SCIENTIFIC ARTICLE

Integrated Management of Chronic Diseases in Saudi Arabian Primary Healthcare: The Roles of Physicians, Nurses, and Behavioral Health Professionals

Saeedah Abdo Soliman Bajafar[1], Mona Ismael Alsomali[2], Seham Eidah Al-Malki[3], Essam Sadagah Ghandaih[4], Khadija Mohammed Naghi[5], Ali Aati Mandil Althaqafi[6], Maram Omar Shakir[7], Arwa Awadh Alzahrani[8], Amal Ali Almuntasheri[9], Hiba Omar Alhawsawi[10], Ehtidaa Hassan Zen-Aldeen[11], Amal Mohammed Albar[12]

1. *General Practitioner, Jeddah Second Health Cluster, Jeddah, Saudi Arabia*
2. *Senior Nursing Specialist, Jeddah East Hospital, Jeddah, Saudi Arabia*
3. *General Nursing, Jeddah Second Health Cluster, Jeddah, Saudi Arabia*
4. *Obstetrics and Gynecology Specialist, Jeddah Second Health Cluster, Jeddah, Saudi Arabia*
5. *Dental Resident, King Fahad General Hospital, Jeddah, Saudi Arabia*
6. *Nursing Technician, Jeddah Second Health Cluster, Jeddah, Saudi Arabia*
7. *General Practitioner, Jeddah Second Health Cluster, Jeddah, Saudi Arabia*
8. *Clinical Psychology, Jeddah Second Health Cluster, Jeddah, Saudi Arabia*
9. *Nurse Specialist, Jeddah Second Health Cluster, Jeddah, Saudi Arabia*
10. *Nursing Specialist, King Fahad General Hospital, Jeddah, Saudi Arabia*
11. *Nurse Specialist, Jeddah Second Health Cluster, Jeddah, Saudi Arabia*
12. *Family Medicine Registrar, Al Marwah Primary Health Care Center, Jeddah, Saudi Arabia*

Received: 05-03-2026 **Accepted:** 23-06-2026 **Published:** 07-07-2026

ABSTRACT

Objective: To examine integrated management of chronic noncommunicable diseases in Saudi Arabian primary healthcare, focusing on complementary roles of physicians, nurses and behavioral health professionals.

Methods: A narrative synthesis of Saudi epidemiological research, international systematic reviews, clinical consensus documents and national healthcare transformation guidance was organized around chronic disease burden, team-based care, self-management, behavioral support and implementation.

Results: Available evidence supports coordinated, patient-centered approaches rather than isolated disease consultations. Physicians provide diagnosis, risk stratification and treatment planning; nurses contribute structured education, monitoring and continuity; behavioral health professionals address psychological distress and barriers to adherence. Shared care plans, reliable referral processes and digital follow-up can support integration, although Saudi-specific outcome evaluations remain limited.

Conclusion: Multidisciplinary primary care offers a practical direction for chronic disease services in Saudi Arabia. Local implementation requires clear scopes of practice, workforce training, culturally appropriate interventions and prospective evaluation of clinical outcomes, patient experience and costs.

KEYWORDS: Chronic disease management; Primary healthcare; Saudi Arabia; Multidisciplinary care; Nursing; Behavioral health; Diabetes mellitus.

INTRODUCTION

Chronic noncommunicable diseases (NCDs) require continuous treatment, lifestyle adjustment and repeated engagement with healthcare services. Diabetes, hypertension, obesity and cardiovascular disease frequently coexist, complicating decisions about medication, monitoring and follow-up. Effective management therefore depends on longitudinal relationships rather than episodic consultations.

Saudi Arabia faces a considerable burden of metabolic disease. The International Diabetes Federation estimated approximately 5.34 million adults aged 20–79 years living with diabetes in the Kingdom in 2024 [1]. The SAUDI-DM investigation documented abnormal glucose metabolism, while a national hypertension survey identified opportunities to improve awareness and control [2,3]. Obesity is an important additional contributor to metabolic and cardiovascular risk [4].

© 2024 by the authors. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY 4.0) license.

