

---

## The Importance of Multidisciplinary Approaches in Trauma Care: Insights from Surgery, ER, and Physiotherapy

**Alzahrani Boshra Abdullah A.<sup>1</sup>, Dr. Abdullah Saud Abdullah Alfaraj<sup>2</sup>, Fadhilah Ahmed Al Milad<sup>3</sup>, Al Shayeb Ali Sulaymaniyah<sup>4</sup>, Afnan Abdullah Matooq Alawad<sup>5</sup>, Sukinah Mohmed Almukherq<sup>6</sup>, Ruqayyah Hassan R. Alqassab<sup>7</sup>, Alyaty Reeman Saud F.<sup>8</sup>, Zainab Abdullah Al Ibrahim<sup>9</sup>, Manal Hassan Abdullah Alghanem<sup>10</sup>**

<sup>1</sup> Resident in General Surgery, King Saud City Hospital  
Email: [Boshra.9009@gmail.com](mailto:Boshra.9009@gmail.com)

<sup>2</sup> ER Resident, Dammam Medical Complex  
Email: [Absaalfaraj@moh.gov.sa](mailto:Absaalfaraj@moh.gov.sa)

<sup>3</sup> Physical Therapy Technician, Safwa General Hospital  
Email: [Fd\\_am60@hotmail.com](mailto:Fd_am60@hotmail.com)

<sup>4</sup> Physical Therapy Technician, Dhahran Long Term Care Hospital  
Email: [W.t.e1@hotmail.com](mailto:W.t.e1@hotmail.com)

<sup>5</sup> Physiotherapy Technician, Anak General Hospital  
Email: [Aaalawad@moh.gov.sa](mailto:Aaalawad@moh.gov.sa)

<sup>6</sup> Nursing Technician, Medical Tower  
Email: [Salmokerq@moh.gov.sa](mailto:Salmokerq@moh.gov.sa)

<sup>7</sup> Nurse, Dammam Medical Tower  
Email: [Rhalqassab@moh.gov.sa](mailto:Rhalqassab@moh.gov.sa)

<sup>8</sup> Nursing, Dammam Medical Tower  
Email: [ralyaty@moh.gov.sa](mailto:ralyaty@moh.gov.sa)

<sup>9</sup> Nursing, Dammam Medical Complex  
Email: [zaabalibrahim@moh.gov.sa](mailto:zaabalibrahim@moh.gov.sa)

<sup>10</sup> Nursing Specialist, King Faisal General Hospital Al Ahsa  
Email: [Mhalghanem@moh.gov.sa](mailto:Mhalghanem@moh.gov.sa)

---

### **Abstract:**

Multidisciplinary approaches in trauma care are essential for improving patient outcomes by integrating various specialties, including surgery, emergency medicine, and physiotherapy. Each discipline contributes unique skills and perspectives, creating a comprehensive treatment plan that addresses the immediate medical needs and long-term recovery of trauma patients. For instance, surgeons focus on the immediate intervention and stabilization of injuries, while emergency room (ER) staff play a critical role in rapid assessment and initial management of trauma cases. This collaborative effort ensures that patients receive timely and effective treatment, reducing complications and promoting better recovery rates. Physiotherapy, on the other hand, is vital in facilitating rehabilitation and enhancing the functional recovery of trauma patients. Early involvement of physiotherapists helps in designing tailored exercise programs that promote mobility, strength, and pain management, leading to improved quality of life post-injury. By fostering communication and collaboration among surgical teams, ER personnel, and physiotherapists, a multidisciplinary approach ensures a seamless continuum of care. This integrated model not only accelerates healing but also empowers patients through education and support throughout their recovery journey.

**Keywords:** Multidisciplinary approach, Trauma care, Surgery, Emergency room (ER), Physiotherapy, Patient outcomes, Rehabilitation, Functional recovery, Communication and collaboration, Comprehensive treatment plan

---

## Introduction:

Trauma care is a complex and dynamic field that requires prompt and effective interventions from various healthcare disciplines to ensure optimal patient outcomes. Trauma, whether resulting from accidents, violence, or natural disasters, leads to a wide range of injuries that can significantly affect the physical, psychological, and social well-being of individuals. The multifaceted nature of trauma necessitates a comprehensive treatment strategy that leverages the expertise of multiple health professionals, each contributing unique skills and knowledge. This paper explores the importance of multidisciplinary approaches in trauma care, focusing on the contributions from surgery, emergency medicine (ER), and physiotherapy [1].

The importance of a multidisciplinary approach in trauma care cannot be overstated. Evidence suggests that integrating various specialties yields improved outcomes, reduced complications, and enhanced patient satisfaction. The trauma care continuum is characterized by several critical phases: initial assessment and stabilization in the emergency room, surgical intervention for life-threatening injuries, and the rehabilitation process, which includes physiotherapy for restoring function and mobility. Each phase requires tailored interventions that reflect the patient's needs, influenced by the concomitant injuries and potential complications. The interplay among surgical teams, ER personnel, and physiotherapists encapsulates a coherent system where collaboration is paramount to ensure holistic patient care [2].

Emergency medicine serves as the frontline of trauma care, where swift decision-making and life-saving procedures occur. ER physicians are tasked with assessing the severity of injuries, stabilizing patients, and making critical decisions regarding diagnostic imaging and surgical needs. This initial evaluation is crucial, as it sets the trajectory for subsequent interventions. A collaborative approach, involving ER physicians, trauma surgeons, and other specialists, can enhance diagnostic accuracy and improve the efficiency of care delivery. For instance, when ER teams work alongside trauma surgeons in a coordinated manner, the likelihood of expedient surgical intervention is greatly enhanced, which in turn can significantly reduce morbidity and mortality rates in critically injured patients [3].

Surgery is often the next crucial step in addressing traumatic injuries. Surgical teams must act swiftly to manage life-threatening injuries and prevent further deterioration of the patient's condition. The surgical domain relies not only on the technical skills of the surgeons but also on the support from anesthesiologists, trauma nurses, and even radiologists to gather necessary information regarding the extent and nature of injuries. Multidisciplinary surgical approaches have shown to provide a more comprehensive assessment and management plan, which can impact return-to-function metrics positively. In this context, ongoing collaboration permits the surgical team to consider rehabilitation needs during the surgical planning phase, effectively paving the way for tailored postoperative care and strategies [4].

