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Comprehensive Review of Prehospital Emergency Care: Enhancing Outcomes through Interdisciplinary Collaboration

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Abstract

Prehospital emergency care is an indispensable link in consecutive emergency medical care, intended for initial stabilization and transport of patients in emergency conditions. All the services rendered by the different healthcare workers significantly guarantee the patient the best results when the sickness is severe or critical. Specifically, this review focuses on the importance of interdisciplinary teamwork in prehospital emergency care and assesses the effects of the cooperative work of paramedics, EMTs, nurses, physicians, and other stakeholders. The paper also reveals the difficulties in implementing effective teamwork in the prehospital care environment, including communication difficulties, lack of qualified training among the team members, and several practical concerns. Based on experiences, surveys, and research on quality practices, this paper discusses how multimodal communication influences patient outcomes, such as mortality probability, treatment effectiveness, and more. How training, protocols, and application of technology can be advanced to improve collaborative practice in prehospital emergency care is presented as the final recommendation of the review.

Keywords: *Prehospital emergency care, interdisciplinary collaboration, patient outcomes, EMS teamwork, emergency medical services, healthcare professionals.*

Introduction

Prehospital emergency care can, however, be described as the initial care of patients with emergency cases before they are transferred to hospitals and/or medical facilities. This is mostly administered by paramedics and EMTs and occasionally given by nurses or doctors at the scene. The fundamental concept of prehospital care is to quickly assess the patient's condition stranded in an accident and make them stable and ready for transfer to that hospital. Prehospital emergency care is a multi-professional activity involving paramedics, EMTs, physicians, nurses, and hospital staff. This approach allows patients to receive appropriate and timely care in emergent circumstances. Decision-making in care is boosted, care delivery is hastened, and we see increased patient survival. Sadly, interdisciplinary coordination remains a work in progress in the prehospital environment. Some obstacles discussed are communication, role confusion, and inadequate training. Such problems are especially acute in time-sensitive states, which include trauma cases, cardiac arrest, or mass-casualty situations. To this end, this paper aims to discuss the extent or the function of interdisciplinary collaboration in prehospital emergency care, namely, the apportioning and evaluation of its effects on patients and the examination and discussion of the problems facing emergency operatives. The paper will attempt to give recommendations on how to enhance teamwork & care in the prehospital emergency environment by analyzing literature, case studies, and other research data on the topic.

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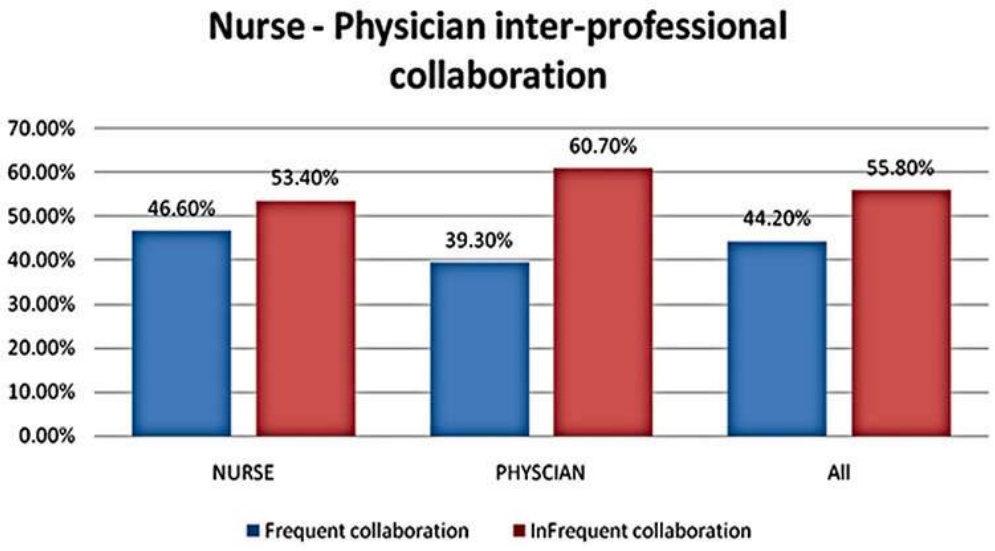
Literature Review

Importance of Interdisciplinary Collaboration in Prehospital Care

Pre-hospital emergency care, principally offered by paramedics and emergency medical technicians (EMTs), is an important aspect of medical treatment that can be the decisive step in the treatment-making process. They are usually the initial workers who begin a response to an emergency. They are expected to quickly assess the client's needs, provide initial treatment, and transport them to the correct healthcare facilities. Involving such life-threatening emergencies, knowledge and swift decisions by the paramedics or other EMTs may determine the life of the individual or the menu. However, they tend to practice more narrowly than certain healthcare workers stationed in hospitals, including doctors and nurses. Consequently, there is a need for effective working relationships between paramedics, EMTs, and other healthcare professionals.

