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Perceptions of Nurses Delivering Nursing Home Virtual Care Support: A Qualitative Pilot Study

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Abstract
Avoidable hospitalizations among nursing home residents result in poorer health outcomes and excess costs. Consequently, efforts to reduce avoidable hospitalizations have been a priority over the recent decade. However, many potential interventions are time-intensive and require dedicated clinical staff, although nursing homes are chronically understaffed. The OPTIMISTIC project was one of seven programs selected by CMS as "enhanced care & coordination providers" and was implemented from 2012 to 2020. This qualitative study explores the perceptions of the nurses that piloted a virtual care support project developed to expand the program's reach through telehealth, and specifically considered how nurses perceived the effectiveness of this program. Relationships, communication, and access to information were identified as common themes facilitating or impeding the perceived effectiveness of the implementation of virtual care support programs within nursing homes.

Keywords
health services research, qualitative methodology, labor force, long-term care, telehealth

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What This Paper Adds

- This study adds to the body of knowledge regarding the use of telehealth capabilities to enhance and support care delivery.
- This study demonstrates that providing virtual support to clinical providers requires the establishment and maintenance of trusted relationships and ongoing two-way direct communication to create the collaborative environment necessary to achieve program objectives.
- This study demonstrates that in addition to interpersonal factors, access to accurate, timely, and complete medical records is essential for continuity of care and effective interventions.

Applications of Study Findings

- This study provides insights into crucial elements important to the implementation of similar virtual care support models.
- This study explores the role of telehealth in bridging healthcare workforce gaps in nursing homes.
- This study has implications for nursing home and long-term care industry leaders, policymakers, and providers of similar telehealth services, especially those participating in accountable care organizations, for which patient care management is an important component.

Introduction

Avoidable hospitalizations among nursing home residents result in poorer health outcomes and excess costs (Ingber et al., 2017; Mor et al., 2010). Hospitalized older

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patients have a greater risk of general deconditioning and decreased independence, adverse drug effects, dehydration, hospital-acquired infections, malnutrition, and increased risk of falls and fractures compared to younger patients (Boyd et al., 2008; Creditor, 1993; Gill et al., 2004; Ouslander et al., 2000). Although estimates vary, as much as 67% of nursing home resident hospitalizations are avoidable and the consensus among researchers and clinicians is that there are opportunities for improvement (Grabowski et al., 2007; Ouslander et al., 2010; Saliba et al., 2000; Walsh et al., 2012). States spend between $47 million and $224 million annually on avoidable transfers (Grabowski et al., 2007; Ouslander et al., 2010). However, many potential interventions are time-intensive and require dedicated clinical staff, when nursing homes are chronically understaffed (Gandhi et al., 2021; Ingber et al., 2017; Ouslander et al., 2014).

In 2012, the Centers for Medicare & Medicaid Innovation (CMMI) launched a program to identify novel solutions to reduce avoidable hospitalizations (Centers for Medicare & Medicaid Services, 2021; Ingber et al., 2017). The Optimizing Patient Transfers, Impacting Medical Quality, and Improving Symptoms: Transforming Institutional Care (OPTIMISTIC) project was one of seven sites selected as "enhanced care & coordination providers" (ECCPs) and was implemented from 2012 to 2020 (The OPTIMISTIC Project, 2021). Nurses in the OPTIMISTIC program provided in-person resident care while collaborating with nursing home staff to review care plans and medical records to proactively identify strategies to prevent transfers, and to improve staff's patient assessment skills and knowledge of evidence-based practices. Evidence from the Phase 1 evaluation of ECCPs demonstrated reductions in avoidable hospitalizations without increasing mortality, including the OPTIMISTIC model (Blackburn et al., 2020; Ingber et al., 2017; Rantz et al., 2017).

