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Interprofessional education and collaboration in health professions: A narrative review of global evidence and lessons from the Philippines

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ABSTRACT

Background: Interprofessional education (IPE) and interprofessional collaboration (IPC) are globally recognized as strategies for strengthening health systems and improving patient outcomes. Although frameworks and evidence have been well established in high-income countries, insights from low- and middle-income contexts remain limited. In the Philippines, studies on IPE and IPC are emerging but remain fragmented across disciplines and institutions.

Objectives: This review aimed to synthesize international and Philippine literature on IPE and IPC, identify key frameworks, experiences, and challenges, and discuss implications for education, practice, and policy development in the Philippine context.

Materials and methods: A narrative review approach was used to integrate diverse forms of evidence on IPE and IPC. Sources were identified through PubMed, Scopus, Google Scholar, and relevant organizational reports using the keywords "interprofessional education," "interprofessional collaboration," "health professions," and "Philippines." Articles published in English between 2000 and 2024 were included if they discussed definitions, frameworks, implementation strategies, challenges, or outcomes. Extracted data were synthesized thematically to operationalize the review objectives, focusing on conceptual and policy foundations of IPE and IPC, evidence of effectiveness, international experiences, the Philippine context and local evidence, and challenges, barriers, and sustainability.

Results: Global literature shows that IPE enhances teamwork, communication, and, in some cases, patient outcomes, though findings are often constrained by methodological heterogeneity. International frameworks from Australia, Canada, the United Kingdom, and the United States establish shared competency domains but highlight challenges in assessment and curriculum integration. Philippine studies demonstrate readiness among students and professionals, pilot initiatives in community and institutional settings, and recurring barriers such as faculty shortages, professional hierarchies, and limited policy support. Sustainability emerged as a major concern in both global and local contexts.

Conclusion: IPE and IPC hold significant potential to advance collaborative health professions education in the Philippines and similar low- and middle-income countries. To strengthen sustainability, contextual adaptation of global frameworks, investment in faculty development, alignment of accreditation

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and policy standards, and longitudinal research are essential to building enduring models that enhance interprofessional collaboration and health system outcomes.

Introduction

Interprofessional education (IPE) is defined by the World Health Organization[1] as occasions when students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes. Interprofessional collaboration (IPC), in turn, refers to multiple health workers from different professional backgrounds working together with patients, families, caregivers, and communities to deliver the highest quality of care.[1-3] IPE aims to produce a collaborative practice–ready workforce, while IPC represents the application of these competencies in practice. Together, they are widely recognized as essential for strengthening health systems and improving patient outcomes.

The WHO has emphasized that IPE prepares a workforce capable of collaborative practice, which enhances access, quality, and efficiency of care.[1] In response, several countries have developed national competency frameworks to guide the integration of IPE into curricula and practice, including models from Canada, the United States, the United Kingdom, and Australia.[2-4] Systematic reviews have also demonstrated that IPE can improve teamwork, communication, and, in some cases, patient outcomes, although the evidence remains methodologically heterogeneous.[5,6]

Despite growing international attention, the literature on IPE and IPC remains uneven. Many reviews focus on high-income countries, leaving fewer insights from low- and middle-income contexts where health system challenges may be distinct.[7,8] In the Philippines, research on IPE and IPC is emerging but still limited, often descriptive, and constrained to specific professions or institutions.[9,10] These studies suggest readiness among students and professionals and demonstrate pilot initiatives, yet they also reveal barriers such as professional hierarchies, faculty shortages, and limited policy support.[11,12] To date, no comprehensive synthesis has integrated Philippine evidence with global literature to identify how international lessons might inform local development of IPE and IPC.

The purpose of this review is to synthesize literature on 1) conceptual and policy foundations of IPE and IPC, 2) evidence of effectiveness, 3) international experiences, 4) Philippine context and local evidence, and 5) challenges, barriers, and sustainability. By integrating global evidence with local perspectives, this review seeks to provide a clearer understanding of how IPE and IPC can be advanced in the Philippine context while contributing to broader discussions on collaborative practice in health professions education.

Materials and methods

This review followed a narrative approach,[13-15] chosen for its flexibility in synthesizing diverse forms of evidence and its suitability for examining broad and complex topics such as IPE and IPC. Unlike systematic or scoping reviews, the aim was not to exhaustively capture all available studies but to integrate key literature that informs the conceptual, practical, and contextual aspects of IPE and IPC.[13-15]

The scope of the review included literature that addressed definitions, frameworks, implementation strategies, challenges, and outcomes of IPE and IPC in health professions education and practice. Both international and Philippine studies were considered to highlight global trends and local experiences. Sources were identified through electronic databases (PubMed, Scopus, and Google Scholar), manual searches of reference lists, and relevant organizational reports. Search terms combined "interprofessional education," "interprofessional collaboration," "health professions," and "Philippines." Inclusion criteria were studies and reviews published in English between 2000 and 2024 that examined IPE or IPC in health professions education or practice. Exclusion criteria were articles that addressed multiprofessional education without an interprofessional focus or those outside the health professions.

Data were extracted using a standardized charting form that summarized author, year, country, study type, population, key findings, and relevance to IPE and IPC. The synthesis followed content analysis,[16] with analytical categories developed to operationalize the review objectives. Findings were grouped into 1) conceptual and policy foundations of IPE and IPC, 2) evidence of effectiveness, 3) international experiences, 4) Philippine context and local evidence, and 5) challenges, barriers, and sustainability. Reflexivity was maintained by acknowledging that the selection and interpretation of studies were shaped by the perspectives of the authors.

Results

Overview of included literature

A total of 26 source materials were included in this narrative review. The literature spanned more than two decades, with early contributions published between 1999 and 2009, followed by a steady increase in publications from 2010 onward. Most sources were published between 2010 and 2023.

In terms of study design, the included sources were predominantly reviews and descriptive studies, including systematic and umbrella reviews, cross-sectional surveys, and descriptive case reports. A smaller number of sources focused on intervention evaluation, and several papers presented competency frameworks or policy-oriented guidance rather than empirical findings. The studies represented diverse

geographic contexts, including global or multinational settings, as well as country-specific evidence from the Philippines, other parts of Asia, Europe, Africa, Australia, and North America.

