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Referral System Challenges and Solutions in the Gulf and Middle East

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Abstract	Original Research Article

Referral systems represent the structural link between different tiers of health care, ensuring patients receive appropriate, timely, and continuous management. Effective referral mechanisms prevent fragmentation, duplication, and inequity while optimizing limited specialist resources. In the Gulf and Middle East, fast-growing populations, epidemiologic transitions, and significant digital-health investments have reshaped how referrals operate. This review synthesizes evidence from Saudi Arabia, the United Arab Emirates (UAE), Qatar, Oman, Bahrain, Jordan, and Lebanon, examining referral models, common bottlenecks, and emerging innovations. Across the region, digital transformation through national health information exchanges (HIEs) has advanced rapidly, yet persistent challenges remain, particularly in gatekeeping, interoperability, workforce training, and governance. The review concludes with policy and research recommendations aligned with the World Health Organization (WHO) Eastern Mediterranean Region (EMRO) strategy for people-centered integrated health services.
Keywords: Referral systems, Digital health, Health information exchange, Gulf Cooperation Council, Primary health care, Eastern Mediterranean Region.

INTRODUCTION

A referral system is a structured process that enables patients to transition between levels of care, typically from primary to higher-level facilities for diagnostic or specialist management and subsequently back for follow-up. Globally, robust referral pathways are a cornerstone of quality, efficiency, and equity within health systems. They reduce unnecessary tertiary utilization, shorten diagnostic delays, and strengthen continuity of care [1, 2].

Within the Eastern Mediterranean Region (EMR), WHO underscores referral efficiency as fundamental to achieving Universal Health Coverage (UHC) and Sustainable Development Goal 3 on health and well-being [3]. The Gulf Cooperation Council (GCC) and Middle Eastern countries exhibit diverse health-system structures: publicly financed networks coexist with large private sectors, and expatriate or refugee populations often rely on parallel systems. Rapid urbanization, demographic transition, and the burden of noncommunicable diseases (NCDs) intensify demands on referral mechanisms [4].

GCC members Saudi Arabia, UAE, Qatar, Kuwait, Oman, and Bahrain have invested heavily in tertiary infrastructure and digital health. National strategies such as Saudi Arabia's *Vision 2030* and the UAE's *Digital Health 2025* emphasize interoperability, electronic referrals, and PHC strengthening [5-8]. Neighboring states such as Jordan and Lebanon, meanwhile, navigate resource constraints and humanitarian pressures that complicate referral coordination. Synthesizing lessons from both high- and middle-income contexts illuminates pathways to regional reform [9, 10].

This review, therefore, aims to describe current referral systems and digital backbones across the Gulf and Middle East; to identify cross-cutting challenges limiting efficiency and equity; and to propose solutions and policy directions grounded in recent empirical and programmatic evidence.

METHODOLOGY

A narrative review approach was selected to integrate heterogeneous evidence from research studies, policy documents, and official program reports. PubMed, Scopus, Web of Science, WHO/EMRO, and GCC Health Council repositories were searched (2015–2025) using the terms *referral system*, *e-referral*, *health information exchange*, *primary health care*, *Gulf Cooperation Council*, *Malaffi*, *NABIDH*, *Riayati*, *Al-*

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Shifa, *I-SEHA*, and *Hakeem*. Grey literature was sourced from ministries of health, WHO, UNHCR, and official HIE websites.

Inclusion criteria encompassed studies or reports that focused on referral models, barriers, digital integration, or policy reforms within Gulf or Middle Eastern countries. Data extracted included health-system context, referral pathway structure, key challenges, and documented outcomes. Evidence was grouped under four domains: structural, administrative, technological, and patient-level, and then synthesized thematically.

Preference was given to WHO publications, government reports, and peer-reviewed articles indexed in PubMed. Although not a systematic review, this synthesis prioritizes triangulated sources and regional comparability.

