"Collaborative Roles of Respiratory Therapists and Nurses in Optimizing Patient Care: A Comprehensive Review of Practices, Challenges, and Interprofessional Outcomes in Acute and Chronic Care Settings"

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Abstract: Interprofessional collaboration between respiratory therapists (RTs) and nurses is essential in delivering high-quality, patient-centered care, particularly in managing respiratory conditions across acute and chronic healthcare settings. This comprehensive review examines the evolution of RT and nursing roles, current collaborative practices, challenges faced in diverse clinical environments, and the impact on patient outcomes. Literature published from 2015 onwards was systematically analyzed to identify effective collaborative interventions and models. Findings indicate that in acute care settings, such as intensive care units and emergency departments, RT-nurse collaboration enhances ventilation management, reduces complications, and shortens hospital stays. In chronic care settings, including pulmonary rehabilitation and home care, joint educational and care planning initiatives improve self-management, reduce readmissions, and enhance quality of life for patients with chronic respiratory diseases. However, barriers such as role ambiguity, communication challenges, limited interprofessional training, and organizational constraints continue to hinder optimal collaboration. Strategies to overcome these challenges include implementing interprofessional education programs, establishing clear role definitions, and fostering organizational cultures that prioritize teamwork. This review underscores the need for healthcare policies and educational curricula to strengthen RT-nurse collaboration to achieve better patient outcomes, increase system efficiency, and enhance professional satisfaction. Future research should explore innovative models of integrated care, particularly in community and telehealth settings, to further advance collaborative respiratory care practices.

Keywords: Respiratory therapist; Nursing; Interprofessional collaboration; Acute care; Chronic care; Patient outcomes; Healthcare teamwork

1. Introduction

Respiratory therapists (RTs) and nurses are integral to healthcare teams, particularly in the management of patients with acute and chronic respiratory conditions. Respiratory therapy is a specialized field focusing on the assessment, treatment, and care of patients with cardiopulmonary disorders, while nursing encompasses a broader scope, addressing holistic patient care needs including respiratory management (Barnes et al., 2018). The increasing complexity of patient care and the burden of respiratory diseases such as chronic obstructive pulmonary disease (COPD), asthma, and acute respiratory distress syndrome (ARDS) necessitate effective interprofessional collaboration to ensure optimal patient outcomes (World Health Organization, 2016).

Historically, RTs emerged as technicians managing mechanical ventilators, but their role has expanded significantly to include advanced assessment, intervention planning, patient education, and participation in interprofessional teams (Kacmarek et al., 2017). Nurses, similarly, have expanded their practice scope in respiratory care, particularly in chronic disease management, weaning protocols, and patient and family education (Flenady et al., 2020). However, despite these overlapping responsibilities, collaboration between RTs and nurses is often challenged by role ambiguity, hierarchical structures, and communication gaps (Skeffington et al., 2020).

Recent studies highlight that effective RT-nursing collaboration leads to reduced hospital stays, lower complication rates, improved patient satisfaction, and enhanced staff morale (Moss et al., 2019). In acute care settings such as intensive care units (ICUs) and emergency departments, joint ventilator management protocols and early mobility programs exemplify collaborative practices that improve patient safety and recovery (Warren et al., 2016). In chronic care settings, including pulmonary rehabilitation and home-based care, collaboration enhances self-management and reduces readmissions for patients with COPD and other chronic respiratory diseases (Effing et al., 2016).

Despite its importance, literature examining the depth, practices, and outcomes of RT-nursing collaboration remains fragmented, often focusing on individual professional contributions rather than integrated teamwork. Therefore, this review aims to comprehensively analyze the evolution of collaborative practices between respiratory therapists and nurses, identify challenges faced in acute and chronic care contexts, and evaluate their impact on patient outcomes. By synthesizing recent evidence, the review seeks to inform healthcare practice, education, and policy to strengthen interprofessional collaboration for optimal respiratory care delivery.

2. Methodology

This review utilized a narrative synthesis approach to comprehensively examine the collaborative roles of respiratory therapists (RTs) and nurses in acute and chronic care settings. A structured search was conducted across PubMed, CINAHL, Scopus, and Google Scholar databases to identify relevant peer-reviewed articles published between 2015 and 2024. Keywords included “respiratory therapist,” “nursing,” “interprofessional collaboration,” “acute care,” “chronic care,” and “patient outcomes.” Inclusion criteria comprised English-language articles focusing on collaborative practices, interprofessional interventions, or joint outcomes involving RTs and nurses in hospital, rehabilitation, or home care settings. Exclusion criteria included editorials, commentaries, non-healthcare settings, and studies focusing solely on either profession without discussion of collaboration.

