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Evolution and challenges of the paramedic profession in Poland

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Abstract

Emergency Medicine is a relatively young branch of medicine in Poland; however, it is one of its most dynamically growing fields. A paramedic's foremost goal is to secure the patient and intervene in life-threatening conditions. From the start, the paramedic profession has had to keep up with the latest advancements in the scientific and technical fields of pre-hospital care. Making sure that treatment is administered according to the latest guidelines perpetuates a constant pressure on the paramedic community to assess both their learning and teaching techniques. This, in turn, leads to a constant revision of a paramedic's education, as well as to changes in equipment and technical solutions. As an integral part of the PRM system, paramedics are both its strongest and weakest component, as they are subjected to continuous stress factors resulting from the specific character of their work. *Anestezjologia i Ratownictwo 2017; 11: 176-183.*

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Introduction

The genesis of the paramedic profession in Poland can be traced back to the creation of the first post-secondary school with a paramedic major in Poznań, at the postgraduate high school named Polish Red Cross Medical College. Since 2001, the year it became a lawful profession, it has undergone successive law, system, and organizational changes. Over fifteen years of legally established practical experience is one of the key pillars of the Polish Emergency Medical Services. Unfortunately, every day practice – including constant advances in medical knowledge, and technological and organizational developments, will always be ahead of legal regulations. Consequently, these professionals must daily deal with legal and systemic ambiguities, or even restrictions, all of which affect the quality, range, and standards of rescue operations. At the same time, these same paramedics are the driving force responsible for system improvement and optimization, advancing medical knowledge, and adapting regulations. A large portion of articles dealing with the paramedic pro-

fession stress that, despite its long traditions, it is still a "young profession". Given the long-term nature of the lawmaking process, it is understandable that the powers, responsibilities, and roles in the system are continually re-defined [1-3].

Each effective rescue operation is an undisputable success for these professionals, yet many challenges still remain in the systemic and social field. This holistic overview of the paramedic profession shows its key successes, while at the same time portraying its current state, and, most importantly, presents the challenges it is constantly faced with.

Legal basis of the profession

The evolution of the paramedic profession is primarily a series of law transitions, which have practical application in a rescue operation. The National Emergency Medical Service system was established by the National Emergency Medical Service Act on July 25th, 2001, but it was the passing of National Emergency Medical Service Act on September 8th, 2006, that established the paramedic profession, regulated its vocational training, and defined the depth of its competence [4,5]. Regulation released by the Minister of Health, on the 29th of December, 2006, detailed the extent of medical interventions a paramedic may perform - and so paramedics finally gained the legal right to undertake medical rescue operations [6]. On January 1st, 2016, the September 25th, 2015, Act modifying the National Emergency Medical Service Act, Health Act, and other law provisions, entered into force. It regulated, after more than a decade, ambiguities and disputes arising from previous legal provisions, as well as the daily professional practice of paramedics [7].

In accordance with current law, a paramedic may work in medical institutions covering emergency mining, skiing, and water services, marine search and rescue, and in units subordinate to the Minister of National Defense. They may also work at airports, detoxification detention centers, in fire-fighting units, as entities responsible for the safety of mass events, and as medical dispatchers in centralized medical dispatch centers.

Aside from those career paths, a paramedic may choose to train other paramedics, and lead courses, classes, and training sessions in: rescue operations, first aid, qualified first aid, and emergency medical services. They may work scientifically, by conducting studies and leading developmental experiments. Finally, the may direct and manage other paramedics and medical dispatchers, and perform other administrative work, which entails the preparation, organization, and oversight of health services in the scope of a paramedic's realm of responsibility. Comparing to earlier regulations, the list of tasks a paramedic may realize has been greatly expanded [7].

The National Emergency Medical System was created to ensure all people in life-threatening situations could receive the help they need, however, because of a myriad of reasons, the daily work of paramedic teams does not always follow or align with the goals they were created for. Over time, the services a paramedic provides have not undergone significant modifications, the key difference is in the vocation training he now undergoes.

