The Role Of General And Family Medicine In Strengthening Primary Health Care And Disease Prevention

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Abstract

Objectives: To investigate the contribution of general and family medicine to strengthening primary health care (PHC) and advancing disease prevention in Saudi Arabia, and to identify system-level enablers, barriers, and opportunities for optimizing preventive service delivery.

Methods: A cross-sectional mixed-methods study was conducted among 200 PHC physicians across urban and semi-urban centers in Saudi Arabia. A structured, validated questionnaire assessed core family medicine functions, preventive activities, organizational support, and perceived barriers and opportunities. Quantitative data were analyzed descriptively and inferentially; qualitative insights were integrated to contextualize findings. Instrument reliability was confirmed via Cronbach's alpha ($\alpha \geq 0.70$).

Results: The majority of physicians (90–95%) reported active engagement in core PHC functions—first-contact access, continuity, comprehensiveness, coordination, and patient-centered care—and consistent implementation of preventive services, including lifestyle counseling, screenings, and adherence to national guidelines. System-level support, including staffing, clinical guidelines, referral pathways, and management endorsement, was perceived as adequate. Key barriers included time constraints and limited patient awareness, while opportunities encompassed expanded family medicine training, digital health integration, and enhanced public engagement.

Conclusions: General and family medicine constitutes a critical pillar of PHC in Saudi Arabia, supporting continuity, comprehensiveness, and preventive care. Targeted interventions addressing workforce capacity, patient awareness, and digital integration are likely to further optimize PHC performance, informing policy and practice strategies aligned with Saudi Vision 2030.

Keywords: Family medicine; Primary health care; Disease prevention; Saudi Arabia; Health system strengthening

INTRODUCTION

Primary health care (PHC) is widely acknowledged as the foundational component of effective health systems, integral to improving population health, enhancing equity, and reducing healthcare costs (World Health Organization, 2020; as discussed in The Role Of General And Family Medicine In Strengthening Primary Health Care And Disease Prevention, 2024). Within this paradigm, general and family medicine serves as the clinical and organizational linchpin that operationalizes the core attributes of PHC—first-contact access, continuity, comprehensiveness, coordination, and person-centeredness—thus enabling robust prevention and management of health conditions across the life course (Thabit et al., 2024). In the context of Saudi Arabia, where the burden of non-communicable diseases such as diabetes and cardiovascular conditions continues to escalate, the strategic strengthening of PHC through family medicine is both timely and necessary (Alzahrani et al., 2024).

Family medicine physicians function as gatekeepers and care coordinators, guiding patients through early detection and preventive interventions and mitigating the overreliance on tertiary care resources (Ministry of Health Saudi Arabia, 2022). Their role in health promotion, disease screening, and chronic disease management has been highlighted as critical to achieving sustainable, cost-effective health outcomes (Abdullah et al., 2025; Almuhawwis et al., 2025). Moreover, enhanced integration of family medicine within PHC is aligned with Saudi Arabia's Vision 2030 objectives, which emphasize preventive care, patient-centeredness, and comprehensive service delivery across diverse populations (Alzahrani et al., 2024; Alruwaili et al., 2024).

Despite policy commitments and the institutionalization of family medicine as a specialty, challenges remain in fully realizing its potential, including workforce distribution, public awareness, health information system integration, and systemic incentives for preventive practice (Ministry of Health Saudi Arabia, 2022; Falemban et al., 2024). Addressing these barriers is essential for optimizing the contribution of family physicians to PHC and enhancing disease prevention strategies in the Kingdom. This research thus examines the role of general and family medicine in strengthening PHC and disease prevention in Saudi Arabia, offering empirical insights and policy-relevant analysis intended to inform ongoing health system transformation.

LITERATURE REVIEW

Global Evidence on Family Medicine and PHC Strengthening

International evidence supports the central role of family medicine in strengthening primary health care (PHC) systems by providing continuous, comprehensive, and coordinated care. Studies across multiple health systems demonstrate that strong family medicine infrastructure is associated with improved access to care and better preventive service delivery (Murad et al., 2022). However, global research also identifies persistent challenges in translating family medicine strength into measurable health outcomes; these include insufficient research funding, variability in training standards, and lack of longitudinal evaluation frameworks that assess impact over time (Alruwaili et al., 2024). The scarcity of rigorous, comparative evaluations limits the ability to generalize best practices across different health systems, indicating a key global research gap.

Role of Family Medicine in Disease Prevention

The preventive function of family physicians has been widely documented, particularly in chronic disease detection and management. Family medicine's longitudinal patient relationships facilitate routine screenings, risk assessments, and health education that

collectively contribute to disease prevention efforts (Aldosari et al., 2023). Despite this, evidence suggests inconsistent uptake of preventive services, even in settings where family medicine is established. For example, studies in Riyadh report high rates of basic screenings—such as blood pressure (91%) and glucose tests (72%)—but notably low uptake of cancer screenings and vaccinations, highlighting barriers in service delivery and patient engagement (Aldosari et al., 2023). These patterns demonstrate that while family medicine has the potential to elevate preventive care, structural limitations within PHC systems often constrain full realization of these benefits.