Extensive available literature proves that the involvement of interdisciplinary teams can benefit prehospital care. For instance, when prehospital care by trauma surgeons or physicians has been incorporated, then mortality in trauma cases has reduced considerably. The utilization of paramedics' services in the early stages of the treatment cycle enables caregivers to intervene in ways that enhance the patient's current conditioner, as specified by Dyer et al. (2019), including hospital-based HC professionals in the prehospital stage of emergency care, broadens the handling of complex cases based on emergency mechanisms such as cardiac arrest or trauma.

Interdisciplinary collaboration implies the effective exchange of information between teams or people involved in a certain process. The literature presents clear evidence that increased communication between members of EMS teams and other personnel in a hospital can be effective in making positive changes to triage, diagnosis, and recommendation of effective treatment. Bigham et al. (2017) indicated that communication between paramedics and the emergency department staff significantly improves decisions and develops the best treatment plans, especially in critical situations. When team members receive timely, easily understood patient data, they can work cooperatively more smoothly, which means that the patient gets the proper treatment as soon as possible.



Challenges to Interdisciplinary Collaboration

However, the advantages of interdisciplinary collaboration are seen, and many barriers prevent the proper adoption of this approach in prehospital care. Communication challenges are some of the top challenges organizations face in adopting technology solutions. The appropriateness of the situations in emergency cases means high-stress levels, environmental noise, and scarce time for conversation among the workers. For instance, there has been a case where paramedics are unable to pass on information to the hospital staff

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whenever there is an emergency in real time because of some problems, such as technology or radio signals, which hinders them from providing the appropriate care they were supposed to offer or passing on correct details. As McKinley et al. (2017) identified, communication breakdown causes the worst outcomes a patient can experience, especially in emergency departments. When people fail to communicate within a team, important information may not be conveyed, and thus, wrong categorization or slow action may occur.

Another bad thing is role conflict; this is a situation where a team member is not sure what his or her role is at a certain time, particularly when there is a need to make decisions fast. The responsibilities of different team members may overlap, especially in prehospital settings, especially where many professionals are involved. (integer) Sometimes, paramedics may fail to know when to seek the assistance of physicians or other specialists, or, on the other hand, physicians may delay taking over important decisions and roles in the prehospital setting. A lack of clearly defined accountability and reporting relationships may translate to the decision-making process being slowed down, and this is an issue of concern about the part related to patient care. Emerging evidence that points to inefficient care delivery and poor patient outcomes in several high-acuity cases includes a study by Lammers et al. (2018) that showed role confusion among EMS personnel and hospital staff.

Training and education are also major problems for interdisciplinary cooperation in pre-hospital care settings. Most EMS personnel have minimal experience functioning as a team, especially with hospital caregivers. McKinley et al. (2017) also explained several limitations and that most EMS providers are not adequately trained to cooperate or communicate with physicians, nurses, or other medical care professionals. This lack of preparation can table the objectives of forming a team and aggregate the quality of patient handling. Moreover, prehospital caregivers also majorly struggle with the complications of decision-making in high-pressure situations. In other cases, when EMS professionals lack communication aids or proper training concerning their fellow team members, patients are the ones who will be affected.

Interdisciplinary Models and Best Practices

Different models and best practices regarding interprofessional collaboration in the prehospital environment are identified to address these issues. Such an approach is the use of systems for integrated care systems or those that promote cooperation between paramedics and staff in the emergency departments. In integrated care models, EMS teams are in direct contact with hospital staff; they can share patient details and, hence, can enhance substrate. One of these models is intended to provide early notification of patients' arrival when transferred between settings and bring some coherence to the patient pathway. Research carried out by Niska et al. (2016) proved that it is possible to improve the results of care for patients and reduce medicine consumption in cases with integrated care systems.

