions present on it, which constantly compete one with another to attract patients not only with the quality of rendered services, but also with the quality of customer service. From the perspective of management, the quality of customer service (in this case very specific customers – patients) influences not only the manner in which a medical service is performed, final outcome of treatment (in the medical aspect), but also all non-medical factors/determinants, which include particular elements of work organisation in a healthcare institution. Specificity of work in the medical industry requires a constant contact with customers/patients. Therefore, managerial staff striving at maintaining a good reputation of the given healthcare institution and attract a larger number of declared patients should pay particular attention to appropriate work organisation in it. This an extremely important factor from the perspective of patients, to satisfy their medical needs in an efficient and undisturbed manner.

It needs to be stressed that the evaluation of work organisation is influenced not only by the quality of service rendered by the medical personnel at the registration desk, surgical study or directly by a doctor, but also all non-medical elements, such as: premises, social conditions, adjusting a healthcare institution to providing services to persons with disabilities, its opening hours, location of a healthcare institution, availability of parking space, etc. From the perspective of managing an enterprise and competition for customers, each Non-public Healthcare Institution – with regard to non-medical aspects – should be treated as a service provider. The present paper is an attempt to recognise the needs and expectations of the customers of healthcare institutions, verifying shortages and shortcomings in the organisational area of healthcare institutions and drawing practical conclusions that will help to improve the functioning of healthcare institutions and increase their competitiveness on the dynamically developing market of medical services.

## 1. Healthcare institutions in Polish healthcare system

It can be stated that healthcare institutions are the foundations of the Polish health care system. The Constitution of the Republic of Poland of 2nd April 1997 r. (Journal of Laws of 1997, No 78, pos. 483 as amended) in Article 68 guarantees each citizen the right to health care. Therefore, an obligation lies with public authorities to ensure equal access to healthcare services financed from public resources, regardless of the material status of a citizen. The guarantee of performing the provisions of the Constitution is proper functioning of medical care facilities, including healthcare institutions. Efficient operations of these facilities are ensured by legal regulations that define their role and tasks in the healthcare system<sup>1</sup>.

In Poland healthcare activity is performed by healthcare institutions. The term „healthcare institution” has replaced the previously valid term of “healthcare setting” and has been specified in the Healthcare Institutions Law<sup>2</sup>. The underlying objective of healthcare institutions is conducting healthcare activity. These institutions may be of outpatient, stationary, single- or multi-profile nature. They comprise human and physical resources and their internal structure may be more or less complex. Organisational and legal forms in which healthcare institutions may function have been specified by the legislator in Article 4 of the Healthcare Institutions Law.

<sup>1</sup> M.D. Głowacka, J. Galicki, E. Mojs, *Zarządzanie podmiotem leczniczym*, Wydawnictwo ABC a Wolters Kluwer business, Warszawa 2013, p. 21.

<sup>2</sup> Art. 2 ust. 1 pkt 14 ustawy z dnia 15 kwietnia 2011 r. o działalności leczniczej (Dz.U. z 2011 r., nr 112, poz. 654, z późn. zm.). Por. M. Dercz, T. Rek, *Ustawa o działalności leczniczej. Komentarz*, Wydawnictwo Wolters Kluwer Polska, Warszawa 2014, p. 161-212.

## 2. Legislative changes after the year 2011 regarding healthcare institutions functioning in Poland

Until 30 June 2011 the basic legal act that regulated the activity of healthcare settings was the Healthcare Settings Law of 30 August 1991<sup>3</sup>. However, this law was repealed and since 1 July 2011 the fundamental legal basis for the functioning of all service providers within the Polish healthcare system has become the Healthcare Institutions Law of 15 April 2011 (Journal of Laws of 2011, No 112, pos. 654 as amended)<sup>4</sup>. The new law specifies precisely who and on what principles may legally render healthcare services. It also introduces new terminology and vital alterations regarding all the entities that conduct healthcare operations both in the public as well as private healthcare sectors<sup>5</sup>. It defines the principles of functioning and provisions regarding organisation of healthcare institutions. One of the alterations concerned also the functioning of non-public healthcare institutions (NPHI – NZOZ in Polish). The new law eliminated their legal framework and caused that NPHIs began to function as entrepreneurs in all legal forms envisaged in the Business Activities Freedom Act<sup>6</sup>. This has also driven changes in the manner in which these institutions are managed, depending on their organisational and legal form as well as principles of healthcare services financing, which presently provides for financing from public funds<sup>7</sup>.

