

# Interprofessional Collaboration Competencies of Nursing Students, Nurse Practitioner Students, and Paramedics in a Simulated Palliative Home Care Setting: A Pilot Study

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### Cover Page Footnote

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## Introduction

Palliative care (PC) has become a public health issue because of an aging population and longer survival rates for people with complex health problems (Jiang et al., 2019). Experts estimate that 20.4 million people worldwide need PC at the end-of-life (World Health Organization [WHO], 2020). PC provides a better quality of life for the patient and family; allows for effective symptom management; respects their wishes; promotes emotional, social, and spiritual well-being; allows the person to die with dignity; and reduces hospitalization and health care costs (WHO, 2020).

Based on a survey, 75% of Canadians would prefer to die at home, but in 2016–2017, only 15% of Canadians received home-based PC (Canadian Institute for Health Information [CIHI], 2018). New Brunswick has the highest rate of in-hospital deaths in Canada (80%). It is crucial to improve access to home-based PC to ensure the sustainability of the health care system and to move away from acute care in hospital settings at the end of life. There are home-based paramedical PC programs in some Canadian provinces (CIHI, 2018). In New Brunswick, since 2020, paramedics have been able to provide PC in the home, within the limits of the scope of their activities, according to the needs and wishes of patients and families, if it is not necessary to transport them to the emergency department for further evaluation and care. The paramedics will consult home health care providers, relay assessment findings, review goals of care, and develop a coordinated plan that meets patient needs (Extramural Program, 2020). Since 2018, nurse practitioners have been able to manage patient care through written or verbal orders given to home health care providers, follow patients at home, provide PC and/or medical assistance in dying (MAID), and declare a death. With the expansion of their roles, both disciplines work with an interdisciplinary team in home care, including nurses (Nurses Association of New Brunswick, 2021).

Higher education institutions must prepare future health professionals to understand patient and family preferences, recognize when and how to advocate for comfort care, and recognize when a care protocol adjustment is needed (Shaw & Abbott, 2017). Interprofessional team members must have the competencies to provide quality evidence-based PC centred on patients and families (Goode et al., 2019).

## Background

The National Council Licensure Examination for Registered Nurses (NCLEX-RN) is used by most Canadian nursing regulatory bodies to make licensure decisions and includes questions related to PC and MAID (National Council of State Boards of Nursing, 2018). Nursing associations also recommend PC and MAID be included in nursing curricula (Jiang et al., 2019). Some nursing programs offer limited content on PC, and the evaluation of competencies in PC is rarely carried out (Dimoula et al., 2019). Some nursing students and nurse practitioner students lack knowledge about PC and feel uncomfortable and distressed managing end-of-life care in the absence of appropriate preparation. PC may be limited, among other reasons, because of a lack of accessibility to clinical settings and the vulnerability of the population (Jenkinson & Hartman, 2021). In 2020, there were no clinical days in PC in the nursing and nurse practitioner programs of the participants involved in this study. Since 2020, paramedics have received additional education in PC, but it does not include collaboration with other health professionals (Extramural Program, 2020). PC training and practical experience are required for students to develop the necessary competencies (Kirkpatrick et al., 2019) that rely on action and the mobilization and

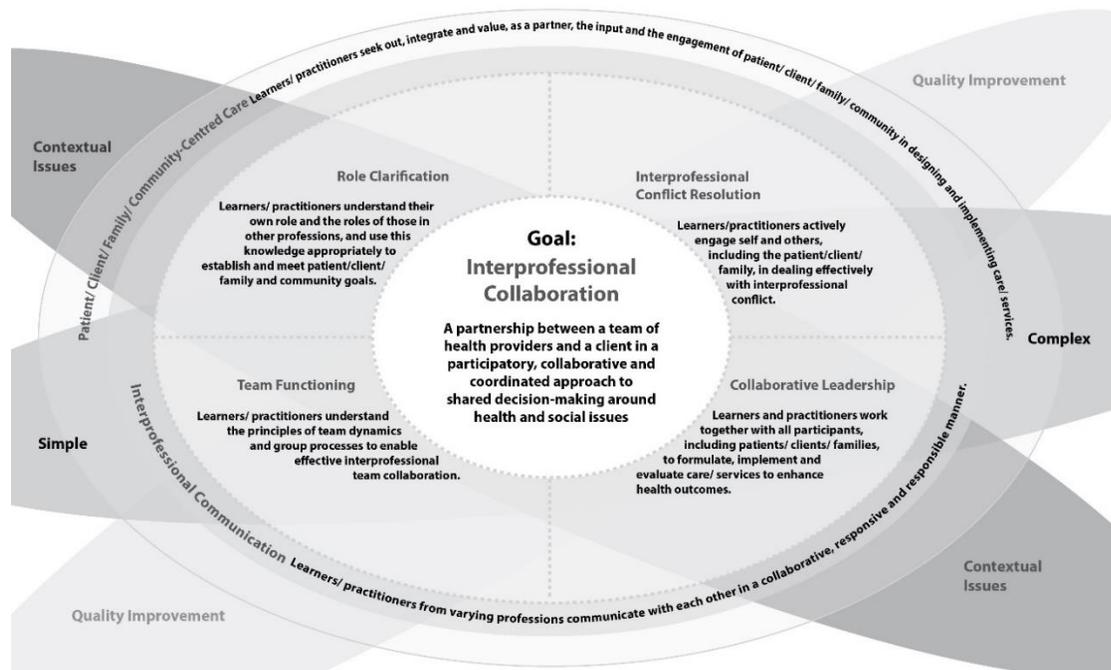
effective combination of resources that are both internal (knowledge, skills, attitudes) and external (environment) (Tardif, 2006).