Physiotherapy plays a vital role in the recovery phase, addressing the physical and functional aspects of a patient's rehabilitation post-trauma. Physiotherapists specialize in restoring movement and function, managing pain, and promoting overall quality of life through exercise and therapy. Their role begins as early as possible, even while the patient is still in the hospital, as initiating rehabilitation interventions promptly can mitigate complications such as muscle atrophy and joint stiffness. Moreover, physiotherapists work closely with surgeons and ER teams to understand the surgical interventions performed and customize rehabilitation protocols accordingly. The diversity in physical therapy techniques allows for individualized care plans that accommodate the peculiarities of each trauma case, highlighting the necessity of involving physiotherapists in the trauma care continuum [5].

The collaborative dynamics amongst disciplines enhance not only the patient care outcomes but also foster an environment of continuous learning and improvement among healthcare professionals. When specialists from surgery, ER, and physiotherapy engage in interdisciplinary team meetings, they share insights, discuss treatment strategies, and collaboratively review patient progress. Such multidisciplinary teamwork encourages the sharing of best practices, promotes innovation in patient care strategies, and improves provider satisfaction and morale. This emphasis on communication and collaboration serves as a valuable framework for addressing the complexities

of trauma management, illustrating the profound need for multidisciplinary integration in healthcare systems [6].

#### Role of Surgical Intervention in Trauma Management:

Trauma is a leading cause of morbidity and mortality around the globe and represents a significant public health concern. It manifests in various forms, including blunt trauma from motor vehicle accidents, penetrating trauma from gunshot wounds, and thermal injury from burns. The effective management of trauma patients is multifaceted, requiring an integrated approach that often includes both non-operative and operative interventions. Among these, surgical intervention plays a crucial role in the management of traumatic injuries, serving as a lifeline for patients facing life-threatening conditions [7].

#### Understanding Trauma

Trauma can be categorized into several types, primarily divided into blunt and penetrating injuries. Blunt trauma is often the result of falls, collisions, or assaults where forceful impact occurs without any disruption of skin integrity. It can lead to significant internal injuries, such as splenic lacerations or liver contusions. Penetrating trauma, on the other hand, includes injuries where an object pierces the skin and underlying tissues, leading to complex wound patterns and potential damage to vital structures. The intricacies of these injuries necessitate a thorough understanding of the mechanisms of trauma to provide effective surgical care [8].

#### Indications for Surgical Intervention

Surgical intervention in trauma management is typically dictated by the nature and severity of the injury. The primary goal of surgery is to stabilize the patient, control hemorrhage, repair damaged structures, and facilitate recovery. Key indicators for surgical intervention include:

1. **Hemorrhagic Shock:** In cases where a patient presents with signs of hemorrhagic shock due to internal bleeding, surgical intervention is often required to locate and control the source of bleeding. This might involve procedures such as exploratory laparotomy or thoracotomy.
2. **Organ Damage:** Injuries to solid organs (e.g., spleen, liver, kidney) or hollow organs (e.g.,

stomach, intestines) may require surgical exploration and repair, particularly if there is a significant risk of leak or uncontrolled bleeding.

3. **Fractures and Dislocations:** Skeletal injuries often require surgical intervention, especially if there is an open fracture or if the alignment and stability of the limb are compromised. Internal fixation techniques or external fixators may be employed to restore function.

4. **Penetrating Injuries:** Gunshot or stab wounds often require surgical exploration to assess for damage to major blood vessels, organs, or the surrounding tissues. Timely intervention can significantly influence the outcome.

5. **Complications:** Delayed complications from trauma, such as abscess formation or organ dysfunction, may necessitate surgical correction once the patient has stabilized [9].

#### Surgical Techniques in Trauma

The surgical techniques employed in trauma management are diverse and tailored to the specific type of injury. Key surgical interventions include:

1. **Exploratory Surgery:** This involves direct observation and treatment of internal injuries. Exploratory laparotomy allows surgeons to examine abdominal organs and repair any lacerations or necrotic tissues [10].
2. **Debridement:** In cases of open wounds, especially from gunshots or severe lacerations, debridement is vital to remove contaminated and devitalized tissue, aiding in the reduction of infection risk.
3. **Surgical Fixation:** Techniques such as intramedullary nailing or plating are used for orthopedic injuries. Such measures are essential for restoring the structural integrity of bones and facilitating early mobilization.
4. **Vascular Surgery:** Injuries that compromise vascular structures may require vascular repair or bypass to restore blood flow and prevent limb loss.
5. **Trauma Resuscitation:** Fluid resuscitation and adjunctive surgical intervention may be performed simultaneously in a controlled environment, using the principles of damage control

surgery to stabilize critically ill patients before definitive repair [10].

### **The Impact of Surgical Intervention on Patient Outcomes**

The effectiveness of surgical intervention in trauma management can profoundly affect patient outcomes. Early intervention has been associated with improved survival rates and reduced complications. Studies have shown that trauma patients who receive timely surgical care have a higher likelihood of returning to their previous functional status and quality of life [11].

However, the timing and decision-making in surgical management are paramount. In some cases, the initial focus may be on resuscitation and stabilization rather than immediate surgery. This approach, known as "damage control surgery," aims to minimize the physiological stress on the patient and allows adequate recovery before performing definitive surgical repair [11].

Moreover, the integration of modern technology and minimally invasive techniques in surgical practice has revolutionized trauma management. The use of laparoscopic methods has improved postoperative recovery times, decreased complications, and reduced hospital stays.

Despite the advancements in surgical trauma care, significant challenges remain. Trauma surgeons must constantly evaluate the risks versus benefits of surgical intervention, considering patient comorbidities and overall health status. The variability in trauma presentation and the potential for rapid deterioration require a high level of expertise and a collaborative team approach [12].

Post-surgical complications such as infections, organ dysfunction, or problems with fixation hardware can complicate recovery, necessitating further intervention. Moreover, the psychological impact of trauma and surgery must not be overlooked, making mental health support an essential component of comprehensive trauma care [12].

### **Emergency Room Protocols: Rapid Response and Initial Care:**

The emergency room (ER) stands as a critical component of modern healthcare systems, designed to provide immediate medical attention to

individuals experiencing acute medical crises. These situations can range from severe injuries and sudden illnesses to life-threatening conditions that require urgent intervention. The efficiency and efficacy of emergency medical care hinge upon well-established protocols that govern rapid response and initial care, allowing for prompt treatment and appropriate triage based on the severity of patients' conditions [13].

