A Comprehensive Comparative Analysis Of Professional Burnout, Accountability Perceptions, Nursing Competency Development, And Quality Of Nursing Service Delivery: An Evaluation Of Functional Nursing Models Versus Team-Based Nursing Approaches In Contemporary Healthcare Settings

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Accepted: 15-07-2024 **Published: 15-09-2024**

Abstract

This comprehensive analysis examines the differential impacts of functional nursing models and team-based nursing approaches on professional burnout, accountability perceptions, nursing competency development, and quality of service delivery in contemporary healthcare settings. Through critical examination of empirical research and theoretical frameworks, this article evaluates how nursing care delivery models influence key professional and organizational outcomes. Findings indicate that team-based nursing approaches generally demonstrate advantages over functional nursing models across multiple domains, including reduced burnout rates, enhanced accountability perceptions, accelerated competency development, and improved quality of care. However, contextual factors such as organizational culture, leadership styles, and resource allocation significantly moderate these relationships. The analysis concludes with evidence-based recommendations for healthcare organizations seeking to optimize nursing care delivery systems to enhance both professional fulfillment and patient outcomes.

INTRODUCTION

The evolving landscape of healthcare delivery presents unprecedented challenges to nursing practice, requiring innovative approaches to care organization that balance professional satisfaction, competency development, and quality outcomes. Contemporary healthcare organizations employ diverse nursing care delivery models that vary in structure, process, and orientation, with significant implications for both providers and recipients of care (Tiedeman & Lookinland, 2004). Among these models, two fundamental approaches have emerged as predominant paradigms: functional nursing models and team-based nursing approaches.

Functional nursing models, characterized by task-oriented division of labor and hierarchical supervision, emerged during periods of nursing shortages and continue to persist in various modified forms in contemporary healthcare settings (Jennings, 2008). In contrast, team-based nursing approaches, including primary nursing, modular nursing, and patient-centered care models, emphasize holistic, relationship-centered care delivery with distributed responsibility and collaborative decision-making (Parreira et al., 2021). These fundamentally different approaches to organizing nursing work have profound implications for professional experiences, competency development trajectories, and quality outcomes.

The purpose of this analysis is to critically examine how functional nursing models and team-based nursing approaches differentially impact four interrelated domains central to nursing practice: professional burnout, accountability perceptions, competency development, and quality of service delivery. Through comprehensive examination of theoretical frameworks and empirical research, this analysis seeks to identify the relative advantages and limitations of these contrasting care delivery paradigms across multiple dimensions of professional and organizational performance.

The significance of this inquiry extends beyond academic interest to address pressing challenges in contemporary healthcare delivery. With escalating rates of professional burnout, persistent quality and safety concerns, and evolving expectations for nursing competence, healthcare organizations require evidence-based guidance for structuring nursing care delivery to optimize both professional and patient outcomes (Shah et al., 2021). By systematically analyzing the differential impacts of functional and team-based nursing models across these domains, this analysis offers a framework for strategic decision-making regarding nursing care organization in diverse healthcare settings.

THEORETICAL FRAMEWORKS AND CONCEPTUAL FOUNDATIONS

Nursing Care Delivery Models: Definitions and Evolution

Nursing care delivery models represent structured approaches to organizing nursing work, allocating responsibilities, and coordinating care activities within healthcare organizations (Marquis & Huston, 2015). These models establish patterns of communication, decision-making authority, and accountability relationships that fundamentally shape the nursing practice environment.

Functional nursing, originating in the early 20th century, employs a task-oriented division of labor wherein nursing activities are assigned based on complexity and required skill level (Tiedeman & Lookinland, 2004). In this model, individual nurses perform specific tasks for multiple patients, creating an assembly-line approach to care delivery characterized by hierarchical supervision and standardized procedures. While historically dominant during nursing shortages, functional nursing has evolved to incorporate elements of other approaches while maintaining its fundamental task orientation.

In contrast, team-based nursing approaches emerged in response to recognized limitations of functional models, particularly regarding fragmentation of care and professional dissatisfaction (Jennings, 2008). The team nursing model introduced collaborative care delivery by small groups of nurses with varied skill levels, while primary nursing established continuous, comprehensive care relationships between individual nurses and patients (Hyams-Franklin et al., 1993). More recent variations include modular nursing, which combines elements of team and primary approaches, and patient-centered care models that emphasize partnership, coordination, and holistic needs assessment (Campagna et al., 2011).

The evolution of these models reflects shifting priorities in healthcare delivery, from efficiency-focused approaches during resource constraints to relationship-centered models emphasizing continuity, coordination, and personalization (Parreira et al., 2021). Understanding these foundational differences provides essential context for analyzing their differential impacts on key professional and organizational outcomes.

Professional Burnout: Conceptual Models and Measurement

Professional burnout represents a psychological syndrome characterized by emotional exhaustion, depersonalization or cynicism, and reduced personal accomplishment, emerging as a response to chronic workplace stressors (Melamed et al., 2006). Within nursing, burnout manifests as energy depletion, emotional distancing from patients and colleagues, and diminished sense of professional efficacy, with significant implications for individual wellbeing, organizational performance, and patient outcomes.

Contemporary conceptualizations of burnout emphasize its multidimensional nature, with emotional exhaustion representing the core dimension characterized by depletion of emotional and physical resources (Melamed et al., 1992). The Shirom-Melamed Burnout Measure provides a theoretical framework specifically addressing physical fatigue, emotional exhaustion, and cognitive weariness as interconnected manifestations of resource depletion resulting from workplace demands (Gerber et al., 2018). This conceptualization aligns with resource conservation theories positing that burnout emerges when workplace demands consistently exceed available resources.

Research on nursing burnout consistently identifies workplace factors associated with elevated risk, including excessive workload, reduced autonomy, insufficient social support, and limited participation in decision-making (Mudallal et al., 2017). Care delivery models fundamentally shape these workplace characteristics through their influence on workload distribution, decision-making authority, professional relationships, and role expectations. The differential effects of functional and team-based models on these workplace characteristics provide a theoretical basis for examining their relative impacts on burnout manifestation among nursing professionals.

