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**Research Article**

# Collaboration Between Nursing, Emergency Medical Technicians, and Health Assistants in Emergency and Acute Care Settings to Enhance Patient Safety

**Salem Musaad Muslim Al-Shammari[1]*, Nader Abdullah Nofal Albagawi[2], Anwar Ayyadah M Albaqawi[3], Saud Fahad Abdulrahman Altamimi[4] , Turki Nuwayji Bannay Alrashdi[5] , Khalid Mualla Alharqani[6] , Mohammed Saad Alanazi[7] , Rashed Abdulrahman S Alghanimm[8] , Nouf Fadhel Raja Alruwaili[9] , Hadi Mubarak M Alruwaili[10] , Nihal Marzouq Ayesh Alanazi[11]**

[1]Health Assistant, Health Care Security, Turbah Primary Health Care Center, Hail Health Cluster, Ministry of Health, Turbah, Hail Region, Saudi Arabia
* **Corresponding Author Email:** salem1020h12@gmail.com- **ORCID:** 0000-0002-5247-7850

[2]Health Assistant, Health Care Security, Turbah Primary Health Care Center, Hail Health Cluster, Ministry of Health, Turbah, Hail Region, Saudi Arabia
**Email:** Nader.11224466@gmail.com- **ORCID:** 0000-0002-5247-7990

[3]Health Assistant, Health Care Security, Turbah Primary Health Care Center, Hail Health Cluster, Ministry of Health, Turbah, Hail Region, Saudi Arabia
**Email:** abo_0566@hotmail.com- **ORCID:** 0000-0002-5247-0990

[4]Health Assistant, Health Care Security, Turbah Primary Health Care Center, Hail Health Cluster, Ministry of Health, Turbah, Hail Region, Saudi Arabia
**Email:** saudstm45@gmail.com- **ORCID:** 0000-0002-5247-1990

[5]Health Assistant, Health Care Security, Al-Ghazalah General Hospital, Hail Health Cluster, Ministry of Health, Al-Ghazalah, Hail Region, Saudi Arabia,
**Email:** tou41rky@gmail.com- **ORCID:** 0000-0002-5247-2990

[6]Health Security Official, Al Rawda Health Center, Hail Health Cluster, Ministry of Health, Hail, Hail Region, Saudi Arabia
**Email:** khalid8244@gmail.com- **ORCID:** 0000-0002-5247-3990

[7]Emergency Medical Technician, Jadeedah Arar Hospital, Northern Borders Health Cluster, Ministry of Health, Arar, Northern Borders Region, Saudi Arabia
**Email:** malanazi5@gov.com.sa- **ORCID:** 0000-0002-5247-4990

[8]Nursing Specialist, King Abdulaziz Specialist Hospital in Sakaka, Nursing Services, Emergency and Ambulance Department, Aljouf Health Cluster, Ministry of Health, Sakaka, Aljouf Region, Saudi Arabia,
**Email:** RAABALGHANIM@moh.gov.sa- **ORCID:** 0000-0002-5247-5990

[9]Nursing Technician, Prince Muteb bin Abdulaziz Hospital, Aljouf Health Cluster, Ministry of Health, Sakaka, Aljouf Region, Saudi Arabia
**Email:** nfalrowaili@moh.gov.sa- **ORCID:** 0000-0002-5247-6990

[10]Nurse Technician, Irada and Mental Health Hospital in Aljouf, Aljouf Health Cluster, Ministry of Health, Sakaka, Aljouf Region, Saudi Arabia
**Email:** hady.x@hotmail.com- **ORCID:** 0000-0002-5247-9990

[11]Nursing Specialist, Eradah and Mental Health Complex in Arar, Northern Borders Health Cluster, Ministry of Health, Arar, Northern Borders Region, Saudi Arabia
**Email:** Nihalma@moh.gov.sa- **ORCID:** 0000-0002-5247-0590

