

Weaknesses of the existing organization of emergency medical care in European countries

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Summary

The importance of an emergency medical care system for ensuring affordable and quality healthcare in any country is indisputable. Studying and analyzing existing problems in organizing this system is the first step to solving them. The present study aimed to investigate and outline the possible scope of the problems of emergency medical care, their recurrence, and similarity in 17 European countries. Content analysis of documents was used. The most characteristic organizational problems in providing emergency medical care for each of the countries are identified and grouped into five categories: Direct patient access to hospital emergency departments; Overloading of emergency departments by non-urgent, self-referral patients; Telephone triage by dispatchers - nurses or assistants; Existing and/or impending shortage of doctors in Emergency Medical Services (EMS); Regional and social inequalities in access to emergency medical care.

A quantitative measurement of the categories and their relative weight were reported. Based on the analysis, the conclusions of the study were drawn. The identified problems, grouped into categories of weaknesses of the existing emergency medical care organization in European countries, may serve as a basis for undertaking health care reforms.

Key words: Emergency medical care, organizational problems



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Introduction

Globally, emergency care systems are under intense pressure from the ever-increasing patient demand for medical care. Most European countries are reforming their emergency and urgent care systems as they fight with challenges such as increasing visits and serving patients for whom no emergency treatment is needed. Patients demand various types of medical services, especially outside GP working hours. The ineffective interaction between general practitioners (GPs) and emergency medical centers (EMS) leads to low-quality emergency medical care. Therefore, it is necessary to provide information and create conditions for coordinated actions in the foreseeable future (Giesen et al. 2011; Alexa et al. 2015; Chevreul et al. 2015; van Gils-van Rooij et al. 2015; Kroneman et al. 2016; Vladescu et al. 2016; De Almeida Simoes et al. 2017; Economou et al. 2017; Bachner et al. 2018; Bernal-Delgado et al. 2018; Anon 2019; Keskimaki et al. 2019; Smith and Carragher 2019; Sowada et al. 2019;

Blümel et al. 2020; Gerken and Merkur 2020; Saunes et al. 2020; Albrecht et al. 2021; Dzakula et al. 2021; Anderson et al. 2022).

The present study aimed to investigate and outline the possible scope of the problems of emergency medical care, their recurrence, and their similarity in 17 European countries.

Material and methods

Publications from different databases were studied, and content analysis was applied. Based on the most characteristic organizational problems in providing emergency medical care outlined for each of the countries considered, these problems were identified and grouped into categories.

Results

The analysis of the various sources in the literature showed the presence of problems in providing emergency medical care in these 17 European countries. The most country-specific ones can be described as follows.

Bulgaria

Despite the various changes introduced in the emergency medical care system, it is characterized by extensive development yet ineffective operation of the network of medical facilities and a lack of coordination between them. There are inequalities in accessibility to emergency medical care. For a significant number of the settlements in the country, the time to access emergency care is over 30 minutes. Some hospital emergency rooms are overloaded with patients (often uninsured) compared to others, which usually accept only scheduled patients. This leads to patients being continuously transported between different medical facilities before receiving the necessary medical care. A low number of doctors and medical specialists characterizes emergency medical care. Low pay, poor working conditions, and limited career opportunities lead to increasing staff turnover, especially among doctors. There are also problems with the qualification of the personnel in EMS pe (Anon 2019).

The Netherlands

Although ambulance crews provide emergency medical care, hospital emergency departments and GP co-operatives are increasingly suffering from inappropriate visitors with non-urgent medical complaints and symptoms. Many patients still have problems choosing the right service for their complaints, skip the GP to go directly to the hospital emergency department, or call an ambulance. Hospital emergency department workloads and waiting times are increasing, probably because of the ever-growing demands of patients and their relatives and the expanded access to medical care.