RESULTS

Health systems across the Gulf and Middle East reveal a shared commitment to digital modernization and PHC strengthening yet differ in governance maturity and referral adherence. GCC states have made significant strides toward integrated electronic systems, while middle-income and crisis-affected countries continue to depend partly on paper-based or donor-driven mechanisms.

Saudi Arabia's national e-referral program, Ehalati, was launched to coordinate intra- and inter-regional transfers [11]. Evaluations highlighted variable compliance, missing documentation, and delays. Integration into the national *Digital Health Strategy 2023* improved turnaround times and facilitated automated tracking between PHCs and tertiary hospitals [12, 13].

The UAE has built one of the world's most comprehensive HIE ecosystems. Abu Dhabi's Malaffi and Dubai's NABIDH exchanges connect thousands of facilities and millions of patient records [14, 15]. The federal Riayati (National Unified Medical Record) platform now links these emirate systems, creating a cross-border referral backbone [16-19]. The Ministry of Health and Prevention reported over 90 % facility connectivity in 2024, enabling real-time referral data exchange and a reduction in redundant diagnostics [20].

Qatar's Hamad Medical Corporation (HMC) and Primary Health Care Corporation (PHCC) implemented a centralized referral and booking management system, incorporating triage algorithms to prioritize high-need cases. Studies in mental-health services show significant reductions in waiting times and improved documentation quality following these reforms [17-21].

Oman's Al-Shifa health information system, deployed nationally across Ministry of Health facilities, integrates referral requests, laboratory data, and discharge summaries into a single EMR (22). Bahrain's I-SEHA similarly unites PHC centers, hospitals, and pharmacies, supporting e-prescribing and referral scheduling [23].

Jordan's Hakeem program, operated by Electronic Health Solutions, connects public hospitals and PHCs nationwide, providing clinicians access to shared records that streamline referrals [24]. Lebanon's context contrasts sharply: amid economic crisis and large refugee populations, UNHCR administers a standardized referral SOP defining eligibility, cost-sharing, and third-party approval for hospital care [25, 26].

Despite such advancements, gaps remain. Self-referral to tertiary hospitals is widespread across the GCC, driven by perceptions of superior expertise and distrust in PHC facilities. Studies in Saudi Arabia and Oman reveal that 30–40 % of tertiary outpatient visits involve conditions suitable for primary-level management [27, 28]. Qatar's triage reforms show that structured education and feedback can improve referral appropriateness and waiting times [17].

Digital fragmentation also constrains progress. Even where sophisticated HIEs exist, private-sector participation is inconsistent. In the UAE, smaller private clinics struggle with the technical and financial requirements of NABIDH integration [5-29]. In Saudi Arabia, private hospitals are not uniformly connected to the e-referral network [7]. In Jordan and Lebanon, interoperability between public, private, and humanitarian providers remains limited, preventing longitudinal tracking of patients who move across sectors. Lebanon's UNHCR network, although highly structured, still records attrition rates exceeding 20 % among approved referrals due to out-of-pocket costs and administrative delays [30, 31].

Evidence suggests that e-referral platforms enhance communication quality when combined with workforce training and accountability. Facilities that implemented standardized referral templates within EMRs reported greater completeness of clinical data, faster specialist responses, and fewer lost follow-ups [32]. Conversely, in settings lacking referral coordinators or feedback mechanisms, digitalization alone produced minimal benefit [33].

The COVID-19 pandemic underscored the critical role of electronic referral systems. Countries with robust HIEs (UAE, Oman, Bahrain) maintained continuity through teleconsultation-linked referrals, while paper-based systems in parts of Jordan and Lebanon experienced prolonged disruptions. Refugee and migrant populations, often excluded from national electronic databases, faced additional barriers to continuity of chronic-disease care, highlighting equity gaps that persist despite digital progress [34-36].

