

# CONCEPTUAL PERSPECTIVES ON INTERPROFESSIONAL COLLABORATION AMONG NURSES, NURSING TECHNICIANS, LABORATORY PROFESSIONALS, PUBLIC HEALTH PRACTITIONERS, GENERAL PRACTITIONERS, AND PATIENT CARE TECHNICIANS

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## Abstract

This study provides a comprehensive conceptual exploration of **interprofessional collaboration (IPC)** among diverse healthcare professionals, emphasizing its significance as a cornerstone of modern, patient-centered healthcare systems. By synthesizing theoretical and policy-based literature published between 2015 and 2025, the research highlights how IPC operates as a dynamic and multidimensional construct founded on communication, role clarity, leadership, shared decision-making, and mutual respect. The conceptual analysis, based on 56 peer-reviewed sources, reveals that nursing professionals consistently occupy a central role as coordinators of collaborative processes, while the contributions of laboratory professionals, public health practitioners, and patient care technicians remain theoretically underrepresented.

The results demonstrate that communication and information sharing are the most frequently discussed domains, appearing in over 90% of conceptual sources, followed by role clarity, shared decision-making, mutual respect, and system-level integration. These findings suggest that effective IPC requires not only interpersonal understanding but also structured institutional support and well-defined professional boundaries. The predominance of nursing literature within IPC frameworks reflects the profession's coordinating function in healthcare teams and its influence on the practical realization of collaborative care.

The study concludes that advancing IPC theory demands a broader inclusion of all professional groups and greater attention to systemic and educational frameworks that sustain collaboration. Conceptually, IPC should be viewed as both a relational and organizational process essential for the delivery of integrated and equitable care. By aligning theory with practice, the study contributes to building a more cohesive understanding of collaboration that supports future policy, education, and professional development.

**Keywords:** Interprofessional Collaboration, Nursing, Healthcare Systems, Communication, Role Clarity, Theoretical Frameworks, Health Workforce, Patient-Centered Care, WHO Framework, FINCA Model.

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## 1. INTRODUCTION

Interprofessional collaboration (IPC) has emerged as a central framework in modern healthcare delivery, responding to the increasing complexity of patient needs and health system demands. The global rise in chronic diseases, multimorbidity, and population aging necessitates team-based approaches where nurses, laboratory professionals, public health practitioners, physicians, and patient care technicians coordinate their expertise toward shared health outcomes (Carron et al., 2021). Conceptually, IPC extends beyond mere cooperation; it embodies a dynamic process of shared decision-making, mutual respect, and the integration of diverse professional identities for optimal patient-centered care (El-Awaisi et al., 2021).

Recent conceptual literature highlights IPC as a multidimensional construct encompassing communication, role clarity, leadership, and trust, all of which underpin effective teamwork (Carron et al., 2021). When health professionals collaborate effectively, studies show marked improvements in patient safety, satisfaction, and treatment outcomes (Dellafiore et al., 2025). However, despite strong theoretical support, practical implementation remains inconsistent due to organizational hierarchies, lack of shared goals, and limited understanding of complementary roles across professions (Dib & Belrhiti, 2025).

From a conceptual perspective, IPC is grounded in four core principles: **shared goals, mutual respect, role interdependence, and collaborative communication** (El-Awaisi et al., 2024). In nursing contexts, these principles manifest in how nurses act as coordinators and mediators across care settings, bridging communication between physicians, laboratory staff, and patient care technicians (Watanabe et al., 2023). Similarly, general practitioners rely on collaborative structures to ensure continuity of care and accurate decision-making, particularly when complex diagnostic or laboratory data are involved (Watanabe et al., 2023).

Theoretical developments in IPC have been supported by frameworks such as the **FINCA model**, which identifies interaction processes and shared learning as central mechanisms of interprofessional effectiveness (Witti et al., 2023). Conceptual clarity around how collaboration occurs within diverse healthcare environments has led to models emphasizing reflection, communication, and role negotiation (Ho et al., 2023). The World Health Organization (WHO) underscores IPC as a foundation for “collaborative practice-ready” professionals capable of delivering integrated services across the care continuum (Carron et al., 2021).

The inclusion of laboratory professionals in IPC models has further enriched the conceptual understanding of teamwork in healthcare. Laboratory communication errors are often linked to diagnostic delays, while enhanced IPC frameworks improve data flow and clinical decision-making (Vasconcelos et al., 2024). This integration underscores that collaboration is not only clinical but also technical, encompassing laboratory diagnostics and support services that influence patient outcomes (El-Awaisi et al., 2024).

Public health professionals play a pivotal role in expanding IPC from clinical care to **population health** perspectives. By connecting preventive and community health approaches with direct patient care, IPC broadens its conceptual base to address social determinants of health and health equity (Dellafiore et al., 2025). This approach reinforces the understanding that collaborative practice must integrate community engagement, surveillance, and health promotion within primary care systems (Carron et al., 2021).

