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Original Research

An activity theory perspective on interprofessional teamwork in long-term care

Une perspective de théorie de l'activité sur le travail en équipe interprofessionnelle dans les soins de longue durée

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Abstract

Background: Teamwork in healthcare is shaped by reciprocal interactions among individual team members and their clinical context. Cultural Historical Activity Theory (CHAT) provides a framework to study teamwork from a developmental perspective. We observed interactions between members of an Interprofessional Healthcare Team (IHT) to identify practical guidelines for educators.

Method: Three Health Care Providers (HCPs) with more than 22-years' experience in a semi-urban LTC facility participated. We video-recorded two regular IHT meetings and selected excerpts for subsequent video-recall interviews. The excerpts were shown and discussed first with each team member, then with members in pairs and finally with all members reunited. We prompted participants to explain what was happening on the videos. All interviews were recorded, transcribed, and analyzed using CHAT's unit of analysis based on Activity Systems.

Findings: We observed contradictions within the Activity Systems involving diverging views on outcomes of enhancing or maintaining quality of life; using non-traditional tools and spaces to sustain resident mobility; safeguarding community and patient safety despite time constraints and job titles, and unease for being paid to perform unconventional interventions. The contradictions have been grouped into three themes reflecting the Activity Systems: 1) enhancing versus maintaining quality of life; 2) improvising to achieve care goals; and 3) role fluidity.

Discussion: Our findings show that practical goal-oriented and contextual adaptations rely heavily on improvisation and dialogue. Educating HCPs for interprofessional teamwork should focus on developing situational awareness to foster continuous adaptation of disciplinary interventions.

Résumé

Contexte : Le travail d'une équipe interdisciplinaire (EID) est façonné par les interactions entre ses membres et l'environnement. La Théorie de l'activité historico-culturelle (TAHC) offre une perspective évolutive sur le travail en équipe. Nous avons observé les interactions au sein d'une EID pour y déceler des orientations pratiques pour la formation des soignants au travail en équipe.

Méthode : Un groupe de trois professionnels de la santé, ayant plus de 22 ans d'expérience dans un petit établissement de soins de longue durée semi-urbain, a participé à l'étude. Nous avons enregistré sur vidéo deux réunions régulières de l'EID et sélectionné 5 extraits. Les participants ont regardé les extraits vidéo et ont été invités à expliquer leurs actions. Ensuite, les participants ont visionné les mêmes extraits par groupes de deux et en ont discuté. Enfin, les participants réunis ont revu les séquences en groupe et en ont discuté. Tous les entretiens ont été enregistrés et transcrits en vue d'une analyse thématique utilisant le cadre de la théorie de l'activité.

Résultats : L'EID se concentre sur le maintien de la santé des résidents en équilibrant les interventions de soins de santé dans un milieu de vie et de soins. L'analyse thématique nous a permis d'identifier trois thèmes : 1) les membres de l'EID se concentrent de manière asymétrique sur le maintien de la santé plutôt que sur le diagnostic et l'intervention ; 2) les interventions spécifiques à la discipline s'adaptent continuellement pour maintenir la santé des résidents, et ; 3) les activités qui ne relèvent pas des rôles professionnels génèrent des tensions et des malaises qui modifie la séparation des rôles.

Discussion : En raison de la nature du travail équipe interdisciplinaire en soins de longue durée, les frontières disciplinaires sont constamment remises en question en raison du chevauchement entre le milieu de soins qui est à la fois un milieu de vie. La théorie de l'activité apporte un éclairage utile sur cette complexité, en fournissant des données empiriques sur la manière dont les professionnels de la santé collaborent pour prodiguer des soins personnalisés dans les établissement de soins de longue durée.

Introduction

A growing body of research focuses on the workplace as a setting for developing proficiency in interprofessional collaboration in the healthcare system.[1] As healthcare professionals (HCPs) work within the system, they learn to collaborate and ultimately attain proficiency in performing collective tasks through multiple interactions and reflective practice. Attempts have been made to embed Interprofessional Education (IPE) in the workplace, but these have relied on adapting classic academic approaches to the workplace. According to a recently published review protocol, IPE programs still focus on conceptual topics such as collaborative attitudes, knowledge, skills, and behaviours[2] and emphasize the importance of identifying and maintaining boundaries between professional roles.[3] Consequently, workplace IPE initiatives are considered time-consuming and heavily resource dependent (e.g. educational specialists)[4] to develop course material and curricula. Furthermore, researchers have focused on barriers for implementing holistic and integrated IPE programs in the workplace, such as reluctance to share assessments of students with other disciplines,[5] professional associations' stranglehold on designated professional acts,[6] as well as issues of power and hierarchy.[7]

Current literature presents abundant evidence that as HCPs accumulate experience in collaborative practice, their teamwork skills become highly specific and situated. As highlighted by Varpio et al.,[8] interprofessional team success is associated with such complex skills as situational awareness, leadership, and followership, among others. Lingard et al.[9] argued that research should strive to adequately represent the complexity of collaborative practice in the healthcare system. Hence, the success of interprofessional teams in health care may rest on concepts that are hard to describe but are readily observed.