## 3. Work organisation in a healthcare institution and its importance for attracting patients with the medical offer

Contemporarily, the healthcare system is frequently accused of wrong work organisation, which can result in accumulating queues to doctors, limitations in accessing specialised doctors, special check-ups or modern equipment<sup>8</sup>. A given healthcare institution that wants to run its activity in a best possible manner should adjust to the conditions in which it operates. External environment exerts a tre-

<sup>3</sup> Ustawa z dnia 30 sierpnia 1991 r. o zakładach opieki zdrowotnej (Dz.U. z 1991 r., nr 91, poz. 408, z późn. zm.).

<sup>4</sup> M. Paszkowska (ed.), *Zarządzanie podmiotami wykonującymi działalność leczniczą*, Wydawnictwo Difin, Warszawa 2015, p. 15.

<sup>5</sup> M. Szajt, K. Hampel, *Service Evaluation of Customers of Various Social Groups In Non-Public Healthcare Institutions*, Proceedings of 2nd International Scientific Conference Contemporary Issues in Theory and Practice of Management, Wydawnictwo Wydziału Zarządzania Politechniki Częstochowskiej, Częstochowa 2018, p. 621-628.

<sup>6</sup> Ustawa z dnia 2 lipca 2004 r. o swobodzie działalności gospodarczej (Dz.U. z 2004 r., nr 173, poz. 1807, z późn. zm.). Por. M. Paszkowska (ed.), *Zarządzanie podmiotami...*, p. 18.

<sup>7</sup> J. Suchecka, *Ekonomia zdrowia i opieki zdrowotnej*, Wydawnictwo Wolters Kluwer, Warszawa 2016.

<sup>8</sup> P. Bromber, J. Hady, H. Lachowska, M. Leśniowska-Gontarz, D. Szaban, B. Ślusarczyk, J. Zdanowska, *System ochrony zdrowia w Polsce*, Wydawnictwo CeDeWu, Warszawa 2015, p. 105.

mendous influence on its operation. Adaptation in the environment may facilitate good knowledge of the competition on the healthcare services market (competition and environment benchmarking), well-organised work at a health centre and improving the relevant conditions. An important element – from the perspective of a health centre – should be verifying expectations and priorities of patients in the organisational aspect. It is the understanding of patient needs and satisfying them that conditions being successful in business<sup>9</sup>.

For a given healthcare institution to develop effectively it is necessary to apply modern solutions that will provide it with an opportunity to win a competitive advantage on the medical services market. Employing good specialists or investments into new equipment have become a standard now, yet, they are not enough to make a given institution to stand out from the competitors, especially that as far as good specialists are concerned – which is a subjective and relative term – there will always be limitations of resources. Thus, particular attention needs to be paid to all types of actions aimed at differentiation – improvement of the enterprise image compared to the others. At the time of intensified competition this is comprehensive patient service that plays a dominant role. While striving to improve it other organisational elements of a health centre need to be considered as well, as they largely influence satisfaction of a health centre customers. The care for customer satisfaction with services conditions the stable development of an organisation<sup>10</sup>. Healthcare institutions must take care of the organisational elements of health centres, develop customer service standards, train medical staff, as this is a primary factor that conditions their success. One of the actions – similar in the idea to the promotional actions at supermarkets – is organising supported by local governments and central bodies free-of-charge medical advice and specialist check-ups. It has been assumed that even if an enterprise participates in the cost of such actions it will attract and possibly win new customers, also with reference to other types of services. The competition is large and medical care facilities do not operate within particular regions. Therefore, patients can freely choose the place where they want to undergo a therapy. Thus, the managerial staff should make all efforts to improve customer service, especially in the organisational aspect, so as not to lose the present as well as prospective future patients.

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<sup>9</sup> M.R. Koupai, Z. Alipourdarvish, S. Sardar, *Effects of trust and perceived value on customer loyalty by mediating role of customer satisfaction and mediating role of customer habit*, „Advanced Social Humanities and Management” 2015, No. 2(1), p. 105. Por. K. Hampel, *Patients' Satisfaction in Health Care on the Example Euro Health Consumer Index*, Pragmata Tes Oikonomias, z. X, Częstochowa 2016.

<sup>10</sup> Onyeka Uche Ofili, *Patient satisfaction in health care delivery – a review of current approaches and methods*, „European Scientific Journal”, Vol. 10, No. 25, September 2014, p. 25.

