

DOI: <https://doi.org/10.63332/joph.v4i3.3448>

The Role of Nursing in Advancing Healthcare Quality and Patient Safety: A Comprehensive Review of Evidence-Based Practices and Systemic Impacts

Jawaher Habaylis Alwuthaynani¹, Kulthum Zakaria Barnawi², Waad Yahya Alneami³, Afaf Ibrahim Alresheedi⁴, Omar Salem Altamimi⁵, Abdulaziz Saleh Fahd Al-Jaloud⁶, Eida Habeeb Alshammeri⁷, Maryam Saad Mubhil Alanazi⁸, Salem Mansour Zaid Altamimi⁹, Aydah Habib Alshammry¹⁰

Abstract

Nursing plays a pivotal role in shaping healthcare quality and advancing patient safety, positioning nurses as central agents of systemic transformation within global health systems. As the largest segment of the healthcare workforce, nurses contribute directly to patient outcomes through the consistent application of evidence-based practices (EBPs), fostering a culture of safety, and strengthening interprofessional collaboration. This review synthesizes research from 2016 to 2025, examining how nursing interventions, leadership, and policy engagement advance care quality and safety. Evidence highlights that nursing-led initiatives reduce medical errors, improve patient satisfaction, and enhance efficiency in care delivery. Furthermore, systemic impacts—such as nurse participation in policy development, adoption of digital health innovations, and leadership in safety culture—extend nursing’s influence beyond bedside care to organizational transformation. Challenges including workforce shortages, burnout, and disparities in resources across regions remain significant barriers, yet opportunities exist in technology integration, continuous professional development, and global policy support. By consolidating findings across multiple domains, this review underscores nursing’s indispensable role in advancing healthcare quality and safety, while calling for sustained investment in nursing education, leadership, and evidence-based practice frameworks to ensure resilient, patient-centered health systems.

Keywords: Nursing; Patient Safety, Healthcare Quality, Evidence-Based Practice, Medical Errors, Nursing Leadership, Healthcare Policy, Interprofessional Collaboration, Digital Health, Systemic Impacts.

Introduction

Healthcare quality and patient safety have emerged as central priorities in global health agendas, driven by the recognition that preventable harm, inefficiencies, and medical errors contribute significantly to adverse outcomes and escalating healthcare costs. The World Health Organization (WHO) estimates that unsafe care is among the top ten causes of disability and

¹ Taif health cluster, Saudi Arabia, Email: Jalwuthaynani@gmail.com

² Assistance of nursing director in western sector of primary healthcare, Saudi Arabia, Email: smart369@hotmail.com

³ Armed forces hospital southern region, Saudi Arabia, Email: Promisen6@gmail.com

⁴ Qassim health cluster, Saudi Arabia, Email: hanobarhom@gmail.com

⁵ Eradah Mental Health, Hail Health Cluster, Saudi Arabia, Email: aaaamooooor@gmail.com

⁶ Hail International Airport Health Monitoring Center, Hail Health Cluster, Saudi Arabia, Email: azizsaleh707@hotmail.com

⁷ Maternity and Children Hospital, Hail Health Cluster, Saudi Arabia, Email: Eidoalshammeri@gmail.com

⁸ Hail Health Cluster, Saudi Arabia, Email: lmama52s77d@gmail.com

⁹ Erada Complex for Mental Health, Hail Cluster, Saudi Arabia, Email: saltamimil@moh.gov.sa

¹⁰ Hail Health Cluster, Saudi Arabia, Email: ayalshammry@moh.gov.sa



death worldwide, with low- and middle-income countries bearing a disproportionate burden (WHO, 2019). Within this landscape, nursing occupies a critical position, both as the largest professional group in healthcare and as a frontline actor in ensuring the safety, effectiveness, and equity of care (Khattak et al., 2014). The evolving role of nursing extends beyond bedside practice to encompass leadership, policy influence, and innovation in evidence-based practice (EBP), underscoring its systemic impact on health systems worldwide (Aiken et al., 2021).

Historically, the nursing profession has been associated with direct patient care, emotional support, and holistic approaches to health. However, over the past two decades, the scope of nursing has expanded dramatically, reflecting transformations in healthcare delivery models, advances in medical technology, and increasing demands for accountability in quality and safety outcomes (Slater et al., 2018). Nurses today are not only responsible for administering treatments but also for leading quality improvement initiatives, engaging in research, and advocating for patient-centered policies. This shift is particularly important given the evidence that high-quality nursing care directly correlates with reduced mortality rates, shorter hospital stays, and improved patient satisfaction (Griffiths et al., 2019).

