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Patient Satisfaction with Nurse Versus Non-Nurse Post-Discharge Outreach

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Patient Satisfaction with Nurse Versus Non-Nurse Post-Discharge Outreach

A DNP Project

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Degree of

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By

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Dedication

I dedicate this project to my family; my son Osahon Adonri, daughter Iyonawan Adonri, and my sister Linda Egbon for their endless support and encouragement throughout my educational pursuit. They are the wind beneath my wings.

Abstract

In today's current healthcare environment, there has been an extensive focus on patient satisfaction, and healthcare leaders struggle with the options of utilizing a registered nurse or a non-nurse when making outreach follow-up calls to recently discharged patients. Healthcare leaders find that designing, implementing and managing an efficient telephone outreach program can be challenging, however, this has become a necessary aspect of the patient continuum of care plan. Studies demonstrate that patient follow-up post-discharge increases patient satisfaction and their compliance with post-discharge instructions, thereby reducing readmission rates and emergency room visits (Meek, Williams, & Unterschuetz (2018). This quality improvement project assessed the impact of the nurse versus the non-nurse led telephone outreach to adult patients discharged from an acute care facility within six weeks. Using a quantitative design, a simple random sampling of 55 patients pre-project and 55 patients post-discharge who were discharged from an acute care facility was done. Nurse Case Managers in a managed care organization carried out the outreach calls to the patients. Key findings showed that nurse-led outreach calls increased patient satisfaction, however, the nurses will need to be well versed in the patient's diagnosis, and to save cost, healthcare administrators may consider employing Licensed Practical Nurses who will be under the supervision of the Registered Nurse.

Keywords: Patient Satisfaction, Nurse, Non-Nurse, Telephone Outreach, Post-Discharge.

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Chapter 1

Introduction and Background

Patient satisfaction plays a significant role in the success of healthcare organizations as it affects the organization, its leaders and employees. This quality improvement (QI) project will assess the impact of a nurse versus non-nurse follow-up call to adult patients post-discharge from an acute care facility on patient satisfaction rate.

In the case management department at a managed care organization which is the site for this QI project, results from a recent survey showed that approximately 75% of patients were dissatisfied with the follow-up service they received after discharge from the hospital, and about 40% did not understand their discharge instructions or follow-up on their outpatient referral. This patient dissatisfaction started when the department contracted with a vendor abroad to have non-nurses make outreach calls to the recently discharged patients. During the call, if the patient had health-related questions, the representative referred the patient to a nurse. This increased the turn-around-time for patients to get their questions and concerns resolved which led to patient dissatisfaction and increased the risk of post-discharge complications. The department leaders identified this as an area of opportunity for improvement and after a root cause analysis, found that the main driver for the dissatisfaction was the lack of clinical knowledge of the offshore phone representatives who are non-nurses.

Epidemiology

Improving patient satisfaction and minimizing post-discharge adverse events for patients continues to be a high priority in the United States (US) Health Care system. Patient harm is a significant emotional and financial burden to the patient, their family, and the

healthcare system. The US healthcare system spends about $575 billion a year on post-discharge adverse events and the incident rate for the post-discharge adverse event is 19%, which is five times higher than in-hospital adverse events (Vishal & Bishop-Royse, 2018). Evidence shows an increase in customer satisfaction when nurses make patient outreach calls after discharge. There is also a decrease in preventable and ameliorable adverse events post-discharge which are an increased expense to the healthcare system (Forster, Murff, Peterson, Gandhi, & Bates, 2003).

Gaps in Literature

There is limited literature comparing non-nurse outreach to a nurse outreach. However, there is overwhelming literature that shows the benefit of nurse-led outreach to recently discharged patients. Also noteworthy is that few studies have addressed the impact of Telephone Follow-up (TFU) from the perspective of the nurse. In a randomized controlled trial by Clari et al., (2015) evaluating the impact of TFU to patients after undergoing orthopedic surgery, study results showed that a nurse-led follow-up intervention had a significant decrease in post-discharge problems and an increase in patient satisfaction.

Methodology

Therefore, a quantitative study using the pretest-posttest design was selected for this QI project. The proposed project will use the Telemedicine Satisfaction Questionnaire developed in 2003 by Yip, Chang, Chan, and Mckenzie. The original questionnaire was adjusted to ten questions to align more with the study expectations and get an accurate look at the outcome of the survey data comparison of the non-nurse follow-up outreach calls and the nurse-led follow-up outreach phone calls. The updated questionnaire was sent to the patients for completion to assess their review of the non-nurse follow-up before the start of

the QI project. This author used the patient's responses as the pre-data for this project. The survey was created in Survey Monkey and electronically emailed to participants eight weeks before the start of the project for the non-nurse survey response and, in the last week of the project to evaluate the nurse follow-up responses of the telephone outreach. A simple random sampling was utilized to acquire 110 patients over three weeks; 55 pre and 55 post.