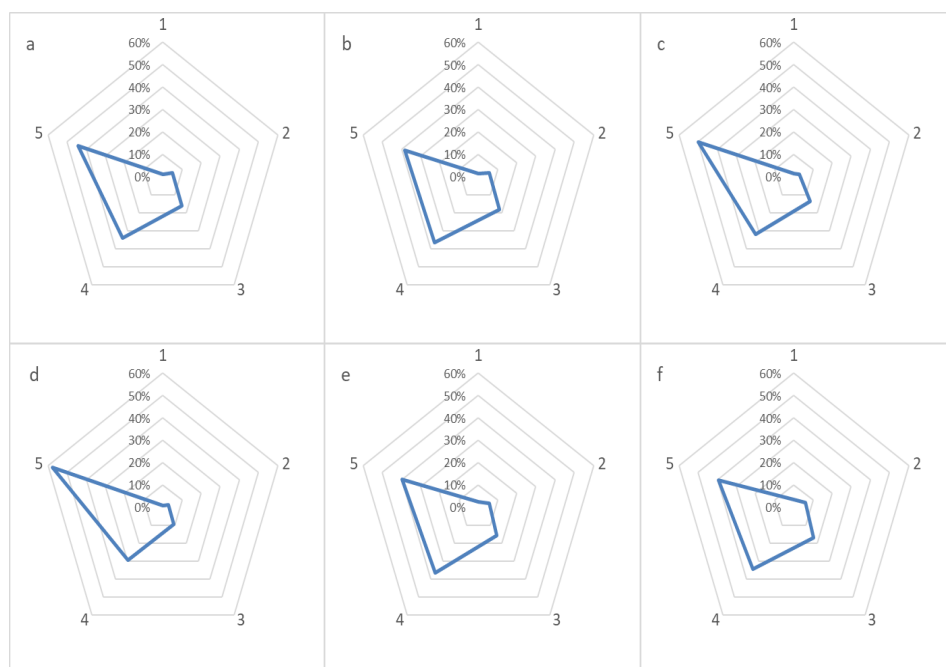
#### **4. Empirical research**

The empirical research was conducted on a sample that comprised 554 patients who currently use the services rendered by healthcare institutions located in the territory of Czesochowa. The authors used a survey with the survey questionnaire in the paper form. The survey was conducted in 2018. The respondents – patients of health centres – were supposed to evaluate various elements that influence the perception of work in a healthcare institution. Patients evaluated particular organisational elements with the use of a five-point Likert scale, where 1 means the least favourable evaluation and 5 the most favourable one. The calculations were conducted with the use of Excel spreadsheet and STATISTICA package. In order to verify the significance of differences in respondents' evaluation mainly Mann-Whitney test and Spearman correlation coefficient analysis were applied<sup>11</sup>. The results of the research have indicated high scores assigned to particular work organisation elements in healthcare institutions.

Ensuring top-level customer service is one of the priorities of every economic entity. It should be remembered that presently customers are ever more aware of and well-informed about their rights. Winning and maintaining customers, starting long-term bonds with them still pose a great challenge to contemporary enterprises. The situation is alike in case of healthcare institutions – needs and expectations of patients are growing incessantly. The image of a healthcare institution is to a large extent conditioned by the employed medical personnel. Persons working at the registration desk are a showcase of a given health centre and influence patient's imagination regarding quality of work in a given healthcare institution. For the needs of the present paper the authors have investigated opinions of patients related to competencies, commitment, professional approach to customer as well as appearance of the persons rendering services in health centres, which largely influence the quality of service.

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<sup>11</sup> M. Szajt, *Przestrzeń w badaniach ekonomicznych. Monografia*, Wydawnictwo Wydziału Zarządzania Politechniki Częstochowskiej, Częstochowa 2014, p. 82-83, 88.



a – Professionalism / competences; b – Commitment and readiness to help deal with the matter; c – Impeccable manner; d – Appearance of the person providing service; e – Individual approach to patient/customer; f – Speed and quality of service/ dealing with the matter

Figure 1. Distribution of answers in questions related to evaluating the medical personnel employed in the health centre (NPHI)

Rysunek 1. Rozkład odpowiedzi w pytaniach dotyczących oceny personelu medycznego zatrudnionego w przychodni (NZOZ)

Source: own elaboration.

