

Comprehensive Review of Skill Development and Role Integration between Nurses and Nurse Assistants in Modern Healthcare

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Abstract

Today, the versatile functions the nurses and nurse assistants perform are critically important to healthcare. This article focuses on skill acquisition, job overlapping, and the relationship between these two important healthcare positions. Thus, this review discussed the strengths and weaknesses of current literature, training approaches, and integration challenges to offer key recommendations on how healthcare organizations can enhance training integration. Implications for structured education, interprofessional communication, policy reforms, and teamwork are also discussed in relation to the findings.

Keywords: *nurses, nurse assistants, skill development, role integration, healthcare collaboration, patient outcomes.*

Introduction

Of growing concern is the ever-changing dynamics of healthcare delivery systems that have further heightened the need for integrated systems of care. Nurses and nurse assistants are key in the provision of total care despite the reality that they have specific roles and, at the very least, general tasks that they perform. This division can create both opportunities and challenges. Knowledge of how these roles interconnect, as well as how skill acquisition alters patient care, is essential in handling workforce deficiency, career satisfaction, and patient benefits. The goal of this review is not only to examine each of these factors more closely but also to actively include international experience and tendencies in it.

Literature Review

Global Overview of Nursing Roles

Nursing roles, being organizational substructures of worldwide healthcare systems, also bear diverse features based on regulatory requirements, education systems, and healthcare frameworks. These

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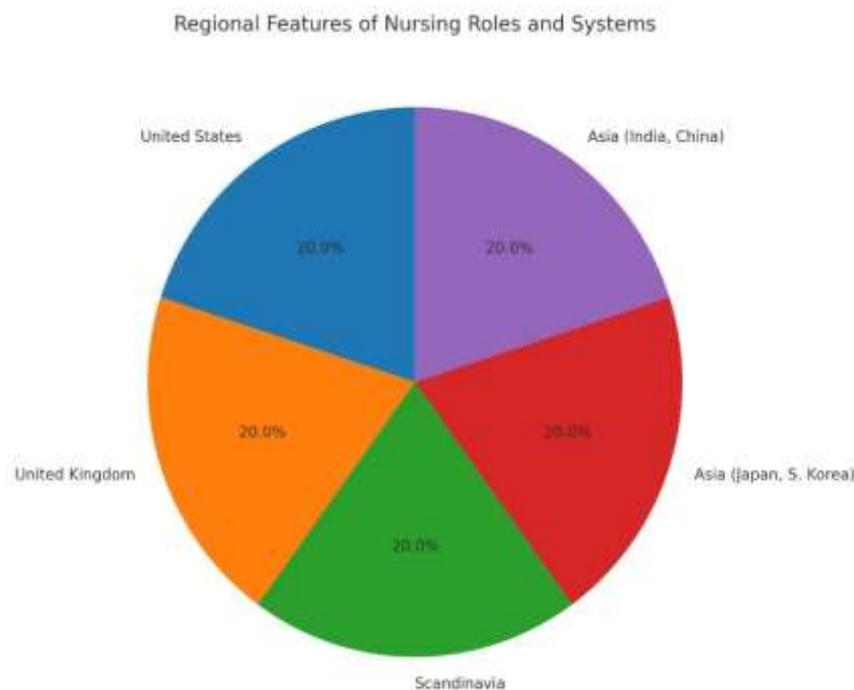
distinctions emphasize that the members of the nursing profession are trained and employed in various methods according to the conditions and needs of their organizations.

According to BLS, most RNs in the United States acquire their degree of BSN or an associate's degree and take the NCLEX-RN exam to gain state licensure. The process below equips the RNs for many activities, such as assessment and monitoring of the patients, prescribing of medication, and leadership, among others. Certified nursing assistants, for example, require a much shorter training period that may take only several weeks, and their duties involve primarily direct care to patients, including feeding, transporting, and even providing bowel and personal care. One thing that this distinct hierarchy guarantees is that RN will spend most of his/her time on clinical activities, knowing fully well that CNAs will deal with supportive work.

