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State of emergency care in Slovakia: scoping review

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ADMINISTRATIVE INFORMATION

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INTRODUCTION

Review question / Objective To map the literature sources performed within the context of emergency care encounters that focus on the current state of emergency care services (ECS) in Slovakia. We also aimed to identify barriers and enablers in efficient emergency care (EC), as well as healthcare professionals' and users' perspectives in ECS.

Background The healthcare system in Slovakia lags behind the Visegrad countries as well as the rest of the European Union in several key indicators. According to the latest data, Slovakia ranked 66th with a score of 58.4 points in the Health Care Index, placing it sixth from the bottom among European Union member states (NUMBEO, 2025). In 2022, about 3 % of Slovaks reported unmet medical care needs, which is above the EU average.

The shortage of health workers in Slovakia is a key constraint that may influence emergency care services (ECS). The number of nurses has decreased over the past decade due to unattractive working conditions and low professional recognition, as reflected in the steadily declining numbers of nursing graduates (OECD/European Observatory on Health Systems and Policies, 2023). Similarly, the number of active doctors is challenged by aging and migration issues in Slovakia and remains below the EU average (OECD, 2023). In 2022, a total of 400 general practitioners (GPs) for adults and 223 paediatricians were lacking to reach the optimal number of registered patients per physician (OECD, 2023). Furthermore, the average age of GPs for adults was 57 years in 2022 and 59 years for paediatricians. A total of 41 % of GPs and 48 % of paediatricians were aged 63 and older, and therefore likely to retire in the coming years (OECD, 2023). The OECD report (2017) revealed that nearly 75 % of patients in Slovakia visit the emergency department due to unavailable primary care, which is significantly higher than the EU average of around 27 %.

Moreover, not only the shortage of healthcare staff but also population ageing may negatively affect

healthcare services, including emergency care (EC). Like other EU countries, Slovakia has experienced a demographic shift towards an older population over the past two decades, with the proportion of people aged 65 and over rising from 11 % of the total population in 2000 to 17 % in 2020 (Štatistický úrad SR 2021; OECD, 2023). This share is projected to increase to 29 % by 2050 (OECD, 2023). Patient visits to emergency departments around the world have significantly increased over the last few years, and limited access to primary care and an increase in low-acuity patients have also been described in many countries (Nummedal et al., 2024).

Another notable concern is the relatively low life expectancy at birth in Slovakia of 77.2 years in 2022, which is 3.5 years below the EU average of 80.7 years (OECD, 2023). Slovakia has among the highest mortality rates from preventable (262) and treatable (169) causes in the EU, with almost twice as high numbers when compared to other EU countries. However, little is known about whether ECS may play a role in these outcomes. More knowledge of patient trajectories within emergency care systems, barriers, and facilitators in efficient ECS, and patients' experiences and needs, as well as healthcare professionals' (HCPs') perspectives, is thus needed to build stronger healthcare systems. Thus, our study aimed to map the literature sources performed within the context of emergency care encounters that focus on the current state of ECS in Slovakia. We also aimed to identify barriers and enablers to efficient EC, as well as HCPs' and users' perspectives in ECS.

Rationale The healthcare system in Slovakia lags behind the Visegrad countries as well as the rest of the European Union in several key indicators. According to the latest data, Slovakia ranked 66th with a score of 58.4 points in the Health Care Index, placing it sixth from the bottom among European Union member states (NUMBEO, 2025). In 2022, about 3 % of Slovaks reported unmet medical care needs, which is above the EU average.

The shortage of health workers in Slovakia is a key constraint that may influence emergency care services (ECS). The number of nurses has decreased over the past decade due to unattractive working conditions and low professional recognition, as reflected in the steadily declining numbers of nursing graduates (OECD/European Observatory on Health Systems and Policies, 2023). Similarly, the number of active doctors is challenged by aging and migration issues in Slovakia and remains below the EU average (OECD, 2023). In 2022, a total of 400 general practitioners (GPs) for adults and 223 paediatricians were lacking to reach the optimal number of registered patients per physician (OECD, 2023). Furthermore, the average age of GPs for adults was 57 years in 2022 and 59 years for paediatricians. A total of 41 % of GPs and 48 % of paediatricians were aged 63 and older, and therefore likely to retire in the coming years (OECD, 2023). The OECD report (2017) revealed that nearly 75 % of patients in Slovakia visit the emergency department due to unavailable primary care, which is significantly higher than the EU average of around 27 %.

Moreover, not only the shortage of healthcare staff but also population ageing may negatively affect healthcare services, including emergency care (EC). Like other EU countries, Slovakia has experienced a demographic shift towards an older population over the past two decades, with the proportion of people aged 65 and over rising from 11 % of the total population in 2000 to 17 % in 2020 (Štatistický úrad SR 2021; OECD, 2023). This share is projected to increase to 29 % by 2050 (OECD, 2023). Patient visits to emergency departments around the world have significantly increased over the last few years, and limited access to primary care and an increase in low-acuity patients have also been described in many countries (Nummedal et al., 2024).

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METHODS

Strategy of data synthesis Data analysis and synthesis of results

The results of the search strategy, screening process, and study selection were reported in line with the PRISMA-ScR recommended method using a flowchart (Tricco et al., 2018). We grouped the information retrieved from the papers by the

key themes related to the current state and distribution of ECS and patients'/HCPs' experiences/needs in emergency encounters.

Eligibility criteria Inclusion and exclusion criteria
The inclusion criteria were peer-reviewed journal papers with an explicit focus on ECS in Slovakia (including stroke emergency centres, traumatology centres, cardiovascular emergency centres, and emergency medical teams for mass disasters). We also included newspaper articles, reports, and information from national registers, government data, policy documents, healthcare-affiliated organizations, commentaries, dissertations, and conference abstracts. We excluded guidelines, technical reports, letters, and economic evaluations. For more information on exclusion criteria, see flowchart Fig. 1. As healthcare systems may have changed over time, we only included sources published in the past decade (from 2015 to 2025).

Source of evidence screening and selection To identify potentially relevant documents, the bibliographic databases and grey literature resources were searched from January 2015 to August 2025. We used scientific databases including Web of Science, PubMed, CINAHL, Embase, and Cochrane Library. Desktop search was conducted by two authors (VT, PM). We also searched Google Scholar. Grey literature was searched, including newspaper articles, national registers, government data, policy documents, documents of healthcare-affiliated organizations, commentaries, dissertations, and conference abstracts. Titles, abstracts, and keywords were screened to identify potentially relevant studies. If the suitability of an article was uncertain, the full text was screened. We also screened the reference lists of the relevant papers for additional resources.

Data management Data extraction
Two reviewers (VT, PM) independently charted the data. A preliminary data extraction was created in line with JBI (Peters et al., 2020) based on the PCC framework and the aims of our study (current state of ECS, barriers and enablers in efficient ECS, and patients/HCPs' experiences and needs in emergency encounters). In case of disagreement in data extraction, consensus was achieved by discussion between the two authors (VT, PM). If needed, a third author (ZK) was invited to resolve disputes.

Language restriction No language restrictions were used.

Country(ies) involved Slovakia.

Keywords emergency care; healthcare professionals' and users' perspectives; barriers; facilitators.

Contributions of each author
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