All the investigated elements have been evaluated positively. The respondents in particular stressed the importance of the appearance of the person providing service and impeccable manner, where their scores were the highest. Slightly lower scores were recorded with relation to commitment and readiness to help deal with the matter, individual approach to customer and speed of service, which after proper training for the personnel should be promptly eliminated. The remaining elements were given slightly lower scores, yet, still positive ones, which proves high quality of service in health centres and seems to be a strong point of the investigated institutions. A fundamental issue of the conducted analysis were the results of respondent evaluations regarding work organisation in healthcare institutions whose services were used by a given patient. The distribution of answers has been presented in Figure 2.

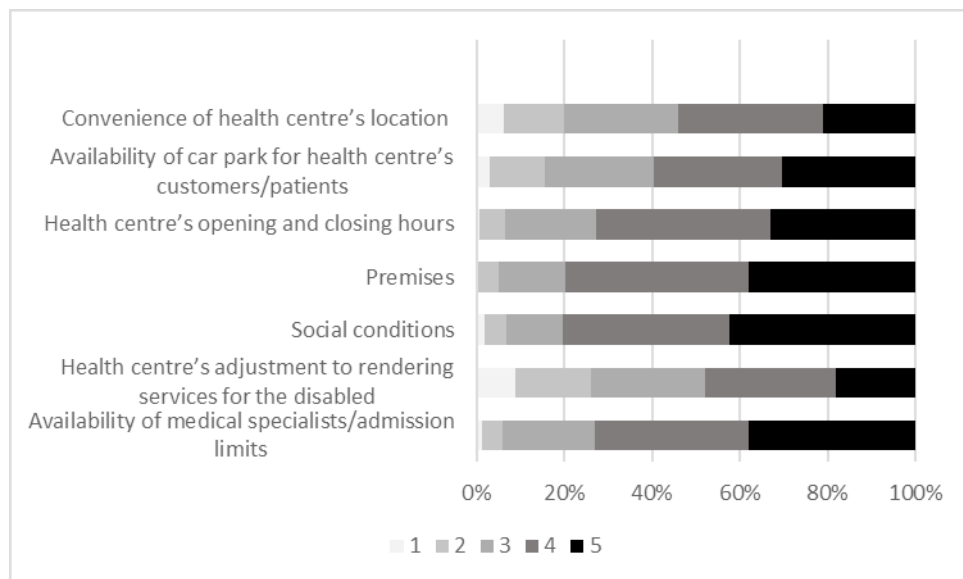


Figure 2. Distribution of answers in questions regarding work organisation in health centres  
 Rysunek 2. Rozkład odpowiedzi w pytaniach dotyczących oceny organizacji pracy w przychodni  
 Source: own elaboration.

The results of the empirical research have shown that the respondents also evaluated high particular organisational elements in NPHIs. Over 50% of them received positive scores. Negative evaluations concerned primarily accessibility of car park for the health centre's customers (which should be eliminated immediately with some financial expenditures) and availability of medical specialists and limits of doctor's admissions (which is independent of the board of a given healthcare institution and results from the contracts negotiated with the National Health Fund). An issue that should be strengthened in the investigated health centres is also adjusting them to provide services for persons with disabilities. Managerial staff should put more stress on this organisational aspect, having regard to liquidating architectural and construction barriers for this group of customers. Additionally, it can be considered to employ in a given health centre at least one person qualified to use sign language.

Another issue of the conducted analysis were actions aimed at verifying the significance of differences in respondent evaluations depending on particular age groups (Table 1). Given the type of the acquired data the authors have applied the Mann-Whitney test as it is an equivalent of the mean test, applied in case of samples on weak scales. The examining statistics (Z) has been verified as to the significance at the level of  $\alpha = 0,05$ . The probability of rejecting the hypothesis on significance of differences of the examined distributions (p) and values of statistics have been presented in the tables below.



Table 1. Values of Mann-Whitney test for evaluating elements of work organisation in health centres according to age groups

Tabela 1. Wartości testu Manna-Whitneya dla ocen elementów organizacji pracy przychodni w zależności od grup wiekowych