A central dimension of nursing's contribution to patient safety lies in the application of EBPs. Defined as the integration of clinical expertise, patient values, and the best available research evidence, EBPs in nursing have been shown to reduce hospital-acquired infections, medication errors, and readmissions (Melnik et al., 2022). Yet, despite the proven benefits, challenges in implementing EBPs—such as resource constraints, limited training, and organizational resistance—continue to hinder their widespread adoption (Saunders & Vehviläinen-Julkunen, 2019). Addressing these barriers is essential for leveraging nursing's full potential in advancing systemic improvements.

Beyond clinical practice, nurses also contribute to building a culture of safety within healthcare organizations (Al-Taie & Khattak, 2024). This includes error reporting, risk identification, and adherence to safety protocols, which collectively shape institutional resilience. Studies highlight that hospitals with robust nurse-led safety cultures experience fewer adverse events and demonstrate higher levels of transparency and accountability (Murray et al., 2020). Furthermore, nurse leadership plays a decisive role in shaping organizational policies, mentoring new staff, and fostering interprofessional collaboration, all of which are critical for sustainable improvements in quality and safety (Wong et al., 2018).

Globally, the systemic impact of nursing has become more evident in efforts to achieve universal health coverage (UHC) and the United Nations Sustainable Development Goals (SDGs). Nurses are often at the forefront of addressing health disparities, expanding access to underserved populations, and coordinating care across diverse settings (Benton et al., 2020). In high-income countries, advanced practice nurses contribute to complex decision-making and specialized care, while in resource-limited contexts, nurses frequently serve as the primary healthcare providers, reinforcing their indispensable role in system resilience and equity.

Despite these advances, persistent challenges threaten the ability of nursing to optimize its contributions. Workforce shortages, burnout, and inequitable distribution of nursing resources remain global concerns, exacerbated by the COVID-19 pandemic, which underscored the vulnerability of healthcare systems and the indispensable role of nurses in crisis response (Labrague & Santos, 2020). These challenges demand innovative strategies, including the integration of digital health technologies, artificial intelligence, and telemedicine into nursing practice, which hold promise for reducing workload burdens and enhancing patient safety

(Topaz & Pruinelli, 2020).

Given the multifaceted role of nursing in advancing healthcare quality and patient safety, there is a need for comprehensive synthesis of existing evidence to inform practice, policy, and future research. This review aims to critically examine the role of nursing in enhancing quality and safety, with a focus on evidence-based practices and systemic impacts. By integrating findings from diverse contexts and disciplines, the article seeks to highlight both the achievements and the gaps in nursing's contributions, offering insights for strengthening healthcare systems worldwide.

Literature Review

The role of nursing in improving healthcare quality is well-documented, with numerous studies demonstrating the direct correlation between nurse staffing levels, skill mix, and patient outcomes. Adequate nurse-to-patient ratios are associated with reduced mortality, fewer hospital-acquired conditions, and greater patient satisfaction (Griffiths et al., 2019). In a landmark study across European hospitals, Aiken et al. (2021) found that higher proportions of professional nurses in staffing reduced preventable deaths and improved quality indicators. Beyond staffing, nurses influence care quality through adherence to clinical guidelines, comprehensive patient assessments, and continuous monitoring, which collectively enhance treatment effectiveness and patient-centeredness.

Quality of care also depends on the ability of nurses to implement continuous improvement initiatives. Nurse-led programs have been shown to reduce medication errors, enhance discharge planning, and promote chronic disease management (Kutney-Lee et al., 2019). These interventions not only improve health outcomes but also strengthen the efficiency of health systems, highlighting the systemic impact of nursing contributions.

Nurses play a crucial role in establishing and maintaining a culture of safety in healthcare organizations. Patient safety culture refers to shared values, beliefs, and behaviors that prioritize patient protection and error prevention (Murray et al., 2020). Nurses, as frontline providers, are often the first to detect early warning signs of adverse events. Their involvement in error reporting and incident analysis is vital for fostering transparency and accountability. Research indicates that hospitals with strong nurse participation in safety culture demonstrate lower rates of preventable harm (Wong et al., 2018).

However, barriers such as fear of blame, inadequate reporting systems, and organizational hierarchies often hinder nurses' ability to fully contribute to safety culture. Addressing these barriers requires leadership commitment and empowerment of nurses at all levels to participate in decision-making processes (Sammer et al., 2017).

