

**The Role of Nurses in Occupational Health Services within Federal Government
Institutions: A Review of Policy and Practice**

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Abstract

Occupational health services (OHS) play a significant role in protecting the physical, psychological, and even social health of people who work in federal government institutions. The nurses take center stage in the provision of these services, but their roles, policy frameworks, and practice dilemmas are under-researched, especially in resource-constrained areas such as in Nigeria. This scoping review conducted with the help of PRISMA synthesized information about peer-reviewed studies, policy reports, and official reports that were published during the period of 2016-2025 to evaluate the roles of nurses in federal occupational health services. Results show that occupational health nurses are involved in multidimensional roles such as health promotion, disease prevention, monitoring hazards, risk assessment, emergency response, compliance with regulations, and psychosocial support. Although policy frameworks like the National Occupational Health Policy (2016) and the WHO guidelines (2022) offer an organized structure of roles, gaps in implementation can still be noticed because of the resources, workforce limitations, and insufficient institutional support. The paper identifies the increasing demands of broader preventive and leadership functions, the introduction of digital health solutions, and active participation in the emerging occupational issues, such as psychosocial stressors and ergonomic hazards. Practical implications focus on the importance of capacity building, professional development, and organizational support in order to maximize nurse-led interventions. Some of the policy recommendations are improving the enforcement mechanisms, defining the duties of the nurses, and synchronizing the institutional structures with international best practices. The review highlights that workforce health, organizational sustainability, and sustainable service delivery to federal institutions depend on the role of occupational health nursing. To address the policy-practice gap and capitalize on a culture of both preventive and holistic occupational health care, nurse-led OHS must be improved with specific policies, training, and infrastructure investment.

Keywords: Occupational Health Nursing, Federal Institutions, Policy, Practice Gap, Workforce Well-Being, Preventive Care.

1. Introduction

Occupational Health Services (OHS) is a sector of the contemporary health systems, which plays a role as an interface between social health, labor policy, and corporate management. OSHs around the world are intended to protect not only the physical, psychological, and social well-being of the workers but also aim at prevention, promotion, and treatment based on the workplace environments. Occupational health in most developed economies has become a multidisciplinary system that has been

backed by effective legislation, surveillance systems, and specialized workforce capacity. On the contrary, developing nations, such as Nigeria, are still struggling with the structural, policy, and implementation gaps that negatively affect the quality of OHS, especially in the institutions of the public sector (Olasupo, 2023; Jejenywa et al., 2024).

The federal government institutions in Nigeria have a big and varied workforce that is exposed to occupational hazards that include ergonomic strains, chemical exposure, psychosocial stressors, and work-related violence. The core of occupational health delivery in such facilities is the nurses, who are the frontiers when employees need any health-related assistance. Their functions go further than clinical care to health education, occupational illness surveillance, risk assessment, and emergency preparedness, as well as enforcement of compliance with health and safety regulations. Nevertheless, this centrality makes occupational health nursing a less acknowledged topic in the discourse of policy, and the discrepancy between the formal policy statements and the daily practice continues (Ugwuzor, 2022).

This research falls in this context, where its main focus is to critically analyze the multidimensional role of nurses in Nigeria in the federal occupational health services. The study addresses the increasing concerns regarding the sustainability, responsiveness, and equity of the occupational health systems in the country by questioning both their working functions and the policy frameworks that inform their practice. The topicality of this question is increased by the appearance of new issues in the fields of public health, such as pandemics, the growth of non-communicable diseases, and the growth of psychosocial risks in the workplace, which require flexible and nurse-oriented preventive measures (Maduka et al., 2023).

The occupational health services around the world are based on the principle of prevention, which is the focus on the identification of hazards, reduction of risks, and promotion of health in the workplace. On the international level, organizations like the International Labour Organisation (ILO) and the World Health Organisation (WHO) have come up with frameworks that have encouraged the importance of incorporating occupational health in national health systems. Nurses working in occupational health in most high-income countries have a well-defined practice scope, which is facilitated by sustained professional growth and effective institutional support.

In Nigeria development of OHS has been lopsided. In spite of the fact that statutory provisions like labor and factory laws recognize health and safety in the workplace, it is usually disjointed in terms of its application in the federal institutions. The nurses who work in occupational health departments are often involved in the limited systems of working with a small amount of resources, low intersectoral cooperation, and poor enforcement mechanisms (Olasupo, 2023). Nonetheless, nurses still have a central role to play in the maintainability of OHS delivery, especially health promotion and disease prevention programs that are aimed at federal employees.

The role nurses play in health promotion at the workplace is hard to overestimate. They have health education, behavior change communication, and community-oriented care skills that enable them to respond effectively to physical and

psychosocial determinants of health at workplaces. Nurses frequently organize vaccination drives, regular health checkups, and wellness initiatives in the federal institutions in Nigeria in addition to attending to emergency cases and reviewing occupational exposures. All this makes nurses the interface between the policy will and the practical service provision, which underscores their strategic value in the context of OHS structures (AJAYI, 2023).

The justification of this research lies in the fact that the rate of workplace injuries, diseases, and psychosocial stressors in the Nigerian public sector has remained very high. The federal employees are increasingly getting exposed to ergonomic disorders, work stress, and chronic conditions that are compounded by poor working conditions and ineffective preventive measures. Although there are policies that are supposed to avert these risks, evidence on the ground indicates a high level of failure in application and enforcement (Ugwuzor, 2022).