It is noted that telephone triage performed by GP co-operatives needs further research to evaluate the competence of nurses to perform it effectively. It is not yet clear whether it is safe. For this reason, all co-operatives should have a „supervising telephone doctor“ (Giesen et al. 2011). Attempts have also been

made to unite the hospital emergency department and general practitioner co-operatives in an organizational model for integrating emergency services. However, their effect on the medical services offered to patients is questionable (van Gils-van Rooij et al. 2015; Kroneman et al. 2016).

The scope of using electronic patient records, electronic feedback to GPs, and online connection to GPs carrying out home visits by equipped car is another issue that has not been resolved yet.

UK

Trends in non-urgent emergency department visits, the long waiting for medical care, and the professional overload of emergency physicians have not changed significantly since the primary outpatient and emergency care reforms.

There is only one DOC (Doc-on-Call) treatment center in Northern Ireland per county and these centres are not centrally located. Furthermore, difficulties with transportation and limited social contacts of elderly patients with emergency medical conditions make access to the GPOOH (General practitioner out of hours) service impossible. Also, a lack of information has been reported among older people in rural Northern Ireland areas about emergency general practitioner (GP) out-of-hours (GPOOH) services (Anderson et al. 2022), (Smith and Carragher 2019).

Germany

Ambulatory physicians (GPs and specialists) provide a substantial part of emergency medical care (EMC) during regular working hours and out-of-hours services. Despite the 24-hour primary and emergency care coverage by GPs and specialists, many patients tend to go to hospital emergency departments directly or seek emergency medical care in cases of minor emergencies for relatively minor conditions. Such unnecessary visits result in the overloading of emergency departments and the deterioration of the quality of medical care for patients. There is no good communication between emergency medical services, hospital emergency departments, and emergency services, which must work together. A critical insufficiency of personnel for emergency medical care was also reported (Blümel et al. 2020).

Belgium

The possibility of choosing a route for seeking emergency medical care (self-referral, with a doctor's referral, or by calling the emergency number 112 or 100) satisfies patients. However, the prevailing preference for direct access to an emergency department for non-urgent conditions makes it difficult for emergency physicians. It deteriorates the quality of medical care and its timely provision (Gerken and Merkur 2020).

France

A decrease in the number of doctors who volunteer to be on call in the continuity of care system is reported, resulting in a burden on hospital emergency departments (Chevreul et al. 2015).

Austria

Since organizing emergency care is under the legal responsibility of the provinces, each province defines the provision of emergency medical services by ambulance differently. Staffing, organization, and structural problems of emergency aid remain under the legal responsibility of the provinces and are financed and negotiated by municipalities (Bachner et al. 2018).

Norway

The insufficiency of doctors on duty in the Emergency Department makes it difficult to access it in a timely manner. Actions to improve the efficiency of emergency care through centralization in the form of increased cooperation between municipalities to reduce the number of emergency centers and create larger structures with more doctors serving more than one municipality are not enough. Despite consolidation, most urgent care centers are reported to have only one doctor on call out of hours, which, combined with longer travel distances to the nearest centre, results in poorer access to emergency help (Saunes et al. 2020).

Finland

According to a 2012 Finnish Institute of Health and Welfare assessment, only a small part of the population receives 24-hour emergency call services at health centers. Certain inequalities are reported in patients' access to EMC (Keskimäki et al. 2019).

Poland

Emergency care in Poland is accessible directly (without a referral) and is provided by emergency personnel in outpatient settings or hospital emergency departments. This creates conditions for inappropriate use and loading of these structures (Sowada et al. 2019).

Slovenia

The country has also seen an increasing number of patients seeking emergency medical care directly at the hospital (Albreht et al. 2021).

Czech Republic

The Czech Republic's healthcare system allows patients to decide what type of medical care (primary, specialized, emergency) they will receive and at which specialist and medical facility will be provided. Such free access and choice of medical service satisfies patients' wishes but creates chaos in their seeking medical advice facility to another. It overloads emergency departments (hospital entrances) with inappropriate, non-urgent cases, not only outside GP working hours.