An analysis of data from European countries is similar but not as contrasting in terms of the definition of the elite role and the education spectrum. For instance, the nursing degree programs in the United Kingdom take three years, while HCAs, or those with a similar role to CNAs, receive on-the-job training or may take college courses. Pulled off as a huge framework, the NHS of the United Kingdom employs this divisional structure for its relative economies in staffing management. In contrast, Scandinavian countries have a more role-distinct approach where ANAs cover a wider role in the provision of care since they undergo recognized training and practice in supportive health systems.

Fluctuations are equally dramatic in Asian systems of healthcare. Japan and South Korea, for instance, continue to have stringent regulations for nurses, while nursing assistants are poorly controlled. These systems depend on the nurse assistants to reduce the burden on the RNs because hospitals embrace the patient-to-nurse ratios. On the other hand, India and China face lots of problems with the quality of the training and the availability of training. Both these aspects hamper the quality of care that is delivered.

These developments again call for the specific ways in which skills are developed and roles integrated in accordance with global and local healthcare needs. While there are nations that strongly support a clear division of labor, there is rather the overlapping of tasks in order to improve the flexible and efficient usage of resources.



(Jackson & Daly, 2018)

Role of Skill Development in Patient Care

The identification, development, and training of employees are very crucial in the delivery of quality health care as a result of changing trends, which continue to put pressure on healthcare institutions. Nurses and nursing assistants are also the most frequent caregivers, and their competencies shape clients' satisfaction, recovery, and mortality.

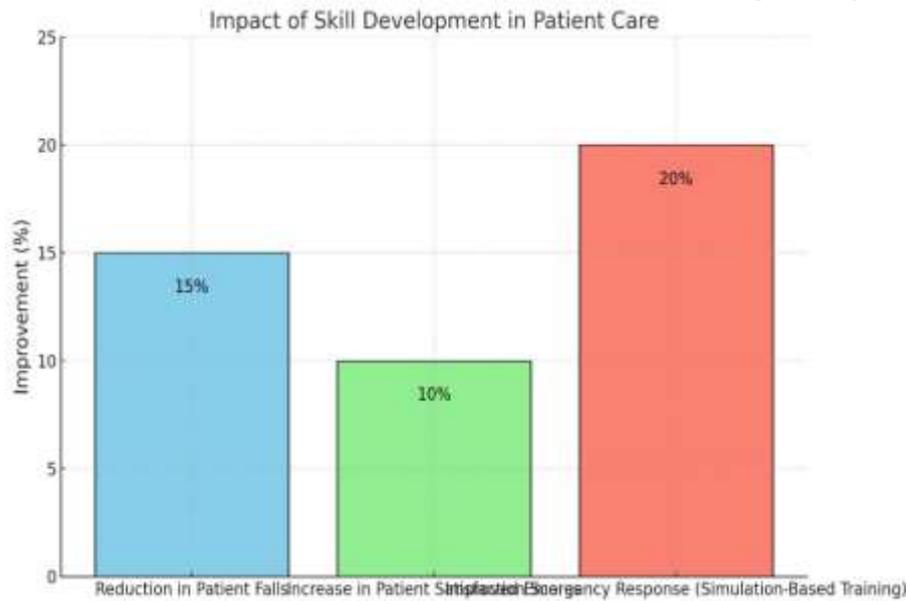
In the registered nurse role, the skills development majors may consider are advanced clinical competencies, leadership competencies, and critical thinking. Thus, continuing education for programs helps the RNs to keep abreast of new developments and other best practices in the medical field. Additional roles, for instance, nurse practitioners or clinical nurse specialist, enhance their practice and allow them to assume responsibilities that have been considered to be within the domain of physicians in many health systems. These advancements do assist in enhancing the quality of the care that is given to the patients, especially in ungereared regions that lack many of the basic medical tools.