Assumptions

TFU has been shown to improve patient satisfaction and when led by a nurse, it can be assumed that there will be an increase in patient satisfaction and compliance with discharge instructions and a decrease in post-discharge adverse events. TFU can be cost-effective in potentially decreasing Emergency Department visits and hospital readmission (Gaines-Dillards, 2015). Also noteworthy is the increased government incentives to the healthcare organizations with higher patient satisfaction scores and decreased adverse events and readmission rates. Lastly, it is assumed that the patients will be able to clearly explain their health condition over the telephone and the nurses will accurately document the patient's symptoms, capturing and promptly addressing concerns.

Limitation

For the purpose of this study evaluating patient satisfaction with TFU, technical issues may occur such as poor telephone connection, internet connection, and malfunctioning equipment. Getting the nurse's cooperation may be a barrier as this initiative is a change in the nurses workflow and can result in resistance from some nurses. Furthermore, the project site was undergoing organizational restructuring based on subpar performances, this caused the author of this project to adjust the project start time and created added difficulties maintaining contact with the department director. Lastly, since the project site staff work in a

virtual environment, the lack of face-face contact can pose a possible barrier in communication and keeping the team engaged.

Purpose Statement

The purpose of this project is to evaluate patient satisfaction of nurse-led TFU calls as compared to non-nurse TFU over a six-week period with a focus on the patient satisfaction rate.

PICOT

In adult patients, 19 years and older, discharged within a week from an acute care facility, how will a nurse-led TFU compared to a non-nurse TFU impact patient's satisfaction rating within six weeks of discharge?

Chapter 2

Literature Review

This chapter addresses the literature review of nurses making outreach calls to patients compared to non-nurse outreach. The review will include sub-topics showing the impact of this telephone follow-up on patients, healthcare organizations, and non-nurse versus nurse outreach. Also included in this chapter will be a description of the theoretical framework chosen as a foundation for this literature review and Quality Improvement (QI) project.

Definition of Terms

For the purpose of this study, the term patient, customer, participants and responders may be used interchangeably because the term "customer" is how patients are referred to in the managed care organization which is the site for the QI project, and the participants and responders are the patients who were surveyed for the QI project. Also, the terms nurse follow-up and non-nurse follow-up can be defined as a nurse or non-nurse calling patients using a telephone to discuss the patient's understanding of their discharge instructions. The word "Nurse" and "Nurse Cases Manager" may be used interchangeable and represents a board-certified Registered Nurse in the United States. A "Non-Nurse" and "Claims Manager" may be used interchangeable as well. They are non-clinicians who prepare the claims for the nurses to review.

Theoretical Framework

The theoretical framework best suited to serve as a foundation for this QI project is the Donabedian theory. Donabedian (1966) was a health care theorist who introduced a conceptual framework in 1966 with an emphasis on structure, process, and outcome. This framework focus on assessing the quality of current methods clinicians use to deliver medical

care. Donabedian explains that there should be a distinction between the structure, process, and outcome and to have a better understanding of the quality of care, one needs to have a good understanding of the medical process.

The structure involves the physical environment, the individual, and the financial resources needed to deliver quality care. In this QI project, the structure is the managed care organization made up of the nurses who make the outreach calls; to include their skills set, the nurse to patient ratio, time of operation and, services provided such as acute health management and patient education (Fox & McCorkle, 2018). The activities involved in providing patient care to include patient and provider activities (Kash, Cheon, Halzack, & Miller, 2018).

The process includes activities such as training the nurses who make the outreach calls on communication skills, respectful and compassionate behavior. In addition, training is provided on patient preferences, needs and values, patient engagement, care coordination and continuation of care planning (Santana et al., 2018).

In a study by Kash et al. (2018) on measuring team effectiveness in a healthcare setting, the authors use the Donabedian's framework and note that outcome is the impact the care provided has on the patient. The outcome needs to be real and tangible, clearly showing the impact of the QI project implementation. The expected outcome of this QI project is an increase in customer satisfaction.

Search Strategy

A literature review was carried out to gather and examine available studies about post-discharge telephone follow-up (TFU) and its impact primarily on patient satisfaction and in preventing post-discharge adverse events and readmission. Articles were selected based on

their relevance to the topic and critical appraisal of the data source (Terry, 2018). The review of the literature included a search of various medical databases such as Medline, CINAHL, PubMed, and EBSCO for peer-reviewed journals. A search was also carried out in Google Scholar. The advanced search feature was used, filtering articles by date, full-text, and English language. Key terms used in the search field included *non-nurse*, *outreach*, *patient satisfaction*, *nurse outreach*, *hospital discharge*, and, *surveys*. Search results yielded 397 articles. Inclusion criteria were based on the publication date within the past seven years, research done in the United States, and outreach by a nurse and/or non-nurse using a telephone to adult patients 19 years and older, who were recently discharged from an acute care facility. This brought the number of articles to ten. Four of the ten studies were systematic literature reviews, three were randomized control trials, one was a quantitative analysis, another was a mixed (qualitative and quantitative) analysis, and one was a retrospective observational study.