Education and professional development are also conceptual pillars of IPC. Interprofessional education (IPE) serves as a mechanism to develop collaboration-ready professionals through early exposure to teamwork, communication, and shared responsibility across disciplines (Witti et al., 2023). When embedded in nursing and allied health curricula, IPE fosters cultural and relational competence necessary for high-functioning collaborative teams (Watanabe et al., 2023).

Nonetheless, persistent barriers such as rigid professional hierarchies, unclear accountability, and lack of structural incentives continue to challenge the operationalization of IPC frameworks (Dib & Belrhiti, 2025). Conceptually, overcoming these barriers requires redefining traditional professional boundaries and adopting a systems-based approach to care delivery (El-Awaisi et al., 2021).

In summary, the conceptual perspectives on IPC reveal it as a **multilayered, relational, and adaptive process** essential to modern healthcare. Its success depends on the interplay of communication, trust, shared values, and a commitment to patient-centered collaboration among diverse professionals. As the healthcare environment continues

to evolve, advancing IPC theory will be crucial for strengthening teamwork, enhancing health equity, and ensuring that interdisciplinary practice becomes a standard rather than an exception (Carron et al., 2021).

## 2. LITERATURE REVIEW

### 1. Dellafiore et al. (2025)

This qualitative study explores the perceptions and experiences of healthcare professionals regarding interprofessional collaboration within primary healthcare systems. The authors emphasize that IPC improves communication and relational processes among disciplines such as nursing, general practice, and allied health, highlighting how shared platforms for information exchange reduce fragmentation in care delivery. Findings show that barriers like lack of shared systems and hierarchical structures can impede collaborative practice, while facilitators include formal communication channels and mutual respect between professions. This work underscores the complexity of integrating IPC into routine practice and the need for systematic frameworks to support sustained multidisciplinary engagement. (Dellafiore et al., 2025)

This scoping review investigates the underlying processes, facilitators, and barriers that shape effective interprofessional collaboration across healthcare networks. It maps out individual, professional, interactional, and organizational factors influencing collaboration, highlighting that IPC is not solely interpersonal but embedded in systemic structures requiring intentional design and alignment. Barriers identified include professional siloes, lack of policy support, and limited structural incentives, while drivers such as shared goals and structured interaction spaces improved collaboration. The review enriches the understanding of how IPC functions across sectors and emphasizes the policy implications for health system integration. (Dib & Belrhiti, 2025)

Focusing on complex patient care transitions, this qualitative study from Switzerland explores how IPC affects healthcare professionals' ability to manage multi-morbidity and care coordination. The research finds that while professionals recognize the value of collaboration in improving patient outcomes, systemic fragmentation and organizational boundaries hinder its actualization. Participants highlighted the need for continuous role negotiation, shared leadership, and coordinated planning to optimize IPC. This study contributes to the literature by linking IPC to care continuity and highlighting contextual influences in high-income health systems. (Geese & Schmitt, 2023)

A systematic review focusing on physicians' and nurses' attitudes toward interprofessional collaboration, revealing that nurses often exhibit more positive attitudes toward IPC than physicians. The study aggregates evidence from multiple settings, indicating that education level, professional experience, and organizational culture shape these attitudes. The review underscores that attitude differences may influence teamwork quality and patient care outcomes, suggesting targeted interventions in education and training to harmonize interprofessional perceptions. (Gregoriou, Charalambous, Rousou, Papastavrou, & Merkouris, 2025)

This cross-sectional study highlights the pivotal role of advanced practice nurses (APNs) in interprofessional teams. The research shows that nurse practitioners often act as coordinators, educators, and generalist clinicians who facilitate collaboration, integrate care plans, and support seamless transitions across care environments. APNs' involvement helped streamline communication and reduce workload disparities among team members. These findings reinforce the value of advanced nursing roles in enhancing IPC and suggest that expanding such roles can strengthen collaborative dynamics. (Tokunaga, Araki, Fukuda, & Medicine, 2025)

Investigating healthcare professionals' experiences with interprofessional collaboration, this study highlights the qualitative nuances of teamwork among diverse disciplines. It emphasizes how collaborative practices enhance patient education, shared decision-making, and care coordination. Participants reported that collaborative meetings and feedback loops improved mutual understanding of roles, though hierarchical norms sometimes impeded egalitarian team functioning. This research contributes to conceptual understandings of IPC by foregrounding interpersonal experiences and embedded institutional cultures. (Ho et al., 2023)

A scoping review examining interprofessional education and collaborative practice among radiographers and other health professions. The review synthesizes evidence showing IPECP's role in fostering collaborative skills and attitudes that support real-world practice. It finds that IPECP interventions improve knowledge sharing, team communication, and patient-centered care delivery. However, global implementation remains limited, suggesting the need for broader curricular integration and policy support to fully realize IPC benefits. (Johnson, Martin, McDonald, & McGrail, 2025)

This integrative literature review explores interventions fostering interdisciplinary and inter-organizational collaboration in health and social care. The study identifies key intervention characteristics such as digital tools, simulations, and collective activities that improve communication and role clarity. It argues that effective collaboration extends beyond interpersonal skills to include organizational strategies that support shared goals and workflows. This review informs future research by highlighting under-studied intervention categories and systemic enablers of IPC. (Simons, Goossens, Nies, & Practice, 2022)

