Nurses' and Nursing Assistants' Experiences with Teleconsultation in Small Rural Long-Term Care Facilities in Quebec: A pilot study

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Abstract

Background: In Quebec, the shortage of nurses during night shifts compromises the safety and quality of resident care, especially in small residential and long-term care centres (CHSLDs) located in semi-remote or remote areas. This situation, which is exacerbated by the current overall shortage, exacerbates nurse staffing problems in these facilities. The need to ensure the continuous presence of nurses 24 hours a day in CHSLDs has become more pressing, forcing some facilities to implement exceptional measures such as on-call telephone services to ensure access to a nurse. In light of these challenging circumstances, the Direction nationale des soins et des services infirmiers (DNSSI) of Quebec's Ministère de la Santé et des Services sociaux (MSSS) has rolled out a teleconsultation pilot project.

Objective: This study aimed to explore nurses' and nursing assistants' lived experience of the integration of teleconsultation during night shifts in rural CHSLDs with fewer than 50 residents.

Methods: The six-month pilot project was rolled out sequentially in three rural CHSLDs located in two administrative regions of Quebec, between July 2022 and March 2023. A total of 16 semi-structured interviews were conducted with eight nurses and nursing assistants between February and July 2023.

Results: Participants' testimonials revealed that teleconsultation provided significant added value by improving clinical, administrative, and organizational practices. Some practices remained unchanged, indicating stable workflows. Workflow optimization through an expanded scope of practice ensured efficient and safe continuity of care. Enhanced collaboration between nurses and nursing assistants led to improved care coordination and communication. Leadership played a significant role in clarifying professionals' roles and in supporting effective adaptation to teleconsultation.

Conclusions: This pilot project represents a significant step forward in improving care for CHSLD residents in Quebec. Teleconsultation not only makes it possible to overcome recruitment challenges and ensure the continuous presence of nurses during night shifts, it also optimizes professional practices while ensuring the safety and quality of care provided to residents.

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Keywords: teleconsultation; long-term care facilities; nursing; nursing practices; workflow optimization; residents; rural

Introduction

The Healthcare Situation for Quebec Seniors

Health and social services professionals work in an environment that is both demanding and constantly evolving. Thanks to scientific progress and medical advances, Western populations, including Quebec's, are enjoying increased life expectancy. According to the latest demographic data, Quebec is facing significant aging of its population and around 25% will be considered senior citizens within the next decade [1]. However, this increased longevity is often accompanied by multiple illnesses and chronic conditions, requiring holistic assessment and management at the physical, psychological, social, and functional levels [2].

For the past several years, the Quebec government has implemented programs enabling seniors to remain at home for as long as possible [3]. Maintaining senior's autonomy in their own living environment reduces pressure on healthcare facilities, while providing personalized, high-quality care [4]. Seniors living in residential and long-term care centres (CHSLD) often suffer from chronic illnesses leading to significant disabilities and severe functional limitations [5]. The main reasons why seniors move to long-term care facilities include neurocognitive disorders, chronic pathologies, severe degenerative diseases, and mental health problems [6, 7]. These particularly vulnerable residents require rigorous attention from multidisciplinary care teams.

The Role of the Nurse and Nursing Assistant in CHSLDs

Nurses play a central and essential role in Quebec's CHSLDs [8]. They ensure a continuous presence for residents, assess the physical and mental condition of a symptomatic person, design therapeutic nursing plans (TNPs) to coordinate interventions based on the residents' health situation, and prescribe a specific range of treatments under well-defined conditions.
The Order of Quebec Nurses (Ordre des infirmières et infirmiers du Québec [OIIQ]) stresses the importance of nurses' contribution in CHSLDs, across all shifts, given the residents' fragility and the growing complexity of clinical situations [9].

The nursing assistant also plays a fundamental role in CHSLDs. Working closely with the nurse, they take part in the entire care process within their professional scope of practice [10]. Their interventions are based on verbal or written medical orders, the TNP, organizational protocols, and the rules governing care. The renewed position of the Order of Quebec Nursing Assistants (Ordre des infirmières et infirmiers auxiliaires du Québec [OIIAQ]) highlights the nursing assistants' skills and the significance of their contribution to the quality of care and services provided in CHSLDs.

Collaboration Between the Nurse and Nursing Assistant

The work environment in CHSLDs often features a strict hierarchy, where decisions are shared using a top-down approach [11]. This hierarchical structure is reflected in the collaboration between the nurse and the nursing assistant, which is generally characterized by a supervisory relationship [12].

This type of hierarchy can generate tensions, undermining collaboration [13] and professional identity [14]. Because of their heavy workloads, nurses and nursing assistants rarely have time to exchange ideas, collaborate, and organize the division of tasks [11]. Nevertheless, when they are able to work collaboratively, the partnership between the nurse and the nursing assistant in CHSLDs is particularly beneficial [15, 16]. Such collaboration fosters better professional communication [17] and high-quality care for residents [18].