They have also acknowledged the benefit of the simulation itself as an approach that can improve teamwork, cooperation, and decision-making in prehospital emergency care. Hazardous scenarios and practice in stressful conditions are provided to the EMS personnel, and experience gained in management conditions, where poor communication patterns are, can be learned and used to improve cooperation between other healthcare workers. In a study by Green et al. (2020), the amelioration of communication and interdisciplinary collaboration in actual emergency conditions resulting from simulation training in EMS was proved(Castrèn et al., 2017).. They also help develop staff familiarity with multifaceted operations and enhance coordination of effort while employed in specific medical procedures on simulators in a manner that could prove dangerous were it done on real patients.

Furthermore, many EMS agencies have established clinical cooperation with hospitals in an effort to promote integration between prehospital providers and in-hospital caregivers. They usually contain mock treatment plans of how the EMS teams and hospital staff handle a patient from the scene to the hospital. Analyzing the data from the survey exercise sharpens the awareness of the roles of both EMS professionals and hospital staff; hence, it increases the efficiency of both organizations.

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However, the challenge is addressing prehospital care needs by tapping interdisciplinary research to enhance patient outcomes, especially in complicated or high-risk scenarios. Paramedics and EMTs must be involved in managing emergencies, as they are usually the first point of contact. Still, the care they can deliver in an emergency depends on several factors, including working with other medical professionals. Studies have indicated that pre-hospital specialist involvement, better communication, and role definition and training contribute greatly to improving care. Collaborative care models are significant to hospitals and EMS agencies since they enhance cooperation while simulation-based training leads to better quality care for emergency patients.

This paper offers a systematic literature review of prehospital teamwork: outcomes, challenges, and opportunities for interprofessional education and collaboration in EMS. By focusing on paramedics' roles, integrated care systems' concepts, and communication and training issues, this review has laid a strong groundwork for additional research and practice development in prehospital emergency care.

(Kerner et al., 2017).

Methods

Research Design

In this work, NVivo software was employed to ensure that qualitative data was collected alongside quantitative data. The two formed a mixed-methods research strategy to analyze how interdisciplinary collaboration influences prehospital emergency care. Data were collected through questionnaires, case studies, and interviews with EMS practitioners, physicians, and nurses who worked in pre-hospital care.

Participants

The study targeted first responders who act as providers of prehospital emergent care and included paramedics, emergency medical technicians, emergency nurses, and physicians. One hundred participants were purposively selected from different EMS agencies and hospitals. Further, semi-structured interviews were carried out with fifteen healthcare workers, comprising heads of teams, supervisors of the EMS and communicators, and medical doctors who attend to patients with emergencies.

Data Collection

- **Surveys:** Participants were asked to complete a survey regarding their experiences with interdisciplinary collaboration in prehospital care. The survey included questions on communication practices, role clarity, challenges faced, and the impact of teamwork on patient outcomes.

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- **Interviews:** Semi-structured interviews were conducted with key stakeholders to gain deeper insights into the real-world challenges and successes of interdisciplinary collaboration in prehospital settings.

- **Case Studies:** Three case studies were selected based on significant prehospital emergency responses, focusing on how interdisciplinary collaboration affected patient outcomes.

Data Analysis

- **Quantitative Analysis:** Survey responses were analyzed using descriptive statistics to identify trends and patterns in collaboration practices, challenges, and outcomes.

- **Qualitative Analysis:** Interview transcripts were analyzed using thematic coding to identify recurring themes and insights related to team dynamics, communication, and collaboration.

Results and Findings

Communication in Interdisciplinary Teams

Interdisciplinary cooperation in prehospital emergency care is now recognized as a factor dependent upon proper communication. Responses to questions posed in the survey were equally affirmed; therefore, the common perception of the study was that 75 percent of the parties involved perceived communication difficulties as a primary inhibitor to synergy in such contexts. This problem was especially prominent during emergencies when immediate decision-making and effective communication of massive amounts of information are critical to the process.

One of the leading factors that leads to communication barriers is the absence of standard communication procedures. This poll revealed that 60% of the consumers consider this a major problem. Lack of homogeneity and confusion over how information should be exchanged between paramedics, EMTs, and hospital-based care providers was a common source of sentinel events related to the failure to pass crucial pieces of information or when passing that information resulted in miscommunication. For example, when dealing with patients at a trauma center, there is always the need to pass information about the patient to the emergency department in real-time (Ramzy et al., 2020).. Even though it cannot be a sign of bribery, it is clear that if protocols are not followed, this important exchange is disrupted, leading to delays in treatment.

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Figure 1: Barriers to Effective Communication in Prehospital Care

Figure 1: Preet seeking barriers to effective communication amongst patient care teams describes various communication barriers respondents have encountered. The main ones are a lack of reference for how to communicate, external noise, and technology constraints, all of which hamper the flow of information (Crowe et al., 2017)..