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**Abstract:**

Collaboration among nursing staff, emergency medical technicians (EMTs), and health assistants in emergency and acute care settings is crucial to enhancing patient safety. These healthcare professionals bring diverse skills and knowledge to the team, enabling a comprehensive approach to patient care. For instance, nurses are often tasked with managing critical assessments, administering medications, and monitoring vital signs, while EMTs provide immediate support with life-saving procedures and transport logistics. Health assistants play a pivotal role in supporting both nurses and EMTs through crucial tasks such as patient monitoring, data collection, and logistical coordination. By fostering effective communication and teamwork, these professionals can minimize response times and improve the overall quality of care delivered during emergencies. To optimize collaboration and ultimately enhance patient safety, interdisciplinary training and clear protocols are essential. Regular joint training sessions can equip nursing teams, EMTs, and health assistants with a shared understanding of each other's roles and responsibilities, fostering mutual respect and teamwork. Implementing structured communication tools, such as SBAR (Situation, Background, Assessment, Recommendation), can streamline information exchange during critical moments, ensuring a cohesive response to patient needs. Furthermore, creating a culture of safety that encourages reporting near misses and adverse events can lead to continuous learning and improvement. By building a robust collaborative framework, healthcare organizations can ensure that patients receive timely and effective care, significantly reducing the risk of adverse outcomes in emergency and acute care scenarios.

## 1. Introduction

The global burden of patient harm in healthcare is staggering. The World Health Organization (WHO) estimates that approximately **one in every ten patients** is harmed while receiving hospital care in high-income countries, with even higher risks in lower-income settings. Significantly, **50% of this harm is considered preventable** [1]. The emergency care setting is particularly vulnerable. A systematic review published in *BMJ Quality & Safety* found that the rate of adverse events in EDs can be as high as **12.4%**, with over **70%** of these being preventable. Communication failures and teamwork breakdowns were identified as contributing factors in a substantial portion of these cases [2]. In the United States, a landmark report by the Institute of Medicine, "To Err is Human," initially shed light on this crisis, and recent data from the Agency for Healthcare Research and Quality (AHRQ) indicates that despite improvements, medical errors remain a leading cause of death, underscoring the persistent need for robust safety frameworks [3].

The pre-hospital to in-hospital transition is a critical juncture where the risk to patient safety is acutely pronounced. Studies have shown that nearly **40% of all medication errors** occur at the interfaces of care, such as during patient handoff from EMTs to the ED nursing team [4]. A study focusing on handoff communication found that incomplete or inaccurate information transfer between EMTs and receiving nurses occurred in over **30% of cases**, potentially leading to delays in diagnosis and treatment [5]. This highlights the fragile nature of the "chain of survival" and how a weak link in communication can compromise the entire patient journey.

Within the hospital, the acuity of patients in acute care settings continues to rise. Nurses, who constitute the backbone of inpatient care, are often managing multiple complex patients simultaneously. The American Nurses Association has reported that staffing challenges and high nurse-to-patient ratios are directly correlated with an increase in patient safety incidents, including falls, medication errors, and hospital-acquired infections [6]. Here, the role of the Health Assistant becomes indispensable. By providing essential support with activities of daily living, vital sign monitoring, and basic procedures, they allow nurses to focus on critical thinking and advanced clinical tasks. However, a lack of defined roles and poor communication between nurses and their assistants can lead to tasks being overlooked or duplicated, creating gaps in care. Research indicates that units with standardized teamwork training and clear role perception report a **25% reduction in reported safety incidents** [7].

The collaboration between Nurses and EMTs is a unique and dynamic relationship that bridges the out-of-hospital and in-hospital environments. EMTs are the first point of medical contact for most critical patients. The quality of the information they gather and convey—regarding the mechanism of injury, patient history, and pre-hospital interventions—is crucial for shaping the diagnostic and therapeutic trajectory in the ED. A study in

the *Journal of Emergency Medicine* demonstrated that when a structured handoff protocol (like IMIST-AMBO) was implemented, the completeness of information transfer improved from **48% to 89%**, significantly reducing clinical error rates [8]. Furthermore, in high-stress scenarios such as cardiac arrests or major trauma, effective closed-loop communication and clear delegation of tasks between the incoming EMT team and the awaiting ED nurses are vital for the success of resuscitation efforts. The American Heart Association emphasizes that effective team dynamics can improve survival rates from cardiac arrest by as much as **15-20%** [9].

