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Reducing Missed Appointments with Specialized Appointment Reminders

By

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Reducing Missed Appointments with Specialized Appointment Reminders

Executive Summary

Specialized appointment reminders (SAR) via the neurodiagnostic team (NDT) reduce missed appointments (MA) for neurodiagnostic (ND) outpatient testing (OT) compared to other types of appointment reminders (AR) via the Central Scheduling department (CSD). MA have negative consequences for patients and the healthcare organization. MA interrupt the patient's continuum of care and contribute to negative outcomes in the patient's condition. MA negatively impact the healthcare organization by creating an imbalance of labor productivity due to the testing area appearing to be overstaffed. Other patients have limited access to care due to MA taking up a time slot on the schedule, which also creates lost revenue for the department and organization. MA contribute to decreased employee engagement due to physicians and staff becoming frustrated with patients not showing up for the appointment. The reasons for MA vary. Forgetfulness is a common reason.

The purpose of the project was to reduce MA at a hospital-based ND OT department by SAR. SAR were attempted to all patients scheduled for ND OT. The NDT attempted AR via phone call to provide a reminder of the appointment, establish a therapeutic relationship with the patient, and will have the ability to address any concerns, barriers, or issues that the patient may have about the appointment. Success of the project was determined by demonstrating the overall goal of reducing the percentage of MA in the ND OT department.

Introduction

Clinical Problem

MA have negative consequences for patients and the healthcare organization. MA interrupt the patient's continuum of care and are likely to contribute to negative outcomes in the patient's condition. MA negatively impact the healthcare organization by creating an imbalance of labor productivity, leaving other patients with undue limited access to care, and by decreasing the overall revenue of the department and organization (Junod Perron et al., 2013).

Clinical Needs Assessment

At a large healthcare system in the Midwest, ND OT is performed for patients needing this service. The area being studied is the ND OT department at the largest of the facilities in the organization, Kettering Medical Center. This location also employs the largest number of NDT members. When MA occur, the continuum of care is interrupted for the patient, the testing area appears to be overstaffed, the physicians become frustrated with the patients missing appointments, other patients are missing access to care during that MA time slot, and revenue is lost for the organization. The reasons for MA vary. Forgetfulness is a common reason for MA (Junod Perron et al., 2013). Prior to implementing SAR, patients may receive an AR from the CSD via phone call, text message, postal mail, email, or not at all. The purpose of this study is to learn if SAR from the NDT would reduce MA in the patients requiring ND OT.

Problem Statement

The problem statement for this project will use the PICOT model and ask the question:
Do SAR via the NDT reduce MA for ND OT compared to other types of AR via the CSD?

Background and Significance of Problem

Review of the Literature

A literature search was performed using the CINAHL database. Keywords entered included *missed appointments* and *healthcare*, and *no-shows* and *healthcare*. After reviewing several articles, the search was refined primarily to the geography of the United States of America (USA). The decision to limit the geography was due to noticing the differences in healthcare systems around the globe. Issues in socialized healthcare systems are viewed and handled differently than in the private and public healthcare systems of the USA. Selection limitations also included utilizing primarily studies involving adult patients due to children not being responsible for attendance at healthcare appointments. Ten articles were selected for synthesis.

Synthesis of the Knowledge Today Related to the Problem

All the articles had the common thread of attempting to determine or address the cause of why the patient does not attend the appointment. Forgetfulness, transportation, financial worries, and feelings related to the procedure, such as fear or apathy, were the common reasons for MA (Bhise et al., 2016). Two distinct differences noticed in the literature were whether the problem was being studied after the appointment was missed (Kaplan-Lewis & Percac-Lima, 2013), or whether the strategies to reduce MA was being studied after implementation (Percac-Lima et al., 2016). Attempts to establish predictors of patients that were more likely to miss appointments was also a topic that arose in the literature review (Adams et al., 2020). Consistently throughout the literature is the concern for wasted healthcare resources (Ruggeri et al., 2020) and increased morbidity and mortality (McQueenie et al., 2019) due to patients

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missing appointments. Patient-centered reminders via telephone call (Childers et al., 2016), text message, email, and postal mail have been explored to reduce MA (Gurol-Urganci et al., 2013).

Significance of Problem to Nursing

Nurse leaders with responsibility for the operational function of OT departments seek to improve compliance of patients attending scheduled appointments. Appropriate staffing is largely determined by the number of patients scheduled. By finding strategies to reduce MA, nurse leaders are working towards the goals of the Triple Aim; improving the patient experience of care, improving the health of populations, and reducing the per capita cost of healthcare (Bisognano & Kenney, 2012). Reducing MA is also in alignment with the Six Aims for Healthcare Improvement of creating efficiency to reduce waste (Moran et al., 2017). The significance to nursing of reducing MA is the correlation that the goal has with several components from the Essentials of DNP Education, specifically Essentials II, III, IV, VI, and VII, which demonstrates the advancement of nursing (Moran et al., 2017).