Table 1: Country Systems Snapshot

Country/Context	System Orientation	Digital Backbone (Referral/HIE)	Coverage Scope	Priority Gaps/Next Steps
Saudi Arabia	PHC gatekeeping; public-private mix	National e-referral (formerly Ehalati); evolving HIE integration	Nationwide (MOH + regions)	Interoperability expansion; feedback loops; private sector linkage
United Arab Emirates	Mixed public-private with strong PHC reforms	Malaffi (Abu Dhabi); NABIDH (Dubai); Riayati (federal NUMR)	Cross emirate via HIE interlinkage	Dataset harmonization; full provider onboarding; cross-border data use
Qatar	Integrated public system (HMC/PHCC)	Centralized referral/booking; domain triage (e.g., mental health)	National public sector	Demand redirection; wait time optimization; triage consistency
Oman	Predominantly public MOH delivery	Al Shifa National HIS/EMR	National MOH facilities	End-to-end referral tracking; analytics for bottlenecks
Bahrain	Public core with private participation	I SEHA national platform	National across PHC and hospitals	Scheduling + eRx integration; referral completeness
Jordan	Mixed system; strong national EHR	Hakeem national EHR/HIE	Public hospitals and PHCs	Scale to remaining providers; interoperability with the private sector
Lebanon (refugee context)	Mixed; crisis affected	UNHCR SOPs for hospital referral governance	Refugee-serving network	Financial protection; SOP adherence; pathway completion

Table 2: Challenges–Solutions Matrix

Key Challenge	Actionable Solution(s)
Structural fragmentation; weak gatekeeping	Standardized national referral criteria/templates; PHC gatekeeping; e consults
Administrative/policy inconsistency	Unified governance; mandatory HIE participation; aligned payer rules
Workforce knowledge and documentation gaps	CME on referral protocols, referral coordinators, and feedback dashboards
Digital interoperability limits	Common data/terminology standards; phased dataset expansion; vendor certification
Patient self-referral and low health literacy	Navigation support; multilingual education; transparent scheduling portals
Geographic access disparities	Hub and spoke networks; telehealth; targeted transport/coverage policies.

Table 3: Core Referral Quality Indicators

Indicator	Operational Definition
Referral completeness (%)	Proportion of referrals containing all required clinical fields
Median referral to appointment time (days)	Time from submission to confirmed specialist appointment
First pass acceptance rate (%)	Share of referrals accepted without bounce back for missing info
Referral completion (%)	Proportion with documented specialist outcome returned to referrer
Avoidable ED utilization within 30 days (%)	ED visits are potentially related to referral delays or failure
Escalation/readmission within 30 days (%)	Admissions related to unresolved referral issues
Back referral timeliness (days)	Time from specialist discharge to PHC follow-up documentation

Table 4: Search Strategy Summary

Element	Details
Databases/Portals	PubMed; WHO/EMRO; GCC Health Council; ministries/authorities; HIE program sites
Timeframe	201 2025 (with earlier sources for historical context)
Core terms	referral system; referral; HIE; PHC; Gulf Cooperation Council; Eastern Mediterranean; Malaffi; NABIDH; Riayati; Hakeem; Al Shifa; I SEHA
Inclusion focus	Referral pathways/models; barriers; digital backbones; policy and evaluation reports
Exclusions	Papers without a referral context; purely tertiary service descriptions
Synthesis	Qualitative thematic synthesis (structural, technological, workforce, patient domains)

Table 5: Policy Roadmap (12–24 months)

Workstream	Priority Actions (12-24 months)
Guidelines & templates	Publish national referral guidelines; embed structured templates in EMRs/HIEs.
Connectivity & standards	Mandate HIE onboarding; adopt interoperability and privacy standards.
Capacity & roles	CME programs; appoint referral coordinators; establish triage clinics
Measurement & accountability	Launch referral dashboards; link indicators to accreditation/contracts
Patient-centered design	Navigation services; multilingual materials; record portability for mobile populations
Equity & resilience	Target rural/underserved; crisis SOPs for refugees/vulnerable groups

DISCUSSION

The collective experience of Gulf and Middle Eastern countries highlights both the promise and fragility of referral reform. Digital infrastructures such as Ehalati, Malaffi, NABIDH, Riayati, Al-Shifa, I-SEHA, and Hakeem have created unprecedented data-sharing capability, but referral performance still hinges on governance and clinical culture.

