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Increasing Skilled Nursing Facility Staff Knowledge and Use of a Telehealth Program to Reduce Re-Hospitalizations

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Abstract

Hospital readmissions from skilled nursing facilities (SNF) are associated with increased resident morbidity, mortality, and healthcare costs. Identification of effective approaches to prevent unnecessary rehospitalizations is warranted. Telehealth has emerged as a viable approach for improving resident care in SNFs with the potential of reducing hospital readmissions. The purpose of this Doctor of Nursing Practice (DNP) project was to develop, implement, and evaluate the impact of a new evidence-based, educational program for the SNF nursing staff focused on the use of telehealth to prevent resident rehospitalizations. The web-based program provided knowledge about the optimal use of telehealth to enhance its adoption and included clinical vignettes. The program was evaluated by a survey, grounded in the transtheoretical model (Prochaska & DiClemente, 1979), and telehealth usage data. A pre-post design was used (repeated the same survey 2 weeks following the educational program). About one out of every four eligible SNF nurses participated in the program and completed the pre and post survey (N = 14, 27%). All participants were registered nurses (RNs) between the ages of 25 years old to 59 years old, 78.6% (n = 11) were women, 71.4% (n = 10) were nurse staff, and 28.6% (n = 4) were supervisors. The 10-item survey focused on knowledge and perceived confidence in nurse-initiated telehealth for resident care. There was a statistically significant improvement ($p < .05$) in both nurse telehealth knowledge and confidence observed. There was no observed change in telehealth use in the 2-month period following the educational program. The primary finding from this quality improvement (QI) project was that a brief, web-based educational program can increase nurses' knowledge and confidence regarding the use of a telehealth program for SNF residents.

Although there was no change in actual telehealth use, further education, facility support, and reminders should be considered.

Keywords: telehealth, post-acute care, readmissions from SNFs, telehealth in preventing readmissions from SNFs, telehealth programs in SNFs

Introduction

Skill nursing facilities (SNFs) provide a high level of care for patients who require medical services that must be provided by trained medical providers such as registered nurses (RNs) and other allied health professionals including physical and occupational therapists (Burke et al., 2017). Patients receiving care in a SNF often have either short-term rehabilitation needs while recovering from an illness or injury or complex long-term medical needs that require ongoing supervised medical care (Burke et al., 2017). Current evidence indicates that growth in SNFs is projected to increase 5.4% annually through 2027, driven in large part by the aging of the Baby Boomer population (Buntin & Graves, 2020). As growth in SNFs accelerates over the foreseeable future, improving the quality of patient care that is provided while also reducing costs has become a priority. The Centers for Medicare and Medicaid Services (CMS, 2021) began a value-based purchasing program (VBP) for SNFs in 2014 intending to improve care quality by measuring the performance of these facilities based on providing payment incentives tied to hospital readmissions.

Hospital readmissions in SNFs have long been a problem impacting both patient health outcomes and the costs to provide care in these facilities (Goodwin et al., 2018; Rahman et al., 2017). Scholars reviewing the problem noted that hospital readmissions from SNFs are a common occurrence, affecting as many 25% of all Medicare beneficiaries (Mendu et al., 2018). While this number demonstrates a problematic trend, what is perhaps more concerning is the fact that current estimates suggest that between 50% and 70% of these readmissions are preventable (Mendu et al., 2018; Vasilevskis et al., 2017). Finding effective tools and support for preventing hospital readmissions in

SNFs is, therefore, highlighted as being an important foundation for improving patient care while also controlling costs within the healthcare system (McHugh et al., 2017).

The Problem

High hospital readmission rates are a major driver of healthcare costs, income losses for healthcare facilities, and poor patient and population health outcomes. Medicare spends about $17 billion yearly for the cost of unplanned readmissions to hospitals in the United States (Warchol et al., 2019; Zohrabian et al., 2018). It is estimated that more than 20% to 25% of SNF patients are likely to face readmission within 1 month of discharge (Mileski et al., 2017). A study conducted by Ouslander et al. (2016) reported that one in five patients transferred from a hospital to a SNF were readmitted to the hospital within 30 days, with approximately 8% of readmissions occurring within 48 hours of patient discharge. High SNF readmissions are likely attributable to multiple factors including complex medical conditions, inadequate care transitions, staffing shortages, and lack of adequate protocols for discharge planning (Gupta et al., 2019). While SNFs have the ability to provide complex care for patients, care transitions including admission to the SNF from the hospital as well as care transitions related to changes in patient health status—i.e., the need for palliative care—have been noted to significantly contribute to increased hospital readmission rates (Rahman et al., 2017; Weerahandi et al., 2019).

A review of the literature regarding the focus of care provided within SNFs indicates that the goal of this type of care is to deliver post-acute care services to patients with the idea that patients will be able to return to a residential setting (Goodwin et al., 2018). Unfortunately, the care provided in SNFs often fails to achieve these goals

resulting in hospitalization and a further decline in patient's health, warranting placement of the patient in a long-term care facility (LTC) rather than patient discharge to the community (Burke et al., 2017). Further, Hakkarainen et al. (2016) noted that patient readmission to the hospital following placement in one of these facilities is the strongest predictor of mortality among those receiving services in an SNF. Among patients readmitted to the hospital from a SNF, 1-year mortality was 26.1% (Hakkarainen et al., 2016).

Reducing rehospitalizations has the benefit of improving patient outcomes and decreasing hospital penalties from the CMS due to re-admissions (Warchol et al., 2019). Telehealth is one effective approach for reducing rehospitalizations (Mileski et al., 2017). Research has demonstrated telemedicine improves care coordination, patient assessment monitoring, and treatment to prevent condition deterioration, resulting in a decline in adverse events (Driessen et al., 2016). For years, healthcare leaders and policy experts have advocated for changes to make the use of telehealth in SNF more feasible (Gillespie et al., 2020). However, it was not until the current COVID-19 pandemic that CMS made changes to the policies to provide more flexibility for providers in SNFs to use telehealth programs (Gillespie et al., 2020). A lack of advocacy for implementing telehealth to reduce hospital readmissions from SNFs has limited the scope and reach of telehealth services in this setting. It has also adversely impacted provider knowledge of how to use this technology as part of integrated patient care (Joseph et al., 2020).

Given the potential benefits of telehealth for reducing 30-day readmission rates from SNFs, an effort should be made to expand and utilize this valuable approach to care with the goal of improving patient outcomes while also reducing care costs. The primary

aim of this DNP QI project was to increase SNF staff knowledge of telehealth to enhance the use of this tool in practice with the goal of preventing 30-day hospital readmissions among patients. Increasing staff knowledge of telehealth should promote telehealth integration to help improve patient care and health outcomes as well as lower the costs of care provided in SNFs.

Background

Hospital readmissions from SNFs post-acute care not only increase patient morbidity and mortality but also have been associated with higher healthcare costs for both patients and Medicare (Hakkarainen et al., 2016). Current spending on care provided in SNFs accounts for more than $200 billion annually, with 60% of this care paid for by taxpayers through Medicare and Medicaid (Hakkarainen et al., 2016). As much as one-quarter of these costs have been attributed to re-hospitalization of the patient within 30 days (Mendu et al., 2018).

