

THE INFLUENCE OF PERSONAL COMPETENCIES ON ORGANIZATIONAL COMPETENCES OF EMERGENCY MEDICAL UNITS

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Purpose: The aim of the article is to present organizational competences of Emergency Medical Units (EMU) in the areas of marketing (recognizing the patient's needs), quality (the level of medical services) and logistics (a provision of medical services in the right place) during the time of the COVID 19 pandemic, influenced by managerial and professional competencies, and to identify those that have become particularly important in the period of the pandemic.

Design/methodology/approach: The proposed lists of managerial (five domains) and professional competencies (eight domains) were created and are based on the analysis of healthcare competencies models – the study of the literature – and the author of this paper's observations of the analyzed entities. There were 57 respondents weighing managerial competences and 135 respondents assessing professional competences.

Findings: As a result of the research, it is determined that the highest level among the professional competencies presented in the model (in all areas) is characterized by transportation competencies. The most undoubtedly framing organizational competences of EMU were managerial competencies: in marketing area Business Competencies and Professional and Social Competencies in quality and logistic areas.

Practical implications: Currently health systems are being faced with briskly growing necessity developed by the COVID-19 outbreak. A well-organized and adapted health system has the scope to manage decent access to fundamental service delivery throughout an emergency, restraining direct mortality and avoiding heightened indirect mortality.

Originality/value: An integration personal competencies (professional and managerial) with organizational competences of Emergency Medical Units especially relevant in pandemic time.

Keywords: Emergency Medical Units, organizational competences, professional competencies, managerial competencies.

Category of the paper: research paper.

1. Introduction

Medical entities function in a very unstable environment nowadays, and are molded by the determination of factors which refer to both distal and near surroundings (primarily because of underfunding, absence of liquidation, operating a social mission resulting from the nature of these units, etc.). These aspects add to a growth of the conditions for medical entities, along with emergency medical units. Among other things, they consist of, in particular: patient orientation and demands, high standards of medical services performed and the escalation of the performance of these organizations within the budget. The awareness and competences of the personnel engaged within these organizations are therefore becoming more and more essential because growing needs are characterized to help the change of research results to clinical and administration practice and the upgrading of policy and legal explications in this area, which should fundamentally alter to better achievements in the needs of patients, as well as expanding the competitiveness of these units (Krawczyk-Sołtys, 2018).

These days health systems are being exposed to a fast growth in demand caused by the COVID-19 outbreak. A coherent and arranged health system has the scope to provide fair access to basic service delivery throughout an emergency, reducing direct mortality and averting elevated indirect mortality. Thus, it is essential to assimilate professional competencies of medical personnel of Emergency Medical Units (EMU) with its management competences. During the COVID-19 pandemic, emergency medical system has adequately altered to crisis standards of care by boosting treatment in place, application of telemedicine and transporting patients to different destinations. Some of these alterations are definite to become a long lasting part of emergency medical system in the future.

The competences of healthcare organizations may be obtained from various types of knowledge. Some of them depend on “know-how” – pragmatic forms of knowledge gained through additional upgrading to medical services and processes, another – on “know-why” – theoretical schemes of understanding that grants the formation of new kinds of services and mechanisms. Various healthcare organizations competences derive from varied levels of activity: some are resulted predominantly from the proficiency of these entities to initiate and serve explicit types of medical services, another is entailed to derive from the qualifications to arrange and organize resources in new and authoritative powerful ways, others mainly depend on the potential of managers to create new approach for forming managerial value.

The aim of the article is to present organizational competences of Emergency Medical Units in the areas of marketing (recognizing the patient's needs), quality (the level of medical services) and logistics (a provision of medical services in the right place) during the time of the COVID 19 pandemic, influenced by managerial and professional competencies, and to identify those that have become particularly important in the period of the pandemic. The proposed lists of managerial and professional competencies were created and are based on the analysis of

healthcare competencies models – the study of the literature – and the author of this paper's observations of the analyzed entities.

The article speculates that competencies are a combination of skills dwelling of: knowledge, education, experience, other predilections and personality characteristics. These competencies are performed and broadened in the course of providing medical services in order to achieve goals logical with the strategic aims of emergency medical units (Krawczyk-Sołtys, 2018a, 2019).