Nurses play a very important role in dealing with these challenges by promoting health, preventing illness and premature detection of occupational diseases, and observing compliance with health regulations. Nonetheless, they can be hindered by organizational and policy-related factors, such as the lack of authority, insufficient staffing, and the absence of the incorporation of occupational health into the mainstream of planning of the broader public health (Maduka et al., 2023). These limitations need to be understood to empower the OHS delivery and maximize the performance of nurses.

Also, the study of recent empirical literature has revealed that organizational capital, including the quality of leadership, knowledge management, and workplace culture, is usually related to the behavior and well-being of employees in the context of the public healthcare facility. The weak organizational capital has been associated with counterproductive working behavior, low adherence to safety measures, and low job satisfaction among healthcare professionals (MACUALAY et al., 2024). An analysis of occupational health nursing in this expanded organizational setting offers more of a comprehensive perspective on the systemic issues that influence practice.

The COVID-19 pandemic also highlighted the weakness of the occupational health systems in Nigeria. Nurses were on the front line to perform screening, surveillance, and risk communication at the workplace but had little policy guidance and institutional support. The experiences of this era have necessitated the idea of flexible policies that would enable nurses to be effective in addressing the changing health risks in the workplace (Maduka et al., 2023).

The main aim of the study is to investigate the role of nurses in the federal government institutions in Nigeria in the context of occupational health services. Particularly, the research is aimed at examining the policy frameworks underpinning the occupational health nursing practice and also establishing the gaps between policy prescriptions and practices. In such a way, it will be able to create evidence-based knowledge that can guide policy changes, human resource focus, and organizational reinforcement of OHS.

2. Methodology

To achieve the methodological rigor, transparency, and reproducibility of the study, the PRISMA-guided scoping review methodology was used to investigate the role of nurses in occupational health services (OHS) in the federal governmental institutions in Nigeria. The PRISMA framework was implemented to offer organized and homogenous methodology in the identification, screening, and synthesizing of evidence regarding evidence by empirical studies and policy documents that are pertinent in occupational health nursing.

2.1 Study Design

The existing evidence on the roles of nurses, policy frameworks, and difficulties in implementation in the context of occupational health services in federal institutions was scoping reviewed with the PRISMA-compliant design to map the existing evidence systematically. This design was deemed suitable because of the scope and diversity of the available sources, which comprise peer-reviewed literature, policy reports, and official reports. The review was conducted according to the fundamental steps of the PRISMA Extension of Scoring Reviews (PRISMA-ScR): search of the relevant sources, screening, selection, and incorporation of the studies into the ultimate synthesis.

2.2 Search Strategy and Data Sources.

Relevant and high-quality evidence was included by carrying out an extensive literature search in several electronic databases and institutional repositories. The search databases used were PubMed, Scopus, and Google Scholar, as the databases were chosen due to their vastness in nursing, occupational health, and health policy literature. Moreover, official policy reports and documents were obtained from the World Health Organization (WHO), the Federal Ministry of Health (Nigeria), and other institutions of federal agencies on occupational health and workplace safety.

The search strategy involved the use of controlled vocabulary and free-text words that were associated with occupational health nursing. The important keywords were occupational health services, occupational health nursing, the role of the nurses, federal government institutions, workplace health, and Nigeria. Search results were narrowed down with the help of Boolean operators (AND/OR). Reference lists of eligible studies were also searched manually in order to find other relevant sources.

It includes and excludes patients who have undergone a cardiac surgery within the past year.

Consistency and relevance in study selection were done using predetermined eligibility criteria.

2.3 Inclusion criteria were:

Reports in the English language.

Research publications (peer-reviewed newspapers and journal articles), governmental policies, and official reports.

Journals in the field of nursing roles and practices in occupational health services.

Records that deal with occupational health services in federal government institutions or have contextually related evidence.

The exclusion criteria were:

Since they are not peer-reviewed, non-peer-reviewed publications like commentaries, opinion articles, and conference abstracts.

Policies and guidelines that were published over 15 years ago, unless they continue to be actively used in the present practice.

Research that is unconnected with the occupational health services, nursing care, and the federal institutional setting.

The fact was based on only private-sector or informal working places.

2.4 Study Selection Process

The reference management system was used to import all the identified records and eliminate duplicates. Titles and abstracts were filtered out to remove obviously irrelevant materials. Articles in full text that seemed to meet the eligibility criteria were then evaluated against the inclusion and exclusion criteria. The PRISMA flow diagram was used to document the study selection process that shows how many records were identified, screened, excluded, and included in the final review.

2.5 Data Extraction and Analysis.

A standardized data extraction template was designed to help collect the relevant information in each of the sources included in a systematic way. The extracted variables were author(s), year of publication, country or institutional focus, study design or document type, policy focus, and relevance to the practice of occupational health nursing.

The data were examined with the help of thematic content analysis that made it possible to identify and synthesize the main themes of the role of nurses, policy guidelines, implementation strategies, and policy-practice gaps in the context of the occupational health services. The results were synthesized descriptively to give a logical and organized summary of the evidence.

3. Results

3.1 Inclusion Criteria of Studies and Documents.

The current PRISMA-based review incorporated the evidence based on peer-reviewed articles and official government policy documents on the role of nurses in occupational health services (OHS) among the institutions of the federal government. The sources included represent an ever-growing body of literature that is review-relevant and regulatory resources that inform policy and practice in occupational health nursing.