DNP Essentials II, III, IV, VI, and VIII can be demonstrated in the scholarly project idea. Essential II is demonstrated by applying "organizational and systems leadership that affects subsequent healthcare delivery and patient care outcomes." (Butts & Rich, 2015, p. 57). Essential III is demonstrated by "evaluating and developing practice guidelines, critically evaluating existing literature to determine best practices, and designing and evaluating methodologies that improve patient care." (Butts & Rich, 2015, p. 57). Essential IV is demonstrated by using "information technologies in ways that improve patient care outcomes" by using "data from large systems or databases as part of a search for practice outcome patterns. Graduates may also use information technologies to communicate and evaluate the accuracy, timeliness, and appropriateness of healthcare consumer information." (Butts & Rich, 2015, p. 57). Essential VI

is demonstrated by the interprofessional collaboration with members from other teams and disciplines within the hospital that is necessary to make the project successful. Essential VII is demonstrated by nursing leadership that is used "to develop therapeutic relationships with patients and other healthcare professionals to improve patient outcomes, assess health and illness parameters, utilize advanced clinical decision-making skills and critical thinking, serve as mentor to others in the nursing profession, and educate patients." (Butts & Rich, 2015, p. 58).

Project Implementation and Measures

Theoretical Framework

The theoretical framework for the project incorporated the Donabedian Model (DM) and Joanne Duffy's Quality-Caring Model (QCM). The DM is a conceptual framework that provides a way to connect all the important concepts of the project by identifying the structure, process, and outcome (Moran et al., 2017, Chapter 11). The QCM is the theoretical framework that will guide and inform the project and demonstrate how caring behaviors and caring relationships affect quality health outcomes (Butts & Rich, 2015, Chapter 21).

Project Purpose and Specific Objectives

The purpose of the project is to reduce MA at a hospital-based ND OT department with SAR. Specific objectives include the following:

- I. Analyze and measure data three months pre-implementation to determine percentage of MA.
- II. NDT members attempt to provide SAR to all ND OT patients scheduled during project time frame.
- III. Analyze and measure data three months post-implementation of the project to determine percentage of MA.

Method

Quantitative methods will be used by conducting a retrospective analysis to measure the number of scheduled appointments and percentage of MA by working closely with the CSD to data mine the needed information. During the project timeframe, SAR were attempted to patients scheduled for ND OT.

The NDT attempted SAR via phone call to establish a therapeutic relationship with the patient, remind the patient of the appointment and answer any questions about the testing.

After the project timeframe was complete, the percentage of MA was measured to determine if there was an improvement in reducing MA by SAR. This method is an example of the DM that is based off the approach of structure, process, outcome.

Data was documented, collected, and analyzed using Microsoft Excel and reports within Epic, the organization's electronic health record. Data collected included a three-month look back at the number of ND OT appointments scheduled and the number of MA. The project was implemented, and the same data collection was repeated after a three-month time frame.

The SAR were performed by the NDT, who were able to address any concerns, barriers, or issues that the patient may have about the appointment. This strategy reflects the QCM due to the caring relationships and caring behaviors that are being utilized to reduce MA and ultimately, quality outcomes. Further studies could use mixed methods to survey the patient regarding the SAR from the NDT, in addition to any comments about the reminders or the process.

Success of the project was determined by demonstrating the overall goal of reducing the percentage of MA in the ND OT department.

Target Population and Sample

The target population was all patients scheduled for ND OT at Kettering Medical Center during the project timeframe, approximately three months before and after implementation. The ideal sample size was one hundred patients. However, due to limitations in OT due to a pandemic, the sample size resulted in eighty-three patients scheduled for ND OT. The inclusion criteria was every patient scheduled for ND OT at Kettering Medical Center. Recruitment was not needed for the project since several forms of AR are part of the standard scheduling process. By including all scheduled patients in the study, the design would be considered quasi-experimental. "In practice settings, the quasi-experimental approach is helpful because it does not require randomization or a control group. This design is capable of measuring change in health-related outcomes after treatment or intervention when it is not feasible to use a true experiment. The quasi-experimental approach is practical and useful in the clinical arena." (Moran et al., 2017, p. 352). Quality improvement projects are ideal "to initiate change via an intervention, practice improvement, or implementation of an innovative model of care delivery" by using "data-based methods to improve clinical or healthcare systems outcomes" (Moran et al., 2017, p. 352). This final scholarly project is a quality improvement project that will utilize quantitative methods and a quasi-experimental design to improve patient outcomes and organizational work processes by using the DM and QCM to guide the framework of the project.

Procedure

During the project timeframe, SAR were attempted to patients scheduled for ND OT. The NDT attempted patient reminders via phone call to provide a reminder of the appointment, establish a therapeutic relationship with the patient, and will have the ability to address any concerns, barriers, or issues that the patient may have about the appointment.