The included literature addressed a range of populations and contexts, including undergraduate and postgraduate health professions students, licensed health and social care professionals, faculty members, institutional leaders, and policymakers across multiple disciplines. Key findings across sources focused on attitudes and readiness for interprofessional education, evidence of effectiveness of IPE and IPC initiatives, international and local implementation experiences, and recurring challenges related to barriers and sustainability. A summary of the characteristics of the included sources is presented in Table 1, while detailed extracted data are provided in the supplementary material.

The findings of this review are organized into five themes that reflect the study objectives: 1) conceptual and policy foundations of IPE and IPC, 2) evidence of effectiveness, 3) international experiences, 4) Philippine context and local evidence, and 5) challenges, barriers, and sustainability. These themes integrate insights from both global and Philippine literature to provide a comprehensive understanding of how IPE and IPC have been conceptualized, implemented, and evaluated across settings.

Table 1. Summary of characteristics of included source materials (N=26).

Characteristic	Summary
Publication period	Sources were published between 1999 and 2023, with the majority appearing from 2010 onward.
Geographic context	Studies were conducted in or focused on global or multinational settings, as well as country-specific contexts including the Philippines, United States, Canada, United Kingdom, Australia, Germany, South Africa, and Qatar.
Study type	Included sources comprised systematic reviews, scoping reviews, umbrella reviews, quantitative descriptive studies, qualitative studies, mixed-methods studies, descriptive case reports, and non-empirical competency or policy frameworks.
Educational and practice settings	Studies addressed academic, clinical, community-based, workplace, and policy-level contexts in health and social care.
Populations	Participants and target groups included undergraduate and postgraduate health professions students, licensed health and social care professionals, faculty members, administrators, and policymakers across multiple disciplines.
Key focus areas	Studies examined attitudes and readiness for interprofessional education, effectiveness of IPE and IPC initiatives, implementation strategies, international and local experiences, and challenges related to barriers and sustainability.
Relevance to IPE and IPC	All included sources contributed evidence or guidance relevant to the conceptualization, implementation, evaluation, or sustainability of interprofessional education and collaborative practice.

Conceptual and policy foundations of IPE and IPC

IPE and IPC have been recognized as essential strategies for strengthening health systems and improving patient outcomes. The WHO's Framework for Action emphasized that preparing a collaborative practice-ready workforce can enhance access, quality, safety, and efficiency of care, while also identifying systemic enablers such as educator training, curricular integration, and supportive policies.[1] Building on this foundation, several national and institutional models have been developed to operationalize competencies for collaborative practice.

The Canadian Interprofessional Health Collaborative (CIHC) Framework articulated six domains: role clarification, patient- and family-centered care, team functioning, collaborative leadership, communication, and conflict resolution, integrating knowledge, skills, and values for practice.[2] In the United States, the Interprofessional Education Collaborative (IPEC) Report proposed four competency domains: values and ethics, roles and responsibilities, communication, and teamwork, as the basis for curriculum and accreditation reforms.[3] Similarly, the Curtin University Interprofessional Capability Framework in Australia highlighted capabilities across developmental levels, emphasizing client-centered care, safety, and teamwork as outcomes uniquely achievable through interprofessional activity.[17]

Earlier frameworks also contributed to shaping this landscape. Walsh and colleagues developed the Interprofessional Capability Framework in the United Kingdom, identifying four domains: ethical practice,

knowledge in practice, interprofessional working, and reflection, that emphasized capability over static competence.[18] Thistlethwaite and colleagues later compared major frameworks from the UK, Canada, the US, and Australia, noting areas of convergence such as communication, teamwork, and ethics, while highlighting challenges in terminology, assessment, and curriculum integration.[4]

These frameworks collectively illustrate the global consensus that interprofessional competencies are critical for preparing health professionals for collaborative practice, while also pointing to gaps in assessment strategies and continuing debates on how best to conceptualize competence and capability. A summary of key international frameworks and their domains is provided in Table 2.

Table 2. Key international IPE frameworks.

Framework	Domains/Focus	Key features	Reference
WHO Framework for Action (2010)	Educator training, curricular integration, supportive policies	Emphasizes collaborative practice-ready workforce; identifies systemic enablers	WHO[1]
CIHC Framework (Canada)	Role clarification, patient- and family-centered care; team functioning, collaborative leadership, communication, conflict resolution	Integrates knowledge, skills, and values	CIHC[2]
IPEC Competencies (US)	Values and ethics, roles and responsibilities, communication, teamwork	Basis for accreditation and curriculum reforms	IPEC Expert Panel[3]
Curtin University Framework (Australia)	Client-centered care, safety, teamwork (across developmental levels)	Highlights capabilities as outcomes of IPE	Brewer[17]
UK Interprofessional Capability Framework	Ethical practice, knowledge in practice, interprofessional working, reflection	Focuses on *capability* rather than static competence	Walsh *et al*.[18] Thistlethwaite *et al*.[4]

Effectiveness of IPE and IPC

Evidence on the effectiveness of IPE and IPC has expanded over the past two decades. The Cochrane review update synthesized randomized controlled trials, controlled before-and-after studies, and time series analyses, showing that IPE can improve professional practice and, in some cases, patient outcomes such as diabetes management, emergency care, and prescribing practices. However, the certainty of evidence was generally low to moderate due to methodological heterogeneity and small sample sizes, underscoring the need for stronger designs.[5]

Other reviews have examined student outcomes, particularly in medicine. A systematic review of IPE interventions in medical curricula reported generally positive changes in student attitudes, with later and longer interventions demonstrating more consistent benefits. The lack of consensus on timing and the limitations of commonly used instruments such as the Readiness for Interprofessional Learning Scale (RIPLS) suggest the need for improved measures and longitudinal designs.[6]

A broader synthesis of IPE in higher education identified three key perspectives: providers, learners, and researchers. Barriers such as limited resources, heavy workloads, and lack of institutional support were commonly reported, while facilitators included student-led activities, relevance to clinical practice, and organizational commitment. Topic modeling reinforced the salience of themes such as simulation-based learning and research collaboration, but also highlighted gaps in the evidence base.[7]

Implementation-focused reviews also reveal persistent challenges. A scoping review of IPE initiatives mapped barriers at micro (silos, stereotypes), meso (institutional leadership, scheduling), and macro (policy and regulation) levels, noting sustainability as a critical issue.[8] Reviews of IPC in primary care and healthcare teams further confirmed recurring obstacles: time constraints, unclear roles, and hierarchical structures, while identifying facilitators such as co-location, strong leadership, and shared decision-making as context-specific enablers.[19,20]

Overall, the evidence shows that IPE and IPC can enhance collaboration and contribute to improved care, though outcomes remain inconsistent and methodological weaknesses are common.

