

# Nurse Involvement In Saudi Arabia's Vision 2030 Quality And Patient Safety Initiatives

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## Abstract

**Introduction:** The program of the High-quality, safe, and integrated patient care is a systemic transformation of Saudi Arabia required by its Vision 2030, spearheaded by the Healthcare Sector Transformation Program. The Saudi Patient Safety Center (SPSC) and the Saudi Commission for Health Specialties (SCFHS) have developed explicit strategic mandates and competency frameworks, and as such the nurse workforce has been formally identified as a key to the national quality and safety (QPS) targets. .

**Study Objective:** Main objective of study will be a systematic review and a systematic synthesis of current evidence of nursing involvement in Healthcare initiatives outlined in Saudi Arabia's Vision 2030.

**Methodology:** The systematic review approach was utilized to combine the data on national regulatory documents (SCFHS Scope of Practice ) and SPSC policies as well as the results of the empirical research published in 2013-2023. The review was conducted around the thematic areas like the occurrence of EBP barriers, professional autonomy, hierarchical structure, resource sufficiency, and high-risk activity outcomes such as medication safety and infection control.

**Conclusion:** The role played by nurses is established as essential to the success of QPS, and there is evidence that nurses have effectively headed quality improvement initiatives. Nonetheless, the review ends with the conclusion that there is an important implementation gap between the high-level policy on the one hand and the reality of practice on the other hand, and that such gap is caused mainly by the structural and cultural barriers.

**Keywords:** Nurse, Saudi Arabia Vision 2030, Quality improvement, Patient safety, Healthcare transformation, Healthcare reform.

## Introduction

### Nursing Context Within Vision 2030

Saudi Vision 2030 is a strategic map that will help the Kingdom of Saudi Arabia (KSA) undergo a radical national change, diversify the economy, and improve the services offered to the population. The key element of this strategy is a radical redesign of the healthcare system by the Healthcare Sector

Transformation Program (HSTP). To reach the ambitious targets of the Vision 2030, it is necessary to take a step towards a more integrated, comprehensive, and effective healthcare system that focuses on innovation, financial viability, and compliance with international standards of quality. [1], [2] The HSTP has not only the mandate to modernize the facilities and equipments but also to revolutionize service delivery and in this regard the increase of e- health services and digital solutions. The implementation of massive programs, including the SEHA Virtual Hospital, which is the largest in the world, integrating more than 150 hospitals with specialized services, is an illustration of the push in the direction of technological efficiency in health care. More importantly, the change specifically lays a lot of emphasis on the contributions that nurses and the entire healthcare workforce should make to achieve the goals of equitable access to high-quality healthcare by all citizens. The effectiveness of this national initiative, thus, is directly connected to the empowerment and ability of its nursing personnel to lead in the process of continual quality betterment (QI) and patient safety (PS). [3], [5]

One critical point of reflection in this transformation is the fact that the upper-tier strategic acknowledgement of the critical role of nursing that is defined in documents of Vision 2030 should be entirely followed by profound structural modification on the organizational level. Unless the macro-policy will be backed up with adequate resource mobilizations and other modifications to the organizational frameworks that are tailored to surmount the obstacles that are inherent in the organization, the strategic objectives can only be symbolic. [7] The adoption of new technological changes, including the use of telemedicine and new advanced medical technology, demand fast response of the nursing workforce and, thus, it is important to incorporate policy, education, and practice seamlessly.

### **Governance Aspects**

The Saudi Patient Safety Center (SPSC) is the primary custodian of the national patient safety strategy and the formalization of its goals with respect to patient safety. The guiding principles of the SPSC include the system orientation, capacity building, learning mistakes, patient empowerment, and the creation of strong patient safety culture at all the levels and institutions. In acknowledgment of its contribution to the global concerted action, the SPSC became the collaborating center of the World Health Organization (WHO) on the patient safety policies and strategies in 2020, which provided it with the credibility on the international level. [9]