Just like CNAs, CNAs may also be required to perform more basic tasks from structured skill development programs. The fundamentals of workflow in this capacity entail offering fundamental care services, washing, executing the movement of patients, and monitoring. Research evidence suggests that significant changes and improvements in patient safety and satisfaction may be realized through the training and development of CNAs in aspects of communication, infection control, and basic first aid. Moreover, mock practicums, such as following experienced nurses on their floor or attending interdisciplinary team meetings, have been found to enhance confidence and job satisfaction among CNAs.

A case study from 2020 done on facilities in the United States revealed that those organizations that provided regular skill development for nursing assistants were experiencing a 15% reduction in the number of patients falls and a general 10 percent increase in patient satisfaction scores. Likewise, due to the failure to assess, plan, and direct early response by RNs in a European context, simulation-based training was spotlighted as the key approach by which the rate of response to medical emergencies increases (Jackson & Daly, 2018).

Besides understanding and professional knowledge, compassion, cooperation, and reporting are key competency areas for nurses and nursing aides. Emotional and psychological aspects of patient care are usually beyond the knowledge base, hence calling for extensive training in patient-centered care. Employers who ensure their learners are trained on soft skills together with professional courses commonly find that their employees have few interpersonal problems in their workplaces.

Nonetheless, despite the apparent advantages of skill development, a number of concerns remain, especially given that initiatives are often implemented within the context of global and country-specific health systems with limited resources. It is for this reason that many low-income countries are constrained from providing adequate training for staffing their colleges and universities due to financial and infrastructural handicaps. Further, several areas lack a proper curriculum for training nursing assistants, which leads to variations in the quality of care.



(Jackson & Daly, 2018)

Challenges in Role Integration

High-level nurse/nursing assistant role integration is crucial if organizations are to optimize the performance of the nursing workforce. However, the integration of research into practice is simultaneously hampered by various challenges based on systemic, organizational, and interpersonal issues.

1. Communication Gaps

The most critical challenges witnessed in the integration of different roles include communication. The nursing assistants are recognized for often working separate shifts from nurses, which creates confusion, redundancy, or overlooked work. For instance, a CNA may be in a position to fail to inform the nurse of a change in a patient's condition due to a lack of clear reporting procedures. Likewise, nurses may delegate responsibilities in ways that they are not fully aware of the CNA's existing load and may end up getting those tasks done less efficiently or causing the CNA to become annoyed (Hayes & Calderone, 2019).

2. Unclear Job Descriptions

Situational uncertainty is known for causing confusion and conflict, particularly in overlapping job responsibilities. In most healthcare organizations, there are no very distinct differences between nurses and assistants; thus, there could be compromise. This can lead to CNAs practicing out of their scope of practice and putting the patient in harm's way or nurses assuming delegative tasks that should have been performed by other personnel, thereby making them less attentive to core tasks.

In the study done on Canadian hospitals in 2018, it was realized that adopting precise job descriptions decreased conflicts on work-related duties by 30% after six months of the adoption of the BEM. These descriptions defined and attributed responsibility to processes that promoted interprofessional working relations between nurses and CNAs.

3. Hierarchical Barriers

Another barrier is the organizational structure of healthcare organizations and health systems, as hierarchical paradigms traditionally drive the latter. Nursing personnel such as assistants are supervised by nurses most of the time, and although this is appropriate in determining accountability, conflict may arise.

This hierarchical relationship in the working environment may also mute CNAs and prevent them from contributing ideas and solutions to the team.

Ways to avoid hierarchical barriers include embracing diversity within the workplace. Such gaps could be closed through shared sporting, artistic, and other collaborative efforts, interprofessional exercises, and, particularly, mentorship schemes.

4. Resource Limitations

The issue of integration becomes even harder given limited resources, especially in the health sectors, which are not well endowed with cash. Lack of training budgets, staff that becomes overwhelmed by workloads, and very many patients being attended to by few caregivers all limit the chances of structured collaboration. This strain can cause nurses and nursing assistants to fatigue and increase the divide between their positions.