Healthcare innovators tout telehealth and virtual care services as solutions to deliver health services and share information among providers, while ameliorating staffing shortages faced by nursing homes. In long-term care settings, 79% of nursing homes have partially implemented telehealth (Alexander et al., 2021). Examples include engaging residents' families in care planning sessions, palliative care, or increasing clinical coverage on evenings and weekends (Babcock et al., 2021; Grabowski & O'Malley, 2014). Nursing homes may benefit from telehealth as a scalable and focused approach to addressing the complex needs of residents. However, the role of telehealth capabilities to enhance or support nursing home staff is not well understood.

A virtual program based on the principles of OPTIMISTIC was developed in the spring of 2020 to expand the reach of the model. A pilot implementation coincided with restrictions on visitors' and staff's physical access in nursing homes resulting from the COVID-19 pandemic (Centers for Medicare & Medicaid Services, 2020). Nurses were connected with nursing homes via email and Zoom communication and were given remote access to electronic medical records (EMRs) to support facility-based staff (K. Unroe, personal communication, March 24, 2021). We explore the perceptions and experiences of nurses piloting this virtual care support in 11 nursing homes located in central Indiana. Specifically, we sought to identify perceived facilitators of, and barriers to, the effectiveness of delivering virtual care support. We provide insights into crucial elements of the implementation of similar virtual care support models and the role of telehealth in bridging healthcare workforce gaps.

Methods

Study Participants

We conducted eight semi-structured, individual interviews with open-ended questions. Due to the relatively small population involved in OPTIMISTIC, and to increase validity through data triangulation, all eight nurses (hereafter participants) were invited and agreed to participate (Guion et al., 2011). All of the participants also supported the in-person OPTIMISTIC program prior to 2020. Participants were recruited via email and informed consent was obtained. This study was approved as exempt by the institutional review board at our university.

Data Collection

We developed an interview guide focused on participants' activities and responsibilities during the virtual pilot, their perceptions of the effectiveness of the services they delivered during the pilot, and perceived advantages/disadvantages of delivering program services virtually (see Table 1). Interviews were conducted via Zoom during May and June of 2021, each lasting approximately 60 min. Interviews were recorded, and recordings were transcribed and proofread according to a developed protocol.

Analyses

This study used thematic analysis which is appropriate for identifying shared experiences and perceptions and can be used with small data sets (Braun & Clarke, 2006, 2012; Clarke & Braun, 2013). Following transcription, researchers created and applied initial codes to identify emerging themes through an iterative approach. Utilizing a primarily inductive approach, the interview transcripts were reviewed to identify patterns and emerging themes. CM and YT first independently screened four transcripts to develop initial themes and codes and then met to review initial findings and reach consensus. Dedoose Version 9.0.17 (Dedoose, Hermosa Beach, CA) was used for coding and analysis of the interview data. CM and YT then applied and tested codes with the remaining four transcripts. Through an iterative process of coding transcripts and revising the codebook as needed, a final

Table 1. Interview Guide.

Thank you for agreeing to participate in this interview. This interview is part of a research study entitled "Perceptions of Nurses Delivering Nursing Home Virtual Care Support: A Qualitative Pilot Study." The purpose of this study is to learn the perceptions and experiences of nurses piloting a virtual application of the OPTIMISTIC project.

This study has been approved by the Indiana University Institutional Review Board. Your participation is voluntary, and you are free to discontinue the interview at any time or refuse to answer any questions. I will be recording this interview for research purposes, and the recording will not be shared with anyone outside of the research team. Your responses are confidential, and no information that identifies you will be shared with anyone outside of the research team. The interview is expected to take approximately 30 to 45 min.

Background:

1. Please describe the nursing facilities you worked with during the in-person phase of the OPTIMISTIC project.
   - Number of nursing facilities (0, 1, 2, 3)
     - If 0, SKIP to Question 2
   - Total number of beds you were responsible for?

Any unique patient populations?

2. Did you receive any training from the OPTIMISTIC program that was different from nursing training you've previously received? Please tell me about it.
   - The following questions relate to the OPTIMISTIC program during the virtual pilot.
3. Please describe the nursing facilities you worked with during the pilot of the virtual approach to the OPTIMISTIC project.
   - Number of nursing facilities (0, 1, 2, 3)
     - If 0, SKIP to Question 4
   - Total number of beds you were responsible for?
   - Any unique patient populations?

