

Interprofessional Collaboration and Education in Hospital Settings: An Ethnographic Study

Journal of Medical Education and
Curricular Development
Volume 13: 1-13
© The Author(s) 2026
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/23821205261437355
journals.sagepub.com/home/mde



Gerard Balague-Viladrich^{1,2} , Cristina Monforte-Royo³  and Frederico Matos⁴ 

Abstract

Introduction: Interprofessional collaboration (IPC) and interprofessional education (IPE) are widely recognised as essential for improving teamwork and reducing medical errors. However, despite their importance, implementing IPC and IPE in hospital settings remains challenging, and little is known about how they are understood and enacted in everyday clinical practice. This study explores how healthcare professionals perceive IPC and IPE within a diverse hospital environment and how these practices unfold in routine clinical work.

Methods: An ethnographic design was employed, incorporating field observations, shadowing of healthcare staff, and semi-structured interviews with a range of healthcare professionals. The data were analysed collaboratively and iteratively to identify key themes relating to IPC and IPE in daily clinical work.

Results: The data analysis revealed three interrelated themes directly affecting IPC and IPE: commitment, skills and competencies, and environmental factors. Commitment was strongly influenced by shared professional experiences, which led to improved team cohesion, a better working atmosphere, and enhanced motivation. Competencies such as communication, respect, leadership, and emotional/moral qualities, such as humility, were identified as critical in translating commitment into practice. Environmental factors, including financial constraints, workload, and inadequate resources can hinder IPC, while IPE programs, empowering nurses, and small, cohesive units were identified as facilitators.

Conclusions: The study contributes to a deeper understanding of IPC and IPE in everyday healthcare clinical settings, highlighting the critical role that both human and structural factors play in improving patient care.

Keywords

interprofessional collaboration, interprofessional education, ethnography, teamwork, healthcare professionals

Received: November 29 2025; accepted: March 13 2026

Introduction

Medical errors are a significant global concern, causing preventable harm and mortality even in developed countries. In the United States, medical errors may account for up to 9.5% of all deaths;¹ in low- and middle-income countries, this figure may be as high as 20%.² The likelihood of a medical error nearly doubles when four or more medical professionals are involved in a patient's treatment,³ with communication breakdowns and inadequate teamwork among the contributors.⁴

Enhancing alliance through interprofessional education (IPE) and interprofessional collaboration (IPC) among different healthcare disciplines has been highlighted in the literature as a fundamental approach to addressing these challenges.⁵ IPE refers to the process of educating individuals from different professional backgrounds together to achieve shared learning objectives.⁶ According to the World Health Organization, IPE occurs 'when two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes'.⁷ IPE of healthcare workers is intended to be a precursor and a

key element in fostering effective IPC. It aims to prepare individuals to navigate the complexities of team-based practice by shaping attitudes, increasing awareness, and strengthening collaborative skills.⁸ IPC occurs when professionals from different disciplines work together to enhance patient care.⁹ Through these mechanisms, IPE plays a critical role in fostering IPC and improving patient care by enabling

¹ Department of Dentistry, Universitat Internacional de Catalunya, Barcelona, Spain

² King's College London, London, UK

³ Department of Nursing, School of Medicine and Health Sciences, Universitat Internacional de Catalunya, Barcelona, Spain

⁴ Learning and Teaching Directorate, University of the Arts London, London, UK

Corresponding Author:

Gerard Balague-Viladrich, Department of Dentistry, School of Medicine and Health Sciences, Universitat Internacional de Catalunya, Josep Trueta, s/n, 08195, Sant Cugat del Vallès, Barcelona, Spain.
Email: lo005918@uic.es



healthcare workers to learn about, from, and with each other.¹⁰

Nevertheless, enhancing IPE and IPC within a hospital setting can be challenging.¹¹ Formal IPE learning activities are often context sensitive,¹² and those successful in one setting may not necessarily work in another.¹³ Furthermore, informal learning opportunities, which are often unregulated and closely intertwined with everyday workplace experience, may also influence IPC in ways that are difficult to assess.¹⁴

A growing body of literature has demonstrated the benefits of IPE and IPC in enhancing the quality of patient care^{15–17} as well as identifying factors associated with positive outcomes such as effective communication, shared mental models, and conflict reduction.¹⁸ However, important gaps remain. Few studies have examined how IPC unfolds in everyday collaborative work within hospital settings or how IPE may contribute to these practices *in situ*.¹⁹

This research adopts an ethnographic approach to explore the everyday behaviours, interactions, and perspectives of graduated healthcare professionals. Ethnography is a qualitative research methodology that uses observations, field notes, data collection, and interviews to generate a descriptive and narrative explanation of phenomena occurring in a specific context among different individuals.²⁰ The aim is to better understand the specific dynamics of IPC and IPE within a diverse clinical setting, which includes a geriatric ward and a palliative care ward. The results shed significant light on how healthcare professionals perceive IPC and IPE in their everyday practice and highlight key individual and contextual factors that can facilitate or hinder collaborative practice.

Method

Design

An ethnographic approach was chosen because it allows the investigator to closely engage with participants and observe their (inter)actions in practice.^{21,22} Thus, the investigator gains insight into the dynamics of these practices, the measures in place to facilitate them, and the context in which professionals interact.²³ There is a clear lack of research on the actual process of IPC and IPE among healthcare workers from an ethnographic perspective, particularly across multiple wards within a hospital setting. Goodson and Vassar conclude that ethnography enables investigators to gain a deeper understanding of relationships within healthcare multidisciplinary teams.²⁴ A 5-year literature search on PubMed (October 2019–October 2024) regarding ethnographic research on healthcare professional collaboration found only 89 studies, of which just four related to teamwork. To enhance clarity and methodological rigour, the reporting of this study follows the Standards for Reporting Qualitative Research (Supplemental Material 1).²⁵

Setting and Participants

The study was conducted in two different specialised wards – geriatric and palliative – at a large public hospital in the province of Barcelona, Spain, which provides healthcare to a population of approximately 220 000 residents. The decision to focus on these two wards was based on the nature of the

patients' medical histories as the complexity of the patients' needs necessitates IPC.²⁶ Observing IPC in two distinct yet similarly complex care environments allows for a richer and more nuanced understanding of IPC and IPE processes, grounded in the unpredictability and situated nature of real-world practice.²⁷

Forty-six participants came from a range of disciplines, including ward leads, physicians, resident physicians, nurse coordinators, nurses, nurse assistants, physiotherapists, speech therapists, and cleaners. To ensure diverse perspectives and rich data, individuals with varied roles were selected for interviews. In total, 28 participants from seven distinct professional groups were interviewed: 14 from geriatrics and 14 from palliative care (see Table 1, Participants' characteristics).

Data Collection

A total of 72 h of observations and participant shadowing were undertaken in both palliative and geriatric wards over two separate periods (December 2022 and February 2023). At each site, observations preceded semi-structured interviews, which were conducted during the latter phase of fieldwork.