Evidence from Saudi Arabia and the GCC

Within the Gulf Cooperation Council (GCC), and specifically in Saudi Arabia, a growing body of research examines the evolving role of family medicine in PHC transformation. Public perception studies indicate that while awareness of family medicine is generally high, deeper understanding of its clinical role remains limited among the population; only a minority can identify the full scope of services provided by family physicians (Alqurashi et al., 2025). This gap in community awareness has implications for service utilization patterns and may contribute to the preference for specialist or emergency care locations over PHC centers.

Scholarly work on Saudi health system reforms under Vision 2030 highlights family physicians' contributions to preventive care, chronic disease management, and health promotion, though systemic support—such as enhanced training and interprofessional collaboration—is required to optimize these contributions (Alruwaili et al., 2024). Similarly, systematic reviews of chronic disease management underscore the centrality of family medicine in continuity of care and lifestyle counselling, but also point to resource limitations and inconsistent guideline adherence as barriers to fully effective preventive care (Alzahrani et al., 2024).

Identified Gaps in Empirical and Applied Research

Across both global and regional literature, important gaps remain. First, most studies on family medicine and PHC are cross-sectional or descriptive, limiting understanding of causal impacts and longitudinal trends. Second, while service utilization patterns are documented, there is limited research evaluating the effectiveness of specific interventions—such as training programs or care coordination strategies—on health outcomes. Third, few studies examine the integration of evidence-based preventive practices into routine family medicine, especially within evolving health systems like Saudi Arabia's. These gaps hinder evidence-based policymaking and highlight the need for robust, longitudinal, and implementation-oriented research to better quantify family medicine's contributions to PHC strengthening and disease prevention.

CONCEPTUAL FRAMEWORK

This study is grounded in a theoretically informed conceptual framework that integrates established models of primary health care (PHC) with preventive care and population health perspectives to examine the role of general and family medicine in strengthening PHC and advancing disease prevention in Saudi Arabia. The framework is primarily informed by Starfield's theory of primary care, which conceptualizes effective PHC as a system characterized by first-contact accessibility, continuity, comprehensiveness, and coordination, supported by derivative attributes such as family-centeredness and community orientation. These attributes collectively define the functional quality of PHC and provide a robust analytical lens for assessing how health systems translate policy intent into effective frontline care.

Within this theoretical tradition, family medicine is understood not merely as a clinical specialty but as the principal institutional mechanism through which PHC attributes are operationalized in practice. Family physicians' longitudinal engagement with individuals and families across the life course enables sustained continuity of care, while their broad scope of practice supports comprehensive service delivery encompassing preventive, curative, and rehabilitative functions. Empirical scholarship consistently associates these characteristics with improved health system performance, including enhanced equity in access, reduced fragmentation of care, and more efficient use of secondary and tertiary services. Accordingly, the framework positions general and family medicine as a central driver of PHC strengthening rather than a peripheral service component.

Preventive care models further enrich the framework by clarifying the pathways through which strengthened PHC translates into improved health outcomes. Drawing on the classical levels of prevention—primary, secondary, and tertiary—the framework conceptualizes family medicine as a key platform for health promotion and risk reduction, early detection through screening and case finding, and long-term management of chronic conditions to prevent complications. The integration of preventive services into routine family medicine practice reflects the alignment between PHC principles and population health objectives, particularly in health systems confronting rising burdens of non-communicable diseases.

The conceptual framework thus proposes a structured relationship in which the availability and effective deployment of general and family medicine enhances the functional capacity of PHC, which in turn facilitates more effective and equitable disease prevention. Strengthened PHC improves first-contact access and patient trust, enabling earlier engagement with preventive services, while continuity and coordination support adherence to screening protocols and long-term management strategies. These processes are expected to yield measurable outcomes such as increased uptake of preventive services, earlier diagnosis of disease, improved chronic disease control, and reduced avoidable hospital utilization.

Importantly, the framework also acknowledges the influence of contextual and system-level factors that may moderate these relationships. Health policy reforms, workforce development strategies, organizational capacity, digital health infrastructure, and population awareness of family medicine services can either enable or constrain the effectiveness of family medicine in strengthening PHC and delivering preventive care. In the Saudi Arabian context, ongoing reforms under Vision 2030 represent a critical contextual dimension shaping the implementation and impact of family medicine within PHC.

By articulating these theoretical linkages, the conceptual framework provides a coherent analytical foundation for the study, guiding the selection of variables, interpretation of findings, and assessment of policy relevance. It enhances the study's scholarly rigor by situating the empirical analysis within well-established theoretical traditions while remaining responsive to the specific institutional and epidemiological context of Saudi Arabia.