International experiences in IPE and IPC

IPE has been implemented in diverse ways across international contexts, often shaped by local needs and available resources. Simulation-based learning is one widely adopted strategy. At the University of the Free State in South Africa, module leaders reported that simulation enhanced role clarification, teamwork, and empathy, though logistical barriers such as scheduling, costs, and staff attitudes limited broader implementation.[21] Similarly, in Qatar, a pre-post IPE activity on smoking cessation demonstrated significant reductions in stereotypical views among healthcare students, showing that targeted interventions can improve attitudes and role understanding.[22]

Workshops and structured training have also been tested as strategies for fostering collaboration. A Canadian study evaluating a one-day interprofessional workshop for residents, nurses, and allied health professionals reported high satisfaction and modest improvements in teamwork attitudes among residents, but limited change in other groups. This highlighted the potential of workshops for short-term gains while pointing to the need for role clarification and organizational support to sustain impact.[23] Beyond formal educational settings, practical strategies for embedding interprofessional education and collaborative practice into daily work have also been described. Guidance from Australia and the Philippines outlined twelve actionable tips for healthcare teams, including investing in champions, using shared language, and incorporating client feedback, offering adaptable approaches for day-to-day practice.[24]

Attitudes toward collaboration have also been studied among early-career professionals. In Germany, young healthcare graduates without prior IPE exposure expressed generally positive views on communication and teamwork but were neutral toward interprofessional learning and interactions, with demographic factors influencing attitudes. These findings suggest the importance of continuing education and early career reinforcement of collaborative skills.[25] Instrument development has further contributed to advancing IPE evaluation, with the Attitudes Toward Health Care Teams Scale (ATHCTS) providing a validated measure for assessing team perceptions across professions.[26]

International experiences demonstrate the adaptability of IPE strategies across contexts, from simulation and workshops to workplace integration. Results consistently highlight improvements in attitudes and collaboration, though limitations in logistics, evaluation, and long-term outcomes remain evident.

Philippine context and local evidence

IPE and IPC in the Philippines remain limited but has grown steadily in recent years, offering insights into readiness, attitudes, and implementation. A survey of healthcare students reported variation in readiness for interprofessional learning, with medical technology students showing lower teamwork and collaboration scores and physiotherapy and occupational therapy students scoring lower in role and responsibility domains. Senior students generally displayed more favorable attitudes, suggesting that readiness develops over time.[9] Similarly, a nationwide survey of licensed therapists found that those with prior IPE experience held more positive attitudes toward IPC, with community-based case discussions and didactics linked to stronger collaboration attitudes. Practice setting also influenced perceptions, with academic environments associated with more positive views.[10]

Institutional and community-based initiatives further demonstrate how IPE has been adapted to the local context. At the University of the Philippines Manila, a community-engaged IPE model integrated health and social care students into a rural development program. The initiative improved appreciation of professional roles and enhanced patient involvement but faced challenges such as professional hierarchies, faculty shortages, and resource constraints.[12] A pilot program at Angeles University Foundation also showed the potential for structured IPE implementation across multiple health science programs, though scheduling, bureaucracy, and limited resources posed barriers to sustainability.[11]

Other Philippine studies highlight system-level issues and workforce perspectives. Health and social workers caring for older adults described IPC as largely informal and ad hoc, hindered by organizational silos, staff shortages, and weak governance structures. Participants emphasized the need for integrated health and social care, leadership, and policy reforms.[27] A follow-up pilot training for these workers demonstrated that structured IPE activities improved attitudes, role understanding, and teamwork, supporting the feasibility of collaborative training even in resource-constrained settings.[28] In mental health, a baseline assessment among Filipino professionals revealed challenges in communication, role clarification, and conflict management, pointing to gaps in collaboration quality.[29] More recently, a survey of Filipino medical, nursing, and pharmacy students found generally positive attitudes toward IPE, with moral development emerging as an additional factor influencing perceptions.[30]

These studies provide an emerging picture of IPE and IPC in the Philippines, showing readiness and willingness to engage in interprofessional learning while identifying persistent challenges in faculty readiness, organizational support, and systemic silos.

Challenges, barriers, and sustainability

Despite the recognized benefits of IPE and IPC, persistent challenges have been documented across settings. Reviews consistently identify barriers at multiple levels. At the micro level, professional silos, negative stereotypes, and entrenched hierarchies hinder effective teamwork. Faculty shortages and limited training further constrain implementation.[8,19] At

the meso level, scheduling conflicts, lack of administrative support, and resource limitations are recurring issues. Macro-level barriers include insufficient policy support, unclear regulatory frameworks, and the absence of long-term funding or infrastructure to sustain initiatives.[8]

Philippine studies mirror these patterns but also highlight context-specific issues. Community- and institution-based initiatives identified faculty shortages, scheduling difficulties, and professional hierarchies as significant obstacles to program delivery.[11,12] Health and social workers emphasized systemic problems such as siloed services, organizational fragmentation, and weak leadership, which contributed to delayed care and duplication of services.[27] These concerns were echoed in mental health and geriatric care settings, where participants stressed the need for integrated governance, clearer role delineation, and policies supportive of collaboration.[28,29]

Another recurring challenge lies in the sustainability of IPE programs. While pilot projects and short-term interventions have demonstrated feasibility and short-term benefits, many lacked the infrastructure, funding, and leadership support needed to continue beyond initial phases.[8,11]

Overall, barriers to IPE and IPC are well documented and remain consistent across global and Philippine contexts. Addressing them requires systemic solutions that extend beyond isolated initiatives to ensure sustainability and integration into education and health systems. Table 3 summarizes barriers identified at micro, meso, and macro levels, comparing global patterns with Philippine findings.