The SPSC has institutionalized a number of core safety policies that are important in the participation of the nurses. The most recent move by the center is to introduce a detailed national framework on Patient Safety Standards. More importantly to front line personnel, the SPSC highly recommends that healthcare institutions should establish a national Just Culture structure. The framework plays a critical role in enhancing the safety of patients because it achieves a balance between the individual accountability and acknowledgment of systemic issues (system failure). [8], [2] This Just Culture focus is a mandatory requirement to true safety enhancement as it motivates frontline staff to be unafraid to report errors, encompassing self- mistakes, without the fear of being severely criticized, which promotes the learning through errors principal. Being in line with the technological goals of Vision 2030, the national strategy facilitates automation and standardization of safety data collection. To automate the Saudi Patient Safety Taxonomy (S-PST), the taxonomy in various formats is made accessible to the healthcare industries of the Kingdom at large to submit aggregated statistics on Patient Safety and Incident Reporting. But, the effectiveness of this technological solution is essentially conditional on the effective application of the Just Culture. When the nurses feel that they may be punished, then the reporting systems, no matter how sophisticated they are technologically, will not produce valid actionable data needed by the organization in learning and ensuring quality. The regulatory initiatives, thus, have to focus on cultural view of error reporting as opposed to simply implementation of the technology to have credible data gathering. [3], [9]

### **Need of Study**

Healthcare transformation is one of the pillars of Saudi Arabia vision 2030 that is an elaborate national strategy aimed at diversifying and enhancing the quality of life of the citizens. At the core of this change agenda is the dramatic change in the healthcare sector, where the emphasis is mainly made to streamline the healthcare sector, enhance the safety levels, and facilitate the provision of quality healthcare services

throughout the kingdom. Nurses who form the greatest and most vibrant part of the healthcare workforce are best placed to spearhead these reforms. Their direct patient care roles combined with their growing leadership roles, educational roles, and policy implementation roles make them unavoidable change agents in the Vision 2030 framework.

### **Rationale of Study**

This systematic review will offer an elaborate study on the role of nurses in the Vision 2030 healthcare projects, with special emphasis on their role in quality improvement and patient safety. This review shows the complexity of roles that nurses take including clinical practice and leadership, education, and integrating technology, and how these roles can contribute to the overall objectives of Vision 2030. Moreover, it also determines the issues and obstacles that nurses encounter in their complete engagement with these programs, such as workforce barriers, cultural elements, and organization-related restrictions. [11], [3] The extent and effects of nurse involvement are important in not only identifying their input but also in enlightening policy and practice that can improve their involvement. Finally, this review highlights the importance of empowering nurses as important stakeholders in Saudi Arabian healthcare transformation process to make sure that the visions of quality and patient safety outlined in Vision 2030 can be achieved through effective change processes driven by nurses.[14]

### **Study Objective**

Main objective of study will be a systematic review and a systematic synthesis of current evidence of nursing involvement in Healthcare initiatives outlined in Saudi Arabia's Vision 2030. The study will systematically review and synthesize evidence regarding nurse participation in Saudi Arabia's Vision 2030 Healthcare initiatives related to Quality Improvement, Patient Safety, and Healthcare Reform.

### **Research Methodology**

#### **Research Question**

The research questions of the current study are:

Q1. How do nurses contribute to and support improving the quality of health service delivery and patient safety under Saudi Arabia's Vision 2030 initiative?

Q2. What factors act as barriers or challenges to nurse involvement in implementing Vision 2030 Health Reforms?

Q3. What are the result of nursing involvement in improving patient safety and quality of care initiatives associated with Saudi Arabia's Vision 2030?

#### **Research Design**

The systematic review methodology will be used for this study to identify, evaluate and synthesise evidence available related to the role of nurses in healthcare Quality Improvement (QI) and Patient Safety (PS) activities in accordance with the Saudi Arabian Ministry of Health Vision 2030 plan. The use of a systematic review also allows the researcher to compile evidence from multiple sources in a systematic, valid and reliable manner thus producing a comprehensive picture of the contributions, challenges and impacts of nurses within the context of the Vision 2030 Strategy. By utilising an established research protocol like PRISMA, the researcher ensures methodological rigour, reduces the potential for bias and allows the study to be replicated in other contexts.

#### **Search Strategy**

The year range chosen to search for relevant articles was 2016-2020. An exhaustive search strategy has been developed to perform the systematic search of the five electronic databases. All five databases (PubMed, CINAHL, Scopus, Web of Science and Saudi Digital Library) were systematically searched by combining keywords with MeSH headings. The search results for each database were narrowed down with the logical operators (AND/OR) to produce the maximum number of usable articles possible. The systematic literature search included only articles written in English or Arabic after conducting research on Saudi Arabia. Additionally, there was a review of the reference sections of each article that was found through the systematic search for other studies that were potentially useful.