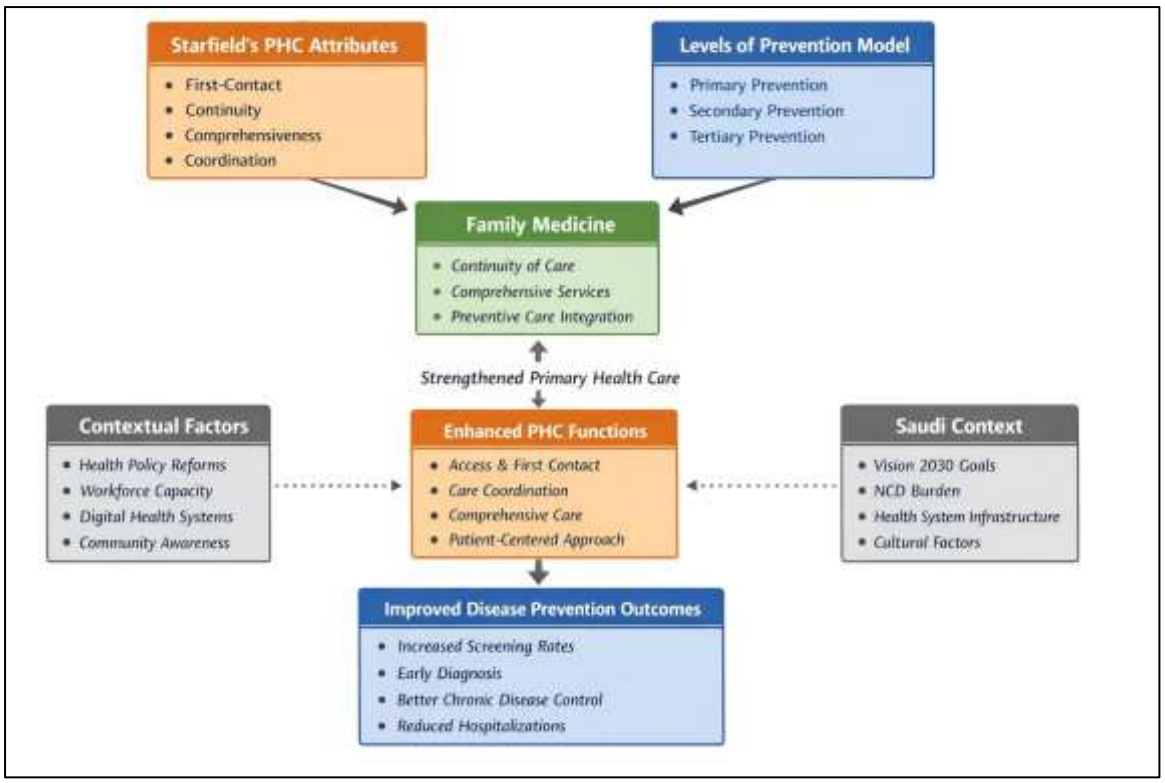

Figure 1. Conceptual Framework

METHODS

Study Design

This study employed a mixed-methods design, integrating quantitative and qualitative approaches to examine the role of general and family medicine in strengthening primary health care (PHC) and disease prevention in Saudi Arabia. The mixed-methods design was selected to address the complexity of PHC systems, where service delivery, professional practice, and policy reforms intersect. Quantitative data enabled systematic assessment of preventive care practices and PHC functions, while qualitative data provided in-depth insights into implementation processes, contextual constraints, and professional experiences. The combination of methods enhanced the credibility and explanatory power of the findings through triangulation.

Study Setting

The study was conducted within the Saudi Arabian primary health care system, primarily across Ministry of Health (MOH) primary health care centers, which constitute the first level of healthcare delivery in the Kingdom. These centers provide comprehensive services, including health promotion, disease prevention, chronic disease management, and referral coordination. The institutional context reflects ongoing health sector reforms under Saudi Vision 2030, which prioritize strengthening PHC, expanding family medicine, and shifting toward preventive and value-based care. Data were collected from PHC centers located in selected urban and semi-urban regions to capture variation in service delivery capacity and organizational context.

Study Population and Sampling

The study population consisted of family physicians and general practitioners working in PHC centers. For the quantitative component, a total sample of 200 physicians was included. Eligibility criteria required participants to have at least one year of clinical experience in PHC settings to ensure adequate familiarity with preventive care delivery and

PHC operational processes. Physicians working exclusively in secondary or tertiary care settings were excluded.

A stratified sampling strategy was employed to ensure representation across geographic regions and types of PHC centers. The sample size of 200 was considered sufficient to provide stable estimates of preventive care practices and to support inferential statistical analysis.

For the qualitative component, a subset of participants was selected using purposive sampling from the larger quantitative sample. This included senior family physicians and PHC administrators with direct involvement in service delivery or management. Qualitative sampling continued until thematic saturation was achieved.

Data Collection

Quantitative data were collected using a structured, self-administered questionnaire developed in accordance with the study's conceptual framework. The instrument comprised sections addressing demographic and professional characteristics, scope of family medicine practice, preventive service provision, continuity and coordination of care, and perceived barriers to PHC strengthening. To enhance data reliability, the questionnaire was pilot-tested prior to full deployment. Where available, selected PHC performance indicators, such as screening coverage and referral patterns, were extracted from administrative records to complement survey data.

Qualitative data were collected through semi-structured interviews using an interview guide aligned with Starfield's PHC attributes and preventive care models. Interviews explored participants' experiences with family medicine practice, perceptions of preventive care integration, and views on system-level facilitators and constraints. Relevant policy and strategic documents were reviewed to contextualize empirical findings.