Table 3. Barriers to IPE and IPC across contexts.

Level	Common barriers (global)	Barriers in the Philippines	Key references
Micro (individual/professional)	Professional silos, stereotypes, entrenched hierarchies	Hierarchical relations among professions; limited faculty training	Bogossian *et al.*[8] Rawlinson *et al.*[19] Paterno and Opina-Tan[12]
Meso (institutional/ organizational)	Scheduling conflicts, lack of administrative support, resource limitations	Faculty shortages; scheduling difficulties; limited institutional resources	Sy *et al.*[11] Paterno and Opina-Tan[12]
Macro (system/policy)	Insufficient policy support; unclear regulation; lack of funding	Siloed services; weak governance; lack of supportive policy frameworks	Bogossian *et al.*[8] Moncatar *et al.*[27] Sy *et al.*[29] Nakamura *et al.*[28]

The literature illustrates a strong international consensus on the importance of IPE and IPC, supported by global and national frameworks that define competencies and guide curricular development. Evidence from systematic and scoping reviews shows that IPE can improve collaboration and, in some cases, patient outcomes, though results are often limited by methodological weaknesses and inconsistent evaluation. International experiences demonstrate a range of strategies, including simulation, workshops, and workplace integration, that generally enhance teamwork and attitudes, but face persistent logistical and structural barriers. Philippine studies add valuable insights, showing student and professional readiness, pilot initiatives, and community-based models, while also highlighting barriers related to faculty capacity, professional hierarchies, and systemic silos. Across global and local contexts, sustainability emerges as a recurring challenge, with many initiatives constrained by limited resources, infrastructure, and long-term support.

Discussion

This review synthesized international and Philippine literature on IPE and IPC. The findings show that while there is broad consensus on the importance of IPE and IPC, and evidence of positive outcomes, significant gaps and barriers remain. Frameworks from the WHO, Australia, Canada, the UK, and the US, have established shared domains of competence and capability, and systematic reviews provide moderate evidence that IPE can improve collaboration and, in some cases, patient outcomes. International experiences further illustrate the potential of strategies such as simulation, workshops, and workplace integration, though logistical and structural constraints frequently limit their impact.

When considered alongside this global evidence, Philippine studies add valuable but still emerging contributions. Research among students and professionals indicates readiness and generally positive attitudes toward collaboration, and pilot initiatives show that IPE can be integrated into institutional and community settings. However, these studies are often descriptive, small-scale, and limited to specific professions or institutions. Barriers such as faculty shortages, scheduling conflicts, and entrenched professional hierarchies mirror international challenges but are compounded by local systemic and policy constraints. These patterns mirror global challenges but are compounded locally by systemic and policy

gaps, such as siloed organizational structures and limited regulatory guidance.

A notable difference between global and Philippine evidence lies in methodological rigor. International reviews and trials, while heterogeneous, include randomized and longitudinal designs that provide stronger evidence for the effects of IPE.[5,6] By contrast, most Philippine studies are cross-sectional surveys or descriptive case reports, which are valuable for baseline data but limited in establishing causality or long-term outcomes.[9,10,12] Measurement tools also present challenges. Instruments such as RIPLS and ATHCTS have been widely used, but concerns about subscale reliability and cultural fit remain, particularly in Philippine contexts. This indicates the need for adapting or developing validated tools that better capture interprofessional learning and collaboration in local settings.

Several implications arise from the findings. Firstly, faculty development remains a central requirement across contexts. International evidence shows that effective IPE relies on educators who can facilitate interprofessional learning and model collaborative behaviors.[8] Philippine studies echo this need, emphasizing that educators also shape student attitudes and readiness for collaboration.[10] Locally, structured programs combining workshops, mentorship, and competency-based evaluation could be developed, while globally, similar initiatives may be adapted to resource availability and cultural expectations. Monitoring through teaching evaluations and participation rates can serve as shared measures of accountability.

Secondly, curricular integration must move beyond optional or pilot activities. International frameworks have demonstrated that embedding IPE within required coursework leads to greater impact, yet translation into practice is uneven.[4] In the Philippines, community-based and institutional models have demonstrated feasibility but remain small-scale and resource-dependent.[11,12] Philippine institutions could mandate at least one simulation-based activity and one community-based project annually across health programs. Such models may also inform other low- and middle-income countries where experiential and community-oriented strategies offer cost-effective ways to normalize collaboration.

Thirdly, policy and accreditation support is critical for sustainability. Globally, competency frameworks have influenced accreditation standards, curricular reforms, and licensure examinations.[2,3] In the Philippine context, agencies such as the Commission on Higher Education, Professional Regulation Commission, and other accrediting bodies could embed interprofessional competencies into program outcomes and evaluation m echanisms, much like accrediting bodies in Canada, the UK, and Australia. For example, board exam blueprints could include interprofessional teamwork, aligning national policy with global trends toward collaborative-ready health professionals.[10]

Finally, sustainability requires institutional structures. Both global and Philippine experiences show that IPE initiatives often falter after pilot phases due to limited resources.[8,11] Establishing dedicated IPE coordination offices or committees, supported by research grants, alumni contributions, or inter-university partnerships, can ensure continuity. This model is transferable. Whether in the Philippines or elsewhere, designated leadership and sustainable funding mechanisms are essential for embedding IPE into long-term educational strategies.

Taken together, these implications demonstrate that while the Philippines shares global challenges in IPE and IPC, it also illustrates how international lessons can be adapted to local needs and, conversely, how Philippine experiences in community-based and resource-conscious strategies may inform broader global practice. By investing in faculty capacity, embedding interprofessional experiences in curricula, aligning accreditation and policy frameworks, and institutionalizing sustainable structures, both the Philippines and other countries can strengthen the preparation of a collaborative-ready health workforce.

Direction for future research

Several areas warrant further investigation. Firstly, longitudinal studies are essential to determine whether IPE experiences translate into sustained collaborative practice and measurable improvements in patient outcomes. International evidence suggests short-term gains in attitudes and teamwork,[5,6] but long-term effects remain unclear, particularly in low- and middle-income settings. Philippine studies are mostly cross-sectional and descriptive,[9,10,12] highlighting the need for designs that can assess outcomes over time.