The Educational Path in becoming a Paramedic

Up until 2013, there were two methods available to successfully become a paramedic: either graduating from a 2-year post-secondary school program specializing in paramedics, ending with an internal vocational examination and earning the title of a paramedic or ending a 3-year undergraduate degree at a university, completed with bachelor's defense and a bachelor's degree in medical emergency [5]. As of 2013, the 2-year post-secondary route is no longer possible and only the 3-year academic path is pursued. The extent of the training and the program structure used in both routes were discussed in detail and compared by Robert Gałązkowski [8]. The conclusions presented by Robert Gałązkowski are the informal opinions that do not give a distinct supremacy solely to the academic path. During the consultations preceding the program changes, the first issue that was mainly to taken into account was the difference in acquired knowledge. To a lesser extent, the organizational aspect of each program was included in these consultations as well including the higher financial expectations of employees with higher education (meaning higher labor costs borne by the system), further higher professional aspirations, system management and responsibilities. Other mentioned factors are significant to system management and efficiency, but because of the difficulty in measuring and estimating their direct impact on organizational costs are ignored in the analysis.

The law introduced in 2015 provided a solution for medical students who began their studies on September 30, 2016, to take 960 hours of apprenticeship in emergency departments and medical rescue teams. After completing their apprenticeship, it was possible to apply for admission to the State Medical Rescue Examination (PERM) [7]. Therefore, a paramedic may be a person who has had completed medical studies in the field of medical emergency, has had completed 960 hours of apprenticeship after 3 years of study and passed the state examination. The current draft law on the amendment of the Act on State Medical Rescue and some additional acts of 14.10.2016 is to finalize the obligation to practice and initiate PERM to students who start studies after September 30, 2018.

Introducing an extended unit of practical training is the answer to the most frequently raised criticism of academic education, where often there is not enough practical training. The change in increasing the amount of practical training allows for improved quality of medical services, and from a business perspectives it reduces the cost due to error made by inexperienced employees and can reduce the number of widely understood medical errors that can negatively impact the overall treatment course and cost. Certainly, implementing this element into the curriculum will require constant evaluation and systematic improvement. As always with such solutions, the level of implementation is varied in individual educational units, so it is beneficial to introduce a uniform system of competence evaluation and monitor its improvement.

Professional development

The introduction of professional development standards can be regarded as one of the greatest achievements in the process of "advancing" the profession of a paramedic. First and foremost, the compulsory professional training required by law is to ensure the quality of medical services provided. It is equally important to ensure that theoretical and practical knowledge is up-to-date and that it is constantly growing in the system.

Despite the statutory provisions on professional development, there is practically no possibility of advancement and career development in the system. Only in military, police and fire-fighting units there is a possibility of obtaining a higher position and career promotion. The lack of opportunities and the inability to further develop one's career is a frequent reason for why paramedics change their employers and abandon and change their profession. Unfortunately, there is no analysis of the cost of leaving the profession along with the skills developed over many years of work. Replacing the resigning employee requires teaching the newly hired inexperienced paramedic skills to achieve the same level of previous competence, which usually only comes with adequate work experience.

From the perspective of the need to develop promotions within the line of work of a paramedic, it is beneficial to replicate good practices that already operate in higher organizational development systems. In the British medical paramedic system, when starting a career, the individual has the possibility to expand their career path by taking further examinations leading to senior positions, leading up to the position of an ambulance station manager [9,10]. In the Polish medical rescue system, the paramedics actions and the extent of their competence are dependent on the current fulfillment of the objectives indicated in the act, i.e. the rescuer-driver or team leader, whose duty is medical care, choice of conduct, decisions about transport.