OPTIMISTIC has three program goals including (1) improve medical care, (2) enhance transitional care, and (3) support palliative care. I will ask you about each goal specifically in terms of your activities and responsibilities toward that goal in the virtual format.

4. Please describe your activities and responsibilities during the virtual pilot, in terms of program goals to improve medical care:
   - Early recognition and management of acute conditions; use of INTERACT tools
   - Collaborative care reviews
   - Training and mentorship for nursing home staff
5. Pease describe your activities and responsibilities during the virtual pilot, in terms of program goals to enhance transitional care:
   - Improving provider-to-provider communication
   - Family and caregiver education of transition procedures
   - Root cause analysis
6. Please describe your activities and responsibilities during the virtual pilot, in terms of program goals to support palliative care:
   - Systematic advance care planning; POST
   - Improved support and education for palliative care
   - Increased access to pain and symptom management
7. Previous studies have found that OPTIMISTIC RNs were seen as providing "an extra set of hands" to help facility staff manage their heavy workloads, which facilitated adoption of the program.
   - Were you able to provide this benefit during the virtual pilot or was there a substitute of any sort? (Probe: ACP conversations, teaching staff/family/residents, EMR access, evaluating changing resident conditions)
8. Another factor that was previously identified as important to facilitating adoption of the program was the OPTIMISTIC RN fostering relationships and communication with the nursing facility staff.
   - Were you able to foster relationships and communication with the nursing staff during the virtual approach? (Probe: providing information, liaison between nursing staff and providers, timely follow-up to clinical issues, support staff)
   - If you were in-person previously, did relationships or communication change when you began working virtually?
   - As virtual staff, about how often do you communicate with the nursing facility on an average day, and who usually initiates the communication (OPTIMISTIC RN or nursing facility staff?)
9. We've talked about some of the program goals and your duties and responsibilities. How successful do you feel you were during the virtual pilot in achieving or helping the nursing facility to meet these goals?
   - Did you encounter any barriers? If so, did you identify any workarounds?
   - How do you think the organization is doing on carrying out the activities/goals of the OPTIMISTIC project on their own today?
   - Do you feel anything needs to be added to the program to make the virtual approach more sustainable?
10. What do you feel were the advantages and disadvantages of the virtual approach over the in-person model? (Probe: If RN not familiar with in-person model, ask about perceived benefits and drawbacks of virtual model)
11. Are there key elements essential to the success of the virtual approach to OPTIMISTIC? If so, please explain. (Probe: facility leadership support, champion inside facility, staff turnover, equipment, communication, equipment, policies)

(continued)

Table 1. (continued)

12. Satisfaction: (Probe for all questions: Scale of 1 [low]—5 [high]; Why did you feel that way?)
    - How satisfied or dissatisfied with the virtual pilot do you think the facility staff were?
    - How satisfied or dissatisfied with the virtual pilot do you think the facility residents were?
    - How satisfied or dissatisfied were you as a nurse practicing in the virtual environment?

Demographic Questions:

16. What is your race/ethnicity?
    a. White
    b. Hispanic or Latino
    c. Black or African American
    d. Native American or American Indian
    e. Asian/Pacific Islander
    f. Other
17. What is your gender?
    a. Male
    b. Female
    c. Other
18. What is your age?
    a. 18–24 years old
    b. 25–34 years old
    c. 35–44 years old
    d. 45–54 years old
    e. 55–64 years old
    f. 65–74 years old
    g. 75 years or older

codebook was created by consensus that captured the ideas relevant to the research questions (Guion et al., 2011). Initially, two transcripts were coded by CM and YT to test the codebook, and additional codes were added such as, "Keys to success/recommendations" and "Unknown." The process was repeated for the remaining six transcripts. Preliminary themes and subthemes were identified by both authors independently, then combined through consensus. The eight transcripts were again reviewed, applying the initial themes and subthemes, to further define and refine the themes.