The main researcher (GB) was granted permission by the hospital to move freely across the two different wards to gain insight into collaborative and educational practices by observing and shadowing participants as needed, thereby maximising the breadth of data collected. In total, the researcher observed 46 healthcare professionals performing their routine daily tasks, including formal and informal medical discussions (one-to-one and group based), multidisciplinary patient treatment planning, participation in formal educational activities, and collaborative teamwork tasks such as ward activities and medical rounds. Informal interactions occurring during rest breaks were also observed. Of the 46 professionals observed, 11 were shadowed in greater depth. Shadowing involved continuous, in-depth observation of one or two participants at a time throughout their daily work routines, with the researcher adopting a nonparticipant role and not interacting with or disrupting participants' activities.²⁸ Observations did not include interactions directly involving patients. To maintain flexibility and responsiveness in the field, no formal observation guide was used.

These activities aimed to explore how IPC and IPE unfold in practice, with particular attention to communication patterns, role negotiation, and team dynamics.²⁹ The observations also helped capture contextual factors such as physical layout, organisation routines, and formal and informal practices that may influence collaborative processes. In addition to field notes, audio and video recordings were used to capture aspects of the clinical environment (eg, spatial arrangements and work-related materials) and to facilitate the analysis of possible links between verbal and non-verbal (eg, body language) interactions.³⁰ The researcher had no prior personal or professional connection with any of the team members or the study setting.

Ethnographic field notes were taken during the 72-h observation and shadowing process, totalling 20 788 words of transcription data. These notes were initially analysed to inform and guide a subsequent stage of semi-structured

Table 1. Demographic Characteristics of Interview Participants.

Participant	Position	Gender	Time in Post	Duration Interview
Doctors				
#1	Head of Department (Geriatric)	Female	11 years	33'
#2	Head of Department (Palliative)	Female	31 years	39'
#3	Doctor (Geriatric)	Female	1 year	37'
#4	Resident Doctor (Palliative)	Male	N/A	20'
#5	Doctor (Palliative)	Female	5 years	32'
Nurses				
#6	Nurse Coordinator (Geriatric)	Female	3 years	51'
#7	Nurse Coordinator (Palliative)	Female	20 years	75'
#8	Head Nurse (Geriatric)	Female	4 years	46'
#9	Head Nurse (Palliative)	Female	13 years	18'
#10	Head Nurse (Palliative)	Male	2 years	32'
#11	Nurse (Geriatric)	Female	20 years	65'
#12	Nurse (Palliative)	Female	8 years	28'
Nurse Assistants				
#13	Nurse Assistant (Geriatric)	Female	14 years	49'
#14	Nurse Assistant (Geriatric)	Female	23 years	33'
#15	Nurse Assistant (Palliative)	Female	9 years	13'
#16	Nurse Assistant (Palliative)	Female	2 years	23'
#17	Nurse Assistant (Palliative)	Female	30 years	31'
#18	Nurse Assistant (Palliative)	Female	33 years	28'
Domestic Services				
#19	Cleaner (Geriatric)	Female	4 years	40'
#20	Cleaner (Palliative)	Female	13 years	30'
Other Specialities				
#21	Physiotherapist (Geriatric)	Female	24 years	32'
#22	Speech Therapist (Geriatric)	Female	30 years	50'
Social Workers				
#23	Social Worker (Geriatric)	Female	18 years	76'
#24	Social Worker (Palliative)	Female	30 years	39'
#25	Social Worker (Palliative)	Female	4 years	17'
Re-interview for deeper investigation				
	Resident Doctor (Palliative)	Male	N/A	7'
	Head Nurse (Palliative)	Female	13 years	12'
Group interview				
#26-28	Resident Doctor & 2 Nurse Assistants (Geriatric)	Male & 2 Females	N/A & 2 years	44'

interviews, helping to clarify topics and shape follow-up questions.³¹ Finally, interview participants were recruited on a voluntary basis. Professionals across both wards were invited to participate, and interviews were scheduled according to clinical workload and participant availability and in coordination with ward leadership to avoid disruption to patient care. This approach aimed to include a range of professional roles and levels of experience while respecting service demands. Professionals who were not working within the selected wards or who were unavailable due to service demands during the study period were not included.

The semi-structured interview guide was developed by the research team in alignment with the study objectives and relevant literature on IPC and IPE. It was not a previously validated instrument, given the exploratory qualitative design of the study. The guide was pilot tested with two volunteer healthcare professionals who were not included in the final analysis and was subsequently refined, in consultation with the research team, to address questions that were unclear or repetitive. The final interview guide is provided in Supplemental Material 2. All data were transcribed manually and secured in a password-protected document.

One-to-one interviews were conducted in private rooms in both wards, with an average duration of 38 min (Table 1). In one instance, due to the temporary unavailability of a private room and the preference of the participants, the interview was conducted as a small group interview involving three participants.³² Throughout the process, the researcher employed multiple strategies to monitor their own subjective position, including reflective journaling and peer debriefing.³³ As per Hammersley and Atkinson,²⁰ having the same researcher conduct the observations, shadowing, and interviews allows for deeper involvement with the phenomena over an extended period, enabling a better understanding of the context and uncovering data not readily apparent, achievable only through gaining the participants' confidence. Semi-structured interviews were considered appropriate for this study as they provide a flexible yet guided framework, allowing the researcher to probe emerging themes while ensuring consistency.³⁴

After 28 interviews, thematic redundancy became apparent as participants were reiterating similar perspectives, and new concepts were hardly emerging. This sense of 'analytical saturation' signalled that additional interviews were unlikely to yield further insights. In line with LaDonna

Table 2. Themes and Sub-Themes.

Themes	Sub-Themes
Commitment	Reasons for considering IPC and IPE as an intrinsic part of professional identity. - ease of habit, professional recognition, added interest in work, practical and psychological support in performing tasks.
	Shared professional experience and benefits for commitment. - fostering awareness (IPE) and easier coordination (IPC). - fostering bonds and a positive workplace ambience.
	Shared professional experience and setbacks for commitment. - barriers to changing / adapting working routines. - discriminative mindset towards new members of staff.
Skills & Competencies	Core competencies. - communication, respect, humility, and leadership.
	Development and learning of IPC-related competencies. Barriers to the application of interprofessional skills in practice. - unresolved conflicts, professional hierarchies
Environmental Factors	Structural pressures causing emotional distress. - workload, staffing, funding and material resources, effect of COVID-19. Physical and organisational unit size. - smaller units operating more efficiently. Team dynamics. - opportunities for staff empowerment.

IPE, interprofessional education.

et al,³⁵ the decision was informed by considerations of qualitative rigour rather than by a fixed numeric threshold.

Data Analysis

Data were analysed using reflexive thematic analysis as described by Braun and Clarke,^{36,37} guided by a constructivist epistemological stance. The main researcher discussed the findings with the other two members of the research team, both experienced educational researchers with extensive expertise in qualitative analysis. Initially, two documents were created: one containing all observational field note data and the other compiling all transcripts. Through discussion, approximately 1300 units of meaning were identified and coded, grouped by similarity into 27 initial categories. Consistent with a constructivist perspective, this process acknowledged that meanings are co-constructed through interaction and remained open to emergent insights grounded in participants' experiences. Through further iterative analysis, these categories were refined into nine sub-themes and ultimately merged into three stand-alone themes illustrating the characteristics of the phenomena (Table 2).