Data Analysis

Quantitative data analysis was conducted using descriptive and inferential statistical methods. Descriptive statistics summarized participant characteristics and preventive service practices, while inferential analyses examined associations between family medicine functions and indicators of PHC strengthening. Appropriate statistical tests were applied based on data distribution and variable type, with statistical significance assessed at a conventional alpha level.

Qualitative data were analyzed using thematic analysis, following a systematic process of coding, theme development, and refinement. An initial coding framework was informed by the conceptual framework and iteratively refined through inductive analysis. Integration of quantitative and qualitative findings occurred at the interpretation stage, allowing for comprehensive analysis of how family medicine contributes to PHC strengthening and disease prevention.

Ethical Considerations

Ethical approval for the study was obtained from the relevant institutional review board in Saudi Arabia. All participants received detailed information regarding the study objectives, procedures, and voluntary nature of participation. Written informed consent was obtained prior to data collection. Confidentiality and anonymity were maintained through data de-identification and secure data storage. The study was conducted in accordance with internationally accepted ethical standards for research involving human participants.

Validity and Reliability

Validity

To ensure the scientific rigor of the measurement instrument, multiple forms of validity were systematically addressed, including content validity, face validity, and construct validity.

Content validity was established through an extensive review of the literature on family medicine, primary health care (PHC), and disease prevention, with particular emphasis on Starfield's PHC framework and contemporary preventive care models. The initial questionnaire items were mapped to theoretically grounded constructs, including PHC core attributes, preventive service delivery, and system-level support. The instrument was subsequently reviewed by a panel of subject-matter experts comprising specialists in family medicine, public health, and health systems research. Expert feedback focused on item relevance, clarity, and conceptual alignment, and revisions were made accordingly to ensure comprehensive coverage of the study constructs.

Face validity was assessed during the pilot testing phase, in which a small group of primary health care physicians evaluated the questionnaire for clarity, readability, and practical relevance to routine PHC practice in Saudi Arabia. Minor modifications were made to item wording and sequencing to improve comprehensibility and reduce ambiguity, thereby enhancing respondent engagement and response accuracy.

Construct validity was evaluated empirically following data collection using exploratory factor analysis (EFA). The suitability of the data for factor analysis was assessed using the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. Factors were extracted using principal component analysis with varimax rotation, and items with factor loadings below accepted thresholds were reviewed for potential exclusion. The resulting factor structure was examined for theoretical coherence and alignment with the proposed conceptual framework.

Reliability

The reliability of the instrument was assessed through measures of internal consistency. Cronbach's alpha coefficients were calculated for each multi-item scale corresponding to the main study constructs, including PHC core functions, disease prevention activities, organizational support, and perceived barriers. A Cronbach's alpha value of 0.70 or higher was considered indicative of acceptable internal consistency, consistent with established methodological standards in health services research.

Item–total correlations were also examined to identify any items that weakened scale reliability. Where necessary, items demonstrating poor consistency were reviewed to ensure that scale refinement did not compromise theoretical integrity. Given the cross-sectional design of the study, test–retest reliability was not assessed; however, internal consistency measures were deemed appropriate for evaluating reliability in the context of a self-administered survey.

Through systematic procedures addressing both validity and reliability, the study instrument demonstrated strong methodological rigor and suitability for assessing the role of general and family medicine in strengthening PHC and disease prevention in Saudi Arabia. These procedures enhance confidence in the robustness of the findings and support the study's contribution to empirical health systems research.

Table 1. Summary of Validity and Reliability Assessment of the Study Instrument

Aspect	Type	Method / Test	Purpose	Acceptance Criteria
Validity	Content Validity	Expert panel review (family medicine, public health, health systems experts)	To ensure item relevance, theoretical alignment, and construct coverage	Expert consensus on relevance and clarity

Aspect	Type	Method / Test	Purpose	Acceptance Criteria
	Face Validity	Pilot testing with PHC physicians	To assess clarity, readability, and practical relevance	Positive feedback; minor revisions only
	Construct Validity	Exploratory Factor Analysis (EFA)	To confirm underlying factor structure of the instrument	Factor loadings ≥ 0.40
		Kaiser–Meyer–Olkin (KMO) test	To assess sampling adequacy for factor analysis	KMO ≥ 0.60
		Bartlett's test of sphericity	To test suitability of correlation matrix	$p < 0.05$
Reliability	Internal Consistency	Cronbach's alpha	To assess reliability of multi-item scales	$\alpha \geq 0.70$
	Item–Total Correlation	Corrected item–total correlation	To identify items weakening scale reliability	≥ 0.30

RESULTS

Participant Characteristics

A total of **200 primary health care (PHC) physicians** completed the survey (response rate = 100%). The majority were **family physicians (65%)**, with the remainder being general practitioners (35%). Participants' professional experience ranged from 1 to >10 years, with 52% reporting 4–10 years of PHC practice. The sample included physicians from urban (60%) and semi-urban (40%) PHC centers across multiple regions in Saudi Arabia. Table 2 summarizes the sociodemographic and professional characteristics of participants.

