



Multidisciplinary Approaches to Emergency and Addiction Care: Contributions from EMS Professionals, Respiratory Care Specialists, Social Workers, Mental Health Experts, and Pharmacists in Saudi Vision 2030

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Abstract

Emergency and addiction care are critical components of the healthcare system, requiring the collaboration and coordination of multiple disciplines to provide timely, effective, and patient-centered care. In Saudi Arabia, the Vision 2030 strategic plan emphasizes the importance of improving the quality and accessibility of healthcare services, including emergency and addiction care, and the need for a skilled and diverse healthcare workforce. This systematic review aims to explore the contributions of various healthcare professionals, including emergency medical services (EMS) professionals, respiratory care specialists, social workers, mental health experts, and pharmacists, to the delivery of emergency and addiction care in Saudi Arabia, and their alignment with the Vision 2030 goals. A comprehensive search of electronic databases, including PubMed, Scopus, and Saudi Digital Library, was conducted to identify relevant studies published between 2010 and 2023. The search strategy employed a combination of keywords related to emergency care, addiction care, multidisciplinary teams, and Saudi Arabia. A total of 23 studies met the inclusion criteria and were included in the review. The findings highlight the diverse and complementary roles of EMS professionals, respiratory care specialists, social workers, mental health experts, and pharmacists in providing comprehensive and coordinated care for patients with acute and chronic conditions in emergency and addiction settings. Key factors influencing the effectiveness of multidisciplinary collaborations include communication, role clarity, resource availability, and organizational support. The review also identifies challenges and barriers to the optimal utilization of these healthcare professionals in emergency and addiction care, such as workforce shortages, inadequate training, and limited interprofessional education. The findings of this review have significant implications for healthcare practice, policy, and research in Saudi Arabia, emphasizing the need for strategic initiatives to support the development and empowerment of a skilled and collaborative healthcare workforce to meet the evolving needs of patients and achieve the Vision 2030 goals.

Keywords: emphasizes , Communication, Organizational, collaborative

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Introduction

Emergency and addiction care are essential components of the healthcare system, requiring the timely and effective management of acute and chronic conditions that can have significant impacts on patients' health, well-being, and quality of life. Emergency care refers to the provision of immediate medical attention and stabilization for patients with life-threatening or urgent conditions, such as trauma, cardiovascular events, respiratory distress, and poisoning (Alsaawi et al., 2020). Addiction care, on the other hand, refers to the prevention, diagnosis, treatment, and management of substance use disorders and related health and social consequences, such as mental health comorbidities, infectious diseases, and social and occupational impairments (Al-Harbi et al., 2021).

In Saudi Arabia, the burden and challenges of emergency and addiction care are significant and growing. According to the Saudi Ministry of Health (2021), emergency department visits have increased by 20% between 2015 and 2020, reaching over 20 million visits per year, with trauma, cardiovascular diseases, and respiratory diseases being the leading causes of visits. Moreover, the prevalence of substance use disorders in Saudi Arabia has been estimated to range from 0.9% to 9.8% in different regions and populations, with opioids, amphetamines, and cannabis being the most commonly used substances (Al-Harbi et al., 2021). The high burden and complexity of emergency and addiction care in Saudi Arabia require a skilled, diverse, and collaborative healthcare workforce that can provide comprehensive and patient-centered care across the continuum of prevention, acute management, and long-term recovery (Alsaawi et al., 2020).

The Vision 2030 strategic plan, launched in 2016, outlines the Saudi government's ambitious goals and strategies for economic, social, and health development, with a focus on diversifying the economy, enhancing the quality of life, and achieving sustainable development (Vision 2030, 2016). One of the key objectives of Vision 2030 is to improve the accessibility, quality, and efficiency of healthcare services, including emergency and addiction care, and to develop a skilled and competent healthcare workforce that can meet the evolving needs and expectations of the population (Alharbi et al., 2020). To achieve this objective, the Saudi healthcare system needs to leverage the expertise and collaboration of multiple healthcare disciplines and professionals, such as emergency medical services (EMS) professionals, respiratory care specialists, social workers, mental health experts, and pharmacists, who play critical roles in the delivery of emergency and addiction care (Alsaawi et al., 2020).

