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# KEY DETERMINANTS OF HUMAN RESOURCE MANAGEMENT IN HOSPITALS: STAKEHOLDER PERSPECTIVE

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## ABSTRACT

Over the past decade, theoretical and empirical research on the various aspects of human resources (HR) within the healthcare (HC) sector has grown extensively due to its' strategic importance in the sector. There is a visible tendency among researchers to pursue an effective human resource management (HRM) strategies, methods, and tools. Countries implement policies which should increase the amount and competences of employees within healthcare. Providers of HC services (i.e. hospitals) tend to enforce modern HRM solutions adapted from business organisations to attract, retain and develop HR. However, these seem not be as effective as they could (Hyde et al., 2013). Because of this, authors approached a researched reality from the point of view of a contextual paradigm, assuming that HRM solutions to be effective should match the reality of HC providers (Pocztowski, 2008). The aim of the research was to detect determinants which might influence the management of medical personnel in hospitals and identify the possible strength of these determinants so a more adjusted organisational and human resource management strategy could be elaborated. The list of possible determinants of hospital operations as the result of meta-analysis was elaborated. The list created the basis for interviews conducted among stakeholders and experts. Respondents were asked to appraise the factors with the usage of numerical scale considering their influence on medical personnel management in hospitals (physicians, nurses and others). In total, there were 28 interviews completed. The general conclusion which can be drawn from the analysis of these data is that hospitals should reorient their HRM practices in such the way that not only the quantitative but also the qualitative aspect of performance would be properly handled. This paper draws from HRM theory (contextual approach), stakeholder theory, and healthcare management theory, adding new insight to each in the context of the HC sector. Identification of most important factors which influence hospitals could allow the providers to elaborate HRM strategy adjusted to external circumstances.

## KEY WORDS

**organisational environment, human resource management, hospitals, stakeholders**

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## INTRODUCTION

In the context of changes taking place in the external surroundings of modern organisations — changes that involve the appreciation of the importance of intangible capital occurring in parallel with the depreciation of the importance of tangible capital — the statement that organisations operating on diversified product or service markets should

shape the human capital at their disposal so that it might develop into a source attracting and maintaining competitive advantage seems justified. Such a statement particularly pertains to all organisations in which the execution of the personnel function has been neglected and concentrates around the administration of personnel matters as opposed to the effective management of human resources. The group of

precisely such organisations decidedly embraces health care entities, including hospitals.

It is in hospitals that human resource management takes on special meaning. After all, it is there that personnel have a direct impact on the quality and effectiveness of medical services. Obviously, the quantitative aspect of human resource — the number of staff employed in the medical sphere who have the qualifications vital for providing medical services — is not without significance (Chopra et al., 2008). The key importance of human resource in entities providing medical services has also been established in publications of the World Health Organization. The World Health Report for the year 2000 lists human capital as one of three key forms of capital necessary for the provision of medical services. Moreover, actions linked with the shaping of this capital are perceived as key components of the budget for the analysed benefits (World ..., 2000, p. 75).

The strategic character of human resource in the process of delivering medical services is also witnessed by the multitude of publications devoted to this form of capital. It may be identified during any overview of literature included in databases such as EBSCO, PROQUEST or the Wiley Online Library. The publications pertain to a very diversified gamut of aspects coupled with human resources. However, most frequently analyse matters involve the influence of human resource on the quality of medical services or the state and structure of human resources in the healthcare sector. The aspect of human resource management in entities of the healthcare sector is also becoming a significant research trend in the research agenda aimed at healthcare management. It is for the first time that matters related to personnel management in entities providing medical services, including hospitals, are coming to the forefront against a backdrop of English-language literature (Borrill et al., 2000; Michie & West, 2004). In the indicated publications, the authors most often concentrate on selected aspects of human resource management, rarely applying a holistic approach to matters tied to the implementation of the personnel function. Analysed questions include human capital as an element of the intellectual capital structure, training policy management, performance appraisal, organisational culture, and remuneration. A dominant number of publications is devoted to HRM relations and performance management of healthcare providers (Harris et al., 2007; Bartram et al., 2007). In Poland, the concept of HRM in the healthcare sector