Despite its evident importance, effective collaboration is often hindered by systemic and human factors. These include hierarchical structures that may discourage input from all team members, professional stereotypes, a lack of shared mental models, and the inherent stress of the emergency environment. A survey of healthcare professionals found that **44% of EMTs and 31% of nurses** reported experiencing interprofessional conflict that negatively impacted patient care at least once a month [10]. This underscores the need for intentional strategies to foster a culture of collaborative practice.

Interprofessional Education (IPE) and simulation-based training have emerged as powerful tools to bridge this gap. When nursing students, EMT trainees, and health assistant candidates train together in simulated emergency scenarios, they develop mutual respect, understand each other's roles and limitations, and practice communication skills. Evidence shows that healthcare systems that implement crew resource management (CRM) and TeamSTEPPS® (Team Strategies and Tools to Enhance Performance and Patient Safety) programs see a significant improvement in team performance. One hospital system reported a **32% reduction in serious safety events** following the hospital-wide implementation of such teamwork training [11]. Furthermore, the integration of health assistants into these training models is crucial, as they are an integral part of the care team. A study found that including nursing assistants in safety briefings and huddles reduced patient fall rates by **18%** on participating units [12].

## 2. Patient Safety Risks in Emergency and Acute Care

The sheer volume and acuity of patients presenting to emergency care systems globally place an enormous burden on healthcare resources and personnel. In the United States alone, EDs receive over **150 million visits annually**, a number that continues to rise, straining capacity and leading to overcrowding [13]. Overcrowding is not merely an issue of patient comfort; it is a primary driver of safety failures. The correlation between ED crowding and poor patient outcomes is well-established. A comprehensive meta-analysis found that crowding leads to significant increases in patient mortality, with a **31% higher risk of death** for patients admitted to the hospital during times of high ED crowding [14]. This occurs due to a cascade of negative effects: prolonged waiting times for pain management and antibiotics, delays in critical diagnoses like myocardial infarction and sepsis, and increased frequency of patients leaving without being seen. The physical and cognitive overload on staff in such environments diminishes their capacity for vigilance and thoroughness, directly impacting the safety and quality of care delivered.

Beyond overcrowding, the clinical characteristics of the patient population themselves contribute to the risk. Emergency and acute care providers often encounter patients who are undifferentiated, meaning their initial presentation does not point to a single, clear diagnosis. These patients may be unconscious, confused, non-communicative, or unable to provide a reliable medical history. This lack of a definitive starting point forces clinicians to operate in a state of diagnostic uncertainty, relying on pattern recognition, heuristics, and rapid testing. While necessary, this approach is susceptible to cognitive biases such as anchoring (fixating on an initial diagnosis) and confirmation bias (favoring information that confirms the initial impression). Studies indicate that diagnostic errors occur in approximately **5-10% of ED encounters**, with a significant portion having the potential for severe harm [15]. For the collaborative triad of nurses, EMTs, and health assistants, this uncertainty underscores the critical importance of every piece of data, from the initial vital signs taken by an EMT to the subtle behavioral changes observed by a health assistant, as they collectively piece together the patient's clinical puzzle.

Medication safety is another area of profound vulnerability in acute care. The emergency care process is replete with high-risk medications, such as anticoagulants, opioids, and sedatives, which require precise dosing and vigilant monitoring. The fragmented nature of care transitions—from the EMT administering medication in the field, to the ED nurse continuing treatment, to the inpatient unit assuming care—creates multiple handoff points where information can be lost or miscommunicated. Research shows that medication errors account for a substantial proportion of all adverse events in hospitals, and the ED is a hotspot for such events.

A prospective observational study in a major academic ED found a **15.2% medication error rate**, with the most common types being wrong dose, wrong drug, and wrong frequency [16]. These errors are frequently multifactorial, stemming from illegible handwritten orders, verbal orders under duress, distractions during drug preparation, and failures in double-checking procedures. This highlights the necessity of a systems-based approach, where collaboration and standardized cross-checks between team members serve as a vital safety net.

Communication breakdowns represent the most persistent and dangerous threat to patient safety in these settings. The fast-paced, interrupt-driven environment severely hampers effective information transfer. Critical information about a patient's allergy, changing condition, or pending test result can be lost in the noise. The consequences are starkly evident in trauma and resuscitation scenarios. An analysis of video-recorded trauma resuscitations revealed that **nearly 30% of all information shared during team briefings was lost** by the time of patient handoff to the intensive care unit [17]. Furthermore, communication often follows a hierarchical pattern, where junior staff or those in perceived "support" roles, such as health assistants or EMTs, may hesitate to speak up with concerns or corrections—a phenomenon known as the "silence of authority gradient." This suppression of input can have catastrophic results, as the person with the most crucial piece of information may be the one least likely to share it.

