

HRM COMPETENCIES IN HEALTHCARE ORGANISATIONS

POLONA ŠPRAJC & YULIIA LUKHANINA

University of Maribor, Faculty of Organizational Sciences, Kranj, Slovenia.

E-mail: polona.sprajc@um.si, yuliia.lukhanina@student.um.si

Abstract The World Health Organization (WHO) views personnel as the most important of all resources in the health system. Human resources (HR) plays a critical role in stimulating effective work in organisations, especially for public health organisations, where personnel competencies are key aspects of service quality. Countries with fewer health workers are unable to effectively deliver services or scale up the interventions needed to meet health goals. There is ample evidence that human resource management (HRM) practices affect the productivity of organisations and employees, and thus can affect the quality of service delivery across many sectors. HRM contributes to improving the efficiency of healthcare systems as well as positive outcomes for patients and employees. In view of the specific problems in healthcare that are now and will arise in the future, the HR managers need clinical training or experience in healthcare to better understand the problem and its solution. The review is based on materials from Scopus, Web of Science, CHINAL, PubMed, Sage databases. Analyzed strategies for solving problems related to staffing, personnel management and patient satisfaction, both on the part of health workers and leaders, and on the part of the international community.

Keywords::

health services, quality of care, HRM, managerial competences.

1 Introduction

Public health problems are becoming increasingly important these days. Modern science considers the health of the population not only as the highest humanitarian value that determines the well-being, duration and quality of human life, but also as the most important factor in ensuring economic growth, internal political stability and high defense capability of any country. Public health is "a key driver of competitiveness and development in an aging Europe" (European Commission, 2014).

Populations are aging throughout Europe, and this trend is predicted to continue at least until the mid-twenty-first century. This process is often considered one of the main reasons leading to health problems (Rechel, Doyle, Grundy, & McKee, 2009).

By 2050, nearly every country will experience the effects of an increase in the proportion of the population over 60. This situation is due to a decrease in the birth rate, combined with a decrease in the levels of infant and premature mortality, which leads to an increase in life expectancy. While high-income countries have seen significant increases in centenarians (people aged 80 and over), low- and middle-income countries are experiencing some of the highest rates of population aging, reflecting recent advances in conservation. public health (Cylus, Roubal, Ong, & Barber, 2021).

Changes in the age structure of the population undoubtedly have implications for health care and long-term care. Many countries are concerned about how an increasing proportion of aging populations will affect health care. There is also an urgent need to reorient the health care and long-term care system to meet the health care needs of people. To complicate matters, older people have an increasing number of chronic conditions and comorbidities and often have to rely on multiple providers of both social and health care services (European Commission , 2018).

The problem of an increasing aging population is also unfortunately affecting a healthy work environment in healthcare organizations. Since healthcare workers have to work harder, long working hours, unreasonable working conditions and many patients and too little time for each patient, sleep disturbances due to night shifts, and they face more severe cases in their daily work, patients have more than

one chronic forms of the disease, and it is not always possible to achieve normal clinical results (Klein, Frie, Blum, & Von dem Knesebeck, 2011; Burbeck, Coomber, Robinson, & Todd, 2002). This leads to job dissatisfaction, which is a trigger for stress. The most stressed are medical personnel at the forefront of access to care: family medicine, general medicine and emergency medicine, and nursing staff (Tziner, Rabenu, Radomski, & Belkin, 2015). Many sources of stress for nurses have been identified, which include: shift work, death of patients, heavy workload, feelings of powerlessness, poor management styles, and poorly designed workplaces and work environments (Cohen-Katz, et al., 2005; Ruggiero, 2003; Upenieks, 2003).

At this time, stress in the workplace has become an important issue, because its consequences can cause severe damage to organizations and their employees, and most importantly, stress leads to burnout. Burnout is a progressive psychological reaction to chronic work, stress associated with emotional exhaustion, depersonalization and worries (Maslach & Leiter, 2016). When medical staff burns out, there is a feeling that they are not able to perform their duties at a high level, there is a lack of motivation and, as a result, a decrease in the quality of medical services. Obviously, staff turnover will increase, which only aggravates the problem, since it is impossible to provide high-quality medical care without staffing specialists (Kelly, Gee, & Butler, 2021).