Many authors indicate that observational methods focused on individual interactions can capture teamwork firsthand and best reflect its complexity. They argue for studying interprofessional healthcare teams through the eyes of the professionals that participate in them.[1,10-13] More recent suggestions from authors focus on the need to fathom the effects of human interactions in advancing learning in the workplace.[14] Exploring this social learning process and its outcomes could yield helpful insight for understanding teamwork and ultimately, better embed interprofessional education in the workplace.

Cultural Historical Activity Theory

We chose Cultural Historical Activity Theory (CHAT) as our conceptual framework because it offers a unique lens for studying complex learning environments. Through its roots in psychology, CHAT sees any human undertaking as a reciprocal interaction between subject and object that is mediated by a culturally constructed artifact. Artifacts can include both physical objects such as instruments, as well as abstract concepts such as organizational structures, cultural norms, and specific knowledge. Yamagata-Lynch,[15] identifies reciprocal interactions as: "situations in natural settings where multiple individuals are involved in shared activities within a single or multi-organizational context" (p.vii).

CHAT directs the researcher's attention to these multiple reciprocal interactions to understand the "activity" that the team is undertaking. Importantly, a distinction is made between "activity" and "action" : the former implies longer-term, continuous, collective, and complex undertakings (e.g. establishing a care plan), the latter consists of short-term operations within the undertaking (e.g. conducting a mobility assessment). A team's activity is therefore conceptualized in CHAT as continuous reciprocal interactions between subject, object, and a culturally constructed artifact—referred to as an Activity System—to achieve a common goal.

Moreover, as a lens through which to understand complex human activities, CHAT's systemic framework allows for the observation of changes in the "activity" as it is carried out multiple times. Consequently, from a CHAT perspective, teamwork is viewed as a socially constructed human activity that is 1) goal-oriented[16] and 2) based on reciprocal interactions that generate continuous, transformative, and complex learning.[17,18] Crucially, these transformations are driven by contradictions that naturally arise when individuals interact. Contradictions are conceptualized in CHAT as disturbances generated by conflicting perceptions and intentions regarding the common goal.[19]

As shown in Figure 1, Activity Systems comprise seven components: 1) a Subject (Individual) intervening on 2) an Object mediated by 3) Instruments or Tools that can be symbolic or physical. Underpinning these interactions are contextual factors that also influence the activity. These are 4) Rules governing the conduct of the activity; 5) the

Community, comprising the groups to which the Subject belongs and/or which are affected by the activity; and 6) the Division of Labour, which reflects the ways the activity is divided among members of the community.[20,21] All these interactions are reciprocal, implying that each may affect the whole activity system and collectively determine its 7) Outcome[19] (see Figure 1 and Table 1).

Table 1. Description of the components of the activity system

	Activity System Component	Description
1	Instruments, tools	The symbolic and/or physical objects that mediate the activity, e.g. stethoscope, biomedical knowledge.
2	Subject	The person engaged in the activity, e.g. A Health Care Professional (HCP)
3	Object	The person and/or the purpose of the activity, e.g., the patient and patient's health issue.
4	Rules	The norms, expectations and power relations that guide the activity.
5	Community	The groups to which the subject belongs and/or which are affected by, or may have an effect on, the activity.
6	Division of Labour	The ways the activity is divided among the members of the community.
7	Outcome	Intended result or product of activity system.

Adapted from Larsen et al. 2019[21]

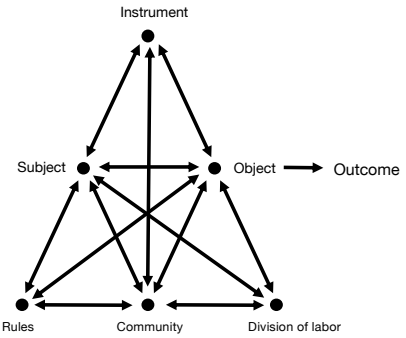

Figure 1. Activity theory analytical framework
Adapted from Engeström[22]

CHAT's sensitivity to this complexity can afford valuable insights into team functioning. We decided to observe an interprofessional healthcare team's (IHT) work to explore, through team members' eyes, how collaborative practice is conducted in a complex learning environment to ultimately tease out practical insights for educators.