Findings were reviewed by a third reviewer (JB) to increase rigor, and themes and subthemes were revised accordingly to clarify meaning. CM and YT then extracted illustrative quotes representing each theme and subtheme. The themes, subthemes, and illustrative quotes were shared with JB and VY, both of whom assisted in interpretation.

Results

Participant Characteristics

Seven participants (87.5%) were white, and all were female. The age distribution was: 35 to 44 (37.5%), 25 to 34 (25%), 55 to 64 (25%), and 65 to 74 (12.5%). During the virtual care support pilot, three participants provided services for three nursing homes each, and two participants provided services for one nursing home each. Three participants transitioned into OPTIMISTIC program management positions and did not provide virtual care support services, but supervised the nurses and were very involved with the care support process. Three themes emerged from qualitative analysis: professional interpersonal relationships, interpersonal communication, and access to medical record information. Illustrative quotes for each theme and subtheme are presented in Table 2.

Theme 1: Professional Interpersonal Relationships

Facilitators. Participants identified a trusted relationship between the nurses providing virtual care support and the nursing home leadership/clinical staff as important to encourage collaboration and accomplish program goals. In order to build trust, virtual program nurses needed to be viewed as a credible part of the team by the nursing home staff. Nursing homes vary in their needs, wants, responsiveness, and receptivity to recommendations such that a high level of engagement was an important key to implementation of the program and necessary for positive relationship-building. Participants noted having trust and rapport between virtual program nurses and nursing home leadership facilitated dissemination of information to clinical staff. Two participants reported:

> *You have to meet them where they're at and be on their team, not pull them over to what you're doing* (Participant 8), and

> *. . .essentially just stay humble and learn from them the way that you want them to learn from you* (Participant 1).

One participant reported:

> *They have to want our assistance, and they have to want to learn and to grow, otherwise it's not going to be a productive process* (Participant 7).

Table 2. Emergent Themes With Illustrative Quotes.

Theme	Illustrative quotes
Professional interpersonal relationships	
• Staffing/turnover	It really depends on if any of those people are still there. Their staffing crisis is real (Participant 5). And we need to have a good plan in place for turnover of leadership, if that's going to be our main communication line, or would it be more beneficial to have a communication line with the provider? (Participant 3). You have people doing that in the nursing home, if you have your DON in place, if you have your unit managers in place, if you have your staffing and your CNAs and nurses and you have everybody there that's supposed to be there, then things should go okay. But that's why I said when it comes down to it, whether you're virtual or in person, staffing is the root of all causes. Whether it's a changing condition, a transition, anything (Participant 2).
• Building and maintaining trust	It took me a while to earn their trust (Participant 7). There's a lot of talking because you're trying to build relationships with people and get people to trust you and you've got to keep those relationships going (Participant 4).
• Nursing home engagement	I don't think it mattered how engaged or how determined and focused and objective I was on our goals, if I did not have the enthusiasm and openness from the facility, whether it be from the operational side, as far as the ED and the nursing side, we were only able to do what we were allowed to do (Participant 7). And as long as they're receptive, they can take what I say and implement it (Participant 3). Having a facility that is engaged. And not only is engaged in that, like, "Yes, I will respond to your emails, and I will do it because my boss is making me," but like, "I want to make this, I want this building to be better, I want to improve outcomes" (Participant 8).
• Onboarding/implementation	If we are going to have a relationship with the provider themselves, how do you make that happen, upfront? How do you meet them, establish yourself, get a level of trust, confidence, how do you do that? (Participant 5). In a virtual model, I would say the keys to success are establishing that crucial relationship we've been talking about and establishing the credibility and the idea that you are not policing their charting, you're looking at it in a way to benefit them and try to benefit the residents and catch things ahead of time (Participant 1). You either need an onboarding process at the beginning, so that you get to know this, you're in there, you get to know the staff, they get to know you. Being physically in there, sometimes, just anything that they know who you are, and they trust you (Participant 2).
• Unique needs/characteristics of each nursing home	I had to do something different for each facility, and figure out like, "Okay, well, this is the pace that they want to go at this facility. So let me do that." (Participant 7). . . .because if one thing we have learned is that we know that each facility is different. And that's very important to know that flexibility and creativity and imagination, are all needed to be able to figure out how to work within each one (Participant 5). Your other two facilities didn't know me, and they didn't necessarily need me as much as what the other facility did. So, there's a need, and there's the relationship. Also, I think you need both (Participant 2).
Interprofessional communication	
• Frequency, channels, modalities, expectations of communication between OPTIMISTIC nurses and nursing home	I think the barriers there are similar to what we've been talking about, just with that communication, and the time that these directors of nursing or whoever our designated person was, have, and they're not like an email-focused role. And so, trying to communicate with them via email with things, that's like kind of the bottom of their list of the day (Participant 1). Virtually, there was no communication with the nursing staff. It was all with a nursing leader and administrator or a DON and that was via email (Participant 8). And I guess it ultimately depends on the director of nursing to how he or she. . .is she even going to take the time to print it, and give it to somebody? So, I think going forward, yes, we need to let her know what we're doing and communicate with her (Participant 4).
• Need for 2-way communication	The experience that I had with my virtual model, I got very little to no response in communication, and that was all by email (Participant 8). But without the interaction between the DON and us virtually, we had no idea whether we were being helpful. I mean, the communication wasn't there. . . (Participant 2).