### **The Importance of Emergency Room Protocols**

Emergency medicine is unique due to its unpredictable nature. Patients arrive with a vast array of complaints, and their conditions can change rapidly. Therefore, ER protocols are vital for ensuring that patients receive timely and adequate medical attention. These protocols serve multiple purposes:

1. **Triage:** The process of prioritizing patient care based on the severity of their condition. Triage is essential for managing multiple patients simultaneously and is often the first step when a patient arrives at the ER [14].
2. **Standardization of Care:** Protocols help standardize procedures across various healthcare providers and institutions, ensuring that all patients receive a consistent level of care regardless of the treating physician or facility.
3. **Resource Management:** Efficient use of resources, including personnel, equipment, and space, is critical in emergency situations where time is of the essence. Protocols help streamline operations to maximize the output of the healthcare team.
4. **Reducing Errors:** Adhering to established protocols reduces the likelihood of mistakes that can have dire consequences for patient outcomes. Well-defined procedures help healthcare professionals focus on critical tasks and minimize oversights [14].

### **Triage: The First Step in Emergency Care**

The triage process is pivotal in ER protocols, acting as the gatekeeper of patient care. Upon arrival at the emergency room, patients are assessed by a trained triage nurse, who quickly evaluates the urgency of their condition. The triage nurse typically employs a standardized system, such as the Canadian Triage and Acuity Scale (CTAS) or the Emergency Severity Index (ESI), to categorize patients [16].

For example, patients are often classified into categories such as:

- **Category 1:** Urgent, life-threatening conditions (e.g., cardiac arrest, severe respiratory distress).
- **Category 2:** High-acuity issues requiring immediate attention but not immediately life-threatening (e.g., chest pain, signs of stroke).
- **Category 3:** Moderate acuity problems that need care within a couple of hours (e.g., minor fractures).
- **Category 4-5:** Lower acuity situations that can safely wait longer (e.g., cold symptoms, minor cuts) [17].

This categorization allows healthcare providers to allocate resources efficiently, ensuring that those in most critical need receive care as swiftly as possible.

### **Initial Assessment and Stabilization**

Once triaged, patients undergo an initial assessment aimed at determining their medical history, current condition, and immediate needs. This assessment is often performed using a systematic approach referred to as the ABCDE method, which stands for Airway, Breathing, Circulation, Disability, and Exposure. Each component plays a crucial role in establishing the patient's baseline status and identifying life-threatening issues [18].

#### **Airway**

Securing the airway is the first priority, especially in cases where the patient may be unconscious or at risk of airway obstruction. Medical professionals assess for obstructions and may employ various techniques, such as positioning the patient or utilizing airway adjuncts, to ensure adequate ventilation [18].

#### **Breathing**

Next, healthcare providers examine the patient's breathing pattern and lung function. This assessment includes observing the respiratory rate, depth, and the presence of any distress. Supplemental oxygen may be administered to improve oxygen saturation levels in patients exhibiting signs of respiratory failure [18].

#### **Circulation**

The circulation assessment focuses on the patient's blood pressure, heart rate, and perfusion status. Healthcare workers measure vital signs and check for signs of shock, such as altered mental status or cool, clammy skin. If necessary, intravenous (IV) access is established to facilitate fluid resuscitation or medication delivery [19].

#### **Disability**

The neurological status of the patient is then evaluated through a quick neurological exam that assesses consciousness, responsiveness, and sensory function. The Glasgow Coma Scale (GCS) may be employed to quantify the level of consciousness and guide further management [19].

#### **Exposure**

Finally, a thorough examination for any hidden injuries or conditions is performed. This includes removing or adjusting clothing as necessary to inspect for trauma, rashes, or other significant findings while ensuring the patient's dignity and comfort [20].

### **Diagnostic Procedures and Initial Management**

Following the initial assessment, further diagnostic procedures may be initiated to clarify the patient's condition. Common tests include blood work, imaging studies such as X-rays or CT scans, and other specialized tests tailored to the specific clinical scenario.

Simultaneously, initial management is implemented based on preliminary findings. This might involve administering medications, such as analgesics for pain relief, antibiotics for suspected infections, or antipyretics to reduce fever. The goal during this phase is to stabilize the patient's condition and alleviate any immediate distress while awaiting the results of diagnostic tests.

Effective communication is an integral part of emergency care protocols. Accurate information exchange among the healthcare team, the patient, and their family members is crucial for continuity of care. Regular updates regarding the patient's condition, treatment plans, and any changes in status help foster a collaborative and informed environment, reducing anxiety for patients and their loved ones [21].

Documentation is equally essential in the ER setting. All assessments, interventions, and patient responses are meticulously recorded to create a comprehensive medical record. This documentation serves not only clinical purposes but is also vital for legal and audit reasons [21].

### **Physiotherapy's Contribution to Recovery and Rehabilitation:**

Trauma, whether it stems from a physical accident, a surgical intervention, or psychological distress, can have profound and far-reaching impacts on an individual's health and well-being. In response to these challenges, physical therapy has emerged as a critical component of trauma recovery and rehabilitation [22].

Trauma can manifest in various forms, including orthopedic injuries, neurological conditions, or psychological disturbances. Physical trauma often results from incidents such as car accidents, falls, sports injuries, or surgical procedures, while psychological trauma may arise from emotional distress stemming from abuse, accidents, or significant life changes. These experiences can lead to a range of consequences, such as chronic pain, diminished mobility, muscular weakness, and psychological issues such as anxiety and depression.

Given the complex interplay between physical and psychological health, approaches to trauma recovery must address both dimensions. This is where physical therapy's holistic approach becomes a significant advantage [22].

### **The Role of Physical Therapy in Rehabilitation**

Physical therapy is defined as the treatment of physical dysfunction or injury through the use of exercise, modalities, and education. The primary goal of physical therapy is to promote, restore, and maintain functional movement and well-being. The contribution of physical therapy to trauma recovery involves several key areas:

1. **Pain Management:** Many individuals experience pain as a direct consequence of trauma. Physical therapists employ various techniques, such as manual therapy, modalities like heat or cold application, electrical stimulation, and therapeutic exercises, to alleviate pain. This proactive approach helps patients regain comfort and mobility, which is crucial for motivation and adherence to rehabilitation plans.

2. **Restoration of Mobility and Function:** After trauma, individuals often face limitations in movement and functionality. Physical therapists assess the patient's specific needs and create tailored rehabilitation programs that include strength training, flexibility exercises, and functional training. These interventions are designed to restore lost abilities, enhance balance, and improve coordination, facilitating a return to everyday activities and sports [23].