The main researcher (GB) and a team member (CM) held frequent meetings to ensure conceptual agreement throughout the data analysis process. Together, they worked with the data to produce a rich description of each theme, incorporating selected examples from the field notes and interviews. Any discrepancies were resolved through discussion between the researchers, and input from the third researcher (FM) was sought when necessary to achieve consensus. NVivo software was used to organise and manage the data effectively.³⁸

Ethical Considerations

This study was approved by the Research Ethics Committee of the university where the study was registered

(INF-2022-05) and by the Research Ethics Committee of the hospital where the study was conducted (CEIm: 02-22-101-036). The qualitative design, including interviews and nonparticipant observations, was conducted in accordance with the approved study protocol. Prior to data collection, ward leadership informed staff of the researcher's presence and explained the purpose of the study. Verbal consent was additionally obtained from healthcare professionals before observations of professional interactions took place.

Written informed consent was obtained from all participants prior to participation in the semi-structured interviews. No patient data were collected, and observations did not involve direct patient interactions. Confidentiality and data protection procedures were strictly followed throughout the study.

Results

Three interrelated themes emerged from the in-depth data analysis: commitment, skills and competencies, and environmental factors (see Table 2, Themes and Sub-Themes). These themes reflect key dimensions of IPC and IPE as experienced and interpreted by participants. The first two refer to how IPC and IPE are formulated through each individual's cognitive and emotional background and their response to their working environment, while the third refers to specific qualities of the environment, the setting in which people work, and how this affects performance. Regarding participants' response to their working environment, common themes between distinct ward settings soon emerged from the analysis of both observational and interview data. Differences between them were more significantly reflected in the environmental factors thematic category.

Commitment

This section refers to the commitment and attitudes demonstrated by healthcare workers in performing their duties

and delivering patient care; it focuses on the staff's internal commitment and vocation to perform their roles effectively, including, but not limited to, their willingness, motivation, and conviction.

Participants described commitment to the team as a key element in successfully collaborating with others. Most individuals interviewed reported that IPC and informal IPE were ingrained in their roles and inseparable from their daily work. Based on the responses provided, considering IPC and IPE as integral parts of the work may be due to:

- Ease of habit: 'Of course, for me it's a necessary work tool [working in IPC and IPE]. I mean, it's part of the day-to-day work'. (P24, social worker, palliative unit); 'For me, working in a team it's everything, it's essential. If I don't work in a team, I don't work well'. (P20, cleaner, palliative unit)
- Recognition of professional value: 'I like working in a team. It's much more rewarding'. (P17, nurse assistant, palliative unit); 'I think it's an attitude towards work'. (P12, nurse, palliative unit)
- Added interest in performing the tasks at hand: 'The ability to share and collaborate [with others], I believe, is much more enriching [than working alone]'. (P12, nurse, palliative unit)
- Support, which can be crucial in psychologically taxing roles: 'You need the team [...] not only for the patients and their families, [...] but also for yourself as a professional'. (P7, nurse coordinator, palliative unit); 'I can't be there, so assistant nurses are my eyes'. (P25, social worker, palliative unit)

Time spent working within the same team appears to be an important factor in increased commitment. Among participants who described IPC and IPE as an integral part of their work, most were long-standing employees, with many having worked at the hospital for approximately a decade at the time of the study. Mindset seems to shift towards greater interconnectivity as individuals remain in their positions for longer. This may be linked, on one hand, to easier coordination and, on the other, to familiarity which fosters a positive workplace environment.

First, participants appeared to develop stronger dynamics and alliances with colleagues with whom they had previously worked over extended periods. Shared professional experience over time – that is, prolonged periods of working together within the same team, – was reported to increase awareness, which in turn facilitated coordination. In this context, awareness can be understood as a form of informal IPE and refers to:

- Work routines: 'Working with someone for a long time, you get to know them [...] and, we've kind of reached an understanding of how we all work'. (P23, social worker, geriatric unit)
- Preference regarding the general functioning of the workplace
- Knowledge, skills, and even shortcomings
- Personalities and patterns of social conduct: An assistant geriatric nurse enters the doctors' office with her colleague. She approaches a doctor she is familiar

with and asks for a signature to help her colleague's son. (field notes, geriatric doctor's office)

Second, shared professional experience over time was described as positively affecting the workplace atmosphere by fostering familiarity and bonds, although this effect was not to be taken for granted:

"I understand [...] this [earning your colleagues' respect] isn't something that happens by coincidence. If they trust [me] [...], it's because [...] I've proven to them that they can." (P12, nurse, palliative unit)

Similarly, such professional experience appeared to positively influence commitment towards novice workers. Reportedly, people needed time to move beyond a person's official function or role and fully accept newly appointed colleagues as part of the team; this seemed to be part of an entire integration process:

"First, they see the cleaning lady [...], and then they see the person. You really have to work hard to earn their respect." (P19, cleaner, geriatric unit)

In this sense, shared professional experience can also hinder IPC and IPE. The established synergies among professionals from the same discipline can be difficult to break, as can bad working habits or lack of motivation or interest in the job, which may make individuals less open to new input and create an unfavourable working atmosphere:

"When some people have been working together for a long time, some ways of working become flawed and pick up bad habits. 'I've been doing this for so long, I have so much confidence', but that confidence can trip you up." (P11, nurse, geriatric unit)

In this same line of thinking, breaking bonds with long-standing colleagues – such as when changing teams – can be a difficult and uncomfortable process that workers may be reluctant to undertake. However, it often leads to new and constructive dynamics:

"You form a bond. But in the end, you see the benefit of building a new relationship [...] It keeps you more attentive." (P13, nurse assistant, geriatric unit)

The analysis also showed that long-standing co-workers are more likely to collaborate with one another than with novice employees. Experienced healthcare professionals expressed a strong opinion that the willingness and motivation of newly qualified young professionals are not always aligned with what is needed to work effectively in IPC and IPE, which could be detrimental to team dynamics:

"The younger generation coming in doesn't seem as committed. They just come to put in their hours [...] But that lack of dedication is evident in patient care." (P6, nurse coordinator, geriatric unit); "They [new professionals] are more focused on the 'me, me, and me first'" (P1, head of department, geriatric unit)

In this sense, commitment is directly linked to how an individual perceives their role within the team, particularly in relation to their expected tenure in that role. Some clinicians reported that perceiving a role as temporary or as a “stepping stone” to another, more significant position can be an issue with young or training professionals:

“You come here to work because you’re studying and want to pay for your education. That’s fine, [...] but you don’t engage in the same way as someone for whom this is their career, their vocation.” (P14, nurse assistant, geriatric unit)

Skills & Competencies

This section explores the competencies healthcare workers believe are necessary for effective engagement in IPC. It builds upon and is interconnected with the previous theme of commitment, as some participants noted that an individual may possess the motivation and willingness to work in IPC but lack the required competencies:

“Working in a team is not always easy (even when you’re really motivated to work). [...] because it requires a lot of communication, coordination, organisation, and tolerance.” (P3, doctor, geriatric unit)

Here, we firstly focus on core competencies identified by participants and then examine whether these competencies can be developed through education and training (formal IPE). Finally, we considered the perceived barriers that may hinder the development of these competencies. Among the competencies identified as essential for effective IPC, four consistently emerged across interviews: communication and respect were most frequently identified as core competencies, followed by humility and leadership.