## **Types of Studies Included**

This review summarizes quantitative, qualitative and mixed-method research examining nurse participation in the Saudi Arabia V2030 Health Care Initiatives. Therefore, all studies published from 2016 - 2025 were considered as aligned with the timeline of the Vision 2030 initiative. Studies not conducted in Saudi Arabia or that did not focus on the role of nurses within the country were excluded from the review to maintain rigour and relevance. The selected studies support a more complete view of the contribution of nurses to the V2030 initiative and also provide a number of examples of how nurse participation has been captured through various types of study design(s). By only including empirical data relevant to the purpose of this manuscript, it was possible to maintain a high level of attention to the outcome measures of the mixed model studies contained within this review.

## **Keywords**

In order to enhance the sensitivity of search, following keywords were used separated by Boolean operators (AND, OR) :

Nurse OR nursing AND Saudi Arabia AND Vision 2030 OR Saudi Vision 2030 AND Quality improvement OR patient safety AND Healthcare transformation OR Healthcare reform.

## **Data Management**

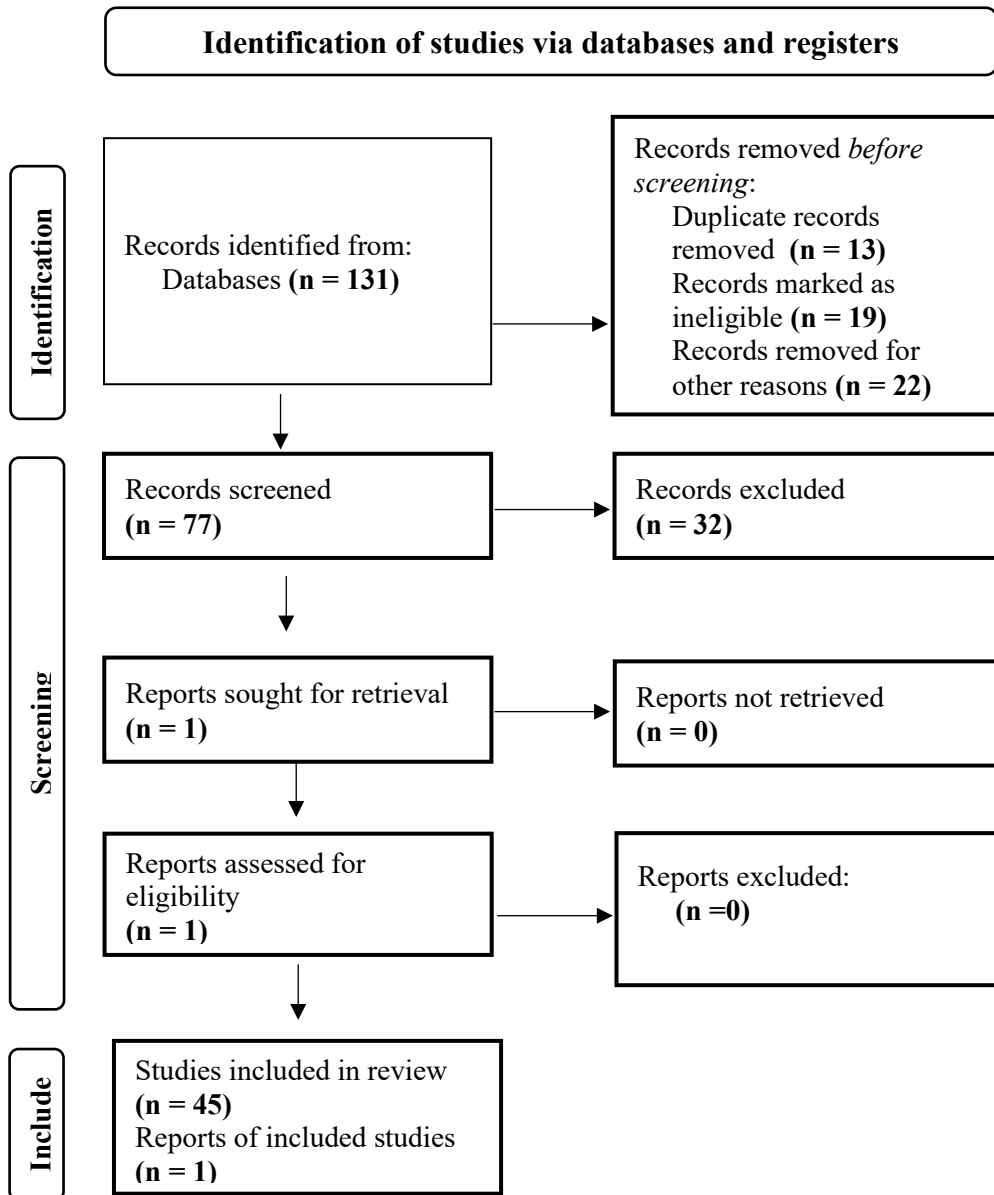
A standardized data extraction process was utilized to guide the organization of study characteristics, nurse roles, barriers, outcomes, and recommendations from studies included in the systematic review. A double-checking (validation) procedure was implemented during data management for accuracy and consistency; discrepancies were resolved through discussion by the reviewers involved in the research process. The extracted data were thematically analyzed to obtain an overview of the most relevant patterns and insights related to the involvement of Registered Nurses. A structured approach provided a clear and replicable method of synthesizing the data obtained from the studies and allowed for trustworthy conclusions and recommendations to be derived from the studies.