3. **Rehabilitation Post-Surgery:** Many trauma patients undergo surgical interventions, such as orthopedic surgery for fractures or soft tissue injuries. Physical therapy plays a vital role in postoperative recovery by guiding patients through rehabilitation phases, preventing complications, and ensuring optimal healing. A well-formulated physical therapy plan can significantly enhance the benefits of surgery, enabling patients to regain functionality more efficiently.

4. **Prevention of Future Injuries:** An essential aspect of physical therapy is the education and training provided to patients to prevent future injuries. Therapists design exercises that strengthen weak muscle groups, improve flexibility, and enhance overall body mechanics. Education about posture, body mechanics during daily activities, and ergonomic practices helps empower patients to take control of their recovery and future health [23].

5. **Psychological Support:** Beyond the physical aspects, trauma can deeply affect an individual's mental health. Physical therapists often incorporate elements of psychological support within their practice, utilizing encouragement, motivation, and a positive therapeutic relationship to promote recovery. Research has shown that engaging in physical activity can improve mood and reduce symptoms of anxiety and depression, highlighting the intertwined nature of physical and mental health.

6. **Collaboration with Multidisciplinary Teams:** Effective trauma recovery often requires a coordinated approach that may involve physicians, psychologists, occupational therapists, and other healthcare professionals. Physical therapists are integral members of this multidisciplinary team, advocating for their patients and ensuring that all aspects of their recovery are addressed holistically. This collaborative approach facilitates

comprehensive care and enhances patient outcomes [24].

### **Challenges in Trauma Rehabilitation**

Despite the clear benefits of physical therapy in trauma recovery, several challenges can complicate the rehabilitation process. Psychological resistance to recovery, fear of re-injury, or post-traumatic stress can impede progress. Additionally, patients may present with comorbid conditions such as obesity, diabetes, or cardiovascular issues that complicate rehabilitation efforts.

To address these challenges, therapists are increasingly adopting individualized, patient-centered care strategies. This includes building therapeutic alliances where patients feel comfortable expressing concerns, setting realistic goals together, and gradually addressing both physical and psychological hurdles [25].

### **Interdisciplinary Collaboration: Enhancing Communication and Coordination:**

Trauma care represents one of the most complex and high-stakes areas of healthcare, characterized by its dynamic, unpredictable nature and the need for swift and effective responses to life-threatening injuries. The diversity of trauma cases—from vehicular accidents to falls, gunshot wounds, and natural disasters—requires a systematic and coordinated approach. In this context, multidisciplinary collaboration has emerged as a vital framework to enhance communication and coordination in trauma care, significantly influencing patient outcomes, resource utilization, and healthcare delivery mechanisms [26].

### **The Nature of Trauma Care**

Trauma care encompasses a range of services and disciplines, including emergency medicine, surgery, nursing, rehabilitation, radiology, social work, and mental health services. Each discipline contributes distinct expertise and perspectives to the overall treatment of trauma patients, necessitating an integrated approach to care. In instances of trauma, treatment must not only be timely but also comprehensive and tailored to the individual needs of each patient. This multifaceted nature underscores the importance of cohesive teamwork and seamless communication among healthcare providers [27].

## **The Need for Multidisciplinary Collaboration**

### **1. Complexity of Care**

As trauma care increasingly involves various specialties, it becomes critical to develop effective communication channels that facilitate the continuity of care. Multidisciplinary collaboration ensures that critical information is shared across disciplines and that all team members are on the same page regarding a patient's condition and treatment plan. In trauma settings, the integration of input from various disciplines—such as surgical teams, critical care units, and rehabilitation services—can significantly enhance decision-making and patient management [28].

### **2. Improved Patient Outcomes**

Studies have shown that hospitals with high levels of interdisciplinary collaboration experience better patient outcomes, including reduced morbidity and mortality rates. Effective collaboration not only optimizes treatment plans but also enhances the speed and efficacy of interventions. For instance, trauma patients who receive timely surgical intervention, intensive nursing care, and psychological support tend to fare better than those receiving fragmented services [29].

### **3. Resource Utilization**

In addition to improving patient outcomes, multidisciplinary collaboration can lead to more efficient utilization of healthcare resources. By establishing clear communication protocols and regular multidisciplinary meetings, trauma care teams can identify and address overlaps in care, mitigate delays in treatment, and streamline patient flow through the system. This efficiency reduces costs for healthcare systems while maintaining a high standard of care [30].

## **Challenges to Multidisciplinary Collaboration**

Despite the evident benefits of multidisciplinary collaboration in trauma care, several challenges must be addressed:

### **1. Hierarchical Structures**

Healthcare environments often operate within hierarchical frameworks that can inhibit communication among team members. This hierarchy may dissuade lower-ranked professionals from voicing their opinions or sharing critical

information, leading to gaps in care. To counter this, institutions must foster a culture of mutual respect and open dialogue, where all voices are valued and encouraged [31].

## 2. Lack of Standardization

Diverse practices and protocols across different specialties may hinder effective collaboration. Establishing standardized communication tools and guidelines can help reduce misunderstandings and streamline interactions between team members. For instance, adopting standardized handoff protocols can ensure that critical information is consistently conveyed during care transitions [31].

## 3. Time Constraints

In many trauma care settings, time is of the essence. Providers may feel rushed, leading to incomplete communications and suboptimal collaboration. Developing efficient workflow practices that integrate time for multidisciplinary discussions, case reviews, and team debriefings can help overcome these constraints, allowing teams to devote adequate attention to collaboration without compromising timely patient care [32].

## Strategies for Enhancing Communication and Coordination

To harness the power of multidisciplinary collaboration in trauma care, healthcare institutions can implement several practical strategies:

### 1. Regular Team Meetings and Case Reviews

Instituting regular multidisciplinary meetings and case reviews can facilitate the sharing of expertise and information. These sessions provide a structured forum for discussing individual patient cases, collective care strategies, and lessons learned. Regular interactions foster relationships among team members, enhancing cohesion and promoting collaborative behaviors [33].

### 2. Use of Technology

The integration of technology into trauma care improves communication and coordination. Electronic health records (EHRs), for example, provide real-time access to patient information, enabling all team members to stay informed about treatment plans and changes in the patient's condition. Additionally, telemedicine can facilitate

consultations with specialists and convenient communication channels for quick decision-making in critical situations [34].

### 3. Training Programs

Training programs focused on teamwork and communication skills can significantly improve collaboration outcomes. These programs can teach team members strategies for effective communication, conflict resolution, and decision-making, all essential skills in the high-pressure environment of trauma care. Furthermore, simulations and interdisciplinary workshops can enhance trust and familiarity among team members across various disciplines [35].