Test groups	Elements of work organisation in health centres (NPHI)	Convenience of health centres localisation	Availability of car park for customers/patients	Health centre's opening and closing hours	Premises	Social conditions	Health centre's adjustment to render services for disabled persons	Availability of medical specialists/admission limits	Queues to specialists/treatments/check-ups
≤25/ 26-45	Z	-0.537	1.665	0.569	2.525*	0.199	1.972*	1.676	-0.541
	p	0.591	0.096	0.570	0.012	0.842	0.049	0.094	0.589
≤25/ 46-65	Z	-2.869*	1.461	0.409	-0.002	-0.364	2.326*	1.461	-0.414
	p	0.004	0.144	0.683	0.998	0.716	0.020	0.144	0.679
≤25/ pow. 65	Z	-2.590*	2.045*	0.498	-1.970*	-0.930	2.132*	-1.357	-2.619*
	p	0.010	0.041	0.619	0.049	0.353	0.033	0.175	0.009
26-45/ 46-65	Z	-3.135*	-0.081	-0.222	-3.407*	-0.838	0.945	-0.268	-0.078
	p	0.002	0.935	0.824	0.001	0.402	0.345	0.789	0.938
26-45/ pow. 65	Z	-2.655*	0.759	-0.119	-5.046*	-1.475	0.880	-3.523*	-2.534*
	p	0.008	0.448	0.905	0.000	0.140	0.379	0.000	0.011
46-65/ pow. 65	Z	-0.150	0.731	0.165	-2.418*	-0.693	-0.045	-3.186*	-2.241*
	p	0.881	0.465	0.869	0.016	0.488	0.964	0.001	0.025
≤45/ pow. 45	Z	-4.042*	1.039	0.046	-4.107*	-1.274	1.940	-1.200	-1.535
	p	0.000	0.299	0.963	0.000	0.203	0.052	0.230	0.125

\* - statistically significant values at the level of  $\alpha = 0.05$ 

Source: own elaboration.

The results of the Mann-Whitney test demonstrate a high differentiation in the scope of the respondent evaluations regarding work organisation in NPHIs, having regard to various age groups. Most statistically significant differences can be observed in the evaluations regarding convenience of health centre's location, where

younger persons below 25 years of age evaluated significantly lower this element than older persons, over 46 years of age ( $Z = -2.869$ ;  $p = 0,004$  and  $Z = -2.590$ ;  $p = 0.010$ ). Also, persons below 45 years of age evaluated this element of health centre's work organisation significantly lower than persons over 45 years of age ( $Z = -4.042$ ;  $p = 0.001$ ). It can be concluded that the element of Health centre's location is of vital importance for younger customers, who frequently use their own means of transport. As far as evaluations of premises are concerned a series of statistically significant differences has been observed for almost each age group, what is important – younger persons evaluated this organisational element significantly lower than older persons. Only in case of health centre's adjustment to providing services for disabled persons younger respondents ( $\leq 25$  years of age) evaluated this element significantly higher than older respondents, over 46 years of age ( $Z = 2.326$ ;  $p = 0.020$ ).

Organisational issues may also include the manner of health centre's communication with patients and relations between doctors and patients. Communication in healthcare institutions plays an extremely important role, being a bi-directional dialogue between a health centre and its customers<sup>12</sup>. It is aimed at maximising the satisfaction of both patients as well as employees of a given health centre. For a medical institution it can be connected with optimising the cost of the conducted activity, improving the quality of rendered services and avoiding threats such as court proceedings due to errors and negligence<sup>13</sup>. Effective communication is becoming an extremely important aspect for the proper functioning of a health centre. Therefore, the managerial staff should improve organisation and flow of communication process and make it easier for patients from various age groups, to improve the standard of services and increase their satisfaction. So, in the next stage of the research the authors have verified the level of communication between a health centre and patients (Table 2).

<sup>12</sup> T. Goban-Klas (ed.), *Komunikowanie w ochronie zdrowia – interpersonalne, organizacyjne i medialne*, ABC a Wolters Kluwer business, Warszawa 2014.

<sup>13</sup> A. Czerw, U. Religioni, A. Matuszna, K. Lesiak, A. Olejnik, D. Śniadała, *Zasady skutecznej komunikacji w placówkach medycznych*, „Hygeia Public Health” 2012, No. 47(3), p. 250, <http://www.h-ph.pl/pdf/hyg-2012/hyg-2012-3-247.pdf> [access: 23.06.2019].