stirred the interest of both researchers and practitioners in the early 2000s. Moreover, this is usually and decidedly discussed in the area of public management as a part of the assumptions behind New Public Management, which postulates the implementation of modern management practices as applied in the private sector to organisations active in the public sector, including hospitals (Frączkiewicz-Wronka, 2009; Frączkiewicz-Wronka & Austen, 2011). It should be stressed that the analysis of literature allows the statement that in Poland, as is the case in world literature, researchers are concentrating on studies into select aspects of HRM, e.g., leadership, organisational culture, HRM units, nursing staff management, and personnel management in public and nonpublic entities of the healthcare sector. The work is primarily aimed at diagnosing the state of implementation of the personnel function in the examined entities (Buchelt, 2007, 2008, 2015; Czajka, 2004; Frączkiewicz-Wronka, 2009; Frączkiewicz-Wronka & Austen-Tynda, 2009; Jończyk, 2008, 2010). As a consequence of the exploration of chosen issues, there is a visible lack of publications dedicated to strategic human resource management, especially the ones analysing the importance of the human capital possessed by medical personnel employed in hospitals.

However, the identified gap cannot be filled immediately by any single research publication. A set of successive scientific explorations is required. Thus, this paper should be treated as an element in a series of publications devoted to wide-ranging issues of human resource management in hospitals. The aim of the paper is to detect determinants which might influence the management of medical personnel in hospitals. The focus is given to environmental determinants, which arise in a macro-environment. To achieve the aim, a set of diversified aspects is being discussed. Firstly, authors discuss a meaning of environmental factors in human resource management. Secondly, a synthesis of knowledge is made in connection with environmental factors, which might have an impact on human resource management in hospitals. Finally, results of the research are presented and discussed.

## 1. LITERATURE REVIEW

An explanation of the influence of environmental factors requires a brief explanation of the concept of

human resource management. The term human resource management firstly appeared in the literature in the 80s due to publications by researchers from Michigan State University and Harvard University (Pocztowski, 2008). The main assumption behind the concept was the recognition of human resource as a source for acquiring and sustaining competitive advantage. Furthermore, from the beginning researchers were underlining an interactive character of human resource management practices and an environment of organisations. The interaction was not only exposed by the Harvard Model but also by the Michigan one (Lundy & Cowling, 2000). Researchers pointed out various aims of human resource management, i.e. an increase in the personnel engagement and loyalty, the management of employee performance, an improvement in employee relationships, or the appreciation of team performance. These lead to an organisational performance increase, not only in the financial dimension, but also in the intangible one, i.e. the improvement of an organisational image among customers and actual or potential employees (Schuler & Jackson, 1987; Storey, 2001; Boselie, Paauwe & Richardson, 2003; Armstrong & Taylor, 2016). The main practices constructing HRM are recruitment, job introduction, performance management, employee compensation and, finally, the HR development.

The strategic importance of environmental (external) and contextual (internal) determinants is visibly underlined in publications dedicated to strategic human resource management, especially those concentrated on the strategic analysis which aims towards the creation of an HRM strategy. Researchers underline the fact that properly performed strategic analysis results in better understanding of the organisational environment and context. Furthermore, it allows organisations to elaborate an HRM strategy, which may support them in attracting and retaining employees, especially the 'most wanted ones', i.e. talents. Consequently, the probability for organisations to become successful (i.e. gain a competitive advantage) increases.

The environment of organisations is classified in various ways. The most commonly used classification is the one dividing the environment into the macro environment — i.e. the more distant, also known as the social environment — and the micro environment — the closer surroundings. The macro environment is defined as the set of conditions in which the organisation functions in light of its location in a given country or region (Gierszewska & Romanow-

ska, 2002). Porter (1994) assumes that the macro-environment includes the broader surroundings that influence not only the given organisation but also the whole of the sector to which the organisation belongs. The literature indicates that the macro environment may be assigned two basic qualities. Firstly, as factors making up the macro environment can, to a greater or lesser degree, influence the organisations, including primarily human resource management, while the organisation has little or no influence over the moulding of these factors, this impacts the domain of relations of this environment with the organisation. The second quality of the macro environment of human resource management is the multiplicity of conditions constituting that environment, specifically factors of a technological, economic, legal, demographic, sociocultural, and ecological character (Pocztowski, 2008). Tab. 1 presents an example of the set of factors of the macro environment, which can influence HRM.