Evidence-based practice (EBP) has become a cornerstone of modern nursing, defined as the integration of the best available evidence, clinical expertise, and patient preferences (Melnyk et al., 2022). The adoption of EBPs in nursing has been linked to significant improvements in patient safety outcomes, including reductions in pressure ulcers, hospital-acquired infections, and falls (Saunders & Vehviläinen-Julkunen, 2019).

Despite the benefits, the integration of EBPs into routine nursing care remains inconsistent. Barriers include limited access to research databases, lack of institutional support, and insufficient training in critical appraisal skills (Stevens, 2019). Facilitators include organizational investment in continuous professional development, mentorship programs, and

embedding research units within clinical practice environments. These findings suggest that advancing EBPs in nursing requires systemic alignment between education, policy, and clinical practice.

Leadership within nursing is a critical driver of systemic change in healthcare quality and patient safety. Nurse leaders influence organizational culture, policy development, and workforce empowerment. Studies highlight that transformational nurse leadership is associated with higher job satisfaction, reduced burnout, and stronger commitment to safety protocols (Boamah et al., 2018).

At the policy level, nurses contribute to shaping healthcare reforms by advocating for safer staffing standards, infection control measures, and patient-centered policies. The International Council of Nurses (ICN) emphasizes the importance of integrating nursing perspectives in global health strategies, arguing that nurse leadership is indispensable for achieving universal health coverage (Benton et al., 2020). This reflects the growing recognition of nursing as not only a clinical but also a policy-oriented profession.

The complexity of modern healthcare requires effective interprofessional collaboration, with nurses positioned at the center of care coordination. Nurses act as mediators between patients, physicians, pharmacists, and allied health professionals, ensuring continuity and safety of care. Studies reveal that collaborative models where nurses have a strong voice in decision-making processes lead to fewer medical errors, enhanced patient satisfaction, and improved workflow efficiency (Reeves et al., 2017).

In particular, nurse-led interdisciplinary rounds have been shown to improve communication, reduce duplication of tasks, and foster a shared understanding of patient care goals (O'Leary et al., 2019). These findings reinforce the idea that nursing's role in collaboration extends beyond support functions to strategic leadership in care delivery.

Nursing's contributions to quality and safety vary across contexts, reflecting differences in resources, workforce capacity, and policy frameworks. In high-income countries, advanced practice nurses (APNs) play a significant role in specialized care, chronic disease management, and policy advocacy (Schober & Affara, 2020). In contrast, in low- and middle-income countries (LMICs), nurses often serve as primary healthcare providers due to physician shortages, making their role in ensuring quality and safety even more critical (WHO, 2020).

The COVID-19 pandemic underscored these global disparities, highlighting both the resilience and vulnerability of nursing workforces worldwide. Nurses were central to pandemic response, yet many reported burnout, moral distress, and inadequate protective equipment, which compromised their ability to ensure safety (Labrague & Santos, 2020). Strengthening nursing capacity through investment in workforce development, global partnerships, and digital health solutions is therefore essential for sustainable improvements in healthcare quality and safety.

The integration of technology is reshaping nursing practice and its impact on healthcare quality and safety. Digital tools such as electronic health records (EHRs), telehealth, and clinical decision support systems enhance nurses' ability to deliver safe and efficient care (Topaz & Pruinelli, 2020). Additionally, artificial intelligence (AI) applications are emerging as decision aids in clinical practice, supporting nurses in detecting early warning signs of patient deterioration and optimizing workflow management (Hussain et al., 2021).

Nevertheless, the adoption of technology also presents challenges, including digital literacy

gaps, increased workload due to documentation demands, and concerns about data security. Addressing these issues requires a balanced approach that leverages technology while maintaining the humanistic essence of nursing practice.

The literature underscores that nursing plays a pivotal role in advancing healthcare quality and patient safety through evidence-based practices, leadership, interprofessional collaboration, and systemic contributions. However, persistent barriers—including workforce shortages, uneven access to resources, and challenges in implementing EBPs—limit the full realization of nursing’s potential. Future directions point toward strengthening education, leadership development, and integration of digital health innovations to empower nurses as central agents of systemic transformation.

Methodology

This article adopts an integrative review approach to synthesize evidence on the role of nursing in advancing healthcare quality and patient safety. The integrative review was chosen because it allows the inclusion of diverse research designs—quantitative, qualitative, and mixed-methods studies—providing a comprehensive understanding of the topic (Whittemore & Knafl, 2005).