Methods

Study design

We view human development as a continuous sociocultural process sustained by dialogue among participants and reciprocal interactions with their environment. Our view implies that we conduct research *with* rather than *on* participants.[23] This case study uses an interpretive qualitative approach[24] based on data collected during think-aloud interviews.[25] Researchers base their interpretations on participant utterances recorded in multiple interviews that convey meaning about their experience. In this sense, the results are co-constructed and are relevant for continuous improvement at the workplace and allow researchers to gain insights into interprofessional collaborative practice based on trustworthy and credible data.[26]

Setting and participants

Our study took place in a 50-resident long-term geriatric care facility in a suburban area of Montreal, Canada. We introduced our study to the clinical staff, and three Interprofessional Healthcare Team (IHT) members volunteered to participate. The IHT, composed of a nurse (RN), a rehabilitation technician (Rht), and a general practitioner (MD), had been working together for over 15 years, and each member had more than 22 years' experience in healthcare. They held monthly formal IHT meetings to discuss new admissions and follow-up with residents in their care. These IHT meetings typically follow a routine in which the nurse raises issues identified in the nursing notes, the rehabilitation technician reports on mobility assessments, and the physician reviews test results and charts to adjust any medications, if necessary. After sharing this information, the IHT can deliberate on issues requiring further investigation or action. These meetings provide valuable windows onto the IHT's goal-oriented activity that interests us. Table 2 presents IHT members.

Table 2. Study participants

Profession	Years of experience (years in study site)	Pseudonyms
Nurse (RN)	25 years (25 years)	Maud
Rehabilitation Technician (RhT)	22 years (18 years)	Maryse
Physician (MD)	32 years (15 years)	Elaine

Data collection

After a preparatory period of 2 months visiting the LTC, meeting staff and familiarizing ourselves with the field setting, we agreed to observe and film two regular IHT meetings (total 4 hours of video footage), which were considered representative of a typical care routine at this facility. From this filmed material we selected shorter sequences to use as video-recall excerpts, or "vignettes of activity". We selected these excerpts based on the following criteria: in the video, study participants were actively engaged in discussing a resident case; the topic

discussed was considered complex and had significant implications; and the excerpt length did not exceed 5 minutes to allow for ample discussion during video-recall interviews. Importantly, the vignette was intended as a catalyst for elicitation and further discussion.

First, we interviewed each member separately while watching the selected video excerpts of their formal IHT meeting. We used a think-aloud protocol [25] that allowed us to access the individual's thought processes and perceptions.[27,28] Second, we conducted similar think-aloud sessions in pairs and a single group interview using the same video excerpts to gain access to social interactions.[29] This approach allowed us to identify the systemic contradictions and adaptations alluded to by the participants over time.

We used the video excerpts as a stimulus for think-aloud recall in all interviews. At each interview session, researchers took a non-directional stance. They simply asked participants to explain what was happening in the video,[30] allowing participants to express as clearly as possible the meaning they made of their experience. This approach ensured that issues identified over multiple interviews reflected participants' deeper concerns beyond the single case being discussed. The time elapsed between interviews also bolstered data trustworthiness and credibility because as participants forgot previous utterances, the recurring themes in their discourse, stimulated by the same video excerpt, reflected more profound and more stable thoughts and processes.

Table 3. Timing of data collections

Data Collection	Timing
IDT meetings	June 2019
Individual interviews	September-October 2019
Paired interviews	February – March 2020
Group Interview	November 2021 *

**Interruption caused by the pandemic*

Selected video excerpt

In the interest of space, this study presents results pertaining to one video sequence (out of five) filmed in May 2019, which lasts 4 minutes and 52 seconds. It shows the IHT discussion with Mr. Holland, a resident, about food and the upcoming summer season. At the beginning of the sequence, the IHT and Mr. Holland talk about growing vegetables in the garden. The rehabilitation technician has been using the adjacent vegetable garden for physical activity. She asks Mr. Holland which vegetables he wants to grow this year. Mr. Holland is very passionate about gardening and keen to contribute to improving the food, not just for himself but for all residents. The physician listens attentively to the discussion and says she would be delighted to taste the vegetables after the harvest. The rehabilitation technician requests Mr. Holland's help to prepare the planting. She speaks loudly and repeats what is said by others because Mr. Holland has trouble hearing. Then, the nurse notes that Mr. Holland does not like the tea served there, and she wishes to inform him that he can bring his own tea bag to the dining hall. When Mr. Holland hears that the discussion is about his tea, he mentions his preference for whole milk. The team then discusses ways to provide him with fresh whole milk. The physician suggests that Mr. Holland make a list of things that could be improved at the residence.