However, there is already a shortage of qualified labor in healthcare, and over time, the deficit will only increase, due to the provision of more medical care and the duration of the assistance itself (Matthews, Carsten, Ayers, & Menachemi, 2018). Concerns from the public and health managers about severe shortages of workforce now and in the future are growing, with projected future severe workforce shortages reaching 12.9 million professionals worldwide by 2035, and this trend is increasing exponentially (Tursunbayeva, 2019). In Germany, an increasing number of hospitals report difficulties in filling vacancies due to a lack of qualified applicants, a shortage affects all medical personnel, both nurses and doctors, both in the outpatient and inpatient health sectors, regardless of whether it is urban or rural, which unfortunately will lead to a sharp decline in the quality of medical services (Winter, Schreyögg, & Thiel, 2020). High patient to low staffing ratios have been shown to negatively affect patient outcomes. In a meta-analysis of 96 studies, Kane et al. found significant links between the number of nurses and side effects, including increased mortality for patients (Kane, Shamliyan, Mueller, Duval, & Wilt, 2007). In summary,

it can be argued that a shortage of medical personnel can negatively affect patient care, to a greater extent than it can be directly measured. Is fraught with adverse outcomes such as readmission to hospital or adverse effects from treatment and care, or even death (Winter, Schreyögg, & Thiel, 2020).

2 Theoretical part of research work

Human Resource Management (HRM) has long been recognized as the most important aspect of strategic management in healthcare organization (Ramadevi, Gunasekaran, Roy, Rai, & Senthilkumar, 2016). HRM is a system that guarantees the effective use of knowledge, competencies, abilities and other characteristics possessed by a person organizing employees who are striving to achieve the organization's goals (Fanelli, Lanza, Zangrandi, & Zangrandi, 2020). The most important skills required by healthcare professionals to deliver high quality patient care is human resource development. Through appropriate human resource development, healthcare organizations can provide quality services to their patients (Ramadevi, Gunasekaran, Roy, Rai, & Senthilkumar, 2016). Therefore, human resource planning is the key to any medical care. The goal of HRM policy is to recruit and recruit, retain, develop competent personnel and create a continuously improving healthcare organization (Fanelli, Lanza, Zangrandi, & Zangrandi, 2020). People are the most important health resource. The equipment and devices that constitute an essential part of medical care require the professional knowledge, experience and dedication of medical personnel in order to use them to the maximum benefit for patients (WHO, 2006). That is why one of the main functions of HPM is to train and improve the skills of medical personnel, this will allow us to keep up with the times and use modern technical equipment to improve the quality of medical services and favorable outcomes for patients (Boselie, Dietz, & Boon, 2005). With the support of modern technology, organizations are changing their teaching and development methods. Microlearning can be applied, which often consists of a series of short online videos that can be watched on smartphones at any convenient time, just as training can be delivered to busy healthcare professionals to help solve a problem. Lack of ongoing training for nurses is the primary reason why they tend to retire shortly after hiring (Tursunbayeva, 2019).

There is ample evidence that HRM practices have an impact on the performance of organizations and employees across multiple sectors and have the potential to help improve the performance of healthcare systems, healthcare organizations, patient and employee satisfaction by creating and maintaining a healthy work environment (Bartram & Dowling, 2013; Campbell, et al., 2013; Vermeeren, et al., 2014). Formation of a healthy work environment through the use of constructive leadership styles in order to increase cooperation between the medical team, allow them to independently assess the situation and make decisions, engage employees, motivate them, and also provide worthy support from the administration (Gao, Hou, & Liu, 2016; Wei, Niu, & Ge, 2018). In other words, positive, motivational, uplifting and stimulating HRM experiences are vital and nurtured in the work environment for workplaces to be healthy and prioritize worker well-being and service quality (Ofei, Paarima, & Barnes, 2020). Another commonly cited HR skill is related to recruiting and selecting personnel. Finding qualified candidates, selecting the best and examining the correspondence between the candidate, the company (culture) and the manager is one of the most important HR tasks, it is extremely important to provide a huge pool of healthcare professionals with the appropriate training and competence (Cogin, Ng, & Lee, 2016). Hiring health workers can be time-consuming, a long process that can take up to 18-24 months. Therefore, healthcare organizations need to revise their hiring practices, the main purpose of which is to find and recruit qualified personnel as quickly as possible (Tursunbayeva, 2019).