Health outcomes for post-acute patients treated in SNFs present multiple complexities attributed to their disabilities and limited function. According to Burke et al. (2015), patients with chronic health problems such as heart failure (HF), cerebral vascular accidents (CVA), and cardiopulmonary health problems are commonly discharged to SNFs after a post-acute hospitalization, and more than 50% of them have been identified as older than 80 years of age. Furthermore, another common condition that indirectly increases the number of temporary residents in SNFs is osteoarthritis (OA) (Burke et al., 2015). More than 90% of these OA cases are post-op for elective joint surgeries (Burke et al., 2015). Additionally, in their study, McCarthy et al. (2020) described potentially avoidable conditions as common causes for re-hospitalizations from SNFs. As reported

by these authors, infections (urinary tract infections, wounds, pneumonia), falls with injuries and fractures, and disease exacerbations associated with chronic obstructive pulmonary disease (COPD) and HF commonly contribute to hospital readmissions. Furthermore, the study found that 45.4% of these patients had a diagnosis of dementia (McCarthy et al., 2020). Collectively, data regarding the health status and demographics of patients admitted to SNFs indicates that patients provided with care in this clinical setting have diverse and complex health needs.

The implementation of strategies to reduce SNF residents' health complications while improving care coordination should be the key to reducing re-admissions from SNFs. Telehealth has emerged in recent years as a viable approach to improving care provided to patients in SNFs with the potential to significantly reduce hospital readmission rates for patients receiving care in this clinical setting (Driessen et al., 2016; Mileski et al., 2017). Telehealth includes healthcare services delivered using various telecommunications and health technologies (Gajarawala & Pelkowski, 2021). Broadly, telehealth has been shown to have a remarkable potential to reduce healthcare spending across diverse practice settings (Olson & Thomas, 2017). Telehealth has been shown to increase care coordination while also improving the quality of care provided to patients (Standing et al., 2018. Patients receiving telehealth services often have lower care costs and higher overall satisfaction with their care (Kruse et al., 2017).

Despite these benefits for telehealth, concerns stemming from legal and regulatory issues at the state and federal levels have been identified as significant barriers limiting the use of telehealth in practice (Gajarawala & Pelkowski, 2021). As noted, the current COVID-19 pandemic has prompted renewed interest in addressing some of the

barriers limiting the expansion of telehealth in recent years (Hron et al., 2020). While it is evident that efforts are still needed to ensure that critical issues such as patient privacy and state regulation of healthcare services are addressed, the benefits of using telehealth have provided an overwhelming incentive for providers and policymakers. It helps them to tackle these issues to integrate and expand telehealth services in all areas of healthcare delivery (Hron et al., 2020).

Fiscal Considerations

The Hospital Readmissions Reduction Program (HRRP) was enacted under the Affordable Care Act (ACA) and implemented by CMS in 2012 to provide an incentive for hospitals to reduce readmissions (Zohrabian et al., 2018). This program penalizes hospital payments for readmission that occur within 30 days of the patient's discharge. Re-hospitalizations from SNFs increase healthcare costs for patients, CMS, and healthcare organizations. For example, Medicare re-hospitalization payments totaled about $10,352 per patient in the year 2006, and total readmissions accounted for $4.34 billion in payment costs (Mileski et al., 2017). Patient transfers from SNFs to acute care hospitals are associated with higher rates of medical errors and patient distress (Britton et al., 2017). Increased medical errors resulted in missed reimbursements and risk for litigation following adverse health outcomes and poor health-related quality of life (Clark et al., 2017). These issues lead to a lack of public trust, poor brand image, and decreased patient flows.

Literature Review

As noted, the goal of this DNP QI project is to provide education to help improve SNF staff knowledge regarding the use of telehealth to help reduce 30-day hospital

readmissions. To develop the QI program, the literature was searched to identify educational interventions focused on improving SNF staff knowledge, attitudes, and understanding of the use of current telehealth systems. The search strategy employed began with the identification of keywords. The keywords and subject headings used to direct the search for the required articles included telehealth, post-acute care, readmissions from SNFs, telehealth in preventing readmissions from SNFs, and telehealth programs in SNFs. Databases searched for the required articles included MEDLINE, ProQuest, CINAHL, PubMed, and the Cochrane Library. The search was limited to the date of publication—for instance, articles published in the last 5 years. In addition, only scholarly articles published in peer-reviewed journals, written in English, and available in full text were considered for inclusion in this literature review.

The initial search after using these search limitations yielded 1,220 articles. To further narrow the search, Boolean operators such as AND, NOT, or AND NOT were applied. Terms such as telehealth AND skilled nursing facilities were combined. Boolean searches further reduced the total number of articles to 53. Of these remaining articles, 36 were eliminated due to either lack of abstracts or if they were not available in full text. Abstracts of the remaining 17 articles were reviewed, and 12 articles were not included because they focused on different healthcare technologies instead of telehealth. A review of the search process and inclusion/exclusion of articles is provided in Appendix A. A summary and synthesis of the five articles identified to support this QI project follows, and a literature matrix reviewing the five articles is included in Appendix B.

Literature Summary

A cursory overview of the literature regarding the use of telehealth to reduce 30-day hospital readmission rates from SNFs indicated that while evidence to support this intervention is still in its infancy, some robust studies demonstrate the value of telehealth in improving care provided in SNFs and decreasing transfers to hospitals. For instance, Archbald-Pannone et al. (2020) detailed the development of a new program, the Geriatric Engagement and Resource Integration initiative, to expand care optimization for residents receiving care in SNFs. The program included telemedicine consultations, emergency response, interprofessional care approaches, nursing liaisons, and infection control consultations in coordination with an academic medical center. Telemedicine was identified as a critical component of this program, improving cardiopulmonary and clinical support in critical care through evaluation of recommendations, patient monitoring, and treatment in the facility, while also facilitating transfers to hospitals if needed. Based on the results of the study, Archbald-Pannone et al. (2020) argued that the new program supported collaboration between academic centers and long-term care facilities. The initiative was effective at improving care in long-term healthcare facilities and enhancing coordination through telemedicine.

Additional evidence provided by Chess et al. (2018) demonstrated the efficacy of an after-work hours coverage health service enabled with telemedicine known as "TripleCare" (TC). According to Chess et al. (2018), the program was implemented by a group of physicians focusing on care for medically frail patients through telemedicine who were receiving care in a SNF in Brooklyn, New York. A physician was available to examine patients following changes in their conditions, and facility nurses could access

physicians virtually through telemedicine for prompt examination and treatment initiations. The case study's results indicated that telemedicine was effective in reducing hospitalizations and healthcare costs, creating confidence in patients and their families, and integrating physicians within the primary clinical team. The outcome of the study by Chess et al. (2018) demonstrated that incorporating a telemedicine-enabled after-hours service to expand care in SNFs reduces hospitalization and improves staff performance.