Data analysis

It is essential to consider that in CHAT, the unit of analysis is not individuals' utterances or conversations within the IHT, but the larger-lensed, or "wide-angle" view of the Activity Systems as they are shaped by reciprocal interactions among them and with the environment.[31] Yamagata-Lynch[15] suggests that a focus on the contradictions and adaptations affords deep insights into an IHT's collaborative practice.

Using the step-by-step process from reflexive thematic analysis (data familiarisation, code generation, generating themes, reviewing themes, defining, and naming themes, producing the report),[32,33] we coded participant utterances according to the seven components of the Activity System triangle depicted in Figure 1. The authors completed the coding process allowing them to identify the contradictions within and between Activity Systems. They shared the initial findings with the participants to ensure they resonated with their perceptions. Discrepancies were resolved, and the researchers agreed on a final mapping of the contradictions.

Reflexivity and positionality

The authors are educational researchers specializing in health professions education. Their constructivist perspective on skill development through participation influenced their approach to the data. As for our positionality, we value an individual's self-determination and self-fulfillment in the workplace, placing great value on their agency to advance learning and continuous improvement. Selecting CHAT was natural for us because it adequately reflects our vision of the unique nature of learning in the workplace.

Member checking

The participants spoke about the identified contradictions on multiple occasions. At the final group interview, researchers reported these to the participants, who helped to refine them further. The final list of contradictions results from a process of reframing and clarification with the participants.

Ethics

Our study was approved by the Research Ethics Board of the Regional Health Agency overseeing the participating long-term care facility (approval number 2017-366-É). All Health Professionals who participated provided written informed consent prior to enrollment in the study.

Findings

CHAT imposes two assumptions: 1) first is that Activity Systems and their reciprocal interactions constitute a single unit of analysis; and 2) these Activity systems are in a constant state of evolution. The researcher's task is to identify the contradictions within and between the systems that harbor potential for adaptation and change. Figure 2 displays each participant's (*n* = 3) Activity System and interactions. The large circles in the center of the figure represent how each participant views the outcome of their intervention. We can see that these overlap to some extent, reflecting the different ways HCP's activity is centered on Mr. Holland's health, preferences, and well-being. Each Activity System (triangles) represents each participant's (Subject) view of the Tools they use, the Object of their intervention, as well as the Rules, Community and Division of Labor as gleaned from the multiple discussions about the same video excerpt (with Mr. Holland). Finally, the darkened wavy arrows reflect the contradictions that cause disturbances within and between Activity System as identified in our data analysis. Table 4 summarizes the Activity Systems for each participant.

Table 4. Participant activity system mapping from data

Activity System Component	Nurse	Rehabilitation Technician	Physician
Instruments, tools	Nursing notes	Physical exercise and equipment	Bio-medical knowledge
Subject	Nurse	Rehabilitation Technician	Physician
Object	Patient preferences	Gardening	Diagnose and treat illness
Rules	Paperwork on patient files	Remuneration	Administrative tasks
Community	Neighbours and other patients	All residents are active	Well-being of patients and co-workers
Division of Labour	Ensuring patient safety	Functional rehabilitation	Participation in IHT meetings
Outcome	Maintain domestic comfort	Enhance quality of life through community	Maintain health

We identified seven contradictions within each activity system (see Table 5) that drove adaptations to IHT practices.

Table 5. Contradictions within activity systems

Num.	HCP	Activity System Component	Activity System Component
1	All	Varying outcomes	Varying outcomes
2	RhT	Tools: Physical exercise and equipment	Division of Labour: Functional rehabilitation
3	RhT	Rules: Remuneration	Object: Gardening for resident's mobility
4	Nurse	Rules: Paperwork on patient files	Object: Patient preferences
5	Nurse	Rules: Paperwork on patient files	Division of Labour: Ensuring patient safety
6	MD	Community: Well-being of patients & coworkers	Division of Labour: Full participation in IHT meetings
7	MD	Rules: Administrative tasks	Community: Well-being of patients & coworkers