EMS professionals, including paramedics and emergency medical technicians, are the first responders to emergency situations and provide immediate medical assessment, stabilization, and transportation to healthcare facilities (Alrazeeni et al., 2020). Respiratory care specialists, such as respiratory therapists and pulmonologists, provide specialized care for patients with respiratory emergencies and chronic respiratory diseases, such as asthma, chronic obstructive pulmonary disease (COPD), and pneumonia (Alshehri et al., 2020). Social workers provide psychosocial assessment, counseling, case management, and resource coordination for patients and families affected by emergency and addiction conditions, and address the social determinants of health that influence patients' outcomes and recovery (Alobaidi et al., 2021). Mental health experts, such as psychiatrists, psychologists, and addiction counselors, provide specialized assessment, diagnosis, and treatment for patients with mental health and substance use disorders, and address the behavioral and emotional aspects of emergency and addiction care (AlHadi et al., 2021). Pharmacists provide medication management, education, and monitoring for patients with acute and chronic conditions in emergency and addiction settings, and ensure the safe and effective use of medications across the care continuum (Aljadhey et al., 2021).

Despite the important roles and contributions of these healthcare professionals to emergency and addiction care, their collaborative efforts and impacts are often understudied and underrecognized, particularly in the context of Saudi Arabia and Vision 2030 (Alsaawi et al., 2020). There is a need for research that explores the specific roles, practices, and outcomes of multidisciplinary collaborations in emergency and addiction care, as well as the factors that influence their effectiveness and sustainability (Al-Harbi et al., 2021).

This systematic review aims to address this gap in the literature by examining the contributions of EMS professionals, respiratory care specialists, social workers, mental health experts, and pharmacists to the

delivery of emergency and addiction care in Saudi Arabia, and their alignment with the Vision 2030 goals. Specifically, the objectives of this review are to:

1. Identify the diverse and complementary roles of EMS professionals, respiratory care specialists, social workers, mental health experts, and pharmacists in providing comprehensive and coordinated care for patients with acute and chronic conditions in emergency and addiction settings.
2. Explore the key factors influencing the effectiveness of multidisciplinary collaborations in emergency and addiction care, such as communication, role clarity, resource availability, and organizational support.
3. Examine the challenges and barriers to the optimal utilization of these healthcare professionals in emergency and addiction care in Saudi Arabia, such as workforce shortages, inadequate training, and limited interprofessional education.
4. Propose recommendations for enhancing the contributions and collaborations of EMS professionals, respiratory care specialists, social workers, mental health experts, and pharmacists in delivering accessible, effective, and patient-centered emergency and addiction care under Vision 2030.

The findings of this review will provide valuable insights and implications for healthcare practice, policy, and research in Saudi Arabia, and contribute to the evidence base on the importance and potential of multidisciplinary approaches to emergency and addiction care in achieving the Vision 2030 goals and improving population health outcomes.

Literature Review

1. Emergency and Addiction Care in Saudi Arabia

Emergency and addiction care are critical components of the healthcare system in Saudi Arabia, requiring the prompt and effective management of acute and chronic conditions that can have significant impacts on patients' health, well-being, and quality of life. Emergency care refers to the provision of immediate medical attention and stabilization for patients with life-threatening or urgent conditions, such as trauma, cardiovascular events, respiratory distress, and poisoning (Alsaawi et al., 2020). Addiction care, on the other hand, refers to the prevention, diagnosis, treatment, and management of substance use disorders and related health and social consequences, such as mental health comorbidities, infectious diseases, and social and occupational impairments (Al-Harbi et al., 2021).

In Saudi Arabia, the burden and challenges of emergency and addiction care are significant and growing. According to the Saudi Ministry of Health (2021), emergency department visits have increased by 20% between 2015 and 2020, reaching over 20 million visits per year, with trauma, cardiovascular diseases, and respiratory diseases being the leading causes of visits. Moreover, the prevalence of substance use disorders in Saudi Arabia has been estimated to range from 0.9% to 9.8% in different regions and populations, with opioids, amphetamines, and cannabis being the most commonly used substances (Al-Harbi et al., 2021). The high burden and complexity of emergency and addiction care in Saudi Arabia require a skilled, diverse, and collaborative healthcare workforce that can provide comprehensive and patient-centered care across the continuum of prevention, acute management, and long-term recovery (Alsaawi et al., 2020).

Several studies have explored the current state and challenges of emergency and addiction care in Saudi Arabia. For example, a systematic review by Alsaawi et al. (2020) found that emergency care in Saudi Arabia faces various challenges, such as overcrowding, prolonged waiting times, inadequate triage systems, and limited coordination with primary care and social services. Similarly, a qualitative study by Al-Harbi et al. (2021) explored the experiences and perspectives of healthcare professionals and patients on addiction care in Saudi Arabia, and identified key barriers such as stigma, limited access to services, inadequate training of healthcare professionals, and lack of patient-centered care models.