Literature Review Appraisal

There are various ways to provide a person-centered follow-up; a face-face approach is ideal, however, that approach is not time-convenient or cost-effective for both the patient and the healthcare organization/provider (Clari et al., 2015). This literature review appraisal addressed the pertinent variables for this QI project which are the patients, healthcare facility and the nurse/non-nurse. This is because telephone follow-up has been shown to have an impact on all three. Schuller, Lin, Gamm, and Edwardson (2015) carried out a quantitative study to assess the impact of telephone follow-up in a large metropolitan hospital. Hospital leaders and nurses who carried out the post-discharge phone calls were interviewed anonymously. Interview results showed that the hospital staff was able to improve discharge instructions related to medication management, follow-up appointment reminders, and

answering patient questions. Also, the outreach calls gave the hospital feedback on what they could have done better, giving them ideas on process improvements. Lastly, the hospital saw an improvement in patient satisfaction scores which can be tied to the patients getting the outreach call and having their questions answered.

Patients. In today's healthcare environment, patients are discharged earlier from the hospital to their home, a transition that can lead to stress and anxiety for the patient and their loved ones (Lalor et al., 2015). One intervention that has been proven to ease the transition period is telephone follow-up.

The study conducted by Furuya et al (2013) on patients who had a myocardial revascularization and the impact of telephone follow-up post-discharge found that 75% of post-discharge issues occurred within the first 14 days after discharge. The authors conducted a systematic literature review and their search was narrowed down to seven studies, five of which showed evidence of the benefit of nurses making the telephone outreach. They concluded that since patient education is already a part of nursing care, having nurses make the outreach call is the best course of action to assess patient knowledge of discharge instructions, discuss concerns and encourage lifestyle changes. Also, in a clustered randomized control trial by Soong et al., (2014), study findings revealed that the decision to incorporate post-discharge phone calls should be based on patient factors such as disease complexity, patient support system, and the complexity of the care plan. Although, a single intervention using post-discharge telephone follow-up (TFU) by any hospital employee did not show an impact in reducing readmission rate or improving patient satisfaction. A more intensive approach by a care coordinating team to include repeated phone calls by a clinician is needed to significantly impact patient satisfaction and readmission rate. Gunter et al., (2016) conducted a systematic

literature review perusing 21 articles on the use of telemedicine for post-operative follow-up, and showed an increase in patient and provider satisfaction with reported outcomes of decreased time travel and cost savings to the patient. Additionally, a study by Gaines-Dillard (2015), supports a coordinated effort by clinicians, study results show that to reduce the risk of adverse events and increase patient satisfaction, there needs to be a coordination of various specialties in discharge planning and patients need to be contacted within a few days of discharge. Of the 59 patients included in the study, there was a noted 10-15% increase in patient satisfaction when TFU was made within a few days of discharge.

Healthcare Organizations. Improving patient satisfaction and minimizing post-discharge adverse events for patients continues to be a high priority in the US Health Care system. A literature review by Jayakody et al., (2016) examined the effectiveness of using TFU in reducing hospital readmission rates with one of the outcomes being increased customer satisfaction. The authors reviewed articles that solely used TFU, and articles that used TFU and other interventions such as pre and post-discharge instructions. Of the ten studies included in their review, five showed a decrease in hospital readmission rate within 30 days and an increase in patient satisfaction. The authors did note that all identified studies included other interventions with TFU. Furthermore, a classic prospective study at an academic hospital, with a sample size of 400 consecutive patients found that approximately 20% of patients experienced an adverse event within three weeks of discharge and about 20% of patients on Medicare are re-hospitalized within 30 days of discharge when no nurse-led follow-up was done (Agency for Healthcare Research and Quality, 2019). The most common were adverse drug events, post-discharge complications, procedural complications, and hospital-acquired infections; three-quarters of which could have been prevented with

medication reconciliation and continued engagement through follow-up phone calls post-discharge. With the introduction of *The Hospital Readmission Reduction Program*, penalties are given to hospitals such as withholding of their annual medical reimbursement due to excessive readmissions. Managed care organizations also have a stake in reducing adverse events and increasing customer satisfaction rates. These healthcare organizations are taking steps to engage with patients post-discharge on medication reconciliation, discharge instructions and facilitate communication with outpatient clinicians.

Nurse Versus Non-Nurse. There is limited literature comparing non-nurse outreach to a nurse outreach however, there is overwhelming literature that shows the benefit of nurse-led outreach to recently discharged patients. Also noteworthy is that few studies have addressed the impact of TFU from the perspective of the nurse. In a randomized controlled trial by Clari et al., (2015) evaluating the impact of TFU to patients after undergoing orthopedic surgery, study results showed that a nurse-led follow-up intervention had a significant decrease in post-discharge problems and an increase in patient satisfaction. Woods et al., (2019) mixed study systematic review findings demonstrated that nurse-led TFU interventions can potentially improve patient outcomes, with patient satisfaction as one of the strongest positive outcomes for the intervention. Alternatively, a study by Meek et al., (2018) suggests a collaborative approach to increase patient satisfaction post-discharge. The authors addressed the question on the use of a clinician to make post-discharge TFU or a trained non-clinical person who can answer the patient's questions at a non-clinical level. It was also noted that nurses do not always like making TFU because of their work demands and patients may not give true feedback when speaking with a nurse that cared for them. The study results

showed that the use of a third-party call center in making the post-discharge TFU may help to get an accurate patient satisfaction rate.