2. Material and methods

Based on the theory of healthcare managerial competencies schemes in the literature (Stefl, 2003; Stefl, 2008; International Hospital Federation, 2015; National Center for Healthcare Leadership (NCHL), 2005; Sanghi, 2010; Krawczyk-Sołtys, 2017) and own author's experience (as a consultant) in such entities the portrait of managerial competencies in Emergency Medical Units was created (Krawczyk-Sołtys, 2018a). It consists of domains with 26 competencies. The domains seize the ramification and potent aspect of the Emergency Medical Unit's manager's role and echo the changing realities in health leadership nowadays.

In the model of professional competencies of medical staff in Polish Emergency Medical Units was embraced the offer of Paramedic Association of Canada (Paramedic Association of Canada, 2011) with acceptance of ideas (Epstein, & Hundert, 2002; Kęsy, 2013). The scheduled model provided eight domains of professional competencies of medical staff employed in Polish Emergency Medical Units: Professional Responsibilities; Communication; Health and Safety; Assessment and Diagnostics; Therapeutics; Integration; Transportation; Health Promotion and Public Safety.

In order to determine the jolt of level of personal competencies on the progress of organizational competences of Emergency Medical Units, experimental studies were executed in the second and third quarter of 2018 in the following regions: Śląskie, Mazowieckie, Opolskie, Warmińsko-Mazurskie, Lubelskie and Dolnośląskie. There were 57 respondents weighing managerial competences and 135 respondents assessing professional competences.

The selection of the research sample was random. The research sample included respondents from two regions characterized by the largest number of emergency medical teams (Mazowieckie – 200 and Śląskie – 163) (Pomoc doraźna..., 2020).

According to the assumptions of healthcare marketing (Bober, Majchrzak-Lepczyk, 2015) in the sphere of marketing it is necessary to focus on the processes of providing medical services that determine the pro-quality needs of consumers and the implementation of tools and techniques shaping their repetitive quality. Among the key dimensions of the quality of services provided by emergency medical services, reference was made to substantive and psycho-

sociological dimensions (Lisiecka-Bielanowicz, 2016). In the sphere of logistics, reference was mainly made to shaping, controlling and controlling supply and service processes implemented as part of actions aimed at saving people's health and life (Bartczak, 2015).

Respondents assessed the current level of personal (managerial and professional) competencies and the degree to which they affect organizational competencies in the areas of marketing (recognition of patient needs), quality (level of medical services rendered) and logistics (provision of medical services in the right place at the right time) (Krawczyk -Sołtys, 2018b, 2019, 2021).

3. Managerial competencies enhancing organizational competences of Emergency Medical Units

The most graded managerial competencies were Business Competencies (4,17): financial management (effective application of accounting principles and financial management tools, budgeting, cost accounting, planning, organization and monitoring of the organization's resources to ensure the highest quality of medical services provided) – 4.46, rigorous obedience carrying out procedures, regulations and legal norms as well as the understanding to form internal arrangements on their basis (4.39), strategic management (setting a vision and/or mission, determining the direction in which the unit should be aim to, analyzing the environment in order to identify existing, future or likely future opportunities and threats, analyzing resources and organizational skills, to establish its strengths and weaknesses, creating conditions and resources to take action to exploit emerging opportunities to succeed making on these grounds the selection of the most favorable strategy as well as the proper way of implementing the strategy chosen for implementation) – 4.25, developing the condition of medical services (development and implementation of quality assurance programs, patient satisfaction and safety in accordance with applicable standards, development and monitoring of indicators for measuring the quality of medical services, patient satisfaction and safety, permanent improvement of the quality of medical services) – 4.16, information and awareness of management (skillful using of data to evaluate effectiveness and monitor indicators and trends, ensuring compliance with applicable privacy and security requirements, creating and improving information management systems, creating and improving knowledge management systems, implementing key knowledge management processes: locating knowledge, its acquisition and developing, supporting for knowledge sharing and dissemination, using of knowledge and its preservation, implementation of knowledge strategy) – 4.12, knowledge of basic business practices and the ability to manage projects (creating an effective management system and its permanent improvement, collecting data and information, analyzing them and making the right decisions) – 4.11, human resource management (analysis and planning,

recruitment, selection, adaptation, motivation, assessment, staff improvement, coaching and mentoring, talent management) – 4.07, risk management (effective risk assessment and analysis as well as its reduction) – 4.02, systems thinking (holistic understanding, not separate components, ability to perceive and analyze processes through the holistic view, noticing mutual relations and connections, and identifying the principles of the health care system – 3.98.

