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Research Article

The Strategies to Improve Primary Health Care Services: A Scoping Review

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Abstract

Context: Evaluation of health policies and identification of their challenges are vital for improving and implementing reforms in the healthcare system. The present study was conducted to identify interventions aimed at improving primary healthcare (PHC) services in Iran.

Evidence Acquisition: This research utilizes a scoping review to examine reform interventions in PHC services across 10 selected countries: Qatar, Oman, Turkey, Georgia, Armenia, United Arab Emirates, Saudi Arabia, Bahrain, Kazakhstan, and Kuwait. The study covers areas such as the PHC delivery system, human resource management, financial mechanisms, and the framework of community participation and intersectoral collaboration from 2010 to 2022.

Results: The main reform strategies for PHC systems in the reviewed countries included the establishment of family medical centers with nurse support as a comprehensive strategy for service provision in public health centers; providing comprehensive and quality healthcare service packages including maternal and child health, infectious disease immunization, chronic disease monitoring, and dental care services; health education; access to essential medications; improvement of electronic health services; implementation of health promotion and continuous prevention programs; capacity enhancement; and a greater focus on health screening programs and grading of healthcare centers.

Conclusions: The major findings from the reviewed countries indicate that healthcare policymakers focus on providing preventive care services, reducing maternal and child mortality, and increasing life expectancy. Programs such as referral systems, service grading, and the adoption of electronic health services are part of their reform agenda.

Keywords: Primary Health Care; Health Equity; Community Participation; Inter-Sectoral Collaboration

1. Context

The World Health Organization emphasizes the necessity of establishing primary healthcare (PHC) to achieve good health levels in societies. Primary healthcare is defined as access to a comprehensive package of health services, including prevention, health promotion, disease treatment, management, and rehabilitation, which facilitates universal health coverage. Therefore, effective policies, cost-efficient spending, and a robust infrastructure network are essential for the provision of PHC services (1-3).

Strengthening PHC and placing it at the center of efforts to improve health and well-being is crucial for three key reasons. Firstly, PHC enables healthcare systems to adapt and respond to the rapidly changing and complex world. Secondly, by emphasizing health promotion and prevention, addressing health determinants, and adopting a people-centered approach, PHC has proven to be an effective and efficient method for tackling the root causes and risk factors of health issues. It also serves as a suitable strategy for managing emerging challenges that may threaten health in the future. Thirdly, achieving universal health coverage and addressing social determinants of health can only be sustainably accomplished by placing greater emphasis on PHC (4).

Studies indicate that to strengthen the PHC delivery system, factors such as enhancing human resources, strengthening service packages for non-preventable diseases, building managerial capacities, institutionalizing community participation, and improving information systems need to be considered (5).

In Iran, despite the successful implementation of PHC, which has been recognized as a successful model by international organizations such as the World Health Organization (6), the PHC system faces challenges due to evolving health needs (7). There is a need for a more suitable organizational structure to address weaknesses and provide solutions for Iran's PHC system (8).

Therefore, evaluating health policies and identifying their challenges are vital for improving and implementing reforms in the healthcare system. This study was conducted with the general aim of identifying interventions to improve the quality of services related to PHC. The goal is to provide sufficient and appropriate evidence to healthcare policymakers and health insurers, ultimately preventing the heavy burden imposed on the healthcare system and families.

2. Evidence Acquisition

A scoping review methodology was employed to identify scientific resources for this study. According to the Arksey and O'Malley protocol, a scoping review involves six stages: Defining the research question, searching for relevant studies, selecting studies, charting the data, summarizing and reporting the findings, and consulting key stakeholders for result validation (9). Therefore, this scoping review was conducted to identify relevant scientific sources. Databases such as PubMed, Scopus, Science Direct, SID, Magiran, ISC, and Google Scholar were searched for studies published between 2010 and 2022. To enhance the sensitivity of the search and locate additional evidence, manual searches were also conducted in other key sources and journals. The keywords used in the study included "primary healthcare," "primary healthcare human resources," and "interventions to strengthen primary healthcare."

The inclusion criteria for the study encompassed research conducted in the field of PHC between 2010 and 2022, published in Persian or English. Human Development Index (HDI) values for twelve countries from Iran's "1404 Visionary (2025) Book" (a key macro-strategic planning document) were examined, and ten countries—Qatar, Oman, Turkey, Georgia, Armenia, United Arab Emirates (UAE), Saudi Arabia, Bahrain, Kazakhstan, and Kuwait—were selected for further investigation. These countries were chosen due to their similar HDI patterns to Iran, making them suitable models for comparison with Iran's healthcare system. Additionally, countries outside the "1404 Visionary (2025) Book" with socioeconomic levels similar to Iran and in line with recommendations from the World Health Organization and the World Bank were also considered.