### 4. Implementing Collaborative Leadership Models

Adopting collaborative leadership models that promote collective decision-making can be instrumental in strengthening multidisciplinary collaboration. Leaders should cultivate an environment that emphasizes shared goals, mutual support, and accountability. By recognizing and addressing the contributions of each discipline, collaborative leadership fosters synergy and a unified approach to trauma care [36].

## Case Studies: Successful Outcomes from Multidisciplinary Teams:

In the modern landscape of complex problem-solving, the concept of multidisciplinary teams has gained prominence across various fields. These teams, comprised of individuals with diverse expertise and backgrounds, collaborate to address challenges that no single discipline could effectively tackle in isolation [37].

### 1. The Healthcare Sector: A Paradigm Shift in Patient Care

One of the most compelling examples of successful multidisciplinary teamwork is found in the healthcare sector. A case study from the University of Virginia Health System illustrates this concept effectively. The team included physicians, nurses, social workers, pharmacists, and therapists, who all collaborated to enhance patient care for individuals with chronic illnesses.

The multidisciplinary team conducted regular meetings to review patient cases, discuss treatment options, and address patient needs holistically. As a



result of this collaborative approach, patient outcomes improved significantly. Patients reported higher satisfaction levels, fewer hospital readmissions, and better management of their chronic conditions. This case study highlights the importance of integrated care, showcasing how diverse professionals contribute their unique expertise to create a comprehensive care plan that is more effective than individual efforts [38].

## **2. Engineering: The Case of Sustainable Urban Development**

In the field of engineering, a notable example is the development of the High Line park in New York City. This project involved urban planners, architects, landscape designers, civil engineers, and environmental scientists. Initially, the High Line was an abandoned elevated railway, but through the collaborative efforts of this multidisciplinary team, it was transformed into a vibrant public space.

The team employed an ecosystem-based approach that considered environmental impact, community needs, aesthetic values, and urban sustainability. Their diverse knowledge allowed them to innovate in ways that individual disciplines could not achieve alone. The project not only rejuvenated an underutilized space but also promoted biodiversity, provided a new habitat for wildlife, and improved the overall urban landscape. The success of the High Line demonstrates how collaboration among different fields can lead to creative solutions that address complex societal issues [39].

## **3. Education: Interdisciplinary Learning and Student Engagement**

In the realm of education, the concept of interdisciplinary learning has gained traction as a successful strategy for engaging students. A case study from the Massachusetts Institute of Technology (MIT) outlines a collaborative approach to learning, where faculty members from engineering, design, and business worked together to create a unique, hands-on curriculum.

In this case, students were tasked with developing a sustainable product, leading them through a process that involved technical skills, design principles, and market analysis. This multidisciplinary educational experience not only deepened students' understanding of the subject matter, but it also fostered critical thinking and teamwork skills. By

experiencing real-world challenges through a multifaceted lens, students emerged better prepared for their careers. This case illustrates how integrated educational approaches can enhance learning outcomes and stimulate innovation [40].

## **4. Business Innovation: Cross-functional Teams Driving Success**

In the business sector, the case of Procter & Gamble (P&G) illustrates the effectiveness of multidisciplinary teams in fostering innovation and responding to market demands. P&G's team structure includes members from various departments such as research and development, marketing, sales, and production. Their approach is exemplified in the development of the Swiffer cleaning system.

When creating the Swiffer, P&G employed cross-functional teams that allowed them to conduct consumer research while simultaneously considering production capabilities and marketing strategies. This collaboration led to the identification of a gap in the market for convenient cleaning solutions. The Swiffer line was launched and became a significant success, with sales exceeding expectations. The P&G case not only demonstrates how multidisciplinary teams can enhance product development but also emphasizes the importance of diverse input in recognizing and fulfilling consumer needs [41].

## **Challenges in Implementing Multidisciplinary Approaches in Trauma Settings:**

Trauma care is a complex and dynamic field that requires a collaborative approach involving various healthcare professionals, including surgeons, emergency medicine physicians, nurses, psychiatrists, physical therapists, and social workers. The goal of implementing multidisciplinary approaches is to improve patient outcomes, ensure comprehensive care, and enhance the overall efficiency of trauma services. However, despite the numerous benefits associated with such collaboration, several challenges hinder the effective implementation of multidisciplinary approaches in trauma settings [42].

### **1. Systemic Barriers**

One significant challenge in implementing a multidisciplinary approach to trauma care is the nature of healthcare system structures. The

healthcare system is often fragmented, with substantial discrepancies in the availability of resources, funding, and personnel across different departments. Trauma care often demands extensive coordination, and disparities can lead to delays in treatment. For example, in a busy emergency department, the trauma team may find itself overwhelmed by competing priorities, making it difficult to assemble and engage all necessary specialists promptly [43].

Moreover, the lack of standardized protocols across different institutions can complicate coordination efforts. Variations in clinical guidelines and treatment protocols can create confusion among staff members, leading to discrepancies in patient care. An effective multidisciplinary approach requires clear communication and shared understanding of process flows, which is often hampered by these systemic issues [43].

## 2. Organizational Challenges

Organizational factors play a crucial role in the success of multidisciplinary approaches in trauma settings. One major organizational challenge is the hierarchical structure prevalent in many healthcare institutions. Traditional medical hierarchies can inhibit open communication and collaboration among team members. For instance, junior staff may feel reluctant to voice their opinions or contribute to discussions when a senior physician dominates interactions, thereby limiting the inclusion of diverse perspectives essential for comprehensive patient care [44].

Additionally, insufficient training related to teamwork and collaboration can hinder the effectiveness of a multidisciplinary approach. Many healthcare professionals receive limited exposure to interdisciplinary collaboration during their education and training. As a result, team members may lack the skills needed to function cohesively in a multidisciplinary team, leading to miscommunication and misunderstandings that negatively impact patient care quality.

Resource allocation and management also present significant organizational challenges. Multidisciplinary teams often require additional financial and human resources to function effectively. In trauma settings where funding is limited, there may be a struggle to provide adequate support for regular team meetings, continuing

education, and personnel dedicated to ensuring multidisciplinary is prioritized. This lack of investment can weaken team dynamics, reducing the overall efficacy of trauma care [44].