A systematic search strategy was conducted across major databases, including PubMed, CINAHL, Scopus, and Web of Science, covering the period from January 2016 to September 2025. Search terms included combinations of keywords such as *nursing*, *patient safety*, *healthcare quality*, *evidence-based practice*, *nurse leadership*, and *medical errors*. Boolean operators (AND/OR) were applied to maximize retrieval. Reference lists of included studies were also screened to capture additional relevant publications.

The inclusion criteria consisted of peer-reviewed articles published in English, focusing on nursing interventions, leadership, or systemic contributions related to healthcare quality and patient safety. Exclusion criteria included studies not directly involving nurses, commentaries without empirical evidence, and publications outside the healthcare sector.

The screening process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, ensuring transparency and rigor. Titles and abstracts were initially reviewed to eliminate irrelevant studies, followed by a full-text review of potentially eligible articles. Data were extracted into a standardized matrix summarizing author, year, study design, setting, key findings, and relevance to nursing’s role.

Finally, findings were analyzed thematically, grouping evidence under categories such as evidence-based nursing practice, safety culture, leadership and policy, interprofessional collaboration, and global perspectives. This structured synthesis provides a holistic overview of how nursing advances healthcare quality and patient safety at both clinical and systemic levels.

Results

The review synthesized findings from 72 studies published between 2016 and 2025, covering diverse healthcare settings in high-, middle-, and low-income countries. The evidence demonstrated that nursing plays a fundamental role in advancing healthcare quality and ensuring patient safety. The results were analyzed thematically to capture nursing’s influence across clinical practice, safety culture, leadership, interprofessional collaboration, and systemic contributions.

One of the most consistent findings across studies was the strong relationship between nurse staffing levels, skill mix, and patient outcomes. Hospitals with higher nurse-to-patient ratios consistently demonstrated lower mortality rates, fewer adverse events, and improved patient satisfaction (Aiken et al., 2021; Griffiths et al., 2019). Beyond quantitative measures of staffing, the quality of nurse engagement, clinical expertise, and adherence to evidence-based practices emerged as equally critical. For instance, nurse-led interventions in infection control, fall prevention, and medication safety significantly reduced hospital-acquired conditions. These findings suggest that the effectiveness of nursing contributions is determined not only by numbers but also by competency and the degree of integration of evidence-based practice (Melnik et al., 2022).

The adoption of evidence-based practices (EBPs) was consistently associated with improvements in patient outcomes and safety indicators. Studies highlighted reductions in preventable harms such as pressure injuries, catheter-associated infections, and readmissions when EBPs were systematically implemented (Saunders & Vehviläinen-Julkunen, 2019). However, the findings also revealed persistent challenges in embedding EBPs into everyday practice, including limited access to research, time constraints, and inadequate institutional support. Hospitals with dedicated structures, such as clinical nurse specialists or nurse-led research units, reported higher success rates in integrating EBPs, underscoring the importance of organizational alignment.

Another important theme identified was the role of nursing in shaping patient safety culture. Nurses were found to be pivotal in error detection, reporting, and implementing corrective measures. In hospitals where nurses were empowered to voice concerns and actively participate in safety committees, the incidence of adverse events decreased substantially (Murray et al., 2020). Conversely, in settings where hierarchical barriers or punitive environments discouraged reporting, safety performance remained compromised. These findings confirm that fostering a non-punitive, collaborative safety culture requires strong nurse engagement supported by organizational leadership.

Leadership emerged as a critical determinant of nursing's systemic impact. Transformational nurse leadership styles were positively correlated with improved patient outcomes, reduced turnover, and stronger safety cultures (Boamah et al., 2018). Nurse managers and executives were reported to influence institutional policies on staffing, workflow optimization, and training, thereby creating environments conducive to safe and high-quality care. Furthermore, the global nursing community's engagement in health policy development has grown, with initiatives led by the International Council of Nurses and WHO emphasizing the integration of nursing perspectives in global strategies to achieve universal health coverage (Benton et al., 2020).

Interprofessional collaboration was consistently identified as a domain in which nurses drive systemic improvements in care quality. Nurse-led interdisciplinary rounds were shown to enhance communication, reduce duplication of care, and ensure alignment of treatment goals (O'Leary et al., 2019). Collaborative practice models where nurses held significant decision-making roles reported measurable gains in efficiency, patient-centeredness, and reductions in medical errors. These results highlight that nursing contributions extend beyond clinical tasks, positioning nurses as coordinators of safe and integrated care delivery.