Data collection focused on seven domains: The PHC delivery system, human resource management, tools and technologies for patient management, financial resources, community participation, and intersectoral collaboration in the selected countries. Throughout all stages of this study, ethical considerations were strictly followed, ensuring the unbiased interpretation and presentation of information.

3. Results

The results of the studies, covering the areas of the PHC system, human resource management, financial resource procurement mechanisms, and the framework of community participation and intersectoral collaboration in the selected countries, were reviewed for the period between 2010 and 2022.

3.1. Primary Healthcare Delivery System

3.1.1. QATAR

In Qatar, PHC services are primarily provided by the Primary Health Care Corporation (PHCC), a government entity that operates 27 health centers. These centers offer a wide range of services, including dental care, radiology, laboratory services, pharmacy, physiotherapy, and social services. The health centers are centrally managed by the PHCC. Additionally, the country has mandated that all residents install and use the Ehteraz® contact tracing application. The Ministry of Public Health in Qatar has also implemented various remote channels for accessing healthcare services (10, 11).

3.1.2. OMAN

In Oman, healthcare services are divided into three levels: Primary, secondary, and tertiary. The Ministry of Health is responsible for coordinating and overseeing PHC services, which are provided by regional health centers and local hospitals. Primary healthcare in Oman is considered the first point of contact between citizens and the healthcare system (12-16).

3.1.3. Turkey

Turkey introduced the Health Transformation Program in 2005, focusing on family medicine as the primary care model. The program aimed to appoint family physicians for individuals, transfer ownership of healthcare facilities to healthcare providers, make family physicians accountable, and develop electronic health records for monitoring performance-based indicators (17-22).

3.1.4. Georgia

In Georgia, PHC services include maternal and child health, immunization, reproductive health, screening,

population and individual-based health promotion and disease prevention activities, basic laboratory tests, diagnostics, palliative care, community-based mental health, and routine health examinations (23-25).

3.1.5. Armenia

In Armenia, with the implementation of the decentralization policy, health services were delegated to regional governments (hospitals) and local governments (PHC services) (26).

3.1.6. United Arab Emirates

In the UAE, the health systems are distinct within each of the seven emirates (Abu Dhabi, Ajman, Dubai, Fujairah, Ras Al Khaimah, Sharjah, and Umm Al-Quwain). At the federal level, the Ministry of Prevention and Health governs and legislates health services, while at the emirate level, various authorities manage healthcare within each emirate. A comprehensive network of 105 government-funded PHC clinics was established by 2001, providing local access to nearly all residents. This structure has led to increased equity in access to PHC services for Emirati citizens, with personnel allocation based on the geographical distribution of residents (27-31).

3.1.7. Saudi Arabia

In Saudi Arabia, PHC is the first level of health services provided by the Ministry of Health through a network of PHC centers. However, the system faces challenges related to disease patterns, workforce availability, information systems, financial support, and accessibility. To address these issues, the Ministry of Health developed a four-year project (2008 - 2011) to enhance electronic health services in organizations and healthcare facilities. However, the electronic health strategy was first implemented in 2011 in major city hospitals (32-34).

3.1.8. Bahrain

In Bahrain, the Ministry of Health has adopted a strategic approach focused on preserving public health through continuous health promotion and prevention programs. Improving population health is a national priority, achieved through efforts to enhance the capacity of PHC services. The ministry's goal extends beyond providing healthcare services; it also aims to raise awareness about the benefits of healthy lifestyle habits, focus more on health screening programs, and implement public health policies. Family medicine plays a central role in prevention, health promotion, and patient-centered care. These services are delivered through 26 health centers and three clinics in Bahrain (35).

3.1.9. Kazakhstan

In Kazakhstan, the government owns or controls over 80% of medical institutions, including more than 1,000 hospitals and 3,400 outpatient clinics. In 2019, there were 747 hospitals and 3,204 outpatient clinics registered in the country (36, 37).

3.1.10. Kuwait

Kuwait is divided into six health regions, each operating as a decentralized administrative unit with significant autonomy in financial and administrative matters, health workforce training, and healthcare management. The country has one of the most modern healthcare infrastructures, with six public general hospitals and several national specialized hospitals and clinics, totaling 74 centers. Family physicians play a key role in providing services in public health centers, where comprehensive and quality services are offered (38-41).