Recruitment Challenges in Quebec's CHSLDs

Long-term care is often perceived as an unattractive and difficult sector [7]. As a result, for the past several years, CHSLDs have experienced a shortage of nursing staff, a situation that was exacerbated further by the COVID-19 pandemic. To continue providing quality care and services to residents, efforts are being made to improve the perception of practising in CHSLDs [6]. In the meantime, facilities regularly employ administrative solutions, meeting staffing needs with independent labour, overtime, or on-call telephone services. Challenges in accessing nursing expertise are markedly significant in rural areas and during night shifts.

Night Shifts in CHSLDs

The literature indicates that a considerable number of adverse events occur during the night in CHSLDs [19]. In the absence of a nurse, caregivers are forced to transfer residents to hospital emergency rooms to obtain the care they need [20]. Yet, if there aren't any unexpected incidents, the skills of night nurses are often underutilized. They end up performing support tasks that could be carried out by other professionals, such as nursing assistants or orderlies [21]. Although it is frequently considered as a way of overcoming the challenges of recruiting care staff, replacing a nurse with a nursing assistant in a seniors' residence amounts to a halfway solution [17]. Researchers agree on the relevance of reviewing the management of time dedicated to care [22], of adopting mechanisms to optimize professional expertise in CHSLDs [6] and of improving care by exploring innovative approaches that are tailored to the environment [11].

Teleconsultation in CHSLDs

Faced with challenges that potentially compromise the quality and safety of resident care in CHSLDs, Quebec government authorities proposed a teleconsultation pilot project for small, rural CHSLDs. The aim of this project was to provide virtual access to nurses' expertise during night shifts when nursing assistants were at residents' bedside. Inspired by on-call telephone service practises, this initiative enabled nursing assistants to consult a nurse by phone in the event a resident experienced a health problem. The teleconsultation pilot project formalized this remote nursing practise, integrating organizational and technological innovations.

Teleconsultation is based on a new organization of care, requiring that institutional documents governing the practices of nurses and nursing assistants be updated, while respecting their separate scopes of practice. The addition of technological tools enables the nursing assistant, who is on site at the CHSLD, to benefit from the expertise of a remote nurse in real time when a resident's health situation requires it. To develop this practice effectively, the innovations must work together to meet the needs of all stakeholders [23].

Although telehealth practices are already well established in long-term care facilities internationally [24], they have yet to be adopted in Quebec CHSLDs. The literature shows that teleconsultation improves access to healthcare and services when they are needed, while optimizing coverage by healthcare professionals beyond business hours [25-27]. In addition, residents benefit from quick and easy access to an in-depth assessment by a competent healthcare professional [28].

Successful implementation of teleconsultation services relies on close collaboration between the players involved, healthy relationships [29], and intuitive IT systems that support access to all data relevant to remote care management of residents [30, 31]. Thus, it is important that we study the rollout of the nursing teleconsultation pilot project in small CHSLDs and its impact on the professional practice of nurses and nursing assistants.

Objective

The aim of this study is to investigate nurses' and nursing assistants' experience of the integration of teleconsultation during night shifts in rural Quebec CHSLDs with 50 beds or less.

Methods

Study Design and Setting

The six-month pilot project was rolled out in three rural CHSLDs located in two administrative regions of Quebec. The rollout was conducted sequentially from July 2022 to March 2023 at the different sites. During the project, participants documented 19 clinical situations using teleconsultation and 14 clinical situations without teleconsultation. According to the organization's previous year's statistics regarding on-call telephone services, the number of clinical situations is similar year over year. This attests to the stability of the environment, providing an appropriate context to study the implementation of teleconsultation. Given the innovative nature of the pilot project, an exploratory qualitative study was conducted to understand the impact of implementing teleconsultation in nighttime nursing care.

Data Collection

Two interview guides were designed, tested, and validated by the research team. A web-based sociodemographic data collection form, created on the Google Forms platform, was also shared with and completed by participants, enabling the collection of information about their current employment, work experience, and academic background. Participants were contacted by e-mail, which included the research consent form, interview guides, and the project poster.

Participants

Participant recruitment was done using non-probability sampling [32], through which participants were identified by pilot project managers. To be eligible, participants had to be nurses or nursing assistants, have a formal employment relationship with the organization, and have used teleconsultation during the six months that it was deployed in the CHSLDs.

Pursuant to an agreement with the Direction nationale des soins et services en soins infirmiers (DNSSSI) of Québec's Ministère de la Santé et des Services sociaux (MSSS), the semi-structured interviews were conducted during the participants' working hours or, if this was not possible, participants were compensated for the time devoted to the interview according to the conditions of their work agreement. Two semi-structured interviews, each lasting an average of 60 minutes, were conducted in French by videoconference (Zoom) or by telephone, according to each participant's preference. Interviews were recorded and then transcribed, in compliance with ethical and confidentiality standards. Recruitment ended when information redundancy was achieved, indicating data saturation [33]. A total of 16 semi-structured interviews were conducted with eight nurses and nursing assistants between February and July 2023.

Data Analysis

Interview data were processed using NVivo software (version 14). Each interview was transcribed verbatim immediately after it was conducted and analyzed by the research team. Validation and reflexivity steps were carried out to ensure the validity of the approach. Data organization enabled the team to structure the results according to three levels of nursing and nursing assistant practice: clinical, administrative, and organizational. These levels relate to the care provided directly to residents, the organization of interventions, and innovative initiatives, respectively. This approach is in line with work aimed at better understanding nursing practice and its impact [34-36]. Researchers observed the following interactions between the three levels of practice: The organizational level influences the administrative level, which in turn influences the clinical level. The participants' lived experiences were categorized as either hindering or facilitating.