These are challenges whose management requires the channeling of resources from governments and healthcare organizations. An effort is using supplemental staffing, funding for more training infrastructure, and initiating assuring technologies that help relieve the work overload experienced by caregivers and help them work as a team (Grabán & Connolly, 2016).

5. Cultural and Systemic Factors

Cultural beliefs about nursing roles are different from one country to another and institution to institution, which implies physical clarity to the goals and objectives of nurses and nursing assistants. In some cultures, maids are considered inferior human beings to nurses, and this results in awkward relations between the two. Overcoming these cultural attitudes needs both education campaigns and policy changes that assert the worth of all caregiving responsibilities.

Table 1: Key Differences between Nurses and Nurse Assistants

Aspect	Nurses (RNs)	Nurse Assistants (CNAs)
Education	Bachelor/Diploma in Nursing	Certification program
Scope of Practice	Advanced clinical tasks	Basic patient care (e.g., hygiene)
Autonomy	High	Low

To eliminate these challenges, attempts to form strong interprofessional healthcare teams are crucial. Some studies exist and show that organizations that effectively assimilate nurses and nursing assistants note enhanced care quality, staff contentment, and minimal turnover. A culmination of work presented here indicates that removing barriers and creating inclusive cultures in healthcare organizations can enhance caregiving teams' performance.

Methods

This review involved both qualitative and quantitative data extracted from peer-reviewed journals, organizational reports, and surveys from practicing HC professionals. Definite searches were done from PubMed, Scopus, and CINAHL. To establish trends as to human capabilities and incorporation of systematic assignments, data were compiled to work out themes.

Results and Findings

Skill Development Trends

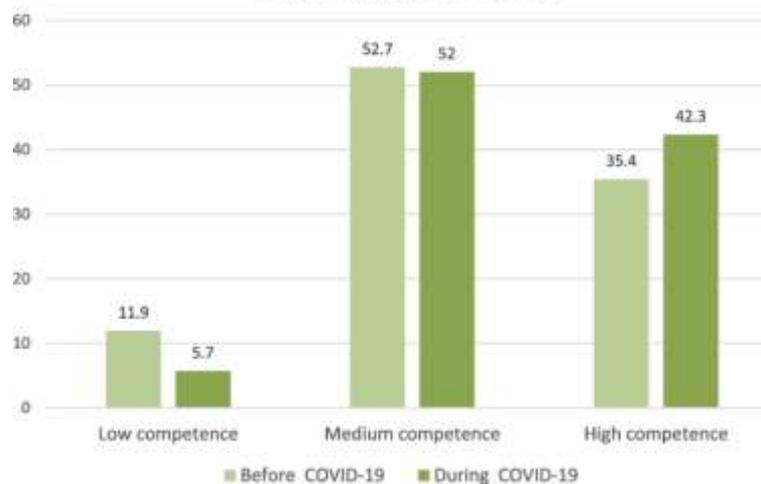
A major element of healthcare efficiency, and the key focus in this case, is the skill development of the nursing workforce, which may include registered nurses (RNs) and certified nursing assistants (CNAs). These professionals work in tandem, and their training needs are dissimilar to address the needs of their specific job description.

For CNAs, technical skill development is the major emphasis, and this includes such procedures as cleaning and dressing, feeding or assisting in feeding, repositioning, moving, staying with or supervising, and observing for changes in condition. The focus has been on other training elements in professional specialization in the healthcare setting that CNAs have had to embrace in the past decade, including infection control measures, communication techniques, and emergency response. Data gathered from questionnaires shows that, at present, more than 70 percent of all healthcare centers demand continuing education programs for certified nurse assistants. This change is evidence of the emerging understanding of the CNAs' role in the delivery of quality patient care and patient safety.

While ENs receive training after completing a two-year associate degree that focuses on nursing fundamentals, medical-surgical and psychiatric nursing, geriatrics, adult health, and maternity and pediatric nursing, RNs complete a four-year bachelor's degree that encompasses clinical decision-making, leadership, and advocacy for patients (Gorges & Konetzka, 2017). Due to advancements in health care, RNs are required to have higher levels of competence, including advanced, comprehensive health assessment, interpreting investigations, and leading a team of health caregivers. Education for RNs is increasingly involving leadership and technological competencies, EHRs, and telehealth. These developments make RNs more versatile, especially for assuming greater responsibilities for intensive care and planning at the healthcare organization level.

