

Healthcare Reform in Saudi Arabia Under Vision 2030: A Descriptive Review of the Roles of Health Administration, Psychology, Pharmacy, Anesthesia, Social Services, and Laboratory Science

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ABSTRACT

This study examines the multifaceted healthcare reforms undertaken by Saudi Arabia under its ambitious Vision 2030 initiative. The analysis delves into key areas of focus, including public-private partnerships, digital health integration, workforce development, and infrastructure improvements. By leveraging these strategies, Saudi Arabia aims to enhance healthcare accessibility, quality, and sustainability. The research highlights the significant impact of public-private collaborations and digital innovations on improving access to healthcare services and operational efficiency. Additionally, efforts to localize the healthcare workforce are gradually reducing reliance on expatriate professionals. However, challenges such as ensuring equitable access across regions and maintaining financial sustainability persist. To achieve the long-term goals of Vision 2030, ongoing evaluation and adaptive policy measures are essential. By fostering a robust healthcare system, Saudi Arabia seeks to elevate the standard of care, improve patient outcomes, and solidify its position as a global healthcare leader.

KEYWORDS: healthcare, Vision 2030.

Introduction

Structure and Historical Development

Saudi Arabia's healthcare system is a centralized model primarily funded by the

government. Healthcare services are provided through various public and private sectors, with the Ministry of Health (MOH) as the main governing body. The MOH operates approximately 60% of hospitals and health centers across the Kingdom, while the rest are operated by other governmental sectors and the private sector (Chowdhury, Mok, & Leenen, 2021). The healthcare infrastructure includes primary, secondary, and tertiary care facilities, with specialized centers dedicated to advanced medical services.

Historically, the healthcare system in Saudi Arabia has undergone substantial changes. Prior to the 1970s, healthcare services were limited and primarily urban-based. Over the decades, the government invested in expanding healthcare access, infrastructure, and personnel training. The 1980s and 1990s saw rapid growth in hospital facilities and medical education, which aimed to meet the needs of a fast-growing population. Despite these efforts, certain challenges persisted, such as dependency on foreign medical professionals, disparities in access between urban and rural areas, and increasing healthcare costs due to high demand (Al-Anezi, Alrajhi, & Al-Anezi, 2020).

Current Challenges

Saudi Arabia's healthcare system faces multiple challenges, including the burden of chronic diseases like diabetes, cardiovascular disease, and obesity. An aging population and a high prevalence of lifestyle-related health conditions have increased the strain on healthcare resources. Additionally, there is a shortage of qualified healthcare professionals, particularly in specialized fields, which has led to reliance on expatriates for healthcare service delivery (Elsheikh & Alqurashi, 2018).

The healthcare system also grapples with infrastructure demands, especially in remote regions where access to quality healthcare services remains limited. Technological gaps and a need for more coordinated health information systems are further obstacles, impacting data sharing and quality of care (Noor, 2019). The COVID-19 pandemic also highlighted gaps in telehealth capabilities and the need for a more resilient health system (Alghamdi, Alqahtani, & Aldhahir, 2020).

Vision 2030 Initiative and Healthcare Reform

In 2016, the Saudi government launched Vision 2030, a strategic framework aimed at diversifying the economy and reducing reliance on oil revenue (Khan, 2016). This ambitious initiative seeks to transform Saudi society and improve various sectors, with healthcare reform being a central component. The rationale behind Vision 2030 in the healthcare domain is to build a more efficient, sustainable, and patient-centered system that meets international standards and fosters innovation in medical services (Rahman & Qattan, 2021).

Healthcare reform under Vision 2030 includes expanding private sector participation, improving the quality of care, and integrating advanced technologies, such as telehealth and e-health platforms. This transformation aims to increase the overall health outcomes of the population while reducing the financial burden on the government (Chowdhury et al., 2021). Vision 2030 also emphasizes mental health and preventive care, recognizing the importance of a comprehensive health system in

supporting long-term sustainable development (Al-Subaie, Al-Habeeb, & Altwaijri, 2020).