Workflows, inspired by Lean methodology, are essential to nurses' and nursing assistants' practice. Their main purpose is to ensure the smooth flow of operations to improve performance and create value [37]. The clinical approach to nursing encompasses tasks such as data collection, analysis, planning, intervention, and outcome assessment related to the care and services provided directly to residents. The administrative and organizational levels of nursing practice have an overarching influence on these workflows, serving as the foundation for clinical activities.

The integration of teleconsultation impacted nurses' and nursing assistants' practices in various ways. Enhanced practices added value to workflows by improving the quality of interventions, while unchanged practices demonstrated an inherent stability in CHSLDs despite the integration of this new technology.

To finalize the analysis process, data interpretation focused on three main themes: leadership, collaboration, and impact on residents.

Ethical Considerations

Ethical approval was obtained from the Research Ethics Committee of the Outaouais Integrated Health and Social Services Centre before the beginning of the study (ref. number 2022-353_195), in Quebec, Canada. All participants gave their consent electronically before beginning the survey. Participation was anonymous and voluntary. The study's findings will be disseminated through presentations at conferences and publications in peer-reviewed journals using anonymized data. Findings will also be shared through presentations to various MSSS stakeholders and the nursing community.

Results

Characteristics of Participants

The sociodemographic data collection form provided a brief portrait of study participants. All eight participating interviewees completed the form. Five participants were nurses and three were nursing assistants. Six of them worked full-time, while two were part-time. In terms of educational background, three had a vocational diploma, two had a college diploma, and three had a university degree. It is important to note that, in Quebec, it is possible to become a member of the OIIQ and enter the nursing profession with a college or university degree.

Participants' experience of working in CHSLDs varied: Three had been working there for less than 5 years, three had between 5 and 10 years' experience, two had between 11 and 20 years' experience, and one participant had more than 21 years' experience. According to the literature, a nurse with at

least 5 years' experience in a specific field can be considered an expert [38].

The integration of teleconsultation into their professional practice led to a variety of responses and experiences for participants. Their diverse reactions highlighted the benefits and challenges associated with implementing new technology in long-term care. The following sections present nurses' and nursing assistants' perceptions of the impact of teleconsultation on the three levels of their practice, examining areas where it created stability and where it introduced positive changes, enabling the illustration of optimized workflows when using teleconsultation.

Unchanged Practices

Organizational Level

Participants were asked to share their views on their level of involvement in planning the pilot project. The majority agreed that they had been presented with well-defined, pre-developed content at the teleconsultation information meetings. This approach came as no surprise to participants, who said they were satisfied with this aspect.

> *I arrived and it was all done. Yes, I was fine with it. They put it on the table, suggesting that I read the documents and if I had any questions or suggestions for changes or anything, that I share my opinion. [Participant 4]*
>
> *In terms of all the updates, the training was well done, so you know, we didn't add anything to it. [Participant 5]*
>
> *Everything was already in place. Basically, they worked together, the manager, the project manager, and our administrative officer. When we first heard about the project, everything was already in motion, it was already set up. The binders were already made. The step-by-step instructions were already inside. All our protocols too. I'd say we didn't really participate. We just kind of stepped into the project, then set it in motion, that's all. We weren't consulted beforehand. [Participant 6]*

However, the nurses and nursing assistants did say that they wished they had been involved in the initial reflection and decision-making on the pilot project.

> But it wouldn't have done anything for me, I think, surely. It might have led to more collaboration… *[Participant 1]*.
>
> Well, I could have shared my opinion, and some ideas too. *[Participant 3]*
>
> I want to contribute to advances in healthcare. That's why, yes, you know, I want to get involved, whether it pays or not. That's the way I see it. *[Participant 4]*
>
> I'd say that everything was really well structured and complete. That's why I didn't have anything to add. But of course, if they had asked my opinion, I would have wanted to participate, of course, to share my point of view. *[Participant 6]*

In this regard, participants shared some of the issues associated with the planning. They expressed dissatisfaction with the timeframes determined by the managers.

> *We had time, but it kind of dragged on at some point. You know, you tell yourself:*

> *Well, are we going to do it or not? When are we starting? We've all been trained. It's been three months, but nothing is happening yet. That's why, you know, I thought it took a long time to get started. [Participant 2]*

> *It was pretty drastic. It was like "OK, you're getting teleconsultation training…" Uh, what's that? We were kind of thrown into it, and we were a bit taken aback. [Participant 7]*

Finally, participants wished they had had ongoing support throughout the pilot project, not just at the start.

> *The project was launched and we just went on from there. Then, there was no real support from the manager. [Participant 6]*

> *I think that once it had been implemented, we should have had more training to, you know, OK, now that it's been implemented, what's happened to date? [Participant 7]*

Participants highlighted a relevant point related to professional maturity, experience, and ease. Every day, and not only in the context of the pilot project, having significant work experience contributes to the enrichment of professional practice and helps improve the interventions carried out with residents.