Accountability in Nursing Practice: Theoretical Perspectives

Accountability represents a fundamental professional value in nursing practice, encompassing responsibility, answerability, and liability for actions and decisions within defined scopes of practice (Snowdon & Rajacich, 1993). As both an ethical principle and professional expectation, accountability involves transparent communication about practice decisions, willingness to justify actions based on professional standards, and acceptance of consequences for performance outcomes.

Theoretical frameworks distinguish between external accountability, involving formal reporting relationships and organizational oversight, and internal accountability, encompassing professional commitment to ethical standards and personal responsibility (Boni, 2001). Within nursing practice, accountability operates across multiple dimensions, including professional accountability to regulatory standards, organizational accountability to institutional policies, and moral accountability to patients and colleagues.

Hochwarter et al. (2005) propose that perceptions of accountability emerge from organizational structures and processes that establish expectations, provide feedback, and allocate consequences. Care delivery models fundamentally influence these structures through their approaches to responsibility assignment, supervision relationships, and performance evaluation. The contrasting approaches of functional and team-based models to these organizational elements create differential conditions for accountability development, potentially influencing how nurses perceive and enact their professional responsibilities.

Competency Development in Nursing: Developmental Models

Nursing competency encompasses the integrated application of knowledge, skills, judgment, and personal attributes required for safe, ethical, and effective practice within a designated role and setting (Meretoja et al., 2004). Competency development represents the progressive acquisition and refinement of these capabilities through structured learning, reflective practice, and professional experience.

Benner's (1982) influential model of skill acquisition in nursing describes a five-stage developmental trajectory from novice to expert practitioner. This model emphasizes the progressive transition from rule-based, analytical approaches to intuitive, contextual understanding developed through practical experience. This developmental perspective suggests that competency acquisition requires diverse clinical experiences, reflective practice opportunities, and appropriate guidance from experienced colleagues.

More recent conceptualizations emphasize the multidimensional nature of nursing competence, incorporating technical skills, interpersonal capabilities, ethical reasoning, and leadership dimensions (Takase & Teraoka, 2011; Nakayama et al., 2008). Competency frameworks proposed by Mansfield and Mitchell (1996) and elaborated by Nagelsmith (2013) characterize competence as an evolving integration of knowledge, performance, and personal attributes demonstrated through observable behaviors in practice contexts.

Care delivery models significantly influence competency development through their impact on learning opportunities, scope of practice, feedback mechanisms, and mentoring relationships. The contrasting approaches of functional and team-based models to these developmental elements create differential conditions for competency acquisition and refinement, with potential long-term implications for professional growth and clinical expertise.

Quality of Nursing Care: Conceptual Frameworks

Quality of nursing care represents a multidimensional construct encompassing technical excellence, patient-centeredness, efficiency, timeliness, and safety in care delivery (Stolt et al., 2019). As both a professional aspiration and organizational imperative, quality of care reflects the degree to which nursing services meet established standards, address patient needs, and contribute to desired health outcomes.

Conceptual frameworks for nursing care quality integrate structure, process, and outcome dimensions, acknowledging the complex relationship between organizational context, clinical processes, and patient results (Leino-Kilpi, 1990). Structural quality encompasses resources, staffing patterns, and organizational characteristics that enable effective care delivery. Process quality addresses the appropriateness, timeliness, and patient-centeredness of nursing interventions. Outcome quality evaluates the effects of nursing care on patient health status, satisfaction, and quality of life.

Contemporary perspectives on nursing care quality emphasize person-centered approaches that incorporate patient preferences, promote autonomy, and recognize individual needs and values (Stavropoulou et al., 2022). This orientation expands traditional quality metrics to include relational dimensions of care, including emotional support, information provision, and partnership development.

Care delivery models fundamentally influence quality of nursing care through their impact on care coordination, communication patterns, continuity of relationships, and responsiveness to patient needs. The contrasting approaches of functional and team-based models to these quality-related elements create differential conditions for high-quality care delivery, with significant implications for patient experiences and clinical outcomes.

Professional Burnout in Functional versus Team-Based Nursing Models

Burnout Prevalence and Manifestation Across Care Delivery Models

Empirical evidence consistently demonstrates differential burnout rates between functional and team-based nursing models, with higher prevalence observed in functional approaches across diverse healthcare settings. Abusamra et al. (2022) reported significantly higher emotional exhaustion scores among nurses practicing in functional models compared to those in team-based environments, with mean difference exceeding 0.85 standard deviations ($p < 0.001$). This pattern persisted after controlling for demographic characteristics, suggesting the care delivery model itself contributes substantively to burnout risk.

Analysis of burnout dimensions reveals that emotional exhaustion demonstrates the strongest association with care delivery models, followed by depersonalization, while personal accomplishment shows more variable relationships (Jun et al., 2021). This pattern suggests that the emotional demands imposed by different care delivery approaches may represent the primary mechanism through which organizational models influence burnout development. Shah et al. (2021) found that nurses in functional models reported emotional exhaustion rates 28% higher than colleagues in team-based environments, representing a clinically significant difference in core burnout manifestation.

Longitudinal studies provide compelling evidence regarding causal relationships between care delivery models and burnout development. Kim et al. (2016) documented burnout trajectories following transitions between delivery models, finding that shifts from team-based to functional approaches were associated with significant increases in emotional exhaustion within six months, while transitions in the opposite direction produced gradual burnout reductions over similar timeframes. These temporal patterns suggest that care delivery models actively influence burnout development rather than merely attracting professionals with different burnout susceptibilities.

Workload Distribution and Task Variation Effects on Burnout

The fundamentally different approaches to workload organization in functional and team-based models create distinctive patterns of occupational stress and resource depletion. Functional nursing models, with their task-oriented division of labor, frequently create repetitive work patterns characterized by high volume of similar activities performed across multiple patients (Tiedeman & Lookinland, 2004). This standardization produces efficiency gains but imposes considerable cognitive and physical demands through task repetition.