Communication skills were the most frequently cited, with participants highlighting their fundamental role in effective teamwork. Ensuring clarity in instructions and employing an appropriate tone when addressing colleagues in various situations were seen as essential for developing mutual understanding and improving coordination. Many participants were particularly aware of the inherent difficulty in interpersonal communication, which can make collaboration especially challenging in urgent settings:

“[...] between what I think I want to say, what I actually say, and what you hear or interpret, a lot of information is already lost. And if we’re rushing, [...] it may even come across the wrong way.” (P12, nurse, palliative unit)

Respect was viewed as crucial for building collaborative relationships and fostering mutual trust. For most participants, respect referred to recognising the value of each team member’s contribution, at both a personal and disciplinary levels, as well as to believing that one’s peers can actively support their professional development:

“It’s about understanding that your colleague can always teach you something, [...]” (P23, social worker, geriatric unit)

Humility was described as a readiness to acknowledge mistakes and ask for help when needed. For most participants, it was linked to open-mindedness and tolerance towards others’ opinions, as well as to a willingness to prioritise collective goals, even at the expense of one’s own objectives and opinions:

“[One has] to be humble as well. To know one’s limits, [to understand] what one can or cannot do, to recognise whether you’ve done something well or not, and ask for help when needed.” (P5, doctor, palliative unit)

Leadership was associated with providing guidance, leading by example, and fostering a learning environment within the team, while also setting aside individual aspirations:

“I think that for someone to teach you something, they have to lead by example.” (P11, nurse, geriatric unit)

Taken together, the references to teaching and learning within the accounts of respect and leadership illustrate how collaborative competencies not only support IPC but also enable informal IPE in everyday practice.

Although less frequently mentioned, other competencies also emerged from participants’ accounts, including empathy, attentive listening, honesty, bravery, and open-mindedness. These competencies appeared closely interlinked with those previously identified. In particular, openness was associated with adaptability and reflected earlier points about commitment to continuously improving patient care despite personal priorities.

Observational data broadly supported these accounts, revealing numerous instances of collaborative behaviour in everyday practice:

Head nurses and nurse assistants were frequently observed working closely together during medication rounds, coordinating tasks efficiently to meet time-sensitive demands. In such situations, leadership and communication competencies were visibly enacted through clear delegation, real-time clarification, and mutual support (field notes).

At the same time, observations also revealed moments where collaborative dynamics were less evident:

During some ward rounds, decision-making appeared to be led primarily by one professional group, with limited input from others. In other instances, staff were observed working alongside one another but engaging minimally in direct communication. These situations underscore the importance of competencies such as respect, empathy, and shared responsibility in sustaining effective teamwork (field notes).

Regarding whether individual skills and competencies can be developed through formal education and training (formal IPE), a locally delivered course on emotional ecology was observed as part of data collection. The course consisted of six 4-hour sessions and aimed to support participants in managing their emotions responsibly and sustainably to promote personal growth, strengthen professional relationships, and enhance collaborative practice.

During the observation, 15 professionals participated in one of the observed sessions, during which the facilitator engaged attendees in discussions about emotions arising in collaborative work, particularly under conditions of stress. Levels of engagement varied, with some participants contributing actively while others remained more reserved (field notes).

According to participants, these educational seminars were offered on a regular basis, although they appeared to occur more frequently within the palliative ward. As one participant explained:

“Yes, the hospital provides them [the seminar], but above all it is our coordinator who promotes them.” (P15, nurse assistant, palliative unit)

Another participant observed:

“[...] since we are such a small team [...] what matters to me is taking care of the nursing team. [...] I will fight for whatever is needed so they have the structure and resources to work well.” (P7, nurse coordinator, palliative unit)

Regarding the outcomes of these educational initiatives, many participants believed they were fundamental for developing the competencies mentioned previously, even for individuals already inherently skilled. In particular, training focused on recognising and responding to emotions was considered especially significant for strengthening IPC, particularly during periods of high workload and stress. Peer feedback (informal IPE) was also viewed as an important contributor to this developmental process.

“In some of these courses, we worked on the emotional aspect, and that was very helpful for building trust among us.” (P9, head nurse, palliative unit)

Interview data revealed that educational courses (formal IPE) were deemed important not only for raising awareness around factors that enhance IPC, but also for equipping teams with better coping strategies for stress, which is intrinsic to healthcare settings:

“[...] some people have never even considered [...] the fact that working as a team [...] is important. But if, through training, you open that window [...], it can really help.” (P23, Social Worker, Geriatric Unit)

Nevertheless, most clinicians highlighted the value of open-mindedness, personal commitment, and motivation for training to be useful and ultimately effective. The stimulating character and relevance of content – aimed at promoting, when possible, the idea of lifelong professional development – were seen as crucial for encouraging meaningful participation:

“I think what is really needed is to motivate people, for example through new techniques. Teaching different approaches can help staff feel motivated and engaged with new ways of working.” (P22, speech therapist, geriatric unit)

Finally, regarding barriers to the application and development of competencies in everyday practice, unresolved conflicts and professional hierarchies were the most frequently reported. Firstly, there was broad consensus that conflict resolution remains a persistent, unresolved issue. Conflicts were often reported to occur within the same professional group, likely due to more frequent interactions, and to intensify in high-stress or high-workload contexts, particularly when no structured mediation was in place. Echoing earlier points about the value of communication skills, several clinicians noted that tensions ultimately emerge from poor communication:

“When you pull the thread to find the root of a conflict, chances are that if people had communicated differently, the conflict wouldn’t have happened.” (P1, head of department [doctor], geriatric unit)

Next, hierarchical structures were frequently mentioned as barriers to the development and effective application of interprofessional competencies. Often, hierarchy was linked with traditional and outdated perceptions about how specific disciplines should interact:

“We shouldn’t talk about the doctor always being right and the nurse must simply follow. That’s a very paternalistic and outdated model.” (P2, head department [doctor], palliative unit)

However, most participants acknowledged – and in some cases defended – the need for hierarchy to maintain clinical order, provide leadership, and define responsibilities. They emphasised the importance of striking the right balance between leadership and dialogue:

“It’s hard to be absolute when it comes to hierarchies [...] they’re bad when too vertical, but [...] necessary to organise an institution and to provide some guidance.” (P3, doctor, geriatric unit)

Environmental Factors

This section explores how various contextual factors can support or hinder the effectiveness of IPC and IPE. Building on earlier points about how stress within the work environment may influence competencies, this theme comprises three interrelated sub-themes: structural pressures, physical layout, and team dynamics.

Structural Pressures. A key contextual factor influencing IPC and IPE in healthcare systems is the overall pressure on this field, which manifests in several interconnected ways: excessive workload, insufficient staffing, limited resources, inadequate time, and financial constraints:

“It’s true that we usually don’t work the hours set in our contracts. We always do more.” (P11, nurse, geriatric unit)

Limited resources in staff, time, and funds frequently undermine the quality of care. Moreover, pressures originating from institutional structures create a physically and emotionally exhausting environment that can seriously affect

healthcare workers' emotional well-being and long-term motivation:

"Every time I come back from holidays, I go to Human Resources to resign from my position." (P6, nurse coordinator, geriatric unit)

Cumulative strain has been further intensified by economic austerity measures and the effects of the COVID-19 pandemic.