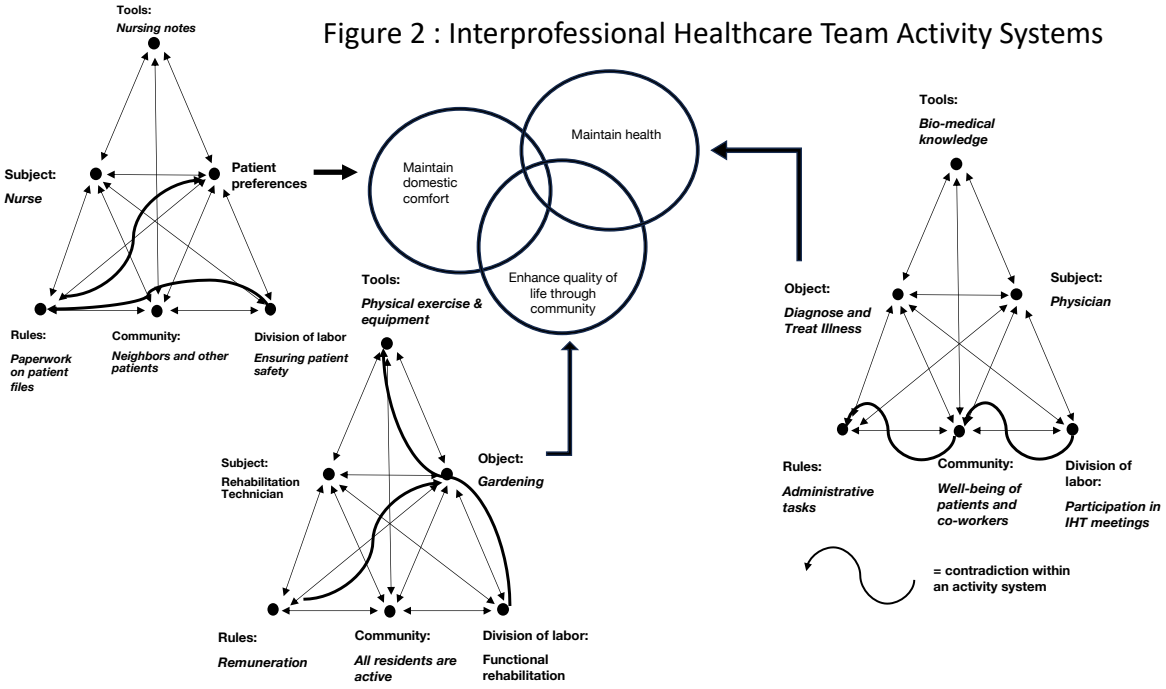

Figure 2. Interprofessional healthcare team activity systems

Contradiction 1 - MD, RhT & Nurse: varying outcomes

This first contradiction stems from how the "outcomes" are expressed by the three participants. The nurse and physician spoke of *maintaining* residents' health and home comfort, whereas the rehabilitation technician spoke of *enhancing* life for residents by fostering a sense of community.

For example, in her interview, the rehabilitation technician spoke about badminton games she organized in the common room for all residents to make them feel part of the community, as an intervention for all, not just one patient (verbatim 1). Her focus on creating this sense of community is salient when she compares her work with colleagues practicing elsewhere (verbatim 2) who only perform patient evaluations. She voices the idea that recreational activities are just as important in her work as assessing mobility to enhance quality of life.

In contrast, the nurse is a long-time neighbour of Mr. Holland's, and she knows that he loves gardening. So, allowing him to garden makes him feel that he is still at home (verbatim 3). The nurse's utterances during the meeting focus exclusively on what Mr. Holland likes in his food and tea (verbatim 4). She mentions these items because she believes it is essential to maintain the feeling of being at home. In the paired interview with the rehabilitation technician, the physician told us that Mr. Holland had asked her for a complete health assessment, after which she prescribed iron for anemia. The physician said this medical intervention likely would not change much but is part of a tailored care package to maintain quality of life (verbatim 5).

Contradiction 2 - RhT: Tools <-> Division of Labour

The rehabilitation technician conducts mobility assessments and develops programs to ensure residents maintain appropriate levels of mobility. To achieve this, she uses tools that are not the traditional ones in her profession. For example, she uses the garden and the common room as spaces in which to work and incorporates tools as garden clippers, hoses, pails, and badminton rackets (verbatim 6) to bring more opportunities for mobility to residents. This is an example of how she adapts her professional practice, leveraging what is available at the LTC. At the same time, she is providing an opportunity for Mr. Holland to revisit an activity he enjoyed in his life and build a community for residents participating in activities in the common areas.