## 3. Cultural and Behavioral Barriers

Cultural differences among various healthcare professionals can further complicate the implementation of multidisciplinary approaches. Each discipline within healthcare tends to develop its own ethos, language, and methodologies, which can lead to misunderstandings and conflict. For example, the urgency of surgical interventions may clash with the more measured approach of social work, leading to tension among team members. Acknowledging and bridging these cultural divides is essential for fostering collaboration and improving patient outcomes [45].

In addition, the behavior and attitudes of team members can also pose challenges. Resistance to change is a common phenomenon in healthcare settings, particularly among professionals who are accustomed to established practices. Some team members may exhibit a reluctance to embrace a multidisciplinary framework due to the perceived threat to their professional autonomy or due to ingrained biases against other specialties. This can inhibit the open mindedness and flexibility that are necessary for a successful collaborative environment [46].

## 4. Communication Challenges

Effective communication is the backbone of any successful multidisciplinary approach. Trauma settings often operate under high-pressure situations where time is of the essence. In such contexts, miscommunication can have dire consequences, making it crucial that teams communicate efficiently. Frequent interruptions, high-stakes decisions, and the fast-paced environment can lead to information being overlooked or inaccurately conveyed.

Moreover, the reliance on technology for communication can sometimes lead to complications. While electronic health records (EHR) and other digital platforms can enhance information-sharing capabilities, they can also introduce barriers if staff are not adequately trained in their use or if systems are not integrated effectively. Inconsistencies in documentation and

communication across electronic platforms may hinder the continuity of care, undermining the benefits of a multidisciplinary approach [47].

#### **Future Directions: Innovations and Best Practices in Trauma Care Integration:**

Trauma care is an essential component of modern healthcare systems, addressing serious injuries and life-threatening situations that can arise from various causes including accidents, violence, and natural disasters. As we look to the future, the integration of innovations and best practices in trauma care becomes imperative to enhance patient outcomes, optimize resource utilization, and create resilience in healthcare systems [48].

Technology is poised to revolutionize the delivery of trauma care. The advent of telemedicine has already begun to transform how patients access care, and its integration into trauma services is a significant step forward. Teletrauma programs enable trauma specialists to provide real-time guidance to on-site providers, particularly in remote or underserved areas. This model allows for rapid assessment of injuries and timely decision-making, potentially saving lives in critical situations [49].

Furthermore, wearable technology and mobile health applications can play a pivotal role in monitoring patients at risk of trauma. Devices equipped with sensors can detect falls or sudden health changes in at-risk populations, sending alerts to emergency services or caregivers. Artificial intelligence (AI) and machine learning algorithms are beginning to analyze vast amounts of data, uncovering patterns that can inform predictive models for trauma events. These innovations herald a new era in which data-driven decision-making can enhance the readiness and response capabilities of trauma care systems [50].

The integration of electronic health records (EHR) across multiple healthcare settings also facilitates smoother transition and continuity of care. By ensuring that critical patient information is readily available to all professionals involved in a patient's care, it minimizes errors and improves outcomes. Future innovations will continue to enhance the interoperability of these systems, thereby ensuring that trauma patients receive comprehensive and coordinated care throughout the continuum [51].

Another critical aspect of future trauma care integration is the fostering of interdisciplinary collaboration. Trauma care does not exist in isolation; it requires the expertise of various healthcare professionals including surgeons, emergency room staff, nurses, mental health professionals, and rehabilitation specialists. As trauma management increasingly recognizes the multifaceted nature of recovery, collaborative models of care that incorporate diverse specialties will become essential [52].

Similarly, incorporating mental health support into trauma care is vital for comprehensive treatment. Research indicates that trauma patients often face psychological challenges, including post-traumatic stress disorder (PTSD), which can hinder their recovery. Integrating mental health services into the trauma care pathway allows for timely identification and management of these issues, ensuring that both physical and psychological wounds are treated. Interdisciplinary teams that include psychologists, social workers, and trauma specialists can offer a more holistic approach to care, improving outcomes not just for trauma recovery, but for overall patient well-being [53].

Creating resilient trauma care systems requires strong engagement with communities. Community-level preparedness initiatives are crucial in mitigating the impact of trauma incidents. Providing education on injury prevention, first aid, and emergency response can empower individuals and communities to effectively manage crises before professional help arrives. Future trauma care strategies will prioritize reaching out to local communities to foster partnerships and enhance public health education [54].

Community engagement extends to developing trauma care networks that include local emergency services, hospitals, and rehabilitation facilities. Coordinating among these entities ensures a seamless continuum of care, from the moment of injury through recovery. Building strong relationships and clear communication channels between hospitals and community organizations fosters a culture of preparedness and resilience [55].

Moreover, trauma systems of care are increasingly recognizing the importance of specificity in addressing community needs. Tailoring trauma care to consider demographic factors, prevalence of

specific types of injuries, and cultural sensitivities will enhance service delivery. Robust community assessments can guide trauma care integration practices that are responsive to the unique challenges faced by different populations [56].

The future of trauma care integration will rely heavily on evidence-based practices. Data collection and analysis must underpin the development of protocols and procedures aimed at improving trauma outcomes. Trauma registries, which systematically collect data on trauma patients, are invaluable for understanding injury patterns, treatment modalities, and outcomes. A commitment to ongoing research and evaluation enables healthcare professionals to remain informed about the effectiveness of interventions, transitioning care practices from tradition to data-driven methodologies [57].

Integration of guidelines and protocols, such as the Advanced Trauma Life Support (ATLS) courses, ensures that all trauma care providers are equipped with the most up-to-date knowledge and techniques. Continual education and training are vital components in maintaining high standards within trauma care facilities. Future advancements may include simulation training programs that harness virtual reality environments, better preparing healthcare providers for high-pressure scenarios [58].

Furthermore, patient-centered care must become the gold standard in trauma treatment. Engaging patients in their care plans contributes to better satisfaction and improved adherence to follow-up treatments. Shared decision-making approaches that incorporate patient preferences and values can lead to more personalized trauma care, fostering a stronger therapeutic alliance between patients and providers [59].

### Conclusion:

In conclusion, the importance of multidisciplinary approaches in trauma care is underscored by the collaborative efforts of surgery, emergency medicine, and physiotherapy. Each specialty not only brings its expertise to address the immediate medical needs of trauma patients but also plays a critical role in the long-term recovery process. By working together, these professionals can create a cohesive treatment plan that optimizes outcomes and enhances the overall patient experience.

Furthermore, the integration of diverse perspectives fosters not only better clinical results but also promotes a holistic approach to care that addresses physical, emotional, and psychological aspects of recovery. As trauma care continues to evolve, ongoing education, communication, and research into best practices will be vital in strengthening these multidisciplinary teams. Ultimately, an emphasis on collaboration not only improves individual patient outcomes but also sets a foundation for systemic improvements in trauma care across healthcare settings.