Project Implementation Timeline

The project implementation timeline was nearly a revolving calendar year that began in May 2020 and concludes in April 2021. The final scholarly project proposal development was considered, identified, shaped, molded, tweaked, and determined during Summer semester 2020. During the months of May, June, and July, the foundation for the project was set in place. The proposal was developed, teams and committees were formed to assist, the organization and college's Institutional Review Boards (IRB) provide approval, and the student determined if grant funding was needed to support the project. The project reflects the status of MA during the three months prior to project implementation. Data collection was facilitated by the NDT that works in the ND OT department implementing the project and the organization's CSD. The project implementation took place during the months of October, November, and December 2020. During the months of January and February 2021 the post-implementation data was analyzed to determine success of the project. The final months of the project are March and April 2021. This time was used to disseminate the results, complete final documentation of the scholarly work, and prepare to defend the project to college faculty.

Project Budget

The project budget includes this author's time, materials used, and recruitment of team members to assist in data collection and project implementation. This author's time is valued at approximately fifty dollars an hour. An estimated amount of time of the author for the project is one hundred hours, which equates to about five thousand dollars. The expense of the author's time will be forfeited in this situation due to separation of the author from the organization being studied. The materials used cost approximately one hundred dollars. Materials include paper copies of data and the appointment reminder scripts. Paper, copier costs, and the telephone usage

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will be covered by the organization. This author will pay the expense of the poster presentation required for the project defense. The poster materials were estimated at fifty dollars. Incentives to recruit the data collection and project implementation teams were twenty-dollar gift cards to approximately 7 team members. The gift card total was approximately one hundred and forty dollars. By combining the expenses, minus this author's time, the budget for the project is under two hundred dollars.

Analysis and Outcome Evaluations

Analysis of the data and procedure was performed upon compiling the results. A deviation from the original data collection plan occurred due to a large turnover in staff related to the coronavirus pandemic and limitations on OT. The quantity of specific types of appointment reminders pre-implementation was unable to be determined. Based off the data pre- and post-implementation, the SAR did reduce MA by 1.53%. However, unforeseen factors did occur and impact the NDT's ability to provide a SAR to all ND OT patients. The most common reason was patients added on to the schedule by the neurology physician's office and sent directly to the ND OT department the same day. Otherwise, data was analyzed and measured three months pre- and post- implementation, the percentage of MA was determined, and NDT members attempted to provide SAR to all ND OT patients scheduled during the project time frame.

Conclusion and Recommendations

The project was successful due to the percentage of MA being reduced post-implementation and the lessons learned during the process. The coronavirus pandemic impacted the project by reducing the sample size due to limited OT, turnover in staff, and other patient-related barriers. Recommendations include continuing the SAR and re-evaluating the percentage

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of MA going forward. Further studies could use mixed methods to survey the patient regarding the SAR from the NDT, in addition to any comments about the reminders or the process.

SAR could be successful in reducing MA in other OT settings and other outpatient visit settings. Reducing MA in any setting will benefit the patient, other patients trying to schedule OT or outpatient visits, the OT department, and the organization. The benefits include an uninterrupted continuum of care, increased patient experience, increased employee engagement, improved quality outcomes, and reduced lost revenue for the organization.

Summary

MA have negative consequences for patients and the healthcare organization. SAR via the NDT reduce MA for ND OT compared to other types of AR via the CSD. SAR were attempted to patients scheduled for ND OT. The NDT attempted patient reminders via phone call to provide a reminder of the appointment, establish a therapeutic relationship with the patient, and will have the ability to address any concerns, barriers, or issues that the patient may have about the appointment. The project was successful due to the percentage of MA being reduced post-implementation. Further studies could use mixed methods to survey the patient regarding the SAR from the NDT, in addition to any comments about the reminders or the process.

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Appendix A

Scripting for NDT member to provide a SAR to scheduled ND OT patients at Kettering Medical Center (KMC):

NDT member: *“Hello, this is ____ (name of NDTM making the call) _____ at KMC. I am one of the EEG Techs at KMC. I am calling to remind you of your outpatient EEG appointment ____ (date and time of appointment) _____. Do you have any questions about your appointment? Do you remember the instructions on how to prepare for your test?”*

If there are no questions and the patient remembers the instructions for the test prep, then the NDTM says, *“Thank you! We look forward to seeing you for your outpatient EEG at KMC on ____ (date and time of appointment) _____. Good bye.”*

If there are questions or the patient does not remember the instructions for the test prep, then the NDT member will answer the patients questions.

Appendix B

Data Collected Pre-Implementation

Date	Appointment Date	Did the patient showed up for the appointment

Pre-Implementation Data

Number of patients scheduled	Number of patients that received a reminder of any type	Number of patients that showed up	Percentage of patients attending their appointment
97	90	85	87.62

Appendix C

Data Collected Post-Implementation

Date	Appointment Date	Received a reminder call	Patient answered phone or voicemail left	Return call if voicemail left	Was the patient given instructions	Did the patient have questions	Did the patient showed up for the appointment

Post-Implementation Data

Number of patients scheduled	Number of patients that received a specialized appointment reminder	Number of patients that showed up	Percentage of patients attending their appointment
83	62	74	89.15%