Healthcare today faces complex challenges, an aging population, stress in the workplace and a shortage of medical personnel, these are global challenges that all countries in the world face. However, with the specialized skills that HRM possesses, such as training, creating a healthy work environment and recruiting and building a pool, the complexities of healthcare can be dealt with, as managing the performance of healthcare professionals is vital to ensuring the quality of treatment and patient care.

3 Research question

RQ: What HRM competences are relevant in healthcare today?

4 Research methodology

A descriptive research method of work and a systematic approach to searching for literature were used when constructing the theoretical part of the research work (Sekaran & Bougie, 2016). In addition, a descriptive review was carried out to establish how the culture in the organization influences a healthy work environment and the quality of medical care. This section describes the literature search methodology.

4.1 Research methods

In the paper, we carried out a systematic review, followed by a thematic synthesis (Thomas & Harden, 2008). The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed for reporting (Page, McKenzie, Bossuyt, Boutron, & Hoffmann, 2020).

4.2 Research strategy

We searched the literature in the following databases systematically: Scopus, Web of Science, CHINAL, PubMed, Sage. We also searched for the grey literature via hand-searching. In the search we used the following keywords: healthcare or health services, quality of care, HRM, managerial competences with the help of the Boolean operators (AND, OR). The search strategy was: ("health services " OR healthcare) AND ("HRM" OR "Human Resource Management ") AND “quality of care” AND (“managerial competences” OR “HRM competences”). The background for this work was research articles in English published up to January 2022 that focus on how the culture in the organization influences a healthy work environment and the quality of medical care (Table 4.1, 4.2).

Table 1: Inclusion and exclusion criteria for the literature search

Databases:	Scopus, Web of Science, CHINAL, PubMed, Sage	
	Inclusion criteria	Exclusion criteria
Population:	Healthcare professionals	Patients; Care partner, public
Intervention / treatment	Relevant HRM competences in healthcare.	Articles do not assess the relevant HRM competences in healthcare.
Outcomes	Articles assess based on the relevant HRM competences in healthcare.	Articles do not assess the relevant HRM competences in healthcare.
Types of research:	Quantitative research, qualitative research, research of mixed methods	Systematic reviews or other types of transparent articles and duplicates, protocols, conferences, editorials and not research articles.
Limits		
Time frame	Until January 2022	
Language	English	

Table 2: International database lookup table

Data base	Keywords and synonyms with Boolean operators	Limits used	Results	Date
Scopus	("health services " OR healthcare) AND ("HRM" OR "Human Resource Management ") AND "quality of care" AND ("managerial competences" OR "HRM competences")	Language: English Time frame: Until January 2022 Types of articles: quantitative research, qualitative research, research of mixed methods	122	23.01.2022
Web of Science	("health services " OR healthcare) AND ("HRM" OR "Human Resource Management ") AND "quality of care" AND ("managerial competences" OR "HRM competences")	Language: English Time frame: Until January 2022 Types of articles: quantitative research, qualitative research, research of mixed methods	100	23.01.2022
CHINAL	("health services " OR healthcare) AND ("HRM" OR "Human Resource Management ") AND "quality of care" AND ("managerial competences" OR "HRM competences")	Language: English Time frame: Until January 2022 Types of articles: quantitative research, qualitative research, research of mixed methods	756	23.01.2022
PubMed	("health services " OR healthcare) AND ("HRM" OR "Human Resource Management ") AND "quality of care" AND ("managerial competences" OR "HRM competences")	Language: English Time frame: Until January 2022 Types of articles: quantitative research, qualitative research, research of mixed methods	107	23.01.2022
Sage	("health services " OR healthcare) AND ("HRM" OR "Human Resource Management ") AND "quality of care" AND ("managerial competences" OR "HRM competences")	Language: English Time frame: Until January 2022 Types of articles: quantitative research, qualitative research, research of mixed methods	914	23.01.2022

The extraction of final selection data included authors, year, country, purpose, Research methodology/methods, sample, and main findings. Disagreements were resolved based on discussion and consensus. Data synthesis was made based on a thematic theoretical framework (Thomas & Harden, 2008). By following the steps, we first synthesised the data obtained from the final selection of transparent articles. We organised them into a descriptive primary sub-theme and analysed them to develop a secondary theme. All research team members will review the thematic synthesis, and any disagreements will be resolved through discussion and consensus.