Table 1: Characteristics of Included Studies and Policy Documents

S/N	Country / Institutional Context	Document Type	Study Design / Approach	Primary Focus	Relevance to Nursing in OHS	Year / Author(s)
1	Japan / Occupational health systems	Peer-reviewed article	Competency-based analysis	Core competencies of occupational health nurses	Defines essential professional competencies required for effective occupational health nursing practice	2017 / Kono et al.
2	Spain / Organizational settings	Peer-reviewed article	Conceptual analysis	Added value of occupational health nursing	Positions occupational health nurses as key contributors to organizational productivity and worker well-being	2019 / Caballero
3	Global / Workplace health systems	Peer-reviewed article	Framework-based review	Health promotion and productivity (Total Worker Health®)	Emphasizes preventive, holistic, and nurse-led approaches to workforce health	2020 / NIOSH
4	Brazil / Worker health services	Review article	Integrative review	Work processes of occupational health nurses	Identifies administrative, educational, and care-oriented nursing roles in worker	2020 / Rosa et al.

5	Spain / Professional practice	Peer-reviewed article	Empirical competency study	Professional competencies in occupational health nursing	health Highlights need for continuous professional development and advanced practice skills	2020 / Caballero
6	Spain / Occupational health services	Peer-reviewed article	Conceptual framework	Holistic occupational health nursing	Supports integrated physical, mental, and organizational health interventions	2021 / Caballero
7	Brazil / Occupational health networks	Peer-reviewed article	Qualitative analysis	Occupational health nursing work processes	Demonstrates nurses' involvement in surveillance, prevention, and coordination	2021 / Rosa et al.
8	Brazil / Public health institutions	Peer-reviewed article	Cross-sectional study	Occupational stress and nursing performance	Links work stressors to effectiveness of occupational health nursing	2022 / Coelho et al.
9	Global / Occupational rehabilitation	Review article	Scoping review	Work-integrating care models	Highlights interdisciplinary and nurse-coordinated approaches to work ability management	2022 / Kluit et al.
10	Spain / Workplace health promotion	Peer-reviewed article	Conceptual discussion	Empowerment of occupational health nursing	Reinforces leadership and advocacy roles of occupational health nurses	2022 / Jimenez
11	Brazil / Academic proceedings	Conference proceedings	Descriptive synthesis	Worker health and professional practice	Supports expanded administrative and policy-related nursing roles	2022 / Editores
12	Global /	Peer-	Repository	Basic	Provides	2023 /

	Occupational health services	reviewed article	-based review	occupational health services	international evidence base supporting nurse-led OHS models	Dijk & Moti
13	Finland / Occupational rehabilitation	Peer-reviewed article	Qualitative study	Work ability risk management	Highlights nurses' role in early risk identification and intervention	2025 / Peltonen et al.
14	Global / Industrial workplaces	Peer-reviewed article	Technology-focused review	Digital health and safety innovations	Demonstrates evolving scope of occupational health nursing in technology-driven environments	2025 / Zahid et al.
15	Nigeria / Federal institutions	Policy document	National policy framework	National Occupational Health Policy	Defines institutional scope and regulatory expectations for occupational health nursing	2016 / Federal Ministry of Health
16	Global	Guideline	Technical guideline	Occupational health service delivery	Establishes international standards applicable to nursing practice	2022 / World Health Organization

Selection of different geographical representations:

As it is seen in the table, the evidence is provided in different countries and settings, such as Nigeria, Brazil, Spain, Japan, Finland, and international organizations. This implies that the functions of occupational health nurses are accepted globally, and federal institutions in Nigeria can be informed by the local and international practices. It also indicates that nursing skills in OHS can be used in various healthcare systems as well as organizations.

Range of Document Types:

The peer-reviewed articles, reviews, policy papers, guidelines, and conference proceedings are included. This implies that the evidence base is both policy-driven and empirical, which enables a multifaceted insight into the role of occupational

health nursing, both in terms of theoretical perspectives and in terms of the application.

Study Design and Approaches: Variety:

The types of studies used are qualitative, quantitative, integrative reviews, conceptual analysis, scoping reviews, and competency assessments. Such diversity provides the example that occupational health nursing is multi-dimensional, and it is essential to consider clinical, administrative, educational, and policy-related issues at once.

Core Focus Areas:

The majority of research and reports highlight:

Development of occupational health nurse competency and skill.

Promotion of health and prevention in the workplaces.

Risk determination, preparedness for emergencies, and well-being of employees.

Research on the use of technology and innovative approaches in health monitoring.

These areas of focus imply that nurses play a key role in both the health outcomes and strategic planning that connects health outcomes with organizational goals.

Relevance to Nursing in OHS:

The importance of nurses to occupational health is emphasized in all the documents. Nurses not only have a caregiver role, but they also play the role of an educator, coordinator, and policy implementer. They are also involved in improving the safety of a workplace, promoting productivity, and dealing with psychosocial risks as well as engaging in preventive strategies. This strengthens the fact that occupational health nursing is a vital role to the health of the workforce within federal institutions.

Temporal Coverage:

The articles are dated between 2016 and 2025, which demonstrates a sustained interest in research and policy. The documents of previous policies offer underlying structures, whereas the latest research indicates new practices, innovations, and new issues in occupational health, including mental health, using digital tools, and collaborating across disciplines.