According to respondents the following are Leadership Competencies (4.15): leading change (promoting permanent learning and organizational improvement, responding to emerging needs of change and leading change processes) – 4.30, management skills (planning, organizing, motivating, controlling) – 4.23, leadership abilities and behaviours (clear communication of mission, goals and priorities of the organization; including concepts, methods and management techniques to manage the organization, detecting and analyzing organizational problems, encouraging creative solutions and giving support to employees to co-decision, adopting a leadership role) – 4.16, boosting employees to imagination, alteration and development (4.12), formation of an managerial culture depending on mutual understanding, transparency and concentrating on advancing the condition of provided medical services (encouraging teamwork, supporting diversity, encouraging a great involvement of employees, openness to views, opinions and ideas of others, care for subordinates development, tolerance, raising trust) – 3.96.

Then the respondents referred to the level of Professional and Social Competencies (4.12): professional development and lifelong learning (commitment to self-improvement, reflection and personal development – 4.26, professionalism (promotion and participation in health policy initiatives, protection of patients' and their relatives rights and responsibilities, care for the quality of medical services and safety and social commitment in providing them, support and mentor high-potential talent within both one's organization and profession of healthcare management) – 4.25, consciousness of aims, ethics, strengths and weaknesses (both in self-assessment and on the basis of the opinions of others) – 4.11, ethical behaviour and social awareness (demonstrating ethical behavior, transparency and responsibility for actions, balancing personal and professional responsibility, recognizing the most important need of patients and society) – 4.07, and input to the evolution of management in health care (sharing knowledge and experience, developing others through mentoring, consulting, coaching and personal mastery, support and mentoring for potential talents) – 3.89.

Accordingly, Communication and Relationship Competencies have been indicated (4.05): communication skills (oral communication, written communication, listening, business communication – business reports, schedules, presentations, presenting analysis results in a reliable and understandable way for stakeholders, public relations) – 4.16, relationship management (showing correct interpersonal relations and the ability to maintain them in relations with all stakeholders, horizontal and vertical cooperation skills, openness, patient orientation) – 4.04, and facilitation and negotiation (conflict management through mediation,

negotiation and other methods of conflict solving, improving problem-solving skills, building interdisciplinary teams established to solve organizational problems and participate in them) – 3.95.

The bottom of the table – in respondents opinion – achieved Sectorial Competencies (3.96): understanding of the existing health care system and entities within this system (understanding the structure of the health care system, financing mechanisms and organization of medical services, balancing the interrelations between access to medical services, their cost, quality and allocation of resources, care for the health needs of society, perception of the managed organization and its effectiveness as a part of the health care system, using of monitoring systems to ensure the legality, ethicality, safety and highest quality of medical, administrative and business aspects of the managed organization, promoting and creating alliances and networks – both in the health sector and cross-sectorial, on national and global scale) – 4.03, public health competences (promoting disease prevention, promoting health and physical fitness through organized efforts for environmental hygiene, control of infectious diseases, spreading the principles of personal hygiene, organizing medical and care services for early identification, prevention and treatment, and developing such social mechanisms that will provide everyone with a standard of living enabling them to preserve and strengthen their health, the ability to use basic statistical data and basic health indicators to make decisions and analyze population health trends, risk management and risks during disasters and crises, evaluate key processes of the public health surveillance and control system, recognizing the local implications of global health events, understanding the interrelations of factors affecting the health situation of society) – 3.93, skill to advance employment in the organization (taking into account the health needs of the society, shortages of medical staff, the scope of specialization) – 3.81, and personalizing health care (recognizing and promoting the opinions of patients and their relatives about health care, respecting the comments and opinions of patients, their relatives and public opinion in making decisions related to health care, taking into account cultural differences and respecting individual expectations) – 3.79.

