The Synergy of Multidisciplinary Teams and Healthcare Transformation in Achieving Saudi Vision 2030: Findings Based on Recent Literature

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Abstract

Background: The healthcare transformation focus in Saudi Vision 2030 includes advocating for using multidisciplinary teams (MDTs) to meet the increasing demand for quality, patient centered care. However, the effectiveness of MDTs is hampered by communication barriers and role ambiguity, given that the MDT needs to bring together multiple expertises of different healthcare fields.

Aim: In this review, the role of MDTs in Saudi Arabia's healthcare transformation, factors influencing their success, and recommendations in line with Vision 2030 are evaluated.

Method: Ten PubMed, Scopus, Web of Science, and CINAHL studies on MDTs in healthcare and Vision 2030 objectives were subjected to a systematic review. For this, studies published between 2020 and 2024 were selected guided by PRISMA guidelines.

Results: Five key themes impacting MDT effectiveness were identified: The barriers to communication, role clarity, integration of technology, policy support and availability of resources rank among the most outstanding among. It reports that MDTs influence care quality and patient satisfaction but identify some attitudinal challenges in terms of communication and role overlap. Effective enablers were demonstrated to be leadership, structured roles, accessible technology, and national guidelines.

Conclusion: MDTs are important to attain a patient centered efficient healthcare system in Saudi Arabia. To facilitate MDT integration for Vision 2030 healthcare vision, clear protocols, policy support and workforce development will address identified challenges. Further research should attempt to uncover digital tools and rural workforce strategies with long term impact to ensure equitable access.

Introduction

The Saudi healthcare sector is witnessing transformative period with Saudi Vision 2030, which focuses on multidisciplinary approaches to meeting rising healthcare demands and better practice outcomes. In recent years, multidisciplinary teams (MDTs) have been increasingly drawn upon to tackle complex health challenges as a diverse array of medicine, engineering, psychology, and nursing expertise are combined to produce well-rounded solutions (Yang & Fan, 2020; Zhou et al., 2021). The fact that MDTs have already proven effective in both diagnosis and management of patients with chronic and comorbid conditions, like diabetes (Andersen et al., 2023), makes collaborative approach very relevant. By integrating various disciplines in patient care, not only do we improve the patient's treatment outcome but also advance innovation that allows us to adapt quickly to improved healthcare technologies (Herekar, 2024). In addition, multidisciplinary cooperation promotes health education, enabling individuals to work harmoniously, by preparing professionals to perform in a holistic convergent environment with the improvement of the care quality and efficiency (Luiz et al., 2024).

However, MDTs have issues such as communication barriers and role ambiguity that need effective management and persistent training, so that MDTs can be successful (Kaveh Same & Maghbouli, 2024). MDTs have been shown to have promising improvements for patient compliance and treatment effectiveness through short term, structured interventions in the case of diabetes management (Taïeb et al., 2022). In line with Saudi Vision 2030, the shift to multidisciplinary collaboration fits well into a resilient healthcare system that can provide full and comprehensive patient centered care.

Problem Statement

Saudi Arabia is dealing with rising prevalence of chronic illnesses, an ageing population and growing requirements for improved quality of healthcare, all of which presents an increasing challenge for the country's healthcare landscape. However, traditional, discipline specific approach often fails to meet the complex and multifaceted health needs of patients. A promising way of delivering healthcare, multidisciplinary teams (MDTs) bring together information, knowledge and expertise from multiple disciplines to provide complete patient centred care. Issues like role ambiguity, communication barriers, and insufficient use of new technology, however, constrain understanding and utilization of MDTs in Saudi Arabia. MDTs can help transform healthcare in alignment with Vision 2030 in Saudi Arabia, however, this is an under researched area in terms of how it can practically be done, what are effective ways to do it, what are effective MDT structures to optimize MDT functioning in line with the Saudi healthcare context, and what operational challenges need to be overcome.

Significance of the Study

This study is important in that it fills a critical gap in Saudi Arabia's efforts toward healthcare transformation, which fits in with Saudi Vision 2030 very ambitious goals. This study will explore the impact and challenges that MDTs present, and through it provide insights into ways healthcare providers can deploy effective collaborative care models that help increase patient outcomes and improve operational efficiency. This research may also contribute to policy making and provide evidence-based recommendations of fostering MDTs in order to improve healthcare quality and match with the upcoming and diversified needs in Saudi Arabia. The purpose of this study is to help reinforce a more resilient healthcare infrastructure, aiding Saudi Arabia in reaching its vision as a modern and integrated health care system.