5 Results

5.1 Results of the literature review

One thousand nine hundred ninety-nine records were retrieved from the Scopus, Web of Science, CHINAL, PubMed, Sage databases. We also searched for articles in other sources (grey literature) using a manual search and found 50 articles. With the help of the Mendeley program, 53 duplicates were eliminated. After reading the titles of the articles, 1923 articles were excluded because they did not meet the literature selection criteria. 73 articles are left for further evaluation. The following 60 articles were excluded after reading the abstract of the article. It was necessary to become acquainted with 8 works in total. Figure 5.1 shows the exact sequence of the article selection process, excluding articles at each search stage. In conclusion, ten studies were selected for further work, which provided answers to the research questions of this work.

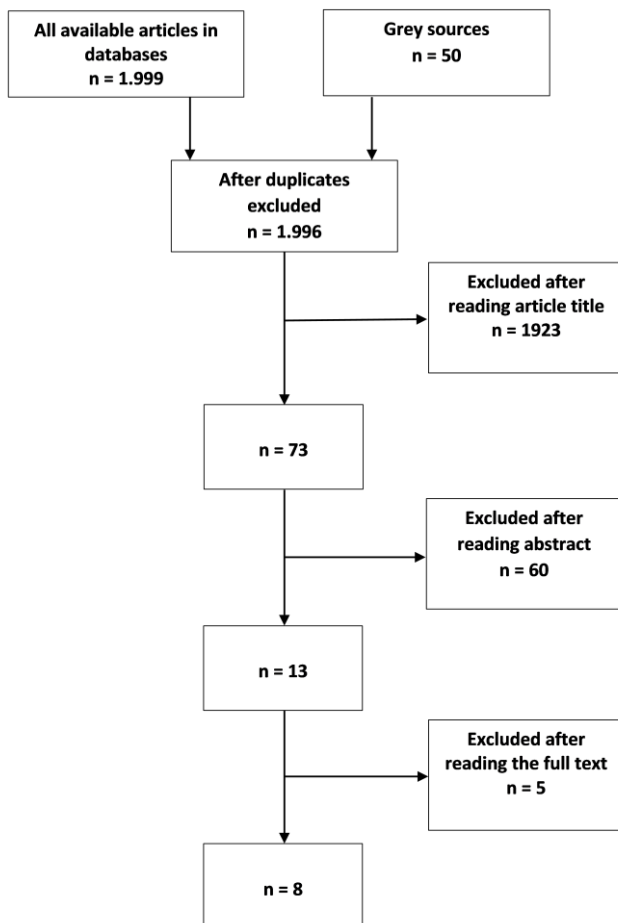


Figure 1: Flowchart for finding relevant articles

5.2 Analysis of identified sources

Of the eight included studies, two were conducted in Indonesia, one in Canada, one in Finland, one in Iran, one in Italy, one in Ghana, one in Bhutan, one in Vietnam. Seven of these studies were cross-sectional, one was quantitative and two were mixed-method studies. The study sample consisted of nurses (n = 1), healthcare employees (n = 1) managers (n = 5) and participants (n = 1). The main interests of

the articles under consideration were: Relevant HRM competences in healthcare (Table 5.1).