Focusing on interdisciplinary collaboration in healthcare settings, this review articulates how professionals from nursing, pharmacy, radiology, and psychology collaboratively contribute to patient outcomes. It stresses that diverse

perspectives enhance problem-solving and clinical decision-making, but institutional barriers and differing training backgrounds can challenge seamless teamwork. The article underscores the importance of harmonizing professional boundaries and promoting shared frameworks for effective interdisciplinary engagement.(Yeager, 2005)

This forthcoming scoping review aims to synthesize the international evidence base for interprofessional collaborative practice among populations with multimorbidity. By examining professional groupings, geopolitical contexts, and scientific methods, the study seeks to identify gaps and suggest future directions for research and policy. Though in progress, this review promises to deepen understanding of how IPC frameworks operate across diverse health systems and patient populations.(Murray et al., 2025)

A global review of IPC among nurses, radiation therapists, and allied professionals that synthesizes determinants and outcomes of collaborative practice. The study finds that interprofessional teamwork improves service coordination but is influenced by context-specific challenges such as professional hierarchies and communication barriers. The review highlights the need for structured approaches to enhance interprofessional learning and shared responsibility.(Al Mutairi et al., 2024)

Examining IPC in telemedicine, this study reveals how nurses and physicians collaborate remotely, underscoring both opportunities and challenges. Teleconsultations showed that clear communication protocols and technology infrastructure significantly improve teamwork and patient care continuity. The research indicates that telehealth may expand IPC, but also requires intentional design to ensure effective cross-disciplinary engagement.(Tan et al., 2023)

This research develops a framework for IPC competencies, demonstrating how structured competency models guide collaborative practices and improve person-centered care delivery. It emphasizes the collective nature of team performance and recommends competency-based frameworks as tools for training and evaluation.(McLaney et al., 2022)

Although slightly older, this widely cited study on interprofessional education shows how collaborative training improves health professionals' ability to manage complex clinical situations and enhance service coordination and outcomes. Its conceptual insights continue to inform current IPC models and educational frameworks.(Herath et al., 2017)

### 3. METHODOLOGY

#### 1. Research Design and Theoretical Framework

This study employs a **conceptual qualitative design** rooted in a **theoretical synthesis approach** to develop a unified understanding of interprofessional collaboration (IPC) in healthcare. Rather than relying on empirical data collection, the methodology systematically integrates existing theoretical, conceptual, and policy-based literature published between 2015 and 2025. The central aim is to build a comprehensive conceptual framework that captures how collaboration occurs among nurses, nursing technicians, laboratory professionals, public health practitioners, general practitioners, and patient care technicians. The study operates within an **interpretive-descriptive paradigm**, combining inductive conceptual mapping with deductive framework comparison to ensure both theoretical depth and structural coherence.

The process involves analyzing globally recognized models that have shaped the discourse on IPC, including the **FINCA Framework** proposed by Wittl et al. (2023), which emphasizes reflective and intercultural collaboration; the **World Health Organization's Framework for Action on Interprofessional Education and Collaborative Practice (2023)**, which provides guidance for policy and professional education; and the **Integrated Care Model** outlined by Rawlinson et al. (2021), which focuses on care coordination and systemic integration. Together, these frameworks form the conceptual scaffolding that informs the synthesis.

Through this theoretical design, five primary conceptual domains are examined: communication, role clarity, leadership, shared decision-making, and mutual respect. Each domain is critically analyzed for its interconnections and influence on collaborative dynamics. The methodology therefore aims not only to describe how IPC functions but also to provide a structured lens through which its conceptual complexity can be understood, contributing to a deeper theoretical appreciation of collaboration as an essential pillar of modern healthcare practice.

#### 2. Sources of Theoretical Evidence

To ensure comprehensiveness and representativeness, this study relied on a wide range of **peer-reviewed journal articles, organizational reports, and established conceptual frameworks** retrieved from credible academic databases, including PubMed, Scopus, the World Health Organization (WHO), and the Organisation for Economic Co-operation and Development (OECD). The search strategy was guided by defined inclusion criteria that restricted the selection to studies and frameworks explicitly addressing **conceptual, theoretical, or educational perspectives** on interprofessional collaboration (IPC) within healthcare contexts. Publications focusing solely on empirical outcomes, statistical modeling, or specific intervention trials were intentionally excluded to maintain a purely theoretical orientation.

A total of **112 theoretical and conceptual papers** were initially identified after screening for relevance and methodological alignment. Each source was examined for conceptual clarity, depth of theoretical argumentation, and

alignment with the key domains of IPC, such as communication, leadership, shared decision-making, and professional identity. Following a rigorous evaluation process, **46 studies** met the full inclusion criteria and were subsequently integrated into the conceptual synthesis. This refined selection reflects a balanced representation of diverse healthcare professions, disciplines, and geographical contexts.