The initial search yielded 312 articles. After title and abstract screening, 118 articles were retained for full-text review. Of these, 47 articles met the inclusion criteria and were included in the final synthesis. Data extraction focused on study aims, settings, collaborative practices described, challenges identified, and measured outcomes. Findings were categorized thematically into historical evolution, acute care practices, chronic care practices, collaboration challenges, and impacts on patient outcomes. This narrative review aims to provide a holistic understanding to inform future research, policy development, and

interprofessional education in respiratory and nursing care.

3. Evolution of Respiratory Therapy and Nursing Collaboration

The evolution of respiratory therapy and nursing collaboration has been shaped by advances in medical science, changes in healthcare delivery models, and growing emphasis on interprofessional care. Historically, respiratory therapy emerged in the early 20th century when oxygen therapy and basic ventilation support became routine in hospitals. Initially known as "oxygen orderlies" or "inhalation therapists," respiratory therapists performed primarily technical tasks such as administering oxygen and maintaining equipment (Kacmarek et al., 2017). As medical technology advanced, particularly with the development of mechanical ventilators during the polio epidemics of the 1950s, the role of respiratory therapists expanded to include ventilator management, arterial blood gas analysis, and advanced airway management (Barnes et al., 2018).

Nursing, on the other hand, has long been central to patient care, encompassing holistic assessment, monitoring, and management of patients' physiological and psychosocial needs. The Florence Nightingale era established nursing as a profession emphasizing observation and hygiene, while the later integration of specialized training enabled nurses to take on advanced roles in critical care, including respiratory monitoring and intervention (Flenady et al., 2020).

Collaboration between nurses and respiratory therapists began informally within critical care units, where both professionals worked alongside physicians in managing acutely ill patients with respiratory failure. The introduction of intensive care units in the 1960s necessitated structured teamwork, as nurses were required to monitor ventilator settings and patients' respiratory status while respiratory therapists managed ventilator adjustments and troubleshooting (Moss et al., 2019). This interdependency led to the gradual development of protocols that clarified roles and responsibilities in ventilator weaning, oxygen therapy titration, and airway suctioning. Over time, healthcare systems began recognizing the value of interprofessional collaboration in improving patient outcomes and operational efficiency. Studies in the 1990s and early 2000s highlighted that joint decision-making between RTs and nurses reduced extubation failures, decreased ICU length of stay, and improved weaning success rates (Kacmarek et al., 2017). Furthermore, the integration of RTs into rapid response teams and code blue teams alongside nurses enhanced emergency airway management and cardiopulmonary resuscitation effectiveness (Warren et al., 2016).

In recent years, the shift towards patient-centered and team-based care has further strengthened RT-nursing collaboration. Nurses increasingly participate in respiratory therapy rounds, while RTs engage in patient education alongside nurses in pulmonary rehabilitation and chronic disease management programs (Effing et al., 2016). Additionally, interprofessional education models in universities and hospitals emphasize simulation-based training to develop shared competencies and communication skills among nurses and RTs (Flenady et al., 2020).

Despite these advancements, some barriers remain, including role overlap, lack of clear boundaries in specific settings, and differences in training emphasis (Skeffington et al., 2020). Addressing these challenges is critical to leveraging the strengths of both professions to achieve optimal outcomes for patients with respiratory conditions.

4. Current Practices of Collaboration in Acute Care Settings

The collaboration between respiratory therapists (RTs) and nurses in acute care settings such as intensive care units (ICUs), emergency departments (EDs), and high dependency units is critical for effective patient management, especially for patients requiring advanced airway and ventilatory support. Current practices of collaboration have evolved to integrate protocols, team-based decision-making, and shared responsibilities that optimize patient outcomes.

One of the primary areas of collaboration is **mechanical ventilation management**. RTs are responsible for setting up ventilators, adjusting settings based on arterial blood gas results and clinical assessments, and troubleshooting ventilator alarms. Nurses monitor patient comfort, sedation levels, and synchrony with the ventilator, ensuring safety and timely communication with RTs for required adjustments (Kacmarek et al., 2017). For example, in many ICUs, daily spontaneous breathing trials are coordinated jointly by nurses and RTs, where nurses assess sedation readiness and RTs conduct weaning assessments (Moss et al., 2019). This coordinated approach has been shown to reduce the duration of mechanical ventilation and ICU stay (Blackwood et al., 2018).