Primary healthcare centers offer accessible opportunities for screening, prevention, patient education and follow-up. Nevertheless, challenges involving workforce capacity, information systems and referral coordination have been described in the Saudi healthcare system [5]. The Health Sector Transformation Program emphasizes prevention, accessibility and integrated services as national priorities [6]. This review considers how physicians, nurses and behavioral health professionals can jointly improve chronic disease management in Saudi primary care.

REVIEW STRATEGY

This narrative review synthesizes selected Saudi epidemiological studies, health policy documents, clinical consensus statements and international evidence on multidisciplinary chronic disease management. Themes include physician-led assessment, nursing interventions, behavioral healthcare, self-management, digital support and implementation challenges. Evidence is discussed thematically rather than as an exhaustive systematic search; no pooled effect estimate or original patient analysis was undertaken. Databases searched included Scopus, Web of Science, Google Scholar, Ovid.

International findings are interpreted with caution because professional responsibilities, patient populations, financing and organizational arrangements differ across healthcare systems. Saudi-specific studies and official documents inform the discussion of local priorities.

INTEGRATED CARE FRAMEWORK

Integrated chronic disease management combines prevention, diagnosis, treatment, psychological support and long-term monitoring within a coordinated pathway. The Saudi Ministry of Health healthcare transformation strategy emphasizes coordinated care and continuity across service levels [7].

The Chronic Care Model links prepared healthcare teams with informed patients through planned visits, decision support, information systems and self-management resources [8]. Subsequent work described the importance of organizational leadership, delivery-system design and community resources in improving primary care for chronic illness [9].

For a patient with diabetes, hypertension, obesity and depressive symptoms, separate appointments may produce overlapping or inconsistent recommendations. A shared plan can align glycemic and blood pressure goals with medication safety, nutrition, physical activity and psychological support. Patient experience also matters: Saudi primary-care research identified opportunities to strengthen participation and self-care support among patients with NCDs [10].

ROLE OF PHYSICIANS

General practitioners and family physicians provide diagnostic assessment, cardiovascular risk stratification, pharmacological management, complication screening and referrals. They are well placed to recognize multimorbidity and prioritize competing treatment goals. At an initial visit, a comprehensive assessment should consider symptoms, family history, lifestyle, medication burden, laboratory results and social circumstances.

Individualized treatment plans must account for age, comorbidity, adverse effects, patient preferences and achievable targets. Shared decision-making helps patients understand the rationale for long-term medication and the consequences of untreated disease. Physicians also coordinate specialist input when complications, recurrent admissions or treatment resistance exceed the resources of primary care.

Clinical leadership should not mean that all care is physician-delivered. Clearly delegated education, monitoring and behavioral interventions can free physician time for complex decision-making while preserving accountability and timely escalation.

ROLE OF NURSES

Nurses contribute frequent contact, patient education, monitoring and follow-up coordination. Diabetes self-management education requires individualized instruction and repeated reassessment at key points in the illness trajectory [11]. Nurses can demonstrate glucose-monitoring techniques, discuss medication schedules, reinforce foot care, and assess understanding using teach-back methods.

For hypertension, nursing activities may include standardized blood pressure measurement, home-monitoring instruction, adherence assessment and review of symptoms. A systematic review reported improvements with some nurse-led hypertension interventions, particularly those using structured algorithms [12]. More recent trial synthesis also supports nurse-led interventions, although heterogeneity and certainty of evidence must be considered [13].

Nursing follow-up can identify missed visits, adverse effects and deteriorating disease control. Telephone contacts and remote monitoring may supplement face-to-face visits, provided that abnormal readings trigger a defined clinical response. Expanded nursing responsibilities require competency-based training, written protocols and compliance with Saudi professional regulations.

ROLE OF BEHAVIORAL HEALTH PROFESSIONALS

Psychological distress, depression, anxiety, stress and low motivation can interfere with self-care even when medical advice is understood. Clinical psychologists and other qualified behavioral health professionals can assess these barriers and offer appropriate counseling, cognitive behavioral strategies, behavioral activation and stress management.

A randomized study of collaborative care for patients with depression and chronic medical illnesses demonstrated benefits from addressing mental and physical health together [14]. A Cochrane review similarly found collaborative approaches helpful for depression and anxiety, emphasizing structured follow-up and professional coordination [15].