Physical Layout. Another contextual factor influencing IPC and IPE is the unit's physical and organisational size of the unit. Interview data and field observations suggest that smaller units, where professionals often work in close physical proximity, tend to facilitate more spontaneous communication and foster stronger professional bonds. Several participants noted that shared workspaces naturally encourage dialogue and promote collaboration throughout the day:

"The more you share the same workspace, the easier communication arises because the space allows it, and you might overhear a conversation and contribute." (P24, social worker, palliative unit)

Similar observations extended beyond clinical teams to institutional management. Some professionals felt that smaller hospitals or units allowed for clearer protocols and easier coordination:

"At the other centre where we used to work, things were easier. It was smaller, just five floors, so it was simpler to set guidelines for the whole place. Here we have eleven floors, and each one is run by different people. That makes everything more complicated." (P6, nurse coordinator, geriatric unit)

However, working in small, tight-knit units was not without its challenges. Some clinicians expressed concern that constant closeness could strain relationships, lead to overfamiliarity, or limit space for individual reflection:

"Yes, a small space is better, but if you don't get along, you can end up driving each other crazy." (P21, physiotherapist, geriatric unit)

Team Dynamics. A factor that appears to mitigate systemic pressures and is linked to how institutional hierarchy, leadership and coordination affect IPC and IPE is the empowering role of nursing leadership. Field observations and interviews highlighted a striking contrast between the geriatric and palliative wards in terms of how nursing staff were positioned and valued. In the palliative unit, nurses were granted greater professional autonomy and recognition, which contributed to a more collaborative and supportive working environment:

"Here, the nursing team takes the lead and is highly valued." (P7, nurse coordinator, palliative unit)

Empowering experienced nurses to lead and coordinate appeared to have a ripple effect beyond nursing staff, positively influencing the entire team dynamic. Participants described a sense of cohesion and trust anchored in strong leadership:

"Depending on who the head nurse is, the work environment is calmer, and everything flows better." (P27, nurse assistant, group interview)

Field notes further underscored the effectiveness of this leadership style:

The head nurse seems a very active person, coordinating the staff around her. She appears to be on the ball and knows all the answers. She manages to answer the phone while responding to background questions from one of the nurse assistants.

Discussion

This study identified three interrelated themes shaping IPC and IPE: commitment, skills and competencies, and environmental factors. Together, these themes illustrate the complex interactions underlying sustainable IPC and IPE. Commitment underpins team coordination and motivation; competencies translate commitment into effective collaborative practice; and environmental factors can either enable or constrain these processes. Importantly, these themes do not operate in isolation but dynamically reinforce one another, as illustrated in Figure 1.

Shared Professional Experience Over Time

A key finding that emerged from the data analysis is that IPC is strongly influenced by commitment and the time healthcare professionals spend working alongside one another, which in turn increases mutual awareness and fosters informal IPE. This shared professional experience over time substantially extends what would typically be expected from colleagues' formal job or role obligations. It encompasses identity awareness, interpersonal dynamics, and familiarity with colleagues' routines and working styles. Such familiarity was found to promote team cohesion, a positive working atmosphere, and smoother coordination among colleagues facilitating day-to-day tasks. These findings are consistent with existing literature.^{39–41}

From an emotional perspective, participants described a positive working environment and a sense of belonging to a team as important sources of emotional and professional support. Feeling psychologically supported helped individuals cope with high-stress and high-demanding situations, conditions that are typical in hospital settings.⁴² This is particularly important, as emotional distress can negatively impact performance, increase the risk of mental health issues, and contribute to medical errors.⁴³ The relationship between emotional stability and effective teamwork is also documented in the literature.^{44,45}

From a motivational perspective, working in a supportive and familiar environment brings personal rewards, such as recognition of professional value and informal peer interaction. These outcomes foster mutual respect, trust, and individual motivation, ultimately strengthening interpersonal bonds. In turn, these bonds reinforce the cycle of shared professional experience, further enhancing team awareness and coordination. This loop highlights the role of motivation and psychological investment in sustaining effective IPC and IPE (Figure 2).

However, the data also revealed that this cycle can become restrictive if left unexamined or unrevised and allowed to

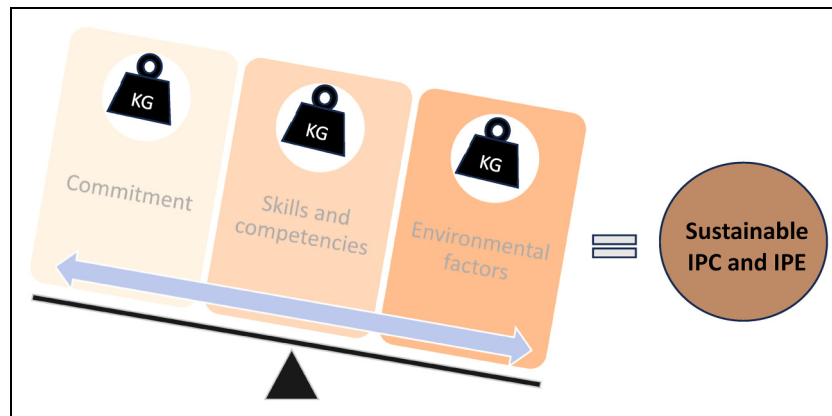


Figure 1. Sustainability of IPC and IPE. IPC, interprofessional collaboration; IPE, interprofessional education.

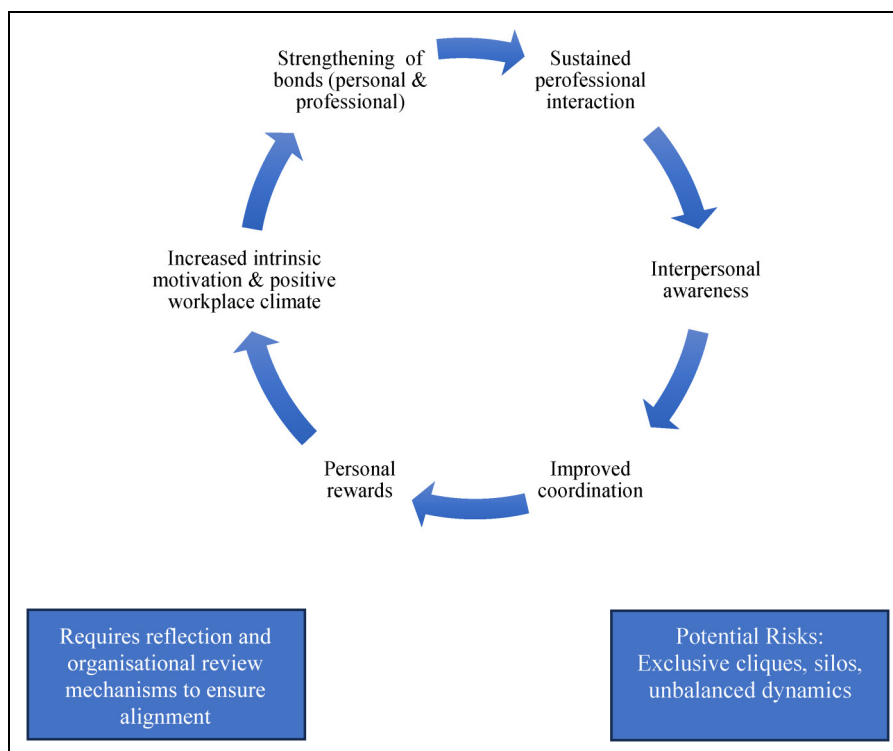


Figure 2. A reinforcing cycle through which shared professional experience shapes IPC and IPE. IPC, interprofessional collaboration; IPE, interprofessional education.

solidify into a status quo. In such cases, long-standing staff may form exclusive alliances or social clusters, which can hinder the integration of newcomers and reduce the team's adaptability to change. Young professionals were often perceived as disengaged or insufficiently committed. This may indeed be the case due to the temporary nature of their roles, raising broader concerns about inclusivity and team culture, as well as highlighting the need for more focused IPE activities, which are discussed in the next section. These observations resonate with the findings of Tan and Chin,⁴⁶ who report that younger professionals frequently struggle to gain recognition and respect from established colleagues.

