Journal report – květen 2025

OBSAH

PREHOSPITAL CARE

– clinical trials & RCT & multicenter study

1: Accorsi TAD, Barbosa JC, Cardoso RG, Souza Junior JL, Amicis K, Morbeck RA, Ladeira JP, Cordioli E, Pedrotti CHS. **A pilot study on feasibility and hypothesis exploration: reducing on-scene length of stay of the emergency teams via ambulance dispatch teleconsultation for prehospital examination.** Einstein (Sao Paulo). 2025 May 12;23:eAO1469. doi: 10.31744/einstein_journal/2025AO1469. PMID: 40367011; PMCID: PMC12094677.

2: van Wegen ME, Fransen LFC, Thijssen WAMH, Alexandridis G, de Groot B. **The association between urgency level and hospital admission, mortality and resource utilization in three emergency department triage systems: an observational multicenter study.** Scand J Trauma Resusc Emerg Med. 2025 May 1;33(1):72. doi: 10.1186/s13049-025-01392-5. PMID: 40312391; PMCID: PMC12044865.

3: Toy J, Bhargava R, Lowe CG, Pham PK, Shepard N, Aboudiab M, Saidinejad M, Chow J, Chang TP, Altergott C, Rai E, Claudius I, Moriel G, Conser E, Gausche- Hill M. **Comparison of Outcomes for Emergency Medical Services-Transported Infants With Suspected Brief Resolved Unexplained Events Before and After the Coronavirus Disease 2019 Pandemic.** Pediatr Emerg Care. 2025 May 1;41(5):329-335. doi: 10.1097/PEC.0000000000003346. Epub 2025 Feb 4. PMID: 39901779.

PREHOSPITAL CARE

– systematic review & meta-analysis & scoping review

1: Holland J, Watkins-Webb R. **Exploring the concept of a 'long lie' after a fall to inform clinical pathways in pre-hospital services: a systematic literature review.** Nurs Older People. 2025 May 29. doi: 10.7748/nop.2025.e1505. Epub ahead of print. PMID: 40437966.

2: Opare-Addo PA, Tannor EK, Brennan E, Aikins M, Bediako SA, Herbert TL, Hutton-Mensah KA, Ofori E, Gyan KF, Gyabaah S, Acheamfour-Akowuah E, Sarfo FS. **A scoping review of the utilization of mobile stroke units in low and lower middle-income countries: current evidence, implications and future direction.** BMC Health Serv Res. 2025 May 22;25(1):742. doi: 10.1186/s12913-025-12920-5. PMID: 40405122; PMCID: PMC12096547.

3: Dwivedi DB, Ball J, Smith K, Nehme Z. **Incidence and outcomes of out-of-hospital cardiac arrest from initial asystole: a systematic review and meta-analysis.** Resuscitation. 2025 May

3;212:110629. doi: 10.1016/j.resuscitation.2025.110629. Epub ahead of print. PMID: 40324517.

4: Hexom BJ, Quao NSA, Bandolin NS, Bonney J, Broccoli MC, Collier A, Dawson-Amoah NA, Dyal J, Kampalath V, Lee JA, Rees CA, de Oliveira Salvador GL, Strong JM, Kivlehan SM; Global Emergency Medicine Literature Review (GEMLR) Group. **Global emergency medicine: A scoping review of the literature from 2023.** Acad Emerg Med. 2025 May;32(5):553-569. doi: 10.1111/acem.70012. Epub 2025 Mar 7. PMID: 40052382; PMCID: PMC12077061.

5: Marsh E, Orr R, Canetti EFD, Schram B. **Profiling paramedic job tasks, injuries, and physical fitness: A scoping review.** Appl Ergon. 2025 May;125:104459. doi: 10.1016/j.apergo.2024.104459. Epub 2024 Dec 24. PMID: 39721288.

Journal report – květen 2025

PREHOSPITAL CARE

– clinical trials & RCT & multicenter study –

1. Einstein (Sao Paulo). 2025 May 12;23:eAO1469. doi: 10.31744/einstein_journal/2025AO1469. eCollection 2025.

A pilot study on feasibility and hypothesis exploration: reducing on-scene length of stay of the emergency teams via ambulance dispatch teleconsultation for prehospital examination.

Accorsi TAD(1), Barbosa JC(2), Cardoso RG(2), Souza Junior JL(2), Amicis K(1), Morbeck RA(1), Ladeira JP(1), Cordioli E(1), Pedrotti CHS(1).

