

INCREASING MEDICATION HCAHPS SCORES USING A STANDARDIZED,
SIMPLIFIED PROCESS TO EDUCATE PATIENTS ON COMMONLY
PRESCRIBED NEW MEDICATIONS

by

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ABSTRACT

Background: An estimated 40% to 50% of patients do not understand their medications leading to 125,000 preventable deaths annually and \$100 billion in preventable healthcare costs. The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey is used to measure patients' perspectives of their care with two of the questions explicitly related to new medication and side effects education. HCAHPS scores drive reimbursement to hospitals. Care that the patient perceives as positive improves outcomes and increases healthcare value.

Aim: The aim of this project was to increase patient knowledge of new medications, develop a tool to guide nurse medication education, and improve medication HCAHPS scores.

Methods: This project implemented a simple medication education tool which listed 8 common classes of medications, their uses, and most common side effects. This was done to increase patient understanding of prescribed medications on a telemetry floor at a large central Montana hospital. The tool was developed using evidence-based research, RN's were educated on its use, and it was placed at the patient bedside as a resource for patient medication education.

Results: A total of 87% of unit RN's were educated on the tool and its expected use. To check for tool at the patient bedside, 6 rooms out of a total of 33 were audited twice weekly for four weeks. Two PDSA Cycles were completed after low rates of tool at the bedside were discovered. Scores improved after each PDSA Cycle with a score of 100% obtained at the beginning of Week 4 of implementation. HCAHPS data was not available at the time of writing.

Conclusions: The development of a new medication and side effects education tool was placed at the bedside and used as a guide to educate patients on their prescribed medications. This was done to increase patient comprehension and thereby satisfaction of medication understanding as an attempt to increase HCAHPS scores in the medication education category.

CHAPTER 1

INTRODUCTORY STATEMENT

The shocking findings of the report “To Err is Human,” published by the Institute of Medicine (IOM) in 1999, revealed that 98,000 individuals die annually as a result of medical errors and that a significant proportion of these errors are attributed to misunderstanding of medication instructions (Wolf et al., 2007). These findings drove the healthcare industry to examine patient safety and encouraged healthcare organizations to implement quality improvement processes (Institute of Medicine [IOM], 2000). These errors are the consequences of care system processes that are in dire need of improvement (IOM, 2000). One of the proposals issued from the IOM’s report was that standardized systems or work processes should be put in place that leave little room for error following a systematic, succinct routine. Twenty years later, improving safety and quality continues to be a major issue in healthcare (Chassin, 2019).

To gauge improvement in patient safety and quality outcomes, the Centers for Medicare and Medicaid Services (CMS) along with the Agency for Healthcare Research and Quality (AHRQ) in 2006 developed the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey (Centers for Medicare and Medicaid Services [CMS]. gov.; Mazurenko et al., 2017). This standardized survey is completed by patients after hospital discharge and is used to measure patients’ perspectives of the care that they received (CMS.gov.). HCAHPS survey scores drive reimbursement to hospitals and are used to measure quality outcomes or lack thereof. Reimbursement is incentivized for scores of 9 or 10 and hospitals are penalized for sub-standard quality of care (J.B., patient experience coordinator, personal communication, September 2, 2020). Additionally, providing patient-centered care,

which the patient perceives as positive, correlates to positive patient outcomes and increased healthcare value (Price et al., 2014; Dutta & Abbas, 2015).

The HCAHPS survey is made up of 29 questions, two of which are explicitly related to new medication education and potential side effects. Hospitals have historically struggled with low scores on patient education of new medications and their side effects and nurses are primarily responsible for providing new medication education (Gillam et al., 2016). Lack of patient understanding leads to medication adherence issues, compromised patient safety, and an increase in hospital readmission and patient mortality rates (Borgsteede et al., 2011).