A quasi-experimental pre-/post-test study showed that interprofessional end-of-life simulation improved nursing and physical therapy students' knowledge, skills, and attitudes toward patients and family (Campbell et al., 2020). An experimental study shows that a simulation involving standardized patients and providing an authentic end-of-life care experience to nursing students has significant effects on their knowledge acquisition, physical assessment, emotional support they offer, and self-efficacy (Tamaki et al., 2019). Another experimental study showed there is no significant difference in competencies and NCLEX-RN success rates at graduation and at six months into their careers between students who completed 10% and those who completed 50% of their clinical hours in simulation (Hayden et al., 2014).

Although PC offered by an interprofessional team is common, objective assessment of team member performance, as well as descriptions of the competencies needed for interprofessional collaborative practice, are scarce in the scientific literature (Kirkpatrick et al., 2019; Smilski & Parrott, 2019). No evaluation of nursing students, nurse practitioner students, and paramedic interprofessional collaboration competencies has been performed in a home-based PC simulation setting. A national competency framework for interprofessional collaboration competencies was used in this study, as it targets six competencies necessary for interprofessional collaboration: interprofessional communication, patient/family centred care, role clarification, team functioning, collaborative leadership, and interprofessional conflict resolution (Canadian Interprofessional Health Collaborative [CIHC], 2010). A description of interprofessional collaborative practice and the competencies involved is presented in Figure 1.

**Figure 1**

*The CIHC National Competency Framework*



Source: Canadian Interprofessional Health Collaborative. (2010). *A national interprofessional competency framework*. [http://www.cihc.ca/files/CIHC\\_IPCompetencies\\_Feb1210.pdf](http://www.cihc.ca/files/CIHC_IPCompetencies_Feb1210.pdf)

The research question is: What are the interprofessional collaboration competencies developed by nursing students, nurse practitioner students, and paramedics according to the national competency framework during a home PC simulation session in collaboration with standardized patients and families?

## **Methods**

### **Context of the Study**

This pilot study was a qualitative descriptive study that used convenience sampling for nursing students and nurse practitioner students and snowball sampling for paramedics. Individuals who met the following inclusion criteria received an email invitation to participate in the study: individuals had to be paramedics or be enrolled in the clinical preceptorship course SINF 4735 (course code) or in the three clinical courses (SINF 6088, Integration clinic; SINF 6214, Therapeutic Care I; and SINF 6224, Therapeutic Care II) at a Canadian university during the fall of 2020; and be available to attend a simulation session. The target population was 12 students enrolled in the nurse practitioner program and 47 students enrolled in the fourth year of a bachelor of science in nursing. Six nurse practitioner students confirmed their interest in participating in the study. Since we were targeting a ratio of one nursing student to one nurse practitioner student per scenario, the first six nursing students who confirmed their interest were included in the study. Three paramedics agreed to participate in the study. There were no exclusion criteria.