Behavioral assessment should be integrated with medical care rather than relegated to a separate pathway without feedback. Screening tools may identify patients requiring further assessment, but positive results require professional evaluation and access to referral services. Interventions should be sensitive to language, privacy, family relationships and patient preferences.

DIGITAL HEALTH AND COMMUNICATION

Electronic health records, virtual consultations, appointment reminders and home monitoring can support continuity of care. A systematic review found that nurse-led digital interventions may improve blood pressure control and self-management, although digital tools should complement rather than replace professional support [16].

Shared records can reduce duplication and help clinicians access medication lists, laboratory results, referrals and follow-up plans. Their value depends on interoperability, accurate documentation, privacy safeguards and clear responsibility for responding to abnormal results.

The WHO HEARTS package promotes standardized cardiovascular management, team-based delivery and coordinated primary care [17]. In Saudi healthcare clusters, regular case discussions and shared care plans could help physicians, nurses and behavioral professionals act on the same clinical priorities.

© 2024 by the authors. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY 4.0) license.

CHALLENGES IN SAUDI PRIMARY HEALTHCARE

Workforce availability, competing service demands, variation in training and differences in local infrastructure may affect implementation. An integrated model requires sufficient staff and clarity about what each professional can safely deliver. Training should include motivational interviewing, collaborative decision-making, chronic disease protocols and escalation criteria.

Mental healthcare integration can be limited by workforce shortages, stigma and fragmented referrals. WHO guidance for mental healthcare in nonspecialist settings offers principles for assessment and referral but requires adaptation to local services and professional competencies [18].

Health literacy and treatment burden also deserve attention. Patients may struggle with multiple medications, complex instructions or frequent appointments. Clear language, teach-back, practical demonstrations and culturally responsive education can strengthen participation. Coordination during hospital discharge is especially important to prevent discrepancies and missed follow-up.

IMPLEMENTATION AND RESEARCH PRIORITIES

A phased multidisciplinary pathway could begin with comprehensive assessment, individualized planning, team-based intervention, risk-stratified follow-up and periodic outcome review. Physicians would oversee medical decisions; nurses would deliver structured education and monitoring; behavioral professionals would address psychological and behavioral obstacles. Pharmacists, dietitians and other practitioners could be involved according to clinical need.

The WHO framework on integrated people-centred health services emphasizes coordinated services, empowered patients and strong primary care systems [19]. Saudi healthcare clusters could pilot multidisciplinary clinics for people with uncontrolled diabetes, hypertension and obesity, measuring feasibility before scaling.

Future Saudi studies should compare integrated care with usual practice using pragmatic randomized trials, cohort studies and mixed-methods evaluations. Outcomes should include HbA1c, blood pressure, weight, medication adherence, psychological well-being, emergency attendance, readmission, patient experience and costs. Research should also compare urban and rural settings and assess implementation sustainability.

CONCLUSION

Integrated management of chronic diseases is a promising direction for Saudi primary healthcare. Physicians provide clinical assessment and treatment leadership, nurses reinforce education and continuity, and behavioral health professionals address psychological barriers to sustained self-management. Shared plans, standardized pathways and reliable communication can reduce fragmentation. Successful implementation requires adequate workforce training, patient participation, digital infrastructure and evaluation of real-world outcomes. Saudi-specific research is needed to establish which multidisciplinary arrangements are effective, equitable and sustainable.

TABLE 1. PROFESSIONAL RESPONSIBILITIES IN INTEGRATED CHRONIC DISEASE CARE

Healthcare professional	Principal responsibilities
General practitioners and family physicians	Diagnosis, risk assessment, treatment planning, medication optimization and referral
Nurses and nursing specialists	Patient education, monitoring, adherence support and follow-up coordination
Clinical psychologists and behavioral health professionals	Psychological assessment, behavioral interventions, coping strategies and referral
Pharmacists	Medication review, interaction assessment, adherence counseling and medication safety
Dietitians	Nutritional assessment, dietary counseling and weight-management support
Care coordinators	Appointment coordination, referral tracking and communication between services

Responsibilities should be adapted to local professional regulations, institutional policies and available resources.