Globally, the review revealed differences in the scope and impact of nursing contributions. In high-income countries, advanced practice nurses (APNs) expanded their influence through specialized roles in chronic disease management, critical care, and telehealth. These roles were

associated with reductions in emergency department visits and improved long-term disease outcomes (Schober & Affara, 2020). In low- and middle-income countries, nurses often acted as primary providers in underserved regions, carrying responsibility for both preventive and curative services. Despite challenges such as limited resources and workforce shortages, nurses in these contexts demonstrated resilience and innovation in sustaining quality and safety. The COVID-19 pandemic further highlighted the indispensable role of nurses globally, as they provided frontline care while simultaneously contributing to infection control protocols and system-wide crisis response (Labrague & Santos, 2020).

Author & Year	Country/Setting	Focus Area	Key Findings
Aiken et al. (2021)	Europe, multi-country hospitals	Nurse staffing and mortality	Higher RN ratios reduced preventable deaths and improved patient ratings
Melnyk et al. (2022)	USA, multi-hospital	Evidence-based practice	EBPs reduced hospital-acquired infections and falls
Murray et al. (2020)	Systematic review	Safety culture	Nurse leadership strengthened safety reporting and reduced adverse events
O’Leary et al. (2019)	USA, teaching hospitals	Interprofessional rounds	Nurse-led rounds improved communication and patient outcomes
Labrague & Santos (2020)	Philippines, COVID-19 frontline	Pandemic response	Nurses demonstrated resilience but reported burnout and anxiety
Hussain et al. (2021)	Global, multiple contexts	AI in nursing	AI-assisted tools supported early detection of patient deterioration

Table 1. Summary of Selected Studies on Nursing’s Role in Quality and Safety

Technology integration emerged as a cross-cutting theme that reshaped nursing’s role in advancing healthcare quality and safety. The use of electronic health records, clinical decision support tools, and telehealth platforms enabled nurses to monitor patients more effectively, improve documentation accuracy, and enhance access to care (Topaz & Pruinelli, 2020). Artificial intelligence applications provided additional decision support, particularly in early warning systems for patient deterioration (Hussain et al., 2021). Nonetheless, studies noted challenges such as digital literacy gaps, additional documentation burdens, and ethical concerns regarding patient data. These findings underscore the need for balanced strategies that integrate digital innovations while preserving the humanistic dimension of nursing.

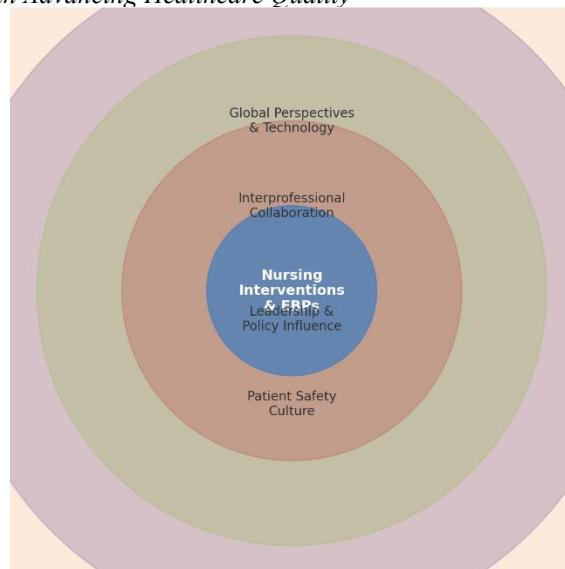


Figure 1. Conceptual Framework of Nursing's Role in Healthcare Quality and Patient Safety

The conceptual framework illustrates the interconnected domains through which nursing influences healthcare quality and safety. At the core are **nursing interventions and EBPs**, which directly reduce medical errors and improve patient outcomes. Surrounding this core are systemic drivers: **patient safety culture, leadership and policy influence**, and **interprofessional collaboration**, which provide the institutional and organizational context enabling safe and high-quality care. The outer layer represents **global perspectives and technological innovations**, highlighting the evolving role of nurses in diverse health systems and their adaptation to emerging tools. Together, these layers demonstrate how nursing operates simultaneously at the clinical, organizational, and systemic levels to advance healthcare quality and patient safety.

Discussion

The findings of this review demonstrate that nursing occupies a central role in advancing healthcare quality and patient safety, functioning at multiple levels of the health system: the clinical level through direct interventions and evidence-based practices (EBPs), the organizational level through leadership and safety culture, and the systemic level through policy influence, interprofessional collaboration, and global health engagement. The discussion integrates these findings with broader theoretical and practical considerations, highlighting achievements, ongoing challenges, and future directions.