### **Simulation Intervention**

Four home PC simulation scenarios inspired by real cases were developed by the researchers in collaboration with a nurse, a nurse practitioner, and a paramedic with expertise in PC. The goal was to provide a learning context to mobilize interprofessional collaboration competencies using standardized patients and families. The general objective was to demonstrate interprofessional collaboration competencies in (1A) the announcement by a nurse practitioner student of a poor prognosis to a person and family; (1B) the completion of a needs assessment of the patient and family in home-based PC by one nursing student and one paramedic; (2) a phone call regarding the home PC needs assessment of the patient and family from the nursing student to the nurse practitioner student, in collaboration with the patient, family, and a paramedic; and (3) a home visit by the nurse practitioner student and nursing student to discuss MAID with the patient and family.

The facilitators were one nurse educator, one nurse practitioner educator, and one paramedic educator with experience in simulation pedagogy. There was also one home care nurse and one physician, both of whom were experts in PC and MAID. All facilitators were involved in the development of the scenarios and established a psychologically safe learning environment during the simulation session. Facilitators were able to give cues to participants and patients/families via a microphone.

Each scenario started with a briefing, including an explanation of the specific goals of the simulation and the scenario introduction. All participants had already experienced simulations in their education. Team A started with scenario 1A or 1B and Team B started with scenario 3. There were six teams of participants (A–F), each nursing and nurse practitioner student completed a simulation session involving three scenarios, and each paramedic completed a simulation session involving two scenarios. Table 1 presents the organization and schedule of one simulation session for teams A and B.

**Table 1***Organization and Schedule of One Simulation Session*

Schedule		Workshop description	Facilitators	Instructional formats	Duration
8h15		<ul style="list-style-type: none"> <li>▪ Welcoming of participants: Team A and B—safe space, confidentiality</li> <li>▪ Presentation of the objectives, expectations, agenda and logistics</li> </ul>	Nurse educator and nurse practitioner educator	Prebriefing	15 min.
8h30 (Parallel: Team A and B)	Team A	<p><b>Scenario 1A (NPS) or 1B (NS and P)</b></p> <p>1A) Announcement of a poor prognosis by a NPS (Mrs. Godbout and spouse)</p> <p>1B) Assessment of the comfort and needs of a person at the end-of-life by the NS and P (Mr. Tremblay and spouse)</p>	1A) Doctor	Briefing, simulation, and debriefing	1A) 60 min. (5 min. briefing, 25 min. simulation, 30 min. debriefing)
		<p><b>Scenario 2 (NS, NPS, and P)</b></p> <p>Discussion of a home assessment of Mr. Tremblay and spouse by phone between the NS/P and the NPS</p>	1B) Nurse educator and paramedic educator		1B) 60 min. (5 min. briefing, 25 min. simulation, 30 min. debriefing)
	Team B	<p><b>Scenario 3 (NS and NPS)</b></p> <p>Home visit to meet with Mr. Wilson, his spouse, and his daughter to discuss MAID</p>	Nurse practitioner educator and home care nurse	Briefing, pre-meeting, simulation, and debriefing	2) 30 min. (5 min. briefing, 10 min. simulation, 15 min. debriefing)
10h00	<b>BREAK</b>				
10h15–11h45	Teams switch scenarios				
11h45–12h30		<ul style="list-style-type: none"> <li>▪ Focus group</li> <li>▪ Post measurement</li> </ul>	Research assistant		45 minutes

*Note.* NPS = nurse practitioner student; NS = nursing student; P = paramedic; MAID = medical assistance in dying.

Scenario 1A: Mrs. Godbout and her spouse visit a nurse practitioner clinic for a follow-up on mammogram screening results. The nurse practitioner student must provide the results, offer support to the patient and her spouse, and discuss the follow-up and management with them.

Scenario 1B: The spouse of a man with metastatic prostate cancer calls the home care nursing student to come and assess her husband's uncontrolled pain. While waiting for the nursing student to arrive, the spouse must call emergency services because her husband has choked and fallen. The paramedic and the nursing student have to take a history, as well as assess the comfort and needs of Mr. and Mrs. Tremblay.

Scenario 2: The nursing student must plan and complete a phone call to the nurse practitioner student to discuss the comfort and needs assessment in the presence of Mr. Tremblay and his spouse. This is in collaboration with the paramedic.

Scenario 3: Mr. Wilson with terminal metastatic prostate cancer and his spouse request a meeting with the nurse practitioner student and the nursing student to explore the option of receiving MAID. Their daughter is unaware of their wishes and has just arrived home. The nurse practitioner student and the nursing student must plan the meeting and discuss MAID with the patient and his family.