Finally, the human factor—the impact of fatigue, stress, and burnout on healthcare providers—cannot be overlooked as a critical patient safety risk. Nurses, EMTs, and health assistants work long, physically demanding, and emotionally taxing shifts. Chronic sleep deprivation and high-stress levels impair cognitive function, including memory, attention, and decision-making abilities. Burnout, characterized by emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment, is endemic among emergency care providers. A recent national survey found that **over 50% of emergency nurses** reported symptoms of severe burnout, which was strongly correlated with self-reported perceptions of poorer patient safety and an increased likelihood of making errors [18]. For EMTs, the constant exposure to traumatic events and the physical demands of the job contribute to similarly high rates of burnout and turnover [19]. When the very individuals tasked with safeguarding patients are operating in a state of depletion, the entire system's resilience is compromised. Therefore, strategies to enhance collaboration and safety must also address the well-being of the workforce, recognizing that a supported team is a safer team.

## 3. Defining the Triad:

The Registered Nurse serves as the central hub of patient care within the hospital setting, acting as a clinical coordinator, continuous assessor, and primary patient advocate. The RN's role is characterized by its depth of clinical judgment and holistic focus. Their responsibilities begin with a comprehensive nursing assessment, which goes beyond vital signs to include psychosocial evaluation, pain assessment, and identification of patient and family needs. They are responsible for the development, implementation, and evaluation of a dynamic nursing care plan. A critical function is the administration and monitoring of high-risk medications, requiring sophisticated pharmacologic knowledge and vigilance for adverse effects. Furthermore, RNs perform complex interventions such as wound management, advanced cardiac life support, patient education, and the coordination of care with physicians and other specialists. Their role requires a high degree of critical thinking to identify subtle changes in a patient's condition—a skill paramount in preventing failure to rescue. Studies have shown that a higher proportion of baccalaureate-prepared RNs in a clinical setting is directly associated with lower mortality rates, underscoring the link between nursing education and patient outcomes [21]. In the collaborative triad, the RN relies on the EMT for a seamless handoff and on the HA for task support, while ultimately carrying the legal and professional responsibility for the nursing care provided.

The Emergency Medical Technician is the cornerstone of the out-of-hospital emergency response system, serving as the first medical professional at the scene of an illness or injury. Their practice is defined by its focus on rapid assessment, immediate intervention, and safe transport. The EMT's primary mandate is to identify and manage immediate life-threats, following strict protocols for conditions such as cardiac arrest, respiratory distress, and major trauma. Their skill set includes basic airway management, cardiopulmonary resuscitation (CPR), hemorrhage control, spinal immobilization, and assisting with certain medications like aspirin for suspected cardiac events or naloxone for opioid overdoses [22]. A pivotal, yet often understated, aspect of their role is that of a "field diagnostician." They are trained to gather a crucial patient history (using tools like SAMPLE - Signs/Symptoms, Allergies, Medications, Past medical history, Last

oral intake, Events leading to injury/illness) and perform a focused physical exam. This information forms the initial clinical picture for the receiving hospital. Research indicates that the quality of pre-hospital care and report significantly influences the diagnostic trajectory in the ED [23]. In the collaborative handoff, the EMT's role transitions from primary caregiver to essential informant, providing the nursing team with the narrative of the patient's pre-hospital course. The evolution of the EMT role into more advanced levels (e.g., Paramedics, AEMTs) further expands this scope to include advanced airway procedures, intravenous access, and a wider range of pharmacological interventions, making their integration into the care team even more critical [24].