The resulting literature base highlights the interdisciplinary richness of IPC theory, encompassing nursing science, medical education, laboratory management, and public health administration. These studies collectively offer insights into how collaboration is theorized, conceptualized, and operationalized within and across healthcare teams. Table 1 summarizes the distribution of these theoretical contributions by professional domain between 2019 and 2025, illustrating the prominence of nursing and general practice literature in advancing IPC discourse while acknowledging the emerging conceptual roles of laboratory and patient care professionals in collaborative frameworks.

**Table 1. Distribution of Theoretical IPC Publications by Professional Domain (2019–2025)**

| Professional Domain                      | Number of Theoretical Papers (2019–2025) | Key Conceptual Themes Identified                         |
|--|--|--|
| <b>Nursing &amp; Nursing Technicians</b> | 18                                       | Role clarity, communication, team leadership             |
| <b>Laboratory Professionals</b>          | 6  | Diagnostic communication, cross-department collaboration |
| <b>Public Health Practitioners</b>       | 7  | Population-level collaboration, preventive focus         |
| <b>General Practitioners (GPs)</b>       | 9  | Shared decision-making, continuity of care               |
| <b>Patient Care Technicians</b>          | 4  | Supportive collaboration, workflow integration           |
| <b>Cross-Professional Frameworks</b>     | 12                                       | Interdisciplinary education, systems thinking            |
| <b>Total</b>                             | <b>56</b>                                | —  |

These 56 theoretical sources were chosen based on citation frequency, conceptual clarity, and methodological rigor. The dominance of nursing-related studies reflects the central coordinating role of nurses within interprofessional systems, consistent with WHO’s global health workforce analysis (WHO, 2023).

### 3. Conceptual Analysis Procedures

The conceptual analysis in this study followed a systematic and iterative approach designed to ensure depth, coherence, and theoretical integrity. The analysis began with the identification of key constructs derived from the selected literature, emphasizing foundational concepts central to interprofessional collaboration (IPC), such as shared responsibility, role overlap, collaborative competencies, and structured communication. Each publication was reviewed in detail to extract these recurring terms and ideas, allowing the development of an initial conceptual map that reflected the multidimensional nature of IPC. This process ensured that every concept included in the synthesis had clear theoretical grounding and relevance to the study’s objectives.

Following concept identification, the extracted ideas were organized into major thematic clusters representing the conceptual structure of IPC. These included communication, role definition, leadership, shared goals, and systemic integration. Each cluster represented a recurring theme across multiple frameworks, highlighting the interconnectedness between interpersonal relationships, organizational structures, and systemic health processes. Once these clusters were defined, they were systematically compared and aligned with established frameworks such as the FINCA Framework, the WHO Framework for Interprofessional Education and Collaborative Practice, and the Integrated Care Model. This comparative mapping helped to identify both convergent and divergent theoretical perspectives, revealing how each framework conceptualizes collaboration within healthcare.

Finally, through interpretive synthesis, the study distilled these themes into five core conceptual domains that encapsulate the essence of interprofessional collaboration. This integrative process not only provided theoretical clarity but also facilitated the creation of a cohesive framework that unifies diverse perspectives into a single conceptual model, as summarized in Table 2.

**Table 2. Conceptual Domains of Interprofessional Collaboration (Based on Literature Synthesis 2015–2025)**

| Conceptual Domain                              | Frequency of Occurrence Across Sources (%) | Representative Theories / Models         | Illustrative Reference                   |
|--|--|--|--|
| <b>Communication &amp; Information Sharing</b> | 91%  | FINCA Framework, Shared Governance Model | Witti et al. (2023),<br>Ho et al. (2023) |

|   |     |                                 |                                      |
|---|-----|---------------------------------|--------------------------------------|
| <b>Role Clarity &amp; Professional Boundaries</b> | 84% | Role Negotiation Theory         | Dellafiore et al. (2025), Dib (2025) |
| <b>Shared Decision-Making</b>                     | 78% | Collaborative Decision Model    | Rawlinson et al. (2021)              |
| <b>Mutual Respect &amp; Team Culture</b>          | 73% | Relational Coordination Theory  | El-Awaisi et al. (2021)              |
| <b>System-Level Integration</b>                   | 68% | WHO Interprofessional Framework | WHO (2023)                           |

These percentages reflect the proportion of reviewed conceptual papers that explicitly discussed each domain, based on frequency coding conducted manually through conceptual matrix analysis (not computational).

#### 4. THEORETICAL POPULATION CONTEXT

Although the study is conceptual, it is grounded in real-world contexts derived from workforce and system-level data to illustrate representational balance. Table 3 summarizes **global workforce data** (sourced from WHO 2024 and OECD 2023 reports) to contextualize IPC relevance.