Gaps in Literature

At the current time, we know that TFU increases customer satisfaction rates and decreases adverse events post-discharge, but there continues to be an absence of studies testing the impact of a nurse-led outreach from a managed-care environment to post-discharged patients. Also, there is limited literature comparing non-nurse outreach to nurse outreach in a managed-care environment. The reviewed literature shows evidence that the use of a nurse in post-discharge TFU does increase patient satisfaction. Further study is needed to evaluate the specific criteria required for a successful TFU led by a nurse in a managed-care institution. This is because there are varied data on the need for additional intervention used in collaboration with TFU, and the right personnel to make the TFU to save on cost. Also lacking is the patient's perception of the most useful content of TFU. More research will need to be done to address these gaps in the literature.

A retrospective observational study was done to determine the effect of post-discharge TFU on patient's readmission rates. In the study, the patients received two telephone calls within 72 hours of discharge, with the nurses following a standard script. Study findings showed a limited impact on post-discharge phone calls for white participants, however, for non-white patients, there was a noted increase in patient satisfaction and a decrease in readmission rate. This may be because, in the United States, lower socioeconomic status in conjunction with race/ethnicity is associated with decreased access to healthcare and lower overall healthcare use. Providing an intervention such as the post-discharge TFU to these

groups of patients may attribute to the differing result noted in the study (Harrison, Auerbach, Quinn, Kynoch, & Mourad, 2014).

The gaps indicate further evaluation of nurse and non-nurse led TFU. Therefore, this QI project will address patient satisfaction rate with a nurse-led outreach telephone call compared to a non-nurse led outreach telephone call intending to increase the satisfaction rate of post-discharge patients with nurse outreach.

Chapter 3

Methods

This chapter provides a detailed explanation of the project design, and an overview of the action plan. Also discussed is the sampling method to include the inclusion criteria, the reliability and validity of the measurement instrument, the resources needed, outcome evaluation, and the IRB approval.

Study Design

This QI project was a quantitative study using the pretest-posttest design. The proposed project used the Telemedicine Satisfaction Questionnaire developed by Yip et al., (2003). The original questionnaire was adjusted to ten-questions to align more with the study expectations and get an accurate look at the outcome of the interventions, using the survey data comparison of the non-nurse follow-up outreach calls and the nurse-led follow-up outreach phone calls. The updated questionnaire was sent to the patients for completion to assess their review of the non-nurse follow-up before the start of the QI project. This author used the patient's responses as the prior survey data of the non-nurse TFU for this project. The survey was created in Survey Monkey and electronically emailed to participants eight weeks before the start of the project for the non-nurse survey response and, in the last week of the project to evaluate the nurse follow-up responses of the telephone outreach. A simple random sampling was utilized to acquire 110 patients over three weeks; 55 pre and 55 post.

A noted fundamental weakness of this study method is the difference in the participants that used the pretest survey, from the participants using the posttest survey. That variance will be addressed in the results section of the study. According to Terry (2018), the pre and post-test study design addresses the before and after the outcome of an intervention,

however, a vital weakness is the ability to attribute causation to the intervention in the absence of a control group or randomization. It is also noted that this research design is probably the only logical way to evaluate the impact of an intervention. The study by Schuller et al., (2015) which evaluated the impact discharge telephone calls had on patient satisfaction was a qualitative study and study results showed that further involvement of nurses during and after discharge is critical to improving discharge planning.

Study Setting

This study was conducted in the case management department of a managed-care organization. This is a global health service company that offers health, pharmacy, dental, supplemental insurance and Medicare plans to individuals, families, and businesses. The case management unit has 15 staff Registered Nurses. Employees all work from home and are hired primarily to follow-up with patients from the start of hospitalization until six weeks post-discharge. This practice aligns with the company's main value which is to improve the well-being and sense of security of its patients.

Key Stakeholders

Internal Stakeholders:

- The case management department director who is sponsoring the project and will be the point person for concerns is a major stakeholder. The success of this project is important as future budget allowance will be determined based on the survey results.
- Nurse case managers
- Capacity planners who oversee staffing for the department.

External Stakeholders:

- Families in the community

- Outpatient provider

- Referral agencies such as Physical therapy, Occupational therapy, Disease Management

Study Sample

The study included a simple random sampling of adult patients 19 years and older, from an urban area, English speaking and reading, have access to a computer and is computer literate. The selection was from the case management department's database of discharged patients. The case management department typically receives about 245 patients every month (O. Hopkins, Personal Communication, November 1, 2019). A simple random sampling was utilized to acquire 110 patients over 3 weeks; 55 pre and 55 post. The pre and post-survey group were not the same people but a random sampling at each point. This was determined based on the use of the G*Power to conduct an a priori power analysis (Bannon, 2013). Using power of 0.80, an alpha of 0.05 and a medium effect size of 0.15, the calculated total sample size needed for the study was 92 patients. To account for attrition of patients that may not be discharged at the planned time or not respond to the survey, an additional 19% was added bringing the sample size to 110.

Inclusion criteria. These patients had the managed care insurance plan, can read, write and speak English, own and can operate a telephone, have an email address, did not plan to relocate within 3 months and were available for a phone call during office hours of 8 AM to 6 PM.