(continued)

Table 2. (continued)

Theme	Illustrative quotes
• Need for direct access to nursing home providers	And it would have cut out the middleman so to speak, I think it would be more efficient timewise (Participant 8). I think, to me, I see the most value, as far as establishing communication, that we kind of could start to get to, would be through that provider (Participant 6).
• Effect of relationships on communication	I think it would make its way through the provider, or the MDS coordinator would be a good person, I think they rarely leave (Participant 3). I think that the trust with OPTIMISTIC as a program existed, otherwise they wouldn't have agreed to participate. But definitely, like let there wasn't enough time or reciprocated communication, I think for those buildings to recognize the credibility of the nurses that were trying to help (Participant 1). Had I had time with the facility and had a rapport with the providers, maybe I would have called and said, "Hey, what do you think about this?" (Participant 4).
Access to medical record information	
• Timely access to complete and accurate nursing home and hospital records	And then, I mean, from an operational standpoint, having access to view what you need to view in their electronic medical record: their labs, diagnostics, provider notes. . . (Participant 1).
• Quality and quantity of data	And I will say that, generally speaking, nurses' notes did not give a lot of information. But when you could review provider progress notes, it seemed like that was more revealing (Participant 8).

Barriers. Frequent turnover among nursing home staff and leadership was a barrier to relationships, affecting follow-through on the virtual program nurses' recommendations. Participants reported that staff turnover resulted in the need for frequent reorienting of nursing home staff to program goals and processes and increased the nursing home staff's workload, allowing less time to engage with the virtual program nurses. Additionally, COVID-19 restrictions and operational changes were a priority for nursing home staff and leadership, resulting in a barrier to engagement with virtual program nurses. Furthermore, virtual program nurses could not onboard in person within the facility due to the COVID-19 restrictions which may have detracted from establishing expectations and building relationships. As one participant reported:

> *So, with the virtual role without an onboarding process, it's hard to have those relationships* (Participant 3).

Recommendations. Participants offered suggestions to enhance professional relationships, including in-person onboarding for virtual program nurses during implementation, customizing the program to meet the unique needs of each nursing home, and ensuring a collaborative approach, rather than authoritarian, when working with nursing home staff.

Theme 2: Interprofessional Communication

Facilitators. Participants identified the ability to communicate directly with nursing home clinical staff regarding the care of the nursing home residents as essential for the implementation of the program. While communicating observations and recommendations to the facilities' Director of Nursing (DON) was beneficial in order to keep nursing home leadership informed, participants perceived that direct communication with the clinical staff would be more efficient and potentially more effective in managing illnesses and reducing hospital admissions. For example, one participant reported:

> *So yeah, like I said, it would be way more effective, and we could get more interventions and more things in place if we were talking to the provider, because they're the ones that are really going to take care of that stuff* (Participant 4).