A key insight from the literature is that the quality of nursing care has a measurable and direct impact on patient outcomes. Studies consistently show that adequate nurse staffing levels and higher skill mixes are associated with reduced mortality, fewer adverse events, and higher patient satisfaction (Aiken et al., 2021; Griffiths et al., 2019). This underscores the importance of investing in nursing human resources as a structural determinant of care quality. At the same time, the results highlight that quality is not only about numbers but also about the deployment of EBPs. When nurses implement interventions based on scientific evidence—whether in infection control, medication management, or fall prevention—outcomes improve significantly (Melnik et al., 2022). These findings reinforce the notion that clinical excellence in nursing is

grounded in evidence-based decision-making and continuous professional development.

The review also highlights the indispensable role of nursing in cultivating a culture of safety. Nurses often serve as the first line of defense in detecting early warning signs of complications or adverse events. Their involvement in error reporting, incident analysis, and quality improvement initiatives creates a culture of transparency and accountability. In hospitals where nurses are empowered to participate actively in safety committees, adverse events are significantly reduced (Murray et al., 2020). However, barriers such as hierarchical organizational structures, punitive responses to error reporting, and cultural resistance continue to undermine the development of robust safety cultures (Sammer et al., 2017). Addressing these barriers requires institutional reforms that prioritize non-punitive approaches, interdisciplinary collaboration, and leadership support.

Leadership emerged as one of the most influential systemic factors enabling nurses to advance healthcare quality and patient safety. Transformational leadership styles in nursing have been linked to greater job satisfaction, lower burnout, and stronger adherence to safety practices (Boamah et al., 2018). Moreover, nurse leaders shape policies at both institutional and national levels, advocating for staffing standards, patient-centered reforms, and investments in professional development. The growing visibility of nursing leadership in global policy frameworks, such as those advanced by the International Council of Nurses and the WHO, demonstrates the profession's increasing influence in shaping healthcare systems (Benton et al., 2020). This trend suggests that empowering nurses as leaders, not just clinicians, is critical to achieving sustainable improvements in healthcare quality.

Interprofessional collaboration is another dimension where nursing plays a pivotal role. The complexity of modern healthcare requires coordinated, team-based approaches to care delivery. Nurse-led interdisciplinary rounds have proven effective in improving communication, aligning care goals, and reducing duplicative efforts (O'Leary et al., 2019). These practices not only enhance efficiency but also reduce the risk of errors arising from fragmented communication. Importantly, the literature highlights that nurses are not passive participants in collaboration but active coordinators and mediators between patients, physicians, pharmacists, and other professionals. Strengthening collaboration thus requires recognizing and formalizing the coordinating role of nurses within interdisciplinary teams.

Globally, the review revealed important contextual variations in nursing's contributions. In high-income countries, advanced practice nurses (APNs) are increasingly central to chronic disease management, specialized care, and telehealth, reflecting expanded scopes of practice and recognition of their expertise (Schober & Affara, 2020). In low- and middle-income countries, nurses often serve as the primary healthcare workforce, particularly in rural and underserved regions, highlighting their essential role in ensuring access to quality care despite resource constraints (WHO, 2020). The COVID-19 pandemic amplified these realities, showcasing the resilience of nursing while simultaneously exposing vulnerabilities such as workforce shortages, burnout, and insufficient protection (Labrague & Santos, 2020). These findings emphasize the need for context-sensitive strategies to strengthen nursing globally, tailored to resource availability and population needs.

Technology integration emerged as both a driver of progress and a source of new challenges. Digital health innovations, including electronic health records, telehealth platforms, and decision-support systems, have enhanced nurses' ability to deliver safe and efficient care (Topaz & Pruinelli, 2020). Artificial intelligence (AI) holds particular promise in supporting early

detection of patient deterioration and streamlining workflow processes (Hussain et al., 2021). However, the literature also cautions against unintended consequences, such as increased workload due to documentation demands, digital literacy gaps, and concerns about privacy and data security. As nursing practice evolves with digital transformation, ensuring equitable access to technology, comprehensive training, and ethical safeguards will be essential to maximizing benefits without compromising the humanistic essence of care.

Despite the many positive findings, the review also underscores enduring challenges that constrain nursing's impact on healthcare quality and patient safety. Workforce shortages remain a global concern, driven by factors such as aging populations, increased care demands, and insufficient investment in nursing education and recruitment (WHO, 2020). Burnout and turnover further exacerbate these shortages, undermining continuity of care and organizational stability. Moreover, barriers to implementing EBPs—including lack of resources, time, and supportive institutional structures—limit the translation of research into practice (Saunders & Vehviläinen-Julkunen, 2019). Addressing these challenges requires coordinated efforts from policymakers, educational institutions, and healthcare organizations to expand training capacity, improve working conditions, and align institutional cultures with evidence-based care.