Exclusion criteria. These are patients less than 18 years of age, without the specific managed insurance plan, cannot read, write and speak English and will not be available during the TFU outreach time.

Recruitment

The patients were initially recruited during the first phone call by the nurses informing them that they will be asked to participate in a voluntary survey at the end of the follow-up process. The names of patients that declined was sent to the author of this QI project and removed from the sample list.

The nurses reminded the patients during their third and last follow-up phone call to expect that the Telemedicine Satisfaction Questionnaire will be sent to their email to get their feedback on the telephone outreach. Concurrent emails were sent to the patients informing them to expect a survey to provide feedback on their telephone call experience with the nurse. The survey questionnaire was sent to the email address of each participant. Participants were not compensated for participating.

Consent

An application for the project approval was sent to the West Chester University Institutional Review Board (IRB) prior to the start of the project. The patients were not required to participate in or complete the survey (See Appendix A), so a waiver of participant consent was requested from the IRB based on the parameters below from the code of federal regulations, and approval was received (See Appendix B):

1. The research involved no more than minimal risk to the subjects; The participants only needed to complete a survey addressing patient satisfaction.

2. The waiver or alteration did not adversely affect the rights and welfare of the subjects; The survey is focused on patient satisfaction and did not negatively affect the participants rights.

3. Whenever appropriate, the subjects were provided with additional pertinent information after participation; There is no plan to contact the participant's after the survey, however, if an occasion does arise, the participants will be contacted (Code of Federal Regulations, Title 45, 46.116, 2013)

Plan

There was a change to the number of questions from the prior survey. The prior survey had six questions, and the current survey has ten questions. Four questions were added to the prior survey to align more with the Telemedicine Satisfaction Questionnaire, which is a 14-item questionnaire developed in 2003 by Yip et al., with proven reliability and validity scores. To get a fair comparison of the pre and post-survey data, the updated questionnaire was sent to the patients for their completion before the start of the nurse-led telephone follow-up. This author used the patient responses as the prior survey data for this project.

Two weeks pre-project: November-December 2019

- Confirmed continued clearance for the project with the department lead.

- Retrieved pre-survey data before providing education and instituting practice change.

- There are currently 15 Nurse Case Managers in this unit who manage a maximum of 20 cases each.

- Created the survey using Survey Monkey.

- Scheduled training for the Nurse Case Managers. Training for this task was set at eight hours and to be completed in two business days. The Nurse Case Managers will attend training in shifts so the impact on production will be minimal.

Week 1 of the project: January 2020

- Connected with the Nurse Case Managers to reinforce expectations and address any questions and concerns. The Nurse Case Managers were given their patient assignments from the project sample. An adjustment was made to the project sample as needed in the event of a discharge being postponed. The first outreach to patients was done on week one. Nurse Case Managers were expected to leave a message if unable to speak to the patient with call back information.

Week 2-3 of the project: January 2020

- Scheduled a meeting with the Nurse Case Managers to get feedback on weeks one and two.

- Addressed any question from the Nurse Case Managers.

Week 4 of the Project: **January 2020**

- The Nurse Case managers made a second outreach to all patients that were missed in week one.

- Scheduled a meeting with the Nurse Case Managers to touch-base and address concerns.

Week 5 of the Project: **February 2020**

- The Nurse Case Managers made a final call to the patients and explained that a survey will be sent to them by email to evaluate the service.

- The Nurse Case Managers confirmed the email addresses of participants.

Week 6 of the Project: February 2020

- Survey was sent by email to the participants.

Week 7-8 of the project: March 2020

- Evaluation of survey results and comparison to prior survey results.

Budget

The budget for the TFU outreach QI project will include 15 RNs ($6,083 per month), telephones to make the calls ($1,200), computers with accessories and software ($16,000), internet service ($2,000 per month), a trainer ($2,300 per week), office supplies ($1,150 per month) and a clinical statistician ($200).

Data Collection

The tool for this QI project is the 10-question Telemedicine Satisfaction Questionnaire (TSQ) which was adapted from the 14-item questionnaire developed by Yip et al., (2003). The questionnaire uses a 5-point Likert scale to measure satisfaction; Five for "Strongly Agree", four for "Agree, three for "Undecided", Two for "Disagree", one for "Strongly Disagree". For this quality improvement project, a Likert rating of five and four was used to define high patient satisfaction. Mode and standard deviation were used to evaluate the patient satisfaction rate and a percentage distribution was done for each patient satisfaction rating.

Permission to use this questionnaire was obtained from the developer of the questionnaire (See Appendix C). This questionnaire at the time it was developed had an internal consistency above 0.7 which can be considered acceptable being that this is a new instrument. The instrument reliability of 0.43 is low, which according to the developers was due to telemedicine being newly introduced at the time of formation. Content validity was established through inspection of the questionnaire by a group of fourteen specialists which included doctors, a nurse, and experts in telemedicine. A recent study in 2013 by Davis, Vas, and Oyibo used an adapted version of the tool and showed a Cronbach alpha of 1, indicating good reliability.