Table 2. Values of Mann-Whitney test for evaluating health centre's communication elements with patients according to age groups

Tabela 2. Wartości testu Manna-Whitneya dla ocen elementów komunikacji przychodni z pacjentem w zależności od grup wiekowych

Test groups	Elements of health centre's communication with patients	Precise and available information	Proper signage/information boards	Legibility/accessibility of health centre's website	Possibility to deal with the matter via phone/Internet
≤25/ 26-45	Z	-0.049	-0.436	1.222	1.197
	p	0.961	0.663	0.222	0.231
≤25/ 46-65	Z	-0.956	-1.428	1.152	0.714
	p	0.339	0.153	0.250	0.475
≤25/ pow. 65	Z	-1.343	-2.066*	0.632	0.272
	p	0.179	0.039	0.527	0.786
26-45/ 46-65	Z	-0.948	-1.326	-0.100	-0.366
	p	0.343	0.185	0.920	0.715
26-45/ pow. 65	Z	-1.364	-2.103*	-0.634	-0.798
	p	0.172	0.035	0.526	0.425
46-65/ pow. 65	Z	-0.469	-1.036	-0.549	-0.470
	p	0.639	0.300	0.583	0.638
≤45/ pow. 45	Z	-1.552	-2.303*	0.187	-0.225
	p	0.121	0.021	0.852	0.822

\* - statistically significant values at the level of  $\alpha = 0.05$ 

Source: own elaboration.

In this case it can be observed that the age of the respondents did not influence significantly the evaluation of communication between a health centre and patients. Only the element regarding signage and information boards applied in a healthcare institution was evaluated significantly lower by persons aged below 25 compared to persons aged over 65 ( $Z = -2.066$ ;  $p = 0.039$ ). Similarly, in case of persons aged 26-45 this element was evaluated significantly lower by persons over 46 and 65 years of age ( $Z = -2.103$ ;  $p = 0.035$ , also:  $Z = -2.303$ ;  $p = 0.021$ ). Thus, it can be stated that while particular elements of communication between healthcare institutions and patients were generally given high scores – it is established and positive.

Table 3. Values of Mann-Whitney test for evaluating health centre's work organisation elements according to education

Tabela 3. Wartości testu Manna-Whitneya dla ocen elementów organizacji pracy przychodni w zależności od wykształcenia

Test groups	Elements of work organisation in Health centre (NPHI)	Convenience of health centre's location	Availability of car park for health centre's customers/patients	Health centre's opening and closing hours	Premises	Social conditions	Health centre's adjustment to rendering services for the disabled	Availability of medical specialists/admission limits	Queues to specialists/treatments/check-ups
elementary/vocational	Z	-0.943	3.204*	0.953	2.922*	-0.852	3.166*	2.300*	0.843
	p	0.346	0.001	0.341	0.003	0.394	0.002	0.021	0.399
elementary/secondary	Z	-1.460	3.354*	2.078*	3.876*	0.384	3.877*	2.012*	0.766
	p	0.144	0.001	0.038	0.000	0.701	0.000	0.044	0.443
elementary/higher	Z	-1.365	2.429*	0.320	3.543*	-1.039	3.673*	2.014*	0.389
	p	0.172	0.015	0.749	0.000	0.299	0.000	0.044	0.697
vocational/secondary	Z	-0.908	-0.360	1.542	2.108*	2.589	1.454	-0.087	-0.729
	p	0.364	0.719	0.123	0.035	0.010	0.146	0.931	0.466
vocational/higher	Z	-0.728	-1.595	-1.141	1.252	-0.398	0.833	-0.326	-1.067
	p	0.467	0.111	0.254	0.211	0.690	0.405	0.744	0.286
secondary/higher	Z	0.205	-1.627	-3.195*	-1.089	-3.482*	-0.835	-0.268	-0.504
	p	0.838	0.104	0.001	0.276	0.000	0.403	0.788	0.614

\* - statistically significant values at the level of  $\alpha = 0.05$ 

Source: own elaboration.

The conducted statistical analysis has demonstrated that in case of evaluating the elements of health centre's work organisation – according to the respondents' level of education – a large differentiation has occurred. Generally, persons with elementary education evaluated significantly higher than persons with vocational, secondary or higher education such the elements as: availability of car park for health centre's customers ( $Z = 3.204$ ;  $p = 0.001$ ), ( $Z = 3.354$ ;  $p = 0.001$ ), ( $Z = 2.429$ ;  $p = 0.015$ ), premises ( $Z = 3.876$ ;  $p = 0.001$ ), ( $Z = 3.543$ ;  $p = 0.001$ ), health centre's adjustment to rendering services for the disabled persons ( $Z = 3.877$ ;  $p = 0.001$ ), ( $Z = 3.673$ ;  $p = 0.001$ ) or availability of medical specialists and limits of admission to doctors ( $Z = 2.300$ ;  $p = 0.021$ ).