Secondly, methodological diversification is required. While descriptive surveys and case reports provide valuable baseline insights, experimental and mixed-methods designs would strengthen the evidence base. Randomized and quasi-experimental studies conducted internationally could serve as models for Philippine and regional research, adapted to account for local constraints and contexts.[5]

Thirdly, instrument development should be prioritized. Tools such as the RIPLS and ATHCTS have been widely used internationally, yet their cultural fit and subscale reliability remain debated.[6] Developing or adapting validated instruments for the Philippine context would provide more reliable measures of attitudes, readiness, and collaboration quality, with potential applicability across other low- and middle-income countries facing similar cultural and resource considerations.

Finally, sustainability must be a focus of future inquiry. Evidence shows that many pilot initiatives, both globally and locally, do not extend beyond initial phases due to faculty shortages, resource limitations, and weak institutional leadership.[8,11] Future studies

should examine how leadership, policy frameworks, and resource allocation influence the long-term viability of IPE programs. Comparative research across different health systems may also highlight transferable strategies for embedding IPE into institutional and policy structures.

Limitations

This review followed a narrative approach, which offers flexibility in synthesizing diverse forms of evidence but does not aim to be exhaustive. While multiple databases and sources were considered, some relevant studies may not have been included due to language, indexing, or publication constraints. The review also relied on published literature, which may introduce publication bias by underrepresenting negative or inconclusive findings. Another limitation is the subjectivity inherent in narrative reviews. The selection and synthesis of studies were influenced by the perspectives of the authors, and different reviewers might interpret the same evidence differently. Finally, while efforts were made to balance global and Philippine perspectives, the relatively small number of local studies limited the depth of analysis specific to the Philippine context. These limitations highlight the need for cautious interpretation of findings and underscore the importance of continued research to expand and refine the evidence base.

Conclusion

This review synthesized global and Philippine literature on IPE and IPC. The findings reaffirm that IPE can foster collaborative competencies and, in some cases, contribute to improved health outcomes. International frameworks and reviews provide a strong conceptual and evidentiary foundation, while Philippine studies, though limited, demonstrate readiness among students and professionals and highlight feasible approaches to implementation. Persistent barriers, including professional hierarchies, faculty shortages, and resource constraints, are evident across settings and are compounded locally by systemic challenges.

Moving forward, contextual adaptation of global frameworks, investment in faculty development, and alignment of policy and accreditation standards are necessary to strengthen IPE in the Philippines. More rigorous and longitudinal research is also required to establish sustainable models and assess their long-term impact on practice and patient care. By integrating international lessons with local realities, IPE and IPC can be advanced to prepare a collaborative health workforce that is responsive to both national and global health needs.

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Conflict of interest

No potential conflict of interests was reported by the author(s).

CRediT authorship contribution statement

Paolo Miguel P. Bulan: writing: the first draft of the manuscript. All authors researched literature, conceived the study, and were involved in protocol development, reviewed and edited the manuscript and approved the final version of the manuscript.

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Supplementary material
Data extraction chart

Author (year)	Country/Region	Study design/Type	Population/Context	Key findings/Themes	Relevance to IPE/IPC
Berger-Estilita J, *et al*. (2020)[6]	Multi-country (USA, Europe, Asia, Australia, New Zealand)	To systematically review IPE interventions in medical curricula and evaluate changes in medical students' attitudes, identifying the most effective timing for IPE introduction.	Systematic review of 23 studies (2011-2019); databases: PubMed, PsycINFO, EMBASE, SCOPUS, PEDro, EThOS. Inclusion: validated IPE scale, ≥35 medical students, post-2011 IPEC. Registered PROSPERO CRD42020160964. Quality appraisal with McMaster Critical Review Form.	5,231 students total, 3,229 (62%) medical students across preclinical and clinical years	About half of studies showed significant improvement in attitudes toward IPE. Interventions varied (simulation, workshops, case-based, community). RIPLS most used but problematic. Both early and late interventions effective; later longer ones more impactful. No clear optimal timing. Heterogeneity prevented meta-analysis.
Bogossian F, *et al*. (2023)[8]	International (27 studies from multiple countries)	To review how interprofessional education (IPE) has been implemented, including strategies, challenges, and lessons learned.	Scoping review of 27 studies (Arksey & O'Malley framework). Included descriptive and case studies on IPE implementation. Data mapped to micro, meso, macro levels and sustainability.	Health professions students, educators, and institutions (varied disciplines, multi-country)	Most IPE initiatives were curricular, optional, group-based, and interactive. Micro-level challenges: silos, resistance, stereotypes, unequal status, faculty gaps. Meso-level: leadership, resources, scheduling, admin barriers. Macro-level: accreditation, policy/regulation gaps, hidden power structures. Sustainability issues: lack of infrastructure, funding, long-term planning; success tied to stakeholder buy-in.
Brewer M. (2011, reprint 2015)[17]	Australia (Curtin University, Perth, WA)	To provide a structured framework for teaching and assessing interprofessional capabilities required for graduates to be collaborative practice-ready.	Framework development informed by Sheffield Hallam (2010), CIHC (2010), Barr, Hammick, Freeth, WHO (2010), and expert consensus at Curtin University.	Not empirical; intended for health science students, educators, and practitioners	Framework includes three elements: client/family/community-centred care, client safety & quality, collaborative practice. Five capabilities: communication, team function, role clarification, conflict resolution, reflection. Capabilities described across three levels: novice, intermediate, entry-to-practice. Promotes outcomes only achievable via interprofessional activity.