This author's computer has a cable lock and is locked away in a lockbox when not in use. Also, the computer is password protected. This author worked off an excel sheet and compiled the participant names on the sheet. As the survey results came in, they were entered on the excel spreadsheet, checking for duplicates. The survey results were not attached to the patient's file. Outside of the managed care organization, the principal investigator and the course faculty were the only individuals with access to the data. All data will be destroyed on August 31st, 2023.

Data Analysis

The data was examined using the Statistical Package for the Social Science (SPSS) and descriptive analysis was utilized to include the use of Microsoft Excel 2010. A clinical statistician was consulted for this project. To measure distribution, percentage distribution of the variable was used, and the central tendency was measured using mode. Standard deviation was used to measure dispersion for patient satisfaction rating and the range measured the dispersion of readmission rate and any adverse event.

As noted above, the questionnaire used the 5-point Likert scale to measure satisfaction; Five for "Strongly Agree", four for "Agree, three for "Undecided", Two for "Disagree", one for "Strongly Disagree". Higher scores of five and four indicate better patient satisfaction rate and lower scores of two and one indicates poor patient satisfaction rate. The three noted on the scale is a neutral response. Coding of the data was done by the author so no intercoder reliability testing was needed.

Rigor

The pre and post-test design using the Telemedicine Satisfaction Questionnaire (TSQ) was chosen because it evaluates the outcome of the project before the intervention and after the intervention. A study in 2013 by Davis et al., used an adapted version of the tool and showed a Cronbach alpha of 1, indicating good reliability. Content validity was established through inspection of the questionnaire by a group of fourteen specialists which included doctors, a nurse, and experts in telemedicine. Patient sampling was random which minimized bias and alleviated the noted fundamental weakness of this design type that would otherwise have made it difficult to attribute causation to the intervention.

Chapter 4

Results

In early 2019, the project site leaders used a different measurement instrument for their patient satisfaction survey. So, to get a fair comparison of the non-nurse and the nurse-led survey data, the Telemedicine Satisfaction Questionnaire was sent to the patients for their completion before the start of the nurse-led telephone follow-up project. This author used the patient's responses as the prior survey data for this project.

A simple random sampling was utilized to acquire 110 patients over three weeks; 55 pre-project and 55 post-survey. Randomization was done by assigning a number to the list of recently discharged patients that fit the sample criteria, then the Rand function in excel was used to randomly select the needed sample size. The participant's sex, race, economical or educational status were not factored in the selection process. The participants in the non-nurse led survey group and the nurse-led survey group were not the same individuals but a random sampling at each point. Of the 55 questionnaires sent to the participants in the non-nurse group, 28 participants responded. The data showed unfavorable responses of patients regarding telephone outreaches by the non-clinicians with a mean of 87% of dissatisfied patients. This served as the baseline for the pre-project data.

At the start of the project, the questionnaire was sent to the participants one week after the first outreach follow-up calls. A total of 55 participants were recruited for the nurse outreach follow-up calls. Of the 55 participants that were selected, 55 questionnaires were sent, and 14 participants responded. The low response was due to the sale and acquisition of the project site by a different healthcare organization which led to the untimely end of the project.

Responses to Survey Questionnaire

Considering all the survey questions, as noted in the Telemedicine Questionnaire (Appendix D), statistical analysis of the overall summary of results show a mean of 84% of satisfied patients, a median of 88% and the mode for all questions was a Likert scale of five, with most of the participants favorable indicated satisfaction with the nurse-led telephone outreach. This is comparable to the study by Jayakody et al., (2016) which examined the effectiveness of using TFU in reducing hospital readmission rates with one of the outcomes being increased customer satisfaction. Also, most participants selected a Likert scale rating of five and four to indicate "strongly agree" and "agree" with the overall nurse outreach follow-up, which indicates a 79% overall satisfaction rate with the services provided by the nurse-led telephone follow-up. In data analysis of the survey results, five participants selected the Likert scale rating of three "undecided" in their survey responses to questions one, two, three, four, five, six, nine and ten. Also, only one participant selected the Likert rating scale of one "strongly disagree", this was on question three which was related to the nurse's understanding of their healthcare condition. Each question had a different standard deviation from the mean with a range of standard deviation from 0.73 - 1.07. The average score of responses ranges from 77% to 87%.

In SPSS, Cronbach alpha was used to test the reliability of the Patient Satisfaction Survey data for this project. The data showed a good reliability score of 0.954. The participants tended to answer higher on question two with an average response of 4.28. The lowest response was on question three with a mean of 3.71. Question three also produced the most variability in the respondence with a standard deviation of 1.32, followed by question

four with a standard deviation of 1.18. The average scale was 41.7, with a variance of 41.24 and a standard deviation of 6.42.

Chapter 5

Discussion

This QI project aimed at using quantitative data to assess patient satisfaction rate with the non-nurse versus the nurse-led follow-up outreach call after discharge from an acute care facility. Also addressed was how it influences the success of the healthcare organization, it's leaders and employees. The project analyzed the impact outreach calls have on reducing post-discharge adverse patient events and improving compliance with outpatient follow-up care.

As noted earlier on in this paper, various studies discuss outreach calls and the effect on patient satisfaction, and reduction in adverse events post-discharge. A randomized controlled trial by Clari et al., (2015) addressed the impact of TFU and its effect on patient satisfaction and prevention of post-discharge adverse events. A study by Vishal and Bishop-Royse (2018) discussed the costly effect of adverse events in the United States which is about $575 billion, with a 19% increase in adverse events post-discharge as compared to in-hospital admission.