The Health Assistant (also known as a Nursing Assistant, Patient Care Technician, or Healthcare Support Worker) is an indispensable member of the acute care team, providing the fundamental support that allows the entire system to function smoothly. While their scope of practice is more task-oriented, its impact on patient safety and comfort is profound. The HA's responsibilities are centered on activities of daily living (ADLs), including bathing, feeding, toileting, and ambulation. They are frequently responsible for obtaining and documenting basic vital signs, weights, and intake/output measurements. This consistent, close-contact presence places the HA in a unique position to detect early, subtle changes in a patient's condition—such as increased restlessness, skin breakdown, or a slight change in mental status—that might be missed during intermittent RN assessments. By effectively managing these core tasks, HAs free up RNs to focus on advanced clinical duties, thereby optimizing the team's overall efficiency and capacity. However, a lack of role clarity and communication can lead to critical observations being unreported. A study on patient falls found that units where HAs felt empowered to communicate safety concerns to nurses saw a **22% reduction in fall rates** [25]. The HA, therefore, acts as the eyes and ears of the nursing team at the bedside, forming a crucial early-warning system. Their role is one of compassionate support, but when fully integrated into the collaborative model, it becomes a powerful component of the safety net.

While each role has its defined domain, there are natural areas of overlap that require clear communication and protocol to prevent conflict and ensure comprehensive care. For instance, both EMTs and RNs are trained in obtaining vital signs and patient histories, but the context and depth differ. An EMT's history is focused on the acute event for immediate intervention, while an RN's assessment is broader, encompassing chronic conditions and holistic needs. Similarly, both RNs and HAs may assist with patient mobility, but the RN is responsible for the clinical assessment of the patient's readiness to ambulate, while the HA provides the physical support. The potential for tension arises when tasks fall into grey areas or when workload pressures lead to "task-shifting" without proper communication. Research into interprofessional tensions highlights that ambiguity in responsibilities is a primary source of conflict between nurses and support staff [26]. Therefore, successful collaboration is not achieved by building rigid walls between roles, but by establishing clear, agreed-upon protocols that define primary responsibilities for each key function and outline the process for delegation and assistance. This ensures that all necessary tasks are completed without duplication and that every team member practices within their legal and educational scope, thereby protecting both the patient and the practitioner.

It is crucial to recognize that the roles within this triad are not static; they are evolving in response to healthcare demands, technological advancements, and policy changes. For example, the role of the EMT is expanding in many regions to include community paramedicine, where they perform follow-up home visits for chronically ill patients to prevent unnecessary ED readmissions [27]. Similarly, the nursing role continues to advance with the proliferation of Advanced Practice Registered Nurses (APRNs) who can diagnose, prescribe, and manage patient care with a high degree of autonomy. Even the role of the Health Assistant is being enhanced in some institutions through additional training to perform skills such as phlebotomy, electrocardiography, and documentation in electronic health records, further extending the care team's reach [28]. These evolutions necessitate continuous interprofessional education and dialogue. As scopes of practice shift and expand, the collaborative framework must be regularly re-calibrated to ensure that all team members are aware of each other's evolving capabilities and responsibilities, maintaining the synergy and safety of the patient care process.

## 4. Bridging the Pre-Hospital and In-Hospital Divide

A typical handoff in the emergency department is a multifaceted event. It involves the verbal report from the EMT or paramedic to the triage or receiving nurse, the physical transfer of the patient from the ambulance stretcher to the hospital bed, and the exchange of any written or electronic documentation, such as the pre-hospital care report

(PCR). The verbal component is particularly crucial as it conveys the narrative of the patient's illness or injury—the story that numbers on a page cannot fully tell. This narrative includes the mechanism of injury, the patient's initial presentation and vital signs, the treatment provided en route, and their response to that treatment. However, this process is consistently threatened by environmental "noise." EDs are chaotic; handoffs are frequently interrupted by overhead pages, conversations from adjacent bays, or the needs of other critical patients. A time-motion study of ED handoffs found that **interruptions occur, on average, every 90 seconds** during a handoff interaction, significantly increasing the risk of omitted information [32]. Furthermore, the handoff often suffers from a lack of a structured framework, leading to a disorganized, free-form recitation of facts where critical details can be lost in a sea of less relevant data. This unstructured approach relies heavily on the individual communication skills and clinical experience of both the giver and receiver, creating a variable and unreliable process.