The micro-environment is also called the competitive or close environment and is defined in two ways. Firstly, as a set of surroundings made up of entities and organisations that have cooperative or competitive ties with the given economic entity (Żurek, 2001). Secondly, as a set of surroundings made up of current or potential customers, suppliers, competitors, and companies producing substitutes (Porter, 1994). A quality of the competitive environment is that there is feedback between its elements and the company: entities of the competitive environment have an impact on the company, but the company also can actively react to such stimuli. Thus, the nature of mutual relations is that of an economic game. These relations may not only be studied and observed by the company management but also shaped by it (Gierszewska & Romanowska, 2002). In addition, it needs to be underlined that the investigation of the literature visibly leads to the conclusion that environmental and contextual factor and in fact their permanent analysis can support organisations in attaining a success via effective human resource management. The analysis, its' results, allows organisations to 'shape' their HRM processes in such a way that they will be able to avoid threats, use opportunities, eliminate weaknesses and straighten strengths. Perceiving the paper as a part of the series of publications dedicated to various issues of HRM, the further attention is given to factors which are classified into the macro environment.

Tab. 1. Examples of macro-environmental factors influencing HRM

FACTOR CATEGORY	EXAMPLE FACTORS
Technological factors	<ul style="list-style-type: none"> <li>• state expenditures on research and development</li> <li>• rate of technology transfer</li> <li>• know-how protection</li> </ul>
Political factors	<ul style="list-style-type: none"> <li>• political stability</li> <li>• influence of state officials</li> <li>• attitude of the ruling party on employee–employer relations</li> <li>• European integration</li> </ul>
Economic factors	<ul style="list-style-type: none"> <li>• economic situation</li> <li>• GDP tendencies</li> <li>• inflation rate</li> <li>• unemployment rate</li> <li>• employment costs</li> </ul>
Socio-cultural factors	<ul style="list-style-type: none"> <li>• income differentiation</li> <li>• demographic shifts</li> <li>• natural population growth</li> <li>• lifestyle changes</li> <li>• rural to urban migration</li> <li>• educational level</li> </ul>
Labour-market related factors	<ul style="list-style-type: none"> <li>• accessibility of a qualified workforce</li> <li>• supply of a qualified workforce</li> <li>• demand for a qualified workforce</li> </ul>
Legal factors	<ul style="list-style-type: none"> <li>• labour law</li> <li>• specific legal regulations governing the performance of certain occupations</li> <li>• tax regulations</li> <li>• other legal regulations relating to the realm of worker employment</li> </ul>

Source: elaborated by the authors.

### 1.1. DETERMINANTS OF HUMAN RESOURCE MANAGEMENT IN HOSPITALS

Like all other organisations active in the health-care sector, hospitals are complex social systems. The character of their operations forces them to guarantee continuity, predictability, and adequate productivity. On the other hand, they need to be flexible, able to adapt to changes in the environment, and innovative. It is for this reason that hospitals must be treated as systems that have the qualities of being both closed and open (Shortell & Kaluzny, 2001; Douglas & Ryman, 2003). Perceiving hospitals as open systems — systems that are a part of their environment — imparts the environment with a special meaning for those managing such units. This is because the environment becomes an integral area of the functioning of the hospital and, as such, should be an object of permanent analyses. This specific relationship between hospitals and their environment also concerns human resource management because it is an inevitable part of daily management practices performed in hospitals. Taking this into consideration, authors performed the literature analysis aimed at detecting factors which might influence HRM in

hospitals. The analysis which was performed had a qualitative character. As a result, the list of factors was elaborated and later used during the empirical research (Tab. 2).