3.2. Human Resource Management

3.2.1. Qatar

In Qatar, the PHCC employs a diverse workforce across five main job categories: Physicians, nurses, dental assistants, paramedics, and individuals in support and managerial roles within healthcare units (10, 11).

3.2.2. Oman

In Oman, alongside the expansion of healthcare facilities, there has been a focus on building a PHC workforce capable of providing preventive, curative, promotional, and rehabilitative services. Primary healthcare centers are typically staffed by general practitioners, nurses, dentists, laboratory technicians, pharmacists, and paramedical personnel. The density of physicians increased from 7.16 in 2005 to 21.7 per 10,000 people in 2015, while nurse density also rose from 37 to 47 per 10,000 people during the same period (12-16).

3.2.3. Turkey

In Turkey, the healthcare workforce nearly doubled as a result of the Health Transformation Program, which enhanced the system's capacity. Reforms such as the family medicine model, contract-based employment, and performance-based payment systems have significantly improved healthcare personnel's access to public facilities and redistributed human resources to regions with historically lower access (17-22).

3.2.4. Georgia

In Georgia, PHC services are provided through various stakeholders and payment mechanisms. Most medical staff were trained during the Soviet era, and due to political and economic challenges, there has been a skills gap in the sector. The government has implemented a program to retrain general practitioners and nurses, with

around 1,000 PHC teams benefiting from these programs (23-25).

3.2.5. Armenia

In Armenia, there has been increasing support for training and retraining frontline PHC providers, with 980 family physicians and 980 family nurse practitioners completing internationally reviewed curriculum programs. By 2010, 1,082 physicians and 988 nurses had completed family medicine training, exceeding the set goals (26).

3.2.6. United Arab Emirates

In the UAE, there is an uneven distribution of healthcare workforce across the emirates. Between 2005 and 2012, the density of physicians increased from 3.19 to 3.69 per 10,000 individuals. However, the density of nursing and midwifery staff decreased from 49.40 to 49.40 per 10,000 people, while the numbers of dentists and pharmacists remained relatively constant (27-31).

3.2.7. Saudi Arabia

Saudi Arabia faces a shortage of human resources in PHC. As of 2014, the numbers included 9,304 physicians and dentists (3 per 10,000 population), 18,136 nurses (5.9 per 10,000 population), and 9,690 health workers. Many healthcare specialists, particularly nurses, are transferred to managerial or non-nursing roles within their organizations, a trend also seen among physicians. A ministry committee review indicated that the number of primary care physicians was 40% below the required amount (32-34).

3.2.8. Bahrain

As of 2015, over 4,672 individuals were employed in private healthcare in Bahrain, and 9,685 were engaged in public healthcare, with 79.1% of the public healthcare workforce being Bahraini nationals. According to 2015 statistics, the Ministry of Health employed 1,270 physicians, of which 82% were Bahraini nationals. Of these, 445 physicians worked in PHC centers, including 304 family physicians (68%) who graduated from the country's family medicine residency program (35).

3.2.9. Kazakhstan

In Kazakhstan, a recent initiative called "Health City" has been implemented to support the shift towards a health-centric paradigm. The goal is to establish an integrated network of clinics and diagnostic centers that leverage technology and patient-centered care to deliver healthcare services to communities. The activities of Health City are driving transformative changes in Kazakhstan's healthcare system (36, 37).

3.2.10. Kuwait

The health workforce in Kuwait heavily relies on migrant workers, and this dependence is expected to continue in the foreseeable future. Kuwait's "Kuwaitization" policy aims to train sufficient numbers of national physicians, dentists, and pharmacists over the next few years to reduce reliance on foreign healthcare professionals. However, the outlook for training an adequate number of locally graduated nurses is not promising. Human resource needs assessments and necessary training are conducted in each healthcare sector and PHC center (38-41).

3.3. Healthcare Financing Mechanisms

3.3.1. Qatar

In 2012, Qatar introduced a comprehensive healthcare system requiring each individual in the community to pay an annual fee of $20 for access to health services. These services include PHC provided by the PHCC, as well as secondary and tertiary healthcare services offered by Hamad Medical Corporation. Additionally, private clinics and hospitals are available, with funding through private insurance or out-of-pocket payments (10, 11).

3.3.2. Oman

Oman prioritizes financial access to PHC by offering free universal healthcare to Omani citizens and expatriates working in the public sector through the Ministry of Health. This system covers mental health services and related medications. Foreign workers in the private sector are predominantly covered by employer-provided insurance. To ensure financial sustainability, the government has implemented a mandatory health insurance system. According to the Health Vision 2050, the government's participation in the insurance system will be maintained to preserve healthcare quality. Financial sustainability and healthcare provision occur through public-private partnerships between the government and private insurance companies (12-16).