Table 3: An overview of studies' characteristics, outcome definitions and main findings

Author Year Country	Methods	Aim	Sample Size	Main Result
Barati, Sadeghi, Khammarnia, Siavashi, & Oskroch 2016 Iran	qualitative study	The aim of this study was to identify the skills and competencies that hospital managers must demonstrate in order to achieve their objectives	n = 24 managers	Eight key skill themes (communication, experience, appreciation of institution logistics/infrastructure, management skills, motivation, systematic problem solving, ethics, and financial/legal awareness) were identified among the hospital managers. In our cohort, practical skills, such as communication and experience, were considered more important than theoretical skills for the effective management and administration of hospitals.
Dorji, Tejavivaddhana, Siripornpibul, Cruickshank, & Briggs 2019 Bhutan	mixed methods	This study aims to identify the required management competencies, current competency levels, and strategies for improving the management competencies of Bhutanese primary health care managers	n = 339 primary health care managers	People domain was perceived to be the highest required competency with a mean score of 4.2376, followed by execution (4.1851), and the transformation (4.0501) domains. For the seven key sub-domains, the communication sub-domain (4.3220) was perceived as the highest required competency, followed by professionalism (4.2967), managing change (4.1776), relationship building (4.1686), analytical thinking (4.1091), leadership (4.0980), and innovative thinking (3.9794).
Fanelli, Lanza, Zangrandi & Zangrandi 2020 Italy	mixed methods	Identify specific managerial competencies that healthcare professionals consider critical to improving their performance	n = 1500 healthcare workers	The results show that managers and professionals share a view of what specific managerial competences for healthcare organisations should be. Main competences are: quality evaluation based on outcomes; enhancement of professional competences; programming based on process management; project cost assessment; informal communication style; and participatory leadership.
Gunawan, Aunguroch, Fisher, & McDaniel 2020 Indonesia	a cross-sectional survey	To compare first-line nurse managers' managerial competence according to generational analysis across public hospitals in Indonesia.	n = 254 first-line nurse managers	There was no significant difference in the total score of managerial competence of Generation X and Millennial first-line nurse managers ($p = 0.077$). Of five dimensions of managerial competence, only applying quality care improvement ($p = 0.028$) and financial management ($p = 0.013$) were significantly different, while leadership ($p = 0.142$), facilitating spiritual nursing care ($p = 0.353$), self-management ($p = 0.130$), staffing and professional development ($p = 0.068$) and utilizing informatics ($p = 0.304$) were not significantly different.

Author Year Country	Methods	Aim	Sample Size	Main Result
Gunawan, Aunguroch, Fisher, McDaniel, & Marzilli 2020 Indonesia	a cross-sectional study	To identify managerial competence of first-line nurse managers according to hospital type and ownership.	n = 233 first-line nurse managers	Findings showed a significant difference in managerial competence (leadership, facilitating spiritual nursing care, self-management dimension, staffing and professional development, utilizing informatics, financial management, applying quality care improvement) according to the hospital type ($p < .05$). The first-line nurse managers with a Diploma III, those relatively older, in their position for 7 or more years, and with managerial training in Type A hospitals (larger hospitals) had the highest managerial competence. The first-line nurse managers with a bachelor's degree, those relatively younger, with less training, and those in their position for 3 to 4 years in Type B and C hospitals (smaller hospitals) had less managerial competence. A significant difference was also found in managerial competence according to hospital ownership ($p < .05$). Public hospitals owned by the Ministry of Health of Indonesia had the highest competence among the others.
Kantanen, Kaunonen, Helminen, & Suominen 2017 Finland	a cross-sectional study	The aim of this study was to explore the leadership and management competencies of head nurses and directors of nursing, and to study their associated factors.	n = 1025 nurses and directors of nursing	Both groups evaluated their leadership and management competencies to be quite good and their general competence to be better than their special competence. Overall, directors of nursing rated their general competence and special competence better than head nurses. However, the head nurses had a stronger expertise in general competence areas, professional competence and credibility, and also in the special competence areas of substance knowledge than the directors of nursing. While the overall leadership and management competencies were good for both groups, each has identified areas which can be further developed.
Ofei, Paarima, & Barnes 2020 Ghana	quantitative exploratory design	this study examined important management competencies significant for healthcare delivery	n = 522 nurses	The study identified technical, human, and conceptual skills to be essential for nursing management in Ghana
Van Tuong & Duc Thanh 2017 Vietnam	mixed-method study	The aim of this paper was to develop a leadership and managerial competency framework for public hospital managers in Vietnam	n = 101 participants	The essential managerial competencies for public hospital managers include: policy development and implementation; strategy development and orientation; plan making; human resource management; financial management; equipment and infrastructure management; information management; risk and disaster management; self-management; quality management; investigation; supervision; monitoring and evaluation; ethics