These findings suggest that while shared professional experience can be an enhancing element for IPC, its effectiveness depends on both individual motivation and structural support. Sustaining an inclusive, collaborative environment requires deliberate reflection and organisational mechanisms

to ensure that evolving team dynamics remain aligned with the core objectives of IPC and IPE.

Figure 2 summarises the reinforcing cycle linking shared professional experience with IPC and IPE, illustrating how sustained professional interaction can trigger a chain reaction that strengthens awareness (informal IPE), which in turn enhances coordination and personal and professional bonds, further deepening shared professional experience.

Interprofessional Collaboration and Interprofessional Education: Conceptually Distinct, Practically Intertwined

The competencies most frequently mentioned by participants as essential for fostering IPC – communication, respect, and leadership – were consistent with established interprofessional

competency frameworks^{47,48} and have been highlighted in the literature as fundamental for facilitating coordination, building trust, and enhancing collective performance.^{40,45} Interestingly, humility, which is not explicitly included in formal frameworks, emerged in our data as a fundamental element for fostering IPC. Other qualities mentioned less frequently, such as honesty, empathy, adaptability, and bravery, also appeared as important components in the IPC process. These findings suggest that the emotional and moral dimensions of both individual and collective relationships should be considered when defining IPC competencies. They align with calls in the literature to broaden current competency models to include the affective and relational aspects of clinical collaboration.³⁹

Building on the conceptual distinction between IPC and IPE, participants consistently described them as related yet distinct activities. IPC was framed as the enactment of collaborative work among healthcare professionals to enhance patient care, whereas IPE was understood as the processes through which professionals develop the attitudes and competencies needed for such collaboration. At the same time, both were perceived as interdependent in everyday clinical contexts, as ongoing interactions among colleagues functioned as informal avenues for interprofessional learning and awareness. Two complementary forms of IPE were identified in the data: informal learning embedded in daily clinical interactions (eg, shared routines and the development of mutual awareness) and formal learning delivered through structured educational activities, such as seminars or workshops. This duality echoes findings in the literature,⁴¹ which highlight the complementarity of experiential and formal interprofessional learning. Informal IPE was embedded within everyday collaborative competencies, evident in participants' references to 'teaching' and peer feedback within routine practice.

Regardless of form, participants consistently emphasised the potential of IPE to enhance core IPC competencies. In this sense, the empowering potential of IPE was seen as particularly valuable in addressing challenges identified in this study, such as perceived limited engagement among newly qualified professionals, the slow integration of new colleagues, and the persistence of unresolved conflicts. Further research is needed to examine how these challenges might be mitigated more effectively, through specifically designed IPE activities tailored to varied contexts.

Hierarchical structures also emerged as a double-edged factor in team dynamics. While some participants described rigid hierarchies as outdated and detrimental to collaboration, others recognised their value in maintaining clinical order. In these cases, hierarchy was associated with the positive aspects of leadership, including constructive conflict management, guidance, and participatory decision-making.⁴⁹ This finding contrasts with much of the literature, which typically views hierarchy primarily as a barrier to collaboration. IPE initiatives designed to help professionals navigate power dynamics could address similar double-edged perceptions of hierarchy, at both lower and higher structural levels.

Finally, motivation once again emerged as a prerequisite for IPE to be effective. Participants emphasised that training initiatives are meaningful only when professionals are willing to engage. This underscores the need for IPE programmes to be relevant, appealing, and responsive to clinical realities to maximise engagement and ensure

sustainable impact. This finding aligns with calls in the literature to design IPE interventions that are context-specific and learner-centred.⁵⁰

Empowerment

The data analysis indicates that empowerment plays a central role in enhancing IPC and IPE within resource-constrained hospital contexts. Participants frequently cited structural pressures, including financial constraints, limited resources, inadequate time, and insufficient staffing. These challenges, compounded by the COVID-19 pandemic and global economic austerity, were perceived as contributing to dissatisfaction and burnout, which in turn undermined individuals' motivation to collaborate effectively. These findings echo broader evidence in the literature that systemic pressures negatively affect IPC, staff well-being, and patient safety.⁵¹

In response to these challenges, several enabling elements emerged as sources of empowerment. One such element related to the physical and organisational size of the unit. Participants perceived smaller units as facilitating more frequent and spontaneous communication, thereby supporting the development of stronger professional relationships. These interactions, in turn, fostered trust, motivation, and a sense of agency among team members, consistent with the reinforcing cycle of shared professional experience described previously (Figure 2). These findings align with existing literature showing that informal interactions and shared workspaces play a crucial role in supporting IPC and professional dialogue.⁵² Such dialogue may also contribute to informal IPE, as ongoing peer conversations have been identified as important mechanisms for continuous professional learning among healthcare practitioners.⁵³

Another particularly striking source of empowerment identified in this study was nursing leadership. Nurses in the palliative ward were granted greater professional autonomy, leadership, and responsibility for coordination, which enhanced cohesion and motivation across the team. Empowered nurses were also described as facilitating smoother workflows through timely decision-making and active oversight, thereby contributing to a calmer and more responsive working environment. Notably, formal IPE initiatives were more prominent in the palliative ward, where nursing staff reported greater autonomy and leadership. This pattern suggests that empowered organisational structures may foster more sustained interprofessional learning.

These observations align with the literature highlighting the close relationship between leadership and empowerment,⁵⁴ the importance of nursing empowerment for strengthening IPC,⁵⁵ and its positive impact on patient care and satisfaction.⁵⁶ However, as Htay and Whitehead note in their systematic review,⁵⁶ little is known about the effects of empowering nurses on team members' experiences and job satisfaction. Our findings make an original contribution in this area, offering insights into how empowered nursing leadership positively shapes team dynamics by fostering trust, cohesion, a supportive working environment, and collective motivation, ultimately supporting IPC, contributing to informal IPE, and enhancing patient care.

Overall, this study highlights that effective and sustainable IPC and IPE depend on the dynamic interaction between

commitment, competencies, and supportive organisational environments. These elements reinforce one another over time yet require continuous reflection to ensure that collaboration remains adaptive and aligned with effective care delivery.

Limitations

This study has several limitations. First, the research was conducted in two wards within a single hospital, which limits the transferability of the findings to other clinical or organisational contexts. As IPC and IPE are highly context sensitive, the dynamics identified here may differ in settings with different structural, cultural, or professional configurations. Second, the researcher's presence during observations may have influenced participants' behaviour, as staff were aware that they were being observed. While efforts were made to minimise disruption and maintain a naturalistic stance, the possibility of reactivity cannot be entirely excluded. Additionally, interviews were conducted during working hours within the hospital environment, which may have constrained participants' availability and potentially influenced the extent to which they freely expressed certain views. As participation in interviews was voluntary and shaped by clinical workload, it is possible that certain perspectives were overrepresented while others were underrepresented. Finally, observations were limited to the selected wards and did not include direct patient interactions, which may have restricted insight into some aspects of collaborative practice. Despite these limitations, the combination of field observations and interviews provided rich, contextually grounded insights into IPC and IPE within hospital settings.