3.3.3. Turkey

Turkey's healthcare financing mechanism is built on a performance-based payment system. The Ministry of Health's Strategic Plan for 2019 - 2023 indicates the need to update the current family physician performance payment system to enhance PHC effectiveness and increase efficiency within the healthcare system. The redesigned system aims to integrate quality, patient satisfaction, results-based performance, and alignment with the Ministry of Health's priorities (17-22).

3.3.4. georgia

In Georgia, many individuals are compelled to pay for their medical expenses, as healthcare workers often re-

ceive low salaries, leading them to rely on patient payments to supplement their income. The state program for PHC does not cover complex diagnostic assessments or medications (23-25).

3.3.5. United Arab Emirates

Over the past 12 years, healthcare expenditure as a percentage of GDP in the UAE has increased by more than 36%. The country has three insurance schemes: Two for foreign migrants (basic and advanced) and one for UAE nationals. The UAE is also exploring health tourism as a means to secure financial resources. Primary healthcare clinics, funded by the Federal Ministry of Health and in Dubai by the Dubai Health Authority, vary slightly in services. Smaller clinics often lack on-site pathology and radiology services (27-31).

3.3.6. Saudi Arabia

Saudi Arabian citizens have free access to all levels of public healthcare services provided by the central government. However, the Ministry of Health's per capita healthcare expenditure is relatively low, at $299, which is less than that of advanced industrialized countries. Ministry of Health planners and leaders primarily focus on hospitals, with over 90% of the ministry's budget allocated to hospital projects. This emphasis has resulted in limited spending on PHC centers, with 80% of PHC buildings being rented and not specifically designed to provide PHC services (32-34).

3.3.7. Kazakhstan

In Kazakhstan, public and private health expenditures account for over 4% of the gross domestic product, with 2.6% covered by public sources. In 2019, there were 15 million insured individuals, and compulsory health insurance coverage reached 80.5%. Approximately 58% of the allocated expenses for PHC services came from total current health expenditures in the same year (36, 37).

3.3.8. Kuwait

Kuwait has a government-funded healthcare system that provides services "locally and free at the point of service" for Kuwaiti nationals. Non-citizen residents are required to pay an annual fee to receive a medical insurance card. The state system offers primary, secondary, and tertiary care, but government services often face long waiting times. Additionally, it appears that state hospitals may discourage the presence of migrants, who constitute nearly two-thirds of Kuwait's population, to alleviate waiting time pressures (38-41).

3.4. Community Engagement and Inter-Sectoral Collaboration Framework

3.4.1. Qatar

Primary healthcare in Qatar is based on the Family Physician model, aiming to establish continuous communication with a personal Family Physician to ensure coordinated care. The key principles guiding PHC delivery in this model include interdisciplinary teams that foster a collaborative approach among professionals to provide comprehensive care for patients. The focus is on delivering holistic care, considering all aspects of the patient's life. Additionally, there is an emphasis on providing coordinated care within the healthcare system, ensuring seamless and integrated services for patients. Traditional clinical services are also prioritized, including antenatal care, pediatric care, and the prevention and treatment of non-communicable diseases (10, 11).

3.4.2. Oman

Oman has implemented a "walk-in" system for PHC, allowing patients to access services without the need for appointments, ensuring timely care. Referral to secondary or tertiary care is appointment-based, and a time-based appointment system has been introduced to reduce waiting times, particularly for patients from remote areas. The implementation of the family physician program and the "Nurse Practitioner" pilot in PHC are underway. Additionally, supportive and palliative care programs for the elderly are in the process of being implemented (12-16).

3.4.3. Turkey

In Turkey, PHC services are provided by family physicians in Family Medicine Centers (FMCs), which are managed by family physicians and support staff. Each active family physician unit serves a population of approximately 3,000 individuals. In addition to FMC units, Social Health Centers (CHCs) provide public health services, including environmental health, reproductive health, child and adolescent health services, disease management, and cancer screening (17-22).

3.4.4. Georgia

Georgia offers a broad spectrum of PHC services through various types of facilities:

1. Primary Health Centers (PHCs): Known as "out-patient" services, PHCs are primarily managed by general practitioners at the village level, with one physician and one nurse serving every 2,000 people.
2. Specialized Health Centers: These include pharmacies and polyclinics operated by specialist teams.
3. Transformed PHCs: Formerly known as FMCs, these centers are staffed by family physicians with additional training and cover one-third of primary care service needs.
4. Ambulance Network: Provides ambulance services.
5. Public Health Network: Delivers public health services (23-25).