Author Year Country	Methods	Aim	Sample Size	Main Result
				knowledge. These are necessary competencies if managers are to fulfill their tasks effectively

6 Discussion

Authors Barati, Sadeghi, Khammarnia, Siavashi, & Oskroch 2016 conducting their qualitative research in Iran, they aimed to identify the problems faced by local hospital management and the skills that managers could quickly and effectively deal with the problems that arose. It turned out that one of the main competencies that a manager should have is knowledge of understanding the processes that take place every second in healthcare organizations. Communication is also considered an important factor, thanks to which the manager is able to maintain a healthy working environment, increase staff motivation, resolve emerging conflicts and satisfy all parties to the conflict. Therefore, the authors suggest that emphasis should be placed on hands-on skills-based learning for health management students so that they are better equipped to deal with real-world problems (Barati, Sadeghi, Khammarnia, Siavashi, & Oskrochi, 2016). The authors of Dorji, Tejativaddhana, Siripornpibul, Cruickshank, & Briggs 2019, who conducted their research in Bhutan, came to similar conclusions that the main skill of a leader in healthcare is professionalism. It is very important for the health manager to know how the system as a whole functions and what components it consists of. And also a very important factor - the factor of communication and building relationships. This is important because working in healthcare involves working with people of different ages, professional skills and intelligence. It is these skills, when used by the leader, that can lead the organization to achieve the goals that are the high quality of providing safe medical care. Of course, other factors such as leadership, the ability to think analytically and the ability to transform are also very important (Dorji, Tejativaddhana, Siripornpibul, Cruickshank, & Briggs, 2019). And so the authors of Fanelli, Lanza, Zangrandi & Zangrandi 2020 concluded that the core competencies in healthcare management are results-based quality assessment; improving professional competencies; programming based on process control; project cost estimate; informal style of communication; and participatory leadership. But if we briefly characterize these competencies, we will get the same conclusions as in the work of Barati, Sadeghi, Khammarnia, Siavashi, & Oskroch 2016 and Dorji, Tejativaddhana, Siripornpibul, Cruickshank, & Briggs 2019, that the core competencies are

professionalism in healthcare organization and communication skills (Fanelli S. , Lanza, Zangrandi, & Zangrandi, 2020). In a cross-sectional study, the authors of Gunawan, Aunguroch, Fisher, & McDaniel 2020 compared differences in managerial competence between generations (Generation X older and millennials generation of younger professionals) and concluded that there was no significant difference between generations in overall scores. managerial competence. Both generations put competence first, and that is what defines a manager in a particular department or the entire organization. The element of leadership is also considered important, the ability to lead followers, promoting spirituality, self-organization, personnel skills, skills in using information technology and financial management, applying quality care. It is obvious that the skills in using information technology were higher among the younger generation, but the older generation was more competent in quality of care and financial management (Gunawan, Aunguroch, Fisher, & McDaniel, Comparison of managerial competence of Indonesian first-line nurse managers: a two-generational analysis, 2020). But the authors of Kantanen, Kaunonen, Helminen, & Suominen 2017, the goal of their study was to study the leadership and managerial competencies of senior nurses and heads of nursing departments, as well as to study the factors associated with them. As it turned out, the results of this study show that senior nurses and heads of the nursing department consider themselves to have fairly good leadership and managerial competencies, but the professionalism was higher among senior nurses, since they are at the forefront of patient care, they know and understand the requirement and expectation better. patients from medical staff, and understand the extent of the staff's ability to provide care. Therefore, professionalism is considered one of the main criteria for management skills, as in other works by Barati, Sadeghi, Khammarnia, Siavashi, & Oskroch 2016, Dorji, Tejativadhana, Siripornpibul, Cruickshank, & Briggs 2019 and Fanelli, Lanza, Zangrandi & Zangrandi 2020, but leadership and management skills play an important role (Kantanen, Kaunonen, Helminen, & Suominen, 2017). The Ofei, Paarima, & Barnes 2020 study explored important managerial competencies that are important in healthcare delivery. The authors concluded that the delivery of health care is multifaceted, and to minimize errors, reduce and avoid confusion, technical skills or professionalism are identified as a prerequisite. The authors of other papers came to the same conclusions. Technical skills or professionalism are needed for supportive supervision to ensure that things are done right and the right thing is done through the transfer of adequate knowledge, skills and attitudes or competencies. Human relationship skills, communication and leadership, also play a