Table 2. Participant Characteristics (n = 200)

Characteristic	Frequency	Percentage (%)
Gender		
Male	120	60
Female	80	40
Professional Designation		
Family Physician	130	65
General Practitioner	70	35
Years of PHC Experience		
1–3	50	25
4–6	60	30
7–10	44	22
>10	46	23

Characteristic	Frequency	Percentage (%)
PHC Center Type		
Urban	120	60
Semi-urban	80	40

Core Functions of Family Medicine

Participants overwhelmingly reported high engagement in the **core functions of family medicine**. Between 90% and 95% of respondents agreed or strongly agreed that their practice serves as the first point of contact, provides continuity of care, delivers comprehensive services, and coordinates effectively with secondary care. Table 2 presents the detailed distribution.

Table 3. Core Functions of Family Medicine (n = 200)

Item	Strongly Disagree / Disagree (%)	Neutral (%)	Agree / Strongly Agree (%)
First point of contact	5	3	92
Continuity of care	4	2	94
Comprehensive services	6	2	92
Coordination with secondary care	5	3	92
Patient-centered and family-oriented care	3	2	95

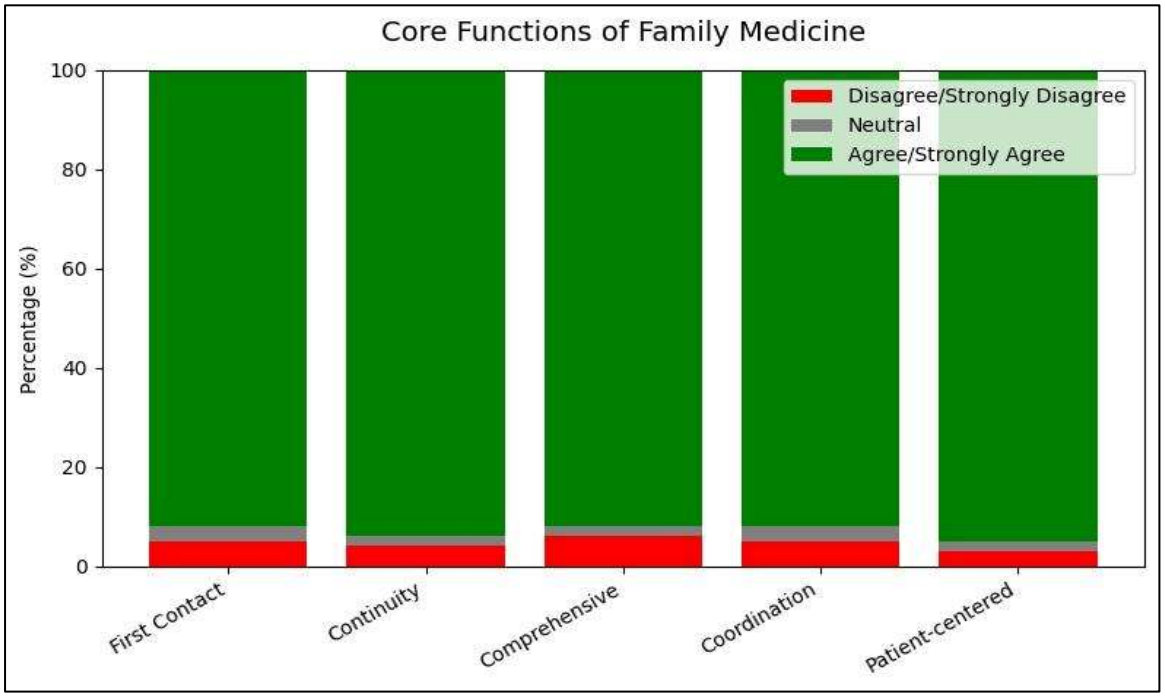

Figure 1. Core Functions of Family Medicine

Disease Prevention and Health Promotion

Physicians reported consistently high involvement in preventive services. More than 90% of respondents indicated regular provision of lifestyle counseling, screening for non-communicable diseases, early detection, and adherence to preventive care guidelines.

Table 4. Disease Prevention and Health Promotion Activities (n = 200)

Activity	Strongly Disagree / Disagree (%)	Neutral (%)	Agree / Strongly Agree (%)
Lifestyle counseling	4	3	93
Preventive screenings	5	3	92
Early detection of chronic diseases	4	2	94
Structured preventive programs	5	4	91
Adherence to preventive guidelines	3	2	95