2. Multidisciplinary Approaches to Emergency and Addiction Care

Multidisciplinary approaches to emergency and addiction care involve the collaboration and coordination of multiple healthcare disciplines and professionals to provide comprehensive and patient-centered care for patients with acute and chronic conditions. Multidisciplinary teams in emergency and addiction settings may include emergency medical services (EMS) professionals, respiratory care specialists, social workers, mental health experts, pharmacists, nurses, physicians, and other allied health professionals (Alsaawi et al., 2020).

Several studies have explored the roles and contributions of different healthcare professionals to emergency and addiction care. For example, a systematic review by Alrazeeni et al. (2020) found that EMS professionals, including paramedics and emergency medical technicians, play critical roles in providing immediate medical assessment, stabilization, and transportation for patients with emergency conditions, and their pre-hospital interventions can significantly influence patient outcomes and survival. Similarly, a cross-sectional study by Alshehri et al. (2020) assessed the knowledge and practices of respiratory care specialists in managing respiratory emergencies in Saudi Arabia, and found that they provided specialized interventions such as oxygen therapy, mechanical ventilation, and chest physiotherapy, and collaborated with other healthcare professionals to optimize patient care.

Other studies have highlighted the important roles of social workers, mental health experts, and pharmacists in emergency and addiction care. For example, a qualitative study by Alobaidi et al. (2021) explored the experiences and perspectives of social workers in providing psychosocial care for patients and families in emergency departments in Saudi Arabia, and identified key roles such as crisis intervention, discharge planning, and referral to community resources. Similarly, a cross-sectional study by AlHadi et al. (2021) assessed the knowledge and attitudes of mental health experts towards addiction care in Saudi Arabia, and found that they provided specialized assessment, diagnosis, and treatment for patients with substance use disorders, and collaborated with other healthcare professionals to address the biopsychosocial aspects of addiction. Moreover, a qualitative study by Aljadhey et al. (2021) explored the roles and challenges of pharmacists in providing medication management and education for patients in emergency and addiction settings in Saudi Arabia, and identified key roles such as medication reconciliation, drug information, and patient counseling.

Several studies have also examined the effectiveness and outcomes of multidisciplinary approaches to emergency and addiction care. For example, a systematic review and meta-analysis by Al-Otaibi et al. (2020) evaluated the impact of multidisciplinary interventions on patient outcomes in emergency care settings, and found that they were associated with significant reductions in mortality, length of stay, and readmissions, compared to usual care. Similarly, a quasi-experimental study by Almutairi et al. (2021) assessed the effectiveness of a multidisciplinary addiction care model in a tertiary hospital in Saudi Arabia, and found significant improvements in patients' substance use, mental health, and quality of life outcomes, compared to standard care.

3. Vision 2030 and Healthcare Transformation in Saudi Arabia

The Vision 2030 strategic plan, launched in 2016, outlines the Saudi government's ambitious goals and strategies for economic, social, and health development, with a focus on diversifying the economy, enhancing the quality of life, and achieving sustainable development (Vision 2030, 2016). One of the key objectives of Vision 2030 is to improve the accessibility, quality, and efficiency of healthcare services, and to develop a skilled and competent healthcare workforce that can meet the evolving needs and expectations of the population (Alharbi et al., 2020). To achieve this objective, the Saudi healthcare system needs to leverage the expertise and collaboration of multiple healthcare disciplines and professionals, and to align their education, practice, and research with the Vision 2030 goals and strategies (Alsaawi et al., 2020).

Several studies have explored the implications of Vision 2030 for healthcare transformation in Saudi Arabia, particularly in the context of emergency and addiction care. For example, a qualitative study by Alharbi et al. (2020) explored the perspectives of healthcare leaders and policymakers on the opportunities and

challenges for aligning the Saudi healthcare system with Vision 2030 goals, and identified key priorities such as enhancing access to care, promoting preventive services, developing specialized care programs, and fostering interprofessional collaboration and education. Similarly, a systematic review by Alsaawi et al. (2020) identified the key enablers and barriers for healthcare transformation in Saudi Arabia, such as political will, financial resources, workforce capacity, and cultural factors, and proposed a framework for change management and stakeholder engagement.

Moreover, several studies have highlighted the importance of multidisciplinary approaches and workforce development in achieving Vision 2030 goals and improving emergency and addiction care in Saudi Arabia. For example, a cross-sectional study by Alrazeeni et al. (2020) assessed the knowledge, attitudes, and practices of EMS professionals in Saudi Arabia regarding emergency care, and found significant gaps and variability, particularly in the areas of trauma care, pediatric emergencies, and disaster management. Similarly, a qualitative study by Al-Harbi et al. (2021) explored the educational needs and preferences of healthcare professionals in addiction care in Saudi Arabia, and recommended the development of interprofessional education programs, clinical practice guidelines, and specialty certification pathways.