leading role in health care competencies that enable them to work well and get along with others, and this has been linked to staff and patient outcomes (Ofei, Paarima, & Barnes, 2020). The authors of Van Tuong & Duc Thanh 2017 conducted a study whose purpose was to develop a system of leadership and managerial competencies for managers of public hospitals in Vietnam. These competencies include: policy development and implementation; strategy development and orientation; planning; human resource management; financial management; equipment and infrastructure management; information management; risk and disaster management; self management; quality control; study of; supervision; monitoring and evaluation; knowledge of ethics. These are essential competencies if managers are to perform their tasks effectively and will be used as the basis for developing competency-based training for the current management team and training future hospital leaders (Van Tuong & Duc Thanh, 2017).

7 Conclusion

The purpose of this study was to identify the modern competencies of HP management, which are necessary in modern conditions, in order for healthcare organizations to fulfill their obligations to provide timely, safe and high-quality medical care to the population. After analyzing a number of works, we can conclude that the activities of HP management are directly related to the functioning of healthcare organizations and can affect the quality of medical services through the selection and training of personnel. Namely, it is necessary to continuously develop and improve the professional skills of employees, depending on the position held by employees, as well as train and improve skills related to communication and leadership qualities. Employees working in healthcare must know and clearly understand what processes are taking place in healthcare, what factors influence these processes within the organization and external factors in order to quickly respond to a constantly changing environment and remain effective in providing medical care. In turn, communicative and leadership qualities can unite employees, involve more in the process of providing assistance, motivate and create a healthy working environment, which will provide high-quality medical care. It is these competencies that are needed in healthcare to cope with the challenges and complexities of today.

References

- Barati, O., Sadeghi, A., Khammarnia, M., Siavashi, E., & Oskrochi, G. (2016). A qualitative study to identify skills and competency required for hospital managers. *Electronic Physician*, 8(6), 2458-2465.
- Bartram, T., & Dowling, P. (2013). An international perspective on human resource management and performance in the health care sector: toward a research agenda. *The International Journal of Human Resource Management*, 3031-3037.
- Boselie, P., Dietz, G., & Boon, C. (2005). Commonalities and contradictions in HRM and performance research. *Human Resource Management Journal*, 67-94.
- Burbeck, R., Coomber, S., Robinson, S., & Todd, C. (2002). Occupational stress in consultants in accident and emergency medicine: A national survey of levels of stress at work. *Emergency Medicine Journal*, 234-238.
- Campbell, J., Buchan, J., Cometto, G., David, B., Dussault, G., & Fogstad, H. (2013). Human resources for health and universal health coverage: fostering equity and effective coverage. *Bulletin of the World Health Organization*, 853-863.
- Cogin, J., Ng, J., & Lee, I. (2016). Controlling healthcare professionals: how human resource management influences job attitudes and operational efficiency. *Human Resources for Health*.
- Cohen-Katz, J., Wiley, S., Capuano, T., Baker, D., Deitrick, L., & Shapiro, S. (2005). The effects of mindfulness-based stress reduction on nurse stress and burnout, part III. *Holistic Nursing Practice*, 78-86.
- Cylus, J., Roubal, T., Ong, P., & Barber, S. (2021). Sustainable health financing with an ageing population. Copenhagen: World health organization.
- Dorji, K., Tejavivaddhana, P., Siripornpibul, T., Cruickshank, M., & Briggs, D. (2019). Leadership and management competencies required for Bhutanese primary health care managers in reforming the district health system. *Journal of Healthcare Leadership*(11), 13-21.
- European Commission . (2018). The 2018 ageing report. Economic and budgetary projections for the EU member states . Luxembourg: Publications Office of the European Union.
- European Commission. (2014). Management Plan. Luxembourg: Publications Office of the European Union.
- Fanelli, S., Lanza, G., Zangrandi, C., & Zangrandi, A. (2020). Managerial competences in public organisations: the healthcare professionals' perspective. *BMC Health Services Research*, 20(303).
- Gao, M., Hou, H., & Liu, C. (2016). Current demand of nursing competency in China. *International Journal of Clinical and Experimental Medicine*, 14390-14396.
- Gunawan, J., Aunguroch, Y., Fisher, M., & McDaniel, A. (2020). Comparison of managerial competence of Indonesian first-line nurse managers: a two-generational analysis. *Journal of Research in Nursing*, 25(1), 5-19.
- Kane, R., Shamliyan, T., Mueller, C., Duval, S., & Wilt, T. (2007). The association of registered nurse staffing levels and patient outcomes: systematic review and meta-analysis. *Medical Care*, 1195-204.
- Kantanen, K., Kaunonen, M., Helminen, M., & Suominen, T. (2017). Leadership and management competencies of head nurses and directors of nursing in Finnish social and health care. *Journal of Research in Nursing*, 228-244.
- Kelly, L., Gee, P., & Butler, R. (2021). Impact of nurse burnout on organizational and position turnover. *Nurs Outlook*, 96-102.
- Klein, J., Frie, K., Blum, K., & Von dem Knesebeck, O. (2011). Psychosocial stress at work and perceived quality of care among clinicians in surgery. *BMC Health services research*, 109-117.
- Maslach, C., & Leiter, M. (2016). Understanding the burnout experience: recent research and its implications for psychiatry. *World Psychiatry*, 103-111.