In the US system, apart from the differentiation of their level of training, due to their many years of service, this category of employees are prepared to undertake new tasks, resulting from their experience and acquired knowledge, skills and social competencies [11,12]. Employee resignation and replacement is a pressing issue the medical system faces. In Poland, although uncommon, there is a notion that there is currently an abundance of paramedics on the job market but it is necessary to predict the future consequences in a possible shortage of employees. The lack of safety measures to prevent system collapse generates costs resulting from the need to constantly educate newly hired paramedics medical and the real (but unregulated) costs of lowering the effectiveness of the system (for example, because of a lower level of staff competence, improper rescue operations or medical errors). From this point of view it seems wrong to not use the experience of highly qualified personnel who, by reason of their age, cannot effectively undertake active tasks within medical rescue teams. In the American system, these employees are advised to work as instructors and trainers, security professionals, marketing and management professionals as the next step in their paramedic career path [11,12].

The outcome of professional development is an

expansion of knowledge and change in employee attitudes, which translates into a social assessment of the professional group and the system. In the future, a valuable solution will be monitoring the relationship between professional development and the quality of medical services. So far, legal and management tools have not been disseminated, which allow for effective management of the quality and professional development of emergency medical personnel. Current solutions focus on cyclical knowledge updating, not on the progressive increase of competencies - knowledge and skills, allowing for increasingly complex tasks and broadening responsibilities.

Professional status of Paramedics

According to the regulation of the Minister of Health, the Act of 8 September 2006r. about the State Medical Rescue and the subsequent regulation of 14 January 2009 amending the table of medication administered by the paramedic himself, the paramedic is responsible for medical rescue (see Appendix 1) and medical rescue operations under the supervision of a medical practitioner (See appendix 2) [6,13].

As of January 1, 2016, an amendment to the Act on State Medical Rescue has been implemented, which has led to the need for changes in lower-level legislation governing the work of the system. The new regulation, broadening the capabilities of paramedics was signed by the Minister of Health on April 27, 2016, under which the list of drugs administered by the paramedic alone was increased from 28 to 47. In addition, records have been made to enable self-cardioversion and electrostimulation of the heart. Additional medical emergency situations have been incorporated which can be executed by the paramedic under the supervision of a physician. The additional changes include the ability to provide of health aids other than medical emergency services, which can be performed by a paramedic in a stand-alone basis [14].

Expanding the responsibilities of paramedics and the range of their independence reflects the progressive increase in the importance of this career as a result of the continuous professionalism of its employees. This expansion leads to the launch of long-term analyzes of the effectiveness of the system and future work on organizational changes.

The problem indirectly linked to the independence and the role of paramedics is the unauthorized demands of emergency medical teams, particularly in situations requiring the intervention of a POZ physician or a night and holiday health care provider. This results as a burden on medical teams and generates unreasonable costs for the system. Involvement in such calls creates a real risk of being unable to dispose an ambulance in a life-threatening situation. The problem of unwarranted calls of emergency medical teams is widespread in almost every system regardless of its shape or function, but in Poland it has historical background and is associated with the availability of physicians.

Challenges facing a medical rescuer

The challenges highlighted in 2010, the year marking the twenty-year anniversary of the functioning paramedic medical rescue system in Poland, were related to technological progress, the ever-widening application of tele-informatics solutions, socio-economic changes and it related new challenges, as well as the need to improve the quality of medical services continue to be of value [15]. In addition to the global trends that shape the needs of paramedics, it is imperative to take into account the perspective of medical science and knowledge that forces a constant updating of one's knowledge, widening its knowledge of related disciplines, and also the prospects for state performance as an insurer of public safety and health care... Signs of ambiguity in law indicate in the introduction that these three areas do not have a harmonious impact, and sometimes their influence creates dispute.

With the achievements so far, a career in paramedics is increasingly seen as a profession of public trust, appreciated. At the same time, growing prestige, extending responsibilities and acting independently within the framework of the role entrusted to them is bound to face the next challenge.

Changes in the formal legal basis for Employment

In the State Medical Rescue system, two legal forms of work are currently being applied: employment contract and civil law agreement, i.e. contract. In recent years, there has been an increase in the employment of paramedics on the basis of contracts. This form, in many respects, is attractive both to paramedics and to those who are part of the medical rescue system [16].