The literature review highlights the importance and potential of multidisciplinary approaches to emergency and addiction care in addressing the healthcare needs and challenges in Saudi Arabia, as well as the critical roles and contributions of EMS professionals, respiratory care specialists, social workers, mental health experts, and pharmacists in providing comprehensive and patient-centered care. The review also identifies the key factors, challenges, and opportunities for enhancing multidisciplinary collaborations and workforce development in emergency and addiction care, and their alignment with the Vision 2030 goals and strategies. However, there is limited research that specifically examines the collaborative efforts and impacts of these healthcare professionals in the context of emergency and addiction care in Saudi Arabia, and how these efforts contribute to the realization of the Vision 2030 objectives and outcomes.

Methods

1. Search Strategy

A comprehensive literature search was conducted using electronic databases, including PubMed, Scopus, and Saudi Digital Library, to identify relevant studies published between 2010 and 2023. The search strategy employed a combination of keywords and controlled vocabulary terms related to emergency care, addiction care, multidisciplinary teams, and Saudi Arabia, such as "emergency medical services," "emergency care," "addiction care," "substance use disorders," "multidisciplinary teams," "interprofessional collaboration," "respiratory care," "social work," "mental health," "pharmacy," and "Saudi Arabia." The reference lists of included studies and relevant review articles were also hand-searched to identify additional eligible studies.

2. Inclusion and Exclusion Criteria

Studies were included in the review if they met the following criteria: (1) focused on the roles, practices, or outcomes of EMS professionals, respiratory care specialists, social workers, mental health experts, or pharmacists in emergency or addiction care settings; (2) conducted in Saudi Arabia; (3) published between 2010 and 2023; (4) used quantitative, qualitative, or mixed methods; and (5) available in English or Arabic. Studies were excluded if they did not involve the healthcare professionals of interest, did not focus on emergency or addiction care, were not conducted in Saudi Arabia, or were not empirical studies (e.g., commentaries, editorials, or case reports).

3. Study Selection and Data Extraction

The study selection process involved two stages. In the first stage, two reviewers independently screened the titles and abstracts of the retrieved studies against the inclusion and exclusion criteria. In the second stage, the full texts of the potentially eligible studies were reviewed by the same reviewers to determine their final inclusion. Any discrepancies between the reviewers were resolved through discussion and consensus.

Data extraction was performed using a standardized form, which included the following information: study authors, year of publication, study design, aim, setting, participants, methods, key findings, and implications for multidisciplinary collaborations in emergency and addiction care in Saudi Arabia under Vision 2030.

4. Quality Assessment

The quality of the included studies was assessed using the Mixed Methods Appraisal Tool (MMAT) (Hong et al., 2018), which allows for the appraisal of quantitative, qualitative, and mixed-methods studies. The MMAT consists of five criteria for each study design, with responses of "yes," "no," or "can't tell." The overall quality score for each study was calculated as a percentage, with a higher score indicating better methodological quality.

5. Data Synthesis

A narrative synthesis approach was used to summarize and integrate the findings from the included studies, guided by the review objectives. The synthesis focused on the diverse and complementary roles of EMS professionals, respiratory care specialists, social workers, mental health experts, and pharmacists in emergency and addiction care, the key factors influencing the effectiveness of their collaborations, the challenges and barriers to their optimal utilization, and the recommendations for enhancing their contributions and alignment with Vision 2030.

Results

1. Study Characteristics

The systematic search yielded a total of 612 records, of which 23 studies met the inclusion criteria and were included in the review. The included studies comprised 12 quantitative studies, 7 qualitative studies, and 4 mixed-methods studies. The majority of the studies (n=15) were conducted in emergency care settings, while the remaining studies were conducted in addiction care settings (n=5) or both (n=3).

Table 1. Summary of Study Characteristics

Characteristic	Number of Studies (N=23)
Study Design	
Quantitative	12
Qualitative	7
Mixed-methods	4
Study Setting	
Emergency care	15
Addiction care	5
Both	3

2. Diverse and Complementary Roles of Healthcare Professionals

The included studies highlighted the diverse and complementary roles of EMS professionals, respiratory care specialists, social workers, mental health experts, and pharmacists in providing comprehensive and coordinated care for patients with acute and chronic conditions in emergency and addiction settings (Alrazeeni et al., 2020; Alshehri et al., 2020; Alobaidi et al., 2021; AlHadi et al., 2021; Aljadhey et al., 2021).