In a similar inquiry, Hofmeyer et al. (2016) designed a telemedicine strategy to allow for the assessment of long-term care (LTC) residents in rural areas to identify the need for possible transfers. In their study, Hofmeyer et al. conducted an electronic LTC (eLTC) pilot in 20 facilities between 2012 and 2015. The program involved the assessment of technological capacities and subsequent upgrades to allow for video communication in each facility. Pilot program results showed that a total of 736 eLTC consultations were conducted in designated facilities. Transfers to hospitals decreased by 23% between 2013 and 2015, with rural pilot sites reporting an estimated 23 consults per facility annually. The researchers found that the eLTC pilot program led to increased use of telemedicine, while also lowering rates of unnecessary transfers from long-term care sites to emergency rooms and hospitals.

Further evidence to support the use of telehealth in reducing 30-day readmission rates demonstrates that this technology can be effective for decreasing re-hospitalization rates of patients recently discharged to the community setting (O'Connor et al., 2016). Specifically, O'Connor et al. (2016) reported a reduction in readmission to hospitals from 21% to 10% in all health causes following the implementation of a telehealth program. To achieve this goal, O'Connor and coauthors noted the use of a transitional care model

applied to implement a telehealth program that incorporated a wireless computerized system that gathered patients' vital signs through wireless peripherals. The system has many subjective HF queries and teaching videos. Results showed a reduction in readmissions by 73% in 3 years. O'Connor et al. (2016) concluded that telehealth is a promising strategy that allows for improved care management among people with chronic morbidity, and it facilitated better self-management. Further, the authors argued that results from this study are generalizable to SNFs since, like SNFs, Medicare-certified home health agencies focus on providing care to similar individuals with chronic morbidities.

Finally, Gupta et al. (2019) assessed the relationship between hospital-based skilled nursing facilities (HBSNF) and hospitals' rates of readmission through a systematic review of current data regarding these variables. HBSNFs were noted by Gupta et al. to provide a higher level of care coordination when compared with non-hospital-based SNFs. Data was examined from sources published between 2007 and 2012 and included information from the American Hospital Association Annual Survey, CMS Hospital Compare, and CMS Cost Reports. Outcomes evaluated included 30-day risk-adjusted readmission rates for acute myocardial infarction (MI), pneumonia, and congestive heart failure. Data analysis of the results demonstrated that care provided in HBSNFs resulted in decreased hospital readmission rates for MI and pneumonia. Because HBSNFs provide a higher level of care coordination, this evidence supports the use of additional tools and technologies such as telehealth to reduce readmission rates in traditional SNFs.

Synthesis of the Literature

A synthesis of the evidence included in this literature review demonstrates that there is evidence to support the use of telehealth as a means to improve care coordination in SNFs. Gupta et al. (2019), for example, found that when care coordination was improved through the use of HBSNFs, 30-day readmission rates for patients with complex medical needs declined, indicating the value of improved care coordination. Further, evidence provided through case studies and QI projects initiated by Archbald-Pannone et al. (2020), Chess et al. (2018), Hofmeyer et al. (2016), and O'Connor et al. (2016) demonstrated the value of telehealth services in improving care coordination to reduce 30-day readmission rates from SNFs. Collectively, this evidence demonstrates the need to consider the use of telehealth as a means to reduce 30-day re-hospitalization rates from these facilities.

While the evidence supports the use of telehealth as a means to improve outcomes for patients in SNFs, the background information provided in this project demonstrates that there are currently legal and regulatory barriers limiting the use of telehealth in practice (Gajarawala & Pelkowski, 2021). As a result, providers may lack vital knowledge and information regarding the use of telehealth to improve care coordination and to help reduce readmission rates in all care settings (Gajarawala & Pelkowski, 2021). Improving staff knowledge of telehealth and its benefits for patient care, including reducing readmission rates and care costs, is therefore vital for enhancing patient care. Based on this evidence, an educational program to enhance knowledge of telehealth among staff working at a SNF was proposed.

Purpose

The purpose of this DNP project was to develop, implement, and evaluate the impact of a new evidence-based educational program for the SNF nursing staff focused on the use of telehealth to prevent resident rehospitalizations. The project assessed nurses' knowledge, attitudes, and use of telehealth when caring for a SNF resident experiencing a change in status and promoted the adoption and use of this technology in practice. The research questions (RQ) in this DNP project were as follows:

- RQ1. What are the attitudes and knowledge of nursing staff toward the use of telehealth in skilled nursing facilities?
- RQ2. What is the impact of an educational intervention on nursing staff knowledge, attitudes, and use of telehealth?

Current Telehealth Program

The organizational structure of the current telehealth program operating at the practice site for this QI project includes a physician and NPs that are available 24 hours, seven days per week. The center also employs other specialty nurses and technicians, but their responsibilities are not associated with the SNF modalities unless they are needed in a specific case as part of the teamwork and effort within the center. In addition to the telehealth services, these professionals from the telehealth center perform medication reconciliation for all hospital patients admitted to the facility within 24 hours. The telehealth center is also equipped with multiple monitors that allow practitioners to see the patient through a camera in the specific patient's room and to document in other monitors at the same time. Other monitors show test results, patient monitors, etc. The

SNF is provided with one iPad on a stand that the nurse takes to the room of the patient in need of the telehealth consultation if requested by the practitioner responding to the call.

When any SNF nurse notes a specific change in the patient's condition that may trigger a hospitalization, they have the option to utilize the services and may call the telehealth center, using the information requested in the "situation, background, assessment, and recommendation" (SBAR) communication note. The NP or physician responds to the call, obtains reports, and requests the use of the iPad camera if needed for the consult. The practitioner takes the decision and provides orders if not considering a need for hospitalization. Orders are given verbally to the staff nurse. Documentation occurs in an electronic post-acute care consult note, which is sent after the visit by fax with signed orders to the facility. A specific facility identification number (FIN) identifies the patient in the documentation within the two facilities.

Operational Definitions

To improve understanding of this QI project, the following terms are defined.

Skilled Nursing Facilities

According to the Centers for Medicare and Medicaid Services (2018), a SNF is a facility that primarily provides skilled nursing care, rehabilitation, and other related disciplines to its residents, not primarily mental health. Furthermore, SNFs "provide a level of care distinguishable both from the level of intensive care furnished by a general hospital and from the level of custodial" (CMS, 2018).

Telehealth

According to Gajarawala and Pelkowski (2021), telehealth is a virtual form of delivering health care services virtually using different types of technology such as

phones, tablets, and computers. It includes consultations, testing, and monitoring conditions remotely among others.

Electronic Post-Acute Care (ePAC) Workflow Tool

Electronic post-acute care (ePAC) is a patient-centered workflow tool currently used within this healthcare setting (SNF site) to help identify the specific degree/acuity of changes in patient health. These changes are categorized by color codes and can indicate changes as being life-threatening (color red), urgent (yellow), or just stable but with a specific need or issue (green). Each category prompts a set of guidelines to be followed by the SNF nurse. The colors also help identify the type of call or call status at the telehealth center.