3.4.5. Armenia

Armenia provides PHC through a network of rural primary care centers and urban polyclinics. However, due to cultural beliefs and perceptions of lower-quality care at PHC centers, people often prefer visiting hospitals and emergency care services instead (26).

3.4.6. Saudi Arabia

In Saudi Arabia, healthcare and treatment centers in both urban and rural areas primarily include general practitioners, family physicians, and specialists in women's health and obstetrics (32-34).

5. Discussion

This study delves into the examination of PHC systems in countries similar to Iran, such as Qatar, Oman, Turkey, Georgia, Armenia, the UAE, Saudi Arabia, Bahrain, Kazakhstan, and Kuwait. The findings highlight that health policymakers and managers in these countries are actively seeking solutions to improve the efficiency, effectiveness, and equity of healthcare systems. They place a strong emphasis on preventive care, reducing maternal and child mortality, and increasing life expectancy, with specific implementation plans.

Primary healthcare requires the participation of a diverse workforce with a wide range of skills and expertise across various sectors of society. Policymakers, economists, managers, educators, hospital administrators, academics, and public health experts need to collaborate effectively with other sectors to meet the needs of the people (4).

The findings suggest that, among the health programs reviewed, establishing family medical centers as a comprehensive strategy could improve healthcare service delivery. These centers could provide a broad range of services, including maternal and child health, immunization for communicable diseases, follow-up care for chronic diseases, dental services, health education, and access to essential drugs. Additionally, improving e-health systems, implementing health promotion programs, and enhancing human resource management through continuous training, workforce retention strategies, and redistribution of staff to remote areas were identified as essential measures.

Studies show that well-trained, properly compensated, and integrated community health workers contribute to improved access, responsiveness, patient satisfaction, and health outcomes (42). However, evidence indicates that the budget allocated for PHC is often insufficient, with a higher percentage of funds directed toward hospital care. In some cases, only around $40 USD per person is allocated annually for PHC (43).

In the studied countries, PHC service costs were initially covered through out-of-pocket payments. However, following healthcare reforms, these services became more accessible and free in both urban and rural areas, including remote regions. For example, in Thailand, between 1982 and 1986, the government halted new investments in urban hospitals and redirected financial resources to the construction of regional rural hospitals and urban health centers. Many countries increased healthcare spending as a percentage of GDP, financing healthcare systems through performance-based payments that emphasized clinical quality, patient experience, and coordination of care. These reforms also involved creating a basic health services package that included preventive, primary, and therapeutic services, which improved access to healthcare for marginalized populations.

The patient management framework in these countries evolved based on the family physician model. This model promotes continuous communication with a personal family physician to ensure coordinated care. Key principles include interdisciplinary teams, collaborative patient care, comprehensive health services, and coordination within the healthcare system. These principles ensure that clinical services such as prenatal care, child care, and the prevention and treatment of non-communicable diseases are provided effectively.

In terms of community participation, the findings reveal that the family-centric design of the family physician program and population health management are integral to healthcare policy in the studied countries. Community participation, including the involvement of community leaders in identifying local health priorities, has been shown to improve patient safety and reduce health risks. For instance, Brazil's family health program has demonstrated better access to medications, regular care, and improved patient satisfaction. Further research on the positive outcomes of community participation could provide more comprehensive insights into its impact on healthcare systems.

5.1. Conclusions

The study highlights common trends and challenges faced by countries similar to Iran in their efforts to enhance PHC systems, including workforce management, financial mechanisms, and ongoing attempts to overcome budget constraints while ensuring equitable access to healthcare services. The findings underscore the importance of collaboration between various sectors and stakeholders to achieve comprehensive and effective PHC. Furthermore, the study emphasizes the need for continuous training, workforce retention strategies, and the integration of technology to improve the quality and accessibility of PHC services.

Strengthening the healthcare workforce by focusing on training, particularly in social responsibilities, providing sustainable financial resources, and delivering patient-oriented care within the healthcare system, along with conventional clinical services, are crucial steps. Additionally, establishing standardization mechanisms to collect

and analyze patient experiences, alongside emphasizing the centrality of the family physician, can play a pivotal role in improving PHC systems. To achieve these goals, it is essential to advocate for the importance of these issues at various decision-making levels, both within and outside the healthcare system, to ensure an increased share of healthcare in the GDP.

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