- Matthews, M., Carsten, M., Ayers, D., & Menachemi, N. (2018). Determinants of turnover among low wage earners in long term care: the role of manager-employee relationships. *Geriatric Nursing*, 407-413.
- Ofei, A., Paarima, Y., & Barnes, T. (2020). Exploring the management competencies of nurse managers in the Greater Accra Region, Ghana. *International Journal of Africa Nursing Sciences*.
- Page, M., McKenzie, J., Bossuyt, P., Boutron, I., & Hoffmann, T. (2020). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*(372), n71.
- Ramadevi, D., Gunasekaran, A., Roy, M., Rai, B., & Senthilkumar, S. (2016). Human resource management in a healthcare environment: framework and case study. *INDUSTRIAL AND COMMERCIAL TRAINING*, 387-393.
- Rechel, B., Doyle, Y., Grundy, E., & McKee, M. (2009). How can health systems respond to population ageing? Copenhagen: World Health Organization.
- Ruggiero, J. (2003). Health,work variables, and job satisfaction among nurses. *Journal of Nursing Administration*, 254–263.
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: a skill building approach*. 7th ed. New York: Wiley.
- Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*, 8, 45.
- Tursunbayeva, A. (2019). Human resource technology disruptions and their implications for human resources management in healthcare organizations. *BMC Health Services Research*.
- Tziner, A., Rabenu, E., Radomski, R., & Belkin, A. (2015). Work stress and turnover intentions among hospital physicians: the mediating role of burnout and work satisfaction. *Journal of Work and Organizational Psychology*, 207–213.
- Upenieks, V. (2003). The interrelationship of organizational characteristics of magnet hospitals, nursing leadership, and nursing job satisfaction. *Health Care Manager*, 83-98.
- Van Tuong, P., & Duc Thanh, N. (2017). A leadership and managerial competency framework for public hospital managers in Vietnam. *AIMS Public Health*, 418-429.
- Vermeeren, B., Steijn, B., Tummers, L., Lankhaar, M., Poerstamper, R., & Beek, S. (2014). HRM and its effect on employee, organizational and financial outcomes in health care organizations. *Human Resources for Health*.
- Wei, W., Niu, Y., & Ge, X. (2018). Core competencies for nurses in Chinese intensive care units: a cross-sectional study. *Nursing in Critical Care*, 1-7.
- WHO. (2006). *Working together for health: the world health report 2006*. Geneva: World Health Organization.
- Winter, V., Schreyögg, J., & Thiel, A. (2020). Hospital staff shortages: Environmental and organizational determinants and implications for patient satisfaction. *Health Policy*, 380–388

