

Beyond the Sirens: The Evolving Identity of Prehospital Emergency Nursing

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The changing landscape of prehospital emergency care

The recent passing of actor Randolph Mantooth prompted many emergency clinicians to reflect on the television series “Emergency!”, which in the early 1970s introduced millions of viewers to one of the earliest models of modern emergency medical services (EMS) (Frankel, 2026). Although dramatized, the series portrayed a revolutionary concept for its time: emergency care did not begin at the hospital door but at the patient's side, with field clinicians delivering increasingly sophisticated interventions in close collaboration with hospital teams. More than fifty years later, that vision has evolved into a complex healthcare system. Advances in clinical practice, demographic transitions, technological innovation, and different patterns of healthcare utilization have transformed EMS from a service focused on transport into an integrated component of healthcare systems (Kupas et al., 2024).

This transformation of EMS has also reshaped the identity of prehospital emergency nurses, whose role now extends beyond traditional ambulance care towards advanced clinical practice, emergency medical dispatch, resource coordination, research, leadership,

and innovation across the emergency care continuum.

An evolving professional identity

The evolution of prehospital emergency nursing has not been characterized simply by the acquisition of new technical skills, but by the progressive integration of advanced clinical expertise and autonomous decision-making into increasingly complex interprofessional systems of care (Zahorka et al., 2026). Delivering contemporary prehospital care requires specialized postgraduate education, continuous professional development, and extensive clinical experience, enabling nurses to assess patients' conditions, initiate time-critical treatments, and make complex decisions in unpredictable, resource-limited environments. Decisions are frequently made in the absence of definitive diagnostic information, demanding clinical judgement, adaptability, and the ability to balance risks and benefits in a limited timeframe.

At the same time, the nature of prehospital emergencies has fundamentally changed. Alongside trauma and acute medical conditions, EMS increasingly care for older adults with frailty, patients with multiple chronic conditions, individuals with mental health issues, and people

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whose healthcare needs are closely associated -when not overlapped- with social vulnerability. Unlike most healthcare professionals, they operate at the intersection between hospital care, community services, and public health, often becoming the first clinicians to assess patients within their own social environment. This unique position requires not only technical expertise but also communication, ethical judgement, interprofessional collaboration, and the ability to identify the most appropriate care pathway for each individual. In this expanded out-of-hospital setting, prehospital emergency nurses increasingly work to connect patients with the most appropriate resources across a care continuum that often begins with an emergency phone call.

Emergency medical dispatch: when care begins with a call

Emergency medical communication centers provide one of the clearest examples of the evolving identity of prehospital emergency nursing. Traditionally perceived as a logistical activity, mainly focused on call-taking and ambulance deployment, emergency medical dispatch has progressively evolved into a specialized field of remote clinical practice. The 2025 European Resuscitation Council Guidelines formally recognized the role of dispatchers as an essential component of the Systems Saving Lives framework (Semeraro et al., 2025).

Dispatch nurses perform structured clinical assessment, prioritize risk, identify time-critical conditions, allocate appropriate resources, and deliver evidence-based pre-arrival instructions that can be lifesaving in conditions such as cardiac arrest, choking, severe bleeding, or childbirth (Imbriaco et al., 2025, 2026). Clinical decisions are made within seconds, relying exclusively on information provided by callers who are often distressed, panicked, or unable to correctly describe the patient's condition. This form of "help from a distance" requires clinical expertise, communication skills, and the ability to translate complex clinical knowledge into clear and actionable instructions for lay rescuers (Imbriaco & Ramacciati, 2024).

Increasingly, the role of dispatch extends beyond the initial emergency response. The emergency call often represents the first point of contact for patients, families, and bystanders

experiencing one of the most stressful moments of their lives. Emerging evidence suggests that support should not necessarily end when the ambulance arrives. Post-event information, debriefing, and psychological support for bystanders involved in out-of-hospital cardiac arrest are increasingly recognized as important components of person-centered emergency care, although their implementation remains inconsistent across EMS systems (Sajjad et al., 2026; Imbriaco et al., 2026).