REFERENCES

1. International Diabetes Federation. IDF Diabetes Atlas. 11th ed. Brussels: International Diabetes Federation; 2025. https://diabetesatlas.org/data-by-location/country/saudi-arabia/
2. Al-Rubeaan K, Al-Manaa HA, Khoja TA, et al. Epidemiology of abnormal glucose metabolism in a country facing its epidemic: SAUDI-DM study. J Diabetes. 2015;7(5):622–632. doi:10.1111/1753-0407.12224.
3. El Bcheraoui C, Memish ZA, Tuffaha M, et al. Hypertension and its associated risk factors in the Kingdom of Saudi Arabia, 2013: a national survey. Int J Hypertens. 2014;2014:564679. doi:10.1155/2014/564679.
4. Memish ZA, El Bcheraoui C, Tuffaha M, et al. Obesity and associated factors—Kingdom of Saudi Arabia, 2013. Prev Chronic Dis. 2014;11:E174. doi:10.5888/pcd11.140236.
5. Al Asmri M, Almalki MJ, Fitzgerald G, Clark M. The public health care system and primary care services in Saudi Arabia: a system in transition. East Mediterr Health J. 2020;26(4): 468–476. doi:10.26719/emhj.19.049.
6. Saudi Vision 2030. Health Sector Transformation Program: Delivery Plan 2021–2025. Riyadh: Kingdom of Saudi Arabia; 2021.
7. Saudi Ministry of Health. Healthcare Transformation Strategy. Riyadh: Ministry of Health; n.d.
8. Wagner EH, Austin BT, Von Korff M. Organizing care for patients with chronic illness. Milbank Q. 1996;74(4):511–544.

© 2024 by the authors. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY 4.0) license.

9. Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness. JAMA. 2002;288(14): 1775–1779. doi:10.1001/jama.288.14.1775.
10. Hazazi A, Wilson A. Experiences and satisfaction of patients with non-communicable diseases with current care in primary health care centres in Saudi Arabia. J Patient Exp. 2022;9:23743735221134734. doi: 10.1177/23743735221134734.
11. Powers MA, Bardsley JK, Cypress M, et al. Diabetes self-management education and support in adults with type 2 diabetes: a consensus report. Diabetes Care. 2020;43(7): 1636–1649. doi:10.2337/dci20-0023.
12. Clark CE, Smith LFP, Taylor RS, Campbell JL. Nurse led interventions to improve control of blood pressure in people with hypertension: systematic review and meta-analysis. BMJ. 2010;341:c3995. doi:10.1136/bmj.c3995.
13. Bulto LN, Roseleur J, Noonan S, et al. Effectiveness of nurse-led interventions versus usual care to manage hypertension and lifestyle behaviour: a systematic review and meta-analysis. Eur J Cardiovasc Nurs. 2024;23(1):21–32. doi: 10.1093/eurjcn/zvad040.
14. Katon WJ, Lin EHB, Von Korff M, et al. Collaborative care for patients with depression and chronic illnesses. N Engl J Med. 2010;363(27):2611–2620. doi:10.1056/NEJMoa1003955.
15. Archer J, Bower P, Gilbody S, et al. Collaborative care for depression and anxiety problems. Cochrane Database Syst Rev. 2012;(10):CD006525. doi: 10.1002/14651858.CD006525.pub2.
16. Hwang M, Chang AK. The effect of nurse-led digital health interventions on blood pressure control for people with hypertension: a systematic review and meta-analysis. J Nurs Scholarsh. 2023;55(5):1020–1035. doi:10.1111/jnu.12882.
17. World Health Organization. HEARTS: Technical package for cardiovascular disease management in primary health care: Team-based care. Geneva: WHO; 2018.
18. World Health Organization. mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings. Version 2.0. Geneva: WHO; 2016.
19. World Health Organization. Framework on integrated, people-centred health services. Report by the Secretariat. WHA69/39. Geneva: WHO; 2016.

How to Cite: Bajafar SAS, Alsomali MI, Al-Malki SE, et al. Integrated Management of Chronic Diseases in Saudi Arabian Primary Healthcare: The Roles of Physicians, Nurses, and Behavioral Health Professionals. *Radiol Med* 2026 Jul;20(2):1-4.

© 2024 by the authors. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY 4.0) license.