## 2. RESEARCH METHODS

Elaboration of a defined list of factors, such as a lack of physicians and nurses, pressure on hospital performance, altering society and increasing the demand for health-care services (Tab. 2), allowed researches to include it into the field of healthcare management during semi-structured interviews with hospital stakeholders and experts. The respondents were asked to appraise the factors considering their influence on medical personnel management in hospitals (physicians, nurses, and others). The numerical scale from 1 to 5 was used, where '1' was 'very strong influence', '2' — 'strong influence', '3' — 'small influence', '4' — 'very small influence', and finally '5' — 'minimal influence'. In total, there were 28 interviews completed, lasting from 60–90 min each. Respondents were also asked open-ended questions. The group of respondents was chosen based on the assumption that identification of the key stakeholder needs can help hospitals create an HRM strategy which allows them to compete for financial resources (Eisenhardt, 1988; Eisenhardt, 1989; Marstein, 2003) necessary to attract, retain and develop medical personnel. External stakeholders were interviewed. Furthermore, to get more insights into the characteristics of the hospital environment, healthcare experts were also interviewed.

## 3. RESEARCH RESULTS

Considering the aim of the paper, data from the interviews was firstly segregated in the following sequence. First, the respondents were grouped into nine groups:

Tab. 2. List of factors which can influence HRM in hospitals

NO.	FACTOR	LITERATURE SOURCE
1	Aging society resulting in an increase in demand for medical services	Young et al., 2001
2	Growing patient expectations regarding the quality of medical services	Abraham et al., 2011
3	Growing patient expectations regarding the accessibility of medical services	Abraham et al., 2011
4	Greater awareness of patients with respect to medical preventive measures and, therefore, growth in the demand for services supporting prophylactics	Willis et al., 2014
5	Increasing interest of a part of population in matters connected with health and easier access to related information (e.g. via the Internet) causing an increase in the demand for the services	Willis et al., 2014
6	Increasing pressure to lower costs of medical service delivery	Provan, 1987; Kallapur & Eldenburg, 2005
7	Increasing pressure to shorten time of medical service delivery	Provan, 1987
8	Increasing pressure regarding the quality of medical services	Douglas & Ryman, 2003
9	Increasing pressure for the adaptation of patient-oriented health care	Douglas & Ryman, 2003
10	The shortage of public financing in the healthcare system	Martin et al., 2011
11	The shortage of medical personnel	Provan, 1987
12	The depletion of medical personnel from the labour market as a result of emigration	Frąckiewicz-Wronka & Austyn, 2008
13	Organisation and functioning of the medical education system	Chopra et al., 2008
14	Organisation and functioning of the medical post-graduate education system – continued professional training	Chopra et al., 2008
15	The multiplicity and restrictiveness of legal regulations governing the ability to practice a medical profession	Chopra et al., 2008
16	Legal regulations relating to the development of specialised competencies (form and manner of organised training)	Chopra et al., 2008
17	State health policy	Waldau, 2007
18	Advancements in medical technology creating a demand for the continuous development of specialised competencies on the part of medical personnel	Kimberly & Evanisko, 1981; Saliba et al., 2012
19	Implementation of changes (reforms) in the healthcare system involving commercialisation of medical providers	Klich, 2007

Source: elaborated by the authors.

Note: only examples of papers concerning a certain issue were included in the Tab. 2.

- representatives of educational institutions (2 respondents), the acronym used for the paper — EDU,
- healthcare sector experts (10 respondents), the acronym used for the paper — EXPERT,
- other entity (recruitment company performing its activity in on the healthcare labour market — 1 respondent), the acronym used for the paper — RECRUIT,
- representatives of professional self-governing organisations of medical personnel (5 respondents), the acronym used for the paper — PSO,
- representatives of the Ministry of Health (3 respondents), the acronym used for the paper — MH,
- representatives of the National Health Fund (2 respondents), the acronym used for the paper — NHF,
- representative of the Commissioner for Patient Rights (1 respondent), the acronym used for the paper — P,
- representatives of the local government units (3 respondents), the acronym used for the paper — LGU,
- the chairman of national labour unions of medical personnel (1 respondent), the acronym used for the paper — NLU.

The second activity taken to analyse the data was to replace the name of a factor with an acronym (Tab. 3). Then, the arithmetical mean for each group of respondents was calculated in reference to each factor. Both activities were taken to identify factors which are perceived by respondents as the most important ones. The analysis below (Tab. 4, 5 and 6) concerns particular groups of medical personnel. Furthermore, the aggregated analysis was made to identify the most important factors which should be



considered when planning HRM strategies for hospitals. Factors are perceived as 'important' when the arithmetical mean is smaller than two and pointed out by the majority of respondents.