Conclusion


This study used an ethnographic approach to explore IPC and IPE in a diverse clinical setting. The findings underscore the complex relationships that shape collaborative practice through interrelated themes: commitment, skills and competencies, and environmental factors. These illustrate that, while systemic pressures such as staffing shortages, workload, and financial and time constraints can undermine collaboration, IPE activities, shared professional experience, and emphasis on staff empowerment can foster sustainable IPC.


The paper provides a deeper understanding of how collaborative practice occurs and is experienced by healthcare workers on a daily basis. It highlights the importance of both the human and structural dimensions: trust, humility, respect, and motivation are as essential as training, leadership, and resources. Recognising the combined effect of these factors can improve team bonding, strengthen interpersonal dynamics, and build resilience, ultimately enhancing the sustainability of IPC in healthcare.

Further research is needed to gain deeper insight into how empowerment influences team dynamics and atmosphere, as current evidence is limited. In addition, future studies should examine more closely how organisational structure, workplace culture, and unit size interact with competencies and commitment to shape IPC and IPE.

ORCID iDs

Gerard Balague-Viladrich  <https://orcid.org/0000-0003-0634-9644>

Cristina Monforte-Royo  <https://orcid.org/0000-0001-8334-4623>

Frederico Matos  <https://orcid.org/0000-0002-2534-0891>

Ethical Considerations

This study received ethical approval from the Research Ethics Committee of the university where the study was registered (approval #INF-2022-05; June 15, 2022) and from the Research Ethics Committee of the hospital where the study was conducted (approval #CEIm: 02-22-101-036; March 28, 2022).

Consent to Participate

Prior to data collection, staff were informed about the purpose and procedures of the study. Verbal consent was obtained from healthcare professionals before observations of professional interactions took place. Written informed consent was obtained from all participants prior to participation in the semi-structured interviews.

Consent to Publication

Not applicable

Author Contributions

GB conceived and designed the study, conducted data collection (including observations and interviews), performed the primary data analysis, and drafted the manuscript.

CM contributed to the study design, facilitated institutional coordination for fieldwork, participated in data analysis, and provided critical revisions to the manuscript.

FM contributed to the study design, provided methodological oversight, contributed to data analysis, and critically reviewed and revised the manuscript.

All authors contributed to the interpretation of findings and approved the final version of the manuscript.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Declaration of conflicting interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Data Availability

Data available from the corresponding author upon reasonable request.

Supplemental Material

Supplemental material for this article is available online.

References

1. Makary MA, Daniel M. Medical error—the third leading cause of death in the US. *Br Med J*. 2016;353:i2139. doi:10.1136/bmj.i2139
2. Slawomirski L, Klazinga N. *The Economics of Patient Safety: from Analysis to Action*. OECD Health Working Papers No. 145. OECD Publishing; 2022. doi:10.1787/761f2da8-en.

3. Anderson JG, Abrahamson K. Your health care may kill you: medical errors. *Stud Health Technol Inform.* 2017;234:13-17. doi:10.3233/978-1-61499-742-9-13
4. Rodziewicz TL, Houseman B, Vaqar S, Hipskind JE. Medical error reduction and prevention. In: *StatPearls [Internet]*. StatPearls Publishing; 2024. Accessed February 22, 2026. <https://www.ncbi.nlm.nih.gov/books/NBK499956/>
5. Liaropoulos L, Goranitis I. Health care financing and the sustainability of health systems. *Int J Equity Health.* 2015;14:80. doi:10.1186/s12939-015-0208-5
6. Mohammed CA, Anand R, Ummer VS. Interprofessional education (IPE): a framework for introducing teamwork and collaboration in health professions curriculum. *Med J Armed Forces India.* 2021;77(suppl 1):S16-S21. doi:10.1016/j.mjafi.2021.01.012
7. World Health Organization. *Framework for Action on Interprofessional Education & Collaborative Practice*. World Health Organization; 2010. Accessed February 22, 2026. <https://www.who.int/publications/i/item/framework-for-action-on-interprofessional-education-collaborative-practice>.
8. Grand-Guillaume-Perrenoud JA, Cignacco E, MacPhee M, Carron T, Peytremann-Bridevaux I. How does interprofessional education affect attitudes towards interprofessional collaboration? A rapid realist synthesis. *Adv Health Sci Educ Theory Pract.* 2025;30(3):879-933. doi:10.1007/s10459-024-10368-6
9. Green BN, Johnson DD. Interprofessional collaboration in research, education, and clinical practice: working together for a better future. *J Chiropr Educ.* 2015;29(1):1-10. doi:10.7899/jce-14-36
10. Centre for the Advancement of Interprofessional Education. Interprofessional education: a definition. Published 2002. Accessed February 22, 2026. <https://www.caie.org>.
11. Coles E, Anderson J, Maxwell M, et al. The influence of contextual factors on healthcare quality improvement initiatives: a realist review. *Syst Rev.* 2020;9:94. doi:10.1186/s13643-020-01344-3
12. Horton T, Illingworth J, Warburton W. *The Spread Challenge*. The Health Foundation; 2018. <https://www.health.org.uk/publications/the-spread-challenge>. Accessed February 22, 2026.
13. Dixon-Woods M, Bosk CL, Aveling EL, Goeschel CA, Pronovost PJ. Explaining Michigan: developing an ex post theory of a quality improvement program. *Milbank Q.* 2011;89(2):167-205. doi:10.1111/j.1468-0009.2011.00625.x
14. Nisbet G, Lincoln M, Dunn S. Informal interprofessional learning: an untapped opportunity for learning and change within the workplace. *J Interprof Care.* 2013;27(6):469-475. doi:10.3109/13561820.2013.805735
15. Dyess AL, Brown JS, Brown ND, Flautt KM, Barnes LJ. Impact of interprofessional education on students of the health professions: a systematic review. *J Educ Eval Health Prof.* 2019;16:33. doi:10.3352/jeehp.2019.16.33
16. Wang Z, Feng F, Gao S, Yang J. A systematic meta-analysis of the effect of interprofessional education on health professions students' attitudes. *J Dent Educ.* 2019;83(12):1361-1369. doi:10.21815/jde.019.147
17. Cusack T, O'Donoghue G. The introduction of an interprofessional education module: students' perceptions. *Qual Prim Care.* 2012;20(3):231-238.
18. Gleeson LL, O'Brien GL, O'Mahony D, Byrne S. Interprofessional communication in the hospital setting: a systematic review of the qualitative literature. *J Interprof Care.* 2023;37(2):203-213. doi:10.1080/13561820.2022.2028746
19. Pascucci D, Sassano M, Nurchis MC, et al. Impact of interprofessional collaboration on chronic disease management: findings from a systematic review of clinical trial and meta-analysis. *Health Policy.* 2021;125(2):191-202. doi:10.1016/j.healthpol.2020.12.006
20. Hammersley M, Atkinson P. *Ethnography: principles in Practice*. 4th ed. Routledge; 2019. doi:10.4324/9781315146027.
21. Savage J. Ethnography and health. *Br Med J.* 2000;321(7273):1400-1402. doi:10.1136/bmj.321.7273.1400
22. Reeves S, Kuper A, Hodges BD. Qualitative research methodologies: ethnography. *Br Med J.* 2008;337:a1020. doi:10.1136/bmj.a1020
23. Hopwood N, Day C, Edwards A. Partnership practice as collaborative knowledge work: overcoming common dilemmas through an augmented view of professional expertise. *J Child Serv.* 2016;11(2):111-123. doi:10.1108/jcs-08-2015-0027
24. Goodson L, Vassar M. An overview of ethnography in health-care and medical education research. *J Educ Eval Health Prof.* 2011;8:4. doi:10.3352/jeehp.2011.8.4
25. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med.* 2014;89(9):1245-1251. doi:10.1097/acm.0000000000000388
26. Ellis G, Sevdalis N. Understanding and improving multidisciplinary team working in geriatric medicine. *Age Ageing.* 2019;48(4):498-505. doi:10.1093/ageing/afz021
27. Cubellis L, Schmid C, Peter S. Ethnography in health services research: oscillation between theory and practice. *Qual Health Res.* 2021;31(11):2029-2040. doi:10.1177/10497323211022312
28. McDonald S. Studying actions in context: a qualitative shadowing method for organizational research. *Qual Res.* 2005;5(4):455-473. doi:10.1177/1468794105056923
29. Foronda C, MacWilliams B, McArthur E. Interprofessional communication in healthcare: an integrative review. *Nurse Educ Pract.* 2016;19:36-40. doi:10.1016/j.nepr.2016.04.005
30. Iedema R, Long D, Forsyth R, Lee BB. Visibilising clinical work: video ethnography in the contemporary hospital. *Health Sociol Rev.* 2006;15(2):156-168. doi:10.5172/hesr.2006.15.2.156
31. Tai J, Fischer J, Noble C. Focus on methodology: observational studies in health professional education research. *Focus Health Prof Educ.* 2021;22(1):94-111. doi:10.11157/fohpe.v22i1.536
32. Frey JH, Fontana A. The group interview in social research. *Soc Sci Med.* 1991;28(2):175-187. doi:10.1016/0362-3319(91)90003-m
33. Amin MEK, Nørgaard LS, Cavaco AM, et al. Establishing trustworthiness and authenticity in qualitative pharmacy research. *Res Social Adm Pharm.* 2020;16(11):1472-1482. doi:10.1016/j.sapharm.2020.02.005
34. Gill P, Stewart K, Treasure E, Chadwick B. Methods of data collection in qualitative research: interviews and focus groups. *Br Dent J.* 2008;204(6):291-295. doi:10.1038/bdj.2008.192
35. LaDonna KA, Artino AR, Balmer DF. Beyond the guise of saturation: rigor and qualitative interview data. *J Grad Med Educ.* 2021;13(5):607-611. doi:10.4300/jgme-d-21-00752.1
36. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol.* 2006;3(2):77-101. doi:10.1191/1478088706qp063oa