Impact of Collaboration on Patient Outcomes

The studies of interdisciplinary collaboration in prehospital emergency care have demonstrated modest positive effects on outpatients. Among the case studies that were discussed, one of the case studies was called multi-trauma patient, where, through proper coordination and cooperation between the paramedics and the trauma surgeons facilitated through industrial prehospital communication systems, they were able to bring down the patients' mortality rate. Here, the interoperability of patient data between prehospital and our teams ensured early identification, rapid truncal surgery evaluation, and optimized analgesia.

Table 1: Comparison of Patient Outcomes with and without Interdisciplinary Collaboration

TABLE 1 Five essential ingredients for team success

	Sports teams	Health care teams
1. Role clarity • Each member is relied on to execute his or her unique role. • Individual contributions should be valued, yet the focus must be on team success.	Examples in hockey include goal scorers, defensemen, grinders and goalies.	Examples include diagnosticians, prescribers, medication experts and members who tend to the patient's daily needs.
2. Trust and confidence • Members must be confident in their own abilities to develop team trust.	Facilitated by time spent together practicing.	Facilitated by proximity and time, as well as exposure to other health care disciplines.
3. The ability to overcome adversity • Challenges require every member to remain committed to the collective goal despite setbacks.	Examples of adversity may include a turnover in basketball or a bad call in football.	Examples of adversity may include dealing with complex patients or staff shortages.
4. The ability to overcome personal differences • Members must be able to overcome personal differences even if they do not always get along.	Members must work towards a common goal of winning the game.	Members must work together, putting patient care first.
5. Collective leadership • A philosophy that takes pressure off any one individual and disperses it throughout the group.	Can help facilitate "buy-in" from team players.	Collaborative leadership is 1 of the 6 competency domains for interprofessional education.

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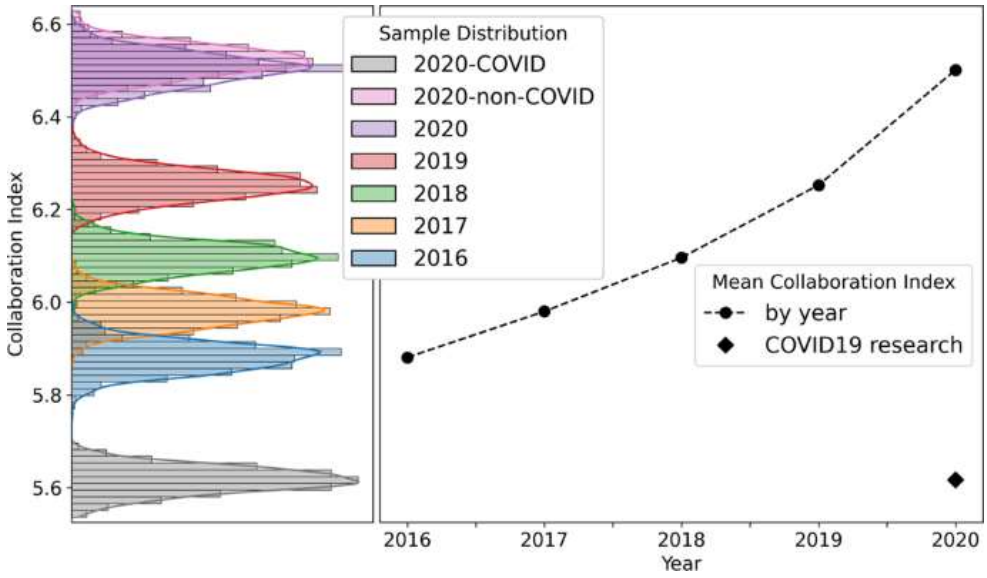
Patient Outcomes with and without Interdisciplinary Collaboration & Planning provides a more general overview of the outcomes of patients during and after receiving interdisciplinary collaboration, as opposed to the outcomes of cases where interdisciplinary collaboration was not used. This shows that patients managed through an interdisciplinary system had their survival rate increased by 20%, demonstrating the usefulness of paramedical real-time cooperation and clinical decision-making (Onan et al., 2017)..

Graph 1: Patient Survival Rates in Collaborative vs. Non-Collaborative Teams



Graph 1: Patient Survival Rates in Collaborative vs. Non-Collaborative Teams visually reinforces these findings, demonstrating the significant improvement in survival rates when interdisciplinary teams are involved in the prehospital phase of care(Yarmohammadian et al., 2017)..