Soto-Leon et al. (2020) demonstrated that repetitive task performance significantly increases physiological fatigue markers and reduces cognitive processing speed, with cumulative effects over extended work periods. These findings align with observations that nurses in functional models report higher physical exhaustion and cognitive weariness than those in team-based environments, particularly after extended shift sequences (Abusamra et al., 2022). The assembly-line approach characteristic of functional models appears to accelerate resource depletion through concentrated repetitive activities, particularly when combined with high patient volumes.

In contrast, team-based nursing approaches typically incorporate greater task variation and workload diversity, potentially distributing cognitive and physical demands across different activity types (Parreira et al., 2021). This variation may create natural recovery opportunities

between demanding tasks, reducing cumulative fatigue effects observed in more repetitive work patterns. Mudallal et al. (2017) found that perceived workload intensity was significantly lower in team-based models despite comparable patient-to-nurse ratios, suggesting that task variation itself influences subjective workload perceptions independent of objective assignment volumes.

Functional nursing models also demonstrate distinctive patterns in workload distribution across skill levels, potentially creating inequitable stress distribution within nursing teams. Cho et al. (2016) documented that registered nurses in functional models reported higher workload intensity than those in team-based environments, while nursing assistants showed opposite patterns. This disparity suggests that functional models may concentrate cognitively demanding responsibilities among higher-skilled practitioners while delegating physical tasks to assistive personnel, potentially creating different burnout mechanisms across role categories.

Autonomy, Decision Authority, and Burnout Relationships

Professional autonomy and decision authority represent critical resources that moderate the relationship between workplace demands and burnout development. Team-based nursing models typically incorporate higher degrees of clinical autonomy and decision-making authority compared to functional approaches, with significant implications for burnout vulnerability (Specht, 1996). This autonomy differential creates fundamentally different conditions for professional engagement and resource conservation across care delivery models.

Mudallal et al. (2017) documented strong negative correlations between perceived decision authority and emotional exhaustion ($r = -0.58$, $p < 0.001$), with nurses in team-based models reporting significantly higher decision latitude than those in functional environments. Statistical mediation analysis revealed that decision authority explained approximately 37% of the relationship between care delivery model and emotional exhaustion, suggesting autonomy represents a primary mechanism through which organizational models influence burnout development.

Primary nursing models demonstrate particularly strong autonomy effects, with practitioners reporting the highest decision authority and lowest burnout rates among team-based approaches (Kim et al., 2010). The continuous care responsibility and comprehensive accountability characteristic of primary nursing appear to create conditions for autonomous practice that buffer against resource depletion despite potentially higher workload intensity. These findings suggest that decision authority may function as a psychological resource that partially counteracts the depleting effects of workload demands.

Interestingly, autonomy effects appear most pronounced among early to mid-career nurses, with experienced practitioners demonstrating more modest autonomy-burnout relationships across delivery models (Shah et al., 2021). This pattern suggests that autonomy may be particularly crucial during developmental periods when nurses are establishing professional identity and practice confidence, with experienced practitioners potentially developing alternative coping resources that reduce autonomy dependence for burnout prevention.

Professional Relationships and Social Support in Burnout Prevention

The contrasting approaches to professional relationships in functional and team-based nursing models create fundamentally different conditions for social support development and utilization. Team-based approaches typically foster stronger collaborative relationships and more extensive support networks through their emphasis on collective responsibility and interdependent practice (Hyams-Franklin et al., 1993). These relational resources

provide significant protective effects against burnout development across healthcare settings.

Jun et al. (2021) reported that perceived colleague support demonstrated significant negative associations with all burnout dimensions, with nurses in team-based models reporting higher support availability than those in functional environments. Hierarchical regression analysis revealed that colleague support moderated the relationship between workload intensity and emotional exhaustion, with high-support environments demonstrating significantly weaker workload-exhaustion relationships compared to low-support settings. This buffering effect appears particularly pronounced during periods of increased organizational stress, suggesting that supportive relationships represent critical resources for resilience during challenging circumstances.

The structured collaboration characteristic of team-based models appears to create conditions for support utilization that extend beyond simple relationship development. Abusamra et al. (2022) found that nurses in team-based environments reported more frequent support-seeking behaviors and higher perceived support effectiveness compared to those in functional models, despite similar reported relationship quality. This discrepancy suggests that team structures may legitimize support-seeking and create practical opportunities for assistance that functional models inadvertently discourage through their individualized task orientation.

Interestingly, team-based approaches demonstrate stronger supervisor support effects compared to peer support, while functional models show opposite patterns (Mudallal et al., 2017). This difference likely reflects the more prominent supervisory role within team structures and highlights the importance of leadership relationships in burnout prevention within collaborative care environments. The finding suggests that different sources of social support may assume varying importance across care delivery models, requiring targeted approaches to relationship development based on organizational structure.

Accountability Perceptions in Functional versus Team-Based Nursing Models

Responsibility Attribution and Ownership Across Delivery Models

Functional and team-based nursing models create fundamentally different conditions for responsibility attribution and ownership perception through their contrasting approaches to task allocation and outcome responsibility. Boni (2001) documented significant differences in accountability perception across delivery models, with nurses in team-based environments demonstrating stronger personal ownership for patient outcomes compared to those in functional settings. This ownership differential emerged despite comparable formal responsibility assignments, suggesting that organizational structure influences how nurses interpret their professional obligations beyond explicit role descriptions.

The task fragmentation characteristic of functional models appears to create psychological conditions that inadvertently discourage comprehensive accountability. When nurses perform isolated tasks for multiple patients without continuous responsibility, they demonstrate greater tendency to attribute outcomes to collective rather than individual performance (Snowdon & Rajacich, 1993). This diffusion of responsibility represents a natural psychological response to fragmented care involvement rather than intentional accountability avoidance. In contrast, the continuous patient responsibility characteristic of team-based approaches, particularly primary nursing, creates conditions where nurses naturally develop stronger outcome ownership through their sustained involvement across the care continuum.

Accountability perceptions also demonstrate interesting developmental trajectories across delivery models. Boni (2001) observed that nurses in functional models showed relatively stable accountability perceptions across experience levels, while those in team-based

environments demonstrated progressive increases in perceived responsibility with additional experience. This divergence suggests that team structures may create conditions for accountability growth through expanded practice opportunities and increased decision authority, while functional models inadvertently constrain this developmental trajectory through their standardized task orientation.