Literature Review

Saudi Healthcare System Before Vision 2030

Before the introduction of Vision 2030, Saudi Arabia's healthcare system was characterized by a heavily centralized structure, with the government shouldering approximately 75% of healthcare expenditure, primarily through the Ministry of Health (MOH) (Al-Anezi, Alrajhi, & Al-Anezi, 2020). This funding model aimed to provide comprehensive healthcare services for citizens at minimal cost but was increasingly challenging due to high population growth, the rising burden of chronic diseases, and an over-reliance on government resources.

Limitations:

- **Reliance on Public Sector Funding:** The public sector's dominance limited private sector investment and innovation, which in turn restricted the overall quality and efficiency of healthcare services.
- **Accessibility and Geographic Disparities:** While urban areas, particularly Riyadh and Jeddah, had relatively advanced healthcare services, rural areas lagged in access to quality care. This was largely due to resource constraints and geographic challenges.
- **Quality and Capacity Constraints:** Shortages of healthcare professionals, particularly in specialized areas, resulted in the hiring of expatriates, leading to a workforce that varied in training and skills (Elsheikh & Alqurashi, 2018). Additionally, healthcare infrastructure struggled to meet the growing demand for services, particularly with the increasing burden of non-communicable diseases (NCDs) such as diabetes and cardiovascular diseases (Chowdhury, Mok, & Leenen, 2021).

Global Models of Healthcare Reform

Healthcare reform initiatives globally have followed various models, providing valuable insights into best practices. Some relevant models include:

1. **United Kingdom - National Health Service (NHS):** The NHS represents a publicly funded, universal healthcare model, with a focus on equitable access to healthcare. Although highly centralized, the NHS emphasizes preventive care and cost-effective service delivery. The NHS's challenges with capacity management offer lessons on the importance of efficient resource allocation for Saudi Arabia (Rahman & Qattan, 2021).
2. **United States - Mixed-Payer System:** The U.S. healthcare reform, particularly under the Affordable Care Act (ACA), aimed to improve access to healthcare while promoting competition among providers. This model shows the potential benefits of private sector involvement and the role of insurance to diversify healthcare funding. It highlights how Saudi Arabia might benefit from integrating private insurance options to relieve the financial burden on the public sector (Al-

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Kahlan & Khasawneh, 2023).

3. Singapore - Dual Model of Public and Private Partnerships: Singapore's model of public-private partnerships (PPPs) and a mandatory medical savings system has achieved high-quality healthcare while maintaining sustainability. It provides a practical framework for Saudi Arabia's aim to introduce privatization while maintaining high-quality healthcare standards (Khan, 2016).

Best Practices and Lessons: From these models, Saudi Arabia can draw lessons on implementing a mixed healthcare system that integrates public health infrastructure with private sector capabilities, improves patient outcomes through preventive care, and enhances service delivery through digital innovation.

Vision 2030's Goals for Healthcare

Under Vision 2030, Saudi Arabia's primary goals for healthcare reform are centered around improving efficiency, sustainability, and patient care quality. The vision aims to reduce dependence on public funding by attracting private sector investment, thus creating a more balanced healthcare financing model.

Key Objectives:

- **Privatization and Economic Diversification:** One of Vision 2030's central objectives is to increase private sector participation, which is anticipated to reduce the fiscal burden on the government and foster competition, thereby improving service quality.
- **Digital Health Initiatives:** Vision 2030 underscores the importance of digital health solutions, such as telehealth and electronic health records (EHR), to enhance healthcare delivery and access, especially in remote areas (Alghamdi, Alqahtani, & Aldhahir, 2020).
- **Improved Access and Service Quality:** Vision 2030 targets increased access to high-quality care by expanding healthcare infrastructure, particularly in underserved areas, and by establishing a national health insurance program to facilitate broader access to private healthcare facilities.
- **Preventive Care Focus:** Recognizing the importance of preventing chronic illnesses, Vision 2030 promotes a shift towards preventive and community-based care, addressing risk factors like obesity and smoking, which have a high prevalence in Saudi Arabia (Chowdhury et al., 2021).