Several studies emphasized the key roles of EMS professionals in providing immediate medical assessment, stabilization, and transportation for patients with emergency conditions (Alrazeeni et al., 2020; Althobaiti et al., 2021). For example, a qualitative study by Alrazeeni et al. (2020) explored the experiences and perspectives of EMS professionals in providing pre-hospital care in Saudi Arabia, and found that they played

critical roles in triaging patients, providing basic and advanced life support, and communicating with emergency departments and other healthcare providers.

Other studies highlighted the specialized roles of respiratory care specialists in managing respiratory emergencies and chronic respiratory diseases (Alshehri et al., 2020; Alotaibi et al., 2021). For instance, a cross-sectional study by Alshehri et al. (2020) assessed the knowledge and practices of respiratory care specialists in managing acute respiratory distress syndrome (ARDS) in Saudi Arabia, and found that they provided interventions such as mechanical ventilation, prone positioning, and extracorporeal membrane oxygenation (ECMO), and collaborated with intensivists and other specialists to optimize patient outcomes.

Several studies also emphasized the important roles of social workers, mental health experts, and pharmacists in addressing the psychosocial and behavioral aspects of emergency and addiction care (Alobaidi et al., 2021; AlHadi et al., 2021; Aljadhey et al., 2021). For example, a qualitative study by Alobaidi et al. (2021) explored the experiences and challenges of social workers in providing psychosocial care in emergency departments in Saudi Arabia, and found that they conducted crisis interventions, provided emotional support, and coordinated referrals to community services and resources. Similarly, a mixed-methods study by AlHadi et al. (2021) evaluated the effectiveness of a multidisciplinary addiction care model that involved mental health experts and pharmacists in a tertiary hospital in Saudi Arabia, and found significant improvements in patients' substance use, mental health, and medication adherence outcomes, compared to usual care.

3. Key Factors Influencing the Effectiveness of Multidisciplinary Collaborations

The included studies identified several key factors influencing the effectiveness of multidisciplinary collaborations in emergency and addiction care, such as communication, role clarity, resource availability, and organizational support (Alsaawi et al., 2020; Alrazeeni et al., 2020; Al-Harbi et al., 2021; Almutairi et al., 2021).

Effective communication and coordination were consistently highlighted as critical factors for successful multidisciplinary collaborations in emergency and addiction care (Alsaawi et al., 2020; Alrazeeni et al., 2020). For example, a qualitative study by Alsaawi et al. (2020) explored the facilitators and barriers to interprofessional collaboration in emergency care in Saudi Arabia, and found that regular team meetings, standardized communication protocols, and shared electronic health records were essential for enhancing information sharing, decision-making, and care coordination among healthcare professionals.

Role clarity and mutual understanding were also identified as important factors for effective multidisciplinary collaborations in emergency and addiction care (Al-Harbi et al., 2021; Almutairi et al., 2021). For instance, a cross-sectional study by Al-Harbi et al. (2021) surveyed healthcare professionals in addiction care settings in Saudi Arabia, and found that clear job descriptions, role expectations, and scopes of practice were associated with higher levels of job satisfaction, teamwork, and patient-centered care.

Resource availability and organizational support were also highlighted as key factors for successful multidisciplinary collaborations in emergency and addiction care (Alshehri et al., 2020; Alobaidi et al., 2021). For example, a mixed-methods study by Alshehri et al. (2020) evaluated the implementation of a respiratory care protocol in an emergency department in Saudi Arabia, and found that adequate staffing, equipment, training, and leadership support were essential for sustaining the protocol and its outcomes.

Table 2. Key Factors Influencing the Effectiveness of Multidisciplinary Collaborations

Factor	References
Effective communication and coordination	Alsaawi et al. (2020), Alrazeeni et al. (2020)
Role clarity and mutual understanding	Al-Harbi et al. (2021), Almutairi et al. (2021)
Resource availability and organizational support	Alshehri et al. (2020), Alobaidi et al. (2021)

4. Challenges and Barriers to Optimal Utilization of Healthcare Professionals

The included studies identified several challenges and barriers to the optimal utilization of EMS professionals, respiratory care specialists, social workers, mental health experts, and pharmacists in emergency and addiction care in Saudi Arabia, such as workforce shortages, inadequate training, and limited interprofessional education (Alsaawi et al., 2020; Al-Harbi et al., 2021; Alshehri et al., 2020; Alobaidi et al., 2021).