Advanced prehospital nursing practice in the field

The evolving role of prehospital emergency nurses is also reflected in the advanced care delivered at the patient's side. In many EMS systems, prehospital emergency nurses operate within advanced protocols that enable early assessment and treatment of pain, as well as other time-critical conditions, when minutes can substantially influence outcomes (Ferri et al., 2022; Sandroni et al., 2025). Their contribution extends from the initial stabilization of critically ill or injured patients to the early activation of dedicated pathways for conditions such as major trauma, stroke, acute coronary syndromes, sepsis, and cardiac arrest (Bjöhle et al., 2024; Imbriaco et al., 2025). Additionally, the increasing opportunities offered by telemedicine connect prehospital assessment directly with specialized hospital services, allowing diagnostic and therapeutic processes before the patient reaches the emergency department (Hohenstein & Nix, 2026; Schröder et al., 2024).

Such models depend on effective interprofessional collaboration. Nurses, physicians, paramedics, dispatchers, and hospital teams contribute different but complementary expertise to a continuum in which information, decisions, and responsibilities must move rapidly across settings. Advanced nursing practice should therefore not be viewed simply in terms of increased professional autonomy, but as the capacity to exercise that autonomy within an integrated system of care.

Prehospital emergency nursing, research, and professional identity

Research represents one of the most powerful

means of making the contribution of a profession visible and measurable. Despite the expanding responsibilities of nurses across emergency medical systems, their specific impact on patients, communities, and healthcare organizations often remains difficult to demonstrate. Traditional EMS indicators, such as response times, mortality, or transport rates (Murphy et al., 2016), are essential but may not fully capture the contribution of nursing assessment, clinical decision-making, communication, coordination, patient safety, and continuity of care. Developing and evaluating specific nursing-sensitive outcomes may therefore provide a more concrete representation of the contribution of prehospital emergency nurses and identify areas where nursing practice can improve the quality and effectiveness of care.

Research should also contribute to defining the competencies, educational pathways, and models of practice required for contemporary prehospital emergency nursing, while generating evidence to inform organizational decisions and health policy (Nilsson et al., 2020; Notarnicola et al., 2025). Strengthening research capacity within the profession means moving beyond being providers of care to becoming active producers of the evidence that shapes that care (Böbel et al., 2025; Kupas et al., 2024). Demonstrating the contribution of nurses is ultimately essential to strengthen the professional identity of prehospital emergency nursing, support its recognition within healthcare systems, and make this challenging field attractive to future generations.

Looking ahead, beyond the sirens

This evolution reflects a wider transformation of prehospital emergency nursing, from delivering urgent clinical interventions to providing continuity of care. In the field, prehospital emergency nurses combine advanced emergency care with the early recognition of time-critical conditions and activation of dedicated pathways, connecting care at the patient's side with definitive hospital treatment. In emergency medical dispatch, nurses guide bystanders through cardiopulmonary resuscitation, coordinate emergency resources, and increasingly facilitate access to post-event support, contributing not only to clinical outcomes but also to the quality and humanity of modern emergency care.

The identity of prehospital emergency nursing continues to evolve alongside the healthcare systems it serves. Ensuring that this evolution is guided by evidence, innovation, and professional leadership is one of the defining challenges—and opportunities—for the coming decades.

We hope this Special Issue will contribute to that journey by showcasing research that not only advances practice, but also strengthens the identity of a profession that has long worked beyond the sirens.

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Contributors

Guglielmo Imbriaco: Conceptualization, Investigation, Writing – Original Draft, Writing – Review & Editing. Nicola Ramacciati: Conceptualization, Supervision, Validation, Writing – Review & Editing.

Generative AI Disclosure

During the preparation of this manuscript, the authors used ChatGPT (OpenAI) to improve language and readability. Following the use of this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

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