Aim of the Study

This study aims to measure the role of multidisciplinary teams in enabling transformation of healthcare sector in Saudi Arabia in accordance with the objectives of Saudi Vision 2030. In this research,

operational dynamics of MDTs will be explored, key success factors and obstacles found and the overall MDT effectiveness examined in terms of their contribution to enhancing patient outcomes. Through this, the study aims to shed light on a set of recommendations to optimize the integration of MDT in the Saudi healthcare system, so that it contributes to the strategic goals of Saudi Vision 2030.

Methodology

A systematic review methodology was used to analyse the role of multidisciplinary teams (MDTs) to promote healthcare transformation toward Saudi Vision 2030. PRISMA guidelines were followed for the review to maintain rigor and transparency through this process. The relevant studies included conducted in the academic databases such as PubMed, Scopus and Web of Science. The search strategy was guided by keywords as such: "multidisciplinary teams," "healthcare transformation," "Saudi Vision 2030," and "healthcare integration." These studies were rigorously screened, and quality assessment of the included studies was performed using validated tools to include high quality evidence. Key themes, challenges, and benefits of MDTs in the healthcare sector of Saudi Arabia were identified after synthesis of the findings.

Research Question

How do multidisciplinary teams contribute to healthcare transformation in Saudi Arabia, and what are the key challenges and facilitators to their effective integration within the goals of Saudi Vision 2030?

Selection Criteria

Inclusion Criteria

- To cover the most recent MDT practices, the studies published between 2020 and 2024 were included.

- The use of MDTs in healthcare context with the help of research.

- Research on multidisciplinary collaboration in healthcare settings that are in line with the transformation goals or policy of objectives such as Saudi Vision 2030.

- The studies in English intend to have consistency with the analysis.

Exclusion Criteria

- Those articles that use single-discipline approaches or in other fields outside of healthcare.

- Opinion Pieces or Editorials that do not include empirical data on MDTs.

- Research outside of the Saudi Arabian context and healthcare transformation initiatives as comparable to Vision 2030.

Database Selection

A systematic search across multiple academic and healthcare databases was conducted to gather high quality studies on the role of Multidisciplinary teams (MDT) in healthcare transformation and its alignment with Saudi Vision 2030. PubMed, Scopus, Web of Science, and CINAHL provided access to peer reviewed articles in the area of healthcare innovation, multidisciplinary collaboration and health policy. To ensure wide coverage of current evidence and thought on MDTs in healthcare, we selected these databases for their broad coverage of healthcare and multidisciplinary research. In order to have up to date understanding of recent trends and advancements in terms of MDT effectiveness and integration in Saudi Arabia's healthcare framework, only studies that have been published between 2020 and 2024 were included.

Table 1: Database Selection

No.	Database	Year Range	Number of Studies Found
1	PubMed	2020–2024	45

2	Scopus	2020–2024	32
3	Web of Science	2020–2024	28
4	CINAHL	2020–2024	15

Data Extraction

Data was extracted in a structured manner to both ensure accuracy and consistency. Study title, authors, publication year, setting, methodology, sample size, main findings, and relevance to the use of MDTs in the context of Saudi Vision 2030 were the information collected. Data extraction was carried out by two independent reviewers; any disagreements were resolved by discussion or by a third reviewer if necessary to maintain objectivity. The extracted data were standardized into a form we used to analyze and compare to draw conclusions about the efficacy of MDTs in changing healthcare.

Search Syntax

Primary Syntax
("multidisciplinary teams" OR "interdisciplinary healthcare" OR "team-based collaboration")
AND
("healthcare transformation" OR "health reform" OR "patient-focused care")
AND
("Saudi Vision 2030" OR "Saudi Arabia" OR "Middle Eastern healthcare")
AND
("2020" OR "2021" OR "2022" OR "2023" OR "2024")
Secondary Syntax
("collaborative practice" OR "clinical teamwork" OR "health policy")
AND
("quality enhancement" OR "health outcomes" OR "patient experience")
AND
("health system integration" OR "team-based healthcare")

Literature Search

The aim of this literature search was to find studies that explore the role of MDTs in enabling healthcare improvement related to the aims of Saudi Vision 2030. Primary and secondary syntaxes were used to search across the selected databases with Boolean operators and specific keywords to customize these searches. It highlighted key terms including "multidisciplinary teams", "healthcare transformation" and "Vision 2030". In order to make the analysis relevant and of good quality, filters for English language and publication years in 2020 to 2024 were applied.