Barriers. Communication between the virtual program nurses and the nursing home staff was routed through each nursing home's DON via email that included recommendations and opportunities for improved resident care. Participants reported receiving little or no feedback regarding which recommendations had been communicated to clinical staff or implemented.

Practically, the lack of feedback also created inefficiencies as the virtual program nurses need to search the electronic medical records (EMRs) for clinical information. Additionally, during the virtual pilot, the program nurses were not able to speak directly with nursing home residents or families, which presented a challenge for advanced care planning conversations. One participant stated:

> *The frustration for our team was that they didn't tell us what they were doing with any information. So, it seemed to be a one-way communication* (Participant 5).

Recommendations. Participants recommended improving communication and effectiveness by including direct bi-directional communication with the clinical staff. Communicating directly with the clinical staff would

eliminate the need for a communication intermediary, thereby encouraging feedback and collaboration among the healthcare team. This increased communication and collaboration should not impose more work on the nursing home staff; the focus needs to be on identifying opportunities to "off-load" staff. One participant reported:

> *We weren't talking to providers. . .But I know moving forward that's something that we've identified, which certainly leverage(s) what we have to offer and how we can do it without imposing more burden upon that primary team that we have* (Participant 6).

Theme 3: Access to Medical Record Information

Facilitators. Virtual program nurses reported the need for consistent access to complete medical records in order to make timely recommendations specific to residents' most current health status.

Barriers. Virtual program nurses lacked consistent access to hospital EMRs, or timely paper records, for patients returning from the hospital or specialist visits. Interviews revealed that it was common for residents to return to nursing homes following hospitalizations without discharge summaries, sometimes for days, creating obvious challenges to adequately care for these residents. Two participants reported:

> *. . .there was a huge thing where they weren't even getting the discharge summaries. They [patients] were showing up, and they weren't getting them [discharge summaries] actually for days* (Participant 4), and

> *. . .sometimes you even have to wait a few days before you can get those final discharge notes. The information that would come from the hospital when someone was transferred or went out to the ER [emergency room] and back was usually horrendous* (Participant 2).

Lack of access to information not only leads to gaps or delays in care for the nursing home residents, but it also takes valuable additional time for the virtual program nurses to locate and obtain necessary information. Additionally, in some cases, the nursing home EMRs were incomplete or had inaccurate documentation. Furthermore, nursing home use of EMRs varied between facilities, and sometimes within facilities, creating more challenges for virtual program nurses. As two participants reported:

> *We could read the nurse's notes, but once again, looking virtually, it's only as good as the information that's in the EMR* (Participant 2), and

> *. . .although several of the facilities use the same EMR system, they all use it differently. They're all within the same organization. And they all use it differently* (Participant 5).

Recommendations. The participants recommended access to timely, accurate, and complete medical records, including full electronic access to nursing home as well as hospital medical records. Access to complete medical records is an important element in the delivery of virtual care support to the nursing home clinical team, and to ensure continuity of care across care settings.

Discussion

We identified three themes from the qualitative analysis that facilitated or impeded the perceived effectiveness of the implementation of virtual care support programs within nursing homes: professional interpersonal relationships, interpersonal communication, and access to medical record information. The OPTIMISTIC virtual program represented a pivot at the conclusion of the 8-year demonstration project to enhance scalability and adapt the desire to reduce in-person interventions in facilities. This pilot provided an example of how a virtual care support program can be implemented and the experiences and recommendations of the program nurses provide key insights into the elements that may contribute to the success or failure of implementation.