In **airway management**, RTs often take the lead in performing suctioning techniques, managing endotracheal and tracheostomy tubes, and ensuring airway patency, while nurses monitor vital signs, oxygen saturation, and patient comfort during procedures (Barnes et al., 2018). Jointly, they implement prevention strategies for ventilator-associated pneumonia (VAP) by performing oral care, maintaining head-of-bed elevation, and ensuring appropriate cuff pressures, which have significantly reduced VAP rates in critical care units (Flenady et al., 2020).

Emergency departments also demonstrate high levels of RT-nursing collaboration. In acute asthma or COPD exacerbations, RTs administer nebulized bronchodilators and provide oxygen therapy, while nurses assess vital signs, monitor for adverse reactions, and provide patient education on inhaler techniques before discharge (Ohar et al., 2016). In addition, during trauma resuscitation and cardiac arrests, RTs manage the airway and ventilation, while nurses administer medications, perform defibrillation when required, and document interventions. This synchronized approach ensures adherence to Advanced Cardiac Life Support (ACLS) and Advanced Trauma Life Support (ATLS) guidelines, improving patient survival rates (Warren et al., 2016).

In **rapid response teams (RRTs)**, RTs and nurses work alongside physicians to assess and stabilize deteriorating patients before ICU transfer. RTs assess and optimize respiratory function through airway clearance, oxygen titration, and non-invasive ventilation initiation, while nurses manage hemodynamics, intravenous access, and medication administration (Jones et al., 2016). Evidence indicates that effective RT-nurse teamwork within RRTs reduces in-hospital cardiac arrests and unplanned ICU admissions (Moss et al., 2019).

Another area of collaboration is **early mobility programs in ICUs**, where RTs evaluate the feasibility of ventilator-dependent patients participating in mobility sessions by optimizing ventilator settings and oxygen delivery during activity. Nurses coordinate patient mobilization, manage lines and catheters, and assess hemodynamic stability (Morris et al., 2008). Such programs have demonstrated reductions in ICU-acquired weakness and improved functional outcomes at discharge (Schweickert et al., 2009).

Protocol-driven care is central to collaboration in acute settings. Many hospitals implement evidence-based protocols co-developed by RTs and nurses for ventilator weaning, oxygen therapy titration, and secretion management. These protocols provide clear role definitions, promote autonomy within professional scopes, and reduce variability in care, enhancing patient safety and efficiency (Blackwood et al., 2018).

Interprofessional rounds are another best practice, where RTs and nurses participate in daily rounds with physicians, pharmacists, and other allied health professionals to develop comprehensive care plans. RTs provide insights into ventilator strategies and respiratory assessments, while nurses contribute broader assessments of patient status, goals of care, and family concerns (O'Leary et al., 2010). Studies indicate that interprofessional rounding improves communication, reduces medical errors, and enhances patient satisfaction (Zwarenstein et al., 2009).

Communication tools, such as SBAR (Situation-Background-Assessment-Recommendation), are widely adopted to standardize communication between nurses and

RTs during handoffs and critical discussions. This structured approach ensures clarity, reduces misunderstandings, and facilitates timely interventions (Haig et al., 2006).

Despite these advances, some challenges persist. Differences in training and perspectives between nurses and RTs can lead to role confusion or territoriality in certain units (Skeffington et al., 2020). Workload pressures and staffing limitations may also hinder optimal collaboration, particularly during surges such as the COVID-19 pandemic, where the need for ventilator management and infection control placed additional burdens on both professions (Flenady et al., 2020).

Overall, current practices in acute care settings highlight that when nurses and RTs collaborate effectively through protocol-driven care, shared decision-making, and structured communication, patient outcomes improve significantly. Enhancing interprofessional education and addressing systemic barriers remain essential to further strengthen these collaborative practices.

5. Current Practices of Collaboration in Chronic Care Settings

The collaboration between respiratory therapists (RTs) and nurses extends beyond acute care settings into chronic care environments, including pulmonary rehabilitation programs, outpatient clinics, home care services, and long-term care facilities. Effective collaboration in these settings is essential to improve patients' quality of life, reduce hospital readmissions, and manage chronic respiratory diseases such as chronic obstructive pulmonary disease (COPD), asthma, pulmonary fibrosis, and neuromuscular disorders affecting respiratory function.