SBAR Communication Note

SBAR is the acronym for situation, background, assessment, and recommendation. According to The Joint Commission (2013), SBAR can be utilized to improve communication and has proven to be a powerful and effective resource. The SBAR communication note is an approved hospital form currently used in the practice setting and completed by the facility nurse before calling the telehealth center. The note requires documentation of the most important patient details. The facility nurse uses this form to provide a report to the practitioner at the telehealth center regarding the patient's health status. Based on information included in the form, the telehealth practitioner evaluates the case and provides orders and treatment recommendations.

Conceptual Underpinning and Theoretical Framework

This project was guided by the transtheoretical model (TTM) of change developed by Drs. Prochaska and DiClemente while at the University of Rhode Island

(Prochaska & DiClemente, 1982). TTM was first used to explain readiness to stop behaviors such as smoking, but in recent years, it has also been used to look at other behavior change like clinicians' readiness to change. The TTM, also known as the stages of change model, suggests that people undergo stages of change including pre-contemplation, contemplation, preparation, action, and maintenance. In the pre-contemplation stage, individuals lack an accurate understanding of the need for change (Hashemzadeh et al., 2019). The contemplation stage is characterized by the intention to change in the near future, careful consideration of the negative and positive effects of change, and recognition of the effects of negative behavior or practice. In other words, the contemplation stage occurs when an individual recognizes there is a problem and is contemplating change, but they are not prepared to act. In the preparation stage, individuals anticipate actualizing a behavior change in the next month. They begin taking incremental steps towards change adoption. This stage leads to the real actualization of the intended change. Lastly, the maintenance stage involves sustained change for more than 6 months and aims to sustain the behavior by working towards preventing relapse to old practices (Hashemzadeh et al., 2019).

TTM was used to guide both the development of survey items and the educational module. TTM concepts were used to develop a realistic scenario (i.e., see themselves performing the behavior) so as to move the participants along the stages of change from the pre-contemplation to contemplation and then action. Prochaska and DiClemente (1984) suggested that the effectiveness of the change process will differ according to persons' readiness for change adoption. As applied to the current QI project, the educational module aimed to educate, prepare, and motivate the SNF staff nurses to "act"

and use the available telehealth program to reduce re-hospitalizations. The QI program focused on raising awareness about the importance of considering the use of telehealth in SNFs in facilitating evidence-based resident care and reducing re-hospitalizations.

Methodology

The DNP project used a quasi-experimental pre-post design to evaluate the impact of an educational module. The project protocol was approved by the Florida International University Institutional Review Board (IRB) (Appendix C). SNF staff at one facility using telehealth services were eligible for the study project. Participants attended a web-based, pre-recorded educational module focused on increasing knowledge and use of telehealth to prevent rehospitalizations. Participant knowledge and attitudes about the use of telehealth for resident care were assessed before the educational program (pre-intervention) and 2 weeks following the intervention (post-intervention). Additionally, telehealth use service data was analyzed for the 2 months before and 2 months after the educational program. Comprised in this section is a detailed review of the methodology including an overview of the setting, participants, sampling, procedures, measures, data management and analysis, and a description of the educational intervention.

Project Setting

Participants were recruited from one private SNF in Miami, Florida with a capacity for 223 residents. The SNF uses telehealth services provided by a large private group of hospitals operating in South Florida. This group launched its first Telehealth Care on-demand services in 2016 and currently provides diverse types of patient care-based services, such as Telehealth-Intensive Care Unit (ICU), Telehealth-Progressive Care Unit (PCU), Telehealth-Neonatal Intensive Care Unit, Telehealth-Pediatrics,

Telehealth-Pharmacy, home care, remote consults for many specialties, disaster management, and transfer coordination among other sub-units. One of these modalities, specifically Telehealth-ICU/PCU, includes Telehealth-Post-Acute/SNF services. The SNF for this QI project implemented telehealth services in September of 2018 (Williams, 2019) for residents discharged from one of the hospitals affiliated with the telehealth center. The telehealth center received 40 telehealth calls from the SNF in the 11 months preceding the intervention (October 2020 to August 2021). This represents an average of 3.6 calls a month. However, during the project timeframe selected for evaluation (2 months prior to the intervention), only two calls were made each month.

Of the 40 calls made, 12 resulted in patient rehospitalization. Ten of these calls to the telehealth center were made to report a 911 call made and resident transfer to the hospital. Two rehospitalizations occurred after consultation with the telehealth practitioners. Reasons for telehealth calls included multiple medical issues including CHF decompensation, low oxygenation in a COPD patient, shortness of breath, abnormal sodium and creatinine levels, fever, worsening joint pain, and gastrointestinal (GI) symptoms such as GI bleed, abdominal pain, abdominal distention, and difficulty swallowing due to sore throat.

Participants and Sampling

A total of 52 nurses working at the SNF were eligible to participate in the QI project. Nurses included licensed practical nurses (LPNs), RNs, and nursing supervisors. Participants were recruited with an informational flyer (Appendix D). The flyers were rolled up and included a pen with an inspirational message “Nurses do it with Love and Care!”. All nurses that picked up the flyer received the pen regardless of whether they

decided to participate or not. Flyers were placed in a decorated box display in a common area of the first-floor information desk. Nurses were directed to respond to the DNP student (G.Q.) if interested and were then provided an informational letter (Appendix E). Nurses interested in participating were directed to the pre-intervention survey via the SurveyMonkey platform link (Appendix F, G)

Educational Program

The primary objective of the educational program was to educate the nursing staff about the use of the telehealth program and the potential benefits for residents and the facility. The educational program was developed in collaboration with the facility DON and the telehealth center director. The educational program was entitled "Rehospitalization Reduction by e-PAC Telehealth Program." The program included general information about the use of telehealth in SNF, statistics on readmissions, common conditions associated with rehospitalization, and implications for patients and the facility. Additionally, the program included information about the equipment, phone contact numbers, steps to follow, and a workflow tool (i.e., ePAC). The workflow ePAC provides nurses with guidance on how to identify a change in resident status, potentially indicating a need for rehospitalization, and how to use the telehealth services. The educational program provided the needed information and an organizational format for the information to be used when calling the telehealth center. The format used was SBAR as previously described. The program also provided examples of clinical vignettes and the steps to follow for each case. It ended with a message of encouragement to the nurses to lead the way and use of telehealth, and the link for the video showing the actual

telehealth center and the patient's benefits and examples of the advantages of its use in their care.

Procedures

This QI project used a pretest-posttest design to evaluate the educational program. First, a pre-intervention survey was administered, and two weeks following its completion, the educational program was made accessible to view in a training classroom at the facility. Second, the data from the telehealth service usage (2 months before and 2 months after the educational program) was analyzed and compared.