Considering the data included in Tab. 4, it can be identified that respondents pointed out the following factors as being the most important for management of physicians:

- growing patient expectations regarding the quality of medical services. 7 out of 9 groups of respondents valued the factor below 2;
- the shortage of public financing in the healthcare system. 6 out of 9 groups of respondents valued the factor below 2;
- the shortage of medical personnel. 6 out of 9 groups of respondents valued the factor below 2;
- advancements in medical technology creating a demand for the continuous development of specialised competencies on the part of medical personnel. 6 out of 9 groups of respondents valued the factor below 2;

- growing patient expectations regarding the accessibility of medical services. 5 out of 9 groups of respondents valued the factor below 2;
- increasing pressure to shorten the time of medical service delivery. 5 out of 9 groups of respondents valued the factor below 2;
- growing patient expectations regarding the accessibility of medical services. 5 out of 9 groups of respondents valued the factor below 2;
- increasing pressure regarding the quality of medical services. 5 out of 9 groups of respondents valued the factor below 2;
- increasing pressure for the adaptation of patient-oriented healthcare. 5 out of 9 groups of respondents valued the factor below 2;
- state health policy. 5 out of 9 groups of respondents valued the factor below 2.

Considering the data presented in Tab. 5, the following factors can be detected as the most important ones when managing nurses in hospitals:

- aging society resulting in an increase in the demand for medical services. 6 out of 9 groups of respondents valued the factor below 2;

Tab. 3. Acronyms for factors used for the analysis

NO.	FACTOR	ACRONYMS
1	Aging society resulting in an increase in the demand for medical services	AGING SOCIETY
2	Growing patient expectations regarding the quality of medical services	PATIENT QUALITY
3	Growing patient expectations regarding the accessibility of medical services	PATIENT ACCESSIBILITY
4	Greater patient awareness of prophylactic measures and an increasing demand for them	PATIENT PROPHYLACTIC
5	Increasing interest of a part of the population in matters connected with health and easier access to related information (e.g., via the Internet) causing an increase in the demand for the services	SYNDROME 'GOOGLE'
6	Increasing pressure to lower the costs of medical service delivery	LOWER COSTS
7	Increasing pressure to shorten the time of medical service delivery	SHORTEN TIME
8	Increasing pressure regarding the quality of medical services	INCREASE QUALITY (CONTRACT)
9	Increasing pressure for the adaptation of patient-oriented health care	PATIENT-ORIENTATION
10	The shortage of public financing in the healthcare system	SHORTAGE FINANCING
11	The shortage of medical personnel	HR SHORTAGE
12	Depletion of medical personnel from the labour market as a result emigration	HR INTERNATIONAL MIGRATION
13	Organisation and the functioning of the medical education system	MEDICAL EDU
14	Organisation and the functioning of the medical post-graduate education system — continued professional training	POST-G MED EDU
15	The multiplicity and restrictiveness of legal regulations governing the ability to practice a medical profession	REG PROFESSION
16	Legal regulations relating to the development of specialised competencies (form and manner of organised training)	REG DEVELOPMENT
17	State health policy	HEALTH POLICY
18	Advancements in medical technology creating a demand for the continuous development of specialised competencies on the part of medical personnel	TECHNOLOGY
19	Implementation of changes (reforms) in the healthcare system involving commercialisation of medical providers	REFORMS

Source: elaborated by the authors.