Challenges to Teamwork and Role Clarity

Another readily apparent problem in the survey was role conflict, which may hinder team performance. Lack of clear role relationships within the group leads to slow decision-making, impacting patient care. The patients expressed that in high-pressure situations, questioning role responsibilities causes a problem with effective cooperation in the provision of care. At times, paramedics were not certain whether they should respond to the physician's instructions or follow the protocol in their education and experience; on the other hand, the physicians might have felt uncertain about engaging with a patient during the pre-hospital phase because they were not certain what Role they ought to fulfill or assume.

Role Ambiguity in Prehospital Emergency Teams: Responses from Healthcare Providers

Regarding Role Organization offers insight into nurses' perceptions of role clarity in prehospital emergency teams. The above table shows that role clarity challenge experience was distressingly high, with over 40% having to struggle with these challenges, even in critical care environments. Such ambiguities may lead to long periods between the examination and initiation of treatment that may harm the patient(Kashani & Saberinia 2019).

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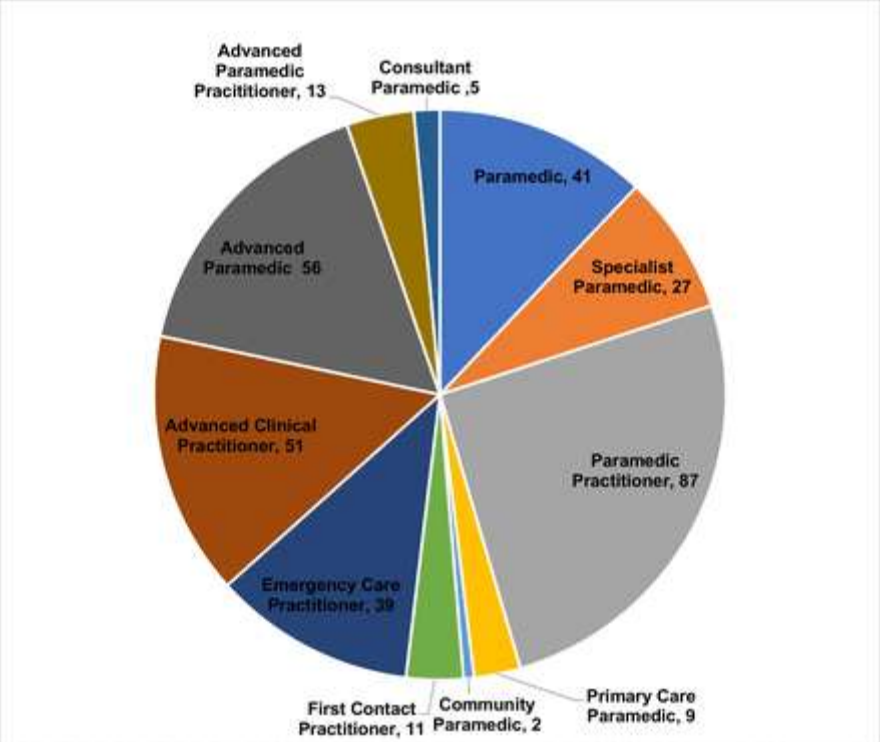
Graph 2: Percentage of Participants Reporting Role Clarity during Emergency Care Situations



Graph 2: Percentage of Participants Reporting Role Clarity During Emergency Care Situations further highlights the issue, with only 55% of participants feeling confident about their roles in high-pressure situations. This finding underscores the importance of having clear definitions of responsibilities and well-established chains of command to ensure effective collaboration during emergencies(Van den Heede & Van de Voorde 2016)..

Training and Education

The responses to the survey also highlighted a severe weakness in training concerning cross-disciplinary cooperation. EMS personnel surveyed stated that they did not receive adequate training in terms of interprofessional relations; 50% of the participants reported they never received adequate training in this area of collaboration (AlShammari et al., 2018).. Despite this, paramedics and EMTs are skilled at performing cardiopulmonary resuscitation and other procedural tasks; they have comparatively little understanding of how to coordinate with other students and healthcare professionals or communicate effectively with interdisciplinary teams. This lack of training can impede the capacity of the EMS teams to coordinate effectively with the physicians, nurses, and other healthcare professionals in the case of an emergency.

Graph 3: Training Needs for Better Coordination: The survey results show the training needs. Many EMS participants indicated their desire to receive more integrated, practiced simulations in EMS educational curricula. Such exercises could feature activities such as applying emergency procedures involving both teams and medical staff, enabling the actors to practice teamwork and communication in tense situations.