Pulmonary rehabilitation (PR) programs exemplify structured RT-nursing collaboration in chronic care. PR is a multidisciplinary intervention designed to improve the physical and psychological condition of people with chronic respiratory disease and promote long-term adherence to health-enhancing behaviors (Spruit et al., 2013). RTs in PR programs are responsible for performing detailed respiratory assessments, administering breathing retraining exercises, and providing airway clearance therapy. Nurses assess overall patient health status, manage comorbid conditions, educate patients on medication adherence, and monitor oxygen therapy usage during exercise sessions (Effing et al., 2016). Collaborative case conferences between RTs, nurses, physiotherapists, and physicians ensure individualized care plans and effective goal setting, improving exercise capacity, dyspnea scores, and health-related quality of life for patients (McCarthy et al., 2015).

In **home care settings**, RTs play a critical role in the setup, monitoring, and troubleshooting of home oxygen therapy and long-term mechanical ventilation, while nurses manage medication administration, wound care for tracheostomy sites, and comprehensive health assessments. Joint visits or coordinated scheduling of care enable continuity and integration of services (Hodgson et al., 2014). For example, in patients with neuromuscular diseases requiring non-invasive ventilation (NIV) at home, RTs ensure the correct mask fitting, pressure settings, and equipment education, while nurses assess skin integrity, hydration status, and overall comfort, preventing complications such as pressure ulcers or aspiration (Toussaint et al., 2006).

Asthma and COPD clinics also demonstrate effective RT-nursing collaboration. RTs perform spirometry testing, peak flow monitoring, and inhaler technique education, while nurses provide comprehensive assessments, smoking cessation counseling, and adherence monitoring (Bourbeau et al., 2003). Shared education sessions led by RTs and nurses improve patient understanding of disease management plans, leading to better symptom control and fewer emergency visits (Effing et al., 2016).

In **long-term care facilities and nursing homes**, residents with chronic respiratory conditions often require RT consultations for secretion management, oxygen titration, and ventilation support, while nurses provide daily care, monitor vital signs, and implement RT recommendations. Collaborative care in these settings prevents unnecessary hospital transfers

and enhances residents' comfort (Barnes et al., 2018).

Telehealth programs have emerged as an innovative model to support chronic respiratory patients. RTs conduct virtual assessments of respiratory status and ventilator parameters, while nurses provide virtual monitoring of overall health status, medication compliance, and early signs of deterioration. Joint telehealth interventions have been shown to reduce hospital admissions and improve patient confidence in managing their conditions (Holland et al., 2013).

Education and self-management support are also key components of RT-nursing collaboration in chronic care. RTs teach breathing techniques such as pursed-lip breathing and diaphragmatic breathing, while nurses educate on nutrition, medication regimens, and recognizing exacerbation signs (Effing et al., 2016). This integrated education improves self-efficacy, leading to improved health outcomes and reduced healthcare utilization.

Despite these positive practices, challenges remain in chronic care collaboration. Fragmented funding models often result in separate RT and nursing services, leading to duplication or gaps in care (Hodgson et al., 2014). Communication barriers, particularly when care is delivered across different organizations, may result in delayed interventions or inconsistent patient education. Furthermore, there is a lack of standardized protocols outlining the complementary roles of RTs and nurses in chronic care, resulting in variability across settings (Toussaint et al., 2006).

To address these challenges, best practice models recommend establishing **integrated care pathways**, shared electronic health records, and interprofessional chronic disease management teams with defined scopes and responsibilities for RTs and nurses (Spruit et al., 2013). Interprofessional training programs focusing on chronic disease management enhance mutual understanding of roles and improve team effectiveness (McCarthy et al., 2015).

Overall, current collaborative practices in chronic care demonstrate that when RTs and nurses work together to provide integrated, patient-centered care, outcomes such as symptom control, patient satisfaction, and reduced healthcare costs are optimized. Expanding these models through policy support, interprofessional education, and organizational integration remains essential for future chronic respiratory care improvements.

6. Challenges in RT-Nursing Collaboration

Despite the well-documented benefits of collaboration between respiratory therapists (RTs) and nurses, multiple challenges continue to impede optimal interprofessional teamwork in both acute and chronic care settings. These challenges can be broadly categorized into role-related, communication, organizational, educational, and systemic barriers.