> Maturity, yes, that… well, there's training and all that, but *there's not just that*, there's life experience. *If I'd been a new nurse, I'd have been very uncomfortable. After all, I have over twenty years' service. [Participant 1]*

> Prior to the teleconsultation program, even a few years ago, nursing assistants were already covering the nighttime shifts. Then, at some point, they abolished that, and decided that they needed a nurse on duty 24-7. So, you know, the rest of us were already used to it, because I've always worked nights, so I was used to the process. So for me, it wasn't anything new. *[Participant 4]*

> Listen, like it or not, if you are capable of performing assessments, it's fine. *[Participant 6]*

Administrative Level

Participants discussed the various aspects of working collaboratively, including documentation in the resident's medical record. The testimonials suggest that the rules of documentation were not implemented in a standardized way. Some participants documented too much, others just enough, while some opted to enter information later. However, according to one participant, this phenomenon had already been observed prior to the implementation of teleconsultation.

> *In the morning, the nursing assistant would tell me: I gave her a Tylenol, she had pain in such and such a place. It was already in the TNP, so I didn't need to consult on this. Indeed, it was fine, but I would, let's say, write my note, then enter the nighttime call for such-and-such a case, confirm with the TNP, and everything, so it was fine. [Participant 1]*

> *We had all the tools we needed. However, what's come back is that we don't take the time at 3 a.m. to write our note if we get a call. [Participant 6]*

> *For me, it doesn't change anything regarding the notes, except that I would add that I had called my nurse, well, you know, with teleconsultation, and so on. [Participant 7]*

> *There's a lack of information being shared, but that, as I say, is not just because of teleconsultation, not at all. It's a generalized issue. [Participant 8]*

Another unchanged element, at the administrative level, is the importance afforded to residents' family and loved ones. The nurses and nursing assistants maintained a special focus on this relationship, upholding the same values and principles.

> *It hasn't changed the practice. That's why this aspect hasn't been integrated as such. We'll talk about it with the family, but really, you know, the "We're now using video teleconsultation" aspect, well, there were people who weren't even aware of the fact that there wasn't a nurse on site during the night. [Participant 6]*

> *Well, Mom fell last night. I was the one on duty, and then I took care of her. They won't ask me if I used teleconsultation or not. They just need to ask me if there are any after-effects, if there's anything wrong. [Participant 2]*

> *I've done a lot of things in my life, but I can tell you that family, and my resident, are still the main driving factors for me. The spark is still there. [Participant 1]*

Clinical Level

Participants highlighted a number of limitations associated with a virtual assessment of residents' physical and mental condition. As with on-call telephone services, certain practices such as palpating residents and managing certain clinical situations are incompatible with teleconsultation.

> *The nursing assistant cannot do the movements for me, or palpate my patient for me. [Participant 2]*

> *I'm actually someone who likes to move around, who likes to see things in real life to validate certain information, to palpate, you know, to conduct a fuller assessment. [Participant 6]*

> *Many, many of our residents suffer from cognitive decline and unfortunately they don't understand. They didn't understand the instructions; they don't understand when we speak to them. They can't see us in the camera. You know, because it's nighttime, they're often sleepy as well. It's not always easy. [Participant 1]*

> *But he was a little agitated, so… I think he understood a little, but you know, this is a gentleman who's also a bit hard of hearing. [Participant 3]*

> With patients suffering from dementia, it's harder to get their attention using a tablet than in real life. *[Participant 6]*

Despite the integration of teleconsultation, the sense of responsibility, clinical judgment, and desire to provide safe, high-quality care and services to residents remain unshaken. Teleconsultation has not changed the values and principles of nursing assistants.

> *It hasn't changed the way I carried out interventions. [Participant 1]*

> *My decision-making would probably have been the same, with or without teleconsultation, once I came here. It didn't change my decision-making. [Participant 2]*

> *I'm still part of the same order, I still have the same scope of practice to uphold. So, from my standpoint, my responsibilities remain the same. Just because you have a tablet doesn't mean you're protected. No, it gives us an additional tool, but we still have to use our judgment. [Participant 8]*

Enhanced Practices

Organizational Level

Participants praised the rigorous planning of the pilot project and the quality of training. Presentations were clear and the content was well documented.

> *I think the training was well done; we were well trained. [Participant 2]*

> *It was already very well done. I think consultants did it, ones who had already worked on the floor. You know, you could see that it was someone who had already worked on the floor who had created it. It had been tested too. [Participant 5]*

> *I'd say that everything was really well structured and complete. [Participant 6]*

In addition, the sessions dealt with updating and creating clinical tools tailored to teleconsultation.

> *For example, we didn't used to have algorithms. That was something new with teleconsultation. [Participant 4]*

> *We updated all our protocols, you know, to raise awareness. We updated "Are the collective prescriptions correct?" So, you know, we did a good job of updating, which should be ongoing, but which, well, isn't necessarily done as part of day-to-day activities. [Participant 5]*

> *As for the SBAR (Situation, Background, Assessment, Recommendation), well, I think we had already discussed it, but there had been… We insisted on having clearer, more specific data on the situation. [Participant 7]*

The training sessions also prompted group discussions on professional roles, professional order guidelines, understanding the scope of practice, and recognition of the expertise of other disciplines.