## **Results**

A total of 131 research studies and one report was identified, the studies were assessed on the basis of documents related to nurse involvement in Saudi Arabia's Vision 2030 quality and patient safety initiatives. Out of these identified studies, 13 were removed because of duplication of records, references and location and 19 studies were marked as ineligible, as not including the above stated concept and 22 for some other unavoidable conditions.

Further 77 records were saved for screening, then in the screening process 32 records were further removed on the basis of exclusion criteria. Total studies finalized for review were 45. One report was also included in the study.

Past research emphasizes the high participation of nurses in the healthcare programs of the Saudi Arabian vision 2030. [4], [17] It has been demonstrated that nurses have been of vital roles in both clinical practice, leadership, education, and integration of technology, which have led to better patient safety and quality care. Studies have shown that nurse-initiated measures have resulted in improved infection and medication errors in hospitals and an increase in patient satisfaction and adherence to the international accreditation requirements like JCI. Nonetheless, the research indicates that there are also long-running obstacles such as the shortage of workforce, fewer leadership positions of Saudi nurses, and cultural obstacles that influence the interdisciplinary cooperation. [15]



Source: Page MJ, et al. BMJ 2021;372:n71. doi: 10.1136/bmj.n71  
<https://creativecommons.org/licenses/by/4.0/>

The literature provides opportunities for increasing the number of leaders in the nursing profession through education and training of new nurses, as well as increasing the number of nurses who are currently employed by providing educational assistance for continuing education. [11], [2], [5] In addition, the use of digital health will assist in monitoring patient safety, which is essential for achieving the goals of Vision 2030. Therefore, it is essential that additional policies and educational opportunities are developed so that nurses can successfully carry out their roles in achieving Vision 2030. [8], [6]

## Discussion

### Quality Improvement Nursing Leadership

Nurses are not only considered as implementers but they are the effective leaders of Quality Improvement (QI) programs especially in specialized areas such as radiology. With their experience and empowerment of the frontline personnel, nurse-led initiatives improve quality, become more efficient, and provide improved patient outcomes. The use of standard checklists, risk analysis/anticipation, and effective patient education are some of the common factors of success in these projects. To maximize this leadership potential, the research recommends formal instruction in

leadership and specification of roles of the nurse leading QI efforts. [12], [13], [14]  
Nevertheless, there are considerable headwinds to the systematic integration of Evidence-Based Practice (EBP). The climate surrounding the practice of EBP has often been termed as non-enabling, where there is essentially no organizational dedication and permanency. The study indicates that nurses experience an intermediate to excessive level of EBP impediments. This is mainly due to time barriers that restrict the formulation of research questions, locating evidence and sharing the findings, and lack of organizational support. [6]

### **Medication Error and infection Control**

Medication administration and infection control are some of the high-risk areas in which nurse intervention is essential. The issue of medication errors (ME) is a significant challenge to patient safety in Saudi hospitals that may result in adverse drug events, morbidity, and extended hospitalization. Research findings attest that wrong dose and improper dose errors are considered to be one of the most commonly reported errors. In error prevalence analysis, a major percentage of the total error in medication is ascribed to the nurses (34.0%). A study registered a very high prevalence of medication error among nurses (72.1%), but reporting was low, only 41.2%. [8], [5] The fact that there is a high rate of errors and low rate of reporting is indicative of a critical lapse in the safety culture, which negatively impacts organizational learning that is required by the SPSC. Without reliable systemic risk estimates, the lack of reliability in internal data makes it impossible to properly allocate resources in susceptible regions, as leadership cannot identify the risk levels in these areas. [12], [6]