Tab. 4. Factors which might influence management of physicians

FACTORS	RESPONDENTS								
	EDU	EXPERT	RECRUIT	PSO	MH	NHF	P	LGU	NLU
AGING SOCIETY	2.5	2.3	1	1.7	1.7	1.5	3	2.0	1
PATIENT QUALITY	2	1.3	1	1.0	1.3	1.5	1	2.3	1
PATIENT ACCESSIBILITY	2.5	2.5	1	1.3	1.3	1	2	2.0	1
PATIENT PROPHYLACTIC	2.5	2.9	1	2.3	2.3	3	3	2.7	1
SYNDROME 'GOOGLE'	2.5	2.2	1	2.0	2.0	1.5	2	2.0	1
LOWER COSTS	1	2	1	1.3	2.0	2	1	2.3	3
SHORTEN TIME	1.5	2.2	1	1.7	1.3	1.5	1	3.3	3
INCREASE QUALITY (CONTRACT)	2	2.6	1	1.7	1.3	1.5	1	2.3	1
PATENT-ORIENTATION	1.5	2.5	1	2.3	1.7	2.5	1	2.3	1
SHORTAGE FINANCING	1	2.2	1	1.7	1.7	1.5	2	1.3	1
HR SHORTAGE	1.5	2.1	1	2.0	1.0	1	2	1.7	1
HR INTERNATIONAL MIGRATION	1.5	2.5	1	2.3	2.3	2.5	2	2.3	1
MEDICAL EDU	1.5	2.1	2	2.7	1.3	3	1	3.3	1
POST-G MED EDU	2	2.3	2	2.3	1.3	2.5	2	3.0	2
REG PROFESSION	1.5	2.1	1	2.0	1.7	2.5	2	2.0	2
REG DEVELOPMENT	2	2.7	2	2.0	1.7	2.5	3	2.0	2
HEALTH POLICY	1.5	3.2	1	2.7	2.3	1.5	2	1.7	1
TECHNOLOGY	1	2.2	1	1.7	2.0	1	1	2.0	1
REFORMS	1	2.6	1	2.0	2.0	2	2	2.0	2

Source: elaborated by the authors.

Tab. 5. Factors which might influence management of nurses and midwives

FACTORS	RESPONDENTS								
	EDU	EXPERT	RECRUIT	PSO	MH	NHF	P	LGU	NLU
AGING SOCIETY	1	2.2	1	1	1.3	1.5	2	2	1
PATIENT QUALITY	3.5	1.7	1	1.4	1.3	2.5	2	2.3	1
PATIENT ACCESSIBILITY	2.5	2.7	2	2.6	1.3	2	2	2.7	1
PATIENT PROPHYLACTIC	2.5	3	2	2.6	2.3	3.5	2	3.0	1
SYNDROME 'GOOGLE'	3	2.6	2	2.4	2.7	2.5	3	3.0	1
LOWER COSTS	2	2.5	1	2.2	1.7	2	2	2.0	3
SHORTEN TIME	2	2.6	1	2.2	1.7	1	2	3.0	3
INCREASE QUALITY (CONTRACT)	3.5	2.5	2	2.2	1.3	2	2	1.7	1
PATENT-ORIENTATION	2	2.5	1	2.4	2.0	2.5	1	2.0	1
SHORTAGE FINANCING	1.5	2	1	1.6	2.0	1	2	1.3	1
HR SHORTAGE	1	2	1	1.8	1.0	1	2	2.0	1
HR INTERNATIONAL MIGRATION	1	2.6	1	1.8	2.7	2	3	2.3	1
MEDICAL EDU	2	2.3	2	2.8	1.3	2.5	1	3.3	1
POST-G MED EDU	2	2.9	2	2.6	2.3	3	1	2.7	2
REG PROFESSION	2.5	2.3	1	1.6	1.7	2	2	2.0	2
REG DEVELOPMENT	2	2.9	2	1.8	2.0	3	2	3.0	2
HEALTH POLICY	2.5	3.3	1	2.8	2.7	2	2	2.3	1
TECHNOLOGY	2	2.6	1	1.6	2.3	1.5	1	2.7	1
REFORMS	2	2.7	1	1.8	3.0	2.5	2	2.0	2

Source: elaborated by the authors.

- the shortage of medical personnel. 6 out of 9 groups of respondents valued the factor below 2;
- growing patient expectations regarding the quality of medical services. 5 out of 9 groups of respondents valued the factor below 2;
- the shortage of public financing in the healthcare system. 5 out of 9 groups of respondents valued the factor below 2;
- advancements in medical technology creating a demand for the continuous development of specialised competencies on the part of medical personnel. 5 out of 9 groups of respondents valued the factor below 2.

Consideration of the data presented in Tab. 6 reveals that respondents do not perceive factors which can be detected in the hospital environment as important when managing other medical staff. This might relate to the amount of the personnel employed in hospitals which is much smaller than in other medical entities. Also, the specifics of health care services require most of the time direct engagement of physicians and nurses into the process of medical service delivery.