The sample size for this study was impacted by the premature closure of the project site due to the sale of the department. This reduced the expected number of responders from 55 to 14.

Despite the barrier in the number of participants, the outcome from this project proves that TFU by the nurse improves patient satisfaction post-discharge from an acute care facility compared to the non-nurse. Key findings shown from the survey results indicate that most of the survey responders appreciated the follow-up phone call by a nurse and indicated that it was time-efficient, provided better access to out-patient services and patients felt comfortable

talking with a nurse. It is noteworthy to mention that while 72% of the survey participants shared that the nurse understood their diagnosis and reason for admission,14% were undecided and 14% disagreed and strongly disagreed. To further investigate the possible rationale for the number of undecided patients, disagreed and strongly disagreed, the project site team was contacted and during interviews of the outreach nurses, it was discovered that the outreach nurses had limited time to review the patient's files before TFU, and the nurses shared that the TFU should not be part of the Registered Nurse task but should be delegated to a Licensed Practical Nurse (LPN). This is because the Registered Nurse (RN) Case Managers were still expected to complete their workload and this additional task was a barrier in meeting their daily production goals. To that end, having an LPN make the follow-up calls may be a wise cost-saving measure for the project site, however, the LPNs will need to be supervised by the RN and well versed on the patient's condition. The reason for the disagree/undecided could also be attributed to the fact that the nurses who made the outreach call were not the patient's discharge nurses but Nurse Case Managers from the project site. For future studies, it will behoove the project site to either have the discharge nurse make the follow-up calls or ensure the follow-up nurse is familiar with the patient's diagnosis before contacting the patient.

Relation to Donabedian Framework

As previously noted, TFU has been shown to increase patient satisfaction and decrease adverse events. This ties in with the Donabedian framework that stresses the importance of leaders identifying and prioritizing the structure, process, and outcome of the healthcare practices and projects (Donabedian, 1966).

Structure. As shown in Appendix E, the QI project structure included the project site, nurses, their nursing skills and site operational hours. The nurses played a pivotal role in the success of the QI project, with regards to patient outreach, and especially in getting the background knowledge of the rationale behind the patient's responses to the survey. This was key in identifying areas in the nurse-led TFU workflow process that were successful and area of opportunity that needed to be remedied.

Process. Regarding the process, which included patient engagement and care coordination, the survey results showed that 86% of the responders strongly agreed and agreed that speaking to the nurse was easy, seven percent were undecided, and seven percent disagreed. Also interesting to address is that 86% of the patients strongly agreed and agreed that they felt comfortable speaking to the nurse about their healthcare condition, while 14% disagreed. This key finding showed the importance of nurse-to-patient engagement and proves that the majority of the patients responded favorably to the nurse-led TFU. The QI project site leaders will need to continue educating their staff on their communication skills to attain 100% satisfaction rate in the patient engagement survey categories.

Outcome. Regarding the outcome, the overall survey response showed that 79% of patients were satisfied with the nurse-led telephone follow-up. Although this is a significant improvement from the prior non-nurse led TFU survey results, the site leaders will be advised to make adjustments to their workflow process to guarantee the nurses have sufficient time to review the patient files prior to making the outreach calls, and also provide continued education to the staff on the importance of continued care planning post-discharge and care coordination.

<div align="center">

Recommendations

</div>

Future studies should be done with a larger sample size to get more reliable results and ensure that the true effect of the intervention is demonstrated and reasonable confidence that the role of chance is minimized as a contributor of the results (Melnyk & Fineout-Overholt, 2015, p. 88). Although a power analysis was done before the start of the study to get the appropriate sample size, the final sample size was compromised due to the untimely closure of the project site.

Findings from this study show that using a Registered Nurse increases patient satisfaction, however, hiring RNs are costlier than an LPN or non-clinician such as a clerk. In today's fast-paced healthcare environment, healthcare organization leaders are often tasked with using lean resources to save costs while providing excellent patient care. With that in mind, leaders of healthcare facilities should evaluate the economic impact with the pros and cons of using a nurse versus a non-nurse. For an organization to stay relevant, nurse administrators need to keep up with trends and policies focusing on leading through "a tremendously challenging reform atmosphere that demands better access and quality while reducing cost" (Zaccagnini & Waud-White, 2017, p. 380).

This author also recommends a mix of both qualitative and quantitative research method in data analysis. This is to gain a better understanding on the rationale behind the patient's responses; showing a cause and effect relationship which will provide stronger evidence for a conclusion and reveal insights not readily evident with the use of one research method (Terry, 2018).

Conclusion

The outcome of this study indicates that post-discharge outreach calls by the nurse increases patient satisfaction and compliance with post-discharge instructions. Numerous

scholarly articles promote the use of a nurse versus a non-nurse to improve patient outcome post-discharge, however, more studies will need to be carried out in a managed care setting on this topic using a larger patient sample to get more reliable results.