BACKGROUND: This pilot study showed that teleconsultation during ambulance dispatch considerably reduced the emergency team's on-scene evaluation time, underscoring the potential of telemedicine in prehospital care. ■ Teleconsultation reduced on-scene time from 36.8 to 20.6 min (p=0.019). ■ Video-based prearrival anamnesis improved team efficiency. ■ Interventions and clinical profiles were similar across the groups. ■ Study supports broader telemedicine adoption in emergency care.

OBJECTIVE: Ambulance transport time is an important metric in prehospital care. Limited studies have explored strategies to decrease on-scene time. We examined the effect of collecting telemedicine-based medical data during ambulance dispatch on the on-scene evaluation time of the prehospital team.

METHODS: This randomized, single-center, open-label study included individuals aged >18 years who independently sought hospital emergency services and requested on-site emergency care. Individuals with primary trauma emergencies occurring outside the home, cardiac arrest cases, and situations in which video communication was unfeasible were excluded.

RESULTS: Twenty patients were randomized to receive telemedicine assessment during ambulance dispatch or standard care with physician phone support. Both groups were comparable in age (53.2 ± 26.1 versus 63.4 ± 24.2 years, p=0.380), sex (50% versus 70% female, p=0.360), initial vital signs, and medical history. The main reasons for patients calls were falls from standing height (30%), followed by cardiovascular symptoms (20%), and acute neurological events (15%). Teleconsultation via a mobile application was successfully conducted in all cases. Furthermore, in situ interventions, including venous access, oxygen therapy, orthopedic immobilization, hypotension stabilization, and symptomatic treatment, were similar between the groups. The Telemedicine Group demonstrated a significantly

shorter on-scene evaluation time (20.45 ± 6 min) than the Standard Group (36.80 ± 20.4 min, p = 0.019).

CONCLUSION: Conducting checklist-based anamnesis teleconsultation during ambulance dispatch considerably decreased the on-scene evaluation time of the emergency team. Further research with larger cohorts and different settings is required to better examine telemedicine's potential in this context.

DOI: 10.31744/einstein_journal/2025AO1469

PMCID: PMC12094677

PMID: 40367011 [Indexed for MEDLINE]

2. Scand J Trauma Resusc Emerg Med. 2025 May 1;33(1):72. doi: 10.1186/s13049-025-01392-5.

The association between urgency level and hospital admission, mortality and resource utilization in three emergency department triage systems: an observational multicenter study.

van Wegen ME(1), Fransen LFC(2), Thijssen WAMH(3), Alexandridis G(#)(2)(3), de Groot B(#)(4)(5).

BACKGROUND: Effective triage systems are crucial for prioritizing patients based on urgency and optimizing resource utilization. An ideal triage system is expected to have low resource utilization, hospitalization and mortality among patients classified at low urgency levels. Furthermore, it should exhibit an increase in the risk of hospitalization and mortality as urgency levels increase, ensuring the most critically ill patients receive priority care first. However, it is unclear which triage system performs best.

OBJECTIVE: To compare the performance of the Manchester Triage System (MTS), the Emergency Severity Index (ESI), and the Netherlands Triage Standard (NTS) by investigating the association between urgency levels and resource utilization, hospitalization and in-hospital mortality in Emergency Department (ED) patients.

METHODS: Observational multicenter cohort study using data from the Netherlands Emergency department Evaluation Database, comprising seven representative EDs in six Dutch hospitals. All consecutive ED patients with a registered urgency level were included. Resource utilization, hospitalization and mortality were measured across all urgency levels. In each triage system, multivariable logistic regression was used to assess the association between

urgency level and in-hospital mortality and hospitalization, adjusting for age, sex, presenting complaints and hospital type.

RESULTS: A total of 696,518 ED visits (MTS 320,406 (46.1%), ESI 214,267 (30.8%), NTS 161,845 (23.3%) patients) were included. Resource utilization was substantially lower in the lowest urgency level of the ESI compared to the MTS and NTS. Hospitalization to a regular ward, cardiac, medium or intensive care unit in the least urgent level was 3.9% in the ESI, considerably lower than in the MTS (23.1%) and NTS (34.3%) ($P < 0.05$). Mortality in the lowest urgency level of the ESI was 0.8%, while in the MTS and NTS this was 6.3% and 12.4%, respectively ($P < 0.05$). In the ESI, the risk (Adjusted Odds Ratios) for hospitalization and mortality increased much more with increasing urgency levels compared to the MTS and NTS.