Strengthening PHC gatekeeping remains the most crucial structural reform. Standardized referral templates, explicit specialty-specific criteria, and consistent back-referral protocols would improve appropriateness and continuity. Embedding these templates into national EMRs ensures completeness and facilitates analytics. Audit-and-feedback loops, such as those implemented in Qatar's mental-health referral model, demonstrate how iterative learning can optimize referral throughput [37, 38].

Interoperability mandates and equitable financing must accompany technological advancement. Many private facilities, especially in the UAE and Saudi Arabia, cite integration costs as barriers to HIE participation [39, 40]. Governments could introduce subsidized onboarding programs, phased implementation schedules, and vendor-neutral technical standards. Regional collaboration through the GCC Health Council and WHO EMRO can harmonize data formats and privacy frameworks, reduce duplication of effort, and foster cross-border referral continuity [41-43].

Workforce capability is a decisive determinant of success. Referral management should become a core component of continuing medical education. Introducing dedicated "referral coordinators" or case managers at high-volume PHC centers would ensure information completeness and timely communication with specialists. Performance dashboards tracking metrics such as referral-to-appointment interval, acceptance rate, and back-referral timeliness could be tied to institutional accreditation or reimbursement incentives [44].

Patient-centered innovation is another frontier. In multicultural, mobile populations, multilingual navigation portals, SMS updates, and patient-facing apps linked to national HIEs would empower individuals to track referral progress and maintain continuity when moving between emirates or countries. Extending digital inclusion to refugees and migrant workers is essential for health equity [45, 46].

Financing models also require attention. Fee-for-service structures may encourage over-referral, while capitated or performance-based payment linked to referral appropriateness can reduce unnecessary specialist use. Blended financing that rewards completion and feedback of referrals could align incentives across levels of care [47].

Implementation science offers valuable insights for scaling successful pilots. Evaluations should not only measure utilization but also examine change-management, leadership engagement, and clinician buy-in. Cross-country learning platforms, perhaps coordinated by WHO EMRO, could allow health authorities to benchmark progress and share technical resources [48].

Ethical and legal frameworks must evolve alongside digital referral ecosystems. As patient data flows across borders, governance mechanisms ensuring consent, cybersecurity, and privacy compliance become vital. The EMRO "Health Data Governance Framework" could serve as a regional model for balancing accessibility with confidentiality [49].

Finally, future research should employ mixed-methods approaches to assess the impact of referral reforms on health outcomes, patient satisfaction, and cost-effectiveness. Multicountry comparative studies could identify which configurations of public-private mix, digital maturity, and governance strength yield the best results. Policymakers should use these findings to craft evidence-based national referral strategies aligned with the WHO's Integrated People-Centred Health Services vision [50-52].

CONCLUSION

The Gulf and Middle East stand at a pivotal stage in referral-system reform. Technological infrastructures such as Ehalati, Malaffi, NABIDH, Riayati, Al-Shifa, I-SEHA, and Hakeem showcase regional leadership in digital health. Yet technology must be matched with strong governance, trained human resources, and equitable access. Standardized protocols, mandatory interoperability, continuous audit, and inclusion of vulnerable groups are essential to translate innovation into impact. Aligning these reforms with

WHO EMRO's "Health for All by All" framework will move the region closer to an integrated, efficient, and equitable continuum of care.

REFERENCES

1. Organization WH. High-value referrals: learning from challenges and opportunities of the COVID-19 pandemic: concept paper. High-value referrals: learning from challenges and opportunities of the COVID-19 pandemic: concept paper. 2023.

2. Organization WH, Fund UNCs. Primary health care measurement framework and indicators: monitoring health systems through a primary health care lens: World Health Organization; 2021.