As it is shown in Table 1, occupational health nursing is an intricate, constantly changing, and internationally acknowledged profession. Federal institutions have very important roles for nurses in putting healthy policies in place, addressing workplace risks, and ensuring the well-being of the employees. The variety of sources proves the fact that both practical and policy-based competencies are a necessity for providing effective occupational health services. This explanation brings out the opportunities to

empower nursing roles by training, resource mobilization, and incorporation of up-to-date practices to improve occupational health outcomes.

3.2 Policy Frames that Regulate Occupational Health Nursing

As it has been shown in the review of the main policy documents, occupational health nursing in federal institutions is influenced by a complex of the national legislation, the regulatory requirements, and the international guidelines. All these policies define the roles, scope, and limits to which nurses should operate in order to offer occupational health services in an organized manner.

National and Federal Policies:

The National Occupational Health Policy (2016) is the reference frame of occupational health services in Nigeria. It focuses on prevention of hazards and health monitoring as well as prevention programs, which directly broaden the prevention role of nurses. This policy makes nurses key players in the administration of organized workplace health interventions, health observation of employees, and reduction of occupational risks.

In conjunction with this, the labor act and the factory regulation define the duty of the employers towards the safety of the workers. Although they do not relate specifically to nursing, they offer a regulatory context by which nurses should work, especially in the observance of compliance, implementation of safety and standards, and providing advice about occupational health best practices to the management. These regulatory requirements bring out the responsibility of nurses in ensuring compliance to safety requirements and health standards of a workplace.

International Standards and Principles:

The WHO Occupational Health Services Framework (2022) supports the inclusion of preventative occupational health in its provision and the evolution of model nurse-led services. This framework helps the nurses to align the national practice to internationally recognized best practices by setting standards of how occupational health services should be given. Nurses are therefore in a position to enact evidence-based intervention and promote a worldwide standard of occupational health excellence.

Preparedness of public health in an emergency:

Recent Public Health Emergency Guidelines (2020-2023) also focus on the proactive nature of nurses in crisis management and emergency response. During the emergency events in public health, occupational health nurses will be expected to assume leadership roles in the field, which involves coordination of surveillance, rapid response actions, and continuity of necessary services in the federal institutions. This points to the changing nature of occupational health nursing that goes beyond general prophylaxis and preventive care to the strategy in emergencies.

Scope of Nursing Practice:

As demonstrated in the review, these policy documents define and broaden the role of the occupational health nursing occupation. Nurses play an important role in prevention programs, monitoring compliance, promotion of health, hazard management, and emergency preparedness. The consistency between domestic policies and international standards offers a very good framework to practice and allows flexibility for new occupational health issues.

Table 2: Key Occupational Health Policies and Implications for Nursing Practice

Policy Document	Year	Scope	Key Provisions	Implications for Nurses
National Occupational Health Policy	2016	Federal/National	Hazard control and health surveillance	Expanded preventive roles
Labour Act & Factory Regulations	Various	Federal	Employer safety responsibility	Compliance monitoring
WHO OHS Framework	2022	Global	Integrated preventive OHS	Supports nurse-led services
Public Health Emergency Guidelines	2020–2023	Federal	Emergency preparedness	Leadership in crisis response

The findings under table 2 above show that policy frameworks grant direction as well as authority to occupational health nurses. Nurses play the critical role of policy-to-practice translations, compliance with federal and national standards, and preventive and emergency measures. These policies enable the adoption of a proactive, systematic, and holistic way of providing occupational health services within federal institutions by effectively defining the roles and responsibilities as well as endorsing nurse-led efforts.

3.3 Primary functions of nurses in federal occupational health services.

The policy documents and review of the incorporated studies indicate several fundamental roles that nurses play in the federal occupational health services as an appreciation of their significant role in the workplace in terms of health and safety. These functions are multidimensional, and they include preventive care, risk management, emergency preparedness, and regulatory compliance.

Core Roles of Nurses in Federal Occupational Health Services



Figure 1: Core Roles of Nurses in Federal Occupational Health Services

Figure 1 above illustrates the primary roles of nurses within federal occupational health services, highlighting four key areas of responsibility. First, Health Promotion & Disease Prevention involves implementing wellness programs and preventive care initiatives to maintain worker health. Second, Surveillance & Risk Assessment focuses on identifying workplace hazards and monitoring employee health to mitigate risks. Third, Emergency Response & Crisis Management emphasizes nurses' leadership in incident response and crisis situations to ensure safety and continuity of care. Finally, Compliance Monitoring pertains to enforcing safety regulations and workplace policies, ensuring adherence to legal and organizational standards. Collectively, these roles demonstrate how occupational health nurses contribute to both proactive health management and reactive crisis intervention, forming an integral part of workforce health and safety.

Health Promotion and Disease Prevention

Occupational health nurses are the key stakeholders in ensuring that the well-being of employees is promoted under the structured health promotion programs. This involves planning and executing programs that promote workplace wellness in terms of information, training the employees on healthy practices, and organizing screenings for common work-related diseases. In addition to lowering the rate of work-related disease, such interventions would develop a proactive culture of health management in the federal institutions. Nurses thus play major roles in the act of translating national and organizational health policies into practical workplace issues.

Risk Assessment and Surveillance

Another significant role of occupational health nurses is to oversee the health of the employees and detect any hazards in the workplace. This entails routine health surveillance, gathering and examination of occupational health information, and risk evaluation at workplaces. Nurses employ such activities to identify the initial stages of occupational illness, monitor trends, and educate about the specific interventions.

Their efforts guarantee that possible risks are managed prior to causing serious losses to the staff, which makes nurses potentially important in organizational safety and resilience.