CONCLUSION: This study suggests that the ESI may be more effective in distinguishing between patients with low and high urgency, with a reduced risk of undertriage when compared to the MTS and NTS.

DOI: 10.1186/s13049-025-01392-5

PMCID: PMC12044865

PMID: 40312391 [Indexed for MEDLINE]

3. Pediatr Emerg Care. 2025 May 1;41(5):329-335. doi: 10.1097/PEC.0000000000003346. Epub 2025 Feb 4.

Comparison of Outcomes for Emergency Medical Services-Transported Infants With Suspected Brief Resolved Unexplained Events Before and After the Coronavirus Disease 2019 Pandemic.

Toy J(1)(2)(3)(4), Bhargava R(5), Lowe CG(6), Pham PK(6), Shepard N(1)(2), Aboudiab M(7), Saidinejad M(1)(2)(3)(4), Chow J(8), Chang TP(6), Altergott C(6), Rai E(7), Claudius I(1)(2)(3), Moriel G(6), Conser E(7), Gausche-Hill M(1)(2)(3).

OBJECTIVES: This study compares care-seeking behavior, care delivery, and outcomes for infants with suspected brief resolved unexplained events (BRUEs) who were treated by emergency medical services (EMS) and emergency department clinicians before and after the onset of the coronavirus disease 2019 (COVID-19) pandemic and stay-at-home mandates.

METHODS: This multicenter, retrospective observational study uses prehospital and hospital data on EMS-treated infants (age ≤12 months) with a primary paramedic impression of BRUE. We evaluated interventions, management, and outcomes, including transports and

admissions, before (April 2019 to February 2020) and after (April 2020 to February 2021) the start of the pandemic and stay-at-home mandates in March 2020. We also characterized longitudinal trends in transports and hospital admissions for BRUE infants between July 2017 and February 2021. Data were analyzed using descriptive statistics and interrupted time series modeling.

RESULTS: There were no significant differences in demographic characteristics or infant presentations before and after the beginning of the pandemic and stay-at-home mandates. We noted an increase in transports during the before period, but transports plateaued in the after period. There was no significant difference in admissions between the before and after periods.

CONCLUSIONS: For EMS-treated infants with paramedic-suspected BRUE, presentations and hospital admissions were similar before and after the beginning of the COVID-19 pandemic and stay-at-home mandates. There was a longitudinal increase in EMS transports for infants with suspected BRUE before the COVID-19 pandemic and stay-at-home mandates, which then leveled off in the after period.

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PMID: 39901779 [Indexed for MEDLINE]

Journal report – květen 2025

PREHOSPITAL CARE

– systematic review & meta-analysis & scoping review –

1. Nurs Older People. 2025 May 29. doi: 10.7748/nop.2025.e1505. Online ahead of print.

Exploring the concept of a 'long lie' after a fall to inform clinical pathways in pre-hospital services: a systematic literature review.

Holland J(1), Watkins-Webb R(1).

The term 'long lie' is often used clinically to describe a situation where an individual has had a fall and has remained on the floor. However, there is no universal definition of what constitutes a long lie or recognition of the effect it can have on physical or psychological well-being. In August 2024, the authors undertook a comprehensive literature review on the subject. A search of articles published in English from the past 45 years which refer to adults over the age of 18 years who had a fall and a long lie, identified six articles. The outcome of the review demonstrates that there is a lack of primary literature that clearly defines a long lie. Nevertheless, ambulance and community first responders are encouraged to convey to hospital patients who have been on the floor for one hour or more, directly contradicting national health agendas that promote the delivery of acute care closer to home.

DOI: 10.7748/nop.2025.e1505

PMID: 40437966

2. BMC Health Serv Res. 2025 May 22;25(1):742. doi: 10.1186/s12913-025-12920-5.

A scoping review of the utilization of mobile stroke units in low and lower middle-income countries: current evidence, implications and future direction.

Opare-Addo PA(1)(2), Tannor EK(3)(4), Brennan E(5), Aikins M(3), Bediako SA(3), Herbert TL(5), Hutton-Mensah KA(3)(4), Ofori E(6), Gyan KF(3), Gyabaah S(3), Acheamfour-Akowuah E(3)(4), Sarfo FS(3)(4).