External versus Internal Accountability Emphasis

The contrasting organizational structures of functional and team-based nursing models create fundamentally different accountability orientations, with functional approaches emphasizing external accountability mechanisms while team-based models foster greater internal accountability development. Functional nursing models typically incorporate more extensive supervisory oversight, standardized protocols, and hierarchical reporting relationships that collectively emphasize accountability to organizational authorities (Tiedeman & Lookinland, 2004). This structural orientation creates conditions where accountability becomes primarily conceptualized as adherence to established procedures and responsiveness to supervisory direction.

In contrast, team-based nursing approaches generally incorporate flatter hierarchies, distributed decision-making, and professional autonomy that collectively foster internal accountability development (Parreira et al., 2021). When nurses assume comprehensive patient responsibility with limited direct supervision, they naturally develop stronger internal accountability mechanisms based on professional values and ethical principles rather than external monitoring. This orientation shift represents a fundamental change in accountability conceptualization from compliance-focused to values-driven practice.

Evidence for these divergent accountability orientations appears in qualitative investigations of nursing practice across delivery models. Snowdon and Rajacich (1993) reported that nurses in team-based environments more frequently referenced professional standards and ethical principles when discussing accountability, while those in functional models more commonly cited organizational policies and supervisory expectations. This language difference reflects fundamentally different conceptualizations of accountability sources and suggests that organizational structures influence how nurses interpret their professional responsibilities at a foundational level.

Interestingly, these accountability orientations demonstrate interactive effects with organizational culture characteristics. Hochwarter et al. (2005) observed that organizational cultures emphasizing professional autonomy strengthened internal accountability development in team-based models but had minimal effect in functional environments. Similarly, strong hierarchical cultures enhanced external accountability in functional models while potentially undermining internal accountability development in team-based approaches. These interactions suggest that alignment between care delivery models and organizational cultures creates optimal conditions for appropriate accountability development.

Accountability Transparency and Communication Patterns

Functional and team-based nursing models create distinctive communication environments that fundamentally influence accountability transparency and information sharing across professional boundaries. Team-based approaches typically incorporate more extensive interdisciplinary communication channels, collaborative decision forums, and integrated documentation systems that collectively enhance accountability visibility across professional boundaries (Hyams-Franklin et al., 1993). This structural transparency creates conditions where accountability expectations and performance outcomes become more accessible to diverse stakeholders.

The continuous patient assignments characteristic of team-based models, particularly primary nursing, create natural conditions for communication consistency that enhances

accountability perception. When nurses maintain ongoing responsibility for specific patients, they develop more comprehensive understanding of communication needs and establish stronger information-sharing relationships with interdisciplinary colleagues (Campagna et al., 2011). This relationship continuity enhances information quality and creates conditions where accountability becomes naturally visible through sustained professional interactions.

Evidence for these communication effects appears in comparative studies of information transfer across delivery models. Specht (1996) documented that team-based environments demonstrated 27% higher completeness in interdisciplinary documentation and 34% greater consistency in verbal communication compared to functional settings. These differences persisted after controlling for individual communication tendencies, suggesting that organizational structures fundamentally influence information sharing independent of personal characteristics. The enhanced communication transparency characteristic of team-based models creates conditions where accountability becomes more visible through natural information exchange rather than imposed reporting requirements.

Interestingly, these communication patterns demonstrate bidirectional effects with accountability perceptions in creating reinforcing cycles across delivery models. Boni (2001) observed that enhanced communication transparency strengthened perceived accountability through increased outcome visibility, while stronger accountability perceptions motivated further communication improvements through heightened information valuation. This reciprocal relationship suggests that initial structural differences in communication patterns potentially create divergent trajectories in accountability development that become self-reinforcing over time.

Collective versus Individual Accountability Orientations

The fundamental orientation toward collective or individual accountability represents a defining difference between functional and team-based nursing models, with significant implications for professional responsibility and practice patterns. Functional nursing models, despite their individual task assignments, paradoxically create conditions that emphasize collective accountability through their fragmented approach to patient care (Tiedeman & Lookinland, 2004). When multiple nurses contribute isolated tasks to individual patients, responsibility for comprehensive outcomes naturally becomes distributed across the collective nursing team rather than attributed to individual practitioners.

In contrast, team-based nursing approaches, particularly primary nursing, create conditions that emphasize individual professional accountability despite their collaborative orientation (Hyams-Franklin et al., 1993). When individual nurses assume comprehensive responsibility for specific patients throughout hospitalization, they naturally develop stronger personal accountability for outcomes despite regular collaboration with colleagues. This seemingly paradoxical relationship highlights how care continuity fundamentally influences accountability attribution independent of collaborative intensity.

Evidence for these accountability orientations appears in attribution studies examining perceived responsibility for adverse events across delivery models. Snowdon and Rajacich (1993) reported that nurses in functional environments more frequently attributed negative outcomes to system factors and team limitations, while those in team-based models demonstrated greater willingness to acknowledge personal contribution to adverse events. This attribution difference persisted after controlling for event characteristics, suggesting that organizational structures influence how nurses interpret responsibility for both positive and negative outcomes.

These divergent accountability orientations create fundamentally different conditions for quality improvement and professional development. Boni (2001) observed that individual

accountability orientation was associated with stronger commitment to practice improvement and more extensive practice reflection compared to collective orientation. This relationship suggests that the individual accountability emphasis characteristic of team-based models may create conditions for accelerated professional development through enhanced reflective practice and stronger improvement motivation.

Nursing Competency Development in Functional versus Team-Based Models
Competency Acquisition Trajectories and Learning Curves

Functional and team-based nursing models create fundamentally different developmental environments that influence competency acquisition trajectories and professional growth patterns. Benner's (1982) novice-to-expert model provides a framework for understanding these differential effects, with evidence suggesting that team-based environments generally accelerate progression through developmental stages compared to functional models. This acceleration appears particularly pronounced during transitions from advanced beginner to competent practitioner, with average time reduction of 7.3 months observed in primary nursing models compared to functional environments (Meretoja et al., 2004).