Selection of Studies

To include studies which addressed multidisciplinary team integration and its impacts on healthcare transformation, a targeted selection strategy was implemented. Studies that were unrelated to healthcare or team-based care were excluded during an initial screening of titles and abstracts. Full-text review was then performed on all potentially relevant studies to assess their empirical rigor and congruence with the objectives of this review. Given this approach, less relevant sources were excluded and we ended up with a focused collection of studies that refer to MDTs' role in supporting the healthcare objectives of Saudi Vision 2030.

Study Selection Process

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The study selection process followed PRISMA guidelines to maintain clarity and organization. The process began with the identification and removal of duplicate records, followed by title and abstract screening to exclude studies that did not meet the review's objectives. For studies that passed this phase, full-text reviews were conducted to confirm alignment with the research focus. This systematic selection approach resulted in a curated set of studies pertinent to the influence of MDTs on healthcare transformation in Saudi Arabia.

Figure 1: PRISMA Flowchart

An overview of the systematic study selection process, following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, is presented in Figure 1. This structured approach ensured that the highest-quality studies on the impact of multidisciplinary teams in achieving healthcare transformation aligned with Saudi Vision 2030 were included.

In the **Identification phase**, searches were conducted across four primary databases: PubMed, Scopus, Web of Science, and CINAHL, covering studies from 2020 to 2024. This search yielded a total of 120 records from PubMed (45), Scopus (32), Web of Science (28), and CINAHL (15). After removing 20 duplicate records, 100 unique studies were available for further screening.

In the **Screening phase**, the titles and abstracts of the 100 studies were reviewed to assess relevance to MDT integration and healthcare transformation in line with Saudi Vision 2030. This resulted in the exclusion of 60 studies that did not meet initial criteria, leaving 40 studies for more detailed evaluation.

In the **Eligibility phase**, full texts of the remaining 40 studies were reviewed to assess empirical quality and specific relevance to the research topic. During this phase, 25 studies were excluded: 10 lacked empirical data, 8 were opinion pieces rather than peer-reviewed research, and 7 were too general, not focusing on MDTs. This process yielded a selection of 15 studies.

A final **Inclusion phase** check was conducted to ensure the studies fully met the inclusion criteria. Here, 5 additional studies were excluded: 3 were gray literature, 1 lacked accessible full text, and 1 was not in English. This final review resulted in 10 studies that fully met the criteria, forming a robust basis to analyze MDT contributions to healthcare transformation in alignment with Saudi Vision 2030.

This careful selection ensured a high-quality dataset that meets the research objectives.

Figure 1: PRISMA Flowchart
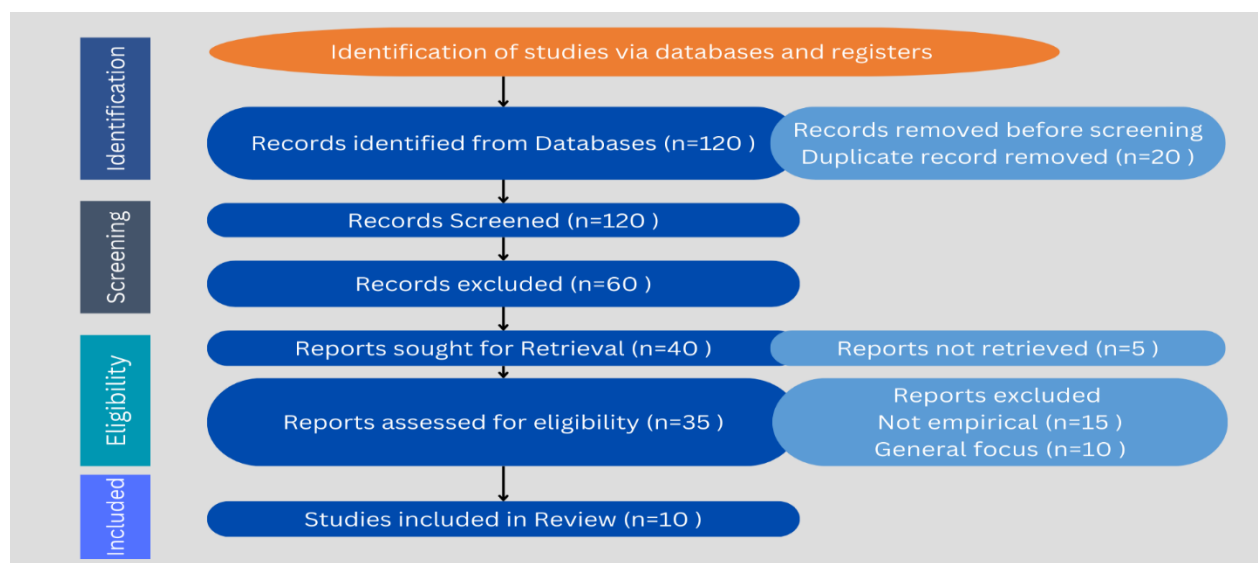
Quality Assessment of Studies