Background/Significance

It is estimated that 40% to 50% of all patients do not adhere their prescribed medication regime which leads to 125,000 preventable deaths annually and \$100 billion in preventable healthcare costs (Kleinsinger, 2018). Complicating these staggering numbers is the mainstream health system belief that this is a patient problem and not a reflection of sub-standard nurse medication education which is often the root cause of patient medication non-adherence. (Kleinsinger, 2018). Not adhering to a prescribed medication regime often results in patient readmissions. Rosen et al. (2017) found a greater than 10% increase in readmissions when patients did not follow their prescribed medication therapy. Nationally, CMS reports that nearly 20% of all patients who are on Medicare, are readmitted to the hospital within 30 days, which results in penalties of up to 3% of total Medicare reimbursement (Polster, 2015). Patients need to understand what the medication is used for, how it will make them feel, any expected improvements to their overall health, and any anticipated or unwanted common side effects that might occur. If patients do not understand what their medications are used for, they are far less

likely to continue the prescribed medication regimen (Newman-Casey, et al., 2013).

Furthermore, patients' perceptions of their prescribed medications can be used as an indicator to gauge whether they will be compliant with their medications (Linn, et al., 2016). In summary, thorough medication education and subsequent patient comprehension should be used to change patient perception and improve outcomes.

Positive patient experiences often correlate with better health outcomes. This is especially true in regard to medication adherence and treatment plans in which patients with chronic conditions follow their treatment plan religiously (AHRQ, 2020). To successfully educate patients, it is essential to do a baseline patient assessment (health literacy, education, and reading level) while providing patient education that is culturally competent, plainly spoken, and using the teach-back technique (Polster, 2015).

Identification and Scope of the Problem

A hospital in central Montana has identified low HCAHPS scores, specifically for education of new medication and new medication side effects, as an area for improvement. This organization has made unsuccessful attempts in the past to increase HCAHPS scores in the new medication and side effects education category. Currently, management seeks to increase HCAHPS scores to 80% for patient comprehension of new medications and to 60% for new medication side effects by 2021. A recent attempt at trying to increase scores through the use of improved medication education processes failed due to the start of the COVID-19 pandemic and was placed on the backburner. The patient experience coordinator and the pharmacy manager both verbalized that there is a need for improvement and progress towards that goal will be a top priority once again after the COVID-19 pandemic has subsided. The telemetry unit manager

verbalized that patient education and the current delivery of education is one of the greatest concerns that she is currently trying to improve (T.E, unit manager, personal communication).

Nurses interviewed on the telemetry unit voiced frustration ranging from lack of available quality patient medication handouts, limited time to educate, uncertainty of unit expectations in regard to medication education, and a feeling that patient knowledge of prescribed medications at the time of discharge is lacking (E.E., K.A., L.P., M.M., T.D., & T.O., unit nurses, personal interview). One of these nurses has printed and given patients education handouts from other health systems that she felt far exceeded the quality of handouts available at this hospital. Administration verbalized that this was not acceptable and that she should not do this again.

The group of nurses mentioned above, collectively agreed that a medication education tool with commonly prescribed medications and their side effects would be helpful in order to initiate the education process early on. This would be a standardized approach with the tool readily available at the bedside, thereby facilitating patient comprehension of new medications and their side effects. In consideration of the above, it is easy to acknowledge that every hospital should seek to implement a consistent, standardized medication education approach that is understandable to patients and provides a tool to guide nurse education of new medications.

Purpose Statement

The purpose of this project is to implement a standardized, systematic, evidence-based approach to the patient medication education process on the telemetry unit of a large central Montana health system. The overall goal is to improve HCAHPS scores and thereby 1) increase patient knowledge of new medications, 2) increase payments/reimbursements to the organization, and 3) decrease nurse frustration with medication education.

Patient education and understanding of prescribed medications will be improved through the use of a simplified and standardized education process related to new medications and their side effects. This will be done through the development and use of a tool which outlines eight of the most common classes of medications used on this floor and their side effects. This tool will be placed in every room on admission and will be a useful guide to facilitate patient medication education. It will be available to the patient for the duration of their hospital stay, thereby serving as a printed, easy to understand guide that the patient and nurse can refer to at any time. Using this tool will increase patient knowledge of new medications and their side effects and decrease nurse frustrations with the new medication education process; thereby, HCAHPS scores should increase. In addition, the hospital would realize an increase in payments/reimbursements to the organization due to financial incentives being paid related to patient outcomes which are directly correlated to HCAHPS scores. Finally, decreased costly 30-day readmission rates are associated with higher HCAHPS scores and thereby result in financial gain (Chen et al., 2020).