Participants took part in one simulation session, which included interprofessional debriefings led by facilitators using the health care debriefing guide *Promoting Excellence and Reflective Learning in Simulation* (Bajaj et al., 2018). The debriefing sessions occurred following each scenario in the simulation setting. Overall, the simulation session lasted 3 hours 30 minutes.

The simulation methodology was human simulation, because all scenarios involved a simulated patient and family (Cleland et al., 2009). The simulated patients were people from the community who had been trained to conduct simulated sessions and who had received 12 hours of training on how to provide feedback to students, particularly in relation to communication with the patient/family, according to the Montreal model. The collaborative stage of the model targets patient engagement in training and their involvement in the simulation and role playing (Pomey et al., 2015). During the last 5 to 10 minutes of the debriefing, a facilitator would provide constructive feedback to patients and family participants.

Nursing students had received nine hours of PC and MAID theory, and three and a half hours of PC related practice beforehand in their curriculum. The nurse practitioner students completed the modules *Learning Essential Approaches to PC* (LEAP) from Pallium Canada. The session lasted four hours, but for organizational reasons, the students completed it after the simulation. Since 2021, these modules have been completed before the simulation, and the simulation is integrated into the course SINP 6088 Integration Clinic in the nurse practitioner program. Paramedics had received eight hours of LEAP education.

Nursing and nurse practitioner students' preparation consisted of approximately two hours of readings on home PC and MAID. To prepare for scenario 1A, there was a reading related to the difficult announcement. To prepare for scenario 1B, students read a manual written by the staff of a provincial home care program on the topics of home-based PC, the impact on the individual and their family, care according to needs, and the grieving process. To prepare for scenario 3, students read an information brochure developed by a health network related to MAID for patients, a health care network's MAID protocol, eligibility criteria for MAID, the patient application form to receive MAID, and the form to waive final consent. The readings were sent by email to the students

two weeks before the simulation. The simulation session respected the best practices of the International Nursing Association for Clinical Simulation and Learning (Decker et al., 2021; McDermott et al., 2021; Persico et al., 2021).

### **Data Collection Methods**

The three simulation sessions took place over a day and a half (September 20–21, 2020) in simulation laboratories in a school of nursing. A focus group conducted by a master's student in nursing, with experience in group animation, was held after each simulation session with two interdisciplinary teams (two nursing students, two nurse practitioner students, and one paramedic), for a total of three focus groups. The research assistant was objective and was not part of the simulation facilitators. A semi-structured interview guide was developed by two authors based on the National Interprofessional Competency Framework (CIHC, 2010) and contained the following seven open-ended questions:

In your opinion, what was your ability to do the following?

- Apply the principles of person-centred practice to the heart of interprofessional collaboration
- Communicate with others effectively, respectfully, and responsively
- Explain your role and responsibilities for care
- Facilitate effective team functioning to enhance collaboration and quality of care
- Demonstrate collaborative leadership
- Effectively manage and resolve conflict with others
- Establish and maintain collaborative working relationships

The simulations, the debriefings, and the focus groups were videotaped.

Participants completed the Interprofessional Collaborator Assessment Rubric of Memorial University of Newfoundland's Faculty of Medicine after the focus group. The dimensions of the original rubric were developed and validated through a typological analysis of national and international competency frameworks, a Delphi survey, and interprofessional focus groups involving students and professors (Curran et al., 2010). This rubric is an assessment tool that lists performance criteria that define and describe the six interprofessional competencies targeted by this study. The same rubric was also completed by the three researchers after viewing recordings of the simulations and debriefings. The four attributes of patient-and family-centred care are patient input, incorporation of the patient and family beliefs and values, sharing of information with the patient and family, and advocating for the patient in decision-making. Interprofessional communication involves two attributes: respectful communication and communication strategies. Clarification of roles and responsibilities implies four attributes: description of roles and responsibilities, integration of roles and responsibilities, accountability, and the sharing of evidence-based/best practice knowledge. The two attributes of team functioning are team functioning and dynamics, and team discussion. Collaborative leadership involves one attribute: shared leadership. The three attributes of interprofessional conflict resolution are active listening, respect for different perspectives, and conflict management (Curran et al., 2010).

Participants indicated how they felt they had mobilized the competencies, using a 5-level Likert scale: 0 (*non-observable/non-applicable*), 1 (*minimal*), 2 (*developing*), 3 (*competent*), and 4 (*mastery*). Participants received formative feedback from facilitators, but the simulation session was not part of a summative evaluation in the nursing or the nurse practitioner's program. The data obtained allows a crossover of the meaning that emerges from the debriefings, focus groups, and self-assessment tool (how participants feel they mobilized the competencies), as well as from the videos and the assessment tool (how the researchers observed the competencies were mobilized).