> With regard to the difference between nurses' and nursing assistants' scope of practice, I know that in the beginning, it was a good thing because it gave them, not guidelines, but you know *[…]* I think it led them to play their respective roles more. *[Participant 5]*

> *It's when we did the training with the project officer. Well, with the eligibility criteria, you know, exclusions and so on. We realized that, oops, sometimes our nursing assistants were being very autonomous. We've now rectified that. I think we adjusted*

> *well after that. [Participant 6]*

> Inevitably, with everything being more up to date like this, I don't need to communicate with my nurse as much. I'm more independent. *[Participant 7]*

In addition, participants appreciated the attention paid to their concerns and the opportunity to provide immediate feedback during the training sessions.

> *We were asked if there were things we thought should be added, things that were missing. [Participant 8]*

> But more so in connection to, say, the material we put in the case, the forms, the step-by-step instructions. Yes, we were consulted. We were asked if there were things they thought we should add, things that were missing. They were also available if we wanted to add anything along the way. *[Participant 8]*

Administrative Level

Teleconsultation enabled the remote nurse to contribute to the coordination of interventions in real time and adjust the resident's medical record. For example, the remote assessment of a resident's physical and mental condition was immediately documented in the TNP, enabling the nursing assistant to intervene according to her scope of practice when the health situation changed unexpectedly.

> *Well, I think it's mainly the fact that they can change the therapeutic nursing plan remotely. [Participant 3]*

> *Well, with teleconsultation, I changed an TNP remotely (…) with this tool, we're able to directly change things remotely. [Participant 5]*

> *The fact of sending prescriptions, the fact of sending notes, of sending everything directly to the home, I find that it… How can I say this? It decreases the risk of errors in the end. [Participant 8]*

Another element mentioned by participants was predictability. Because the pilot project was formalized, supported, and recognized by the organization, nurses and nursing assistants knew in advance when teleconsultation was taking place and who would be involved. This enabled better care planning, made it easier to anticipate potential needs, and gave nurses and nursing assistants a greater sense of security.

> *If I see that the patient… I know that in two hours his third dose will be due, then I'm going to get organized. [Participant 1]*

> *I think it may even have strengthened the bond between the girls. You know, saying, "OK, who's on call tonight? It's you, it's me…" it's all good. [Participant 2]*

Some participants noted a marked improvement in the design and writing of the TNP, believed to be attributable to a growing awareness of the need to optimize the nursing assistants' scope of practice. In the context of nursing teleconsultation, the TNP is written jointly by the nurse and the nursing assistant, in order to target residents' health problems efficiently. The nursing assistant exercises full autonomy when updating the TNP, adapting it to the resident's health-related condition and needs, and proposing relevant interventions.

It used to be more holistic, more general. Then, with teleconsultation, we were targeting the specific area. [Participant 1]

I think this process, with the night nurses, forces us to have nice TNPs. So, you know, it may have been… That was during our first calls. But shortly after, we got back on track. [Participant 5]

We also established plans, well, our TNPs. We really updated them to enable [nursing assistants] to be autonomous. [Participant 6]

Clinical Level

Participants noticed that the pilot project helped improve the professional bond between the nurse and the nursing assistant. During the calls, a knowledge sharing and coaching process was established between them. The nurse ensured a real-time virtual presence for the nursing assistant, guiding them, suggesting interventions and supporting their practice.

Right, well, I said wait a minute, it hasn't been long enough for saturation. Wait five minutes. Then, after that, I said. Then we were talking, she said, "Ah, it's true," she's back, she's doing better. [Participant 1]

You know, we were able to work a bit as a team there. In the sense that, you know, she could suggest things that I could pay more attention to. [Participant 3]

It means I can talk to my nursing assistant. Then, it's like we're really comfortable; it's like we're together. I think that makes it easier to conduct the interventions. [Participant 8]

The rollout and updating of pilot project-related clinical tools clarified professional roles and fostered the achievement of full autonomy with confidence. For example, the addition of decision-making algorithms, improved TNP writing, and adjustments to nursing protocols built nursing assistants' confidence and contributed to their empowerment. This process facilitates decision-making, promotes the development of clinical judgment and improves professional ease.

Well, I think so, because it gives us an edge. You know, I'm able to check more things before I even call the nurse, so… [Participant 3]

For example, we didn't used to have algorithms. That was something new with teleconsultation. Yes. When there's a situation that's a little ambiguous, you feel like you're sitting on the fence. Then you're not sure which side to choose. Well, you follow your algorithm and it leads you straight to the correct way of doing things. [Participant 4]

I'd say it's generally going well. I haven't experienced any ambiguous situations. The thing is that teleconsultation can only make it even better. I think the fact of talking to and also seeing your nursing assistant… I think it can only bring positive elements in that regard… being able to exchange with them as such. [Participant 6]

Finally, participants stated that teleconsultation enhances remote nursing by enabling visual inspection. Assessing the physical and mental condition of a symptomatic resident is the

responsibility of the nurse, requiring professionalism, diligence, and conscientiousness. Teleconsultation provides valuable visual support to nurses, enabling them to observe clinical situations directly, make more accurate assessments, and monitor the evolution of the resident's health condition. Furthermore, the addition of this tool also benefits the nursing assistant, fostering more enriching discussions with the nurse and enabling a better understanding of the situation, thus refining the chosen intervention.