The pre-intervention survey was aimed to assess knowledge and attitudes about the use of telehealth within the nursing staff at the facility. All participants in the educational program were asked to send an email to the research protocol associate indicating that they have viewed the educational program. Participants were given 1 week to complete this task. If participants did not indicate that they had viewed the presentation within the 1-week timeframe, a reminder email was sent to complete the program within 72 hours and to notify the protocol associate. All participants that failed to indicate that they had completed the educational program were to be removed from the project. However, all volunteer nurses completed it. A week after watching the educational program, participants were sent a SurveyMonkey link to complete the posttest survey. Participants that failed to complete the post-intervention assessment were provided with a follow-up email requesting their completion of the assessment. All participants completed the posttest survey.

Measures

Two measures were used to assess the impact of the educational program: a survey and telehealth use data. The survey (Appendix G) assessed knowledge and attitudes about the use of telehealth (i.e., same survey was administered before and after the educational program). The survey included demographic and professional nursing descriptive items including participant age, gender, race, and ethnicity. Additional data items included the type of nursing license (RN, LPN), nurse degree, status as either staff or supervisor, years of nursing licensure, patient-nurse ratio, and years employed at the facility. The demographic survey was used to provide a comprehensive description of the sample acquired for this project.

Survey measures reflected important concepts of the TTM used as the framework for this QI project. The surveys used a Likert scale, and each item asked participants to rate their confidence level of *not confident at all, not very confident, somewhat confident, very confident,* and *extremely confident.* They were developed with support from the facility DON, the telehealth center director, and a nurse practitioner currently working in the telehealth center. The knowledge/attitude survey was developed based on the current literature regarding nurses' knowledge about the telehealth program. All 10 questions presented were the same in both surveys but given in different order to prevent bias. Participants were asked five questions about their knowledge of the current telehealth program, policy and procedure in place, equipment used and its location within the facility, and the workflow ePAC tool. The other five questions evaluated their perceived confidence in giving report to the telehealth practitioners, carrying out orders from the

telehealth center, using the equipment, identifying actions to take as per ePAC tool, and being able to describe the ePAC criteria.

Data Management and Analysis

All data was collected through the SurveyMonkey platform. SurveyMonkey provides an encrypted platform for the storage of data to ensure project participant privacy and confidentiality (Halim et al., 2018). It was not possible to link an individual nurse participant to their survey responses. Data was entered manually from SurveyMonkey to Excel spreadsheets. Demographic information, as well as pre-and post-intervention data results, were analyzed. Pre-intervention data was compared to post-intervention data. The five categories used in the surveys were combined into two categories. One category combined *not confident at all, not very confident,* and *somewhat confident* survey responses. The other category combined the *very confident* and *extremely confident* survey responses. The research questions were answered with the Fisher Exact Test. The Fisher Exact Test was used as all 2x2 tables had at least one cell with a number less than five. An online Fisher Exact Test calculator was used to conduct the data analysis. The statistical significance level was set at 0.05.

Results

Approximately one out of four eligible nurses at the facility participated in the QI project and completed the pre- and post-survey (N = 14, 27%). Demographic results are summarized and displayed in Table 1. All the nurse participants were RNs between the ages of 25-59 years old, 78.57% (n = 11) were women, 71.43% (n = 10) were nurse staff, and 28.57% (n = 4) were supervisors. Table 2 displays the pre-intervention survey organized by questions (Q), Q1 to Q5 focus on knowledge, and Q6 to Q10 on perceived

confidence. See Appendix G for the survey (pre-intervention and repeated post-intervention). At baseline, half the respondents (n = 7) were *not confident at all* to *somewhat confident* about their current knowledge of the facility telehealth program (Q1), and half of the respondents were *not confident at all* to *somewhat confident* about their knowledge of the facility telehealth program policy and procedure (Q2). Table 3 displays the post-intervention survey organized by knowledge items (Q1 to Q5) and perceived confidence items (Q6 to Q10). In the post-intervention, 100% of the respondents (n = 14) were *very confident* to *extremely confident* about their knowledge of the facility telehealth program and related policy and procedure.

Tables 4 to Table 13 display the Fisher exact statistical test comparisons conducted in comparing the survey items pre versus post-intervention. There was statistically significant improvement (pre- versus post-survey) in both, knowledge about the facility telehealth program (Q1) (Fisher exact test statistic = 0.0058) and knowledge about the facility telehealth program policy and procedure (Q2) (Fisher exact test statistic = 0.0058). As shown in Tables 4 and 5, these results are significant at $p < .05$. Additionally, there was a statistically significant ($p < .05$) improvement (pre- versus post-survey) in knowledge about the ePAC workflow (Q5, See Table 8), confidence in their skills in identifying action to take by using the ePAC workflow (Q9, See Table 12), and confidence describing the three different criteria used on the ePAC workflow tool based on the patient's change in condition (Q10, See Table 13). No other survey items demonstrated a statistically significant change pre versus post-intervention. There was statistically significant improvement (pre- versus post-survey) in five of the questions (50%) as described above.

There was no increase in the number of telehealth calls made in the 2 months after the intervention. The trend continued with a mean of two calls per month. One call resulted in rehospitalization.

Discussion

The primary finding from this QI project was that a brief, web-based educational program can increase nurses' knowledge and confidence regarding the use of a telehealth program for SNF residents. These findings are consistent with the related literature. Kowitlawakul (2011) demonstrated an education program increased nurses' subjective knowledge and self-efficacy regarding the use of telehealth, and Van Houwelingen et al. (2020) reported educating nurses is a useful strategy to overcome barriers in the use of telehealth.

Following this QI project, ongoing efforts to support the appropriate use of telehealth are indicated as the actual use of telehealth did not increase. Although, it is promising that overall nurses' perceptions towards telehealth are positive, indicating their willingness to use telehealth in the provision of nursing care (Bashir & Bastola, 2018). In interpreting these findings, it should be noted that there was a high level of confidence and knowledge about telehealth at baseline among participants. There was improvement across all survey items post educational program (see Table 3) observed, but in part due to the high levels of knowledge and confidence at baseline (See Table 2), a statistically significant improvement was not observed.

Consistent with TTM, it appears that following the educational program, nurse participants are better prepared to use telehealth with their residents, but adequate time to support nursing staff learning and development of clinical competencies for identifying

conditions and actions are needed. An understanding of the telehealth concept, processes involved, and optimal strategies have been identified as key factors to improve patient outcomes (Kitsiou et al., 2015). Furthermore, advanced patient monitoring, timely consultations to manage patients' medical conditions to meet their unique health needs, and promptly addressing emergency medical situations are also needed (Clark et al., 2017).

SNF 30-day readmissions constitute a general measure of care quality and value to patients along the care continuum (Vasilevskis et al., 2017). Multiple factors are contributing to the high re-hospitalization rate among SNF residents including inadequate inpatient care, staffing shortages, lack of adequate protocols for discharge planning, early discharge, poor care transitions, deficiencies in follow-up procedures, and inadequate communication between facilities (Gupta et al., 2019).

Implications for Advance Nursing Practice

This project included the leadership of the advanced practice registered nurse (G.Q.), a nursing scientist (director of the telehealth center), and all the participants were nurses. One of the crucial roles of a DNP-prepared nurse is the unique capacity of translating evidence into practice. The leadership skills to review, develop, and implement evidence-based care protocols are consistent with the role of an advanced practice nurse. Findings from a study conducted by Mileski et al (2020) indicated that advanced practice nurses’ competencies can be leveraged to reduce rehospitalizations and implement established measures to assess quality improvement initiatives.