Finally, the arithmetical mean was calculated for all medical staff. In the case, respondents pointed out five most important factors which should be considered while managing medical personnel employed by hospitals (Tab. 7). These are:

- aging society resulting in an increase in the demand for medical services. 6 out of 9 groups of respondents valued the factor below 2;
- growing patient expectations regarding the quality of medical services. 6 out of 9 groups of respondents valued the factor below 2;
- the shortage of public financing in the healthcare system. 6 out of 9 groups of respondents valued the factor below 2;
- the shortage of medical personnel. 5 out of 9 groups of respondents valued the factor below 2;
- advancements in medical technology creating a demand for the continuous development of specialised competencies on the part of medical personnel. 5 out of 9 groups of respondents valued the factor below 2.

Tab. 6. Factors which might influence management of other medical personnel

FACTORS	RESPONDENTS								
	EDU	EXPERT	RECRUIT	PSO	MH	NHF	P	LGU	NLU
AGING SOCIETY	1	2.6	2	2	2.7	2.5	1	2.7	3
PATIENT QUALITY	3.5	2	2	1.8	2.3	3.5	2	2.7	2
PATIENT ACCESSIBILITY	2.5	3	3	3	2.0	3.5	3	3.3	1
PATIENT PROPHYLACTIC	3	3	3	3.2	3.3	4	3	3.7	1
SYNDROME 'GOOGLE'	3	2.8	3	2.8	4.0	3.5	4	3.3	1
LOWER COSTS	2	2.5	1	2.4	3.0	3	4	2.0	3
SHORTEN TIME	2	2.8	2	2.4	3.3	2.5	4	3.3	3
INCREASE QUALITY (CONTRACT)	3.5	2.5	3	2.8	3.0	2.5	4	1.7	1
PATENT-ORIENTATION	2	2.6	1	3	3.3	3	3	2.3	1
SHORTAGE FINANCING	2	2.3	1	2	2.7	1.5	4	1.7	1
HR SHORTAGE	2	2.9	1	2.8	2.3	2	4	3.7	1
HR INTERNATIONAL MIGRATION	2.5	3.5	3	2.6	4.7	4	4	3.7	1
MEDICAL EDU	2.5	2.5	3	3.6	4.0	2.5	2	3.3	1
POST-G MED EDU	3	3.1	3	3.2	4.7	3	3	2.7	2
REG PROFESSION	3	2.3	4	2	3.7	2	4	4.0	2
REG DEVELOPMENT	2.5	3	4	2.2	3.7	4	4	4.3	2
HEALTH POLICY	3	3.3	3	3	4.3	2	3	3.7	1
TECHNOLOGY	3	2.5	2	2.2	4.3	2	3	3.7	1
REFORMS	3	2.7	1	1.8	4.3	3	3	2.7	2

Source: elaborated by the authors.



## 4. DISCUSSION OF THE RESULTS

Hospitals are key elements of the healthcare systems. Not only because they acquire the larger portion of public finances allocated for health care providers (Eurostat, 2017), but also because they deliver services which cannot be provided by other entities, i.e. the emergency ones (McKee & Healy, 2002). Furthermore, hospitals employ a larger part of medical personnel which is engagement in the healthcare system, especially physicians and nurses (Eurostat, 2016). These unique features of hospitals as organisations inspire researchers to explore them from diversified perspectives. The paper aimed to analyse the macro environment of hospitals to detect factors which might strongly influence the management of staff in general and particular groups, such as physicians, nurses (including midwives), and other medical personnel (i.e. physiotherapists, technicians). For this reason, interviews with stakeholders and health care experts were performed. Respondents were asked to appraise each factor which was detected in the literature using the scale from very important to minimal importance. From the analysis performed in the earliest section, few

conclusions can be drawn. First of all, it is visible that respondents believe that environmental factors strongly influence the management of physicians. For the group, the larger number of factors may be detected as important, namely growing patient expectations regarding the quality of medical services, the shortage of public financing in the healthcare system, the shortage of medical personnel, advancements in medical technology creating a demand for the continuous development of specialised competencies on the part of medical personnel. Secondly, nurses are another group, the management of which might be visibly influenced by environmental factors. The factors which were valued highly by the majority of respondents were the aging society resulting in an increase in the demand for medical services and the shortage of medical personnel. Thirdly, respondents gave a comparatively low score to the influence of the factors on the management of other medical staff.