Author (year)	Country/Region	Study design/Type	Population/Context	Key findings/Themes	Relevance to IPE/IPC
Canadian Interprofessional Health Collaborative (CIHC), 2010[2]	Canada (national-level framework, adaptable internationally)	To develop a competency framework for interprofessional education (IPE) and collaborative practice (IPC) applicable across health professions in Canada and adaptable globally.	Literature review, synthesis of existing frameworks, stakeholder consultations, and expert group development funded by Health Canada.	Not empirical; applies to health professionals, students, educators, regulators, and organizations	Six domains: role clarification, patient/client/family/community-centred care, team functioning, collaborative leadership, interprofessional communication, conflict resolution. Competencies integrate knowledge, skills, attitudes, and values; developmental across career; underpinned by complexity, context, and quality improvement; framework guides education, practice, regulation, and organizational change.
Causapin AKV, *et al*. (2022)[30]	Philippines	To describe attitudes of health profession students toward IPE and identify variables (sex, program, year level, clinical/IPE experience, moral development) influencing these attitudes.	Quantitative descriptive study; survey of 485 medical, nursing, and pharmacy students from a private university using IPE-Attitude Scale (IPE-AS) and SPICE-R; stratified random sampling.	Undergraduate students (medicine, nursing, pharmacy)	Attitudes toward IPE were overall favorable. More positive attitudes observed among medical students, lower-year students, and those with higher moral development. Sex and prior clinical/IPE experiences not significant predictors.
Cervantes-Sudio MG, *et al*. (2021)[9]	Philippines (Angeles University Foundation, private university)	To examine readiness for interprofessional learning among Filipino healthcare students and to determine differences across program, year level, and gender.	Cross-sectional survey using RIPLS. Participants: 423 students in medical technology, pharmacy, PT, and OT. Analysis: MANOVA, ANOVA, and t-tests.	Filipino healthcare students (medical technology, pharmacy, PT, OT); pre-licensure; N=423	Program differences: MT students lower teamwork/collaboration, higher negative identity; PT/OT lower roles/responsibilities. Year-level differences: seniors more favorable attitudes. Gender differences: males higher negative identity and roles, lower positive identity. Some RIPLS subscales had low reliability.
Curran VR, *et al*. (2010)[23]	Canada (Memorial University of Newfoundland & Eastern Regional Integrated Health Authority)	To evaluate a one-day IPC workshop for postgraduate residents, nursing staff, and allied health professionals, and assess effects on satisfaction and attitudinal outcomes.	Pre- and post-test evaluation; eight workshops (2006-2007); ATHCTS and PEITS administered pre, post, and 6-8 week follow-up.	137 participants: 34 residents, 46 allied health professionals, 33 nursing staff, 20 others	88.5% satisfied. Residents showed significant positive change in teamwork attitudes (Cohen's d=0.45). Nursing and allied health: no significant attitude change but high satisfaction. No significant PEITS score changes. Need for role clarification and organizational support identified.
El-Awaisi A, *et al*. (2020)[22]	Qatar (Qatar University and Weill Cornell Medicine-Qatar)	To investigate whether healthcare students' stereotypical beliefs change before and after an IPE activity on smoking cessation.	Pre-post intervention; Student Stereotype Rating Questionnaire (SSRQ); open-ended questions; analysis with Wilcoxon Signed Rank Test and thematic content analysis.	68 healthcare students (medicine, nursing, pharmacy, public health, respiratory therapy)	Significant stereotype rating changes for medicine, pharmacy, and respiratory therapy students across all attributes. Public health students improved in competence and skills. Themes: clarified roles, patient-centered care, integrated teamwork. IPE reduced negative stereotypes.

Author (year)	Country/Region	Study design/Type	Population/Context	Key findings/Themes	Relevance to IPE/IPC
Ford M, *et al.* (2022)[24]	International (authors from Australia and the Philippines; global applicability)	To provide healthcare teams with practical strategies to implement IPECP in everyday workplace practice.	Expert-informed guidance based on literature review, experiential knowledge, and synthesis of best practices; non-empirical.	Healthcare teams and workers across professions (students, recent graduates, educators, clinical supervisors, practitioners)	Presents 12 tips: invest in champions, clarify team structures/roles, adopt shared language, peer engagement, mentoring, use resources, create opportunities, CPD with follow-up, maximize technology, incorporate client feedback, storytelling, embed IPECP in placements. Emphasizes adaptability, sustainability, bridging evidence–practice gap.
Heinemann GD, *et al.* (1999)[26]	United States (VA Western New York Healthcare System, University at Buffalo, University of Rochester)	To develop and psychometrically test the Attitudes Toward Health Care Teams Scale (ATHCTS) to measure professionals' perceptions of teamwork and physician centrality.	Instrument development and testing in 3 phases: Phase 1 (pilot, N=147, factor analysis), Phase 2 (revision, CVI=0.95, N=132), Phase 3 (national VA study, N=973, geriatric teams). Final scale: 21 items, 2 subscales (Quality of Care/Process, Physician Centrality).	Health professionals across disciplines (nurses, physicians, social workers, allied health) including geriatric care teams	Scale showed strong validity/reliability. Quality of Care/Process subscale reliable (α=0.83). Physician Centrality subscale identified differences across professions. Recommended for pre/post IPE and team training assessment.
Interprofessional Education Collaborative (IPEC), 2011[3]	United States (national-level framework)	To establish core competencies for interprofessional collaborative practice among US. health professions, guiding curricula and improving healthcare outcomes.	Consensus-building by expert panel from six US professional associations; informed by literature review, stakeholder input, and comparative analysis of frameworks.	Not empirical; applies to students, educators, practitioners, and health systems	Four competency domains: Values/ Ethics, Roles/Responsibilities, Interprofessional Communication, Teams/Teamwork. Each domain includes statements on knowledge, skills, attitudes. Framework emphasizes patient-centered, community-oriented collaboration. Guides curriculum, accreditation, faculty development, and system integration.
Lieneck C, *et al.* (2022)[7]	International (multi-country review)	To systematically review IPE initiatives in health professions higher education and explore barriers, facilitators, and stakeholder perspectives, supplemented with topic modeling.	Systematic review (PRISMA 2020); databases: Medline, Scopus, CINAHL, Complementary Index (2015-2022). Inclusion: peer-reviewed, English, higher education. 41 studies. Supplementary Latent Dirichlet Allocation (LDA) topic modeling.	Health professions students, faculty, and professionals in higher education	Three perspectives: providers, learners, researchers. Providers: barriers (resources, workload, willingness); themes: patient experience, teamwork. Learners: positive attitudes; influenced by relevance, class size, patient-centered focus; student-led valued. Researchers: scarce evidence; facilitators include organizational support, mentorship, collaboration. Topic modeling confirmed constructs: medical/clinical skills, group training, simulation/learning, research support.