Contradiction 3 - RhT: Rules <-> Object

Gardening with Mr. Holland absorbs much of the rehabilitation technician's time in the summer. She knows gardening is good for Mr. Holland's mobility, but she feels uneasy about spending time on this and being paid for it (verbatim 7). She continually voiced this issue in interviews: she feels uneasy about being paid at her professional rate

to take care of the garden, and she broaches this with the LTC facility administrator (Verbatim 8).

Contradiction 4 - Nurse: Rules <-> Object

In her regular job, the nurse uses nursing notes compiled by staff in each patient's file to highlight residents' health status and needs. In the video sequence, she notes Mr. Holland's preferences about the tea that is served (verbatim 4). She uses the nursing notes to act on the patient's well-being. Similarly, the nurse said she often must decide between processing a pile of paperwork and the possibility of taking a resident, such as her old neighbour Mr. Holland, for a walk (verbatim 9). Her willingness to "deal with the consequences" later reflects how she adjusts her work to resolve this contradiction.

Contradiction 5 - Nurse: Rules <-> Division of Labour

While she discussed her administrative tasks, the nurse expressed, in her paired interview with the physician, that she is often interrupted by unforeseen situations that place residents at risk, like fixing a secured door that will not lock or a leaky roof (verbatim 10). In these examples, the implication is that she must resolve the situation before returning to her regular care-providing tasks. These diversions create unease, and although she did not use the word, her utterances continually conveyed the sense of having to "improvise" while carrying out her work.

Contradiction 6 - MD: Community <-> Rules

During the group meeting, the nurse noted that in many other LTCs, the physician is not interested in IHT discussions and leaves the room once decisions about medical issues have been made (verbatim 11). When asked to explain her role in the discussion with Mr. Holland about gardening, the physician said she was content to listen pleasantly, not intending to participate in the conversation (verbatim 12). In the paired interview with the physician, the rehabilitation technician indicates to her that it is highly appreciated that she stays on and listens to their deliberations about residents' needs (verbatim 13). In response, the physician voiced her view that this IHT is not just professionals providing services to people, it is above all a group of people working together (verbatim 13). In all her discussions about the video sequence, the physician never uttered anything about time wasted; on the contrary, she continuously reiterated the value she places on the proximity with her patients and coworkers.

Contradiction 7 - MD: Rules <-> Community

In the group interview, the physician mentions the requirement that the rehabilitation technician must ensure that orderlies in her ward record times for completing their work. The unease about recently imposed time accounting procedures, requiring daily work forms to be filled out, heavily influenced the discussion. The rehabilitation technician laments that this new requirement is burdensome, and the physician speaks in support of her colleague, criticizing administrators who seem to believe that checking boxes on forms does not take time; they consider this as "virtual time" but repeatedly completing forms takes up *real time*, time that is taken away from patients (verbatim 14). Appendix A contains the full list of verbatim quotes.

Discussion

The contradictions can be regrouped into three separate themes. Contradictions 1, 4 and 7 arise from efforts to maintain or enhance living conditions for their patients. Contradictions 2 and 3 involve the need to adapt discipline-specific interventions that lead to a sense of "improvisation" and unease for HCPs. Contradictions 5 and 6 speak to role fluidity that generates value-laden tensions.[34]

In the IHT featured in our study, the residents' well-being in a home environment called for a continuous review of objectives. More than three decades of research shows that team outcomes can vary wildly from one instance to the next and are heavily determined by constant interactions between members.[14,35,36] Seen through the CHAT lens, we found that as team members questioned standard practices, and applied different instruments to achieve their goals, they were able to resolve the contradictions and refine their practice over time.

Our results also illustrate how IHT members stayed focused on elderly residents' health by being adaptable and open to improvising. Participants in our study modified their interventions carefully, with confidence that they were making appropriate decisions. There is also a sense of defiance: the rehabilitation technician may express doubts (is the boss okay with this, etc.?), but she continues gardening because she sees positive results. This is reminiscent of the term "artistry" applied to professional competence by Schön[37] or what Lingard et al.[9] called the "everyday improvisations that teams enact to achieve their goals within a complex – and problematic – system" (p.876). The participants in our study were very conscious that patient-centred care often generated unease because of the "improvised" nature of their actions. In this context, improvisation should not be interpreted as haphazard;

rather, we noticed "improvised" actions were rooted in the judicious application of individuals' historically grounded experiential knowledge. These "improvisations" ultimately became part of the collective team learning accrued over multiple cases.