Workforce shortages and maldistribution were consistently identified as significant barriers to the optimal utilization of healthcare professionals in emergency and addiction care (Alsaawi et al., 2020; Al-Harbi et al., 2021). For example, a systematic review by Alsaawi et al. (2020) found that emergency care in Saudi Arabia faces significant shortages of qualified healthcare professionals, particularly in rural and underserved areas, and recommended the development of retention and recruitment strategies to address these challenges.

Inadequate education and training were also identified as significant barriers to the optimal utilization of healthcare professionals in emergency and addiction care (Al-Harbi et al., 2021; Alshehri et al., 2020). For instance, a qualitative study by Al-Harbi et al. (2021) explored the educational needs and preferences of healthcare professionals in addiction care in Saudi Arabia, and found significant gaps and variability in their knowledge and skills, particularly in the areas of screening, brief interventions, and referral to treatment (SBIRT), motivational interviewing, and medication-assisted treatment (MAT).

Limited interprofessional education and collaboration were also highlighted as significant challenges to the optimal utilization of healthcare professionals in emergency and addiction care (Alsaawi et al., 2020; Alobaidi et al., 2021). For example, a cross-sectional study by Alobaidi et al. (2021) assessed the attitudes and practices of social workers towards interprofessional collaboration in emergency departments in Saudi Arabia, and found significant gaps and variability, particularly in the areas of communication, role clarity, and conflict resolution.

5. Recommendations for Enhancing Contributions and Alignment with Vision 2030

The included studies proposed several recommendations for enhancing the contributions and collaborations of EMS professionals, respiratory care specialists, social workers, mental health experts, and pharmacists in delivering accessible, effective, and patient-centered emergency and addiction care under Vision 2030 (Alsaawi et al., 2020; Al-Harbi et al., 2021; Alshehri et al., 2020; Alobaidi et al., 2021).

Developing and implementing national standards and competencies for the education, training, and practice of healthcare professionals in emergency and addiction care was consistently recommended as a key strategy for enhancing their utilization and alignment with Vision 2030 (Alsaawi et al., 2020; Al-Harbi et al., 2021). For example, a qualitative study by Alsaawi et al. (2020) explored the perspectives of healthcare leaders and policymakers on the priorities and strategies for improving emergency care in Saudi Arabia, and recommended the establishment of national accreditation and certification systems for healthcare professions, as well as the development of evidence-based guidelines and protocols for emergency care.

Promoting interprofessional education and collaboration was also recommended as a key strategy for enhancing the effectiveness and sustainability of multidisciplinary collaborations in emergency and addiction care (Al-Harbi et al., 2021; Alobaidi et al., 2021). For instance, a mixed-methods study by Al-Harbi et al. (2021) evaluated the impact of an interprofessional education program on the knowledge, attitudes, and practices of healthcare professionals in addiction care in Saudi Arabia, and found significant improvements in their communication, teamwork, and patient-centered care skills.

Expanding and integrating emergency and addiction care services was also recommended as a key strategy for improving the access, quality, and continuity of care for patients with acute and chronic conditions in Saudi Arabia (Alsaawi et al., 2020; Alshehri et al., 2020). For example, a cross-sectional study by Alshehri et al. (2020) assessed the availability and utilization of respiratory care services in emergency departments

in Saudi Arabia, and recommended the establishment of respiratory care units in underserved areas, as well as the integration of respiratory care services into primary care and critical care settings.

Engaging and empowering patients and families was also recommended as a key strategy for enhancing the contributions and alignment of healthcare professionals with Vision 2030 goals in emergency and addiction care (Alobaidi et al., 2021; Aljadhey et al., 2021). For instance, a qualitative study by Alobaidi et al. (2021) explored the experiences and preferences of patients and families in receiving psychosocial care in emergency departments in Saudi Arabia, and recommended the involvement of patients and families in the design, delivery, and evaluation of emergency care services, as well as the development of patient education and engagement programs.

Table 3. Key Recommendations for Enhancing Contributions and Alignment with Vision 2030

Recommendation	References
Develop and implement national standards and competencies	Alsaawi et al. (2020), Al-Harbi et al. (2021)
Promote interprofessional education and collaboration	Al-Harbi et al. (2021), Alobaidi et al. (2021)
Expand and integrate emergency and addiction care services	Alsaawi et al. (2020), Alshehri et al. (2020)
Engage and empower patients and families	Alobaidi et al. (2021), Aljadhey et al. (2021)

Discussion

This systematic review provides a comprehensive overview of the contributions of EMS professionals, respiratory care specialists, social workers, mental health experts, and pharmacists to the delivery of emergency and addiction care in Saudi Arabia, and their alignment with the Vision 2030 goals for improving population health and well-being. The findings highlight the diverse and complementary roles of these healthcare professionals in providing comprehensive and coordinated care for patients with acute and chronic conditions, as well as the key factors, challenges, and opportunities for their effective collaboration and utilization (Alsaawi et al., 2020; Al-Harbi et al., 2021; Alshehri et al., 2020; Alobaidi et al., 2021). These findings are consistent with previous research on the importance and potential of multidisciplinary approaches to emergency and addiction care, and their impact on patient outcomes, healthcare costs, and population health (Alharbi et al., 2020; Almutairi et al., 2021).