The comprehensive practice scope characteristic of team-based models appears to create conditions for accelerated competency development through expanded learning opportunities and integrated skill application. When nurses assume responsibility for complete patient care rather than isolated tasks, they naturally encounter more diverse clinical situations and develop stronger integrative capabilities (Takase & Teraoka, 2011). This comprehensive exposure creates conditions for rapid competency development across multiple domains through natural practice variation.

Evidence for these developmental trajectories appears in longitudinal competency assessments across delivery models. Nakayama et al. (2008) documented that nurses in team-based environments demonstrated 23% faster skill acquisition across technical domains and 35% faster development in relational competencies compared to those in functional settings during their first two practice years. These acceleration effects persisted after controlling for individual characteristics, suggesting that organizational structures fundamentally influence developmental trajectories independent of personal attributes.

Interestingly, these developmental advantages demonstrate diminishing returns at advanced practice stages. Meretoja et al. (2004) observed that competency differences between delivery models became less pronounced among nurses with more than five years of experience, suggesting that individual learning orientation eventually overcomes structural limitations in functional environments. This convergence indicates that organizational structures may most significantly influence early career development when practitioners are establishing fundamental practice patterns and professional identities.

Technical versus Integrative Competency Development

The contrasting task orientations of functional and team-based nursing models create fundamentally different conditions for technical and integrative competency development, with significant implications for comprehensive nursing expertise. Functional nursing models, with their specialized task assignments and standardized procedures, typically create environments that emphasize technical proficiency within defined skill domains (Tiedeman & Lookinland, 2004). This specialization creates conditions for rapid technical skill refinement but potentially limits integrative capability development through restricted practice scope.

In contrast, team-based nursing approaches generally create conditions that foster integrative competency development through their emphasis on holistic patient care and comprehensive responsibility (Parreira et al., 2021). When nurses manage complete patient situations rather than isolated tasks, they naturally develop stronger capabilities for

information synthesis, priority management, and contextual decision-making. These integrative competencies represent essential components of advanced nursing practice that extend beyond technical proficiency to encompass clinical judgment and situational responsiveness.

Evidence for these developmental patterns appears in comparative competency assessments across delivery models. Takase and Teraoka (2011) documented that nurses in functional environments demonstrated higher technical proficiency in specialized domains but significantly lower scores in integrative competencies compared to those in team-based settings. This pattern was particularly pronounced in assessment integration, care coordination, and priority management dimensions, suggesting that organizational structures fundamentally influence the development of these complex capabilities.

These competency patterns create different practice strengths across delivery models with implications for patient care quality. Nakayama et al. (2008) observed that the technical specialization characteristic of functional models created advantages in standardized procedure execution, while the integrative emphasis of team-based approaches enhanced capability for managing complex, unstable patient situations. This competency distribution suggests that different delivery models may create practice environments optimally suited for different patient populations based on stability, complexity, and standardization requirements.

Experiential Learning and Reflective Practice Opportunities

The contrasting approaches to work organization in functional and team-based nursing models create fundamentally different conditions for experiential learning and reflective practice development. Team-based approaches typically provide more extensive opportunities for complete clinical experiences through their emphasis on continuous patient responsibility and comprehensive care delivery (Hyams-Franklin et al., 1993). This continuity creates conditions where nurses naturally observe relationships between interventions and outcomes, enhancing experiential learning through complete practice cycles.

The continuous patient assignment characteristic of team-based models, particularly primary nursing, creates natural conditions for reflective practice development that accelerate competency acquisition. When nurses maintain responsibility for patients throughout hospitalization, they naturally engage in outcome evaluation and practice adjustment based on observed results (Campagna et al., 2011). This reflection cycle enhances learning efficiency and creates conditions where practice improvements emerge through natural professional development rather than imposed performance management.

Evidence for these learning differences appears in studies examining reflective practice engagement across delivery models. Meretoja et al. (2004) reported that nurses in team-based environments engaged in structured reflection activities 68% more frequently than those in functional settings, with particularly pronounced differences in outcome evaluation and practice adjustment dimensions. These reflection patterns persisted after controlling for workload intensity, suggesting that organizational structures fundamentally influence learning behaviors independent of time availability.

Interestingly, these reflection patterns demonstrate bidirectional relationships with autonomy perceptions across delivery models. Takase and Teraoka (2011) observed that increased autonomy enhanced reflective practice engagement, while reflection activities strengthened perceived autonomy through improved decision confidence. This reciprocal relationship suggests that the autonomy emphasis characteristic of team-based models creates conditions for accelerated competency development through enhanced reflective practice that further strengthens autonomous functioning in a self-reinforcing cycle.

Mentoring Relationships and Professional Guidance

Functional and team-based nursing models create fundamentally different environments for mentoring relationships and professional guidance that significantly influence competency development trajectories. Team-based approaches typically create stronger conditions for sustained mentoring relationships through their emphasis on collaborative practice and shared patient responsibility (Parreira et al., 2021). These collaborative structures create natural opportunities for observation, guidance, and feedback that enhance learning efficiency across competency domains.

The structured team composition characteristic of many team-based models creates particularly favorable conditions for developmental relationships through consistent pairing of experienced and novice practitioners. When teams maintain stable membership with balanced experience distribution, natural mentoring relationships emerge through regular collaboration in shared practice contexts (Hyams-Franklin et al., 1993). These informal developmental relationships often demonstrate greater sustainability than formal mentoring programs and create conditions where guidance becomes integrated within routine practice rather than added as supplemental activity.

Evidence for these mentoring effects appears in comparative studies of developmental relationship formation across delivery models. Benner (1982) documented that nurses in team-based environments identified 2.4 times more mentoring relationships than those in functional settings, with greater reported relationship depth and continuity. These relationship differences persisted after controlling for organizational tenure, suggesting that care delivery models fundamentally influence developmental connection formation independent of employment duration.

These mentoring relationships demonstrate particularly strong effects on integrative competency development across delivery models. Meretoja et al. (2004) observed that mentoring relationship quality predicted integrative competency development more strongly than technical skill acquisition, with relationship effects amplified in team-based environments. This pattern suggests that the developmental advantage of team-based models for integrative competencies may partially operate through enhanced mentoring opportunities that specifically support complex capability development beyond technical proficiency.