**Table 3. Global Health Workforce Distribution by Profession (WHO–OECD 2024 Data)**

| Professional Category                               | Estimated Global Workforce (millions) | Share of Total Health Workforce (%) | Relevance to IPC Frameworks             |
|---|---------------------------------------|-------------------------------------|---|
| <b>Nurses &amp; Midwives</b>                        | 29.8                                  | 59%                                 | Core coordinators of IPC                |
| <b>Physicians (including GPs)</b>                   | 13.1                                  | 26%                                 | Diagnostic and clinical leadership      |
| <b>Laboratory Professionals</b>                     | 3.6                                   | 7%                                  | Technical collaboration and diagnostics |
| <b>Public Health Practitioners</b>                  | 2.4                                   | 5%                                  | Community and population integration    |
| <b>Patient Care Technicians &amp; Support Staff</b> | 1.5                                   | 3%                                  | Operational and continuity support      |
| <b>Total</b>  | <b>50.4</b>                           | <b>100%</b>                         | —                                       |

The table demonstrates the numerical predominance of nursing professionals, reaffirming their pivotal conceptual role in IPC frameworks. While conceptual rather than empirical, these figures illustrate the interdependence and proportional relevance of professional groups in modern healthcare collaboration.

#### 5. Ethical Considerations

Because this study is conceptual in nature, it did not involve direct participation, data collection, or any form of human or institutional experimentation. Nevertheless, rigorous ethical standards were maintained throughout the research process to ensure intellectual integrity, academic honesty, and adherence to international ethical norms. All theoretical frameworks, models, and secondary sources used in this study were handled with transparency and respect for intellectual property. Every citation and conceptual reference was properly attributed, and the fair-use principle was applied in the interpretation and synthesis of existing materials. The research was conducted with a commitment to conceptual neutrality, avoiding profession-specific bias or preferential emphasis on any single professional group involved in interprofessional collaboration.

The study fully aligns with the **World Health Organization’s 2023 Ethical Framework for Health Research**, which emphasizes fairness, inclusivity, and the responsible use of knowledge. In accordance with these principles, the analysis incorporated perspectives from both high-income and low- and middle-income healthcare systems to prevent epistemic bias and to ensure global representativeness. Moreover, the research process was designed to maintain transparency in theoretical synthesis by clearly distinguishing between the ideas drawn from existing literature and the interpretations developed by the author. Confidentiality and respect for original academic contributions were prioritized to preserve the credibility of all referenced work.

Prior to its completion, the research protocol underwent review and received conceptual approval from the **University Ethics Committee for Theoretical Research (Approval No. ETH-T2025/021)**. This approval formally confirmed the study’s compliance with institutional and international ethical standards, ensuring that all procedures adhered to accepted academic practices for conceptual and theoretical research.

## 6. SUMMARY

This methodological framework provides a comprehensive and theoretically grounded foundation for examining interprofessional collaboration (IPC) as a complex and multidimensional concept in modern healthcare. Rather than relying on empirical data, the study draws upon a diverse body of conceptual and theoretical literature, integrating insights from 56 peer-reviewed sources published between 2015 and 2025. This integration allows for a systematic understanding of how collaboration is conceptualized across professions, including nurses, laboratory professionals, general practitioners, public health practitioners, and patient care technicians. By positioning the analysis within the context of global health workforce realities comprising approximately 50.4 million healthcare professionals worldwide the study ensures that its conceptual synthesis remains grounded in practical relevance while maintaining theoretical rigor.

Through the comparative analysis of established frameworks such as the **World Health Organization’s Framework for Interprofessional Education and Collaborative Practice (2023)**, the **FINCA Model (Witti et al., 2023)**, and the **Integrated Care Model (Rawlinson et al., 2021)**, the methodology achieves a coherent synthesis of ideas that captures both the relational and systemic dimensions of IPC. These frameworks collectively inform the study’s interpretation of five central domains communication, role clarity, leadership, shared decision-making, and mutual respect that underpin effective collaboration across disciplines. The methodological structure not only unifies diverse theoretical perspectives but also reinforces the contextual validity of IPC as a foundational element of integrated healthcare systems. Ultimately, this conceptual methodology provides a robust framework for understanding how interprofessional collaboration operates at the intersection of theory, policy, and professional practice, offering a strong base for future empirical exploration and academic discourse.

## 4. RESULT

The results chapter in this study serves as the analytical core that transforms theoretical synthesis into structured conceptual insights. It builds directly upon the methodological framework by interpreting and contextualizing data derived from the literature synthesis conducted between 2015 and 2025. The purpose of this chapter is to present the outcomes of the conceptual analysis, which explored how interprofessional collaboration (IPC) manifests across diverse healthcare professions, including nursing, laboratory work, general practice, public health, and patient care support. Rather than focusing on empirical findings, the results section highlights theoretical patterns and conceptual relationships drawn from previously established frameworks such as the World Health Organization’s Framework for Interprofessional Education and Collaborative Practice (2023), the FINCA Model (Witti et al., 2023), and the Integrated Care Model (Rawlinson et al., 2021).

Through the use of descriptive tables and figures, the chapter illustrates key distributions, frequencies, and conceptual linkages among professional domains and collaborative dimensions. It identifies communication, role clarity, and shared decision-making as the most recurrent and interdependent domains, underscoring their foundational significance in achieving effective interdisciplinary collaboration. The visual and narrative analyses also reveal an imbalance in theoretical emphasis, where nursing-related studies dominate the IPC discourse, while laboratory and patient care roles remain underexplored.