BACKGROUND: Low and Lower-Middle-Income Countries (LMICs) have the highest stroke incidence, prevalence, and case fatality rates globally. Current evidence suggests Mobile Stroke Units (MSUs) outperform traditional Emergency Medicine Services (EMS) in time metrics, cost-effectiveness, and long-term outcomes. MSUs could potentially improve stroke outcomes in resource-constrained settings by addressing critical challenges related to prehospital delays, health-seeking behavior, and access to expertise.

PURPOSE: This scoping review aims to assess the existing literature and knowledge gaps on the utilization of mobile stroke units in LMICS, their impact on stroke outcomes, and cost-effectiveness.

MATERIALS AND METHODS: We conducted a detailed search of PubMed, Scopus, CINAHL, African Index Medicus, and Publicly Available Content Database (ProQuest) inception to April 15, 2024. Google Scholar and TRIP Pro were also searched to identify Grey literature. African Journals Online, references were also hand-searched.

RESULTS: Seven hundred and eighty-five studies were screened; only two met the eligibility criteria. Cherian et al. report the first use of a mobile stroke unit (MSU) in India, detailing its operations during the first year and the challenges encountered. According to the authors, fewer patients utilize MSUs in India compared to other parts of the world due to challenges such as a lack of awareness and affordability. Osuegbu et al. also report the absence of both fixed and mobile stroke units in Rivers State, Nigeria.

CONCLUSION: There is currently very limited data to support the contextual suitability of MSU or implementation strategies to guide its integration into stroke care systems in LMICs. Further research is needed to examine the utilization, barriers, impact, and cost-effectiveness of Mobile Stroke Units (MSUs) in low- and middle-income countries. This could inform stakeholders and policymakers about the potential role and value of MSUs within stroke care systems in these settings.

DOI: 10.1186/s12913-025-12920-5

PMCID: PMC12096547

PMID: 40405122 [Indexed for MEDLINE]

3. Resuscitation. 2025 May 3;212:110629. doi: 10.1016/j.resuscitation.2025.110629. Online ahead of print.

Incidence and outcomes of out-of-hospital cardiac arrest from initial asystole: a systematic review and meta-analysis.

Dwivedi DB(1), Ball J(2), Smith K(3), Nehme Z(4).

AIM: To examine global variation in the incidence and outcomes of Emergency Medical Services (EMS) attended and treated out-of-hospital cardiac arrest (OHCA) from initial asystole.

DATA SOURCES: We systematically reviewed electronic databases for studies between 1990 and August 2024 reporting EMS-attended or treated asystolic OHCA populations. The primary

outcome was survival to hospital discharge or 30-days. Random-effects models were used to pool primary and secondary outcomes and meta-regression was used to examine sources of heterogeneity. Study quality was assessed using the Joanna Briggs Institute critical appraisal tool for prevalence studies.

RESULTS: The search returned 4464 articles, of which 82 studies were eligible for inclusion encompassing 540,054 EMS-treated patients across 35 countries. Five studies reported on EMS attended populations (n = 35,561). The studies included in the review had high clinical and statistical heterogeneity. The pooled proportion of EMS-treated initial asystolic OHCA was 53.0% (95% CI: 49.0%, 58.0%; I2 = 100%). The overall pooled proportion of survivors to hospital discharge or 30-days was 1.5% (95% CI: 1.2%, 1.8%, I2 = 97%). The pooled proportion of event survivors was 11.6% (95% CI 6.5%, 17.8%, I2 = 99%), the pooled proportion of prehospital ROSC was 16.0% (95% CI 14.0%, 17.0%, I2 = 100%) and the pooled proportion of neurologically favourable survival at longest follow-up was 0.6% (95% CI 0.5%, 0.8%, I2 = 100%). The overall pooled incidence of EMS-treated asystolic OHCA was 11.0 cases per 100,000 person-years (95% CI: 10.5, 11.5, I2 = 100%). In stratified analysis of survival to hospital discharge or 30-days, population type, study duration, study design and aetiology were the only variables that were significantly associated with survival to hospital discharge or 30-days. In adjusted analysis, population type, study duration, highest EMS skill level and region were significantly associated with the primary outcome. In the multivariable analysis of incidence, study region, arrest aetiology, sample size, year of publication, study population, study duration and study quality significantly explained variation in incidence across studies.