Table 4. Values of Mann-Whitney test for evaluating elements of health centre's work organisation according to professional groups

Tabela 4. Wartości testu Manna-Whitneya dla ocen elementów organizacji pracy przychodni w zależności od grup zawodowych

Test groups	Elements of work organisation in health centre (NPHI)	Convenience of health centres location	Availability of car park for health centre's customers/patients	Health centre's opening and closing hours	Premises	Social conditions	Health centre's adjustment to rendering services for the disabled	Availability of specialist doctors/admission limits	Queues to specialists/treatments/check-ups
learner/student	Z	-2.778*	1.085	-1.003	1.761	-2.588*	2.264*	0.291	0.267
	p	0.005	0.278	0.316	0.078	0.010	0.024	0.771	0.790
learner/pensioner	Z	-3.918*	1.855	-0.487	0.469	-3.094*	2.882*	-0.483	-1.739
	p	0.000	0.064	0.626	0.639	0.002	0.004	0.629	0.082
learner/white-collar worker	Z	-3.233*	2.155*	-0.795	2.548*	-2.388*	2.811*	1.177	-0.368
	p	0.001	0.031	0.426	0.011	0.017	0.005	0.239	0.713
learner/blue-collar worker	Z	-3.867*	0.819	-1.020	1.565	-2.930*	1.877	-0.138	-0.818
	p	0.000	0.413	0.308	0.118	0.003	0.061	0.890	0.413
student/pensioner	Z	-1.921	1.301	0.921	-2.512*	0.248	1.305	-0.732	-1.960*
	p	0.055	0.193	0.357	0.012	0.804	0.192	0.464	0.050
student/white-collar worker	Z	-0.344	1.306	0.441	0.942	0.588	0.813	1.198	-0.622
	p	0.731	0.192	0.659	0.346	0.557	0.416	0.231	0.534

student/ blue-collar worker	Z	-1.222	-0.405	0.192	-0.814	0.542	-0.829	-0.282	-1.000
	p	0.222	0.685	0.848	0.415	0.588	0.407	0.778	0.317
pensioner/ white-collar worker	Z	2.377*	-0.316	-0.763	5.294*	0.552	-0.961	2.990*	2.104*
	p	0.017	0.752	0.445	0.000	0.581	0.336	0.003	0.035
pensioner/ blue-collar worker	Z	1.248	-2.249*	-1.070	2.509*	0.487	-2.918*	0.460	0.954
	p	0.212	0.025	0.284	0.012	0.626	0.004	0.645	0.340
white- collar worker / blue-collar worker	Z	-1.299	-2.590*	-0.392	-2.798*	-0.162	-2.505*	-2.281*	-0.785
	p	0.194	0.010	0.695	0.005	0.871	0.012	0.023	0.433
unem- ployed/ employed	Z	0.225	-0.300	-1.158	3.676*	-0.365	-1.165	1.761	0.989
	p	0.822	0.764	0.247	0.000	0.715	0.244	0.078	0.323

\* - statistically significant values at the level of  $\alpha = 0.05$

Source: own elaboration.

With reference to evaluating elements of health centre's work organisation depending on the professional group represented by the respondents a series of statistically significant differences have appeared in almost each test group. It turned out that learners assigned lower scores to the element of health centre's location compared to white-collar workers ( $Z = -3.233$ ;  $p = 0.001$ ), blue-collar workers ( $Z = -3.867$ ;  $p = 0.001$ ) or pensioners ( $Z = -3.918$ ;  $p = 0.001$ ). In turn, pensioners evaluated significantly higher than white-collar workers organisational elements such as premises ( $Z = 5.294$ ;  $p = 0.001$ ), availability of doctors and admission limits ( $Z = 2.990$ ;  $p = 0.003$ ) or queues to check-ups, treatments and medical specialists ( $Z = 2.104$ ;  $p = 0.035$ ). It is worth noticing the fact that white-collar workers evaluated significantly lower than blue-collar workers availability of car park at NPHIs ( $Z = -2.590$ ;  $p = 0.010$ ), premises ( $Z = -2.798$ ;  $p = 0.005$ ), as well as health centre's adjustment to render services for the disabled ( $Z = -2.505$ ;  $p = 0.012$ ). In case of employed persons, they evaluated significantly lower than unemployed ones, premises ( $Z = 3.676$ ;  $p = 0.001$ ).

To deepen the analysis the authors have conducted Spearman rank correlation among the patients' evaluations – according to their profession – and particular variables that determine service evaluation in a healthcare institution, which covers all the investigated elements of work organisation in NPHIs. In this case a series of statistically significant correlations has been recorded as well.