Author (year)	Country/Region	Study design/Type	Population/Context	Key findings/Themes	Relevance to IPE/IPC
Moncatar TRT, *et al*. (2021)[27]	Philippines (two cities, health and social workers)	To describe interprofessional collaboration practices among health and social workers in caring for older adults in the Philippines, and to explore perceived barriers and solutions.	Qualitative case study; 12 in-depth interviews and 29 FGDs (N=174 participants); thematic analysis using NVivo.	Health and social workers (nurses, physicians, midwives, barangay health workers, social workers, etc.) caring for older adults in the Philippines	IPC was largely informal, ad hoc, and administrative. Barriers: 1) personal values/beliefs—hierarchies, lack of trust, undervaluing staff, 2) organizational constraints—staff shortages, funding/ time/equipment gaps, 3) silo systems culture—fragmented structures, poor leadership, absent policies. Consequences: delayed care, duplication, inequitable services. Solutions: integrated health/social care, governance, leadership, policy development, and IPE.
Nakamura K, *et al*. (2022)[28]	Philippines (Marikina and Tagaytay)	To introduce and evaluate a pilot IPC training program for health and social care workers in geriatric care, measuring changes in attitudes, readiness, and practices.	Mixed-methods, convergent parallel design. Quantitative: pre/ post-test with ATHCTS, RIPLS, CAES. Qualitative: open-ended questionnaires, inductive content analysis (NVivo).	42 community health workers and 40 institutional health workers (nurses, physicians, nutritionists, rehab therapists, caregivers)	Quantitative: improved attitudes (ATHCTS), readiness (RIPLS), and coordinated activities (CAES) post-training. Qualitative: improved self-awareness, role understanding, patient-centred care, teamwork. Active learning (case studies, role play, group work) reinforced collaboration skills.
Paterno ER, *et al*. (2014)[12]	Philippines (UP Manila & partner rural municipality)	To document the development, implementation, and evaluation of community-engaged IPE in UP Manila's Community Health and Development Program, and to identify leadership, faculty, student, and organizational factors shaping the process.	Case study and descriptive evaluation (2007-2012). Methods: faculty workshops, community partnership agreements, IDA guidelines, evaluation surveys of students and stakeholders.	UP Manila students (medicine, nursing, public health, dentistry, pharmacy, OT, PT, speech pathology, nutrition); faculty from UP Manila & UP Diliman; rural midwives, village health workers; patients/families in rural municipality	Implementation evolved from parallel to coordinated collaboration. IDA Guidelines clarified shared care and documentation. Challenges: professional biases, faculty shortages, scheduling, records, limited resources. Faculty co-location reduced hierarchies. Student evaluation (N=39) showed improved appreciation of roles, communication, patient involvement, and comfort with collaboration. Community valued improved awareness, QoL, empowerment. Case study (child with developmental delay) illustrated success.

Author (year)	Country/Region	Study design/Type	Population/Context	Key findings/Themes	Relevance to IPE/IPC
Rawlinson C, *et al*. (2021)[19]	International (reviews synthesized from diverse countries)	To identify barriers and facilitators of IPC in primary care by synthesizing systematic reviews.	Overview of reviews (umbrella review); 9 databases searched; 29 reviews included; thematic synthesis of barriers/facilitators at system, organizational, inter-individual, and individual levels.	Healthcare professionals in primary care (physicians, nurses, pharmacists, mental health providers, specialists, allied health, community/public health)	22 barriers and 20 facilitators identified across six IPC types. Barriers: time/resource constraints, poor communication, unclear roles, identity threats, hierarchies, financial/structural issues. Facilitators: co-location, leadership, communication tools, shared vision, trust, organizational restructuring, training, incentives. Barriers more consistent across contexts; facilitators context-specific.
Reeves S, *et al*. (2017)[5]	International (15 studies across various high- and middle-income countries)	To assess the impact of interprofessional education (IPE) interventions compared to separate or no education on professional practice and healthcare outcomes.	Systematic review (update); included randomized controlled trials (RCTs), controlled before-and-after studies, and interrupted time series. Data synthesis with risk of bias assessment.	Health professionals and students across medicine, nursing, pharmacy, dentistry, social work, and allied health	15 studies included; some evidence IPE improves patient outcomes (e.g., diabetes care, emergency department management, collaborative clinical care). Positive effects on teamwork, communication, prescribing. Evidence low to moderate quality, with heterogeneity and methodological limits. Conclusion: IPE can improve collaboration and outcomes, but stronger studies needed.
Schot E, *et al*. (2020)[20]	International (64 studies from multiple countries, 2001-2017)	To synthesize empirical evidence on how healthcare professionals actively contribute to IPC in various healthcare settings.	Systematic review of 64 empirical studies (mostly qualitative); covered hospital, primary care, mental health, and cross-sectoral settings.	Healthcare professionals across multiple disciplines (physicians, nurses, allied health, social workers, etc.)	Three main contributions identified: 1) Bridging gaps (perspectives, relations, communication, tasks), 2) Negotiating overlaps (roles, responsibilities, decision-making), 3) Creating spaces (workarounds, new arrangements). Differences noted by profession, setting, sector. Effects inferred: improved teamwork, decision-making, care integration; risks in informal workarounds.
Sy MP. (2017)[10]	Philippines (nationwide survey of OTs, PTs, and SLPs)	To describe the extent of IPE experiences among Filipino therapists, examine their attitudes toward interprofessional collaboration (IPC), and compare attitudes across IPE experience, profession, years of practice, and practice setting.	Cross-sectional online survey (2015-2016); respondent-driven sampling via associations. Instrument: ATHCTS. N=189 (100 OTs, 56 PTs, 33 SLPs). Analysis: Mann–Whitney U, Kruskal–Wallis, descriptive statistics.	Licensed Filipino OTs, PTs, and SLPs practicing in the Philippines (N=189)	70.9% had prior IPE experience (mostly mandatory). Common IPE strategies: case discussions, SGD, didactics. Attitudes generally favorable (11/14 items). Prior IPE experience correlated with positive IPC attitudes (p=0.01). Didactics and community-based case discussions linked to more positive IPC attitudes. Practice setting significant (academia > others, p=0.02); profession and years not significant.