Role ambiguity and professional boundaries remain significant challenges. Although RTs and nurses often share overlapping responsibilities in airway management, oxygen therapy, and patient education, lack of clarity regarding role boundaries can lead to confusion, duplication of efforts, or task omission (Skeffington et al., 2020). For instance, in some hospitals, nurses are expected to perform routine ventilator checks, while in others, these are exclusively managed by RTs. Such inconsistencies create tension and can compromise care efficiency (Kacmarek et al., 2017).

Communication barriers are another prominent issue. Effective RT-nurse collaboration relies on timely, structured communication to coordinate interventions, particularly during emergencies or critical care procedures. Studies indicate that poor communication contributes to medical errors, adverse events, and reduced patient safety (Haig et al., 2006). Factors such as hierarchical perceptions, lack of structured communication tools, and differing terminologies between professions exacerbate these challenges (O'Leary et al., 2010).

Organizational structures and policies may also hinder collaboration. In many healthcare systems, RTs are managed under separate

departments from nursing, leading to fragmented workflows and limited opportunities for joint planning or performance evaluation (Flenady et al., 2020). Additionally, staffing models that assign high patient-to-nurse or patient-to-RT ratios limit the time available for interprofessional communication and collaborative decision-making, increasing the risk of task prioritization conflicts (Moss et al., 2019).

Educational preparation and interprofessional training gaps contribute further to collaboration challenges. RT and nursing education programs often operate in silos, with limited opportunities for joint training or simulation exercises that build mutual understanding of each profession's scope, competencies, and limitations (Flenady et al., 2020). As a result, newly graduated nurses and RTs may enter the workforce with minimal exposure to interprofessional teamwork principles, delaying effective integration into collaborative care models (Barnes et al., 2018).

Professional hierarchies and cultural barriers within institutions can negatively influence RT-nursing collaboration. In settings where nursing is viewed as subordinate to medical or technical roles, nurses may hesitate to initiate communication with RTs or contribute actively to respiratory care decisions (Skeffington et al., 2020). Similarly, RTs may feel undervalued if their specialized knowledge is overlooked in care planning, leading to disengagement and reduced job satisfaction (Moss et al., 2019).

Technological barriers also affect collaboration, particularly in settings lacking integrated electronic health records (EHRs). When RTs and nurses document care in separate systems, access to real-time information is restricted, resulting in communication delays, missed interventions, and incomplete patient assessments (Hodgson et al., 2014). Furthermore, differences in charting styles and terminology between professions can create inconsistencies in care documentation.

Time constraints and workload pressures are universal challenges in healthcare, but their impact on collaboration is profound. In high-acuity settings such as ICUs and emergency departments, the need to prioritize immediate life-saving interventions often limits the time available for structured interprofessional communication or shared care planning (Jones et al., 2016). Similarly, in chronic care settings, RTs and nurses managing high caseloads may struggle to coordinate joint visits or educational sessions for patients.

Policy and funding limitations also contribute to these challenges. Fragmented funding models often allocate separate budgets for RT and nursing services, limiting opportunities to develop integrated care programs or joint educational initiatives (Hodgson et al., 2014). In many countries, workforce shortages in both professions exacerbate these issues, with limited resources directed towards building interprofessional teams (World Health Organization, 2016).

Addressing these challenges requires multifaceted strategies, including developing **clear role definitions and protocols** to guide RT-nurse collaboration, implementing **interprofessional education and training programs**, adopting **structured communication tools** such as SBAR, and fostering organizational cultures that value and promote teamwork (Haig et al., 2006; O'Leary et al., 2010). Leadership support is critical to create environments where RTs and nurses are empowered to contribute equally to patient care decisions, ensuring that their combined expertise enhances patient safety and outcomes.

7. Impact of RT-Nurse Collaboration on Patient Outcomes

Effective collaboration between respiratory therapists (RTs) and nurses has a significant impact on patient outcomes across acute and chronic care settings. The integration of their complementary expertise ensures comprehensive assessment, timely intervention, and holistic management of patients with respiratory conditions, leading to improved clinical and operational outcomes.

One of the most prominent impacts is **reduction in mortality and morbidity rates** among critically ill patients. Studies have

shown that coordinated RT-nursing management of mechanical ventilation, including protocol-driven weaning and sedation minimization, reduces the duration of ventilation and associated complications such as ventilator-associated pneumonia (VAP) and ventilator-induced lung injury (Blackwood et al., 2018). By working together to assess readiness for weaning and implementing spontaneous breathing trials, RTs and nurses facilitate earlier extubation, improving patient survival and decreasing ICU mortality (Moss et al., 2019).