Congruence of DNP Project to Organization's Mission, Goals, and Strategic Plan

The health system's mission is to provide excellent care for all. Delivering care that lives up to this mission and meet the goals of the organization means that every patient will be treated with respects and all services rendered are to the best ability of each individual caregiver. Taking HCAHPS scores and patient satisfaction into account, it is easy to acknowledge that this organization must strive to provide excellent care and patient satisfaction and earnestly seek to increase HCAHPS scores that showcase this accomplishment.

Financially, reimbursement for services rendered at this health care system in the form of payments from CMS account for 80% of total yearly revenue, and to receive the CMS rate of pay without penalties, only scores of 9 or 10 are acceptable (J.B., patient experience coordinator, personal communication). Using this data, one may visualize the financial impact that attaining high scores and subsequently a higher reimbursement rate will allow this organization to carry out its' mission of providing excellent care for all. Conversely, taking into account that 80% of reimbursement is dependent on receiving quality scores, one may surmise how detrimental low-quality scores are to the financial outlook of the organization. Furthermore, low satisfaction scores could result in decreased revenue net margin, brand recognition, and customer loyalty (Deloitte, 2016).

Patients can readily perform an internet search on any organization and associated care outcomes. This often drives decisions of which healthcare systems are utilized. If hospitals are able to improve HCAHPS scores through quality improvement projects; patients, staff, and the healthcare systems themselves stand to reap the benefits. Striving to properly educate patients on their medications through quality improvement projects is one way to meet the IOM's objective of making healthcare safer and improve the patient experience (Chassin, 2019).

CHAPTER 2

REVIEW AND SYNTHESIS OF THE
EVIDENCE IN THE LITERATUREIntroduction on Literature Review

Healthcare systems worldwide are actively seeking, through health education, to empower patients to take responsibility for their own health by building patient/clinician partnerships (AHRQ, 2019; Marcus, 2014). One of the principal ways these partnerships are possible is when communication lines are open and effective (Berman & Chutka, 2016; Voigt-Barbarowicz et al., 2020). Effective communication with patients has demonstrated improved patient outcomes, medication adherence, and increased patient satisfaction (ACOG, 2012; Berman & Chutka, 2016; Leonard, 2017; Voigt-Barbarowicz et al., 2020). Inversely, poor communication has been linked to compromised patient safety, resource wasting, and patient dissatisfaction (Vermier et al. 2015; Leonard, 2017; Tiwary et al., 2019). As such, patient/provider communication is a fundamental part of successful education and a key component of patients who are actively involved in their own care. Patient knowledge/understanding of new medications that are prescribed along with applicable side effects are thereby a necessity. Such patients are empowered to understand their own health and manage various chronic disease states (Murdock & Griffin, 2013; Marcus, 2014).

Synthesis of Strengths and Limitations of Planned Practice Change

This evidence review will provide a synthesis of the evidence supporting the use of a medication education tool that will standardize and simplify the education process related to new medications and their side effects. Patient learning style, patient literacy, health literacy, teaching methods, and nurse utilization of a standardized education delivery approach will be reviewed. These factors greatly influence patient comprehension and learning of new material (Beagley, 2011; Giuse et al., 2012; Marcus, 2014). Moreover, a standardized process is crucial to guide patient education and is key in making sure that essential education/information is not missed (Rodgers et al., 2018).

As already mentioned, literature states that patient outcomes and satisfaction scores in the new medication education category are directly tied to understanding of new medication and side effects education (Marcus, 2014; Waszak et al., 2018; Yen & Leasure, 2019). All education, however, is not equally effective. Failure to assess patient comprehension of provided education or not using evidence-based teaching strategies can result in patients giving a low rating in the new medication education and side effects HCAHPS category (ISMP, 2020). Additionally, this review will consider how patient satisfaction scores are tied to organization financial incentives and decreased 30-day readmission rates. The quality of evidence was determined using Melnyk and Fineout-Overholt's (2015) rating system for the hierarchy of evidence and Joanna Briggs Institute (2013) quality of evidence rating system (Appendix D).