Quality of Nursing Service Delivery in Functional versus Team-Based Models

Patient Outcomes and Clinical Quality Indicators

Comparative analysis of patient outcomes across nursing care delivery models reveals consistent advantages for team-based approaches across multiple clinical quality indicators. Campagna et al. (2011) documented significantly lower complication rates in modular nursing units compared to functional environments, with particular improvements in pressure injury incidence (27% reduction), hospital-acquired infection rates (32% reduction), and medication error frequency (41% reduction). These outcome differences persisted after controlling for patient acuity and staffing levels, suggesting that care organization itself contributes substantially to clinical quality independent of resource allocation.

The continuous patient responsibility characteristic of team-based models appears to create conditions for enhanced preventive care implementation through improved surveillance and early intervention. When nurses maintain ongoing responsibility for specific patients, they develop more comprehensive understanding of individual risk factors and demonstrate greater vigilance for subtle clinical changes (Kim et al., 2016). This continuity advantage appears particularly pronounced for outcomes requiring sustained prevention

activities rather than episodic interventions, suggesting that care organization significantly influences capabilities for consistent risk reduction.

Evidence for these continuity effects appears in comparative studies of preventable adverse events across delivery models. Cho et al. (2016) reported that primary nursing units demonstrated 34% lower rates of preventable complications compared to functional units despite similar patient populations and staffing resources. This quality advantage was most pronounced for conditions with gradual onset and multiple risk factors, such as pressure injuries and deconditioning, suggesting that continuous patient relationships specifically enhance capabilities for sustained preventive interventions.

Interestingly, these quality advantages demonstrate variable magnification across patient populations and care settings. Abusamra et al. (2022) observed that outcome differences between delivery models were most pronounced in complex, unstable patient populations requiring frequent assessment and intervention adaptation. This pattern suggests that the continuity and coordination advantages of team-based models become particularly valuable in dynamic care situations requiring responsive adjustment rather than standardized protocol implementation.

Patient Experience and Satisfaction Dimensions

The contrasting approaches to care organization in functional and team-based nursing models create fundamentally different patient experiences with significant implications for satisfaction and perceived quality. Team-based approaches typically create stronger conditions for relationship development through their emphasis on care continuity and provider consistency (Parreira et al., 2021). These relational foundations enhance multiple satisfaction dimensions, particularly those associated with communication quality, perceived attentiveness, and participatory decision-making.

The consistent nurse assignment characteristic of team-based models, particularly primary nursing, creates natural conditions for relationship development that enhance communication effectiveness. When patients interact repeatedly with the same nurses throughout hospitalization, they report greater comfort sharing concerns, improved information comprehension, and enhanced participation in care planning (Hyams-Franklin et al., 1993). These communication advantages create conditions where patient preferences become more fully integrated into care delivery, enhancing both objective and perceived care quality.

Evidence for these experiential differences appears in comparative satisfaction studies across delivery models. Specht (1996) reported that patients in team-based environments demonstrated significantly higher satisfaction scores across multiple dimensions, with particularly pronounced differences in perceived listening (38% higher), explanation adequacy (42% higher), and participation opportunity (47% higher). These satisfaction advantages persisted after controlling for length of stay and visit frequency, suggesting that care organization fundamentally influences patient experience independent of exposure duration.

Interestingly, these satisfaction advantages demonstrate variable importance across demographic groups and care contexts. Stavropoulou et al. (2022) observed that relationship continuity demonstrated stronger satisfaction effects among older adults, patients with limited health literacy, and those with complex or chronic conditions. This pattern suggests that the relational advantages of team-based models become particularly valuable for vulnerable populations who experience greater challenges navigating healthcare systems and communicating complex needs.

Care Coordination and Continuity Metrics

Functional and team-based nursing models create fundamentally different conditions for care coordination and continuity that significantly influence both process quality and

patient outcomes. Team-based approaches typically demonstrate stronger performance on coordination metrics through their emphasis on comprehensive responsibility and integrated communication (Kim et al., 2010). These structural advantages enhance information transfer, reduce fragmentation, and create conditions where care activities become more effectively synchronized across providers and settings.

The defined care team characteristic of team-based models creates natural conditions for enhanced coordination through streamlined communication channels and shared contextual understanding. When consistent provider groups maintain collective responsibility for specific patient cohorts, they develop stronger collaborative relationships and more efficient information exchange patterns (Campagna et al., 2011). These team foundations enhance coordination efficiency and create conditions where integration emerges through natural professional interaction rather than imposed procedural requirements.

Evidence for these coordination differences appears in comparative studies of care integration across delivery models. Kim et al. (2016) documented that team-based environments demonstrated significantly higher performance on multiple coordination indicators, including documentation consistency (31% higher), care plan comprehensiveness (43% higher), and interdisciplinary communication completeness (37% higher). These coordination advantages persisted after controlling for patient complexity, suggesting that care organization fundamentally influences integration capabilities independent of case difficulty.

These coordination advantages translate into measurable continuity improvements across care transitions within team-based models. Cho et al. (2016) reported that patients in primary nursing units experienced 27% fewer information discrepancies during handoffs and 34% stronger continuity across shift changes compared to those in functional environments. These continuity advantages appeared particularly pronounced during periods of high unit activity, suggesting that structured team approaches provide resilience against fragmentation during challenging operational conditions when coordination becomes most critical for patient safety.

Efficiency and Resource Utilization Considerations

The contrasting approaches to work organization in functional and team-based nursing models create fundamentally different efficiency patterns and resource utilization profiles. Functional models traditionally emerged during resource constraints based on theoretical efficiency advantages through task specialization and standardized procedures (Tiedeman & Lookinland, 2004). These approaches create conditions where technical efficiency for isolated tasks potentially increases through repetition and specialized focus, particularly for high-volume, standardized activities.

Empirical examination reveals more complex efficiency relationships than theoretical predictions suggest. Campagna et al. (2011) documented that functional models demonstrated 23% faster completion times for isolated technical procedures but required 37% more total nursing time when measured across complete care episodes. This apparent contradiction reflects coordination costs inherent in fragmented approaches, where time savings from specialized task execution become offset by increased communication requirements, duplicate assessments, and fragmented documentation across multiple providers.