### **Ethical Considerations**

Ethical approval was obtained from the ethics committee of a Canadian university (approval number, 1920-058). The participants were informed that they would be videotaped during simulations, debriefing, and focus groups. Nursing students received the equivalent of eight clinical hours at the preceptorship for their participation, and paramedics were paid their hourly rate for four hours.

### **Data Analysis Process**

A deductive process of reflective thematic analysis was conducted (Braun & Clarke, 2021). The data from the focus groups were transcribed verbatim. The researchers read the transcripts to familiarize themselves with the content and wrote familiarization notes. The data were coded in a systematic way. Themes and minor themes were identified in advance, as the themes were the competencies of the National Competency Framework and the minor themes were attributes of the interprofessional collaboration competencies rubric. The key meaning units were extracted and grouped into themes and in minor themes to give a meaning to the phenomenon of interprofessional collaboration competencies mobilization in the context of a home-based PC simulation. The three researchers divided the task of data analysis into teams of two and conducted the analysis individually and collectively. When discrepancies were noted, a discussion took place until a consensus was reached on the choice of minor themes that best represented each unit of meaning. NVivo 12 software was used to organize the data from the focus groups. Thematic analysis was also conducted for relevant comments from the debriefings and responses to the interprofessional collaboration competencies rubric.

### **Results**

Six nursing students (NS), five nurse practitioner students (NPS) (an absence for personal reasons), and three paramedics (P) participated in this study. NPS1 and NPS3 stated that they had experience with MAID. NS1 and NSP2 stated that they needed more time to complete the preparatory readings because of their personal schedules. The six major themes were patient-and-family-centred care, interprofessional communication, role clarification, team functioning, collaborative leadership, and interprofessional conflict resolution. Concurrently, 11 minor themes were identified (Figure 2).

**Figure 2**

*Coding Tree of the Six Major Themes and 11 Minor Themes*



### **Patient-and-Family-Centred Care**

Patient-and-family-centered care is observed when participants include the patient and family as partners in planning and care (CIHC, 2010). The minor themes are sharing information with the patient and family, and advocating for patient and family participation in the decision-making.

According to the observations made with the rubric, two NS, the three P, and four NPS offered competent patient-and-family-centred care. At the debriefing, the patient and family stated that they felt supported by NS4 and NS6. At the focus group, a P verbalized, “If the NS speaks to the patient, I can go talk to the family.” NPS3 expressed that “the patient is at the center of his situation, we must involve everyone, without family there’s no support, and the lack of support has consequences on the patient’s health.”

However, for four NS, the skill requiring development was sharing information with the patient and family by providing education on possible interventions for symptom management and available home care services. It would also have been helpful to confirm that they would come regularly to assess the patient’s and family’s needs until the day the patient would receive MAID. It would have been relevant for these four nursing students to advocate for patient and family

participation in the decision-making by exploring the family support system and the family's perspective on MAID. At the debriefing, NS3 and NS5 expressed feeling uncomfortable with PC and MAID, which would have influenced their performance in the MAID discussion. The patient expressed to NS5, "You were supposed to know me, but I felt like the nurse practitioner student knew me better." The wife added, "You were mainly looking at the nurse practitioner student. It would have been nice to look at us to evaluate how we were doing."

Based on self-assessment using the rubric, only NS1 self-assessed her performance as requiring development in the two minor themes. NPS2 acknowledged that she sometimes informed the patient and family about health care because of a lack of knowledge related to the MAID protocol and confirmed that she was destabilized by their questions. The other participants self-assessed themselves as being competent in patient-and-family-centred care.

### **Interprofessional Communication**

Interprofessional communication is observed when participants communicate in a responsible and collaborative manner (CIHC, 2010). The minor themes are affirmative communication and communication strategies.

According to the observations made with the rubric, NS4 and NS6 communicated their ideas in an affirmative manner and used communication strategies. At the debriefing, the patient and family stated that the two NS were calm, listened, and were open to questions. At the focus group, NPS6 stated, "NS6 communicated well. I liked that she gives me suggestions related to medications."