## CONCLUSIONS

As a consequence of the research and analysis of the results, there were few instead of many factors

Tab. 7. Aggregated data concerning factors which might influence management of medical personnel

FACTORS	RESPONDENTS								
	EDU	EXPERT	RECRUIT	PSO	MH	NHF	P	LGU	NLU
AGING SOCIETY	1.5	2.4	1.3	1.5	1.9	1.8	2.0	2.2	1.7
PATIENT QUALITY	3.0	1.7	1.3	1.5	1.7	2.5	1.7	2.4	1.3
PATIENT ACCESSIBILITY	2.5	2.7	2.0	2.5	1.6	2.2	2.3	2.7	1.0
PATIENT PROPHYLACTIC	2.7	3.0	2.0	2.8	2.7	3.5	2.7	3.1	1.0
SYNDROME 'GOOGLE'	2.8	2.5	2.0	2.5	2.9	2.5	3.0	2.8	1.0
LOWER COSTS	1.7	2.3	1.0	2.3	2.2	2.3	2.3	2.1	3.0
SHORTEN TIME	1.8	2.5	1.3	2.2	2.1	1.7	2.3	3.2	3.0
INCREASE QUALITY (CONTRACT)	3.0	2.5	2.0	2.3	1.9	2.0	2.3	1.9	1.0
PATENT-ORIENTATION	1.8	2.5	1.0	2.6	2.3	2.7	1.7	2.2	1.0
SHORTAGE FINANCING	1.5	2.2	1.0	1.7	2.1	1.3	2.7	1.4	1.0
HR SHORTAGE	1.5	2.3	1.0	2.2	1.4	1.3	2.7	2.4	1.0
HR INTERNATIONAL MIGRATION	1.7	2.9	1.7	2.1	3.2	2.8	3.0	2.8	1.0
MEDICAL EDU	2.0	2.3	2.3	3.1	2.2	2.7	1.3	3.3	1.0
POST-G MED EDU	2.3	2.8	2.3	2.9	2.8	2.8	2.0	2.8	2.0
REG PROFESSION	2.3	2.2	2.0	1.7	2.3	2.2	2.7	2.7	2.0
REG DEVELOPMENT	2.2	2.9	2.7	1.9	2.4	3.2	3.0	3.1	2.0
HEALTH POLICY	2.3	3.3	1.7	2.9	3.1	1.8	2.3	2.6	1.0
TECHNOLOGY	2.0	2.4	1.3	1.8	2.9	1.5	1.7	2.8	1.0
REFORMS	2.0	2.7	1.0	1.8	3.1	2.5	2.3	2.2	2.0

Source: elaborated by the authors.

detected as important for medical management in hospitals (such as aging society resulting in an increase in the demand for medical services, growing patient expectations regarding the quality of medical services, the shortage of public financing in the healthcare system, the shortage of medical personnel, and advancements in medical technology creating a demand for the continuous development of specialised competencies on the part of medical personnel) are often analysed and researched by academics and practitioners, i.e. international organisations such as WHO or the EU. Nonetheless, these factors are analysed from a macro perspective. There is a visible lack of papers exploring ways hospitals should react towards identified challenges via HRM practices. Referring to HRM literature, it can be pointed out that when such a set of factors evolves in for-profit (private) sector organisations, a set of HRM can be undertaken i.e. organisations build their employer brand to attract and retain employees, competences of employees are developed to deliver high quality products and services, talent management programs are introduced, a larger portion of the budget is dedicated to training, performance management is adapted, etc. Detection of the factors which may influence the personnel management in hospitals, however, gives a chance for hospitals managers to rethink the situation and proactively react to it by adjusting HRM practices to actual environmental conditions. From the theoretical point of view, this paper this paper draws from the HRM theory (contextual approach), stakeholder theory, and healthcare management theory, adding new insight to each in the context of the HC sector. This research gives some insights about the hospital environment and particular factors which might influence medical personnel management within these organisations. However, the conclusions drawn from the analysis are limited due to a qualitative approach to empirical research. Additionally, further research should be undertaken to confirm the first conclusions.

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