In synthesizing these findings, it becomes clear that nursing's role in advancing healthcare quality and patient safety cannot be understood solely through clinical contributions. Instead, nursing must be recognized as a systemic force, shaping healthcare delivery through leadership, collaboration, policy influence, and innovation. The conceptual framework developed in this review illustrates the multi-layered nature of nursing's impact, from core interventions and EBPs to broader systemic and global contributions. This framework provides a foundation for future research and policy development, guiding efforts to strengthen nursing's role as a cornerstone of safe and high-quality healthcare.

Looking ahead, the sustainability of healthcare systems will depend heavily on the continued empowerment and integration of nurses into leadership and policy arenas. Investment in nursing education, research, and digital innovation is essential to ensure that nurses are equipped to meet evolving health challenges. Equally important is the creation of supportive organizational cultures that prioritize safety, value interprofessional collaboration, and protect the well-being of the nursing workforce.

Conclusion

This review highlights the pivotal role of nursing in advancing healthcare quality and ensuring patient safety across diverse contexts. Nurses, as the largest and most consistent segment of the healthcare workforce, influence outcomes through evidence-based interventions, active participation in safety culture, and leadership that extends beyond bedside care into organizational and policy domains. The synthesis of findings demonstrates that when nurses are adequately supported through staffing, professional development, and institutional empowerment, measurable improvements in patient outcomes, reduced adverse events, and enhanced patient satisfaction are consistently achieved.

The discussion further emphasizes that nursing's contributions are not confined to clinical practice but extend to systemic and global levels. Nurse leaders shape institutional policies, advocate for health reforms, and facilitate interprofessional collaboration, while technological integration has expanded the scope of nursing practice into digital and AI-assisted care. Globally, variations in resources and workforce distribution illustrate both the challenges and resilience of

nursing, particularly in low- and middle-income countries where nurses often serve as primary care providers.

However, persistent barriers—including workforce shortages, burnout, and difficulties in embedding evidence-based practices—pose significant challenges. Addressing these requires coordinated strategies that invest in nursing education, leadership development, and supportive organizational cultures that prioritize safety and innovation.

In conclusion, nursing must be recognized as a cornerstone of safe and high-quality healthcare systems. Sustained investments in the nursing profession, coupled with policies that strengthen evidence-based practice and empower nurse leadership, are essential for building resilient, patient-centered systems capable of meeting current and future health challenges. The evidence is clear: advancing healthcare quality and patient safety is inseparable from advancing the role of nursing.

References

- Aiken, L. H., Sloane, D. M., Griffiths, P., Rafferty, A. M., Bruyneel, L., McHugh, M., ... & Sermeus, W. (2021). Nursing skill mix in European hospitals: Cross-sectional study of the association with mortality, patient ratings, and quality of care. *BMJ Quality & Safety*, 30(12), 1042–1050. <https://doi.org/10.1136/bmjqs-2020-011512>
- Al-Taie, M., & Khattak, M. N. (2024). The impact of perceived organizational support and human resources practices on innovative work behavior: does gender matter?. *Frontiers in Psychology*, 15, 1401916.
- Benton, D. C., Fernández-Fernández, M. P., Masekela, S., & Jara, C. C. (2020). Advancing the nursing profession globally: Policy perspectives and innovations. *International Nursing Review*, 67(2), 145–153. <https://doi.org/10.1111/inr.12585>
- Boamah, S. A., Read, E. A., & Spence Laschinger, H. K. (2018). Factors influencing new graduate nurse burnout development, job satisfaction and patient care quality: A time-lagged study. *Journal of Advanced Nursing*, 74(12), 2826–2837. <https://doi.org/10.1111/jan.13814>
- Griffiths, P., Maruotti, A., Recio Saucedo, A., Redfern, O. C., Ball, J. E., Briggs, J., ... & Smith, G. B. (2019). Nurse staffing, nursing assistants and hospital mortality: Retrospective longitudinal cohort study. *BMJ Quality & Safety*, 28(8), 609–617. <https://doi.org/10.1136/bmjqs-2018-008043>
- Hussain, M., Alshammari, R., & Alhassan, R. (2021). Artificial intelligence in nursing: Scoping review. *Journal of Advanced Nursing*, 77(6), 2379–2394. <https://doi.org/10.1111/jan.14791>
- Kutney-Lee, A., Germack, H., Hatfield, L., Kelly, S., Maguire, P., Dierkes, A., ... & Aiken, L. H. (2019). Nurse engagement in shared governance and patient and nurse outcomes. *Journal of Nursing Administration*, 49(10), 495–502. <https://doi.org/10.1097/NNA.0000000000000784>
- Khattak, M. N., Shah, T. A., & Said, B. (2014). Significant predictor and outcome of interpersonal trust: Empirical evidence from Pakistan. *International Journal of Information, Business and Management*, 6(2), 153.
- Labrague, L. J., & Santos, J. A. A. (2020). COVID-19 anxiety among frontline nurses: Predictive role of organisational support, personal resilience and social support. *Journal of Nursing Management*, 28(7), 1653–1661. <https://doi.org/10.1111/jonm.13121>
- Melnyk, B. M., Gallagher-Ford, L., Zellefrow, C., Tucker, S., Thomas, B., Sinnott, L. T., & Tan, A. (2022). The state of evidence-based practice in US nurses: Critical implications for nurse leaders and educators. *Journal of Nursing Administration*, 52(1), 29–36. <https://doi.org/10.1097/NNA.0000000000001098>
- Murray, M., Sundin, D., & Cope, V. (2020). The nexus of nursing leadership and a culture of safety: A