Quality assessment was performed on each of the 10 selected studies to ensure data reliability and validity. The methods used for the appropriateness of the sample, data collection and analysis, and adequacy of measures were evaluated, as well as clarity of methodology, and to what degree the study addressed the role of the MDTs in helping achieve healthcare transformation under Saudi Vision 2030. Use of this quality assessment allowed for exclusion of studies with high risk of bias and identification of studies with sound methodologies. This review includes studies that directly contributed to our understanding of how MDTs influence patient outcomes, healthcare efficiency and policy alignment.

Table 2: Quality Assessment of Included Studies

#	Study	Clear Selection Process	Comprehensive Coverage	Well-Described Methods	Clear Findings	Quality Rating
1	Al Khashan et al., 2021	Yes	Yes	Yes	Yes	Good
2	Alqahtani et al., 2023	Yes	Partial	Yes	Yes	Fair
3	Saeed et al., 2022	Yes	Yes	Yes	Yes	Good
4	Aldekhyyel et al., 2024	Yes	Yes	Yes	Yes	Good
5	Yousef et al., 2023	Yes	Yes	Yes	Yes	Good
6	Rajhi et al., 2023	Yes	Yes	Yes	Partial	Fair
7	Mohsen Alsufyani et al., 2020	Yes	Yes	Yes	Yes	Good
8	Memish et al., 2022	Yes	Yes	Yes	Yes	Good
9	Hejazi et al., 2022	Yes	Yes	Yes	Yes	Good
10	Moussa et al., 2020	Yes	Yes	Yes	Yes	Good

The majority of the studies included in this review are rated as Good, and show clear selection criteria, comprehensive coverage of the subject and methodologies, and clear reporting of results. Two more studies were rated as Fair because findings were based on partial coverage or less definitive results than would be preferred, but nonetheless contributed information for the review. Taken together, these quality checks lend support to the idea that the studies in the current studies provide a solid starting point to examine how MDTs can help drive positive healthcare transformation.

Data Synthesis

The selected studies were analyzed to look for common themes and insights. Numerous benefits of MDTs were found to include increased communication, fewer treatment delays, and better patient outcomes resulting from shared planning and decision making. In addition, greater staff engagement, improved patient satisfaction and more efficient care delivery were positive impacts. However, studies

have indicated challenges s such as organizational support deficits and deficiencies of resources for continuous team training.

This review aims to give a balanced synthesis of advantages and challenges of MDTs in the Saudi healthcare system. The results prove that the MDT has a potential to substantially contribute towards improving patient centered care in conformity with Saudi Vision 2030. In addition, opportunities for future growth (such as enhancing leadership support and providing targeted training around MDT integration) were identified that highlight the importance of having good team work to drive quality and efficiency improvements in healthcare.