> *For me, teleconsultation using a tablet was a practical way of getting a visual. It helps justify a problem. Then, afterwards, once you have visualized the problem, you can find more solutions to solve it. So I found that it was like an additional tool to support and reinforce my role and responsibilities. [Participant 4]*
>
> *We have a lot of patients who are agitated and aggressive. This video aspect is good, because I can see in real time what the patient is doing, without having to go there myself. It's a situation. Otherwise, in the case of a wound, you know. You can see it. [Participant 6]*
>
> *It means we can have a direct connection with our patient. It helps us adjust our questions. Plus, our interventions are more targeted. [Participant 8]*

Table 1 summarizes the unchanged and enhanced practices for each level of practice.

Table 1. Enhanced and unchanged practices by level.

Level of Practice	Enhanced Practices	Unchanged Practices
Clinical Level	Collaborative team dynamics during teleconsultation, where knowledge is shared between remote nurses and nursing assistants, reinforcing their respective professional roles. Remote nurse's clinical decisions are reflected in the TNP in real time. Addition of visual support to improve data collection, situation analysis, and intervention implementation.	Palpation remains impossible when using teleconsultation. Certain clinical situations make teleconsultation-based assessment difficult. Professionalism is ensured in the interest of providing exemplary care.
Administrative Level	Improved clinical communication enabling the remote nurse to make additions to the medical record. Proactive drafting of the TNP to reinforce collaboration between remote nurses and nursing assistants for optimal professional practice.	Resident medical record documentation rules are not implemented in a standardized way. Communication is maintained between nursing professionals and residents' family and loved ones.
Organizational Level	Openness and availability of project managers to provide information at the start of the project. Complete and tailored training program.	Professional nursing team members not solicited enough during the planning phase of the pilot project - Change management.

	Updated protocols, rules governing care, and collective prescriptions as well as additional clinical tools. Enhanced scope of practice-related knowledge.	Professional experience and maturity essential to rolling out teleconsultation.

Discussion

Principal Findings

The implementation of teleconsultation elicited a diverse range of responses from participants, revealing both unchanged and enhanced experiences. These findings underline the benefits of adopting new healthcare technologies. The nurses' and nursing assistants' perceptions highlighted several positive aspects where teleconsultation introduced beneficial changes. Figure 1 illustrates the workflows optimized by teleconsultation in nursing.

The figure shows the interactions between different levels of practice and their associated benefits. The organizational and administrative levels support clinical practice, which is represented by the clinical approach in nursing. From planning to assessment, each step benefited from the integration of technology and from increased collaboration within the care team. Real-time documentation, visual support, role clarity, and proactive communication ensured seamless continuity of care, with an emphasis on efficient and safe interventions.

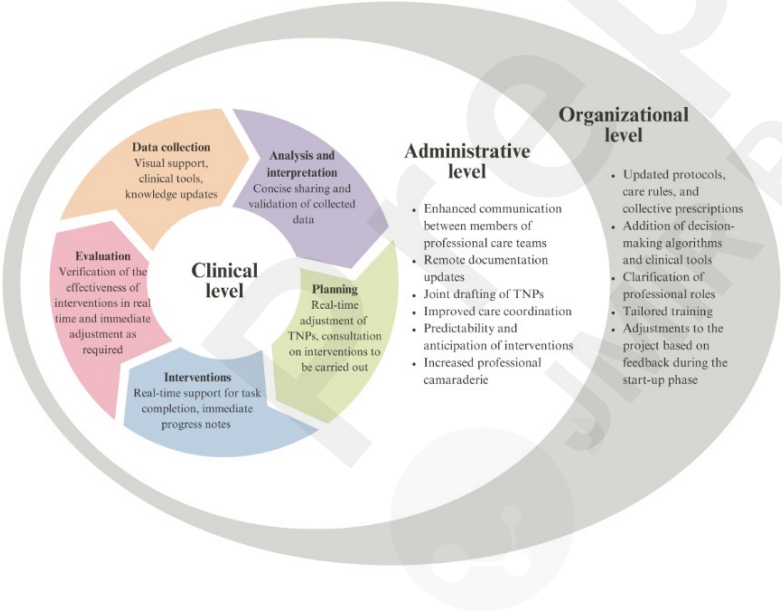

Figure 1. Workflows optimized by teleconsultation in nursing

However, the experience also raised concerns about administrative management, change management, and compliance with documentation rules. Nevertheless, the majority of participants enjoyed the structure and quality of the training courses, as well as the clarification of professional roles and the opportunity to update and implement clinical tools tailored to teleconsultation. Participants did not report any scope creep during the pilot project.

Although teleconsultation enhanced certain aspects of nursing practice, namely by facilitating care coordination and boosting professional confidence, it also required adjustments to optimize integration. These findings underline the importance of appropriate support and careful planning to maximize the benefits of such technological innovations in long-term care settings.