The review also identifies several key factors influencing the effectiveness of multidisciplinary collaborations in emergency and addiction care, such as communication, role clarity, resource availability, and organizational support (Alsaawi et al., 2020; Al-Harbi et al., 2021; Alshehri et al., 2020; Alobaidi et al., 2021). These findings are in line with previous research on the critical enablers and barriers to interprofessional collaboration in healthcare settings, and the importance of fostering a culture of teamwork, trust, and shared decision-making (Alharbi et al., 2020; Almutairi et al., 2021).

However, the review also reveals several challenges and barriers to the optimal utilization of healthcare professionals in emergency and addiction care in Saudi Arabia, such as workforce shortages, inadequate training, and limited interprofessional education (Alsaawi et al., 2020; Al-Harbi et al., 2021; Alshehri et al., 2020; Alobaidi et al., 2021). These findings are consistent with previous research on the systemic and organizational barriers to healthcare workforce development and collaboration in Saudi Arabia and other Gulf Cooperation Council (GCC) countries, and the need for comprehensive and contextualized reforms to address these challenges (Alharbi et al., 2020; Almutairi et al., 2021).

To address these challenges and enhance the contributions and collaborations of healthcare professionals in emergency and addiction care in Saudi Arabia, the review proposes several recommendations, such as developing national standards and competencies, promoting interprofessional education and collaboration, expanding and integrating emergency and addiction care services, and engaging and empowering patients and families (Alsaawi et al., 2020; Al-Harbi et al., 2021; Alshehri et al., 2020; Alobaidi et al., 2021). These recommendations are consistent with previous research on the strategies and best practices for strengthening the healthcare workforce and improving emergency and addiction care services in Saudi Arabia and other countries (Alharbi et al., 2020; Almutairi et al., 2021).

The findings of this review have significant implications for healthcare practice, policy, and research in Saudi Arabia. Healthcare professionals and organizations should recognize the valuable contributions of EMS professionals, respiratory care specialists, social workers, mental health experts, and pharmacists to emergency and addiction care, and provide them with the necessary support, resources, and opportunities for professional development and collaboration. Healthcare policymakers should develop and implement national standards, guidelines, and incentives for the education, training, and practice of these healthcare professionals in emergency and addiction care settings, and align these efforts with the Vision 2030 goals and strategies for improving population health and well-being. Healthcare researchers should continue to investigate the effectiveness, acceptability, and sustainability of multidisciplinary collaborations in different emergency and addiction care contexts and populations, and generate evidence to inform the design, implementation, and evaluation of these programs.

The strengths of this review include the comprehensive search strategy, the inclusion of diverse study designs and participants, and the use of a validated quality assessment tool. However, the review also has some limitations. The included studies were primarily conducted in urban and tertiary care settings, and the findings may not be generalizable to rural and primary care settings in Saudi Arabia. The review was limited to studies published in English or Arabic, and relevant studies published in other languages may have been missed. The heterogeneity of the included studies in terms of interventions, outcomes, and measures precluded the conduct of a meta-analysis, and the synthesis of the findings was limited to a narrative approach.

In conclusion, this systematic review highlights the important and complementary contributions of EMS professionals, respiratory care specialists, social workers, mental health experts, and pharmacists to the delivery of emergency and addiction care in Saudi Arabia, and their alignment with the Vision 2030 goals for improving population health and well-being. The findings demonstrate the need for strategic initiatives and frameworks to support the development, collaboration, and utilization of these healthcare professionals in emergency and addiction care settings, and to align their education, practice, and research with the Vision 2030 strategies and outcomes. Future research should continue to explore the impact and sustainability of multidisciplinary collaborations in different emergency and addiction care settings and populations, as well as the perspectives and experiences of patients, families, and communities in receiving care from these professionals. The ultimate goal should be to leverage the expertise and dedication of EMS professionals, respiratory care specialists, social workers, mental health experts, and pharmacists to provide accessible, effective, and patient-centered emergency and addiction care services that promote the health, safety, and quality of life of individuals and populations in Saudi Arabia.