3. Al-Mandhari A, El-Adawy M, Khan W, Ghaffar A. Health for all by all-pursuing multi-sectoral action on health for SDGs in the WHO Eastern Mediterranean Region. Globalization and health. 2019;15(1):64.

4. Organization WH. Continuity and coordination of care: a practice brief to support implementation of the WHO Framework on integrated people-centred health services. Continuity and coordination of care: a practice brief to support implementation of the WHO Framework on integrated people-centred health services2018.

5. Al Braiki A, Al Hashemi HA, Denson R, de Sylva S, Fikry EM, Goyal R, et al. Beyond Borders: Evaluating the Impact of Health Information Exchange on Resource Utilization in the United Arab Emirates–A Longitudinal Study. Information systems frontiers. 2025;27(2):731–42.

6. Alasiri AA, Mohammed V. Healthcare transformation in Saudi Arabia: an overview since the launch of vision 2030. Health services insights. 2022;15:11786329221121214.

7. Aljerian NA, Alharbi AA, AlOmar RS, Binhotan MS, Alghamdi HA, Arafat MS, et al. Showcasing the Saudi e-referral system experience: the epidemiology and pattern of referrals utilising nationwide secondary data. Frontiers in Medicine. 2024;11:1348442.

8. El-Hassan O, AbdulRahman M, Al Redha M, Scheuer A. Digital Maturity Strategy for Modernizing Dubai's Healthcare Ecosystem. Digital Maturity in Hospitals: Strategies, Frameworks, and Global Case Studies to Shape Future Healthcare: Springer; 2025. p. 55–71.

9. El Arab R, Sagbakken M. Healthcare services for Syrian refugees in Jordan: a systematic review. European Journal of Public Health. 2018;28(6):1079–87.

10. Fadi E-J, Fadlallah R, Shaya R, Masri R. Lebanon: a primary health care case study in the context of the COVID-19 pandemic: World Health Organization; 2022.

11. Alharbi AA, Alqassim AY, Binhotan MS, Muaddi MA, Alsultan AK, Arafat MS, et al., editors. Saudi Medical Appointments and Referrals Center (SMARC) Performance Dynamic: A Comparative National Analysis of 2023–2024 Against Baseline Metrics. Healthcare; 2025: MDPI.

12. Skibinska E, Mubarak KAH, Al Ali N. Healthcare and Cybersecurity: Analysis of the UAE Healthcare System. Global Digital Transformation and the Covid-19 Pandemic: Apple Academic Press; 2024. p. 189–203.

13. AlRuthia Y, Aldallal S, Al-Abdulkarim HA, Al-Jedai A, Almudaiheem H, Hamad A, et al. Healthcare systems and health economics in GCC countries: informing decision-makers from the perspective of the Gulf health economics association. Frontiers in public health. 2025;13:1510401.

14. Deeb A, Lakinska B, Goyal R, Al Braiki A, Al Hashemi H. Bringing health information exchange to the Middle East and North Africa: the case of Malaffi in Abu Dhabi. Health Information Exchange: Elsevier; 2023. p. 665–80.

15. AlMarzooqi FM, Moonesar IA, AlQutob R. Healthcare professional and user perceptions of eHealth data and record privacy in Dubai. Information. 2020;11(9):415.

16. Alawadhi A, Jenkins D, Palin V, van Staa T. Development and evaluation of prediction models to improve the hospital appointments overbooking strategy at a large tertiary care hospital in the Sultanate of Oman: a retrospective analysis. BMJ open. 2025;15(4):e093562.

17. Khan YS, Al-Shamlawi M, Phiri L, Alabdulla M. Triage of referrals in a child and adolescent mental health service in Qatar: reducing waiting times and promoting needs-based prioritisation. BJPsych International. 2021;18(3):67–70.

18. Wadoo O, Ouanes S, Ahmed MAS, Saeid ISA, AlAbdulla SA, AlAbdulla M. Improving referrals from primary care to secondary mental health services through an educational intervention: experience from Qatar. BJPsych International. 2021;18(3):70–4.