In addition, Emergency Departments replace GPs outside their working hours (at night or during national holidays). Organized regional initiatives to relieve

pressure on emergency departments by creating 24-hour hotlines for patients to discuss their health status and needs with a doctor who advises them on the next steps, which are palliative solutions to the problem of overcrowded emergency rooms (Alexa et al. 2015).

Spain

A growing number of patients inappropriately seeking, attending, and overburdening outpatient and hospital emergency care structures is also reported as a major problem in the country (Bernal-Delgado et al. 2018).

Romania

The problem of overloading emergency units exists here as well. Patients find ways to bypass the services offered by family medicine physicians, with many patients requesting a home visit from an ambulance team or direct visits to hospital emergency rooms, even for minor health problems (Vladescu et al. 2016).

Greece

The country reports many patients who bypass primary care and visit emergency departments of public or private hospitals directly. Overcrowding the Emergency Medical Service in the hospital with patients increases the waiting time and reduces the quality of clinical results (Economou et al. 2017).

Portugal

Patients do not have regulated direct access to specialized care. However, they often bypass their GP and visit and overload hospital emergency departments. Emergency medical services in the autonomous regions of the Azores and Madeira are more limited than in mainland Portugal (De Almeida Simoes et al. 2017).

Croatia

A shortage of qualified physicians is a problem for emergency departments. The introduction of a second type of team for emergency medical assistance, consisting of two specialized nurses or technicians each, was imposed out of necessity due to a low number of doctors (Dzakula et al. 2021).

Discussion

To analyze the publications of the series „Health Systems in Transition“ in the part reporting problems (weaknesses) of the existing organizations for the implementation of Emergency Medical Care, we used „Content-analysis,“ a method of analysing literary sources. To determine the categories of the analysis, we used signs characterizing significant problems in the provision of Emergency Medical Care and interdependencies with basic problems of Primary Health Care. The results are shown in Table 1.

Table 1. Matrix for coding by category (problem) in emergency medical care for 17 European countries.

Categories for analysis* (significant units)	Availability of categories for the analysis of EMC in the publication „Healthy systems in transition“ for 17 European countries**																	Category Frequency	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Count	%
1. Direct Access on patients up to EMC	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	-	+	15	88.2
2. Overloading of EMC by unresponsive, self-referral patients	+	+	+	+	+	+	+	-	-	+	+	+	+	+	+	-	+	14	82.4
3. Telephone triage by dispatcher – nurses or assistants	-	+	+	+	+	-	+	+	+	+	+	+	+	+	-	+	+	14	82.4
4. Regional and social inequality in access to EMH	+	-	+	+	+	+	-	+	-	+	+	-	+	+	+	-	+	12	70.6
5. Existing and/or ongoing shortage of doctors in the EMH	+	+	+	+	+	+	-	-	+	+	+	-	-	+	-	-	+	11	64.7
Total:	4	4	5	5	5	4	3	2	3	5	5	3	4	5	3	1	5	66	

*The presence of “Category for analysis” in the publication for emergency medical care for each country is marked with “+,” respectively “-” for its absence.

**Countries included in the analysis of research publications from the series “Healthy systems in transition”.

1. Bulgaria, 2. The Netherlands, 3. Great Britain, 4. Germany, 5. Belgium, 6. France, 7. Austria, 8. Norway, 9. Finland, 10. Poland, 11. Slovenia, 12. Czech Republic, 13. Spain, 14. Romania, 15. Greece, 16. Portugal, 17. Croatia.

Quantitative measurement of the categories, determination of their „weight,” and interpretation of the content analysis results were made, taking into account some related but insufficiently researched signs that characterize significant problems in the provision of emergency medical care.