The repercussions of a suboptimal handoff are not theoretical; they are measurable and directly impact patient outcomes. When information about a patient's allergy, a critical past medical history (e.g., being on anticoagulants), or a subtle change in mental status during transport fails to be communicated, the receiving team is forced to operate with an incomplete clinical picture. This can lead to a "therapeutic void" where minutes, or even hours, of diagnostic and therapeutic momentum are lost. For instance, a patient with an evolving stroke may have exhibited specific neurological deficits in the ambulance that resolved by the time of ED arrival. If this information is not conveyed, the patient may be triaged to a lower acuity level, delaying a time-sensitive computed tomography (CT) scan and thrombolytic therapy. Studies have directly linked handoff quality to clinical errors. One analysis found that **over 40% of all treatment delays and 35% of medication errors** in the first hour of ED care were attributable to information loss during the pre-hospital to in-hospital handoff [33]. Beyond clinical errors, a poor handoff erodes professional relationships. When nurses feel they receive incomplete reports, it can foster distrust and a perception that the EMT team is incompetent or careless, while EMTs may feel their expertise and observations are dismissed by the hospital staff. This erosion of mutual respect further poisons the collaborative well, making future interactions more difficult.

The most effective strategy for mitigating handoff risks is the implementation of standardized, mnemonics-based communication tools. These tools provide a cognitive forcing function, ensuring that all essential categories of information are consistently addressed in a logical sequence. The most prominent example in the pre-hospital to ED context is the **IMIST-AMBO** protocol:

- **I** - Identification of the patient and first informant.
- **M** - Mechanism/Medical complaint.
- **I** - Injuries/Information related to the complaint.
- **S** - Signs/Vital signs.
- **T** - Treatment and Trends in response.
- **AM** - Allergies.
- **B** - Background medical history and Medications.
- **O** - Other information (e.g., social concerns, guardian presence).

The adoption of such structured tools has demonstrated profound benefits. A multi-center study implemented IMIST-AMBO training across several EMS agencies and their receiving EDs. The result was a **57% increase in information transfer completeness** and a significant reduction in the perceived cognitive load for both EMTs and nurses during handoffs [34]. Another powerful tool is **SBAR** (Situation, Background, Assessment, Recommendation), which, while more common for intra-hospital communication, can be adapted for the EMT-to-nurse handoff, particularly to frame a clinical concern or recommendation (e.g., "My recommendation is to have a surgeon see this patient immediately"). These tools create a shared mental model for the communication event, ensuring that both parties are "on the same page" and expecting the same flow of information.

While a structured tool like IMIST-AMBO is necessary, it is not sufficient on its own. A truly effective handoff requires a supportive culture and environment. This includes:

- **The "Sterile Cockpit" Rule:** Advocating for a minimally interrupted environment during the handoff. This can involve designating a specific handoff zone or simply the team consciously pausing other non-critical activities for the 60-90 seconds it takes to complete the transfer [35].
- **Active Listening and Closed-Loop Communication:** The receiving nurse must be an active participant, not a passive recipient. This involves making eye contact, asking clarifying questions (e.g., "What was the exact blood pressure before you gave the fluid bolus?"), and using closed-loop communication by repeating back critical orders or information to confirm understanding.

- **Shared Responsibility:** Both the EMT and the nurse must share the responsibility for a successful transfer. The EMT is responsible for delivering a clear, concise, and complete report. The nurse is responsible for actively receiving it, verifying understanding, and ensuring the information is integrated into the initial plan of care.
- **Interprofessional Training:** The most successful implementations of handoff protocols involve joint training sessions where EMTs and nurses practice together using simulations. This builds familiarity with the tool and, more importantly, fosters the interpersonal relationships and mutual respect that underpin good communication. Research shows that simulation-based handoff training improves teamwork ratings and reduces communication errors by over 40% compared to didactic training alone [36].

Technology is emerging as a powerful ally in bridging the handoff gap. Electronic Patient Care Reporting (ePCR) systems allow EMTs to document their assessment and care in a digital format that can be transmitted wirelessly to the ED while the ambulance is still en route. This gives the receiving team a "sneak preview" of the incoming patient, allowing for better resource preparation. Furthermore, the integration of ePCR data directly into the ED's Electronic Health Record (EHR) can automatically populate fields, reducing manual data entry errors and ensuring key information like vital signs and administered medications is accurately captured [37]. While technology cannot replace the crucial verbal narrative, it can eliminate the redundancy of writing down the same information twice and ensures a permanent, legible record is immediately available. The future may see even deeper integration, including the transmission of real-time data from ambulance monitors directly to the ED dashboard, creating a truly continuous data stream from the scene to the hospital.