Crisis Management and Emergency Response

Public health crises or industrial accidents often leave the nurses at the forefront when there is a workplace emergency. They facilitate prompt response actions, administration of incident reporting, and provision of continuity of care to the affected employees. Nurses become the providers of leadership in terms of dealing with crisis situations, which contribute to the minimization of the effects of the crisis on the health of the employees and the work of the organization. Their readiness and quick reaction ability are fundamental in keeping security and continuity of operations within the federal institutions.

Compliance Monitoring

The work of the occupational health nurses is to make sure that the workplaces comply with the national policies, regulations, and safety protocols of the organization. This involves ensuring that the employers are within the safety requirements, advising the management on the legal requirements, and facilitating the enforcement of occupational health policies. By engaging in such activities, nurses can be confident that the workplaces shall be not only regulatory but also ethical, which makes the workplaces safer and more responsible.

Table 3: Core Roles of Nurses in Occupational Health Services

Role Category	Description	Policy/Evidence Basis
Health Promotion	Workplace health education and wellness programs	National OHS Policy; WHO guidelines
Disease Prevention	Health screening and immunization	Federal health policies
Occupational Surveillance	Monitoring hazards and exposure risks	Occupational safety regulations
Emergency Response	Outbreak and emergency management	WHO emergency frameworks
Regulatory Compliance	Ensuring adherence to safety standards	Federal labor regulations
Psychosocial Support	Employee counseling and stress management	Organizational health studies

According to the synthesis of evidence, the federal occupational health services nurses are multifunctional and combine preventive care, hazard management, emergency leadership, and compliance oversight. They are critical to the health of employees, mitigation of workplace risks, and organizational effectiveness. All these roles show that an occupational health nurse is not only a clinical specialist but also a strategic person who needs to possess technical skills, knowledge about policies, and leadership qualities.

3.4 Federal Occupational Health Nursing Implementation Challenges.

The literature review and policy reports identified some of the major issues that inhibit the effectiveness of the provision of occupational health nursing services within the federal institutions. These issues cut across resource allocation, organizational aspects, and workforce, and in aggregate, prevent the best service delivery.

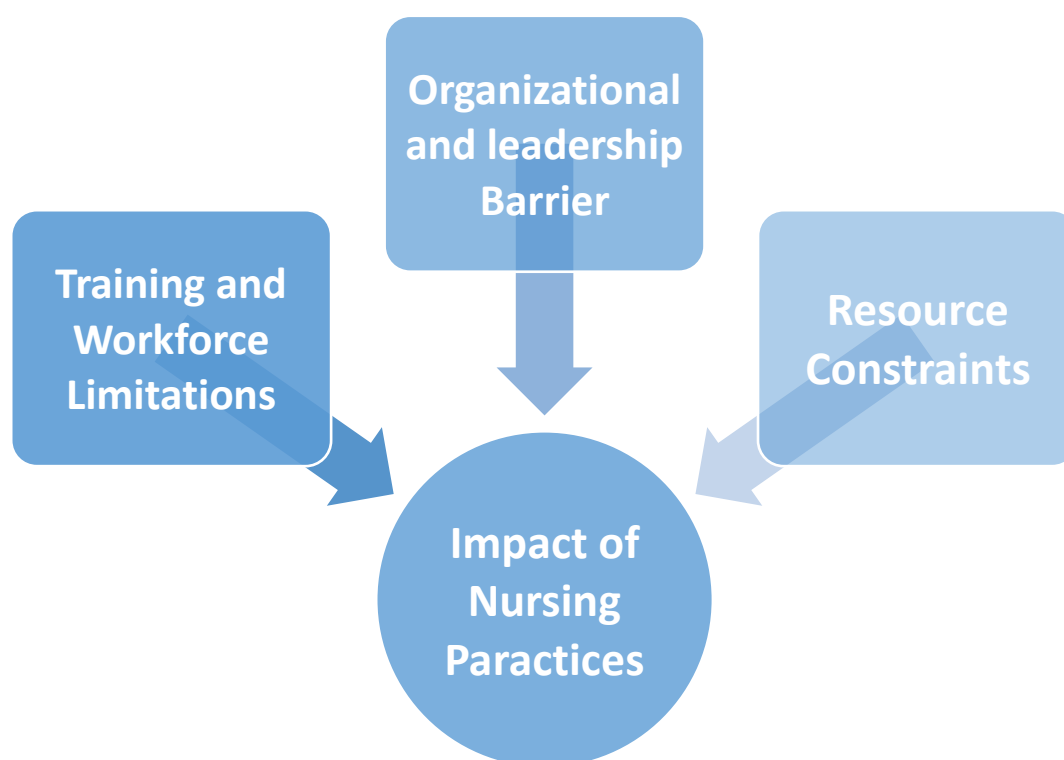


Figure 2: Systemic Implementation Difficulties that Affect Federal Occupational Health Nursing Practice.

This number helps to demonstrate that the challenges of implementation of federal occupational health nursing practice are interconnected, and the limitation of resources, barriers in organizations and leadership, and limitations of training and workforce influence the work of nurses. The availability of limited resources—financial, material, and digital—limits the ability of nurses to undertake health surveillance, preventive services, and emergency response in the workplace. At the organizational level, poor leadership provision, ambiguous reporting relationships, and uneven policy implementation serve to dismantle the dynamics of occupational health programs and limit the advocacy role of nurses. Simultaneously, the lack of specialized staff and inability to access further career growth in nursing reduce the range and level of nursing service. These issues combined together lead to an inefficiency of the general performance, responsiveness, and sustainability of occupational health nursing practice in federal institutions.