As part of preventive measures to curb this menace, the SPSC has engaged in capacity building exercises, including the Training of Trainers (ToT) program that addresses medication reconciliation. This program is a standardized one according to the WHO-High5 standards, and it is developed to enhance safety during the transition of care by educating nurses to perform and be able to educate others about the key safety measures. [12], [15], [11]

### **Outcome Measurement**

Although there is a clear engagement in clinical activities, empirical studies which determine the actual direct, measurable usefulness of nursing interventions in enhancing patient outcomes are scarce, especially in multifaceted clinical contexts such as oncology environments. The main clinical outcomes that are reported by current research are mortality, length of stay, and readmission rates, but do not consider context-specific factors that influence an intervention adoption and maintenance. [18], [22]

Moreover, the measurement instruments that can be used to evaluate the results of nursing interventions are variable, and in many cases, they do not have attribution particularly in essential non-technical parts of care such as education, communication, and empathy. [23], [24] The barriers to the assessment of nursing interventions are especially acute in the acute care environment, where the high acuity of patients, shortage of technological resources, understaffing, and lack of effective interdisciplinary cooperation of teams can be identified as the barriers. The above issues render cross-unit learning and scaling successful interventions problematic to organizations. [11], [20]

### **Nurse Involvement Determinants**

Empirically, professional autonomy is determined as the only variable with the most significant impact on patient safety activities among nurses, and it significantly correlates with better patient safety outcomes. This creates a key policy dilemma: the strategic objectives of Vision 2030, which are based on the safety and quality of better outcomes, are dependent on the flexibility and high professionalism of frontline nurses. [19], [21] But the hierarchical systems that are in place do not allow this autonomy that is required. This organizational limitation brings about a deep sense of operational dissonance, as advanced practice trained nurses are not granted the corresponding power to carry out their experience, which adds to the sense of professional dissatisfaction, or sabotage staff retention measures, which are essential to the nationalization of the workforce. [19], [3]

Resource adequacy is constantly highlighted in the evidence of patient safety improvement as a prerequisite. The participation of the nurses in QPS is critically limited by the chronic strain of workforce and other resources, which is marked by heavy workloads, shortages of nurses, and time

pressure. [7] The factors restrict the capacity of nurses to implement complicated patient safety measures. The major challenges to adopting evidence-based changes include resource insufficiency and administrative overheads. This is a systemic issue: a shortage of staff and a heavy workload at the same time reduce the possibility of an EBP implementation and the self-efficacy needed to maintain high standards of infection control, as well as the necessary time to educate a patient. Thus, the issue of resource adequacy is not only an administrative objective but a basic safety consideration because the high number of workers is one of the core obstacles to the successful implementation of the policy. [22], [21]

### Conclusion

This review of literature establishes that one of the key factors in determining the success of the Quality and Patient Safety programs in Saudi Arabia is the nurses contribution to the vision 2030 program. The national undertakings can be seen in introducing advanced regulatory agencies (SPSC, SCFHS), explicit strategic agenda (HSTP, Just Culture), and unified professional and educational competency models. The practical evidence proves that nurses are effective leaders of specific QI initiatives and instigators of the core safety practices, including infection control. There is however, a huge implementation gap between the high level policy definition and clinical reality. The systemic barriers, the first one being the chronic inadequacy of resources (staffing problems and excessive workload), and the dominance of the inflexible hierarchical organizational structures, allow the breakdown of the capacity of nurses to practice autonomously and participate in EBP to an extremely high degree. Moreover, the lagging patient safety culture is proven by the fact that the level of medication errors is high and the rates of reporting are low to support the integrity of data that would support the strategic system-level learning.

### Future Scope of Study

The research implications of the study extend to the future, involving the broadening of the research and the improvement of the nurse participation in the Vision 2030 healthcare change programs in Saudi Arabia. With changing environment in healthcare that is being technologically advanced and policy reform being practiced, more studies are required to see the innovative ways of empowering nurses to have leadership, education, and clinical practice. The focus on longitudinal studies will be used to determine the long-term effectiveness of nurse-led quality improvement and patient safety programs.

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