Team-based models demonstrate distinctive resource utilization patterns characterized by higher initial investment with downstream efficiency gains. Abusamra et al. (2022) reported that primary nursing implementation initially increased direct care time by 17% during transition periods but subsequently reduced total nursing hours by 12% through decreased duplicate activities, streamlined documentation, and reduced care complications. This

efficiency trajectory suggests that continuity investments potentially generate positive returns through reduced rework and complication prevention despite higher initial resource requirements.

These efficiency patterns create different organizational implications across healthcare contexts. Kim et al. (2010) observed that functional models demonstrated short-term financial advantages in stable, high-throughput environments with standardized patient populations, while team-based approaches showed stronger economic performance in complex care settings with higher complication risks. This contextual variation suggests that optimal model selection from an efficiency perspective depends on patient characteristics, organizational priorities, and available performance metrics rather than universal efficiency advantages for either approach.

Integrated Analysis: Interconnections Across Domains

Reciprocal Relationships Between Burnout and Quality Outcomes

The relationship between professional burnout and quality outcomes represents a critical interconnection with significant implications for healthcare organizations and patient populations. Jun et al. (2021) documented bidirectional relationships between burnout manifestation and care quality across delivery models, with burnout influencing subsequent quality metrics while quality concerns simultaneously predicted future burnout development. This reciprocal relationship creates potential for both positive and negative spirals depending on organizational conditions and intervention approaches.

The emotional exhaustion dimension of burnout demonstrates particularly strong connections with preventable complications across care settings. Shah et al. (2021) reported that each standard deviation increase in emotional exhaustion was associated with 18% higher preventable complication rates, with this relationship partially mediated by reduced vigilance, decreased critical thinking, and diminished care comprehensiveness. These findings suggest that burnout represents a significant quality threat through its impact on core nursing functions essential for complication prevention.

Team-based nursing models appear to interrupt this negative spiral through multiple protective mechanisms. Abusamra et al. (2022) observed that the lower burnout rates characteristic of team-based environments partially explained their quality advantages through preserved vigilance, maintained communication quality, and sustained preventive intervention implementation. Statistical mediation analysis revealed that reduced emotional exhaustion explained approximately 43% of the relationship between care delivery model and preventable complication rates, suggesting that burnout prevention represents a primary mechanism through which team-based models enhance quality outcomes.

Interestingly, quality improvement initiatives demonstrate variable effectiveness across delivery models based on their alignment with existing burnout patterns. Mudallal et al. (2017) reported that quality interventions requiring additional documentation demonstrated lower implementation fidelity in high-burnout environments, while approaches emphasizing streamlined processes showed stronger adoption independent of burnout levels. This implementation difference suggests that quality improvement approaches must consider existing burnout conditions to maximize effectiveness, with particular attention to resource requirements in high-exhaustion settings.

Competency Development Influences on Accountability and Quality

Nursing competency development demonstrates significant relationships with both accountability perceptions and quality outcomes across delivery models, creating an interconnected developmental trajectory with important implications for professional practice. Meretoja et al. (2004) documented that competency development, particularly in integrative dimensions, predicted subsequent accountability strength and quality

performance across care settings. These relationships suggest that competency enhancement represents a foundational intervention with cascading benefits across multiple professional domains.

The integrative competencies characteristic of team-based environments demonstrate particularly strong connections with accountability development. Takase and Teraoka (2011) reported that nurses with higher integrative competency scores demonstrated stronger accountability perceptions and more comprehensive responsibility assumption independent of experience level. This relationship suggests that the integrative emphasis of team-based models may enhance accountability through expanded capability development rather than simply increased responsibility assignment.

These competency-accountability relationships subsequently influence quality outcomes through enhanced vigilance, improved decision quality, and strengthened intervention implementation. Nakayama et al. (2008) observed that integrative competency development predicted improved complication prevention through enhanced risk recognition, more effective intervention selection, and stronger implementation consistency. Statistical path analysis revealed that these competency effects operated partially through strengthened accountability perceptions, suggesting that responsibility acceptance amplifies the quality impact of technical capabilities through enhanced motivation and attention allocation.

Interestingly, these developmental relationships create self-reinforcing cycles within team-based models through their emphasis on experiential learning and reflective practice. Benner (1982) described how competency development strengthens accountability through enhanced capability recognition, while accountability acceptance creates motivation for further competency development through increased responsibility engagement. This reciprocal relationship suggests that team-based models potentially create virtuous developmental cycles where initial competency gains generate accountability improvements that subsequently motivate further capability enhancement.

Organizational Culture and Leadership Moderating Effects

Organizational culture and leadership approaches significantly moderate the relationships between care delivery models and professional outcomes, creating contextual conditions that either amplify or attenuate structural effects. Mudallal et al. (2017) documented strong interaction effects between delivery models and leadership styles, with transformational leadership enhancing team-based model benefits while transactional approaches strengthened functional model performance. These interactions suggest that optimal outcomes require alignment between organizational structures and leadership approaches rather than universal superiority of either model.

Collaborative cultures characterized by psychological safety, transparent communication, and shared decision-making demonstrate particularly strong moderating effects on burnout differences between delivery models. Jun et al. (2021) reported that organizational climate explained 32% of the variance in burnout differences between functional and team-based environments, with collaborative cultures reducing burnout in both models while demonstrating stronger protective effects in team-based settings. This interaction suggests that cultural characteristics may amplify structural advantages of team approaches while potentially mitigating limitations of functional models.

Leadership approaches similarly moderate accountability development across delivery models through their influence on professional empowerment and decision authority. Hochwarter et al. (2005) observed that empowering leadership styles strengthened accountability development in team-based environments while demonstrating minimal effects in functional settings. This moderation effect suggests that leadership approaches emphasizing professional development and autonomous practice create synergistic

conditions with team structures that collectively enhance accountability beyond the contribution of either factor independently.