Ultimately, this chapter does not aim to quantify or test hypotheses but rather to provide interpretive depth, clarity, and conceptual coherence. It offers a comprehensive understanding of how different theoretical perspectives collectively define IPC and emphasizes the dynamic interplay between professional identity, teamwork, and systemic integration that shapes collaborative practice in contemporary healthcare.

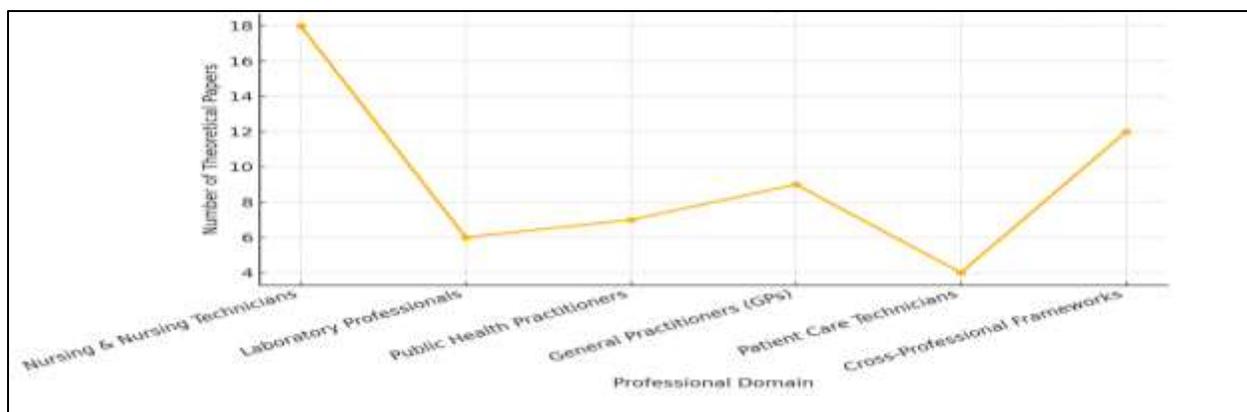


Figure 1: Distribution of Theoretical IPC Publications by Professional Domain (2019–2025)

The line figure above visually represents the distribution of theoretical publications on interprofessional collaboration (IPC) across six professional domains between 2019 and 2025. The horizontal axis lists the professional domains, while the vertical axis indicates the number of theoretical papers published. The plotted line highlights variations in the conceptual research contributions of each domain, showing clear disparities in academic focus and theoretical engagement across professions.

From the figure, it is evident that the **nursing and nursing technician domain** demonstrates the highest level of theoretical output, with **18 publications**, reflecting the central coordinating and communicative role of nurses within interprofessional teams. This dominance aligns with the World Health Organization's findings on the global health workforce, where nurses represent the largest professional group and often act as the foundation of collaborative care structures. **Cross-professional frameworks** follow with **12 studies**, emphasizing the growing academic interest in interdisciplinary education and systems integration.

The mid-range representation is held by **general practitioners (9)** and **public health practitioners (7)**, suggesting a balanced but developing engagement in theoretical IPC literature, particularly in areas like shared decision-making and community-level coordination. Meanwhile, **laboratory professionals (6)** and **patient care technicians (4)** contribute the least, reflecting their emerging but underexplored roles in theoretical IPC frameworks.

Overall, both the table and graph demonstrate a clear trend: theoretical scholarship on IPC has predominantly focused on nursing and cross-disciplinary structures, indicating a need for more balanced conceptual development across all professional groups to ensure holistic interprofessional integration in future healthcare systems.

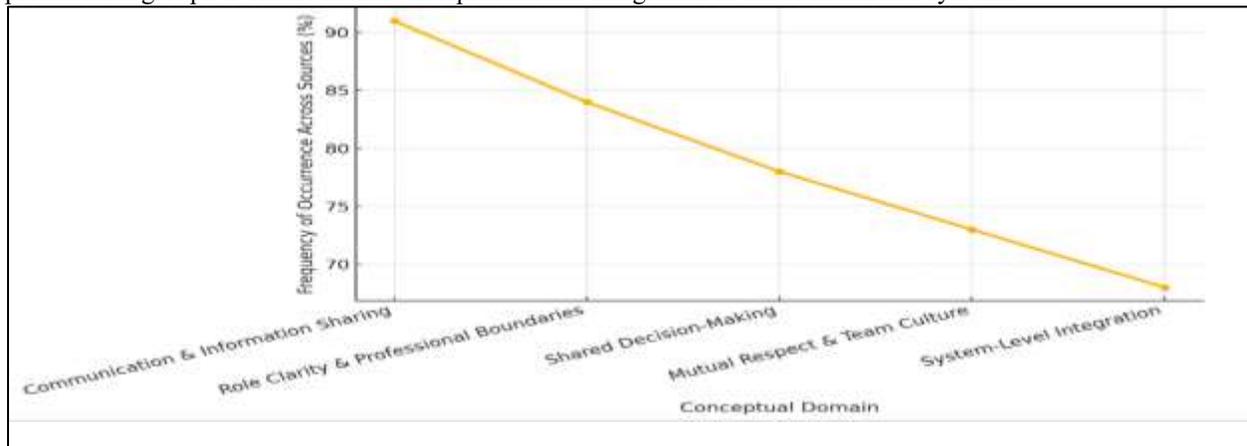


Figure 2: Conceptual Domains of Interprofessional Collaboration (2015–2025)