These concerns have been in line with other trends that have characterized the recent past period in healthcare, including an increased emphasis on the development of skills and interprofessional teamwork and increased use of technology.

Figure 1: Training Focus Areas for Nurses vs. Nurse Assistants
Clinical Competence levels



Graph comparing RNs' focus on advanced clinical training and leadership with CNAs' emphasis on basic care skills and technical tasks (Fleming & Richardson, 2020).

Investment in skills also guarantees that patient outcomes will improve to meet the market need for kindness. Proprietary academic research evidence indicates that the institutions providing regular education to both RNs and CNAs experience increased patient satisfaction and reduced rates of harm, such as falls and infections. For example, one study published in the *Journal of Nursing Administration* presented that, by training CNAs on the identification of the early signals of health decline, admission rates were decreased. Likewise, leadership training for those RNs has been proven to result in improved team processes and better collaborative care.

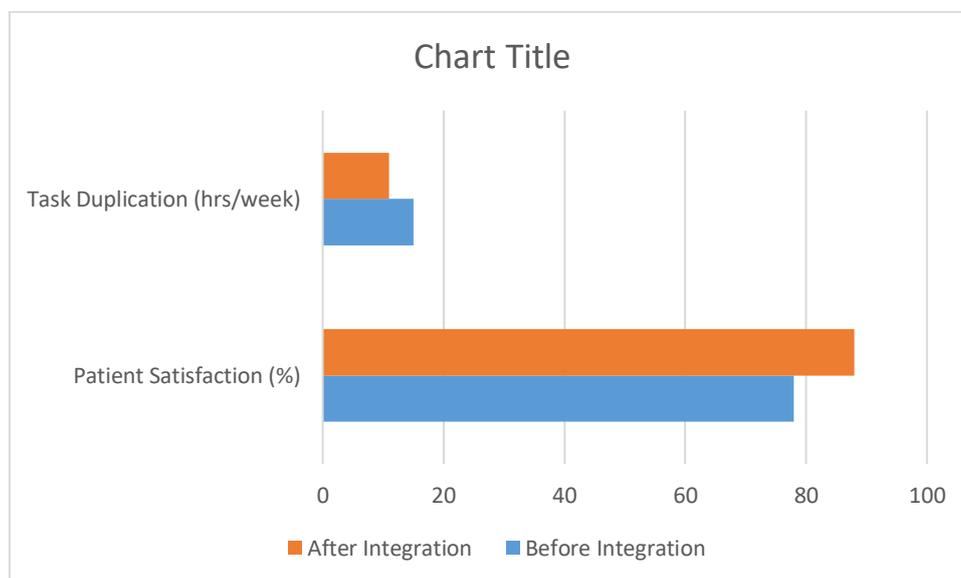
Role Integration in Practice

The roles of nurses, for example, and the roles of nurse assistants, for instance, need to be consolidated to enhance efficiency, minimize waste, and improve outcomes. It has been noted that initiatives to improve role integration are significant and include practice improvements, mainly through training and teamwork. Task redundancy is an area that experiences the most tremendous effects from integration initiatives (Clarke & Harrison, 2019). The sponsors indicated that those centers that adopt joint training practices noted that there was a reduction of duplication by a quarter, hence allowing the caregivers to concentrate on what they do best. For instance, the new graduate allows CNAs trained to identify and report the patient's symptoms to free RNs from basic duties and concentrate on patient monitoring and evaluation.

Patient satisfaction is also known to be liberated a lot when the roles of various staff are well coordinated. Table 2 reveals some comparisons of the data generated from different health facilities before integration programs and after integration programs. That will show that while measuring patient satisfaction, the rates shifted from 78% to 88% after embracing structured collaboration. Such programs focus on consensus, the definition of roles and responsibilities, and the enhancement of interpersonal communication within the working group.