Table 5. Values of evaluations of Spearman correlation coefficient and results of their significance tests for the profession of respondents and other variables that determine service evaluation

Tabela 5. Wartości ocen współczynników korelacji Spearmana oraz wyniki testów ich istotności dla zawodu respondentów i innych zmiennych określających ocenę obsługi

Variable:	Test results		
	$R_s$	Z	p
Professionalism / competences	0.020	0.456	0.649
Commitment and readiness to help deal with the matter	0.032	0.741	0.459
Impeccable manner	-0.023	-0.528	0.598
Appearance of the person rendering service	-0.055	-1.277	0.202
Individual approach to patient/customer	0.018	0.405	0.685
Speed and quality of service/dealing with the matter	0.022	0.498	0.618
Convenience of health centre's location	-0.036	-0.828	0.408
Availability of car park for health centre's customers/patients	0.006	0.134	0.893
Health centre's opening and closing hours	-0.213*	-5.027	0.000
Premises	0.014	0.313	0.755
Social conditions	-0.026	-0.585	0.559
Health centre's adjustment to render services for the disabled	0.009	0.212	0.832
Availability of medical specialists/admission limits	-0.110*	-2.564	0.011
Queues to specialists/treatments/check-ups	-0.037	-0.849	0.396
Precise and available information	-0.014	-0.335	0.738
Proper signage/information boards	-0.036	-0.822	0.411
Legibility/availability of health centre's website	-0.001	-0.019	0.985
Possibility of dealing with the matter via phone/Internet	-0.040	-0.920	0.358
Professionalism and expertise	-0.119*	-2.755	0.006
Commitment, accuracy, curiosity in solving a medical problem	-0.116*	-2.680	0.008
Impeccable manner	-0.089*	-2.071	0.039
Individual approach to patient	-0.129*	-3.016	0.003
Compliance with medical ethics principles	-0.119*	-2.766	0.006
Service at the registration desk	0.004	0.086	0.931
Doctor's service	-0.143*	-3.341	0.001
Service in the surgical study/ by a nurse	-0.052	-1.184	0.237

\* - values of Spearman rank correlation coefficient statistically significant at the level of  $\alpha = 0,05$

Source: own elaboration.

In all cases working persons evaluated the investigated elements of health centre's work organisation significantly lower than unemployed ones, for instance health centre's opening and closing hours ( $R_s = -0.213$ ;  $p < 0.001$ ) or availability of medical specialists and admission limits ( $R_s = -0.119$ ;  $p = 0.006$ ). This proves the fact that working persons are characterised by higher expectations towards healthcare institutions regarding elements of work organisation, health centre's communication with patients and individual services for patients rendered by medical personnel.

## Summary

Contemporary market is very demanding, therefore winning a customer requires application of various solutions that can help understand its complex mechanism and improve it. In the face of growing competition managerial staff more eagerly and frequently search for effective methods and tools in the scope of management that would significantly improve functioning of enterprises. Healthcare institutions deal with very sensitive and demanding customers, patients, whose satisfaction needs to be ensured and sought after, acquiring the knowledge of their preferences, needs, priorities and making all efforts to meet their expectations. It needs to be remembered that satisfaction is a very individual and subjective impression which occurs only when expectations of a given person are met or even exceeded<sup>14</sup>. To meet expectations of patients regarding work organisation in a healthcare institution it is necessary to investigate their opinions about work organisation in a healthcare institution, which must be addressed by managers and managerial staff. Such knowledge may constitute an extremely important element to identify drawbacks in this scope, which will enable to introduce indispensable improvements.

The results of the conducted research have proved that respondent evaluations regarding work organisation in healthcare institutions were mostly positive. Negative evaluations in turn concerned these organisational elements that managerial staff can reduce and should strive to eliminate. Strong competition on the medical services market as well as growing expectations of customers increase the need to develop a new type of enterprise management, which will stress organisational and communication aspects and most of all – an individual approach to customer. Proper work organisation in a healthcare institution contributes to provoking patients' interest with the offer and attracting a larger number of them to a given medical care facility.

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<sup>14</sup> G. Biesiok, J. Wyród-Wróbel, *Modele satysfakcji klienta*, Wydawnictwo Difin, Warszawa 2016, p. 19. Por. B. Pawłowska, J. Witkowska, L. Nieżurawski, *Nowoczesne koncepcje strategii orientacji na klienta*, Wydawnictwo Naukowe PWN, Warszawa 2010, p. 78.



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