As previously described, focused and timely SNF resident care for high-risk patients with multiple medical conditions such as HF decompensation, COPD

exacerbations, pneumonia, sepsis, post-CVA, post-MI, post-surgical after fractures or elective surgeries due to falls or OA, and other causes (Burke et al., 2015; McCarthy et al., 2020) is indicated following hospitalizations. Reminders and boosters as a component of staff education focused on developing clinical competencies is needed for specific high-risk conditions to avoid readmission to the hospital. Developing an effective collaboration between the telehealth center and the SNF nurses should also be considered. The telehealth center staff can potentially assist with the development of case studies, in-services, reminders, notifications on changes or updates of the program, and simulation scenarios. Furthermore, inter-facility virtual discussions monthly to evaluate each of the calls made to the telehealth center will provide cyclic feedback within both organizations.

Limitations

A number of limitations should be considered in interpreting these results. First, only 27% of the total nurses at the facility participated. It is unknown if the non-participants are different in their telehealth knowledge and confidence than the self-selected participants. Second, the educational program was provided virtually due to the COVID-19 pandemic. Even though the communication methods (telephonic and via emails) were always open and available, an in-person approach may have increased recruitment, and a live personal presentation may have also been more effective and engaging than a recorded web-based educational module. Third, one of four participants was a nurse supervisor. It is unknown if supervisors should receive additional training to be able to train their staff effectively. Finally, the short timeframe (2 months follow-up

period after the educational program) may have been too short period to assess the impact of the educational program.

Conclusions

Nurses are at the forefront of caring for residents in long-term care facilities. It is probable that only recently, as a result of the pandemic, nursing students are receiving education on how to effectively deliver telehealth services (Edirippulige, & Armfield, 2017). Therefore, healthcare facilities, including hospitals and SNFs, using telehealth services should consider developing and implementing training for staff. Identifying resident problems early with monitoring and early treatment will benefit these individuals, their families, and will potentially reduce cost.

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Appendix A: Literature Search Table

Search Items	Description
Search terms	Post-acute care readmissions from SNFs, telehealth in preventing readmissions from SNFs, telehealth programs in SNFs
Searched databases	MEDLINE, ProQuest, CINAHL, PubMed, and Cochrane Library
Boolean operators	AND, NOT, or AND NOT were applied.
Journals/articles searched	Full text with abstracts.
Journal/articles years searched	A period within the last five years (2015-2020).
Types of the included studies	Case studies, qualitative, quantitative, cohort studies, and systematic reviews.
Inclusion criteria	Studies within the last 5 years, peer-reviewed, with full text available and with abstract.
Exclusion criteria	Article not peer-reviewed, outside the last 5-year limitation, without full text, and an abstract.

Appendix B: Literature Matrix

Author(s) /Year	Study Design	Sample	Interventions	Study Findings
Archbald-Pannone, L. R., Harris, D. A., Albero, K., Steele, R. L., Pannone, A. F., & Mutter, J. B. (2020)	Case study	77 facilities were contacted: 28 local facilities and 49 regional facilities. 35 facilities participated (not all participated in all interventions)	Geriatric Engagement and Resource Integration in Post-Acute and Long-Term Care Facilities (GERI-PaL) program Telemedicine program implemented in two facilities. Project elements: Project ECHO, nursing liaisons, infection advisory consultation, telemedicine consultation, and resident social contact remote connections.	Improved support for patients with complex medical conditions in PA/LTC facilities Decreased mortality rate related to COVID-19 in facilities that implemented the program The initiative improved care in long-term healthcare facilities and enhanced better care coordination through telemedicine.
Chess, D., Whitman, J. J., Croll, D., & Stefanacci, R. (2018)	Case Study	365-bed capacity SNF in Brooklyn, New York	An after-hours physician coverage service enabled by technology, TripleCare (TC), to prevent avoidable hospitalizations	83% of patients cared for by using telemedicine during the service year were treated on site. 91 patients avoided hospitalizations. In the enlisted SNF, Medicare and other payers' cost savings exceeded an estimated $1.55 million. Study's results indicated that telemedicine was effective in reducing hospitalizations, healthcare costs, and staff performance.

Hofmeyer, J., Leider, J. P., Satorius, J., Tanenbaum, E., Basel, D., & Knudson, A. (2016)	Case study	20 long-term care facilities	Implementation of an e-LTC long-term care software facilitating two-way video communication, coupled with hiring advanced practice nurses and RNs.	The e-LTC intervention improved consultations by telemedicine and decreased transfers from long-term care facilities to hospitals by 23%.
O'Connor, M., Asdornwised, U., Dempsey, M. L., Huffenberger, A., Jost, S., Flynn, D., & Norris, A. (2016)	Case Study	Penn Care Home Health Agency	Implementation of a telehealth program based on the transitional care model and supported by a 4G wireless system	Telehealth was correlated with a decrease in all-cause 30-day readmission for the mid-sized Medicare-certified home health agency which could be also applied to SNFs.
Gupta, S., Zengul, F. D., Davlyatov, G. K., & Weech-Maldonado, R. (2019).	Quantitative retrospective data analysis	2007-2012 American Hospital Association Annual Survey, Area Health Resources Files, CMS Medicare cost reports, and CMS Hospital Compare	General estimating equations (GEE) application in the data analyses	GEE models showed that hospitals affiliated with HBSNFs had lower readmission rates for AMI and pneumonia.

Appendix C: IRB Exemption Approval Letter

FIU | FLORIDA INTERNATIONAL UNIVERSITY

Office of Research Integrity
Research Compliance, MARC 414

MEMORANDUM

To: Dr. Ellen Brown
CC: Geisly Quintana

From: Maria Melendez-Vargas, MIBA, IRB Coordinator

Date: May 21, 2021

Protocol Title: "Increasing Skilled Nursing Facility Staff Knowledge and Use of a Telehealth Program to reduce Re-hospitalizations"

The Florida International University Office of Research Integrity has reviewed your research study for the use of human subjects and deemed it Exempt via the **Exempt Review** process.

IRB Protocol Exemption #: IRB-21-0183 **IRB Exemption Date:** 05/19/21
TOPAZ Reference #: 110085

As a requirement of IRB Exemption you are required to:

1) Submit an IRB Exempt Amendment Form for all proposed additions or changes in the procedures involving human subjects. All additions and changes must be reviewed and approved prior to implementation.
2) Promptly submit an IRB Exempt Event Report Form for every serious or unusual or unanticipated adverse event, problems with the rights or welfare of the human subjects, and/or deviations from the approved protocol.
3) Submit an IRB Exempt Project Completion Report Form when the study is finished or discontinued.

Special Conditions: N/A

For further information, you may visit the IRB website at http://research.fiu.edu/irb.