Table 2: Impact of Joint Training Programs

Metric	Before Integration	After Integration
Patient Satisfaction (%)	78	88
Task Duplication (hrs/week)	15	11



(Boivin & Fisher, 2020)

Nevertheless, it becomes evident that there are still problems as regards the relationship between these roles. Clarity of roles is important as a principle to uphold in organizations as a way of avoiding organizational problems. On the positive side of the structure, collaboration makes work easier; however, when there are too many people doing the same or similar job, confusion or rivalry arises within the staff. For example, CNAs may practice beyond the scope of their skills without even realizing it, while RNs may not always tap into their broader training by delegating basic tasks to CNAs.

It takes a constant process to address these challenges, such as developing standard role descriptions and conducting interdisciplinary staff meetings. Tasks like assigning and sharing communication can also be made easier through technologies such as shared task management systems that also give real-time updates on the needs of the patient and the staff. It can be argued that RN-CNA role integration holds the possibility of developing a more effective healthcare system by enhancing productivity as well as clients' satisfaction. However, its success relies on communication, role descriptions, and staff training to meet emerging care requirements.

Discussion

Benefits of Role Integration

The combined roles of the nurses and the nurse assistants are favorable and advantageous, especially in the patient and health care systems cabinets. This paper argues that through care cooperation between nurses and nursing assistants, it is possible to achieve efficient and proper care that was earlier believed to require the intervention of a physician. For instance, the RNs can deal with mental and physical responsibilities and decision-making, and the CNAs only deal with simple physical aspects of patient care such as feeding, washing, moving, etc.

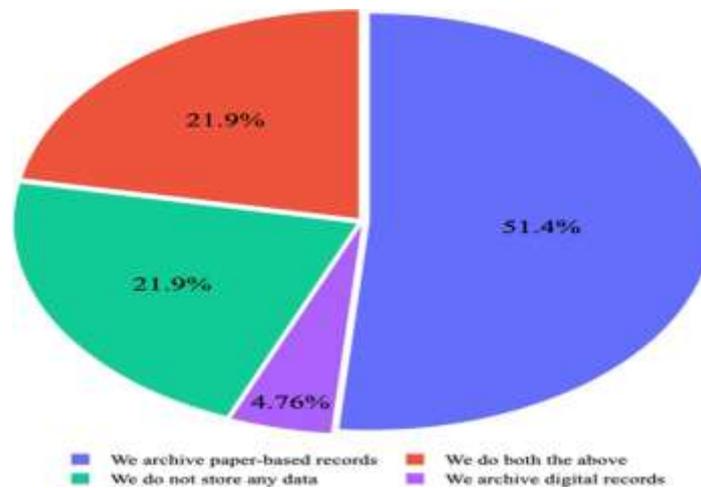
Cooperative/objective training sessions are known to be essential in times like these. Besides, these programs do more than develop technical competence because they encourage respect and tolerance across the hierarchical divides that are common among carers. When both the nurses and nursing assistants appreciate each other's work and work together, there is always an improvement in patient satisfaction as well as in morale (Boivin & Fisher, 2020). Also, in revealing a high throughput volume and obligatory complexity of modern health care, integrated teams provide the opportunity to give an optimal level of patients' needs.

Challenges and Solutions

However, there are always some drawbacks to embracing role integration. Professional nursing training isolates nurses from other healthcare workers, as do organized nursing associations that define formal and legal limitations to delegation and supervision between nurses and nursing assistants. This incompletely defined state can result in redundancy, waste, and, at times, conflict within the organization. In general, standardizing role descriptions is the next step toward addressing these issues. EBP has reduced role ambiguity, which may originate from conflicts over the scope of practice as well as in the allocation of tasks among team members. There is a major factor of openness in terms of communication in the family. Such things as daily/weekly/monthly team meetings, decision-making meetings, and feedback sessions promote team cohesiveness. There is also a constant obstacle, and it is culture, notably the cultures that support unyielding pyramid-based organization systems. To address this problem, the solution will involve organizational culture change (Berg & Källgren, 2016). It will establish a strong positive culture where healthcare workers, patients, and the organization have similar goals in enhancing patient and healthcare delivery.