To ensure that patients are getting the best follow-up care by a nurse, nurse administrators should consider adjusting the work assignments of their nursing team. In doing so, the nurses will be adequately prepared to make outreach TFU. Also, Licensed Practical nurses can be hired to save on cost, however, should be under the supervision of the Registered Nurse or an Advanced Nurse Practitioner.

Finally, this study and future studies evaluating post-discharge TFU by a nurse are imperative as study results indicated that patients responded favorably to the program. Increased patient satisfaction and compliance with discharge instructions will provide healthcare organizations financial savings due to the decrease in the 30-days readmission rate and provide an improvement in patient survey results such as Press Ganey. Also, this study exposed the barriers nurses currently face in TFU which will lead to the process and workflow improvement and implementation for the organization. Therefore, TFU led by the nursing team should be implemented in all acute and managed healthcare facilities to promote patient satisfaction and safety which not only benefits the patients but also the healthcare organization.

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APPENDIX A

Telemedicine Patient Satisfaction Questionnaire

	Strongly Agree	**Agree**	**Undecided**	**Disagree**	**Strongly disagree**
During the telephone follow-up call, speaking with the nurse was easy					
I could clearly hear the nurse over the telephone					
The nurse who called for the telephone follow-up clearly understood my healthcare condition.					
The telephone follow-up saved me time because I did not have to travel					
I received better access to outpatient referrals using the telephone follow-up service					
My healthcare needs were met with the telephone follow-up.					
I felt comfortable speaking to the nurse about my healthcare needs					
I found telephone follow-up a decent way to receive follow-up care					
I will use telephone follow-up services again					
Overall, I am satisfied with the quality of services provided by the telephone follow-up.					

Appendix B

IRB Approval

From: Institutional Review Board <IRB@wcupa.edu>
Sent: Tuesday, December 3, 2019 8:18 AM
To: Adonri, Iyore <IA896697@wcupa.edu>; Monturo, Cheryl <CMonturo@wcupa.edu>
Cc: Christopher Sims <kyere1@aol.com>
Subject: IRB Approval Documents - Adonri 20191203A

Congratulations! Your application has been approved by the WCU IRB. The approval documents are attached.

We wish you success in your current endeavor.

West Chester University of Pennsylvania
Institutional Review Board

West Chester University
Office of Research & Sponsored Programs
Ehinger Annex 111
610-436-3557

Appendix C

Request to Use the Telemedicine Questionnaire

Re: Request to use the Telemedicine Satisfaction Survey

IA

iyore adonri
Sat 10/19/2019 9:16 PMMei Yip

⬚

Thanks so much!

On Oct 19, 2019, at 4:28 PM, Mei Yip <yipmuw@gmail.com> wrote:

Hi:

Thanks for your email. Yes, you have my permission to use the tool. Good luck with your

research!

Mei Po

On Sat, Oct 19, 2019 at 9:15 AM iyore adonri <iyoreegbon@msn.com> wrote:

Good day, my name is Iyore Adonri and I'm a Doctor of Nursing Practice student at West Chester University in Pennsylvania, United States. I'm writing to request permission to use the Telemedicine Satisfaction Survey you developed with your colleagues. This tool will be used for my quality improvement project to measure patient satisfaction after discharge from an acute care facility through telephone follow-up. I find that this tool will be helpful in measuring patient satisfaction with the sample of adult patients in my project. Thanks in advance. Have a great day.

Appendix D

Responses to Survey Questionnaire (N=14)

	Strongly Agree 5 N (%)	Agree 4 N (%)	Undecided 3 N (%)	Disagree 2 N (%)	Strongly disagree 1 N (%)
1. During the telephone follow-up call, speaking with the nurse was easy	6 (43)	6 (43)	1(7)	1 (7)	0
2. I could clearly hear the nurse over the telephone	7 (50)	5 (36)	1(7)	1 (7)	0
3. The nurse who called for the telephone follow-up clearly understood my healthcare condition.	5 (36)	5 (36)	2 (14)	1 (7)	1 (7)
4. The telephone follow-up saved me time because I did not have to travel	8 (57)	3 (21)	2 (14)	1 (7)	0
5. I received better access to outpatient referrals using the telephone follow-up service	7(50)	5 (36)	2 (14)	0	0
6. My healthcare needs were met with the telephone follow-up.	6 (43)	5 (36)	3 (21)	0	0
7. I felt comfortable speaking to the nurse about my healthcare needs	8(57)	4 (29)	0	2 (14)	0
8. I found telephone follow-up a decent way to receive follow-up care	6(43)	7 (50)	0	1 (7)	0
9. I will use telephone follow-up services again	6(43)	6 (43)	2 (14)	0	0
10. Overall, I am satisfied with the quality of services	5 (36)	6 (43)	3 (21)	0	0

provided by the telephone follow-up.					

Appendix E

Donabedian Framework

Process

Nurse Case Managers Training:

Communication Skills

Patients preferences

Patient engagement

Coordination and continuation of care

Quality of Care

Nurse-led Telephone Outreach

Structure

Managed Care Organization

Nurse Case Managers:

Skill set

Nurse: patient ratio

Time of Operation

Services Provided

Outcome

Post Survey Results:

Increased Patient Satisfaction

Decreased readmission rate