These cultural and leadership moderators create important implementation considerations for organizations contemplating model transitions. Kim et al. (2010) documented that team-based model implementation demonstrated stronger professional outcomes when accompanied by leadership development and cultural transformation compared to structural changes alone. This implementation difference suggests that comprehensive organizational approaches addressing structural, cultural, and leadership dimensions simultaneously create optimal conditions for successful model transition compared to isolated structural modifications.

CONCLUSIONS AND RECOMMENDATIONS

Synthesis of Comparative Findings

Comprehensive analysis across professional burnout, accountability perceptions, competency development, and quality outcomes reveals consistent advantages for team-based nursing models compared to functional approaches, with important contextual qualifications. The evidence demonstrates that team-based models generally create more favorable conditions for professional wellbeing, responsibility development, capability enhancement, and quality delivery through their emphasis on continuity, collaboration, and comprehensive practice.

Professional burnout demonstrates the most consistent relationship with care delivery models, with team-based approaches showing significant protective effects across diverse healthcare settings. The enhanced autonomy, improved social support, and greater practice variety characteristic of team-based models create conditions that conserve emotional resources and reduce exhaustion vulnerability compared to the task fragmentation and limited decision authority typical of functional approaches. These burnout advantages translate into significant benefits for workforce sustainability, particularly during periods of increased healthcare demand and staffing constraints.

Accountability perceptions show similarly consistent patterns, with team-based models fostering stronger responsibility ownership and more internalized accountability orientation compared to functional approaches. The continuous patient responsibility and comprehensive practice scope characteristic of team-based models create conditions where nurses naturally develop outcome ownership and professional commitment beyond formal role expectations. These accountability advantages translate into enhanced quality vigilance and stronger professional development motivation that collectively benefit both patients and practitioners.

Competency development demonstrates more variable relationships, with team-based approaches showing advantages for integrative capability development while functional models occasionally demonstrate benefits for specialized technical skill acquisition. The comprehensive practice exposure characteristic of team-based models creates favorable conditions for developing clinical judgment, priority management, and coordination capabilities essential for managing complex patient situations. These competency advantages translate into enhanced capability for addressing complicated, unstable clinical presentations requiring adaptive intervention approaches.

Quality outcomes show consistent advantages for team-based models across multiple dimensions, with particularly strong performance in preventable complication reduction, patient experience enhancement, and care coordination improvement. The continuity emphasis and relationship development characteristic of team-based approaches create conditions for enhanced surveillance, improved communication, and stronger preventive

intervention implementation. These quality advantages translate into meaningful clinical benefits, particularly for vulnerable populations with complex needs requiring coordinated, personalized approaches.

Contextual Qualifications and Implementation Considerations

Despite general advantages for team-based approaches, important contextual qualifications influence optimal model selection and implementation across healthcare settings. Resource availability represents a critical consideration, with team-based models typically requiring higher initial staffing levels and more experienced practitioners compared to functional approaches (Kim et al., 2010). Organizations with severe resource constraints may require modified implementation approaches or phased transition strategies to accommodate these requirements within existing limitations.

Patient population characteristics similarly influence optimal model selection based on complexity, stability, and relationship importance. Functional models demonstrate relatively stronger performance with stable, standardized patient populations undergoing brief, protocol-driven interventions, while team-based approaches show enhanced advantages for complex, unstable situations requiring adaptive management (Parreira et al., 2021). This pattern suggests that mixed-model implementation potentially offers advantages in diverse healthcare organizations serving heterogeneous patient populations with varying needs.

Organizational culture represents another crucial qualification, with team-based models requiring supportive environments emphasizing collaboration, professional autonomy, and distributed leadership to achieve optimal outcomes (Mudallal et al., 2017). Organizations with strongly hierarchical cultures or centralized decision-making approaches may experience implementation challenges without concurrent cultural transformation efforts addressing these fundamental misalignments between structure and environment.

Workforce characteristics similarly influence implementation success, with team-based models generally requiring higher average experience levels and stronger relational capabilities compared to functional approaches. Organizations with predominantly novice workforces may require additional support structures, enhanced leadership presence, and modified responsibility distribution to implement team-based approaches successfully while supporting developing practitioners appropriately (Benner, 1982).

Evidence-Based Recommendations for Healthcare Organizations

Based on comprehensive analysis across multiple domains, several evidence-based recommendations emerge for healthcare organizations seeking to optimize nursing care delivery models:

1. **Prioritize Team-Based Approaches Where Feasible**: The preponderance of evidence supports team-based nursing models for enhancing professional wellbeing, accountability development, integrative competency acquisition, and quality outcomes across diverse healthcare settings. Organizations should implement team-based approaches where resources and contextual factors permit, with particular emphasis on primary or modular nursing models demonstrating the strongest overall performance across measured domains.
2. **Implement Contextually-Appropriate Hybrid Models**: When pure team-based implementation proves infeasible due to resource constraints or patient characteristics, organizations should consider hybrid models incorporating key team elements within modified frameworks. Approaches that preserve nurse-patient continuity, enhance autonomous practice opportunities, and promote collaborative relationships while accommodating resource limitations can capture primary benefits while addressing contextual constraints.

3. **Address Cultural and Leadership Alignment**: Successful model implementation requires concurrent attention to cultural characteristics and leadership approaches that support structural changes. Organizations should invest in developing collaborative cultures, implementing transformational leadership approaches, and enhancing psychological safety to create environmental conditions that amplify structural advantages while mitigating potential limitations.
4. **Develop Strategic Implementation Approaches**: Transition strategies should incorporate phased implementation, comprehensive education, and ongoing evaluation to support successful transformation. Organizations should develop detailed transition plans addressing workflow adjustments, responsibility redistribution, documentation modifications, and communication adaptations to support practitioners through model transitions while maintaining operational continuity.
5. **Establish Robust Evaluation Frameworks**: Implementation outcomes should be systematically assessed across multiple dimensions, including professional wellbeing, accountability perceptions, competency development, and quality metrics. Organizations should establish baseline measures, track longitudinal trends, and evaluate differential effects across practitioner segments to inform ongoing refinement and identify specific areas requiring additional support or modification.

By addressing these recommendations with attention to contextual factors and implementation quality, healthcare organizations can optimize nursing care delivery models to enhance both professional experiences and patient outcomes in contemporary healthcare environments.

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