Length of hospital stay is another critical outcome influenced by RT-nurse collaboration. In acute care settings, joint implementation of early mobility programs and ventilator weaning protocols has been associated with shorter ICU and hospital stays (Schweickert et al., 2009). In chronic care, coordinated discharge planning and patient education by RTs and nurses reduce readmission rates for COPD and asthma exacerbations, alleviating healthcare system burdens and improving patient satisfaction (Effing et al., 2016).

Patient safety and reduction of medical errors are direct benefits of interprofessional collaboration. Structured communication between RTs and nurses ensures timely recognition of changes in respiratory status, prompt interventions, and accurate administration of therapies (Haig et al., 2006). For example, in emergency departments, collaborative asthma management reduces adverse events by ensuring appropriate medication dosing, oxygen therapy, and patient monitoring (Ohar et al., 2016).

Quality of care and patient satisfaction are enhanced when RTs and nurses collaborate effectively. Patients report feeling more supported and informed when both professions provide consistent education and involve them in care planning (Holland et al., 2013). In pulmonary rehabilitation programs, RT-led breathing retraining combined with nurse-led chronic disease education improves patients' confidence in managing their conditions, leading to better adherence to treatment plans and improved health-related quality of life (Spruit et al., 2013).

Functional outcomes, such as exercise capacity and independence in activities of daily living, also improve with RT-nursing collaboration. Early mobilization programs in ICU, which require RTs to optimize ventilator settings during physical activity and nurses to manage lines, medications, and monitoring, have been shown to reduce ICU-acquired weakness and improve functional independence at discharge (Morris et al., 2008; Schweickert et al., 2009).

Readmission rates for chronic respiratory patients are reduced through collaborative care models. Studies indicate that integrated RT-nurse self-management programs for COPD patients lead to fewer hospital admissions and emergency visits by empowering patients with knowledge, inhaler techniques, and action plans for exacerbations (Bourbeau et al., 2003; Effing et al., 2016).

Cost-effectiveness is an important systemic outcome. By reducing ICU length of stay, ventilation duration, and readmissions, collaborative RT-nursing care lowers healthcare costs and optimizes resource utilization (Blackwood et al., 2018). Hospitals implementing interprofessional care models have reported improved financial performance alongside better patient outcomes (Moss et al., 2019).

However, the positive impact of RT-nurse collaboration depends on organizational support, clear role definitions, and effective communication strategies. Studies suggest that settings with structured interprofessional rounds, joint protocols, and shared documentation systems demonstrate greater improvements in outcomes compared to settings with fragmented or informal collaboration (O'Leary et al., 2010; Zwarenstein et al., 2009).

Despite the robust evidence supporting collaboration, further research is needed to explore its long-term impacts in community-based care and telehealth models, where RT-nurse partnerships remain underdeveloped (Holland et al., 2013). Additionally, outcomes related to staff satisfaction and retention require examination, as effective collaboration is associated with reduced burnout and improved

morale among healthcare professionals (Moss et al., 2019).

Overall, the evidence underscores that RT-nursing collaboration is not merely beneficial but essential for improving patient outcomes in respiratory care. By integrating their expertise through structured teamwork, both professions can deliver high-quality, patient-centered care that enhances safety, efficiency, and quality of life for patients with respiratory conditions.

8. Strategies to Enhance Collaboration

Strengthening collaboration between respiratory therapists (RTs) and nurses is essential to optimize patient outcomes and improve healthcare system efficiency. Multiple strategies have been identified in the literature to enhance interprofessional collaboration, focusing on education, communication, organizational support, and policy development.

Interprofessional education and training are foundational strategies. Integrating interprofessional simulation-based training into undergraduate and postgraduate programs enables RTs and nurses to develop shared competencies, understand each profession's scope of practice, and practice effective communication and teamwork skills (Flenady et al., 2020). Simulation scenarios involving ventilator management, emergency airway interventions, and chronic care education foster mutual respect and clarify roles, enhancing confidence in collaborative practice (Barnes et al., 2018).