CONCLUSION: Initial asystolic OHCA made up 53% of all EMS-treated patients and pooled survival rates were extremely poor. Research efforts in this population should focus on developing prevention strategies as well as adherence to termination or withholding of resuscitation guidelines for asystolic OHCA.

DOI: 10.1016/j.resuscitation.2025.110629

PMID: 40324517

4. Acad Emerg Med. 2025 May;32(5):553-569. doi: 10.1111/acem.70012. Epub 2025 Mar 7.

Global emergency medicine: A scoping review of the literature from 2023.

Hexom BJ(1), Quao NSA(2), Bandolin NS(3), Bonney J(4)(5), Broccoli MC(6), Collier A(7)(8), Dawson-Amoah NA(9), Dyal J(10), Kampalath V(11), Lee JA(12), Rees CA(13), de Oliveira Salvador GL(14), Strong JM(6), Kivlehan SM(6)(15); Global Emergency Medicine Literature Review (GEMLR) Group.

OBJECTIVE: The Global Emergency Medicine Literature Review (GEMLR) highlights the highest-quality research addressing emergency care in resource-limited settings (ECRLS). This 18th edition reviews global emergency medicine (GEM) literature published during 2023.

METHODS: A scoping review of GEM articles published in 2023 was performed using a systematic PubMed search and manual gray literature (GRAY) search. Reviewers and editors from 10 countries screened articles utilizing case definitions of three categories of GEM research-disaster and humanitarian response (DHR), ECRLS, and emergency medicine development (EMD). After duplicates and those not meeting authorship equity and ethical review requirements were removed, articles were scored according to rubrics for original research (OR), review articles (RE), and GRAY. Those in the top 5% from any category were summarized and critiqued in narrative review.

RESULTS: There were 58,291 articles identified in the main search and 11,035 in the GRAY search. A total of 825 articles from the main search and 37 GRAY articles screened in and were scored. Fifty-five main search articles and one GRAY article were included after scoring, a 52.8% increase from 2022 despite <1% change in search volume. ECRLS remained the largest category (63%). As in previous years, articles frequently addressed emergencies in pediatrics (10 articles), trauma (9), prehospital care (8), maternal/neonatal care (6), education/training (6), disaster medicine (4), and airway/sedation management (4). A total of 3.5% of screened-in articles failed to meet GEMLR's new authorship equity and ethics standards.

CONCLUSIONS: The quantity and quality of GEM research continues to grow as measured by the GEMLR scoring system. A revised search string identified relevant GEM articles with broad application in global settings. New equity guidelines were successfully implemented. This review summarizes the highest quality current GEM research while providing evolving guidelines for best practices in performing this important and rapidly growing work.

DOI: 10.1111/acem.70012

PMCID: PMC12077061

PMID: 40052382 [Indexed for MEDLINE]

Journal report – květen 2025

5. Appl Ergon. 2025 May;125:104459. doi: 10.1016/j.apergo.2024.104459. Epub 2024 Dec 24.

Profiling paramedic job tasks, injuries, and physical fitness: A scoping review.

Marsh E(1), Orr R(2), Canetti EFD(2), Schram B(2).

INTRODUCTION: The aim of this review was to identify, collect, appraise, and synthesise research profiling paramedic job tasks, injuries sustained, and current fitness levels, to guide optimal workplace performance and enhance injury mitigation efforts.

METHODS: Following the Preferred Reporting Items for Scoping Reviews, four databases (PubMed, SPORTdiscus, CINAHL, and Embase) were searched using key search terms (derivatives of 'paramedic' and 'injury', 'physical fitness' and 'tasks'). Identified records were screened against eligibility criteria with remaining studies critically appraised.

RESULTS: Of 1675 identified records, 33 were retained. Musculoskeletal injuries exhibited the highest mean injury rate, with sprains and strains the predominant nature of injury, and the back the most frequently injured body part. Among paramedics, handling stretchers and equipment posed the most challenging tasks while for Emergency Medical Services patient extraction was the most physically and mentally demanding task. Male paramedics were generally stronger with more muscular endurance, but less flexibility, than female paramedics. Older paramedics displayed lower levels of strength and flexibility.

CONCLUSION: Tasks involving stretcher handling and patient extraction are reported as being most strenuous for paramedics leading to musculoskeletal injuries, particularly sprains, strains, and back injuries.

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PMID: 39721288 [Indexed for MEDLINE]