Key Components of Healthcare Reform under Vision 2030

1. Public-Private Partnerships (PPPs):

PPPs are pivotal to Vision 2030's strategy, involving private sector collaboration in constructing and managing healthcare facilities. PPPs are expected to increase operational efficiency, bring advanced medical technology, and reduce costs by sharing resources (Rahman & Qattan, 2021).

2. Digital Healthcare Integration:

A major component of Vision 2030's healthcare reform is the integration of digital

technologies. Telemedicine, electronic health records (EHR), and mobile health applications are being promoted to streamline patient data access, reduce wait times, and allow remote consultations, particularly beneficial during situations like the COVID-19 pandemic (Alghamdi et al., 2020). E-health initiatives are also aimed at supporting chronic disease management and preventive care through digital platforms (Noor, 2019).

3. Healthcare Workforce Development:

Vision 2030 acknowledges the need to strengthen the healthcare workforce, especially through training programs aimed at building local expertise in specialized fields. Efforts are being made to reduce dependency on foreign healthcare professionals by enhancing local medical education and residency programs (Elsheikh & Alqurashi, 2018).

4. Infrastructure Enhancements:

The government is investing in expanding and modernizing healthcare infrastructure. Vision 2030 includes plans for new hospitals, specialized clinics, and primary care centers. This expansion is vital for achieving broader access and addressing capacity issues that have historically impacted the Saudi healthcare system (Chowdhury et al., 2021).

Research Objectives

Primary Objective: Provide a detailed descriptive analysis of healthcare reform efforts under Saudi Arabia's Vision 2030.

Secondary Objectives:

- Describe key components and targets of healthcare reform under Vision 2030.
- Examine improvements in healthcare quality, accessibility, and cost management.
- Investigate the role of public-private partnerships in enhancing healthcare delivery.
- Assess progress in healthcare workforce development.
- Identify challenges or areas for future improvement in the reform process.

Research Questions

- What are the primary components of Saudi Arabia's healthcare reform under Vision 2030?
- How has the reform impacted healthcare quality, access, and affordability for Saudi citizens?
- What role do public-private partnerships play in achieving the healthcare reform objectives?

- How is the healthcare workforce being developed to meet Vision 2030 goals?
- What challenges and barriers have emerged in implementing these healthcare reforms?

Research Methodology

Research Design: A descriptive research design will be used to provide a comprehensive overview of healthcare reforms under Vision 2030 and their implications for the Saudi healthcare system.

Data Collection:

Secondary Data Analysis: This study will rely on secondary data sources to provide a thorough examination of healthcare reforms under Vision 2030. Key data will be collected from policy documents, governmental reports, and published statistics. Sources will include Saudi government agencies, the Ministry of Health (MOH), and Vision 2030 official platforms. By reviewing these resources, the study will extract quantitative and qualitative data on healthcare infrastructure, workforce metrics, patient access, and cost management, facilitating a broad assessment of reform progress and impacts. **Document Analysis:** In-depth document analysis will be conducted on official Vision 2030 publications and MOH reports. These documents will be analyzed for specific reform strategies, objectives, and indicators of success, enabling an understanding of the intended goals versus actual outcomes. This approach will also include a review of progress reports and assessments from healthcare initiatives, helping to identify patterns, trends, and any gaps in achieving Vision 2030's targets. Document analysis will support cross-referencing between various sources to enhance reliability and provide a well-rounded descriptive overview.

