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REDUCING MISSED APPOINTMENTS WITH SPECIALIZED APPOINTMENT REMINDERS


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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: PROBLEM IDENTIFICATION

- Missed appointments (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).
 - The reasons for MA vary. Forgetfulness is a common reason for MA. (Junod Perron et al., 2013)
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CLINICAL QUESTION

Do 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) during the time frame of this DNP project?



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SUMMARY OF EVIDENCE- LITERATURE REVIEW

- A literature search was performed using the CINAHL database.
- Keywords entered included *missed appointments* and *healthcare*, and *no-shows* and *healthcare*.
- The search was refined primarily to the geography of the United States of America (USA) 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 LITERATURE

- 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 missing appointments.
- Two distinct differences noticed in the literature were whether the problem was being studied after the appointment was missed, or whether the strategies to reduce MA was being studied after implementation.
- Attempts to establish predictors of patients that were more likely to miss appointments was also a topic that arose in the literature review.
- Consistent concern for wasted healthcare resources and increased morbidity and mortality due to patients missing appointments.
- Patient-centered reminders via telephone call, text message, email, and postal mail have been explored to reduce MA.

SIGNIFICANCE TO NURSING

- Nurse leaders with responsibility for the operational function of OT departments seek to improve compliance of patients attending scheduled appointments.
- 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).
- 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).



SCAFFOLDING OF THE PROJECT

- Theoretical Framework
 - The theoretical framework for the project will incorporate 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. 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.
- Methods
 - The method used will be quantitative. The design is quasi-experimental.
- Target Population & Sample
 - 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 is one hundred patients. However, due to the coronavirus pandemic, the sample size was slightly under one hundred patients. The inclusion criteria was every patient scheduled for ND OT at Kettering Medical Center.

The purpose of the project was 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.

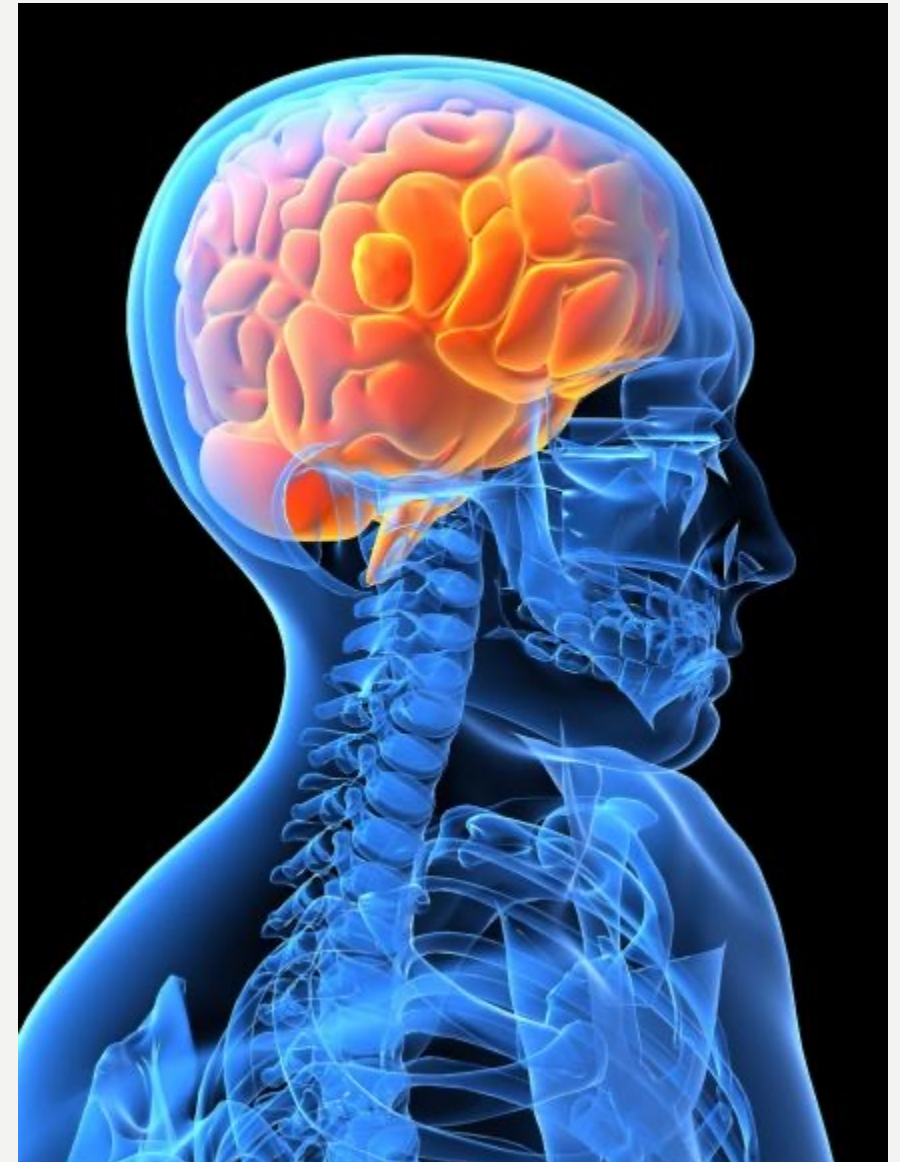
PROJECT PURPOSE AND SPECIFIC OBJECTIVES

METHODS

- Quantitative methods were 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.
- 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.