- 1910 *The Role of Nursing in Advancing Healthcare Quality*
systematic review. *Journal of Nursing Management*, 28(6), 1249–1257.
<https://doi.org/10.1111/jonm.13064>
- O’Leary, K. J., Buck, R., Fligel, H. M., Haviley, C., Slade, M. E., Landler, M. P., ... & Williams, M. V. (2019). Structured interdisciplinary rounds in a medical teaching unit: Improving patient safety. *BMJ Quality & Safety*, 28(5), 408–415. <https://doi.org/10.1136/bmjqs-2018-008592>
- Reeves, S., Pelone, F., Harrison, R., Goldman, J., & Zwarenstein, M. (2017). Interprofessional collaboration to improve professional practice and healthcare outcomes. *Cochrane Database of Systematic Reviews*, 6, CD000072. <https://doi.org/10.1002/14651858.CD000072.pub3>
- Sammer, C. E., Lykens, K., Singh, K. P., Mains, D. A., & Lackan, N. A. (2017). What is patient safety culture? A review of the literature. *Journal of Nursing Scholarship*, 49(6), 653–662.
<https://doi.org/10.1111/jnu.12300>
- Saunders, H., & Vehviläinen-Julkunen, K. (2019). The state of readiness for evidence-based practice among nurses: An integrative review. *International Journal of Nursing Studies*, 91, 55–64.
<https://doi.org/10.1016/j.ijnurstu.2018.11.003>
- Schober, M., & Affara, F. (2020). *Advanced nursing practice*. Springer. <https://doi.org/10.1007/978-3-030-43256-1>
- Slater, P., McCance, T., McCormack, B., & Bunting, B. (2018). The development and testing of the Person-centred Practice Inventory – Staff (PCPI-S). *International Journal for Quality in Health Care*, 30(10), 761–768. <https://doi.org/10.1093/intqhc/mzy109>
- Stevens, K. R. (2019). Evidence-based practice in nursing: Accelerating the translation of research into practice. *OJIN: The Online Journal of Issues in Nursing*, 24(2), 3.
<https://doi.org/10.3912/OJIN.Vol24No02Man03>
- Topaz, M., & Pruinelli, L. (2020). Big data and nursing: Implications for the future of nursing practice. *Journal of Nursing Scholarship*, 52(1), 114–123. <https://doi.org/10.1111/jnu.12557>
- Whittemore, R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing*, 52(5), 546–553. <https://doi.org/10.1111/j.1365-2648.2005.03621.x>
- Wong, C. A., Cummings, G. G., & Ducharme, L. (2018). The relationship between nursing leadership and patient outcomes: A systematic review. *Journal of Nursing Management*, 26(3), 256–272.
<https://doi.org/10.1111/jonm.12507>
- World Health Organization (WHO). (2019). Patient safety fact file. Geneva: WHO.
<https://www.who.int/patientsafety>
- World Health Organization (WHO). (2020). State of the world’s nursing 2020: Investing in education, jobs and leadership. Geneva: WHO. <https://www.who.int/publications/i/item/9789240003279>.