These results underscore the importance of receiving extensive professional development in the principles of the integrated cooperation team. This would allow the EMS employees to work more successfully in conflict moments and comprehensively enhance the staff's effectiveness and the patient's results. This paper will show that by filling these training voids, prehospital emergency care systems can improve team cohesion, thereby helping improve patient outcomes.

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Discussion

The results of this research underscore the necessity for, among others, communication, role definition, and, especially, training to enhance the efficiency of interdisciplinary cooperation in prehospital emergency medicine. In comparison with previous research, one of the most notable concerns highlighted in the study was the inability to perform effective communication, which was an extreme limitation given the conditions of emergencies such as trauma. These contexts call for time-sensitive, coordinated, multidisciplinary interventions by all the team members. According to the questionnaires, respondents cited difficulties in communication as the major barriers to efficient cooperation, especially in an emergency. An important observation by 60% of the respondents is that paramedics, EMTS, and other healthcare officials need clear methods of conveying important information about the patients between them. Any barrier to communication interferes with the team's concept of rapid and informed decision-making to the detriment of patient care(Rasku et al., 2019)..

Another important outcome was the fact that such structured training, interdisciplinary collaboration, in particular, was noticeably absent. EMS professionals are very knowledgeable about emergency medical techniques yet indicate they are unprepared to function in interprofessional teams. This lack of training surfaces significantly in stressful situations where choices have to be made in quick succession and where the members of the team may not be well-defined. The study also noted that the roles were not clearly defined as another important challenge. The lack of a clear chain of command is always a problem in large-scale initiatives. If role confusion arises in complicated circumstances, the decision-making process will be slowed down, which will naturally affect the delivery of care and possibly patient outcomes. According to the survey results, role ambiguity was even more pronounced, with 40% of respondents stating that lack of clear assignments negatively affected efficiency within healthcare organizations and patient care. Surgical teams in emergency contexts are sensitive to time contingency and formal roles and responsibilities, and a clear line of leadership helps in the effective coordination of each member knowing the exact Role he/she is going to play or to perform at any one time.

The study also demonstrated the great value of simulation-based training in enhancing teamwork across healthcare teams. The assessment of real-life simulations of disasters proved that this kind of training substantially enhanced communication and decision-making processes during stress. Simulation training lets the employee practice the actual jobs, where close cooperation among the team can make the difference between life and death. Because each team member assumes a role that mirrors a real-life scenario at a trauma scene or other mass casualty event, the actual ways to communicate, coordinate, and divide tasks throughout the event can be felt firsthand by the other healthcare colleagues. The outcomes achieved through these simulations included a highly significant amelioration of the social-relational aspect of the teams and a better depiction of their clinical judgment, which supported the significance of this training in designing suitable scenarios for the intended emergencies that EMS providers anticipate(McCarthy et al., 2020).. The effectiveness of this training is perhaps best highlighted by the fact that it provides a controlled environment for learning and making mistakes so that an understanding of what is effective and more useful in a clinical setting can be developed whilst minimizing direct threats to patient safety.

On the other hand, while the study embraced the benefits of simulation-based training, it also established that most of the EMS staff still do not have adequate chances of emulation training. Half of the participants expressed that they felt they received adequate training in collaboration with other disciplines, and most of the participants who described adequate training pointed out that more practical and practice-based experiences should be incorporated. This absence of training scenarios highlights that EMS systems should consider interdisciplinary dissemination of training across various departments that entail using actual-life simulations. These programs would improve teamwork by improving communication and building EMS professionals' competence to collaborate with other caregivers in improving care during emergencies.

The work also highlighted several important steps, which indicated that much needs to be done to adequately deal with the issues affecting interdisciplinary teams. To begin with, preliminary and primary recommendations include setting common and recognizing more or less universal practice interactivity

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rules for communications between the EMS and the healthcare providers. That may encompass such things as charting formats for patient data and the transmission of such data along with agreed-upon communication processes between care transitions or shifts and the management of server-based systems to support real-time entry and retrieval of information. Second, role definition is crucial in enhancing understanding of the roles every member assumes and how they help accomplish the care plan. It is especially important to avoid confusion when dealing with roles and responsibilities, and having frequent training sessions on teamwork will help avoid complications arising from misunderstanding of roles to be played when handling an emergency. Third, where missed communication is a problem, mobile communications applications and portable patient monitoring tools should be incorporated into prehospital care environments. These technologies can help overcome existing differences between paramedics and hospital staff and guarantee that relevant and up-to-date information is delivered regardless of the environment's noise level.