Predominantly, the members of this IHT spoke about the importance of community well-being, a critical concern, that made them deviate from their "job description." Due to the nature of practice in such a complex environment, participants explicitly linked their effectiveness with their readiness to adapt their work to achieve valued outcomes. Contrary to an essential tenet of IPE on role clarification[38] and separation[39] it could be argued that fluidity around professional role boundaries is a logical evolution for interprofessional teamwork over long periods. This is reminiscent of Lingard et al.'s[9] study, in which authors pointed out that IPE educators need to explicitly introduce the notion that roles are fluid and subject to instability, a characteristic of teamwork in health care. They conclude that collaborative practice calls on health care professionals to be attuned and responsive to this fluidity.

Practical implications

The participants in our study displayed similar factors identified by Varpio et al.[7] that contribute to team success: leadership and followership, interchangeability, situational awareness, camaraderie, collective ethical bearing, and perseverance. Hence, our findings indicate that these factors should be important learning outcomes for IPE programs.

We observed how experienced HCPs actively listened to each other, openly deliberated on issues, and made joint decisions about patients' care. Cognitive apprenticeship models[40] for competency development imply that educators should provide access to their own reasoning processes so that students learn to express doubts and seek creative solutions with their colleagues to achieve optimal patient care. Apprenticeship scaffolding of this sort, during feed-back encounters between supervisors and learners, would bolster learner capacity to engage in meaningful dialogue with other HCPs about their teamwork.

Participants in our study were given the opportunity to engage in meaningful dialogue about work as a team. This is reminiscent of structured communication frameworks described in the literature and their tools that support teamwork development, such as TeamSTEPPS.[41,42] These kinds of supports are based on dialogue action groups[43] as used in teacher training. Such tools exist because it is considered highly educational for learners to express personal insights about teamwork in a judgment-free environment. Implementing such action dialogue group sessions, along with access to IPE content material (e.g. online materials and courses, small group simulations) could be effective for developing skills such as active listening, collective problem solving and facilitating interprofessional team meetings.

Limitations

The most significant limitation is that although our unit of analysis is an authentic example of IHT in long-term care, it describes one example from a vast universe of possible workplace situations. The team's stability and its members' personalities are unique, and the results could not be replicated elsewhere. However, our study does yield a robust and deep perspective, mediated by a rigorous multilevel think-aloud protocol approach, sensitive to the meaning HCPs assign to their experience. Given the systemic approach provided by CHAT, we argue that the themes that emerge from this process have a universal quality that can resonate with a broader group of HCPs working in the healthcare system.

Another possible limitation is that the IHT members volunteered to participate partly because they felt confident about the quality of their work. Without metrics to identify good and bad IHT practices, we are satisfied that the data they provided reliably describe effective IHT practices. We contend further that the challenges encountered by this IHT should be like those faced by other IHTs working in similar circumstances.

Conclusion

Our study yielded a glimpse of how experienced HCPs work in dynamic teams in a LTC facility. The findings provide an *in situ* perspective of the interactions through the lens of CHAT, a theoretical framework sensitive to a continuously evolving social context. These findings support the view that a heightened sensitivity to evolving situations and the capacity to adapt to changing needs and goals are conditions for effective interprofessional teamwork that should be reflected in IPE program outcomes.

Finally, perceiving workplace IPE initiatives as embedded in a continuous process comprising some time set-aside to engage in meaningful and reflexive dialogue about team functioning, may help circumvent oft-repeated barriers to IPE in the workplace such as scarce resources and time for

training; poorly adapted academic approaches to learning; and the difficulty to apply concepts such as collaborative attitudes, skills, and boundaries between professional roles.

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Appendix A.