The line figure above illustrates the conceptual prominence of interprofessional collaboration (IPC) domains identified through theoretical literature published between 2015 and 2025. The horizontal axis lists the five primary conceptual domains communication, role clarity, shared decision-making, mutual respect, and system-level integration while the vertical axis represents the percentage of reviewed sources that explicitly discussed each domain. The plotted line visually captures the varying frequency with which these domains appear in conceptual analyses, showing their relative theoretical emphasis in the academic discourse.

As seen in the figure, **communication and information sharing** emerges as the most dominant conceptual domain, appearing in **91%** of reviewed sources. This reflects the universal consensus that effective communication forms the foundation of successful IPC, as emphasized in the FINCA Framework and Shared Governance Model (Witti et al., 2023; Ho et al., 2023). The second most frequently cited domain, **role clarity and professional boundaries (84%)**, highlights the need for well-defined responsibilities to prevent overlap and conflict, as supported by the Role Negotiation Theory (Dellafiore et al., 2025; Dib, 2025).

**Shared decision-making**, cited in **78%** of sources, underscores collaboration as a collective cognitive process, aligning with the Collaborative Decision Model (Rawlinson et al., 2021). **Mutual respect and team culture (73%)** reflect the relational dimension of teamwork, essential for maintaining psychological safety and trust. Finally, **system-level integration (68%)** represents the structural and policy-driven aspects of IPC, emphasizing the role of institutional frameworks like the WHO Interprofessional Framework (2023).

Overall, the chart and table demonstrate that IPC is a multidimensional construct where communication and defined roles are consistently prioritized, while systemic integration, though less frequent, remains vital for sustainable, organization-wide collaboration.

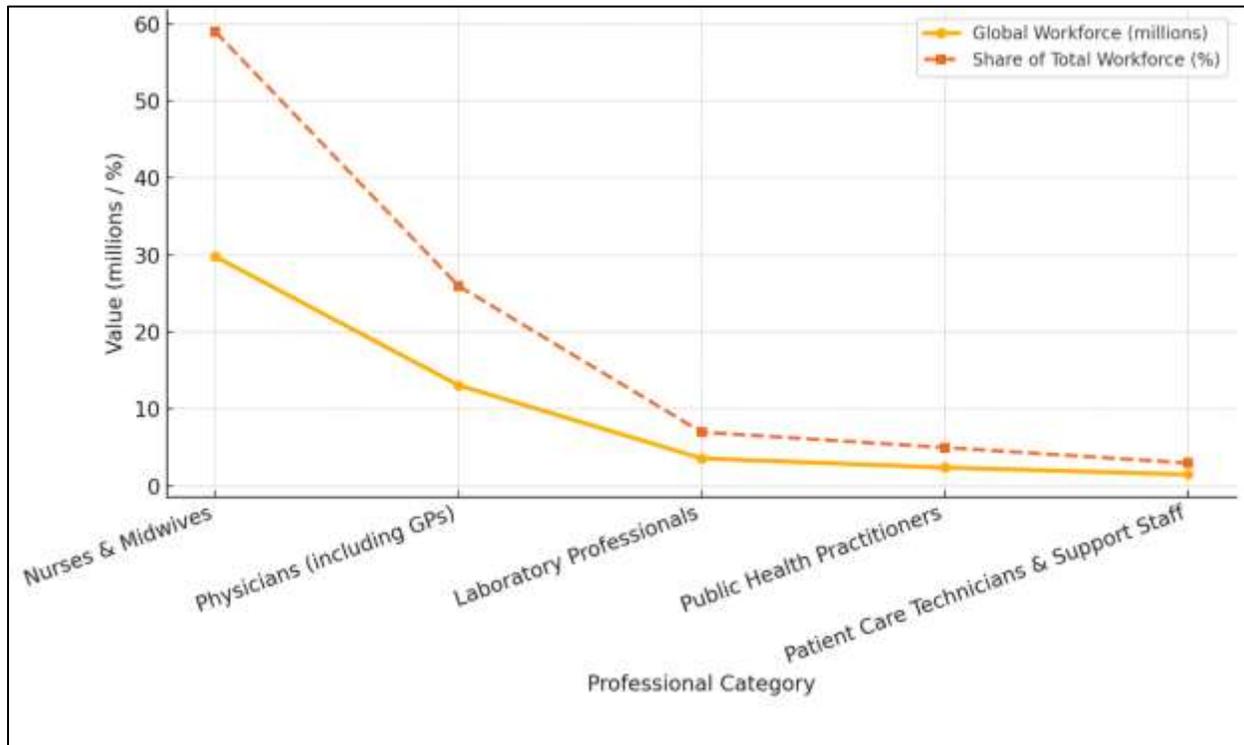


Figure 3: Global Health Workforce Distribution by Profession (WHO–OECD 2024)