The most undoubtedly framing organizational competences of Emergency Medical Units were: in marketing area Business Competencies (4.30) and Professional and Social Competencies in quality (4.14) and logistic (4.16) areas.

Then, the data presents that:

- in marketing area respondents pointed: Leadership Competencies (4.04), Communication and Relationship Competencies and Professional and Social Competencies (4.02), and Sectorial Competencies (3.81);
- in quality area indicated: Communication and Relationship Competencies (4,11), Sectorial Competencies (4.08), Leadership Competencies (4.05), and Business Competencies (4.03);

- in logistics area respondents pointed out: Leadership Competencies (4.13), Business Competencies (4.03), Communication and Relationship Competencies (4.02), and Sectorial Competencies (3.86).

4. Professional competencies enhancing organizational competences of Emergency Medical Units

The study presented that the maximally rated professional competencies were Transportation Competencies (4.30). The following were: essentially, getting ready ambulance for service (4.49), after that, driving ambulance or emergency response vehicle (4.23), next, relocating patient to air ambulance (4.14) at the end, transporting patient in air ambulance (3.94).

The next researched area were Therapeutics Competencies (4.18). The results showed data in the following line of importance: getting ready oxygen delivery devices (4.54), delivering oxygen and carrying out manual ventilation (4.44), disposing ventilation equipment (4.23), impairing actual and suspected fractures (4.20), controlling patency of upper airway and trachea (4.10), administering treatment (4.07), dispensing basic care for soft tissue injuries (4.05), carrying out measures to control hemodynamic stability (3.77).

Then, as far as the study is concerned the respondents singled out the level of Professional Responsibilities Competencies (4.11). The figures present as follows: existing as a professional (4.13), engagement in sustaining education and professional development (3.77), seizing and comprehending the medicolegal aspects of the profession (4.19), recognizing and obeying applicable Polish legislation (4.01), operating adequately in a team environment (4.22), be in control of effective decisions (4.10), dealing with actual or potential forensic implications (4.34).

In sequence, Assessment and Diagnostics Competencies have been established (4.06). The results are shown as follows: carrying out triage in a multiple-patient incident (4.01), receiving patient history (4.08), carrying out detailed physical assessment exhibiting proper use of inspection (3.92), palpation and percussion (4.57), estimating vital signs, utilizing diagnostic tests (3.74).

Another observation finds that respondents indicated Communication Competencies (3.94). As following: training adequate oral (4.04) and written (3.91) communication skills: training adequate non-verbal communication skills (3.84) and training adequate interpersonal relations (3.98).

The study of respondents in question distinguished Communication Competencies (3.94): training adequate oral (4.04) and written (3.91) communication skills, training adequate non-verbal communication skills (3,84) and training adequate interpersonal relations (3,98).

This paragraph shows the effects of analysis of respondents who specified Integration Competencies (3.86): promoting differential diagnosis skills, decision-making skills and psychomotor skills in providing care to patients (3.85), giving care to encounter the needs of special patient groups (3.83), carrying out continuing assessments and provide care (3.89).

It is predominant to stress that in reference to the respondents opinion Health Promotion and Public Safety Competencies (3.72) are of the lowest level. Thus presenting the components show accordingly: consolidating professional practice into community care (3.43), adding to public safety through association with other emergency response agencies (4.09), taking part in the organization a chemical, biological, radiological, nuclear and explosive incident (3.66).

Next, the data presents that:

- in marketing area respondents acclaimed in the order of importance: Assessment and Diagnostics Competencies and Therapeutics Competencies (4.04), Professional Responsibilities Competencies (3.95), Communication Competencies (3.90), Integration Competencies (3.88), Health and Safety Competencies (3.78) and Health Promotion and Public Safety Competencies (3.75);
- in quality field respondents displayed the impact of the following: Professional Responsibilities Competencies (4.13), Communication Competencies (4.09), Health and Safety Competencies (3.98), Integration Competencies (3.94) and Health Promotion and Public Safety Competencies (3.80);
- in logistics field respondents referred to: Professional Responsibilities Competencies (3.93), Assessment and Diagnostics Competencies (3.92), Therapeutics Competencies (3.88), Health and Safety Competencies (3.77), Communication Competencies (3.76), and Health Promotion and Public Safety Competencies (3.62).