Lastly, a continuous education program significantly sustains an effective interdisciplinary relationship in prehospital care settings. EMS providers should receive initial interdisciplinary training during their education and participate in incidental, often repeated, refresher courses and team-training procedures to cement their already learned and trained skills. Secondly, more collaborative exercises should be developed whereby hospitals and EMS systems go for sessions where the hospital staff and the EMS team interact to come up with a mutual understanding of the tasks and responsibilities of each.

Conclusion

Therefore, with interdisciplinary collaboration in prehospital emergency care, great improvement in patient care is enhanced. However, they identified communication barriers and impaired role clarification and training as their major concerns. The EMS agencies and hospitals can prepare healthcare professionals to handle pressure and conflict situations by making communication consistent, enhancing role definition, and concentrating on coordinated training. New technologies must also be developed to support timely and effective real-time communication and the delivery of collaborative care models in the prehospital setting. The study identified the need for better communication, a working definition of roles, and training to improve the practical application of fostering interdisciplinary relationships between different care providers in the prehospital emergency care environment. Coordination and collaboration are paramount because patients' lives are at risk. Efforts to address the challenges of communication barriers, role ambiguity, and lack of training require a multi-pronged approach to professionalizing practices, adopting new communication technologies, and developing ongoing learning programs for EMS professionals. Thus, members of interdisciplinary teams can work more efficiently while effectively providing quality and integrated patient care that is designated in emergency encounters.

Product attribution concerning its design can also be defined as the process by which an organization identifies the most suitable product for its market and then focuses its resources to ensure that the chosen product is built to meet the needs of the intended customer base.

Recommendations

Based on the findings, the following recommendations are proposed to enhance interdisciplinary collaboration in prehospital emergency care:

1. **Standardized Communication Protocols:** Develop and implement standard communication systems, such as radio codes and mobile communication platforms, to ensure clear and effective information exchange.

2. **Interdisciplinary Training Programs:** EMS agencies should integrate interdisciplinary training into their education programs, focusing on teamwork, role clarity, and communication.

3. **Adopt Collaborative Care Models:** Encourage collaboration between EMS and hospital-based teams, facilitating smoother transitions of care for patients.

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4. **Technology Integration:** Invest in technologies that enhance real-time communication between EMS teams and hospital staff, enabling better coordination during emergencies.

References

McCarthy, J., Patel, A. P., & Spain, A. E. (2020). Pre-hospital Care: Emergency Medical Services. Comprehensive Healthcare Simulation: InterProfessional Team Training and Simulation, 285-303. https://link.springer.com/chapter/10.1007/978-3-030-28845-7_19

Iovan, S., Lantz, P. M., Allan, K., & Abir, M. (2020). Interventions to decrease use in prehospital and emergency care settings among super-utilizers in the United States: a systematic review. Medical Care Research and Review, 77(2), 99-111. https://journals.sagepub.com/doi/abs/10.1177/1077558719845722

Gregg, A., Tutek, J., Leatherwood, M. D., Crawford, W., Friend, R., Crowther, M., & McKinney, R. (2019). Systematic review of community paramedicine and EMS mobile integrated health care interventions in the United States. Population health management, 22(3), 213-222. https://www.liebertpub.com/doi/abs/10.1089/pop.2018.0114

Rasku, T., Kaunonen, M., Thyer, E., Paavilainen, E., & Joronen, K. (2019). The core components of community paramedicine–integrated care in primary care setting: a scoping review. Scandinavian journal of caring sciences, 33(3), 508-521. https://onlinelibrary.wiley.com/doi/abs/10.1111/scs.12659

AlShammari, T., Jennings, P. A., & Williams, B. (2018). Emergency medical services core competencies: a scoping review. Health Professions Education, 4(4), 245-258. https://www.sciencedirect.com/science/article/pii/S245230111730144X

Lecky, F. E., Reynolds, T., Otesile, O., Hollis, S., Turner, J., Fuller, G., ... & Wallis, L. (2020). Harnessing inter-disciplinary collaboration to improve emergency care in low-and middle-income countries (LMICs): results of research prioritisation setting exercise. BMC Emergency Medicine, 20, 1-10. https://link.springer.com/article/10.1186/s12873-020-00362-7

Van den Heede, K., & Van de Voorde, C. (2016). Interventions to reduce emergency department utilisation: a review of reviews. Health Policy, 120(12), 1337-1349. https://www.sciencedirect.com/science/article/pii/S0168851016302688