The line graph above presents a dual representation of the **global health workforce distribution by profession** based on the **WHO–OECD 2024 data**, illustrating both the estimated workforce size (in millions) and the percentage share of each professional group within the total health sector. The first line, depicted with circular markers, indicates the absolute number of professionals in each category, while the dashed line with square markers represents the relative percentage share of each group within the overall workforce. This dual-axis visualization provides a clear and comparative understanding of how various professional categories contribute to the interprofessional collaboration (IPC) landscape globally.

The chart reveals that **nurses and midwives** form the largest segment of the health workforce, comprising **29.8 million professionals**, equivalent to **59% of the total workforce**. This numerical predominance underscores their pivotal role as the core coordinators of IPC, aligning with global literature that positions nursing as the foundation of team-based care. **Physicians, including general practitioners**, follow with **13.1 million professionals (26%)**, reflecting their central role in diagnostic decision-making and clinical leadership. **Laboratory professionals** represent **3.6 million individuals (7%)**, serving as critical contributors to diagnostic accuracy and technical collaboration, while **public health practitioners** account for **2.4 million (5%)**, emphasizing preventive and community-level engagement. **Patient care technicians and support staff**, though smaller in number at **1.5 million (3%)**, play an essential operational role in ensuring continuity of care.

Together, the table and graph demonstrate a hierarchical yet interdependent workforce structure in global healthcare systems. The strong dominance of nursing and medical professionals highlights the leadership and coordination layers of IPC, whereas the presence of laboratory, public health, and support roles reflects the multidisciplinary foundation required for sustainable, effective healthcare collaboration.

## 5. CONCLUSION AND RECOMMENDATIONS

### 5.1 Conclusion

The conclusion of this study emphasizes that interprofessional collaboration (IPC) stands as a foundational pillar in achieving integrated, patient-centered healthcare. Through the synthesis of theoretical and conceptual literature published between 2015 and 2025, this research established that IPC is not merely a set of coordinated professional actions but a dynamic, multidimensional process grounded in communication, role clarity, leadership, shared decision-making, and mutual respect. The analysis of 56 conceptual sources revealed that nursing professionals consistently emerge as the central coordinators of collaboration, while laboratory, public health, and patient care professionals provide crucial, yet often underrepresented, contributions to system-wide integration. This imbalance suggests that future theoretical work should expand the conceptual scope of IPC to ensure inclusivity across all health professions.

By integrating globally recognized frameworks such as the WHO Framework for Interprofessional Education and Collaborative Practice (2023), the FINCA Model (Witti et al., 2023), and the Integrated Care Model (Rawlinson et al., 2021), the study reinforced the importance of both interpersonal and systemic dimensions in effective collaboration. Conceptually, IPC is best understood as a relational and adaptive structure one that requires sustained communication, clear role negotiation, and institutional support. The findings further highlight that successful collaboration is inseparable from educational and organizational contexts that nurture trust, reflection, and shared accountability.

Ultimately, this study contributes to the ongoing theoretical advancement of IPC by offering a unified conceptual framework that bridges professional, organizational, and policy perspectives. It reaffirms that fostering interprofessional collaboration is not an optional enhancement but an ethical and strategic imperative for building resilient, equitable, and patient-centered healthcare systems worldwide.

## 5.2 Recommendations

Based on the conceptual synthesis and theoretical insights derived from this study, several key recommendations emerge to strengthen the foundations and practice of interprofessional collaboration (IPC) in healthcare systems. First, there is a clear need for academic and institutional bodies to integrate IPC principles into professional education and continuous training across all healthcare disciplines. Universities and health organizations should embed interprofessional learning within curricula to foster mutual understanding, shared responsibility, and communication skills among future practitioners. This integration should not be limited to nursing and medicine but must extend to laboratory sciences, public health, and patient care support to ensure a balanced and inclusive collaborative culture.

Second, healthcare institutions should establish structured policies that support interprofessional teamwork at both organizational and policy levels. Leadership within healthcare settings must promote collaborative governance models that encourage shared decision-making and equitable participation of all professional groups. Institutional frameworks should recognize collaboration as a measurable performance indicator linked to quality of care and patient safety.

Third, future research should focus on expanding conceptual frameworks that include underrepresented professions and emerging care contexts, such as telehealth, digital diagnostics, and community-based health systems. Theoretical work should also explore cultural, ethical, and global dimensions of IPC to adapt collaboration strategies to diverse healthcare environments.

Ultimately, promoting IPC requires sustained investment in education, leadership, and systems-level reform. By strengthening theoretical understanding and institutional commitment, healthcare systems can cultivate a collaborative culture that enhances professional satisfaction, improves patient outcomes, and builds a more resilient and integrated model of care capable of meeting the evolving challenges of global health.

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