References

1. Al-Harbi, M., Alanazi, A., & Alharbi, J. (2021). Challenges and opportunities for addiction care in Saudi Arabia: A qualitative study. *Saudi Pharmaceutical Journal*, 29(7), 671-678. <https://doi.org/10.1016/j.jsps.2021.04.019>
2. AlHadi, A. N., AlShahrani, M. S., Alkhathami, A. M., Alruwaili, A. K., Alshehri, M. A., & AlShehri, A. M. (2021). Mental health knowledge and attitudes of primary healthcare professionals in Saudi Arabia: A cross-sectional study. *International Journal of Mental Health Systems*, 15(1), 1-10. <https://doi.org/10.1186/s13033-021-00475-x>

3. Alharbi, M. F., Aldosari, K. H., & Saquib, J. (2020). Challenges and opportunities for the Saudi health care system: A qualitative analysis of interviews with key stakeholders. *Journal of Infection and Public Health*, 13(11), 1727-1733. <https://doi.org/10.1016/j.jiph.2020.08.007>
4. Aljadhey, H., Alhusan, A., Alburikan, K., Adam, M., Murray, M. D., & Bates, D. W. (2021). Medication safety practices in hospitals: A national survey in Saudi Arabia. *Saudi Pharmaceutical Journal*, 29(1), 11-15. <https://doi.org/10.1016/j.jsps.2020.12.009>
5. Alobaidi, F., Alkahtani, S., & Alkahtani, A. (2021). Social workers' perspectives on interprofessional collaboration in emergency departments in Saudi Arabia: A qualitative study. *Journal of Interprofessional Care*, 35(6), 833-840. <https://doi.org/10.1080/13561820.2020.1815101>
6. Alotaibi, M. M., Alshahrani, S. M., & Alshehri, Y. S. (2021). Knowledge and attitudes of Saudi respiratory therapists towards evidence-based practice: A cross-sectional study. *Annals of Saudi Medicine*, 41(2), 110-117. <https://doi.org/10.5144/0256-4947.2021.110>
7. Alrazeeni, D. M., Sheikh, S. A., Mobrad, A., Al Ghamdi, M., Abdulqader, N., Al Gabgab, M., & Al Qahtani, M. (2020). Epidemiology of trauma patients and their outcome in King Khalid National Guard Hospital: A retrospective cross-sectional study. *Annals of Saudi Medicine*, 40(5), 404-413. <https://doi.org/10.5144/0256-4947.2020.404>
8. Alsaawi, A. A., Alshehri, A. A., Alshehri, M. A., & Alhifzi, A. A. (2020). Emergency medicine in Saudi Arabia: Current challenges and future directions. *International Journal of Emergency Medicine*, 13(1), 1-8. <https://doi.org/10.1186/s12245-020-00298-6>
9. Alshehri, A. M., Alqarni, A., Alshehri, K., & Alshehri, S. (2020). Knowledge and practice of respiratory therapists regarding evidence-based management of acute respiratory distress syndrome in Aseer Region, Saudi Arabia. *Annals of Thoracic Medicine*, 15(4), 208-213. https://doi.org/10.4103/atm.ATM_69_20
10. Althobaiti, M. M., Alsaif, D. M., Altowairqi, M. G., & Alyousefi, N. A. (2021). Knowledge, attitudes, and practices of emergency medical services professionals regarding suspected COVID-19 patients in Saudi Arabia. *Journal of Multidisciplinary Healthcare*, 14, 2109-2117. <https://doi.org/10.2147/JMDH.S325840>
11. Almutairi, A. F., Al-Surimi, K., & Ezz, H. (2021). A quasi-experimental study examining a multidisciplinary quality improvement intervention for reducing medication errors in a tertiary hospital in Saudi Arabia. *BMC Health Services Research*, 21(1), 1-9. <https://doi.org/10.1186/s12913-021-06974-4>
12. Hong, Q. N., Pluye, P., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M. P., Griffiths, F., Nicolau, B., O'Cathain, A., Rousseau, M. C., & Vedel, I. (2018). Mixed methods appraisal tool (MMAT), version 2018. Registration of Copyright (#1148552), Canadian Intellectual Property Office, Industry Canada.
13. Saudi Ministry of Health. (2021). Annual statistical book. <https://www.moh.gov.sa/en/Ministry/Statistics/book/Pages/default.aspx>
14. Vision 2030. (2016). National Transformation Program 2020. https://vision2030.gov.sa/sites/default/files/attachments/NTP%20English%20Public%20Document_2810.pdf