Data Analysis:

Descriptive Analysis: This study will employ a detailed descriptive analysis to systematically organize and interpret findings from policy documents, governmental reports, and statistics on Saudi healthcare reform under Vision 2030. This approach will create a narrative outlining the progress, achievements, and remaining challenges of the healthcare reforms. By examining year-by-year developments and breaking down reform components such as funding, infrastructure upgrades, workforce development, digital health integration, and public-private partnerships, the descriptive analysis will clarify the reforms' impacts on healthcare quality, accessibility, and sustainability. This analysis will also provide insights into measurable outcomes, such as changes in patient satisfaction, service efficiency, access to healthcare in rural areas, and reductions in healthcare costs. The narrative aims to give a chronological account of how Vision 2030 has reshaped the Saudi healthcare landscape, presenting a coherent picture of each reform phase.

Comparative Analysis: A comparative analysis will evaluate Saudi Arabia's healthcare reforms in the context of similar initiatives undertaken by other countries with diverse healthcare systems, such as the United Kingdom, the United States, and

Singapore. This cross-country comparison will highlight best practices, enabling identification of successful strategies that may inform Saudi Arabia's ongoing and future healthcare reforms. For example, Singapore's use of public-private partnerships and a dual healthcare model has demonstrated sustainable outcomes, offering lessons on balancing public resources with private sector efficiencies. Similarly, the NHS's emphasis on preventive care and universal coverage provides a model for addressing Saudi Arabia's demographic and lifestyle-related health challenges. This comparative analysis will also consider challenges faced by other countries, such as maintaining quality amid privatization and managing healthcare costs as services expand. By drawing parallels and contrasting the Saudi model with these international examples, the study will identify potential pitfalls and barriers that Saudi Arabia might face in the next phases of Vision 2030, thus providing actionable insights for policymakers on how to avoid common issues and leverage proven strategies. The comparative analysis will deepen understanding of Vision 2030's unique goals while situating them within a global framework of healthcare reform efforts.

Analysis of Outcomes

Descriptive Overview of Vision 2030's Healthcare Reform:

The study will produce a comprehensive outline of Vision 2030's healthcare reform components, focusing on objectives and strategies designed to transform the Saudi healthcare system. This overview will describe Vision 2030's goals for healthcare, which include increasing private sector involvement, integrating digital health technologies, expanding healthcare accessibility, and improving service quality (Khan, 2016; Rahman & Qattan, 2021). Additionally, the outline will detail specific initiatives, such as the creation of new healthcare facilities, enhancements to primary and specialized care, and efforts to address the growing burden of non-communicable diseases.

Assessment of Impact on Key Healthcare Metrics:

This study will evaluate how Vision 2030 has influenced critical healthcare metrics, such as quality of care, patient accessibility, and cost-effectiveness. Preliminary data suggest improvements in healthcare quality due to better infrastructure and the integration of digital health services, which has reduced waiting times and improved patient outcomes in certain areas (Alghamdi, Alqahtani, & Aldhahir, 2020). Increased access to services, especially in rural and underserved areas, is expected to be a prominent outcome, driven by a national focus on expanding healthcare facilities and telehealth options (Noor, 2019). Cost-effectiveness will be examined in relation to the shift toward private funding, aiming to reduce the government's financial burden and enable more sustainable healthcare financing.

Insights into Public-Private Partnerships:

Public-private partnerships (PPPs) are pivotal in Vision 2030's healthcare reform, and the study will explore their role and effectiveness. These partnerships aim to enhance healthcare quality and expand service accessibility by drawing on private sector expertise and resources. The expected outcome is a comprehensive analysis of

PPPs in various healthcare projects, assessing their contributions to efficiency, innovation, and patient satisfaction. The study will use examples from successful PPPs to illustrate how private involvement has helped achieve Vision 2030's objectives, with potential parallels drawn from international models such as Singapore's healthcare system, which demonstrates the sustainability of such collaborations (Chowdhury, Mok, & Leenen, 2021).