However, for four NS, the skills that require development were demonstrating affirmative communication, confident and effective communication when answering questions related to medication, symptom management, and physical assessment. NS3 and NS5 were mostly engaged when listening with their backs stretched and hands clenched along the body, demonstrating some discomfort, during the MAID discussion. The NS would have improved the effectiveness of the call by communicating structured and pertinent information about the patient's medications and physical assessment data. They should have had the medication list on hand and communicated the information about it clearly, and they should have collected more information related to symptom management prior to the call.

At the focus group, NSP2 stated, "NS2 was a bit confused when she was giving me the information. I stayed calm. I repeated everything to make sure we understood each other." Based on self-assessments using the rubric, only NS5 judged her performance as requiring development in the two minor themes. All other participants self-assessed themselves as competent in interprofessional communication.

According to the observations made with the rubric, the five NPS demonstrated good skills to communicate effectively and responsively, but three of them could have been more careful with jargon used with the patient and family. The P communication with the nursing students could have been more coordinated and affirmative. At the focus group, P3 stated, "I didn't want to cut off the nursing student nor ask too many questions, but we talked after our interventions."

### **Role Clarification**

Role clarification is observed when participants understand their role, the role of others, and use their knowledge to achieve patient and family goals (CIHC, 2010). The minor themes are describe their roles, integrate the roles of others, and take responsibility.

According to the observations made with the rubric, all participants faced challenges in clarifying their roles and require development in the three minor themes. During the focus group, NS1 stated, “We could have explained our role to the patient and family. It is important to know our role when we intervene. I would have liked to know the role of the paramedic; it would have allowed me to tell the patient what we could do for him.” NS4 stated, “You don’t want to overstep into the role of the paramedic, but you don’t want to do too little in your role. It places you in a situation where you aren’t confident.” P1 expressed introspection: “I think it’s better to communicate, I am going to do this, afterwards, I hand the task to the nursing student, and we can decide together.” According to P2, “there is certainly a benefit to learning the role of the nursing student as a continuity.” NS3 added that she could have used more preparation on MAID, as she felt unsure of her role when discussing the topic. NPS5 added, “I didn’t explain my role. We constantly talk about how our role is misunderstood. I must contribute to that.”

According to the rubric, to demonstrate accountability, it is important to exercise professional judgment and explain the scope of your practice. For the NS it would be by knowing the list of medications and having consulted it and confirmed it with the patient and family before the call to the NPS; knowing the pain treatment received, and having taken note of the vital signs before the call. The patient stated in the debriefing that he felt more reassured when the nursing students offered instruction on symptom management. The lack of knowledge from NPS2, NPS3, NPS5, and NPS6 regarding the MAID protocol or the prescription of drug therapy was demonstrated by hesitating to answer questions and providing vague answers, and it influenced the integration of the NS into care, as these NPS did not clarify their roles.

Based on self-assessment using the rubric, only NS1 and NS5 judged their performance as requiring development in the three minor themes. All others self-assessed themselves as competent in role clarification.

### **Team Functioning**

Team functioning is observed when participants apply principles of teamwork (CIHC, 2010). The minor themes are team dynamic and team discussion. Three NS (NS2, NS4, and NS6) and two NPS (NPS1 and NPS6) demonstrated efficient team functioning. Teamwork could have been more coordinated among the other participants.

According to the observations made with the rubric, the skills that need development for some NS were apply strategies that favour team dynamics, by conducting the physical assessment and questioning the wife in coordination with the P rather than waiting for her to finish the assessment. During the focus group, P2 stated, “I work all the time in teams of two with another paramedic, but I must know my limits too. I have to delegate to the nursing student so that the whole interprofessional team can perform their tasks without seeing one member that does everything.”

According to the observations made with the rubric, some NS could have actively participated in team discussions, for example, by taking their place in the patient and family assessment or MAID discussion. In fact, NPS2, NPS3, and NPS5 could have offered the nursing students the opportunity to participate in the discussion related to MAID; instead, they answered the majority of the patient and family questions.

Based on self-assessment using the rubric, only NS1 and NPS2 self-assessed their performance as requiring development in terms of team dynamic. All other participants considered themselves competent in team functioning.

### **Collaborative Leadership**

Collaborative leadership is observed when participants and the patient and family identify, implement, and evaluate care and services to improve health (CIHC, 2010).

According to the observations made with the rubric, it was clear that the lead was taken by the NPS and P, but the collaborative dimension was still in development. During the focus group, NPS6 explained, “We both took the lead at the beginning. We introduced ourselves, then I didn’t know who was going to start the discussion on MAID. We hadn’t clarified that before the meeting.” P3 added, “On the scene, I sometimes feel like I should stop talking so that someone else can ask questions.”