In the reviewed publications, we established the following common and country-specific, continuing or newly emerging in the course of changes, problems in the system of emergency care:

1. The categories „Direct patient access to the emergency department (ED)” and „Overloading of the emergency department with non-urgent, self-referral patients” (88.2% and 82.4%, respectively) were the most common problems surveyed in European country publications from the Health Systems in Transition series. The simultaneous presence and interrelation between these two categories (significant units) was found in 14 (Bulgaria, Netherlands, Great Britain, Germany, Belgium, France, Austria, Poland, Slovenia, Czech Republic, Spain, Romania, Greece, Croatia) equal to 82.4% of the 17 European countries studied. In the researched publications, the authors expressed their opinion about the direct relationship between patients’ direct access to the ED and the overloading of the department by non-urgent, self-referring patients.
2. Performing „telephone triage by dispatchers - nurses or assistants” was a problem found in 14 of the 17 countries studied, which as an extensive indicator is 82.4%. The assessment of the distribution of patients by severity of life-threatening, urgent, or other conditions when receiving the emergency telephone call by specialized nurses or assistants is not unanimously approved. It does not create confidence about the quality of triage and the safety of patients in European countries.

3. The difficulty of accessing emergency medical care is due to the uneven territorial location of emergency care providers and their ability to reach emergency patients in remote settlements on time. Regional and social inequalities in access to EMC are observed in 12 countries (Bulgaria, Great Britain, Germany, Belgium, France, Norway, Poland, Slovenia, Spain, Romania, Greece, Croatia) -70.6%. The problems are also related to the general (current and upcoming) shortage and migration of doctors on a European and global scale, doctors' preferences for working conditions, professional qualifications, career growth, the demand for doctors in the labor market, and consumer demand for medical services.
4. In a comparative analysis of the indicator of the satisfaction of the EU population with medical practitioners, the medical composition of the emergency call teams, and their numbers during night and holiday shifts, it is established that „Existing and/or upcoming shortage of doctors in emergency medical care (EMC).“ The finding applies to 11 emergency aid systems, corresponding to as many countries (Bulgaria, the Netherlands, Great Britain, Germany, Belgium, France, Finland, Poland, Slovenia, Romania, and Croatia), which is 64.7% of the seventeen.

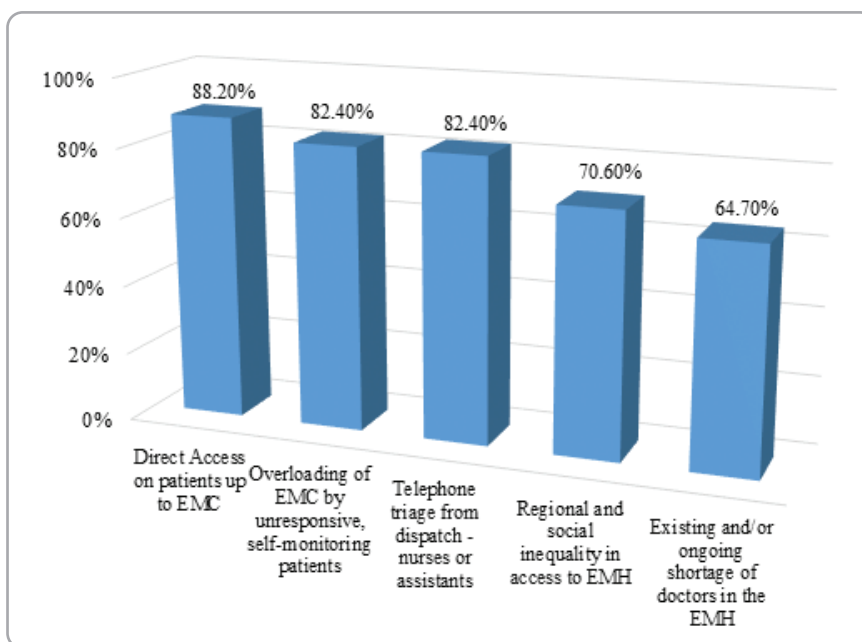


Figure 1. The reported problem categories.

The severity of the reported problem categories is visualized in Fig. 1.

Conclusion

Multiple problems are reported, mainly related to organizational weaknesses regarding access and staff shortages in emergency medical care. Existing problems limit the quality and effectiveness of emergency medical services in the health systems studied. It is necessary to carefully analyze the problems and take urgent measures to overcome them.

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