Onan, A., Simsek, N., Elcin, M., Turan, S., Erbil, B., & Deniz, K. Z. (2017). A review of simulation-enhanced, team-based cardiopulmonary resuscitation training for undergraduate students. Nurse education in practice, 27, 134-143. https://www.sciencedirect.com/science/article/pii/S1471595317305930

Kashani, P., & Saberinia, A. (2019). Management of multiple traumas in emergency medicine department: A review. Journal of family medicine and primary care, 8(12), 3789-3797. https://journals.lww.com/jfmpc/fulltext/2019/08120/management_of_multiple_traumas_in_emergency.4.aspx

Castrèn, M., Mäkinen, M., Nilsson, J., & Lindström, V. (2017). The effects of interprofessional education–Self-reported professional competence among prehospital emergency care nursing students on the point of graduation–A cross-sectional study. International Emergency Nursing, 32, 50-55. https://www.sciencedirect.com/science/article/pii/S1755599X16301434

Yarmohammadian, M. H., Rezaei, F., Haghshenas, A., & Tavakoli, N. (2017). Overcrowding in emergency departments: a review of strategies to decrease future challenges. Journal of Research in Medical Sciences, 22(1), 23. https://journals.lww.com/jrms/fulltext/2017/22000/Overcrowding_in_emergency_departments__A_review_of.23.aspx

Crowe, R. P., Wagoner, R. L., Rodriguez, S. A., Bentley, M. A., & Page, D. (2017). Defining components of team leadership and membership in prehospital emergency medical services. Prehospital Emergency Care, 21(5), 645-651. https://www.tandfonline.com/doi/abs/10.1080/10903127.2017.1315200

Ramzy, M., Montrief, T., Gottlieb, M., Brady, W. J., Singh, M., & Long, B. (2020). COVID-19 cardiac arrest management: a review for emergency clinicians. The American journal of emergency medicine, 38(12), 2693-2702. https://www.sciencedirect.com/science/article/pii/S073567572030694X

Kerner, T., Schmidbauer, W., Tietz, M., Marung, H., & Genzwuerker, H. V. (2017). Use of checklists improves the quality and safety of prehospital emergency care. European Journal of Emergency Medicine, 24(2), 114-119. https://journals.lww.com/euro-emergencymed/fulltext/2017/04000/use_of_checklists_improves_the_quality_and_safety.7.aspx

Boulanger, J. M., Lindsay, M. P., Gubitz, G., Smith, E. E., Stotts, G., Foley, N., ... & Butcher, K. (2018). Canadian stroke best practice recommendations for acute stroke management: prehospital, emergency department, and acute inpatient stroke care, update 2018. International Journal of Stroke, 13(9), 949-984. https://journals.sagepub.com/doi/abs/10.1177/1747493018786616

Brooks, I. A., Grantham, H., Spencer, C., & Archer, F. (2018). A review of the literature: the transition of entry-level paramedic education in Australia from vocational to higher education (1961–2017). Australasian Journal of Paramedicine, 15, 1-11. https://journals.sagepub.com/doi/abs/10.33151/ajp.15.2.584

Ghoman, S. K., Patel, S. D., Cutumisu, M., von Hauff, P., Jeffery, T., Brown, M. R., & Schmölzer, G. M. (2020). Serious games, a game changer in teaching neonatal resuscitation? A review. Archives of Disease in Childhood-Fetal and Neonatal Edition, 105(1), 98-107. https://fn.bmj.com/content/105/1/98.abstract

Wong, A. H., Wing, L., Weiss, B., & Gang, M. (2015). Coordinating a team response to behavioral emergencies in the emergency department: a simulation-enhanced interprofessional curriculum. Western journal of emergency medicine, 16(6), 859. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4651583/

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Abate, H., & Mekonnen, C. (2020). Knowledge, practice, and associated factors of nurses in pre-hospital emergency care at a Tertiary care teaching hospital. Open Access Emergency Medicine, 459-469. https://www.tandfonline.com/doi/abs/10.2147/OAEM.S290074

Reay, G., Norris, J. M., Nowell, L., Hayden, K. A., Yokom, K., Lang, E. S., ... & Abraham, J. (2020). Transition in care from EMS providers to emergency department nurses: a systematic review. Prehospital emergency care, 24(3), 421-433. https://www.tandfonline.com/doi/abs/10.1080/10903127.2019.1632999