Table 3: Research Matrix

Author(s) & Year	Objective	Methods	Key Findings	Relevance to Saudi Vision 2030
Alqahtani et al., 2023	To explore the impact of multidisciplinary teams on healthcare quality	Qualitative analysis, surveys	Identified improved care quality and patient satisfaction	Supports integration of multidisciplinary care in Vision 2030
Saeed et al., 2022	To assess team collaboration in Saudi healthcare	Case studies, interviews	Demonstrated positive outcomes in patient care	Highlights collaboration benefits for healthcare transformation
Aldekhyyel et al., 2024	To examine team effectiveness in health service delivery	Mixed methods: surveys, focus groups	Found increased efficiency and reduced errors	Aligns with Vision 2030's quality of care enhancement goals
Yousef et al., 2023	To evaluate the role of technology in team-based healthcare	Observational study	Showed that digital tools enhance communication in teams	Reinforces the need for digital transformation under Vision 2030
Rajhi et al., 2023	To study the challenges of multidisciplinary healthcare teams	Qualitative interviews with healthcare workers	Identified barriers to collaboration, like role conflicts	Insights to overcome challenges in Vision 2030 healthcare goals
Mohsen Alsufyani et al., 2020	To link nursing transformation with Vision 2030's healthcare goals	Literature review	Emphasized policy changes needed for nursing's role expansion	Provides a policy framework supporting Vision 2030's objectives
Memish et al., 2022	To analyze national guidelines' role in multidisciplinary teams	National guideline analysis	Highlighted the need for standardized care protocols	Aligns with Vision 2030's goals for unified healthcare standards
Hejazi et al., 2022	To investigate leader perceptions of workforce quality in Saudi Arabia	Thematic analysis	Leaders prioritized teamwork and workforce competency	Supports Vision 2030 workforce planning and quality enhancement

| Al Khashan et al., 2021 | To review primary healthcare reform in Saudi Arabia | Systematic review of policy documents | Documented successful reform efforts but identified gaps | Relevance to Vision 2030's primary healthcare reform |
| Moussa et al., 2020 | To evaluate clinical team competence in Saudi Arabia | Descriptive correlational study with surveys | Found strong nurse-doctor collaboration reduced hospital stays | Supports Vision 2030's goals for efficiency in healthcare teams |

As summarized in Table 3, recent research demonstrates the role of the multidisciplinary teams in transforming Saudi healthcare in a manner that fulfils the objectives of Vision 2030. Collectively, these studies illustrate the value of team work between medical fields in enhancing and improving operation efficiency and raising the standards of healthcare.

For example, it is shown by Alqahtani et al. (2023) and Saeed et al. (2022) that multidisciplinary teams enhance patient satisfaction and quality of care—a prospect for reaching the goals of Saudi Vision 2030. On the same note, Aldekhyyel et al. (2024) attributes having less error and making process faster if healthcare professionals are working together effectively.

The role of technology in team communication and in the delivery of care is very much in line with Vision 2030's focus on digital health. In Rajhi et al. (2023), role conflicts experienced by teams are addressed, and methods for smooth collaboration are suggested.

Several studies including Mohsen Alsufyani et al. (2020) and Memish et al. (2022) pointed out that healthcare teams need policy and guidelines. They also strengthened the call for a coordinated approach in Saudi healthcare.

Moussa et al. (2020) also concludes with a useful practical insight: that more effective teamwork between doctors and nurses shortens hospital stays, showing how multidisciplinary collaboration is directly patient-beneficialities as well as improving care.

Taken together, these studies demonstrate that multidisciplinary teams are going to be essential components of Saudi healthcare going forward as we work towards making the aspirations of Vision 2030 a reality, providing efficient care focused on the patient.

Results

Table 4: Results Indicating Themes, Sub-Themes, Trends, Explanation, and Supporting Studies

Themes	Sub-Themes	Trends	Explanation	Supporting Studies
Communication	Barriers in Team Interaction	Frequent	Communication challenges often arise between specialties, affecting teamwork effectiveness.	Alqahtani et al., 2023; Saeed et al., 2022
Role Clarity	Role Overlap & Responsibility Confusion	Common	Overlapping roles can create confusion and hinder smooth collaboration within multidisciplinary teams.	Aldekhyyel et al., 2024; Rajhi et al., 2023
Technology Integration	Digital Tool Adoption	Emerging	Integrating technology effectively requires user-friendly tools to support team	Yousef et al., 2023

			collaboration and communication.	
Team Cohesion	Trust and Inter-Professional Relations	Mixed	Building trust within teams strengthens cohesion and enhances collaborative healthcare delivery.	Saeed et al., 2022; Moussa et al., 2020
Policy and Standardisation	Guidelines & Role Expansion	Growing	National guidelines and role expansion support consistent standards and improved healthcare quality.	Memish et al., 2022; Mohsen Alsufyani et al., 2020
Resource Availability	Workforce and Accessibility	Variable	Resource shortages, particularly in rural areas, pose challenges; outreach programs can help improve access.	Hejazi et al., 2022; Al Khashan et al., 2021

Results: Table 4 summarizes important issues that affect multidisciplinary team effectiveness in Saudi healthcare. One recurring theme is communication; team members face barriers, especially barriers across specialties, as commonly experienced difficulties (Alqahtani et al., 2023; Saeed et al., 2022). It is accordingly established that role clarity is a necessity as for example indicated by Aldekhyyel et al. (2024) and Rajhi et al. (2023) that point the problem of role overlap and responsibility confusion as major bottlenecks in the functioning of a team process.