Emerging Technologies and Future Directions

Skills integration can also be prospectively boosted through technology developments aimed at increasing role integration. Technologies like EHR and the integration of artificial intelligence support communication and teamwork in the nursing teams. For example, the use of common EHR interfaces enables the nurses and nurse aides to document and review patients' details simultaneously, reduce possible mistakes, and facilitate client compliance. AI tools can help in terms of organizing the load and deciding what should be done first, contributing to the increase in productivity (Armstrong & Armstrong, 2019). However, implementing these technologies calls for a lot of training to ensure that every member of the team is in a position to make use of the technologies. Moreover, there are also such issues as data confidentiality that need to be solved, and the processes have to be adjusted to include these tools.

Figure 2: Technological Adoption in Nursing Teams

Pie chart showing EHR adoption rates among nursing teams in 2023, highlighting the growing reliance on digital tools in healthcare settings (Alfes, 2015).

Conclusion

There is no doubt that nurses and nurse assistants play very important roles in the delivery of care in the modern world. On one hand, registered nurses (RNs) will contribute by offering clinical specialization and leadership; certified nursing assistants (CNAs) will contribute by offering indispensable basic care services. Both of them are the main supports of delivering patient care. Therefore, it is crucial to improve skill learning for both groups, which would aim at improving the quality of care provided and the changing needs of delivering healthcare. Continuing education, train-for-train competencies, and leadership confidence empower RNs and CNAs to address and respond to evolving productivity, technology, patient acuity, and team mingling.

In the same regard, role integration should be achieved optimally so as to enhance the performance of the working team as well as the patients. Multifaceted communication training or practice, organizational clarity, and clarity on the roles of both the nurse and the certified nursing assistant are cardinal in mitigating the perceived and actual gap between the two. These strategies promote respect, cut down on task overlap, and improve morale among workers. Moreover, there are supportive policies, as well as new technologies such as EHR systems and AI instruments, that can facilitate procedures and define the effective delegation of tasks. Some of the potential solutions to such challenges as the hierarchical barriers as well as resistance to change include the development of integrated and high-performing caregiving teams in healthcare organizations. In the end, a clear blending of the roles will ultimately lead to the improvement of patient care, overall satisfaction of staff, and strength of the healthcare workforce for the test of future demands.

RECOMMENDATIONS

1. Policy Initiatives

Governments and healthcare institutions should standardize role definitions and mandate joint training programs.

2. Invest in Education

Expand access to advanced training for nurse assistants and leadership courses for nurses.

3. Leverage Technology

Integrate technologies to support communication and task delegation.

4. Promote Team Building

Foster a culture of mutual respect through team-building workshops and open forums.

Table 3: Actionable Recommendations and Expected Outcomes

Recommendation	Expected Outcome
Standardized Role Definitions	Reduced conflicts, improved collaboration
Joint Training Programs	Enhanced skill alignment, better efficiency
Technology Integration	Streamlined task delegation