5. Conclusions and Further Research

The matter of competencies and their significance in the management of healthcare organizations, counting emergency medical units, is drawing a growing interest – especially in pandemic time. The distinctive comprehension of competencies in services, primarily professional services (in general public named human based) which emergency medical services are a part of, is recognized by S.G. Hein and C.D. Riegel (Hein, and Riegel, 2012).

In the time of a pandemic, personal competences became particularly important, which were not indicated by the respondents as key (core) in shaping organizational competences of Emergency Medical Units in the analyzed areas.

Staying healthy during a pandemic has become highly obvious though that the proper personal protective equipment (PPE) combination – N95 mask, gloves, eye protection and gowns – limit transmission of COVID-19 to healthcare staff. PPE use by paramedics requires

to be reinforced by employers ensuring proper supplies, a potent supply chain that is active to changing amount and geographic demands, and policy requiring PPE use.

To stop other patients from contracting sickness by defeating or diminishing chances for pathogen exposure one of core competences of Emergency Medical Units is following policies and standards for disinfecting the ambulance, patient cot and diagnostic equipment, such as cardiac monitors and stethoscopes, at intervals of every call.

What's more, Emergency Medical Units have a growing batch of options for reducing pathogens with hydrogen peroxide and ultraviolet light. Disregarding the cleaning technology, it is essential to process, educating on how to correctly clean and supervision that not only lets time for disinfecting but also boosts following procedure that makes all the difference.

The results indicate that extra operational resources provide a significant role during a pandemic in reference to an initial estimation and pilot function. This is possible to aid to relieve not only the emergency services but also the medical facilities in charge of providing further care. The regulated dispatch query allows the connection with the applicable codes from the low-priority operational spectrum and support by a Tele-emergency physician lends extra professional competency to the emergency paramedics (Breuer et al., 2020; Dahmen et al., 2021; Gibson et al., 2020). The intension surmises proper competent competencies of the personnel employed in these units, managerial competencies regulating these institutions, as well as managerial competences.

Important work commenced by researchers and experts in this competency area shows the definite skills enforced by today's medical staff to be more conscious of patient's needs (Halpern et al., 2001; Committee on Quality of Health Care in America, Institute of Medicine, 2001; Lewin et al., 2001; Mead and Bower, 2000; O'Neil, 1998; Stewart, 2001): divide power and duty with patients and caregivers; interact with patients in a shared and entirely open manner; allow for patients' individuality, emotional requirements, etics, and life issues; introduce approaches to relate to those who can look after themselves, impose approach which support the wider community, strengthen prevention and popularize health.

The importance of competencies issues and their significance in the organization of healthcare organizations, comprising of emergency medical units, is broadly highlighted in the literature on the subject (Liang et al., 2018; Leggat et al., 2011; Bartram et al., 2012; Clark, Armit, 2010; Richtie, Yen, 2013; Lewandowski, 2017). The significance of the impact of professional competencies on organizational competences in health care is also stressed pointed out (Lustri, Miura, Takahashi, 2007; Yang et al., 2006; Wickramasinghe, De Zoyza, 2011; Mazurek-Melnyk et al., 2016).

The achievements of such organizations (on top of the arrangements and actions that regulate them) come from the bodies who are connected to the process, the competence they undependably and together have to possess, and the attitude they have to implement (individually and interactively) to employ he process – their competencies (Krawczyk-Sołtys, 2019; Parker et al., 2020).

Amongst the most important characterizing the core line competences of Medical Emergency Units one can determine precursors competencies, for which the catalyst of the addition process is the following the new technologies and explanations carried out in the plan of emergency medical services and dominant competencies adjusted by recognizing the organization's needs.

Thus, it is essential to carry out empirical and literature analysis in this field, which will boost scientific knowledge, justify research methodology, as well as allow to define recommendations for practice. This is especially important in times of a pandemic.

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