Progress in Workforce Development:

Vision 2030 has emphasized the development of a skilled healthcare workforce to support the transformation of the healthcare system, especially through localizing healthcare jobs and reducing reliance on expatriates. The study will review workforce development initiatives, such as new training programs, incentives for medical education, and residency programs aimed at specialized fields (Elsheikh & Alqurashi, 2018). Expected outcomes will describe progress in building a healthcare workforce that meets Vision 2030's standards, with attention to skill gaps addressed and remaining areas where further training may be needed.

Identification of Challenges and Opportunities:

This research will identify barriers encountered during the implementation of healthcare reforms, including logistical, regulatory, and workforce-related challenges. For instance, expanding telehealth services highlighted the need for improved digital infrastructure, especially in remote regions (Alghamdi et al., 2020). Additionally, managing the cost of services while maintaining quality poses challenges as the private sector takes a larger role (Khan, 2016). The study will outline opportunities for improving reform strategies, such as enhanced digital health solutions, and expanded partnerships, and propose areas for further investment and policy support. Identifying these opportunities is essential for adapting and expanding reform strategies to sustain long-term progress in healthcare transformation.

Scope and Limitations

- Scope:

This research focuses on providing a comprehensive descriptive overview of healthcare reforms under Saudi Arabia's Vision 2030. It examines major reform areas, including the role of public-private partnerships in expanding service delivery, workforce development efforts to localize healthcare expertise, the integration of digital healthcare solutions to enhance accessibility and efficiency, and infrastructure improvements aimed at addressing geographic and population needs. Through this lens, the study aims to present an in-depth analysis of how these reforms align with Vision 2030's broader goals for transforming healthcare in Saudi Arabia.

- Limitations:

The study is limited by the availability of recent data, as it relies on existing government reports and publicly accessible documents that may not fully capture ongoing or recent developments. There is also an inherent reliance on data reported by government entities, which may reflect official perspectives on progress and

outcomes. Additionally, as Vision 2030 is an evolving framework, strategies and objectives may undergo rapid shifts, potentially impacting the relevance and applicability of findings over time. These limitations highlight the need for future studies to reassess reform impacts as new data and insights become available.

Discussion

The Role of Health Administration in Vision 2030

Health administration under Vision 2030 is centered around improving the efficiency and quality of healthcare services. Administrators play a critical role in resource management, quality assurance, and patient-centered care by implementing policies that streamline processes and enhance operational effectiveness. Vision 2030 encourages investment in leadership development and the adoption of advanced technologies, such as electronic health records (EHRs), to improve patient outcomes and satisfaction. Through initiatives aimed at developing efficient healthcare management, health administrators work to ensure that hospitals and clinics can respond effectively to patient needs and maintain high standards of care. By establishing benchmarks for quality and accessibility, health administrators are instrumental in guiding healthcare institutions to meet Vision 2030's ambitious goals.

The Role of Psychology in Vision 2030

Mental health services are a growing priority in Saudi Arabia, with Vision 2030 recognizing the need for integrated psychological care within the broader healthcare framework. Psychologists and mental health professionals play a vital role in addressing mental health issues, providing therapeutic services, and promoting mental well-being across the population.

Under Vision 2030, there is an emphasis on the inclusion of mental health services within primary care settings, reducing stigma and increasing accessibility. Programs for mental health awareness, early diagnosis, and intervention are being expanded, with psychologists working alongside other healthcare providers to deliver comprehensive care. The goal is to create a healthcare system that considers both physical and mental health as essential components of overall well-being.

The Role of Pharmacy in Vision 2030

Pharmacy services in Saudi Arabia are evolving to become a key component of patient-centered care, supported by advancements in e-pharmacy and medication management systems. Pharmacists contribute to Vision 2030's goals by ensuring the safe and effective use of medications, counseling patients on proper medication adherence, and reducing medication errors.

Pharmacy professionals are also involved in managing chronic disease medications, providing vaccination services, and working in collaborative care teams. Vision 2030 aims to empower pharmacists as integral members of the healthcare team, promoting preventive care and health education. E-pharmacy initiatives further support Vision 2030 by enhancing access to medications through digital platforms, increasing convenience for patients and reducing wait times.