Collaborative leadership needs to be further developed among the NS. During the focus group, NS2 stated, “I didn’t feel comfortable assuming leadership. I’m not used to taking charge of the situation. Usually, it’s someone else that leads, and we help.” However, the phone call scenario favoured nursing students’ leadership, as they initiated the call and held the patient and family information.

Based on self-assessment using the rubric, only NS1 and NS5 recognized their performance as requiring development in collaborative leadership. All other participants considered themselves competent.

### **Interprofessional Conflict Resolution**

Interprofessional conflict resolution is observed when participants actively engage in effectively managing a conflict and involve the patient and family (CIHC, 2010). The minor themes are respect of different perspectives and conflict management.

According to the observations made with the rubric, it was a challenge for three NS and for two NPS to consider the perspectives of others and ask for clarification when there was a misunderstanding. Only two NS (NS4 and NS6) took the initiative to accompany the daughter to offer her emotional support and actively participate in facilitating the MAID discussion. The ability to manage a conflict with the patient and family must be further developed with four NS, and three NPS. During the focus group, NPS5 stated, “At the end of the simulation, we told ourselves that one of us should have gone to offer support to the daughter (when she left the room to cry).” NPS3 stated, “You don’t want to take the side of the couple nor the daughter if she is completely against their decision. It’s a challenge, not to take a position.” The other four NS also encountered challenges using conflict resolution strategies: “I was trying to allow the family to express their feelings toward the situation. Honestly, I don’t know if that’s the right way to manage conflicts. I’m not used to seeing a family in disagreement. If I had been more confident in my role, I might have managed that conflict better” (NS2).

Based on self-assessment using the rubric, only NS1 and NS5 felt their performance required development in terms of respecting different perspectives, and NPS2 felt that they sometimes used conflict resolution strategies. All others self-assessed themselves as competent in interprofessional conflict resolution.

## Discussion

### **Relevance of Standardized Patients and Families to Mobilize Patient-and-Family-Centered Care and Interprofessional Communication**

Two nursing students, four nurse practitioner students, and all the paramedics demonstrated competence in the patient and family-centered care, while four nursing students and one nurse practitioner student needed to be more inclusive of the family. Family presence has an impact on student learning. Psychosocial needs of the patient and family reinforce the realism of the situation, as well as the importance of taking care of them while offering comfort in the grieving process (Sarabia-Cobo et al., 2016).

Interprofessional communication could have been more coordinated and assertive among four nursing students, two of whom expressed discomfort with PC and MAID, and the paramedics. Also, three nurse practitioner students could have been more careful with the jargon used. The involvement of standardized patients and families is important when mobilizing therapeutic communication. Attention should be given to communication between participants and the patient and family, as well as to misconceptions, prejudices, and comfort levels with end-of-life care, in order to prepare future professionals to psychologically manage this type of care (Dimoula et al., 2019). A randomized trial demonstrates an improvement in interprofessional teams' self-assessment of their communication following PC simulation with standardized patients (Brown et al., 2018).

### **Factors to Consider When Planning a PC Simulation**

According to some participants, (a) their prior experiences, (b) their preparation, (c) their self-efficacy, and (d) their beliefs influenced their performance in the interprofessional collaboration competencies. There is an association between experience, knowledge, self-awareness, and the quality of delivery of PC. Authors have attributed the poor quality of PC to lack of preparation and competencies (Kirkpatrick et al., 2019). Certain factors should be considered in planning PC education: experience in caring for people in end-of-life, beliefs, and anxiety related to death. Studies have shown that nursing students' knowledge specific to pain management and in PC was low (Jiang et al., 2019). Students' attitudes toward end-of-life care improved as their studies progressed, but still reflected a clear discomfort regarding death (Dimoula et al., 2019). Experiences talking about death and caring for the patient and family in end-of-life positively influenced attitudes (Jiang et al., 2019).

### **Self-Reported and Objective Assessment of Interprofessional Collaboration Competencies**

Self-assessment of interprofessional collaboration competencies showed that two nursing students and two nurse practitioner students whose performance was evaluated as competent demonstrated good introspection. However, the other 10 participants rated their performance at a higher level on the rubric compared to the observed performance, demonstrating the relevance of also using the rubric to assess interprofessional collaboration competencies. Studies show that nursing students perceive end-of-life simulation as an environment that promotes their confidence in communication, their roles, teamwork, and collaboration (Gillan et al., 2014) and that nursing students and novice nurses are overconfident in their clinical judgment (Tamaki et al., 2019). In this study, the self-assessment tool was completed after the debriefing and focus group, which allowed the participants to reflect on their experience; address questions related to home-based PC and MAID; interpret others' responses; better understand the content; make some introspection on

their emotions, values, and biases; and express how transfer of learning will be done. The timing of the completion of the rubric may have positively influenced participants' belief in their self-efficacy. In fact, watching peers perform a task successfully and discussing the task constructively promotes a sense of self-efficacy with comparable tasks (Bandura, 2007).