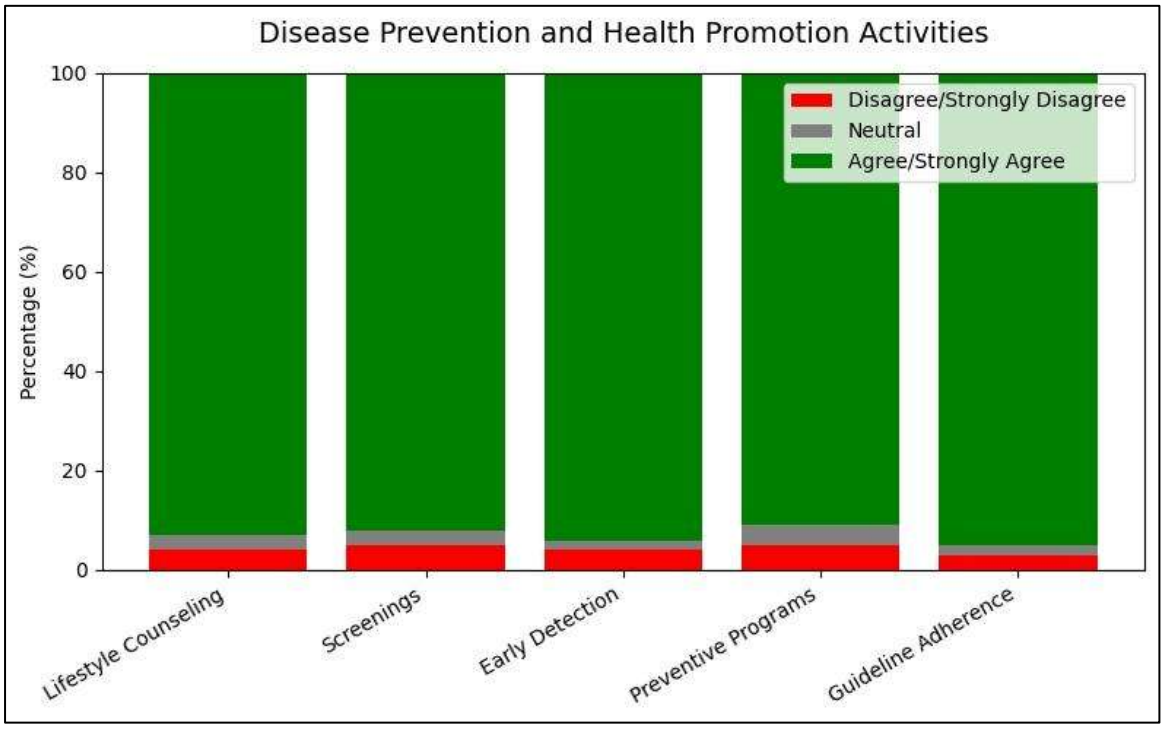

Figure 2. Disease Prevention and Health Promotion Activities

System and Organizational Support

High levels of agreement (90–95%) were also reported regarding organizational and system-level support for family medicine in PHC, including access to clinical guidelines, referral pathways, and administrative support for preventive care.

Table 5. System and Organizational Support (n = 200)

Item	Strongly Disagree / Disagree (%)	Neutral (%)	Agree / Strongly Agree (%)
Adequate staffing	5	3	92
Accessibility of clinical guidelines	3	2	95
Functional health information systems	4	3	93
Clear referral pathways	5	2	93

Item	Strongly Disagree / Disagree (%)	Neutral (%)	Agree / Strongly Agree (%)
Management support for preventive care	4	3	93

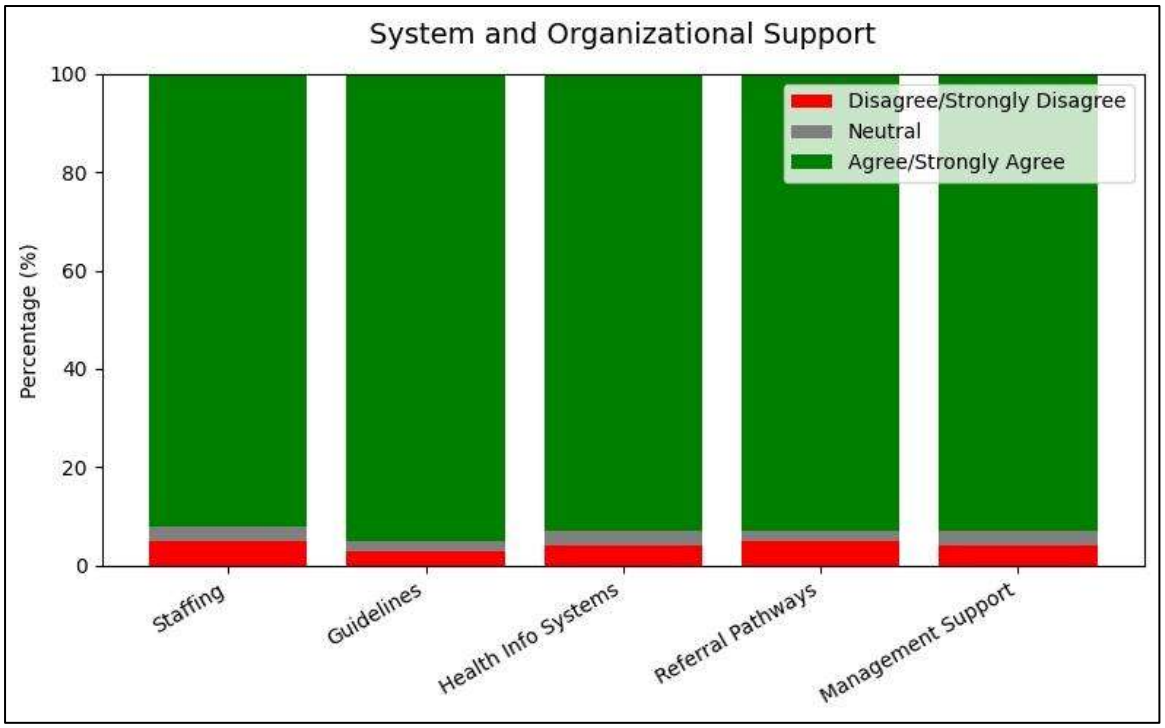

Figure 3. System and Organizational Support

Barriers and Opportunities

Despite high engagement in preventive care, participants reported **moderate barriers**, such as time constraints and patient awareness. About 40–50% reported workload and limited patient awareness as minor challenges. Opportunities for improvement were recognized by more than 90% of respondents, including expansion of training programs, enhanced public awareness, and adoption of digital health tools.