19. Mansour T, Bick M. How can physicians adopt AI-based applications in the United Arab Emirates to improve patient outcomes? Digital Health. 2024;10:20552076241284936.

20. Abdulrahman M, El-Hassan O, Redha MAA, Almalki M. Adoption of Electronic Medical Records in Healthcare Facilities in the Emirate of Dubai. Healthc Inform Res. 2024;30(2):154–61.

21. Arafa M, El Ansari W, Qasem F, Al Ansari A, Al Dosari MAA, Mukhtar K, et al. Reinventing Patient Support and Continuity of Care Using Innovative Physician-staffed Hotline: More than 60,000 Patients Served Across 15 Medical and Surgical Specialties During the First Wave of COVID-19 Lockdown in Qatar. J Med Syst. 2023;47(1):77.

22. Al-Gharbi K. Al-Shifa Healthcare Information System in Oman: A Debatable Implementation Success, accepted in The Electronic Journal of Information Systems in Developing Countries. The

Electronic Journal of Information Systems in Developing Countries. 2014.

23. Lopez C, Bendix J, Servin C. Bahrain and the Fourth Industrial revolution. 2020.

24. Mashal A, Saleh W, Ahmed E. HAKEEM E-SYSTEMS USABILITY IN JORDAN PUBLIC HOSPITALS: A CASE STUDY OF PRINCE HAMZA HOSPITAL. A Peer-Reviewed Journal About. 2021;7:108–17.

25. Blanchet K, Fouad FM, Pherali T. Syrian refugees in Lebanon: the search for universal health coverage. Confl Health. 2016;10:12.

26. Naal H, Whaibeh E, Mahmoud H. Guidelines for primary health care-based telemental health in a low-to middle-income country: the case of Lebanon. Int Rev Psychiatry. 2021;33(1-2):170–8.

27. Al Mahrouqi A, Al Maqbali RH, Al Fadhil F, Al Salmani AA. Types of Primary Healthcare Emergencies in Muscat, Oman: A retrospective cross-sectional study of five primary care centres. Sultan Qaboos Univ Med J. 2021;21(4):572–7.

28. Alnasser S, Alharbi M, A AA, Aal Ibrahim A, Kentab O, Alassaf W, et al. Analysis of Emergency Department Use by Non-Urgent Patients and Their Visit Characteristics at an Academic Center. Int J Gen Med. 2023;16:221–32.

29. Khan YS, Al-Shamlawi M, Phiri L, Alabdulla M. Triage of referrals in a child and adolescent mental health service in Qatar: reducing waiting times and promoting needs-based prioritisation. BJPsych Int. 2021;18(3):67–70.

30. Akik C, Asfahani F, Elghossain T, Mesmar S, Rabkin M, El Sadr W, et al. Healthcare system responses to non-communicable diseases' needs of Syrian refugees: The cases of Jordan and Lebanon. Journal of Migration and Health. 2022;6:100136.

31. Akik C, Asfahani F, Elghossain T, Mesmar S, Rabkin M, El Sadr W, et al. Healthcare system responses to non-communicable diseases' needs of Syrian refugees: The cases of Jordan and Lebanon. J Migr Health. 2022;6:100136.

32. Chen RF, Hsiao JL. Health Professionals' Perspectives on Electronic Medical Record Infusion and Individual Performance: Model Development and Questionnaire Survey Study. JMIR Med Inform. 2021;9(11):e32180.

33. Seyed-Nezhad M, Ahmadi B, Akbari-Sari A. Factors affecting the successful implementation of the referral system: A scoping review. J Family Med Prim Care. 2021;10(12):4364–75.

34. Shaver J. The State of Telehealth Before and After the COVID-19 Pandemic. Prim Care. 2022;49(4):517–30.

35. Sengupta A, Sarkar S, Bhattacherjee A. The relationship between telemedicine tools and physician satisfaction, quality of care, and patient visits during the COVID-19 pandemic. International Journal of Medical Informatics. 2024;190:105541.