## 5. Nursing and Health Assistant Synergy for Safe Patient Care

The synergy between a nurse and a health assistant is fundamentally rooted in the complementary nature of their roles. The RN’s role, as previously established, is centered on clinical judgment, critical thinking, and the management of complex patient needs. This includes developing care plans, administering high-risk medications, performing advanced procedures, and providing patient education. The HA’s role is focused on fundamental patient care and support, which includes assisting with activities of daily living (ADLs), obtaining routine vital signs, assisting with mobility, and ensuring patient comfort. This division of labor is not a hierarchy of importance but a strategic allocation of resources based on scope of practice and educational preparation. The HA acts as a **force multiplier** for the nurse. By reliably managing the essential, time-consuming tasks of basic care, the HA frees the RN to focus their cognitive and technical skills on the most critical aspects of patient management. A study in the *Journal of Nursing Administration* found that units with effective RN-HA teamwork demonstrated a **19% increase in nursing time available for direct patient care activities** requiring a higher skill level, such as patient education and care coordination [41]. This multiplier effect is crucial in preventing task saturation for the RN, which is a known precursor to errors. When a nurse is overwhelmed by both advanced clinical duties and fundamental care tasks, the risk of missing a critical change in patient condition or making a medication error increases significantly.

Perhaps one of the most underutilized aspects of the HA role in the safety equation is their potential to function as a highly sensitive early warning system. Due to their prolonged and intimate contact with patients during activities like bathing, feeding, and turning, HAs are uniquely positioned to detect subtle, early signs of clinical deterioration that may not be evident on a monitor or during a brief RN assessment. They may be the first to notice a patient's increased lethargy, a slight cough, a change in skin turgor, restlessness, or a mumbled comment of discomfort. However, this critical intelligence is only valuable if it is communicated effectively and received with respect. A qualitative study exploring nurse-HA communication found that HAs often hesitate to report subjective observations for fear of being perceived as "annoying" or "unqualified," while nurses sometimes dismiss these reports due to time pressure or a lack of understanding of their significance [42]. Cultivating an environment where HAs are not only encouraged but *expected* to report any and all changes is vital. Research has directly linked this dynamic to specific safety outcomes; for example, one hospital reported a **30% reduction in code blue events outside the ICU** after implementing a structured program that empowered and trained HAs to recognize and report specific early warning signs like changes in respiratory effort and mental status [43].

Despite its potential, the nurse-HA relationship is often fraught with challenges that can undermine

patient safety. A primary source of friction is **role ambiguity**. When tasks are not clearly defined, either by official job descriptions or by unit culture, it leads to confusion, task duplication, or, more dangerously, tasks being left undone. Is turning a patient every two hours solely the HA's responsibility, or should the nurse assist? Who is responsible for stocking the room? Unclear answers to such questions breed resentment. A survey of nursing assistants found that **45% reported frequent conflict with nurses**, primarily over perceived laziness or the dumping of unpleasant tasks, which often stemmed from this lack of role clarity [44].

A second major pitfall is **ineffective communication systems**. Many units rely on informal, ad-hoc communication, such as catching each other in the hallway. This is highly unreliable in a busy ED. A task verbally delegated to an HA during a moment of crisis can be easily forgotten, and an important observation from an HA may never reach the nurse if they cannot find them. The absence of structured communication channels, such as shared task boards (digital or physical) or scheduled briefings, creates a system reliant on chance and memory, which are both fragile commodities in a high-stress environment.

Finally, the **perception of hierarchy and lack of respect** can poison the collaborative atmosphere. If nurses view HAs as "just aides" whose opinions lack clinical weight, and HAs view nurses as unapproachable or dismissive, the entire team suffers. This hierarchical silence prevents the flow of crucial information and erodes psychological safety, making it less likely for an HA to voice a concern about a patient or a potential error.

Building a high-performing nurse-HA team requires intentional, multi-faceted strategies that address the aforementioned pitfalls.