### References:

1. Strathdee SA, Hellyar M, Montesa C, Davidson JE. The power of family engagement in rounds: an exemplar with global outcomes. *Crit Care Nurse*. 2019;39(5):14–20. doi: 10.4037/ccn2019647.
2. Halm MA, Gagner S, Goering M, Sabo J, Smith M, Zaccagnini M. Interdisciplinary rounds: impact on patients, families, and staff. *Clin Nurse Spec*. 2003;17(3):133–142. doi: 10.1097/00002800-200305000-00013.
3. Johns Hopkins Medicine. Multidisciplinary Rounds Committee. Published January 15, 2022.
4. O'Brien A, O'Reilly K, Dechen T, et al. Redesigning rounds in the ICU: standardizing key elements improves interdisciplinary communication. *Jt Comm J Qual Patient Saf*. 2018;44(10):590–598. doi: 10.1016/j.jcjq.2018.01.006.
5. Najm A, Kostine M, Pauling JD, et al. Multidisciplinary collaboration among young specialists: results of an international survey by the emerging EULAR network and other young organisations. *RMD Open*. 2020;6(2):e001398. doi: 10.1136/rmdopen-2020-001398.
6. Curran A. What is a bedside nurse? Understanding the role and responsibilities. *NurseStudyNet*. Published May 2023.
7. Baldwin DC Jr. Some historical notes on interdisciplinary and interprofessional education and practice in health care in the USA. *J Interprof Care*. 2007;21(sup1):23–37. doi: 10.1080/13561820701594728.
8. Epstein NE. Multidisciplinary in-hospital teams improve patient outcomes: a review. *Surg*

- Neurol Int. 2014;5(8):295. doi: 10.4103/2152-7806.139612.
9. Palmer RM. The acute care for elders unit model of care. *Geriatrics (Basel)*. 2018;3(3):59. doi: 10.3390/geriatrics3030059.
10. Vazirani S, Hays RD, Shapiro MF, Cowan M. Effect of a multidisciplinary intervention on communication and collaboration among physicians and nurses. *Am J Crit Care*. 2005;14(1):71–77. doi: 10.4037/ajcc2005.14.1.71.
11. Hatter CW, Mast D, Corderella J, et al. Using evidence and process improvement strategies to enhance healthcare outcomes for the critically ill: a pilot project. *Am J Crit Care*. 2006;15(6):549–555. doi: 10.4037/ajcc2006.15.6.549.
12. Social Care Institute for Excellence. Multidisciplinary teams: integrating care in places and neighbourhoods. Published 2018.
13. Sreepathy P, Kim YJ, Ahuja Z, Shroff AR, Nazir NT. The association between implementation of multidisciplinary rounds and clinical outcomes. *Front Cardiovasc Med*. 2022;9:1005150. doi: 10.3389/fcvm.2022.1005150.
14. Oandasan I, Baker GR, Barker K. Teamwork in health care: promoting effective teamwork in healthcare in Canada: policy synthesis and recommendations. Canadian Health Services Research Foundation. Published 2006.
15. Mueller T. Rounds cut LOS, improve patient satisfaction. *Relias Media*. Published 2011.
16. Carayon P, Gurses AP. Nursing workload and patient safety—a human factors engineering perspective. In: Hughes RG, ed. *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*. Rockville, MD: Agency for Healthcare Research and Quality; 2008.
17. Krist AH, Tong ST, Aycock RA, Longo DR. Engaging patients in decision-making and behavior change to promote prevention. *Stud Health Technol Inform*. 2017;240:284–302. doi: 10.3233/ISU-170826.
18. Murray MA, Osaki S, Edwards NM, et al. Multidisciplinary approach decreases length of stay and reduces cost for ventricular assist device therapy. *Interact Cardiovasc Thorac Surg*. 2009;8(1):84–88. doi: 10.1510/icvts187377.
19. Institute for Healthcare Improvement. How-to guide: multidisciplinary rounds. Published February 2015.
20. Hatler CW, Mast D, Corderella J, et al. Using evidence and process improvement strategies to enhance healthcare outcomes for the critically ill: a pilot project. *Am J Crit Care*. 2006;15(6):549–555. doi: 10.4037/ajcc2006.15.6.549.
21. Durojaiye AB, McGeorge NM, Puett LL et al. Mapping the flow of pediatric trauma patients using process mining. *Appl Clin Inform* 2018; 9 (3): 654–66.
22. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-Based Injury Statistics Query and Reporting System (WISQARS) Fatal Injury Data. 2016.
23. Chen Y, Patel MB, McNaughton CD, Malin BA. Interaction patterns of trauma providers are associated with length of stay. *J Am Med Inform Assoc* 2018; 25(7):790–9.
24. Curtis K, Foster K, Mitchell R et al. How is care provided for patients with paediatric trauma and their families in Australia? A mixed-method study. *J Paediatr Child Health* 2016; 52 (8): 832–6.
25. Seifert J. Incidence and economic burden of injuries in the United States. *J Epidemiol Community Health* 2007; 61 (10): 926.
26. Vernon DD, Furnival RA, Hansen KW et al. Effect of a pediatric trauma response team on emergency department treatment time and mortality of pediatric trauma victims. *Pediatrics* 1999; 103 (1): 20–24.
27. Bae S-H, Nikolaev A, Seo JY et al. Health care provider social network analysis: a systematic review. *Nurs Outlook* 2015; 63 (5): 566–84.
28. Soulakis ND, Carson MB, Lee YJ et al. Visualizing collaborative electronic health record usage for hospitalized patients with heart failure. *J Am Med Inform Assoc* 2015; 22 (2): 299–311.