37. Braun V, Clarke V. Reflecting on reflexive thematic analysis. *Qual Res Sport Exerc Health*. 2019;11(4):589-597. doi:10.1080/2159676x.2019.1628806
38. QSR International Pty Ltd. *NVivo Qualitative Data Analysis Software*. Version 11. QSR International; 2015.
39. Bleakley A. Working in teams in health care. In: Bleakley A, Bligh J, Browne J, eds. *Medical Education for the Future: Identity, Power and Location*. Springer; 2013:171-188. doi:10.1007/978-90-481-9692-0.
40. D'Amour D, Oandasan I. Interprofessionality as the field of interprofessional practice and interprofessional education: an emerging concept. *J Interprof Care*. 2005;19(suppl 1):8-20. doi:10.1080/13561820500081604
41. Reeves S, Fletcher S, Barr H, et al. A BEME systematic review of the effects of interprofessional education: BEME guide No. 39. *Med Teach*. 2016;38(7):656-668. doi:10.3109/0142159x.2016.1173663.
42. Rink LC, Oyesanya TO, Adair KC, et al. Stressors among healthcare workers: a summative content analysis. *Glob Qual Nurs Res*. 2023;10:23333936231161127. doi:10.1177/23333936231161127
43. Zabin LM, Zaitoun RSA, Sweity EM, de Tantillo L. The relationship between job stress and patient safety culture among nurses: a systematic review. *BMC Nurs*. 2023;22(1):39. doi:10.1186/s12912-023-01198-9
44. Newman A, Donohue R, Eva N. Psychological safety: a systematic review of the literature. *Hum Resour Manag Rev*. 2017;27(3):521-535. doi:10.1016/j.hrmr.2017.01.001
45. Hall P. Interprofessional teamwork: professional cultures as barriers. *J Interprof Care*. 2005;19(suppl 1):188-196. doi:10.1080/13561820500081745
46. Tan SHE, Chin GF. Generational effect on nurses' work values, engagement, and satisfaction in an acute hospital. *BMC Nurs*. 2023;22:88. doi:10.1186/s12912-023-01256-2
47. Canadian Interprofessional Health Collaborative. *CIHC Competency Framework for Advancing Collaboration 2024*. Canadian Interprofessional Health Collaborative; 2024. Accessed February 23, 2026. <https://cihc-cpis.com/wp-content/uploads/2024/06/CIHC-Competency-Framework.pdf>.
48. Interprofessional Education Collaborative. *Core Competencies for Interprofessional Collaborative Practice: 2016 Update*. Interprofessional Education Collaborative; 2016. Accessed February, 23, 2026. <https://www.ipecollaborative.org/assets/2016-Update.pdf>.
49. Körner M, Wirtz MA, Bengel J, Göritz AS. Relationship of organizational culture, teamwork and job satisfaction in interprofessional teams. *BMC Health Serv Res*. 2015;15:243. doi:10.1186/s12913-015-0888-y
50. Oandasan I, Reeves S. Key elements for interprofessional education. Part 1: the learner, the educator and the learning context. *J Interprof Care*. 2005;19(suppl 1):21-38. doi:10.1080/13561820500083550
51. Healy S, Tyrrell M. Stress in emergency departments: experiences of nurses and doctors. *Emerg Nurse*. 2011;19(4):31-37. doi:10.7748/en2011.07.19.4.31.c8611
52. Rosen MA, DiazGranados D, Dietz AS, et al. Teamwork in healthcare: key discoveries enabling safer, high-quality care. *Am Psychol*. 2018;73(4):433-450. doi:10.1037/amp0000298
53. Mascolo MF, Fischer KW. Constructivist theories. In: Hopkins B, Barr RG, Michel GF, Rochat P, eds. *The Cambridge Encyclopedia of Child Development*. Cambridge University Press; 2005:49-63.
54. Laschinger HKS, Wong CA, Grau AL. Authentic leadership, empowerment and burnout: a comparison in new graduates and experienced nurses. *J Nurs Manag*. 2013;21(3):541-552. doi:10.1111/j.1365-2834.2012.01375.x
55. Regan S, Laschinger HKS, Wong CA. The influence of empowerment, authentic leadership, and professional practice environments on nurses' perceived interprofessional collaboration. *J Nurs Manag*. 2016;24(1):E54-E61. doi:10.1111/jonm.12288
56. Htay M, Whitehead D. The effectiveness of the role of advanced nurse practitioners compared to physician-led or usual care: a systematic review. *Int J Nurs Stud Adv*. 2021;3:100034. doi:10.1016/j.ijnsa.2021.100034