Controversy over legal solutions, their effects and the accepted case law have been discussed by Adamkiewicz-Herok and Madowicz, Contract basis [17].

Dualism of legitimate forms influences the organization of work and the functioning of the system. A paramedic is employed on the basis of a contract, in accordance with the law, is on duty in a 12-hour change system. Individuals working on the basis of civil law contracts, because they are not subject to the Labor Code, do not work under the rules of working time, they perform tasks at an agreed time. This has a direct effect on the salary earned, with the predominance of employment under civil law contracts. Many rescuers work 250 or more hours per month, while the average monthly working time in 2017, according to the Labor Code, is approximately 166 hours [16,18]. The amount of time spent on work significantly affects the level of fatigue and stress experienced the quality of the work performed and the increased risk of error or burning out [16].

Adopting a solution allowing only full-time employment will entail a number of changes. One of them is the likely increase job market demand for highly qualified paramedics (in the absence of candidates with the appropriate competence level, the staff of the outgoing teams will be staff of lower independence and quality of work). The agreed time, the individual provides work under civil law agreements for entities far from the place of residence. In the case of switching to 12-hour duty mode, the cost of commuting to work is too high for pay. The introduction of such an organizational change will require an adjustment period. It is expected, however, that there will be large-scale human resources movements and, in extreme situations, unsatisfactory employment opportunities. Paradoxically, striving to improve employment conditions in the medical rescue system may make it necessary to tackle the problem of availability in the job market of highly qualified paramedics. Recall, that the British system had drained the surplus of Polish paramedics already implementing that system. The most experienced paramedics are tempted by higher wages at a much lower workload combined with opportunities for development and promotion are now leaving Poland. In the case of the occurrence of the etiquette in the emergency services stations with the increase of the basic units to 3 people, the salaries of the paramedics will be increased. An additional member of the team is another cost for the ambulance station, which sets off a vision of increases for already-employed paramedics. It seems that the only correct remedy to prevent such a situation is a deliberate increase in PRM spending on wage increases.

Improving working conditions

The need to improve working conditions is a big challenge, facing both the entire medical rescue system and each individual paramedic. One of the problems is surpassing the regulations indicated by BPH, concerning the weight of items raised and transported by the employee. This value cannot exceed 30 kg in a full time service and 50 kg in part time jobs. Items heavier than 30 kg cannot be moved to a height of more than 4 m or a distance exceeding 25 m. Moving objects over 4 m in length and 30 kg in weight should be grouped in such a way that the mass per unit of work does not exceed 25 kg and 42 kg in part time jobs [19]. During a rescue operation, in the event of cardiac arrest, the rescuer must take his medical backpack, defibrillator and ventilator to the emergency site. When paramedics are able to restore the victims vital functions, the paramedics take the victim from the incident site to the ambulance, as well as the stretcher, the backpack, the defibrillator and/or the ventilator. Assuming the patient's body weight is of average, about 70 kg, the addition the weight of the stretcher and the rest of the equipment, breaks the mandatory safety and health regulations. Paramedic Rescue teams solve this problem by collaborating with the State Fire Service (although not always possible) with good co-operation or simple resourcefulness. However, the responsibility for developing a systemic solution or implementing procedures to effectively prevent widespread breaches of regulation lies with the system.

Low salaries, workload and poor management are the most frequently reported reasons for leaving the profession. However, the most evident problem is the lack of a proposal for improvement and meeting the needs of employees. Employees suffer from adverse health problems resulting from work demands such as chronic fatigue from night and shift work, cognitive decline, concentration problems, decreased psychophysical efficiency, pathological somnolence during the day, as well as depression. The effects of work life have a psychosocial impact and are a hindrance to family, partners, or social contacts [16].