Table 6. Verbatim quotes

Interview Phase	Circumstance	Verbatim
Verbatim 1 Rehabilitation technician (Individual interview)	Explaining her approach to physical therapy as part of social animation in the Center	"When we play badminton in the living room, we do it on purpose because there are people who wouldn't come to play, and if we were in a more enclosed room, they wouldn't even come to watch – [this way] they feel included."
Verbatim 2 Rehabilitation technician (Individual interview)	Comparing her center with bigger centers	"if I compare with larger centers, they are always evaluating transfers or new arrivals - they do functional assessments, they are always doing them [with new residents], we do the opposite, [there is] not a turnover like in other places, turnover is lower, but I said to myself we will keep them active through sports and then ... or gardening, to take away shift the focus [from measuring declining capacity] by bringing in recreational activities."
Verbatim 3 Nurse (Individual interview	Speaking of being a long-time neighbour to Mr. Holland	"Gardening is kind of a passion of his. I know it's kind of a passion of his, an interest of his. This is what is interesting here in a small community; sometimes we know a lot about the patient; we knew them before, when they were well."
Verbatim 4 Nurse (Individual interview)	The nurse is bringing up points she sees in the nursing reports	"he can't hear that I'm bringing them up [his preferences]….it's his meeting, let him say what he has to say"
Verbatim 5 Paired interview Physician and Rehabilitation technician	Physician speaks of the balance between care and medical interventions	[Physician] "there's room for a cure too. Mr. Holland came to see me, to tell me that he's not feeling well, it's worse lately - and I said Ok, we're going to assess all that, [...] - but there, what I see, is that the fact of doing this medical intervention for me was part of the care. […] It's like what are we going to grow in the garden, because if you look at it from a strictly medical point of view, is it going to change anything to give him iron? – well, it can improve a little …"
Verbatim 6 Rehabilitation technician (Individual interview)	Describing how Mr. Holland participated in the gardening	"the raised box is fine [for him to reach in his wheelchair], he was in charge of watering, but when the grape tomatoes were too high, he asked me for help. He no longer has any feeling in his right hand, he has no strength in it, even for watering [but] he could operate the hose…"
Verbatim 7 Rehabilitation technician (Individual interview	Explaining about gardening	"but... the problem... I love gardening, but I'm still wondering, even though I can clear it up with my boss, can I take this time in my work time, or is it considered more of a hobby, and I'll give it after work, during my lunch hour?"
Verbatim 8 Rehabilitation technician (Individual interview)	Expressing her tension concerning her role	"I'm going to check with my boss, do you think that this [recreational activities] is something that can be [counted in regular hours]?...because often these things are taken as recreational activities"
Verbatim 9 Nurse (Group interview)	Choosing between paperwork and taking a walk with a patient	[Nurse reacting to RhT's comments about feeling guilty to be spending so much time on gardening] "but I think many of us feel that way, because I say to myself, should I go out and take a walk with the patient or take care of the paperwork part of my job. But I think it's part of who I am: I like being active and doing a blitz to get things done thinking I'll deal with the consequences later. I'll lock myself up in the office and tackle the paper, we are swamped in paper in this LTC."
Verbatim 10 Nurse and Physician (Paired interview)	The nurse's work is never done	[Nurse] "Yeah, and then, like if the roof leaks so that's another thing about it, that's your role also. In the evening you have a door that won't stay closed, to the outside, a coded door - we gotta deal with that too."
Verbatim 11 Nurse (Group interview)	Comparing how Physicians engage in IHT	[Nurse] "Because sometimes you know you have a doctor there who comes in for the 15 minutes of the medical part then they'll leave, to continue the discussion without them."
Verbatim 12 Physician (Individual interview)	When asked about how she listened to the discussion about Mr. Holland and spoke little	"for one I wasn't talking too much…I have a tendency to talk too much…well, here is a sequence where I didn't talk much….well, I thought that…well, I think I just listened and it was pleasant to hear Mr. Holland, listen to his input, and that of others…sometimes in a meeting I like just observing, be in a moment where all I do is listen and I'm happy to be doing just that. [In this instance] I wasn't asking myself what I could say…I was pleasantly listening, I believe."

Interview Phase	Circumstance	Verbatim
Verbatim 13 Rehabilitation technician and Physician (Paired interview)	RhT questions the Physician about why she doesn't get involved in the discussion	[RhT] "I had said it during the first [individual interview], I find it surprising that Dr. N. is involved in the discussion [saying] ah, that's not medical so it doesn't concern me […] and here I remember your first sentence, I wasn't really involved in the garden [discussions]... but... you are still involved... [Physician] Oh, no, I don't want to be involved in the garden, I don't like gardening. But I admire the people who do it, I think it's wonderful - and then it's another opportunity to see that we have another dimension of group: we're not just a place that gives services to people, we're also a group of people."
Verbatim 14 Group interview	Discussion about time management	[Physician to RhT] "You know you were telling me the other time you had to tell the clerk that if it's not written down, it's not done, for the government statistics?" [RhT]: you know, it's like five years ago [we did things without worrying] there was no paper - there was just a task list... [Physician]: but today [we need to] write down everything you do [...] it's less time [of contact with the] patient because it's like there's this idea that it's a virtual time, but the problem is that it's not true! It takes real time!"