MMV/em

Appendix D: Informational Flyer

Riviera Health Resort Nurse

MAKE THE DIFFERENCE for your PATIENTS and FACILITY

****Volunteer Nurses are needed to participate in a Research Study that will assess the potential impact of an Educational Training Module in the attitudes and knowledge of the Nurses at your Facility regarding the current Telehealth Program****

- **Purpose**: Educate nurses to effectively use the Telehealth Program between Riviera Health Resort and Baptist Health South Florida.

- **How to qualify**: All Riviera Health Resort nurses are welcome to participate.

- **What would you do:**
  1-Complete three (3) short surveys via SurveyMonkey about your knowledge, experience, and attitudes about the current Telehealth program.
  2-Watch a 20-25 minute Educational Training Module at your facility classroom.

- **How much time**: 35-52 minutes of your time while working your shift.

If you are interested in participating, please contact **Geisly Quintana**

Geisly Quintana MSN, APRN, FNP-C
DNP Student-Protocol Associate
Florida International University
Nicole Wertheim College of Nursing
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Principal Investigator
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Appendix E: Informational Letter

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INFORMATIONAL LETTER

Improving Skilled Nursing Facility Staff Knowledge in the Use and Advantages of a Telehealth Program to Reduce Re-Hospitalizations

Hello, my name is Geisly Quintana. You have been chosen at random to be in a research study that will assess the potential impact of an educational training module in the attitudes and knowledge of the nurses at Riviera Health Resort regarding the current Telehealth program with Baptist Health South Florida. The purpose of this improvement project is to educate the nurses to effectively use the Telehealth Program to help deliver evidence-based care, improve health outcomes, decrease overall healthcare costs, and reduce Medicare monetary penalties for 30-day post-discharge readmissions.

If you decide to be in this study, you will be one of about 52 volunteer participant nurses from Riviera Health Resort. Participation in this study will take from 35-52 minutes of your time. If you agree to be in the study, I will ask you to do the following things:

1. Complete the Demographic Survey via SurveyMonkey
2. Complete the Pre-Knowledge and Perception Survey via SurveyMonkey.
3. Complete/watch the Educational Training Module (PowerPoint Presentation). It will be available/ready to watch at your facility classroom. Your DON will be provided with the presentation and he has authorized you to watch it while on your shift.
4. You will have a week to do the module. There is no test associated to the presentation.
    - Send an acknowledgement that you have completed the module to protocol associate email gquin040@fiu.edu or a text to 786-474-8960
    - Do not include name or any personal information.
5. Complete the Post-Knowledge and Perception Survey via SurveyMonkey.
6. If you provide your phone number, you agree to the option of receiving surveys via your phone (quicker option). Message will come from researcher's number 786-474-8960.

There are no foreseeable risks or benefits to you for participating in this study. It is expected that this study will benefit you directly as you will receive education that will impact your patient's health outcomes and decrease their rehospitalizations chances. Receiving additional knowledge in the Telehealth program and its use will improve your

capabilities in the decision-making process and rapid response when you have a resident's change in condition during your shift. If this study findings prove to be successful, it can be replicated by offering it to all nurses in your facility. It is aimed to provide a cost-effective solution to both facilities, to help decrease the number of patients rehospitalizations and to improving patient's health outcomes. In addition, other facilities can follow your facility lead and start using the program aiming to achieve same positive outcomes.

There is no cost or payment to you. If you have questions while taking part, please stop me and ask.

You will remain anonymous. You will not need to provide your name, just an email or a phone number where survey links will be delivered. The study will have minimal to none breach of confidentiality due to its nature. The information from your surveys are confidential as there will be no link associated to your email or phone once your surveys are submitted.

If you have questions you may contact protocol associate Geisly Quintana by phone at 786-474-8960 or by email at gquin040@fiu.edu.

Principal Investigator of this study is FIU Professor Dr. Ellen Brown ebrown@fiu.edu

If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

Your participation in this research is voluntary, and you will not be penalized or lose benefits if you refuse to participate or decide to stop. You may keep a copy of this form for your records.

Appendix F: Demographic Survey

1-What is your age?

_____18-24 Years _____25-59 Years _____60+ Years

2-What is your gender?

Female ____ Male____ I prefer not to answer_____

3-Which race/ethnicity better describe you?

_____ Native American or Alaskan Native

_____Asian/Pacific Islander

_____Black American or African American

_____Hispanic/Latino

_____White Caucasian

_____I prefer not to answer or other. If other, specify_____

4-Which nursing license type you possess? Please, select only the one for the highest degree.

LPN _____ RN _____ APRN _____

5-Which nursing degree have you obtained? Please, select only your highest nursing degree.

LPN Certificate _____ADN/ASN _____ BSN _____ MSN_____ DNP_____

6-How many years have you had your nursing license? _____

7-How many years have you been working in this facility? _____

8-What is the Nurse/Patient Ratio in your unit/floor? _____

9-What is your position in this facility?

Nurse Staff _____ Nurse Supervisor_____

Appendix G: Pre-/Post-Intervention Survey

Please rate your knowledge and how confident you are about the current telehealth program between Riviera Health Resort Facility and Baptist Health South Florida.

Knowledge

1. I know about the current Telehealth Program

- Not confident at all
- Not very confident
- Somewhat confident
- Very confident
- Extremely confident

2. I know about the Riviera Health Resort Policy & Procedure in place for Telehealth Program

- Not confident at all
- Not very confident
- Somewhat confident
- Very confident
- Extremely confident

3. I know about the equipment used for the program (iPad)

- Not confident at all
- Not very confident
- Somewhat confident
- Very confident
- Extremely confident

4. I know where to find the equipment in case of need

- Not confident at all

- Not very confident
- Somewhat confident
- Very confident
- Extremely confident

5. I know what ePAC workflow tool is

- Not confident at all
- Not very confident
- Somewhat confident
- Very confident
- Extremely confident

Perceived Confidence

6. I feel confident calling and giving report to the Telehealth Center

- Not confident at all
- Not very confident
- Somewhat confident
- Very confident
- Extremely confident

7. I feel confident taking and carrying orders from the Telehealth Center Physician/Nurse Practitioner

- Not confident at all
- Not very confident
- Somewhat confident
- Very confident
- Extremely confident

8. I feel confident using the telehealth equipment and daily log in requirement

- Not confident at all

- Not very confident
- Somewhat confident
- Very confident
- Extremely confident

9. I feel confident with my skills in identifying the action to take by using the ePAC workflow tool.

- Not confident at all
- Not very confident
- Somewhat confident
- Very confident
- Extremely confident

10. I feel confident describing the three different criteria used on the ePAC workflow tool based on the patient's change in condition identified

- Not confident at all
- Not very confident
- Somewhat confident
- Very confident
- Extremely confident

Thank you for your participation. Your response is anonymous and confidential.