In a survey conducted by Blicharczyk in 2010 on

a group of 100 paramedics in Poznan and the surrounding area, results were obtained which illustrate the actual workload resulting from work in the state medical rescue system. 88% of the surveyed respondents declared working over 168 hours per month. Only 19% of respondents did not exceed the working time fixed for full-time employment. 67% of the respondents were unhappy with their earnings. Fewer than half of respondents took up extra work because of low earnings. By contrast, 61% declared additional work for at least one company. Individuals who continuously worked up to 108 hours were identified in the study group. In fact, the workload varied from 252 to 336 hours per month in individuals who were involved in extracurricular activities. The most stressed were workers aged between 21 and 30 - they worked on average 200.4 hours a month. 59% of respondents work during the night time from 8 to 15 times a month and as many as 92% had declared fatigue and exposure to stress during work. At the same time, people declaring full-time employment in paramedic rescue teams (working 168 hours per month) rated their stress as low or moderate. Paramedics working outside the emergency room (more than 168 hours) assessed their level of stress and fatigue significantly higher. With so much workload, the stress paramedics experience negatively influences their family and social contact accord, as a result of their shift and night work. However, stress is not only a result of the amount of time spent working, but ultimately the specificity of the job. The above results indicate that paramedics experience a significant burden and a level of stress.

The results of more detailed analyzes such as the study of Klonowicz and Eliasz on PTSD occurrence among paramedics in which not one case was found, is in opposition to the results obtained in many studies in the world. In the American Rescue population, where the incidence of PTSD symptoms is 10.5 for Emergency Medical Technicians (EMT) and 15% for paramedics (other tests showed higher levels) [19,20].

In addition to work-related stress, medical rescuers struggle with the problem of burning out, but their effects such as inability to work, deterioration in quality of work, and deterioration in relationships are felt by patients and at system level [22,23]. Research conducted by Zielaskowski in a group of 100 paramedics from Poznań and Toruń in 2015 shows that the key factor contributing to the experience of professional burnout is low pay and lack of psychological support from psychologists. At the same time, in spite of so many stressors, paramedics feel the satisfaction of their work. The amount of time devoted to work and the associated burdens expose people who perform this profession to a particularly rapid experience of burning out. The concern of stress and burnout and their consequences in the work of paramedics have been described in many publications. Unfortunately, despite the few attempts to counteract stress and burning out, for example, by providing psychological support to the emergency response structures, systematic solutions have failed to monitor the burden and prevent or counteract their negative effects.

Medical Rescuers facing Challenges of the Modern World

The expansion and growth of technology is currently transforming the present at an unprecedented pace in every aspect of life. The effects of the technological change can be observed within emergency medical teams through the rise of social expectations of patients regarding the quality and speed of medical services, as well as patient awareness resulting from access to medical knowledge, through, for example online resources.

Cultural transformations, including improved medical care, technological amenities, increased leisure and ease, increased life expectancy, change in the structure of health problems, and the increasing incidence of mental health problems are current factors that have influenced the responsibilities of paramedic. As a result, there is a growing number of calls that do not necessarily require emergency medical teams to intervene and will cause a higher workload. That is why the whole healthcare system faces the challenge of special cooperation and integration, with a focus on providing comprehensive, high-quality medical care. For this reason, it is not possible to improve working conditions within the medical rescue system or its effectiveness and quality of services without first improving the function, availability and quality of services in other areas, primary care and hospital care [24].

The need to meet the requirements of the medical rescue system and paramedics me will involve challenging the development of vocational development tools, integrating rescuers into the education of the public on health problems and the real use of data that are aggregated into the system for further development, modification and modeling according to the needs of

the society to which it serves. State medical paramedics today more than ever need high and interdisciplinary competencies that will enable them to use the latest technology, use information technology, and collaborate their resources and work well with their patients to achieve their goals effectively. Effective management of the system's staff and support of their development potential will require administrative supervision and supplementation of solutions in order to be effective for upcoming years.

Conflict of interest
None

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