Table 6. Barriers and Opportunities (n = 200)

Item	Strongly Disagree / Disagree (%)	Neutral (%)	Agree / Strongly Agree (%)
Workload limits preventive care	15	40	45
Patient awareness of preventive services	12	42	46
Expansion of family medicine training improves PHC	3	2	95
Digital health tools enhance preventive care	4	3	93
Public awareness improves service utilization	3	2	95

Overall Assessment

Overall, between 90% and 95% of physicians agreed that family medicine plays a central role in strengthening PHC and improving disease prevention. Figure 1 provides a **composite visualization** of agreement levels across the main domains: core functions, preventive activities, system support, and opportunities.

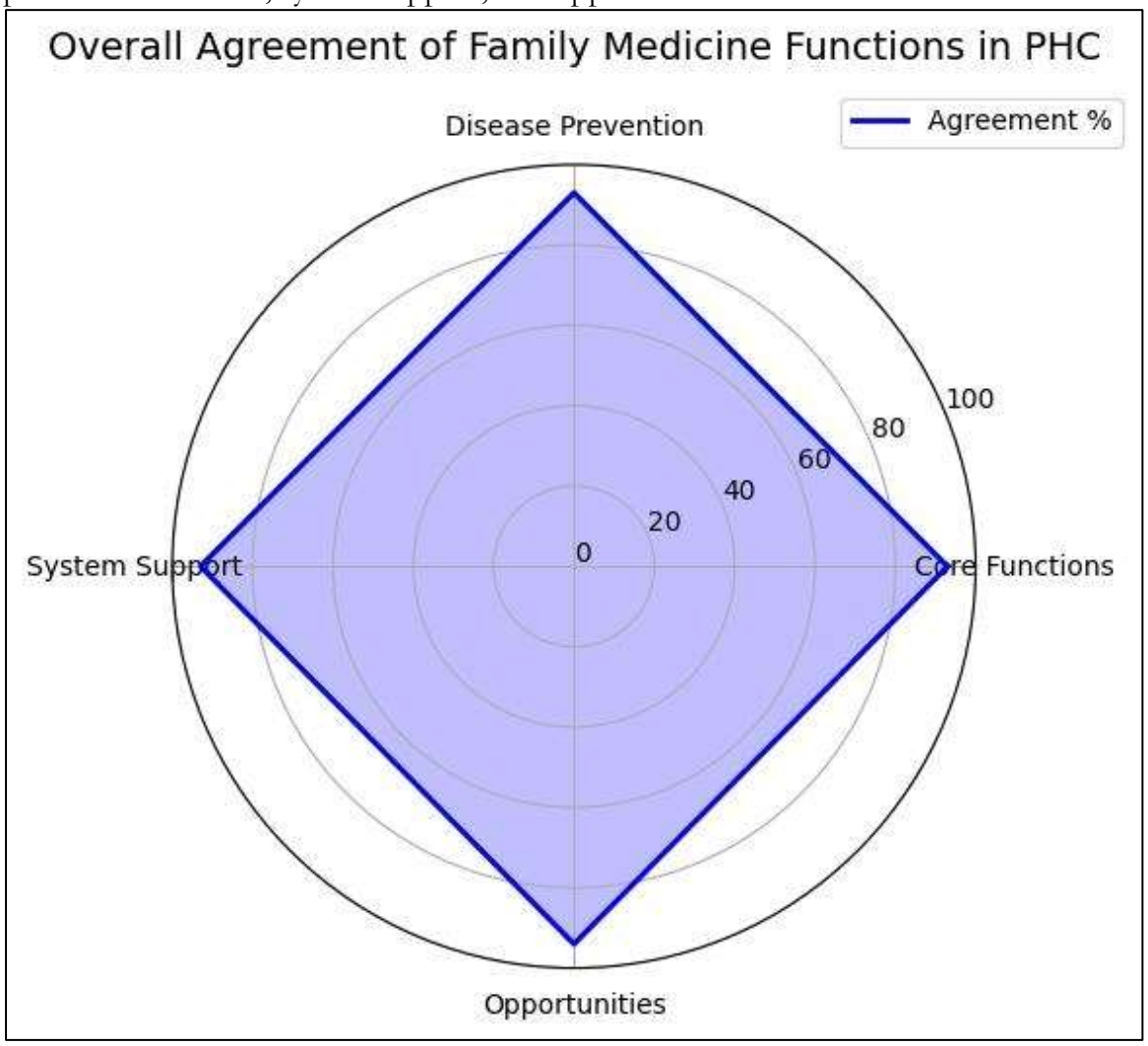

Figure 4. Overall Agreement of Family Medicine Functions in PHC

DISCUSSION

This study provides empirical evidence demonstrating the central role of general and family medicine in strengthening primary health care (PHC) and promoting disease prevention in Saudi Arabia. Across the 200 surveyed physicians, a high proportion (90–95%) reported consistent engagement in core family medicine functions, preventive service delivery, and utilization of system-level support structures. These findings underscore the alignment between theoretical frameworks of PHC—particularly Starfield's attributes of first-contact access, continuity, comprehensiveness, and coordination—and real-world clinical practice within the Saudi context.