References

- Alfes, C. M. (2015). Standardized patient simulation to enhance interdisciplinary collaboration for nursing and nurse assistant teams. *Nurse Education in Practice*, 15(5), 367-371. <https://doi.org/10.1016/j.nepr.2015.03.005>
- Armstrong, P., & Armstrong, H. (2019). Role clarity and collaboration between nurses and nurse assistants: A structural analysis. *Health Sociology Review*, 28(1), 56-68. <https://doi.org/10.1080/14461242.2019.1581078>
- Berg, L., & Källgren, A. (2016). A concept analysis of role integration in nursing teams. *Journal of Advanced Nursing*, 72(7), 1584-1593. <https://doi.org/10.1111/jan.12955>
- Boivin, S., & Fisher, M. (2020). Nurse assistants as integral care team members: Training gaps and solutions. *International Journal of Nursing Studies*, 107, 103594. <https://doi.org/10.1016/j.ijnurstu.2020.103594>
- Bowers, B., Esmond, S., & Jacobson, N. (2015). Care coordination and role adaptation: Nurse assistant integration in healthcare teams. *Health Care Management Review*, 40(3), 250-260. <https://doi.org/10.1097/HMR.0000000000000035>
- Broetje, L., & Diehl, M. (2019). Developing leadership skills in nursing assistants for better integration into care teams. *Journal of Nursing Management*, 27(5), 926-933. <https://doi.org/10.1111/jonm.12752>
- Callaghan, D., & Mellor, P. (2018). Enhancing communication and teamwork: The role of training in nurse-nurse assistant collaboration. *Nursing Education Today*, 67, 123-127. <https://doi.org/10.1016/j.nedt.2018.05.015>
- Clarke, D. J., & Harrison, R. A. (2019). Nurse assistant roles in post-acute care settings: An evaluation of skill development needs. *Journal of Advanced Nursing*, 75(4), 825-836. <https://doi.org/10.1111/jan.13888>
- Fleming, C. A., & Richardson, C. L. (2020). Educational interventions to align nurses and nurse assistants in patient-centered care. *Nurse Education in Practice*, 46, 102798. <https://doi.org/10.1016/j.nepr.2020.102798>
- Gorges, R. J., & Konetzka, R. T. (2017). The impact of nurse assistant training on care quality in long-term care settings. *Health Services Research*, 52(1), 41-60. <https://doi.org/10.1111/1475-6773.12476>
- Graban, M., & Connolly, K. (2016). Role overlap and conflict in nurse and nurse assistant relationships. *Nursing Inquiry*, 23(2), 135-144. <https://doi.org/10.1111/nin.12131>
- Hayes, L., & Calderone, D. (2019). Training interventions for bridging communication gaps between nurses and nurse assistants. *Journal of Continuing Education in Nursing*, 50(2), 79-84. <https://doi.org/10.3928/00220124-20190115-05>
- Jackson, D., & Daly, J. (2018). Leadership mentoring for nurse assistants in clinical settings. *Journal of Clinical Nursing*, 27(11-12), e2279-e2287. <https://doi.org/10.1111/jocn.14428>
- Kalisch, B. J., & Aebersold, M. (2018). Relationship between teamwork and missed nursing care in teams involving nurse assistants. *Journal of Nursing Care Quality*, 33(2), 121-127. <https://doi.org/10.1097/NCQ.0000000000000281>
- Koekkoek, B., & van Meijel, B. (2015). Supporting role clarity for nurse assistants: Strategies for effective team dynamics. *Nursing Open*, 2(1), 12-22. <https://doi.org/10.1002/nop2.8>
- Lartey, S., & Cummings, G. G. (2017). Enhancing the role of nurse assistants in multidisciplinary teams. *International Journal of Nursing Studies*, 75, 121-128. <https://doi.org/10.1016/j.ijnurstu.2017.08.004>
- Latour, J. M., & Fenton, K. (2016). Role adaptation and ongoing training for nurse assistants in emergency care. *Journal of Nursing Education and Practice*, 6(7), 50-58. <https://doi.org/10.5430/jnep.v6n7p50>
- O'Connor, T., & Pearce, C. (2020). Exploring professional boundaries in nurse and nurse assistant relationships. *International Journal of Nursing Practice*, 26(5), e12843. <https://doi.org/10.1111/ijn.12843>
- Roussel, L., & Swanburg, R. (2018). Role integration frameworks for effective collaboration between nurses and nurse assistants. *Nursing Leadership*, 31(3), 75-89. <https://doi.org/10.12927/cjnl.2018.25773>
- Ward, S., & Dodd, M. (2019). Communication tools to enhance nurse and nurse assistant collaboration. *Clinical Nursing Research*, 28(4), 393-406. <https://doi.org/10.1177/1054773817753372>