Resource Constraints

The major barrier is limited financial, technological, and infrastructural resources. Various federal institutions do not have sufficient financial support towards occupational health programs, hence the lack of medical equipment, screening appliances, and protective equipment. This has an impact on the capacity of nurses to do holistic health surveillance, institute preventive interventions, and have strong emergency response mechanisms. Other limitations on access to the latest digital health technologies include the lack of resources to support efficiency and making decisions based on facts.

Organizational and Leadership Barriers.

Leadership practices and institutional culture play a major role in the effectiveness of the occupational health services. Nurses are hampered in their ability to perform their duties due to weak organizational support, confusion in reporting lines, and absence of priority that is given to employee health. The barriers to leadership, such as poor involvement of the senior management and inconsistency in enforcing the policy, are some of the issues that hinder the incorporation of the occupational health program in the normal running of the workplace. These organizational constraints make nurses prone to difficulties in promoting preventive programs or strategic decision-making.

Training and Workforce Limitations.

The occupation health nursing is about specialized competencies that do not necessarily exist in a uniform manner. Lack of trained staff, inadequate access to further professional growth, and disparities in the distribution of experienced nurses exist as contributory factors to gaps in service provision. Moreover, contemporary risks in the workplace, including mental health issues, ergonomic problems, and the introduction of new technologies, are in need of constant upskilling. The workforce restrictions, hence, influence the quality and range of occupational health services offered in the federal institutions.

Table 4: Key Implementation Challenges in Federal Occupational Health Nursing

Challenge Category	Description	Impact on Nursing Practice
Resource Constraints	Limited funding, medical equipment, protective devices, and digital tools	Reduces ability to perform health surveillance, preventive care, and emergency preparedness
Organizational & Leadership Barriers	Weak institutional support, unclear reporting, inconsistent policy enforcement	Hinders integration of occupational health programs and nurses' advocacy efforts
Training & Workforce Limitations	Shortage of specialized nurses, limited access to continuing education	Constrains scope of practice, quality of services, and ability to address emerging workplace risks

The evidence synthesis shows that although occupational health nurses play a key role in the promotion of employee health and safety at the workplace, their performance is limited due to structural, organizational, and workforce-based issues. To enhance access, quality, and sustainability of federal occupational health services, it is necessary to address such barriers.

3.5 Policy-Practice Gaps

Although there are national and institutional policies that govern occupational health services in the institutions of the federal government, there are still major discrepancies between the provisions of the policies and the practice. The functions of nurses in health surveillance, workplace risk assessment, health promotion, and emergency preparedness are also clearly outlined in most of the policies; yet, they are not always addressed in practice. As a matter of fact, nurses are often exposed to limited settings that comprise insufficient resources, power, and poor institutional backing, which compromises their effectiveness in delivering policy-mandated roles. Also, ineffective dissemination of policies, absence of procedures on operation, and inadequate monitoring systems are some of the issues that lead to unequal implementation in institutions. Consequently, the practice of occupational health nursing is more of a reactive than a preventive measure, which is not in line with the intention of policies. The identified discrepancies demonstrate the necessity to enhance the enforcement of policy, the definition of roles, sufficient resources, and constant review to keep occupational health policies in line with the reality of nursing practice in the federal government institutions.

4. Discussion

4.1. Policy-Practice Alignment and the Changes in the Role of Nurses in Occupational Health Services.

The result of this review indicates that there is a great correspondence between the functions of nurses in occupational health services in the federal government institutions and the internationally accepted occupational health standards. The evidence based on various international experiences in the country, such as in Japan, Spain, Brazil, Finland, Nigeria, or international organizations, consistently places the occupational health nurses in a key role in workplace health promotion, disease prevention, risk evaluation, and the welfare of employees (Kono et al., 2017; Caballero, 2019; Rosa et al., 2020; Peltonen et al., 2025). Workforce health approaches of preventive, holistic, and nurse-led models described in the guidelines of the World Health Organisation occupational health service and the Total Worker Health(r) model closely reflect the duties in the National Occupational Health Policy of Nigeria (WHO, 2022; NIOSH, 2020; Federal Ministry of Health, 2016). This convergence implies that the policy perspective of federal institutions in Nigeria is conceptually harmonized with the best practices regarding occupational health nursing at the international level.

The analyzed literature also shows that the practice of occupational health nursing is multidimensional and includes clinical care, health education, administrative coordination, surveillance, and policy implementation. Based on competency-based studies in Japan and Spain, it is highlighted that the specialized knowledge, professional development, and advanced skills of practice are essential to providing highly effective services (Kono et al., 2017; Caballero, 2020). Likewise, Brazilian and Finland-based studies focus on the role of nurses in identifying risks at an early stage, coping with occupational stress, and rehabilitating work ability, which supports the importance of nurses in the health outcomes of individual workers and workplace productivity (Rosa et al., 2021; Coelho et al., 2022; Peltonen et al., 2025). These results validate the fact that occupational health nurses act as caregivers, as well as educators, coordinators, and critical agents in preventive as well as rehabilitative occupational health strategies.