36. Anastasiadou O, Tsipouras M, Mpogiatzidis P, Angelidis P. Digital Healthcare Innovative Services in Times of Crisis: A Literature Review. Healthcare (Basel). 2025;13(8).

37. van Weel C, Kidd MR. Why strengthening primary health care is essential to achieving universal health coverage. Cmaj. 2018;190(15):E463–e6.

38. Bitton A, Ratcliffe HL, Veillard JH, Kress DH, Barkley S, Kimball M, et al. Primary Health Care as a Foundation for Strengthening Health Systems in Low- and Middle-Income Countries. J Gen Intern Med. 2017;32(5):566–71.

39. Walker DM, Tarver WL, Jonnalagadda P, Ranbom L, Ford EW, Rahurkar S. Perspectives on Challenges and Opportunities for Interoperability: Findings From Key Informant Interviews With Stakeholders in Ohio. JMIR Med Inform. 2023;11:e43848.

40. Martin LT, Nelson C, Yeung D, Acosta JD, Qureshi N, Blagg T, et al. The Issues of Interoperability and Data Connectedness for Public Health. Big Data. 2022;10(S1):S19–s24.

41. Samhouri D, Mahrous H, Saidouni A, El Kholy A, Ghazy RM, Sadek M, et al. Review on progress, challenges, and recommendations for implementing the One Health approach in the Eastern Mediterranean Region. One Health. 2025;20:101057.

42. Frögéli E, Jenner B, Gustavsson P. Effectiveness of formal onboarding for facilitating organizational socialization: A systematic review. PLoS One. 2023;18(2):e0281823.

43. Fadhil I, Ali R, Al-Raisi SS, Bin Belaila BA, Galadari S, Javed A, et al. Review of National Healthcare Systems in the Gulf Cooperation Council Countries for Noncommunicable Diseases Management. Oman Med J. 2022;37(3):e370.

44. Bolton Saghdaoui L, Lampridou S, Tavares S, Lear R, Davies AH, Wells M, et al. Interventions to improve referrals from primary care to outpatient specialist services for chronic conditions: a systematic review and framework synthesis update. Systematic Reviews. 2025;14(1):103.

45. Abid MH, Kumah A, Newera A, Hafez P. Patient-Centered Healthcare: From Patient Experience to Human Experience. Glob J Qual Saf Healthc. 2024;7(4):144–8.

46. Kosiol J, Silvester T, Cooper H, Alford S, Fraser L. Revolutionising health and social care: innovative solutions for a brighter tomorrow – a systematic review of the literature. BMC Health Services Research. 2024;24(1):809.

47. earson N, Naylor PJ, Ashe MC, Fernandez M, Yoong SL, Wolfenden L. Guidance for conducting feasibility and pilot studies for implementation trials. Pilot Feasibility Stud. 2020;6(1):167.

48. Shah K, Leow K, Janssen A, Shaw T, Stewart C, Kerridge I. Ethical and legal considerations governing use of health data for quality improvement and performance management: a scoping review of the perspectives of health

professionals and administrators. BMJ Open Qual. 2025;14(2).

49. Wasti SP, Simkhada P, van Teijlingen ER, Sathian B, Banerjee I. The Growing Importance of Mixed-Methods Research in Health. Nepal J Epidemiol. 2022;12(1):1175–8.

50. Östlund U, Kidd L, Wengström Y, Rowa-Dewar N. Combining qualitative and quantitative research within mixed method research designs: a methodological review. Int J Nurs Stud. 2011;48(3):369–83.

51. Nair KS, Mughal YH, Albejaidi F, Alharbi AH. Healthcare Financing in Saudi Arabia: A Comprehensive Review. Healthcare (Basel). 2024;12(24).

52. Smajic E, Avdic D, Pasic A, Prcic A, Stancic M. Mixed Methodology of Scientific Research in Healthcare. Acta Inform Med. 2022;30(1):57–60.