It is important to note that three main themes emerged from the data analyses: leadership, collaboration and impact on residents.

Leadership

Nurses' and nursing assistants' workflows were improved through an extended scope of practice, which was attributed to the leadership exercised during the teleconsultation project. Interventions and discussions initiated by project managers clarified scopes of practice, eliminating ambiguities and building the confidence of nurses and nursing assistants [39]. This led to increased commitment from participants and improved scopes of practice. This framework illustrates how clinical leadership can be exercised in a caring way to improve the quality of interventions with residents [40]. The OIIAQ's recent work to strengthen the role of nursing assistants [41] is embodied by this teleconsultation pilot project, demonstrating how a supportive environment can promote optimal practice [42].

Nurses' leadership is also linked to their experience and professional maturity. The leadership exercised by an expert nurse leads to positive results for residents and care teams alike [43] [40]. Indeed, the majority of interviewees had more than five years' experience working with seniors, and the literature supports the view that expertise contributes to the success of teleconsultation projects [44, 45].

Shared Governance

Shared governance is an important concept for the development of high-level leadership among nurses and nursing assistants. Researchers have pointed to a gap between managers' and nurses' vision, sometimes making it difficult for these two groups to communicate [46]. During the pilot project, participants were not always asked about their perspective, leading to dissatisfaction with the planning and intensity of follow-up.

Shared governance, involving nurses and nursing assistants from the outset of the pilot project, could have improved the planning of healthcare projects, refined the prioritization of initiatives, and promoted ongoing improvement [47]. Moreover, it would enable project managers to better meet the technology-related needs and expectations of end users: the nursing staff [48].

Collaboration

Nurses' and nursing assistants' workflows were improved by strengthening their collaborative relationships. Teleconsultation consolidated these relationships, leading to optimized care planning, intervention coordination, and access to clinical documentation.

First, teleconsultation enabled nurses to share information with the nursing assistant and complete clinical documentation in real time, thereby reducing the number of interpretation errors. This synchronous and asynchronous communication ensured better continuity and coordination of care [49]. The care team was able to access progress notes, prescriptions, and the TNP as required. [50, 51] However, despite these benefits, there were issues related to the

implementation of documentation. Indeed, although documenting interventions is a professional obligation [52], studies have shown that nursing notes are sometimes superficial, affecting the quality and continuity of care [53]. This highlights the importance of integrating users, processes, and technology [54, 55].

Second, the collaborative dynamic between nurses and nursing assistants was strengthened by a clear definition of their roles. Project managers played a decisive role in optimizing the use of people's skills [39]. However, professional development remains a contextual phenomenon, influenced by local and organizational factors [56] [57]. By harmonizing nurses' and nursing assistants' contributions, they fostered collaborative practice and improved communication within teams [58].

Finally, team stability is crucial to strengthening collaborative relationships. It helps establish a climate of trust between colleagues, which is essential to ensure optimal professional practice [59]. The pilot project demonstrated that collaboration, underpinned by effective consultation, enables the achievement of targeted objectives and the provision of care tailored to residents' needs [60].

Predictability

Teleconsultation improves schedule predictability, an important consideration for nursing staff. [61]. Clearly identifying the night shifts during which teleconsultation would be used facilitated collaboration between nurses and nursing assistants, enabling them to anticipate and respond proactively to residents' needs. For example, a jointly drafted TNP improves care management for residents with recurring health problems [52]. The nursing assistant can then rapidly carry out the necessary interventions safely and with confidence.

In addition, teleconsultation reduces the need for mandatory overtime, preserving nurses' physical and psychological health [62] [63]. Teleconsultation makes it possible to organize required interventions in advance to ensure the continuity and safety of care [64].

Residents

Interviews with nurses and nursing assistants revealed that the well-being of residents, as well as that of their family and loved ones is a constant and central concern. Every intervention, whether or not it includes the use of teleconsultation, must be of impeccable quality, ensuring the well-being of residents at all times. Therefore, it is obvious that, when using teleconsultation, nurses' and nursing assistants' workflows must establish the resident as the top priority.

Clinical Aspect of Practice

Participants demonstrated unwavering professionalism and respect for professional values when using teleconsultation. They recognized both the benefits and limitations of the technology. During complex clinical situations, they intervened with greater confidence and ease. Because it involves the use of a camera, teleconsultation facilitates the physical assessment of a resident's condition. However, participants were also aware of situations where teleconsultation was not as suitable, and of the imperative need to comply with professional and ethical standards in remote practice.

The amount of literature on integrating technology into healthcare is growing rapidly [65].

Recent initiatives on remote clinical monitoring [66] have led to the publication of nursing practice standards that take technological practices into account [45]. Participants agreed that teleconsultation is a useful additional tool, but that it can never replace a full physical examination or direct interaction with the resident. A similar case study on teleconsultation also concluded that this modality of care does not replace the presence of a nurse with the resident, but can effectively support clinical practice when the situation allows [67]. In short, pilot project participants demonstrated a strong commitment to and rigorous professional integrity in providing safe, high-quality care to residents.