- 
29. Chambers D, Wilson P, Thompson C et al. Social network analysis in healthcare settings: a systematic scoping review. *PLoS One* 2012; 7 (8): e41911.
  30. Stinner DJ, Brooks SE, Fras AR et al. Caring for the polytrauma patient: is your system surviving or thriving? *Am J Orthop* 2013; 42 (5): E33–4.
  31. Tasselli S. Social networks of professionals in health care organizations: a review. *Med Care Res Rev* 2014; 71 (6): 619–60.
  32. Ameratunga S, et al. Children admitted to hospital following unintentional injury: perspectives of health service providers in Aotearoa/New Zealand. *BMC Health Serv Res* 2010; 10: 333.
  33. Gray JE, Davis DA, Pursley DM et al. Network analysis of team structure in the neonatal intensive care unit. *Pediatrics* 2010; 125 (6): e1460–7.
  34. Perno JF, Schunk JE, Hansen KW et al. Significant reduction in delayed diagnosis of injury with implementation of a pediatric trauma service. *Pediatr Emerg Care* 2005; 21 (6): 367–71.
  35. COUNCIL, ON INJURY, and COMMITTEE ON PEDIATRIC EMERGENCY MEDICINE. Management of Pediatric Trauma. *Pediatrics* 2016; 138(2).
  36. Cunningham FC, Ranmuthugala G, Plumb J et al. Health professional networks as a vector for improving healthcare quality and safety: a systematic review. *BMJ Qual Saf* 2012; 21 (3): 239–49.
  37. Bach JA, Leskovan JJ, Scharschmidt T et al. The right team at the right time - Multidisciplinary approach to multi-trauma patient with orthopedic injuries. *Int J Crit Illn Inj Sci* 2017; 7 (1): 32–7.
  38. He S, Gurr G, Rea S et al. Characterizing the structure of a patient's care team through electronic encounter data analysis. *Stud Health Technol Inform* 2015; 216: 21–5.
  39. Suk M. We need better care coordination for polytraumatized patients. *Am J Orthop* 2013; 42 (7): 302.
  40. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-Based Injury Statistics Query and Reporting System (WISQARS) Nonfatal Injury Data. 2016.
  41. Brunson JC, Laubenbacher RC. Applications of network analysis to routinely collected health care data: a systematic review. *J Am Med Inform Assoc* 2018; 25 (2): 210–21.
  42. Mittal V. Family-centered rounds. *Pediatr Clin North Am.* 2014;61(4):663–670. doi: 10.1016/j.pcl.2014.04.003.
  43. Jain M, Miller L, Belt D, King D, Berwick DM. Decline in ICU adverse events, nosocomial infections and cost through a quality improvement initiative focusing on teamwork and culture change. *Qual Saf Health Care.* 2006;15(4):235–239. doi: 10.1136/qshc.2005.016576.
  44. Kowalewski S, Mieczkowska A, Patel RK, et al. Measuring patient satisfaction with interdisciplinary rounds on round days: a before-and-after study. *J Patient Saf.* 2020;16(2):e72–e77. doi: 10.1097/PTS.0000000000000298.
  45. Gantayet-Mathur A, Chan K, Kalluri M. Patient-centered care and interprofessional collaboration in medical resident education: where we stand and where we need to go. *Humanit Soc Sci Commun.* 2022;9(1):1–24. doi: 10.1057/s41599-022-01221-5.
  46. Thompson K, Outram S, Gilligan C, Levett-Jones T. Interprofessional experiences of recent healthcare graduates: a social psychology perspective on the barriers to effective communication, teamwork, and patient-centred care. *J Interprof Care.* 2015;29(6):634–640. doi: 10.3109/13561820.2015.1040873.
  47. Heip T, Van Hecke A, Malfait S, Van Biesen W, Eeckloo K. The effects of interdisciplinary bedside rounds on patient centeredness, quality of care, and team collaboration: a systematic review. *J Patient Saf.* 2022;18(1):e40–e44. doi: 10.1097/PTS.0000000000000695.
  48. Alowais SA, Alghamdi SS, Alsuhbany N, et al. Revolutionizing healthcare: the role of artificial intelligence in clinical practice. *BMC Med Educ.*

- 2023;23(1):689. doi: 10.1186/s12909-023-04698-z.
49. Malec A, Mørk A, Hoffman R, Carlson E. The care team visit: approaching interdisciplinary rounds with renewed focus. *J Nurs Care Qual.* 2018;33(2):135–142. doi: 10.1097/NCQ.0000000000000279.
50. Rovira C, Modamio P, Pascual J, et al. Person-centred care provided by a multidisciplinary primary care team to improve therapeutic adequacy in polymedicated elderly patients (PCMR): randomised controlled trial protocol. *BMJ Open.* 2022;12(2):e051238. doi: 10.1136/bmjopen-2021-051238.
51. Chow MY, Nikolic S, Shetty A, Lai K. Structured interdisciplinary bedside rounds in an Australian tertiary hospital emergency department: patient satisfaction and staff perspectives. *Emerg Med Austral.* 2019;31(3):347–354. doi: 10.1111/1742-6723.13160.
52. Thomson K, Outram S, Gilligan C, Levett-Jones T. Interprofessional experiences of recent healthcare graduates: a social psychology perspective on the barriers to effective communication, teamwork, and patient-centred care. *J Interprof Care.* 2015;29(6):634–640. doi: 10.3109/13561820.2015.1040873.
53. Cao V, Tan LD, Horn F, et al. Patient-centered structured interdisciplinary bedside rounds in the medical ICU. *Crit Care Med.* 2018;46(1):85–92. doi: 10.1097/CCM.0000000000002807.
54. Kashner TM, Hettler DL, Zeiss RA, et al. Has interprofessional education changed learning preferences? A national perspective. *Health Serv Res.* 2017;52(1):268–290. doi: 10.1111/1475-6773.12485.
55. Slavik SN, Levy K, Samuels SL, et al. Effect of a new communication tool on patient satisfaction: results of a pilot study. *Nam U. Healthc.* 2019; 48(6):231–238. doi: 10.1016/j.jhpn.2019.06.002.
56. Walton V, Hogden A, Long JC, Johnson JK, Greenfield D. How do interprofessional healthcare teams perceive the benefits and challenges of interdisciplinary ward rounds? *JMDH.* 2019;12:1023–1032. doi: 10.2147/JMDH.S226330.
57. Griggs AC, Fausett CM, Simonson RJ, et al. Telerounding: a scoping review and implications for future healthcare practice. *Hum Factors Health.* 2021;1:100008. doi: 10.1016/j.hfh.2022.100008.
58. Francis AA, Wall JEM, Stone A, Dewane MP, Dyke A, Gregg SC. The impact of interdisciplinary care on cost reduction in a geriatric trauma population. *J Emerg Trauma Shock.* 2020;13(4):286–295. doi: 10.4103/JETS.JETS\_151\_19.
59. Sehgal NL, Auerbach AA. Communication failures and a call for new systems to promote patient safety: comment on “Structured interdisciplinary rounds in a medical teaching unit.” *Arch Intern Med.* 2011;171(7):684–685. doi: 10.1001/archinternmed.2011.129.