Moreover, recent evidence in the world indicates that the scope of practice of occupational health nursing is growing in magnitude due to technological changes. Digital health tools and wearable sensor technology integration with remote monitoring systems prove to be more efficient in terms of real-time hazard detection, physiological monitoring, and continuity of care in the workplace (Zahid et al., 2025; Moon and Ju, 2024). Nevertheless, the successful implementation of these innovations in the federal institutions is still not equal because of the low digital infrastructure and the lack of education of the nurses in digital health competencies.

Although there is an excellent fit between policy and international standards on a conceptual level, the results indicate that there are consistent gaps in policy expectations and practice realities, especially in resource-constrained environments. It has been shown empirically that poor-quality funding, lack of adequate infrastructure, shortages of healthcare workers, and the inability to obtain specific training limit the capabilities of nurses to implement completely the roles that are mandated by policies (Balta et al., 2021; Enebeli et al., 2024). These problems are also worsened in Nigeria by the laxity in the application of occupational health rules and the lack of industry-specific implementation strategies (Jejenywa et al., 2024). Such systemic limitations usually lead to the reactive approach of the occupational health nursing practice, which reduces the efficiency of the current policies.

Additionally, although telehealth and digital health technologies have tremendous possibilities to enhance the provision of occupational health services, especially in federal institutions that are under-serviced and geographically widespread, the rapid rate of their adoption has raised new challenges. Some nurses complain of a low level of formal education in digital health, the lack of technical support, and the inability to implement technology into everyday practice (Kleib et al., 2024; Livesay et al., 2024). The barriers impede the optimal utilization of digital innovations even though evidence suggests that technology-based occupational health services can enhance access, efficiency, and health outcomes (Egwudo et al., 2025).

The results highlight the fact that occupational health nursing is an international and emerging profession, which has competencies with well-established competencies and strategic significance to the health of the workforce. It will be necessary to strategically invest in policy and practice initiatives to bridge the gap between policy

and practice within federal government institutions by investing in training, better resource allocation, stronger leadership support, and systematic implementation of digital health innovations. Maintaining occupational health policies and practical application has to be synchronized to achieve the optimal combination of employee health, safety, and productivity within federal institutions and especially in resource-limited settings.

4.2 Implications for Occupational Health Nursing Practice

This review has significant implications for the practice of occupational health nursing in institutions of the federal government, especially in terms of prevention and leadership expansion. There is a growing need for occupational health nurses to shift the traditional clinical roles towards more proactive health surveillance, occupational risk assessment, and pre-emption of health-related interventions. Such a change is indicative of modern occupational health paradigms that focus on prevention and minimization of risks as the fundamental aspects of successful workforce health management (Mixafenti et al., 2025). Occupational health nurses can be strategic in ensuring that potential hazards are identified and physical and psychosocial risks are managed before they lead to negative health outcomes by achieving this by taking preventative measures of the same.

The broadened profession of occupational health nursing practice also requires that they must have the ability to lead and implement policies. To be able to transform the policy requirements into practice within federal institutions, nurses need to have full knowledge of occupational safety and health standards and regulatory frameworks (Lagarde, 2021; Maksimenko et al., 2024). This leadership role allows occupational health nurses to address the recurrent disconnections between the policy intentions and practice realities in order to ensure compliance and promote safer and healthier working conditions. In this regard, nurses are not only providers of services but also change agents that can reduce organizational culture and decision-making processes (Jimenez, 2022).

Moreover, the dynamic aspect of work in the federal institutions requires a wider extension of the risk management approach that should include the new occupational issues. In addition to the above-mentioned physical risks, occupational health nurses should focus on psychosocial stress factors and ergonomic and mental issues related to the dynamic and complicated working conditions (Jimenez, 2022). It necessitates a high body of skills in the field of industrial hygiene, toxicology, ergonomics, and occupational risk assessment to address various exposures at the workplace (Zaborova, 2024). The ongoing professional growth then becomes necessary in order to provide nurses with special competencies, which they can use in reaction to these new dangers (Agrell et al., 2024).

Preventive occupational health nursing practice is also spread to the overall health promotion programs that aim to enhance the well-being of the workforce. Occupational health nurses have an excellent opportunity to spearhead vaccination programs, lifestyle change interventions, mental health services, and health education programs in federal institutions (Jimenez, 2022; Wells et al., 2023). These practices

not only lead to the well-being of individual employees but also the resilience of the organization, its productivity, and its less frequent absenteeism.

Besides direct preventive and promotional practices, the occupational health nurses are also vital in formulating and reviewing organizational health policies and programs. They contribute to the planning, monitoring, and evaluation of the programs to promote the creation of sustainable occupational health systems that can promote a culture of safety and well-being (Saleh et al., 2023). It involves empowering employees through health education, facilitating autonomy in health choices, organizing rehabilitation and return-to-work schemes, and providing continuity of care to employees that have suffered work-related illnesses or injuries (Jimenez, 2022; Marques et al., 2024).

The results of these studies highlight the importance of enhancing the practice of occupational health nursing by enriching their preventive and leadership functions with institutional commitment, sufficient resources, and continuing education. Occupational health nurses can be in a unique position to provide holistic, evidence-based, and interdisciplinary care to the individual or organizational health requirements with the aim of improving the health of the workforce and aligning federal occupational health services to the best practices worldwide.