Relationships between providers are important in healthcare, and specifically, to the successful implementation of care support programs (Ingber et al., 2017). Trust and communication are key elements in the development and maintenance of professional relationships, and have been tied to performance (Sifaki-Pistolla et al., 2020). Conversely, ineffective communication decreases the quality of care and increases potential safety concerns (O'Daniel & Rosenstein, 2008). Both trust and communication can be developed formally among teams through education and training programs (Grogan et al., 2004). In the work setting, the iterative process of communicating and working together helps to build trust among team members (Sutherland et al., 2022). Trust among team members is essential to achieve desired outcomes, and it can be even more challenging when the team members are not proximal to each other (Sifaki-Pistolla et al., 2020; Sutherland et al., 2022). The findings of this study are consistent with previous studies in demonstrating the need for strong relationships, trust, and communication among healthcare professionals in order to achieve increased performance and outcomes. Therefore, virtual care support programs require focused attention on building and maintaining communication, trust, and relationships to achieve program goals. In the nursing home setting, frequent turnover among staff may present a challenge to building relationships and optimizing communication (Ingber et al., 2017). However, embracing the full implementation of virtual care support could help counteract the adverse effects of a high nursing workload (Carayon & Gurses, 2008).

Nurses providing services in a virtual care support program may be able to offer some continuity and redundancy during times of nursing home staff turnover.

All telehealth applications, including virtual care support programs, are reliant on medical records to provide a complete picture of the clinical situation. Access to complete, timely, and accurate medical records is a best practice for continuity of care across platforms (Burton et al., 2004). The challenges nursing homes face in receiving such information are well-documented; approximately 43% of non-federal acute care hospitals do not routinely share electronic summaries of care records with nursing homes (Cross & Adler-Milstein, 2017). The information void identified in this study is notably challenging for resident care during transitions and is likewise a challenge that virtual care support programs must overcome. Additionally, opportunities may exist to improve or enhance clinical documentation in nursing homes with virtual program nurses leading these efforts. Furthermore, providing virtual support staff with access to records spanning both the hospital and nursing home could be a promising strategy (Adler-Milstein et al., 2021).

Unlike existing telehealth research related to provider-patient encounters, our study involves a telehealth service that supports providers in a resident care setting. As the use and scope of telehealth continue to expand, and new care support models emerge, additional research will be needed to evaluate the effectiveness of different virtual care support strategies in various settings and from other perspectives including patient/resident perspectives. Future research in this area should also include cost-effectiveness analysis of virtual provider-to-provider care support services, to encourage program development that is evidence-based, targeted, and cost-effective.

There are some limitations of this study. We included the entire population of nurses that worked in the virtual pilot of the program; however, it is limited to eight, which affects the robustness of the findings. The participants delivered services to nursing homes located in one midwestern state, which limits the generalizability of the study findings to other programs, geographical areas, or clinical settings. The COVID-19 pandemic affected normal work processes in nursing homes during the time of the study, and may have influenced the nursing home staff and leadership's engagement in this program pilot.

Conclusion

Virtual delivery of services is growing in many different aspects of healthcare, and these services need to be provided effectively and efficiently. Providing virtual support to clinical providers requires the establishment and maintenance of trusted relationships and ongoing two-way direct communication to create the collaborative environment necessary to achieve program objectives. In addition to interpersonal factors, access to accurate, timely, and complete medical records is essential for the continuity of care and effective interventions. In order to maintain engagement with nursing home staff, the remote clinical support staff must provide tangible support in their efforts to deliver excellent resident care. This study has implications for nursing home and long-term care industry leaders, policymakers, and providers of similar telehealth services. Furthermore, nursing homes participating in accountable care organizations, for which patient care management is a key component, may gain valuable insight into a novel service delivery method.

Author Note

This study was conducted while Carol Mills was a doctoral candidate at Indiana University Richard M. Fairbanks School of Public Health at IUPUI.

Declaration of Conflicting Interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Kathleen Unroe serves as the CMO of Probari, Inc, a program to train nurses to reduce nursing home hospital transfers. There are no other potential conflicts of interest to report.

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IRB Protocol/Human Subjects Approval Numbers

This study was approved as exempt by the Institutional Review Board of Indiana University, Protocol #11405.

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