TARGET POPULATION & SAMPLE

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PROCEDURE

- 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.

Months	May-July	August-October	November-January	February-April
Tasks	Develop proposal, recruit teams and prepare project materials, draft IRB applications	Collect data from previous 3 months, work with teams to ensure project implementation success	Collect data from previous 3 months, analyze data to determine success of project	Disseminate results, complete project proposal document and poster, prepare for final presentation

TIMELINE & BUDGET

Author's time, materials used, and recruitment of team members to assist in data collection and project implementation

-Time = ~\$5000 (forfeited)

-Materials= ~\$100 (paid by organization)

-Poster presentation= ~\$50

-Recruitment incentives= ~\$140

Total budget= ~\$190

ANALYSIS & OUTCOME EVALUATION

- 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 & RECOMMENDATIONS


- Project Success
 - Demonstration of the overall goal of reducing the percentage of MA in the outpatient neurodiagnostic department. Achieved by 1.53%
- 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 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.
 - 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.
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REFERENCES

- Adams, J., Whiteman, K., & McGraw, S. (2020). Reducing missed appointments for patients with hiv. *Journal of Nursing Care Quality*, 35(2), 165–170. <https://doi.org/10.1097/ncq.0000000000000434>
- Bhise, V., Modi, V., Kalavar, A., Espadas, D., Hanser, L., Gould, M., El-Serag, H. B., & Singh, H. (2016). Patient-reported attributions for missed colonoscopy appointments in two large healthcare systems. *Digestive Diseases and Sciences*, 61(7), 1853–1861. <https://doi.org/10.1007/s10620-016-4096-3>
- Bisognano, M., & Kenney, C. (2012). *Pursuing the triple aim* (1st ed.). Jossey-Bass.
- Childers, R. E., Laird, A., Newman, L., & Keyashian, K. (2016). The role of a nurse telephone call to prevent no-shows in endoscopy. *Gastrointestinal Endoscopy*, 84(6), 1010–1017.e1. <https://doi.org/10.1016/j.gie.2016.05.052>
- Butts, J. B., & Rich, K. L. (2015). *Philosophies and theories for advanced nursing practice* (2nd ed.). Jones & Bartlett Learning.
- Gurol-Urganci, I., de Jongh, T., Vodopivec-Jamsek, V., Atun, R., & Car, J. (2013). Mobile phone messaging reminders for attendance at healthcare appointments. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.cd007458.pub3>
- Jarvis, S., Livingston, J., Childs, A., & Fraser, L. (2018). Outpatient appointment non-attendance and unplanned health care for children and young people with neurological conditions: A retrospective cohort study. *Developmental Medicine & Child Neurology*, 61(7), 840–846. <https://doi.org/10.1111/dmcn.14070>

REFERENCES

- Junod Perron, N., Dao, M., Righini, N., Humair, J.-P., Broers, B., Narring, F., Haller, D. M., & Gaspoz, J.-M. (2013). Text-messaging versus telephone reminders to reduce missed appointments in an academic primary care clinic: A randomized controlled trial. *BMC Health Services Research*, 13(1). <https://doi.org/10.1186/1472-6963-13-125>
- Kaplan-Lewis, E., & Percac-Lima, S. (2013). No-show to primary care appointments. *Journal of Primary Care & Community Health*, 4(4), 251–255. <https://doi.org/10.1177/2150131913498513>
- McQueenie, R., Ellis, D. A., McConnachie, A., Wilson, P., & Williamson, A. E. (2019). Morbidity, mortality and missed appointments in healthcare: A national retrospective data linkage study. *BMC Medicine*, 17(1). <https://doi.org/10.1186/s12916-018-1234-0>
- Moran, K., Burson, R., & Conrad, D. (2017). *The doctor of nursing practice scholarly project: a framework for success* (2nd ed.). Jones & Bartlett Learning.
- Percac-Lima, S., Singer, D. E., Cronin, P. R., Chang, Y., & Zai, A. H. (2016). Can text messages improve attendance to primary care appointments in underserved populations?. *Journal of Health Care for the Poor and Underserved*, 27(4), 1709–1725. <https://doi.org/10.1353/hpu.2016.0157>
- Ruggeri, K., Folke, T., Benzerga, A., Verra, S., Büttner, C., Steinbeck, V., Yee, S., & Chaiyachati, K. (2020). Nudging new york: Adaptive models and the limits of behavioral interventions to reduce no-shows and health inequalities. *BMC Health Services Research*, 20(1). <https://doi.org/10.1186/s12913-020-05097-6>