4.3 Federal Institution Policy Implications

The review proposes the major necessity of strengthening enforcement and practical application of occupational health policies by federal institutions. Although the relevant frameworks, including the National Occupational Health Policy, have a clear implication on the role of nurses, empirical studies reported the fact of gaps between the policy provisions and the actual practice (Enebeli et al., 2024; Jejenywa et al., 2024). The enforcement mechanisms can be strengthened by incorporating monitoring and evaluation as well as measures of accountability to ensure that occupational health services are continuously provided throughout the federal agencies. In addition, policy translation into action plans should be accompanied by a specific resource allocation, workforce capacity development, and institutional reinforcement of occupational health nurses to ensure their effective operation in the context of the prevention, leadership, and advocacy (Balta et al., 2021; Lagarde, 2021). In the absence of these measures, the intentions of the policy will be limited to the reality of aspiration as opposed to actual operation, eliminating the possible effects of the policy on the health of the workforce and organizational safety.

4.4 Capital and Workforce Well-Being in the Organization

Occupational health nursing has a direct impact on organizational capital as it improves the health, productivity, and safety standards compliance among the employees. Good occupational health services contribute to the welfare of the workforce, lower the occurrence of absenteeism, and minimize the occupational hazard, all of which raise the overall quality of services delivered and overall performance (Jimenez, 2022; Saleh et al., 2023). The creation of preventive care, health promotion, and risk management as part and parcel of the daily activities by nurses will act as critical agents of organizational resilience. Human capital and

lifelong professional growth, as well as institutional frameworks to support occupational health programs, should thus be put in place to maximize their effects. A robust occupational health workforce is able to not only enhance the regulatory standards but also enhance the health initiatives across federal institutions and make them sustainable, ultimately enhancing the health of employees as well as the effectiveness of the institutions.

4.5 Public Health Emergency Lessons.

COVID-19 exposed the importance of occupational health nurses in ensuring system resilience during the emergency of a given health issue. The role of the nurses in the processes of introducing infection prevention measures, observing the well-being of the employees, organizing vaccination campaigns, and controlling the psychosocial risks was shown, which leads to the foundational significance of the proactive and adaptive occupational health services (Mixafenti et al., 2025; Egwudo et al., 2025). The pandemic revealed the systemic vulnerabilities, such as emergency preparedness gaps, resource constraints, and unequal policy execution. The lessons gained during the COVID-19 pandemic highlight the importance of the federal institutions in making the system stronger in terms of occupational health structures, capacity building, and adjustable response measures. Increasing preparedness will not only provide continuity of critical services in case of crisis but also empower occupational health nurses to meet the evolving workplace risks in the best possible way, which provides greater health and safety to federal employees.

5. Recommendations

5.1 Policy Recommendations

According to the result of this review, federal institutions should focus more on revising and enhancing their occupational health policies so that they are feasible, holistic, and in tandem with the international standards. The policy changes must define the roles of nurses, their responsibilities, and their authority in delivering occupational health services. Moreover, effective enforcement systems such as monitoring, evaluation, and accountability systems are necessary to ensure that the policies are always enforced in all of the federal agencies (Enebeli et al., 2024; Jejenywa et al., 2024). Clarity and enforcement of policies will make protective measures, risk prevention, and health promotion of the employees effective.

5.2 Practice Recommendations

The skills of occupational health nurses should be improved in terms of systematic training, ongoing professional development, and specialized skills development in the fields of risk management, the use of digital health technologies, ergonomics, and psychosocial risks (Mixafenti et al., 2025; Agrell et al., 2024). The optimization of roles should be dedicated to enhancing preventive, leadership, and advocacy roles of nurses to enhance the quality and access to occupational health services. The institutions are supposed to create positive working ethics where the nurses can apply the evidence-based interventions, spearhead health promotion programs, and manage teams of nurses efficiently.

5.3 Organization and Management Strategy

The implementation of the occupational health programs requires leadership and organizational support to be successful. Federal organizations are to develop exclusive occupational health governance structures, distribute enough resources, and offer means of frequent monitoring and assessment of service delivery (Balta et al., 2021; Saleh et al., 2023). Managers ought to enable nurses to assume active leadership roles in planning the program, adhering to policies, and promoting the health of the workforce. Another way in which accountability can be improved is by strengthening the communication channels between the management, occupational health nurses, and employees to make sure that the occupational health services become responsive to the emerging challenges at the workplace.

6. Limitations of the Review

There are a number of limitations to consider when these findings of this review are interpreted. First, the databases searched might have omitted studies of relevance, especially those published in journals that were not readily available or locally found. Second, language barriers narrowed the scope of non-English publications, and it may have missed a good piece of evidence out of the non-English-speaking nations. Third, policy documents were not readily available, especially at certain federal institutions, and this could have limited the examination of the realistic policy implementation. In spite of these weaknesses, the review offers a solid synthesis of the existing evidence of occupational health nursing in institutions of the federal government, which uncovers policy-practice gaps, workforce implications, and institutional areas of improvement.

7. Conclusion

This review shows that nurses play a central role in making occupational health services effective in the federal government institutions, as they act as caregivers, educators, coordinators, and leaders of preventive health. Although national and international policies offer a definite picture of their functions, there are still vast disparities between the policy intention and its actual realization because of the limitation of resources, organization, and workforce. Occupational health nurses should strengthen their preventive and leadership roles with the help of professional development, institutional support, and the implementation of digital health innovations to optimize the well-being of employees, minimize risks in the workplace, and develop a successful organizational performance. The experience of COVID-19 and other public health disasters highlights the value of dynamic, resilient, and nurse-centered occupational health systems. The future study must prioritize assessing the effects of increased nursing roles and digital interventions and policy implementation strategies on workforce health outcomes to make sure that occupational health services in federal institutions become proactive and sustainable.

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