Involvement of Family and Loved Ones

The active presence of residents' family and loved ones in the organization of care and services in CHSLDs is not only desirable, but essential. The teams who took part in the pilot project set up a communication plan to inform residents' family and loved ones of this initiative, encouraging them to ask questions as needed. Nurses and nursing assistants then discussed the specifics of the pilot project when obtaining consent for the resident to participate, providing the opportunity to clarify certain aspects, to chat with their family, and loved ones and to reinforce existing bonds of trust.

The literature on this subject supports the participants' observations. Introducing the technology-based project to residents' family and loved ones, and obtaining their formal consent is essential [66]. Strengthening the relationships between care staff, and the residents' family and loved ones is highly beneficial. The integration of technology in long-term care facilities is now widely accepted [68] and promotes the involvement of residents' loved ones in clinical decisions [69].

Finally, this integrated approach to leadership, collaboration, and resident-centred healthcare in a teleconsultation context illustrates how these elements depend on each other to optimize practices and improve clinical and organizational outcomes.

Limitations and Future Research

Despite the rigorous methods used as part of the study, certain limitations must be considered to improve interpretation of the results and more accurately target the prospects for teleconsultation in long-term nursing care during night shifts. First, the pilot project was conducted in two Quebec regions, it involved three rural CHSLDs, and the sample size was limited to eight participants. However, it is important to note that these participants used teleconsultation for six months, logging 19 clinical situations, a number similar to data collected by the CHSLDs over the same period in the previous year. This exploratory study was conducted in small care settings, where care teams are limited by the number of residents, justifying the scope of the study. Nevertheless, caution is paramount when generalizing the results to other regions or similar contexts.

To broaden our understanding and increase the effectiveness of teleconsultation in long-term nursing care during night shifts in small, rural CHSLDs, several avenues of research may be considered. Expanding this research to a larger number of small CHSLDs in different regions would improve the representativeness and generalizability of the results. A larger sample would more accurately capture the context-specific and organizational variability.

In addition, a comparative analysis of different geographical and organizational settings would be relevant to identify the factors that influence the success of teleconsultation. This type of

analysis would shine a light on best practices and the conditions required for successful implementation.

It would also be worthwhile to assess the long-term impact of teleconsultation on quality of care, resident and caregiver satisfaction, and associated costs. Longitudinal studies could provide valuable data on the benefits and challenges of this approach over an extended period.

Finally, exploring the impact of teleconsultation from the residents' and families' point of view would enable us to understand their perceptions, the elements with which they were satisfied, and their concerns. This perspective could provide crucial insights, helping to adjust practices and improve the care experience.

In addition to this study, developing continuing education programs on the use of teleconsultation technology for healthcare professionals in rural settings could facilitate the adoption of teleconsultation and optimize the use of these tools. Establishing standardized protocols for the integration of teleconsultation into daily care routines could also foster greater efficiency and broader adoption of this technology.

Conclusions

The implementation of nursing teleconsultation in rural CHSLDs with 50 beds or less has shown promising results in terms of improved workflow, interprofessional collaboration, and the quality of resident care. Nurses' and nursing assistants' perceptions revealed tangible benefits such as real-time documentation, increased visual support, and proactive communication. These elements promoted efficient and safe continuity of care, while highlighting the need for adequate support and careful planning to maximize the benefits of this technology.

Their experiences also highlighted challenges such as administrative management, change management, and compliance with documentation rules. Nevertheless, the structured training and clarification of professional roles were widely appreciated, contributing to successful implementation of teleconsultation without any reported scope creep.
Three main themes emerged from the data analysis: leadership, collaboration, and impact on residents. Leadership played an important role in clarifying scopes of practice and in building nurses' and nursing assistants' confidence. Collaboration was enhanced through synchronous and asynchronous communication, enabling better care coordination. Finally, the predictability of schedules and the involvement of residents' family and loved ones ensured more proactive care management tailored to the residents' needs.

Although teleconsultation cannot entirely replace the physical presence of nurses, it has been shown to be a valuable tool to support clinical practice and improve the quality of care in CHSLDs. To optimize the integration of teleconsultation, ongoing development of appropriate support and training strategies is essential, while also promoting shared governance and the active involvement of residents' family and loved ones. These measures will help maximize the benefits of this technological innovation and guarantee high quality resident-centred care.

In short, this study demonstrates that nursing teleconsultation represents a promising technological advance to optimize professional practice and strengthen team collaboration. In light of these findings, it is essential that we carry out in-depth discussions on the future of virtual nursing to better understand and efficiently integrate this practice in long-term care

settings.

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Authors' contributions

VN and MCL conceptualized and designed the study, collected the data, conducted the interviews, analysis, and wrote the first draft of the manuscript. All the authors (VN, MCL and VP) have read, revised, and approved the final manuscript.

Conflicts of Interest

None declared.

Abbreviations

CHSLD: Residential and long-term care centres
DNSSI: Direction nationale des soins et des services infirmiers
MSSS: Ministère de la Santé et des Services sociaux
OIIAQ: Ordre des infirmières et infirmiers auxiliaires du Québec
OIIQ: Ordre des infirmières et infirmiers du Québec
TNP: Therapeutic nursing plan

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Supplementary Files

Figures

Workflows optimized by teleconsultation in nursing.