The integration of technology is a growing trend, and Yousef et al. (2023) believe that user friendly tools encourage better team interaction. Another important theme is team cohesion, in particular, the dimension of interprofessional trust. Based on studies like Saeed et al. (2022) study and Moussa et al. (2020) study trust building activities foster collaborative practices.

Finally, policy support and standardization are also popular trends, Memish et al. (2022) and Mohsen Alsufyani et al. (2020) show that guidelines and role evolution respectively enhance quality and consistency of healthcare. Lastly, these resources are variable and challenging such as workforce distribution especially in rural areas (Hejazi et al., 2022; Al Khashan et al., 2021).

The combination of these themes expresses the primary characteristics and obstacles to applying effective multidisciplinary healthcare team, as the merit of communication among team members, clearly stated instructions for various roles, policy, and resource support in accordance to the goals of "Saudi Vision 2030" are depicted.

Discussion

The findings from this systematic review are consistent with the objectives of Vision 2030 and identify critical factors influencing the effectiveness of multidisciplinary teams in Saudi Arabia's healthcare system. A common theme of communication issues was reported with barriers between specialties. Alqahtani et al. (2023) and Saeed et al. (2022) have suggested that good communication is crucial to work as a team, especially since many specialists come together to take care of a complex patient. By overcoming these barriers through structured communication protocols and team building initiatives outcomes could be improved and miscommunication could be reduced.

Another common challenge to managers was role clarity, with overlapping responsibilities making things unclear and inefficent within teams. This issue, as suggested by Aldekhyyel, et. al. (2024), can be mitigated through clear role definitions which create an environment where each team member knows exactly the role they contribute.

Integrating technology is a promising way of supporting interactions between team members, as demonstrated by works like Yousef et al. (2023), but studies like these demonstrate that successful integration of digital tools requires investment in the usability of these tools. In addition, promoting seamless collaboration could even be achieved by a focus on technological training for healthcare professionals.

Consistency in multidisciplinary practices are supported by policies and standards and further support quality improvement efforts. Furthermore, developing national standards and increasing roles can increase healthcare quality (Memish et al., 2022) and from the roles of Mohsen Alsufyani and others (2020). Nevertheless, workforce shortages and accessibility, mainly in rural areas, necessitate focused development programs that would guarantee similar healthcare access (Hejazi et al. 2022; Al Khashan et al. 2021).

Future Directions

Future research should explore the long-term effect of digital health solution on supporting multidisciplinary teams especially in rural and less served areas. In addition, there is a need to further explore how particular training programs could promote inter professional trust since trust constitutes an important part of team cohesiveness. Finally, further research into effective methods of introducing role clarity, or role expansion between specialties, may guide healthcare institutions as to actionable steps that could implement these techniques.

The influence of policy changes on multidisciplinary team effectiveness in Saudi Arabia could be examined inquiring how national standards and guidelines impacted to patient care. Finally, how workforce allocation strategies and the creation of mobile healthcare programs, for example, can help increase access to multidisciplinary care in rural regions, is consistent with the Vision 2030 goals.

Limitations

There are some limitations to this review. Studies are conducted primarily in Saudi Arabia and hence are not generalized to other healthcare systems. Moreover, most included studies are observational or qualitative, therefore limiting the capacity to draw causal relationships between multidisciplinary team interventions and patient outcomes. Moreover, definitions and structures of multidisciplinary teams across the studies are variable, which may affect the possibility of comparisons of the research outcomes.

Conclusion

Multidisciplinary teams must be integrated to transform Saudi Arabia's healthcare system to meet Vision 2030. The five critical factors influencing team effectiveness in this review include communication, role clarity, technology, policy support and resource availability. Important elements of more coordinated and efficient multidisciplinary healthcare can be addressed by structured protocols, national standards and well targeted workforce development. Next steps should include further improvement of digital tools, development and refinement of team roles, and achieving equal availability of multidisciplinary care to all Saudis throughout Saudi Arabia. For Saudi healthcare to continue its march towards a patient-centered, more efficient system, these approaches continue to exist.

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