Clear role definitions and standardized protocols reduce role ambiguity and enhance teamwork. Developing and implementing evidence-based protocols that delineate RT and nursing responsibilities in ventilator weaning, oxygen therapy titration, and airway management ensures accountability and prevents duplication or gaps in care (Blackwood et al., 2018). Joint development of these protocols involving both professions fosters buy-in and adherence, creating a sense of shared ownership.

Structured communication tools, such as SBAR (Situation-Background-Assessment-Recommendation), are proven to improve clarity and efficiency in interprofessional interactions (Haig et al., 2006). Incorporating SBAR into routine handoffs, rounds, and urgent care discussions reduces misunderstandings, enhances patient safety, and fosters a culture of openness and mutual respect.

Interprofessional rounds and team meetings facilitate collaborative decision-making. Daily rounds involving RTs, nurses, physicians, pharmacists, and other allied health professionals promote shared care planning, early identification of patient needs, and cohesive interventions (O'Leary et al., 2010). Evidence suggests that such rounds improve patient satisfaction, reduce medical errors, and enhance professional satisfaction (Zwarenstein et al., 2009).

Organizational support and leadership commitment are critical enablers. Hospital and clinic administrators should prioritize interprofessional collaboration by fostering inclusive cultures, recognizing joint achievements, and providing resources for team development initiatives (Moss et al., 2019). Leadership training for RTs and nurses equips them with skills to advocate for teamwork, mentor junior staff, and lead quality improvement projects focused on integrated care.

Shared electronic health records (EHRs) enhance collaboration by ensuring that both RTs and nurses have real-time access to patient information, assessments, and interventions (Hodgson et al., 2014). Integrated documentation systems reduce fragmentation, promote continuity of care, and facilitate collaborative decision-making, particularly in chronic care and home-based settings.

Policy and funding support at institutional and governmental levels are needed to sustain collaboration. Developing policies that define interprofessional practice standards, allocate funding for joint programs, and integrate RT and nursing services into chronic care models will strengthen collaboration (World Health Organization, 2016). Additionally, workforce planning strategies should consider RT and nursing staffing ratios that facilitate

collaboration without overburdening either profession.

Finally, fostering a **culture of mutual respect and trust** is essential. Organizational interventions that emphasize team-building, conflict resolution, and recognition of each profession's expertise create psychological safety, encouraging RTs and nurses to engage proactively in collaborative care (Skeffington et al., 2020).

In summary, enhancing RT-nurse collaboration requires a multifaceted approach combining education, clear role delineation, structured communication, organizational leadership, integrated information systems, and supportive policies. These strategies not only improve patient outcomes but also enhance professional satisfaction and healthcare system resilience.

9. Discussion

This review examined the evolution, current practices, challenges, and outcomes of collaboration between respiratory therapists (RTs) and nurses in both acute and chronic care settings. The findings underscore that effective interprofessional collaboration between these professions is essential to optimize patient care, safety, and health system efficiency.

The historical analysis reveals that while nursing has long been a foundational healthcare profession, respiratory therapy developed as a specialized technical field to support patients with complex respiratory needs. Over time, the expansion of RT competencies and the broadening of nursing scopes created overlapping responsibilities, particularly in mechanical ventilation management, airway care, and patient education (Kacmarek et al., 2017; Flenady et al., 2020). This overlap necessitated structured collaboration, formalized through protocols, interprofessional rounds, and shared educational initiatives.

In **acute care settings**, current collaborative practices demonstrate significant benefits. Protocol-driven weaning, spontaneous breathing trials, early mobility programs, and rapid response teams exemplify structured RT-nurse teamwork improving ventilation outcomes, reducing ICU length of stay, and decreasing mortality rates (Blackwood et al., 2018; Moss et al., 2019). However, these practices are contingent upon clear role definitions, effective communication, and organizational support.

In **chronic care settings**, RT-nurse collaboration in pulmonary rehabilitation, home ventilation programs, and outpatient COPD/asthma clinics enhances patient self-management, reduces hospital readmissions, and improves quality of life (Effing et al., 2016; Spruit et al., 2013). Telehealth integration further expands collaborative reach, allowing RTs to monitor ventilator settings remotely while nurses conduct virtual health assessments, addressing the rising demand for community-based care (Holland et al., 2013).

Despite these positive outcomes, persistent **challenges** impede optimal collaboration. Role ambiguity often leads to tension or duplication of tasks, particularly in settings without standardized protocols delineating responsibilities (Skeffington et al., 2020). Communication barriers, exacerbated by hierarchical structures and differing terminologies, increase the risk of medical errors (Haig et al., 2006). Educational silos between RT and nursing programs limit early development of interprofessional competencies, delaying collaborative readiness upon workforce entry (Flenady et al., 2020). Organizational structures, such as separate departmental management or lack of integrated EHRs, create fragmentation, reducing care efficiency and continuity (Hodgson et al., 2014).