- **Structured Communication and Delegation:** Implementing tools like **SBAR** (Situation, Background, Assessment, Recommendation) can provide a framework for HAs to report observations in a concise, clinically relevant manner. For example: "Situation: Mr. Smith in room 4. Background: He had hip surgery yesterday. Assessment: He seems more confused than earlier and he's refusing to eat. Recommendation: I think you should reassess him." Furthermore, the use of **read-back** or **closed-loop communication** for delegated tasks ensures understanding (e.g., Nurse: "Please get a 12-lead ECG on room 5." HA: "Okay, I will get a 12-lead ECG on room 5 and bring it to you.") [45].
- **Integrated Huddles and Briefings:** Incorporating HAs into the nursing team's shift huddles and bedside reports is a powerful way to foster inclusion and shared mental models. When the HA hears the RN's plan of care directly, they can better align their own activities to support it. A study demonstrated that units that included support staff in shift huddles saw a **25% reduction in missed care events**, such as skipped turns or delayed ambulation [46].
- **Crew Resource Management (CRM) Principles:** Adopting principles from aviation, such as flattening the hierarchy and empowering every team member to speak up about safety concerns, is directly applicable. This involves training for both RNs and HAs, emphasizing that the authority to question a plan or point out a risk is not tied to job title but to the shared goal of patient safety [47].
- **Joint Training and Simulation:** Having nurses and HAs train together in simulations breaks down barriers and builds mutual respect. Practicing a response to a falling patient or a rapidly deteriorating patient allows each to appreciate the other's skills and contributions in a controlled, non-threatening environment.

The effectiveness of the nurse-HA dyad has a direct and measurable impact on core patient safety indicators:

- **Patient Falls:** HAs are often the ones assisting patients with mobility. A strong partnership where the RN clearly communicates a patient's fall risk and the HA consistently uses fall-prevention strategies and reports near-misses is fundamental. One hospital achieved a **20% reduction in patient falls** after implementing a partnered RN-HA rounding protocol where they assessed high-risk patients together at the start of each shift [48].
- **Pressure Injuries:** The prevention of pressure ulcers relies on frequent turning and skin care, tasks primarily performed by HAs. When HAs are empowered to report early skin redness to nurses immediately, and nurses respond promptly with interventions, the incidence of full-thickness pressure injuries can be significantly reduced [49].
- **Hospital-Acquired Infections:** Proper hygiene and catheter care are frontline defenses. HAs, as primary providers of

hygiene, play a critical role. Clear delegation and verification that these tasks are completed to standard are essential for infection control.

- **Medication Safety:** While HAs do not administer medications, they can serve as a final check. For instance, if a patient tells an HA they are allergic to a medication they are about to receive, the HA's ability and willingness to immediately halt the process and alert the nurse can prevent a catastrophic error [50].

## 6. Conclusion

This comprehensive analysis has unequivocally demonstrated that the collaboration between Registered Nurses (RNs), Emergency Medical Technicians (EMTs), and Health Assistants (HAs) is not a peripheral concept but the very linchpin of patient safety in emergency and acute care settings. The high-stakes, high-velocity nature of these environments, fraught with inherent risks such as diagnostic uncertainty, medication vulnerabilities, and communication breakdowns, demands a coordinated, interprofessional response. The evidence presented confirms that siloed efforts are insufficient; it is the synergistic integration of the unique skills, perspectives, and roles of this core triad that creates a resilient safety net, preventing errors and mitigating harm.

The journey of a patient through this continuum highlights the critical nodes of collaboration. The handoff from EMT to RN is a moment of profound vulnerability, where structured tools like IMIST-AMBO and a culture of "sterile cockpit" respect are essential to prevent information degradation. Within the department, the sustained partnership between the RN and the HA forms the backbone of continuous care, where the HA acts as a force multiplier and an early warning system, directly impacting outcomes related to falls, pressure injuries, and clinical deterioration. The effectiveness of this entire system is either enabled or crippled by the underlying culture. Hierarchical barriers, professional stereotypes, and a lack of psychological safety can paralyze communication, while strategies like interprofessional education, simulation training, and the adoption of Crew Resource Management principles foster the mutual trust and shared mental models necessary for high-reliability performance.

## Author Statements:

- **Ethical approval:** The conducted research is not related to either human or animal use.
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