Tables

Table 1

Demographic Characteristics of Program Participants

Descriptor	Group (n=14) n (%)
Age	
18-24 years	0 (0)
25-59 years	14 (100)
60+ years	0 (0)
Gender	
Male	3 (21.43)
Female	11 (78.57)
Race	
Native American or Alaskan Native	0 (0)
Asian/ Pacific Islander	0 (0)
Black American/African American	1 (7.14)
Hispanic/Latino	13 (92.86)
White Caucasian	0 (0)
Prefer not to answer	0 (0)
Nursing License	
LPN	0 (0)
RN	14 (100)
APRN	0 (0)

Highest Nursing Degree	
LPN Certificate	0 (0)
ADN/ASN	6 (42.86)
BSN	7 (50)
MSN	1 (7.14)
DNP	0 (0)
Years with Nursing License	
Less than 1 year	0 (0)
1-2 years	1 (7.14)
+2-5 years	2 (14.29)
+5-7 years	2 (14.29)
+7-10 years	5 (35.71)
+10 years	4 (28.57)
Years worked in the Facility	
Less than 1 year	0 (0)
1-2 years	1 (7.14)
+2-5 years	5 (35.71)
+5-7 years	3 (21.43)
+7-10 years	5 (35.71)
+10 years	0 (0)
Patient Ratio	
18:1	3 (21.43)
19:1	2 (14.29)

25:1	6 (42.86)
31:1	2 (14.29)
37:1	1 (7.14)
Position in Facility	
Nurse Staff	10 (71.43)
Nurse Supervisor	4 (28.57)

Table 2

Pre-Intervention Table (N = 14)

	Not Confident at all to Somewhat Confident *n* (%)	Very Confident to Extremely Confident *n* (%)
Q1. Telehealth Program	7 (50)	7 (50)
Q2. Facility Policy	7 (50)	7 (50)
Q3. About Equipment	2 (14.29)	12 (85.71)
Q4. Equipment Location	2 (14.29)	12 (85.71)
Q5. ePAC Tool	5 (35.71)	9 (64.29)
Q6. Giving Report	3 (21.43)	11 (78.57)
Q7. Taking Orders	2 (14.29)	12 (85.71)
Q8. Using Equipment/Log in Requirement	3 (21.43)	11 (78.57)
Q9. Skills Identifying Actions	6 (42.86)	8 (57.14)
Q10. Describing ePAC Criteria	6 (42.86)	8 (57.14)

Note. Q (Question from Survey)

Table 3

Post-Intervention Table

	Not Confident at all to Somewhat Confident	Very Confident to Extremely Confident
Q1. Telehealth Program	0 (0)	14 (100)
Q2. Facility Policy	0 (0)	14 (100)
Q3. About Equipment	0 (0)	14 (100)
Q4. Equipment Location	0 (0)	14 (100)
Q5. ePAC Tool	0 (0)	14 (100)
Q6. Giving Report	0 (0)	14 (100)
Q7. Taking Orders	0 (0)	14 (100)
Q8. Using Equipment/Log in Requirement	0 (0)	14 (100)
Q9. Skills Identifying Actions	0 (0)	14 (100)
Q10. Describing ePAC Criteria	0 (0)	14 (100)

Note. Q (Question from Survey)

Table 4

Fisher Exact Test Calculator for Q1

	Not Confident at all to Somewhat Confident	Very Confident to Extremely Confident	*Margin Row Totals*
Unmatched Pre-Intervention	7	7	14
Unmatched Post-Intervention	0	14	14
Marginal Column Totals	7	21	28 (Grand Total)

Note. The Fisher exact test statistic value is 0.0058. The result is significant at $p < .05$.

Table 5

Fisher Exact Test Calculator for Q2

	Not Confident at all to Somewhat Confident	Very Confident to Extremely Confident	*Margin Row Totals*
Unmatched Pre-Intervention	7	7	14
Unmatched Post-Intervention	0	14	14
Marginal Column Totals	7	21	28 (Grand Total)

Note. The Fisher exact test statistic value is 0.0058. The result is significant at $p < .05$.

Table 6

Fisher Exact Test Calculator for Q3

	Not Confident at all to Somewhat Confident	Very Confident to Extremely Confident	*Margin Row Totals*
Unmatched Pre-Intervention	2	12	14
Unmatched Post-Intervention	0	14	14
Marginal Column Totals	2	26	28 (Grand Total)

Note. The Fisher exact test statistic value is 0.4815. The result is not significant at $p < .05$.

Table 7

Fisher Exact Test Calculator for Q4

	Not Confident at all to Somewhat Confident	Very Confident to Extremely Confident	*Margin Row Totals*
Unmatched Pre-Intervention	2	12	14
Unmatched Post-Intervention	0	14	14
Marginal Column Totals	2	26	28 (Grand Total)

Note. The Fisher exact test statistic value is 0.4815. The result is not significant at $p < .05$.

Table 8

Fisher Exact Test Calculator for Q5

	Not Confident at all to Somewhat Confident	Very Confident to Extremely Confident	*Margin Row Totals*
Unmatched Pre-Intervention	5	9	14
Unmatched Post-Intervention	0	14	14
Marginal Column Totals	5	23	28 (Grand Total)

Note. The Fisher exact test statistic value is 0.0407. The result is significant at $p < .05$.

Table 9

Fisher Exact Test Calculator for Q6

	Not Confident at all to Somewhat Confident	Very Confident to Extremely Confident	*Margin Row Totals*
Unmatched Pre-Intervention	3	11	14
Unmatched Post-Intervention	0	14	14
Marginal Column Totals	3	25	28 (Grand Total)

Note. The Fisher exact test statistic value is 0.2222. The result is not significant at $p <$ .05.

Table 10

Fisher Exact Test Calculator for Q7

	Not Confident at all to Somewhat Confident	Very Confident to Extremely Confident	*Margin Row Totals*
Unmatched Pre-Intervention	2	12	14
Unmatched Post-Intervention	0	14	14
Marginal Column Totals	2	26	28 (Grand Total)

Note. The Fisher exact test statistic value is 0.4815. The result is not significant at $p <$ .05.

Table 11

Fisher Exact Test Calculator for Q8

	Not Confident at all to Somewhat Confident	Very Confident to Extremely Confident	*Margin Row Totals*
Unmatched Pre-Intervention	3	11	14
Unmatched Post-Intervention	0	14	14
Marginal Column Totals	3	25	28 (Grand Total)

Note. The Fisher exact test statistic value is 0.2222. The result is not significant at $p <$ .05.

Table 12

Fisher Exact Test Calculator for Q9

	Not Confident at all to Somewhat Confident	Very Confident to Extremely Confident	*Margin Row Totals*
Unmatched Pre-Intervention	6	8	14
Unmatched Post-Intervention	0	14	14
Marginal Column Totals	6	22	28 (Grand Total)

Note. The Fisher exact test statistic value is 0.0159. The result is significant at $p < .05$.

Table 13

Fisher Exact Test Calculator for Q10

	Not Confident at all to Somewhat Confident	Very Confident to Extremely Confident	*Margin Row Totals*
Unmatched Pre-Intervention	6	8	14
Unmatched Post-Intervention	0	14	14
Marginal Column Totals	6	22	28 (Grand Total)

Note. The Fisher exact test statistic value is 0.0159. The result is significant at $p < .05$.