Author (year)	Country/Region	Study design/Type	Population/Context	Key findings/Themes	Relevance to IPE/IPC
Sy MP, *et al*. (2019)[29]	Philippines	To assess the quality of IPC among Filipino mental health professionals (FMHP) and determine variables affecting IPC quality.	Quantitative descriptive survey using CPAT-R; respondent-driven sampling; data analysis with descriptive statistics, Mann-Whitney U, and Kruskal-Wallis tests.	Licensed Filipino mental health professionals across nine professions (OTs, psychiatrists, nurses, psychologists, social workers, counselors, etc.)	Sample size: 51 (44 with IPC experience). Baseline IPC quality revealed issues in communication, role clarification, and conflict management. Provided insights into strengths and gaps in IPC among FMHP.
Sy MP, *et al*. (2020)[11]	Philippines (Angeles University Foundation, Central Luzon)	To develop, implement, and evaluate a pilot IPE program at Angeles University Foundation (AUF), guided by the WHO (2010) framework and adapted to the Philippine context.	Descriptive case report using a four-step action plan (2015-2018): program development, admin negotiation, pilot implementation (10 programs), evaluation with CIPP model.	Faculty and students from 10 AUF health science programs (medicine, nursing, pharmacy, medical technology, radiologic technology, PT, OT, etc.); administrators and faculty champions	Pilot program included lectures, case vignettes, and teamwork. Challenges: scheduling, bureaucracy, managerial commitment, limited resources. Facilitators: trained faculty, admin support, leadership. Evaluation (CIPP) showed: Context—need for IPE; Input—case vignettes, faculty development; Process—barriers in logistics; Product—positive attitudes, interest in IPE research, PHIPEC Network formed. Sustainability via inter-university partnerships.
Thistlethwaite JE, *et al*. (2014)[4]	International (UK, Canada, USA, Australia)	To critically appraise competency frameworks in IPE and compare four published frameworks to highlight similarities, differences, and implications for practice.	Conceptual analysis and comparative review of IPE competency frameworks (literature review and policy analysis). Frameworks analyzed: UK, Canadian, US, Curtin University.	Not empirical—focus on frameworks relevant to health professions education internationally	Competency frameworks standardize IPE outcomes but vary in terminology and domains. Common areas: teamwork, communication, roles, ethics, reflection. Confusion in terms (competence, competency, capability). Assessment strategies underdeveloped. Frameworks must complement curricula and emphasize interprofessional-only outcomes.
Ulrich G, *et al*. (2019)[25]	Germany (Academy of Health Professions, Heidelberg)	To evaluate and compare attitudes toward IPC and IPE among young healthcare professionals shortly after graduation, without prior formal IPE exposure.	Cross-sectional online survey (2013-2014); 387 invited, 129 analyzed (33.3% response). Used validated UWE-IP questionnaire (German version).	Recent graduates (12-23 months post-qualification): nursing (N=77), therapy professions (PT, SLT; N=21), diagnostics (biomedical science, radiography; N=31).	Positive attitudes in Communication & Teamwork and Interprofessional Relationships; neutral in Interprofessional Learning and Interprofessional Interactions. No significant differences across professions. Age, gender, and education level influenced attitudes (older, male, higher school education less positive). Highlights need for IPE in continuing education early in careers.

Author (year)	Country/Region	Study design/Type	Population/Context	Key findings/Themes	Relevance to IPE/IPC
van Wyk R, *et al*. (2020)[21]	South Africa (University of the Free State, Bloemfontein)	To identify current IPE methods in undergraduate health program at UFS and determine module leaders' opinions on simulation as a teaching strategy.	Quantitative cross-sectional descriptive study; structured interviews with 47 module leaders covering 66 modules across medicine, nursing, and allied health.	Module leaders in medicine, nursing, nutrition, dietetics, OT, PT, optometry	IPE present in 29/66 modules (43.9%), often coincidental. Leaders positive toward simulation. Challenges: scheduling (73.9%), logistics/cost (19.6%), staff attitudes (21.7%). Advantages: role clarification (41.3%), safe environment (32.6%), improved empathy/respect/teamwork. Simulation forms: role-play (77.3%), standardized patients (63.6%), skills training (31.8%). Proposed 3-phase longitudinal IPE: didactic, simulation, community-based.
Walsh CL, *et al*. (2005)[18]	United Kingdom (Sheffield Hallam University & University of Sheffield, CUILU project)	To develop an Interprofessional Capability Framework that articulates learning outcomes students must achieve to become capable interprofessional workers.	Framework development using grounded theory strategies applied to QAA benchmark statements across medicine, dentistry, nursing, social work, and allied health. Included coding, categorization, and mapping to align with professional competencies and NHS KSF.	Health and social care students (conceptual model development; not empirical participants)	Developed a four-domain Interprofessional Capability Framework: Ethical Practice, Knowledge in Practice, Interprofessional Working, Reflection. Identified 16 capabilities (respect for cultures, understanding team structures, communication, co-mentoring, reflection). Framework emphasizes practice-based learning, adaptability, reflection, and capability over static competence. Supports curricular integration.
WHO (2010)[1]	Global (42 countries across 6 WHO regions)	To provide policymakers with a framework and strategies for implementing interprofessional education (IPE) and collaborative practice (CP) to strengthen health systems and improve health outcomes.	Policy analysis, literature review, international environmental scan (396 respondents, 42 countries), synthesis of case studies, and expert consultations through the WHO Study Group.	Health professions students, educators, policymakers, and health workers across medicine, nursing, midwifery, allied health, and social care	IPE prepares a collaborative practice-ready workforce, improving teamwork and patient outcomes. Collaborative practice enhances access, quality, safety, and system efficiency. Mechanisms influencing IPE/CP include educator training, curricular design, governance models, culture, and legislation. Evidence shows improved patient satisfaction, reduced hospital stays, lower costs, and stronger health systems.