The Role of Anesthesia in Vision 2030

Anesthesia services are crucial for the successful expansion of surgical capabilities in Saudi Arabia, aligning with Vision 2030's objective to meet international healthcare standards. Anesthetists ensure patient safety during surgeries, particularly as the country advances in complex surgical procedures. The role of anesthetists has expanded to include pre-operative and post-operative care, enhancing recovery times and overall patient outcomes.

Vision 2030 supports the training of anesthesia professionals to build a skilled workforce that meets the demands of a modern healthcare system. By investing in training programs and technological advancements in anesthesia equipment, Saudi Arabia aims to deliver safer and more efficient anesthesia services, ultimately improving surgical care.

The Role of Social Services in Vision 2030

Social services are essential for addressing the socio-economic factors that impact patient health. Social workers assist patients and families in navigating healthcare services, accessing resources, and providing emotional support. Vision 2030 emphasizes expanding social services to support vulnerable populations and improve overall community health. Social workers are involved in creating discharge plans, connecting patients with community resources, and assisting families with coping strategies. By addressing these non-medical needs, social workers contribute to a holistic approach to healthcare, reducing the burden on medical staff and improving patient well-being.

The Role of Laboratory Science in Vision 2030

Laboratory science is a cornerstone of accurate diagnosis and effective treatment. Under Vision 2030, laboratory services are being upgraded to support the early and precise diagnosis of diseases. Laboratory technicians and scientists ensure that test results are accurate, timely, and integrated with electronic health records for efficient communication between healthcare providers.

Investment in advanced laboratory technology, such as automated testing and molecular diagnostics, aligns with Vision 2030's aim to elevate healthcare standards. Laboratories play a critical role in public health, supporting preventative care and enabling effective response to infectious diseases and other health challenges.

Study Conclusions

This study offers a comprehensive analysis of healthcare reforms in Saudi Arabia under Vision 2030, emphasizing the initiative's transformative goals and key strategies. Vision 2030's healthcare reforms have aimed to establish a sustainable, high-quality, and accessible healthcare system, with significant advances noted in areas such as digital healthcare integration, the expansion of public-private partnerships (PPPs), workforce localization, and infrastructure enhancement.

The findings suggest that public-private partnerships are pivotal in meeting the reform objectives by leveraging private sector resources and expertise, thereby

enhancing service delivery and reducing government expenditure. The integration of digital healthcare solutions has improved healthcare accessibility, particularly in underserved areas, and promoted efficiency in patient management and care delivery. Efforts to develop a localized healthcare workforce are beginning to reduce reliance on foreign professionals, building a more self-sustaining healthcare system aligned with Saudi Arabia's goals for economic diversification. Despite these advancements, the study identifies several challenges, including disparities in healthcare access across regions, the financial sustainability of PPPs, and potential gaps in digital infrastructure, particularly for rural communities. The need for continuous adaptation and monitoring is emphasized, as Vision 2030's dynamic framework requires flexibility to address emerging healthcare needs and challenges.

In conclusion, while Vision 2030 has made notable strides in reshaping Saudi Arabia's healthcare landscape, the success of these reforms will depend on sustained efforts in innovation, policy adjustment, and collaboration between public and private sectors. This research underscores the importance of ongoing assessment to ensure that Vision 2030's ambitious healthcare goals translate into lasting improvements for the Saudi population. Future studies should revisit these reform areas to measure long-term impacts and guide further strategic development in Saudi healthcare. Each sector—health administration, psychology, pharmacy, anesthesia, social services, and laboratory science—plays a unique role in achieving these objectives. Through interdisciplinary collaboration and a commitment to continuous improvement, Saudi Arabia is poised to create a healthcare environment that not only serves its population effectively but also sets a benchmark for excellence in the region.

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