### **Strengths and Limitations**

The different data collection methods are one of this study's strengths. Data triangulation (Fortin & Gagnon, 2016) took place at two levels: (a) introspection verbalized by the participants during the debriefings and focus group, self-assessment of performances by participants, and evaluation by researchers by viewing the performances, and (b) observation of three researchers to draw credible conclusions about interprofessional collaboration competencies mobilization. The interprofessional collaboration competencies rubric makes the targeted attributes explicit and allows an objective assessment of the performances (Curran et al., 2010). The interprofessional collaboration competencies assessment is relevant as the results are not solely derived from self-reported responses. Interprofessional participation is also a major strength of the study. This simulated training involved realistic scenarios developed in collaboration with PC and MAID experts. In addition, participants had to deal with a family conflict regarding beliefs about MAID, an experience to which they had little exposure. The involvement of standardized patients and families and the realism of the scenarios were highly appreciated by the participants.

Regarding limitations, participants were not consulted after the results were analyzed. Data saturation was not discussed as recruitment was restricted to the number of nurse practitioner students available (Tong et al., 2007). This small sample size is acceptable in this qualitative pilot study (Fortin & Gagnon, 2016), since it was possible to describe the mobilization of participants' interprofessional competencies and to interpret the meaning that participants gave to their performance in mobilizing the targeted competencies. Results are not generalizable because of the type of study, small sample size, and type of sampling. The interprofessional collaboration competencies self-assessment tool may have promoted a perceived level of competence based on social desirability (Fortin & Gagnon, 2016). Having faculty members observe performances and act as facilitators may have influenced the results according to the Hawthorne effect. Also, the financial cost associated with the logistics, as well as the time required for experts to develop scenarios and develop their competencies as facilitators, must be considered. The involvement of standardized patients and families requires considerable expertise, as well as a person responsible for their preparation and supervision. Finally, this study does not allow for the comparison of outcomes between experienced and inexperienced PC students.

### **Conclusion**

Interprofessional collaboration is demonstrated when participants and the patient and family engage in a coordinated approach to making decisions about achieving optimal health (CIHC, 2010). The competencies that were best mobilized were person-centred care (and family-centred care for nurse practitioner students and paramedics), and interprofessional communication for nurse practitioner students. Nursing students were more inclusive of the family when they were comfortable with their beliefs about PC and MAID and when the roles of each discipline were clearly communicated. Competencies requiring further development are role clarification, teamwork, collaborative leadership for all three disciplines, interprofessional conflict resolution (for nurse practitioner students and nursing students), and interprofessional communication (for nursing students and paramedics). In terms of participants' overall performance, two nursing

students (NS4 and NS6) and two nurse practitioner students (NPS1 and NPS6) demonstrated a competent performance; NS2, three nurse practitioner students, and all paramedics demonstrated a performance requiring development; two nursing students (NS3 and NS5) demonstrated minimal to requiring development performances, and NS1 demonstrated minimal performance. The four participants whose overall performance was assessed as competent demonstrated good introspection. However, the remaining 10 participants rated their overall performance at a higher level than their observed performance.

This simulated training provided a learning environment to mobilize interprofessional collaboration competencies in a home-based PC setting, but we suggest involving paramedical students for a better equivalence of learning levels. Since role clarification is a skill to be developed in all three disciplines, it would be appropriate to include other health care students involved in home-based PC in the simulations, such as occupational therapists, physiotherapists, social workers, and respiratory therapists. We recommend completing the interprofessional collaboration competencies rubric before the debriefing to allow for discussion during the debriefing about the discrepancies between the self-assessed and observed performance. Further studies are needed to explore prior PC and MAID experiences as variables influencing student performance during the simulation and to describe the interprofessional collaboration competencies in PC and MAID at home. A multi-site study would provide a larger sample size. Finally, a longitudinal study to explore the development of interprofessional collaboration competencies between first year and graduation would be relevant.

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