Family Medicine and PHC Strengthening

The results indicate that family physicians effectively operationalize the foundational attributes of PHC. High levels of agreement regarding continuity of care, comprehensive service provision, and coordination with secondary care reflect the capacity of family medicine to reduce fragmentation and improve accessibility, confirming prior evidence that longitudinal, patient-centered practice enhances system efficiency and equity (Basu et al.,

2021; Kringos et al., 2015). Continuity and first-contact access reported by respondents suggest that family medicine acts as a gatekeeper, facilitating appropriate referral pathways and reducing unnecessary hospital utilization—an outcome consistently observed in high-performing PHC systems globally (Macinko & Starfield, 2019).

These findings are particularly significant in Saudi Arabia, where health system reforms under Vision 2030 prioritize PHC as the foundation of sustainable, value-based care. The study demonstrates that investments in family medicine training, staffing, and infrastructure are likely to yield measurable improvements in PHC functionality and patient outcomes.

Disease Prevention and Health Promotion

High agreement on preventive service delivery (90–95%) illustrates that family physicians in Saudi Arabia are actively engaged in health promotion, early detection, and chronic disease management. This is consistent with global evidence linking strong PHC with improved population-level outcomes, including higher vaccination coverage, increased cancer and diabetes screening, and reductions in avoidable morbidity and mortality (Starfield et al., 2019; De Maeseneer et al., 2021).

The findings highlight the synergistic role of family medicine and PHC in bridging clinical care and public health, reflecting a model where preventive interventions are embedded into routine practice rather than treated as peripheral activities. Notably, structured preventive programs and adherence to national guidelines were consistently reported, suggesting that policy frameworks supporting preventive care are effectively translated into practice at the PHC level.

System and Organizational Support

The study identified strong perceptions of system-level support, including staffing adequacy, access to clinical guidelines, functional referral systems, and management endorsement of preventive initiatives. These organizational factors are recognized as critical enablers of effective PHC, facilitating both service quality and physician engagement (Kringos et al., 2015; Macinko et al., 2020). The high levels of reported support suggest that Saudi PHC centers provide a conducive environment for family medicine to deliver comprehensive and preventive services, although ongoing investment in digital health infrastructure and workforce development remains essential to sustain these gains.

Barriers and Opportunities

While overall engagement was high, participants acknowledged time constraints and limited patient awareness as barriers to optimal disease prevention. These challenges are consistent with global literature emphasizing the impact of workload, patient health literacy, and system-level constraints on PHC performance (Penchansky & Thomas, 2020). However, respondents also identified clear opportunities for improvement, including expansion of family medicine training, public awareness campaigns, and adoption of digital health tools. These findings suggest that strategic interventions targeting both workforce development and patient engagement could further enhance the effectiveness of family medicine within the PHC system.

Implications for Policy and Practice

The findings have important implications for health system reform in Saudi Arabia and similar contexts. First, investment in family medicine education and training is critical to ensuring sufficient coverage of skilled PHC providers capable of delivering comprehensive and preventive services. Second, system-level enablers—such as clinical guidelines, referral coordination, and digital health infrastructure—must be maintained and scaled to support physicians' preventive roles. Third, public engagement strategies are needed to enhance patient utilization of PHC services and reinforce preventive behaviors. Together, these

measures can accelerate progress toward Vision 2030 goals, reduce avoidable hospitalizations, and improve population health outcomes.

Strengths and Limitations

A major strength of this study is its mixed-methods design, which allowed triangulation of self-reported physician practices, system-level observations, and qualitative insights, providing a comprehensive understanding of family medicine's role in PHC. The large, geographically diverse sample (n = 200) enhances the generalizability of findings within the Saudi context.

However, limitations include the self-reported nature of survey responses, which may be subject to social desirability bias. Although survey measures were validated for content and construct validity, future studies could incorporate objective service utilization data to corroborate self-reports. Additionally, while the study focused on physician perspectives, incorporating patient-reported experiences could provide a more complete evaluation of PHC effectiveness.

CONCLUSION

This study confirms that general and family medicine plays a pivotal role in strengthening PHC and advancing disease prevention in Saudi Arabia. High levels of engagement across core PHC functions, preventive activities, and system support highlight the potential of family medicine to act as a cornerstone of health system transformation. Addressing identified barriers through workforce development, public awareness, and digital health integration can further optimize the impact of family medicine on population health. These findings provide empirical evidence to guide policy, training, and organizational strategies aimed at enhancing PHC effectiveness and achieving sustainable health outcomes.

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