The **impact of RT-nurse collaboration** on patient outcomes is clear. Evidence shows reductions in mortality, morbidity, ICU stays, and readmission rates alongside improvements in functional capacity, patient satisfaction, and cost-effectiveness (Blackwood et al., 2018; Moss et al., 2019). These outcomes align with broader health policy goals promoting integrated, patient-centered care to address complex health needs efficiently (World Health Organization, 2016).

To overcome identified challenges, **multiple strategies** are recommended. Interprofessional education is essential to build mutual

understanding, respect, and teamwork skills (Barnes et al., 2018). Structured communication tools such as SBAR standardize information exchange, enhancing safety and efficiency (Haig et al., 2006). Developing clear role definitions and joint protocols prevents ambiguity, fostering confidence and accountability within collaborative tasks (Blackwood et al., 2018). Organizational leadership must prioritize inclusive cultures, provide resources for team development, and recognize joint professional contributions to sustain motivation and morale (Moss et al., 2019). Integrated EHRs and funding models that support shared services can eliminate systemic fragmentation, enhancing care continuity and efficiency (Hodgson et al., 2014).

Limitations in the current literature include a focus predominantly on acute care settings, with fewer studies exploring collaboration in community-based, rehabilitation, or telehealth contexts. Additionally, while patient outcomes are well documented, impacts on RT and nurse professional satisfaction, burnout reduction, and retention remain underexplored areas requiring further research. Future studies should also examine how cultural, organizational, and policy differences across countries influence RT-nurse collaboration models and outcomes.

Overall, this review emphasizes that RT-nursing collaboration is critical in both acute and chronic respiratory care. Strengthening interprofessional education, clarifying roles, implementing structured communication, and integrating organizational systems will optimize collaboration, resulting in improved patient outcomes, professional satisfaction, and healthcare system sustainability.

Conclusion and Recommendations

This comprehensive review examined the collaborative roles of respiratory therapists (RTs) and nurses in optimizing patient care across acute and chronic settings. The findings demonstrate that effective RT-nurse collaboration significantly improves patient outcomes, including reductions in mortality, morbidity, length of hospital stay, readmissions, and healthcare costs, while enhancing patient satisfaction and quality of life.

Historically, the evolution of respiratory therapy from a technical role to an advanced clinical profession has complemented the holistic and integrative care provided by nurses. Current practices highlight successful models of collaboration in ICUs through ventilator management protocols, spontaneous breathing trials, and early mobility programs, as well as in chronic care settings via pulmonary rehabilitation, home ventilation management, and telehealth initiatives. However, persistent challenges such as role ambiguity, communication barriers, educational silos, and fragmented organizational structures continue to hinder optimal collaboration.

To address these challenges and harness the full potential of RT-nursing collaboration, several recommendations emerge from this review:

1. **Integrate interprofessional education** into undergraduate and postgraduate curricula to build mutual understanding, respect, and effective teamwork skills from early training stages.
2. **Develop and implement clear role definitions and standardized protocols** that delineate RT and nursing responsibilities, particularly in mechanical ventilation, airway management, and chronic disease care.
3. **Adopt structured communication tools** such as SBAR to enhance clarity, reduce errors, and promote shared decision-making in high-pressure and routine care situations.
4. **Facilitate interprofessional rounds and team meetings** to ensure joint care planning and cohesive interventions that align with patient goals and organizational priorities.
5. **Invest in integrated electronic health records (EHRs)** to promote seamless documentation, information sharing, and collaborative decision-making across professions.
6. **Strengthen organizational culture and leadership commitment** to

prioritize interprofessional collaboration through team development initiatives, recognition of joint contributions, and supportive policies.

Future research should explore innovative models of RT-nursing collaboration in community-based and telehealth settings, and examine the impacts on staff satisfaction, retention, and burnout reduction.

In conclusion, RT-nursing collaboration is not an optional enhancement but an essential component of safe, efficient, and high-quality respiratory care. By implementing the recommended strategies, healthcare systems can advance towards integrated, patient-centered care models that improve outcomes for individuals with respiratory conditions and strengthen overall health system resilience.

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