Best Practices for Communicating Patient Education

Thorough, in-depth teaching of new medications and recognizing the need for patient education is widely acknowledged to be one of the responsibilities of nurses who provide patient care in the hospital setting (Fereidouni et al., 2019). Whenever a new medication is prescribed, nurses are expected to educate a patient on therapeutic use and any side effects that could potentially manifest before administering the medication to the patient. This education is crucial to patient understanding of new medications and their side effects and results in improved patient safety, healthcare outcomes, and patient satisfaction (Haupt, 2015, Talbot, 2018). Nurses, for the most part, are autonomous in how they deliver the needed education, and their knowledge and experience often guides their teaching. Due to this being the norm, there is substantial variation in approach and the quality of education can be lacking.

Teaching on new medications and their side effects is a continual process, and patients should understand that information will be repeated until they discharge from the hospital (Rodgers et al., 2018). Understanding therapeutic use of medications and their side effects is vitally important for patient adherence to the prescribed medication regimen, obtaining therapeutic outcomes, and decreasing patient mortality (Ahrens & Wirges, 2013; Fereidouni et al., 2019). Best practices are to continue medication education and side effects teaching with every dose and continue until patient discharge from the hospital (Fereidouni et al., 2019; Prochnow et al., 2019).

In consideration of these best practices, intuitive knowledge is that any education process should implement evidence-based approaches that guide patient learning and understanding. Additionally, the ISPM (2020) recommends that a standardized systematic approach be used

with patient education. A medication education tool that is designed with the patient in mind and uses simplified language with visual cues can be used as a reliable, standardized education approach. This tool can be used as a guide for nurses to educate patients so that education delivery is consistent, succinct, understandable, and at a teaching level that is understood by the patient.

Teaching Strategies/Methods

Delivering patient education of new medications and their side effects requires a consistent approach and clear instructions. Nurses should utilize both written material and verbal communication strategies because these methods combined are a more effective approach than providing written material only (Ahrens & Wirges, 2013; Joanna Briggs Institute [JBI], 2007,). Even though this dual approach is best, when only one option exists, written material by itself is superior to verbal education only (JBI, 2007). Printed education should be available at the bedside and can be used as a reference whenever questions arise or patients would like to refresh their memory (Vermier et al., 2015). Additionally, three education sessions are superior to two (JBI, 2007). This approach is consistent with the expectation that patients receive teaching prior to administration of new medications, with every medication dose thereafter, and upon hospital discharge.

Moreover, assessment of written/verbal education can be challenging due to patient literacy/health literacy level. Two strategies that have been successfully used by multiple organizations are the teach-back method or the Ask 3/Teach 3 approach (The Joint Commission, 2010; Cleveland Clinic, 2013; Marcus, 2014; Gillam et al., 2016; Talevski et al., 2020). The Ask 3/Teach 3 approach and the teach back technique are recommended strategies to assess whether

patient education has been successful (Marcus, 2014). The teach-back technique requires patients to restate in their own words the education that the nurse has provided and is used to enhance and validate patient understanding (Talevski et al., 2020). The Ask 3/Teach 3 approach encourages patients to ask the name of the medication, why it is important, and what the potential side effects might be (Cleveland Clinic, 2013). These two strategies complement each other, and any misunderstanding or lack of clarity can then be successfully mitigated. Improved patient understanding, patient satisfaction, and healthcare outcomes are seen when these approaches are used to communicate important health related information (AHRQ, 2020).

Literacy Level

Health education material is consistently written at a grade level that most patients find difficult to comprehend (Stossel et al., 2012; Williams et al., 2016). Materials that are easily understood will improve patient self-efficacy, comprehension, and influence healthy behavior (Stossell et al., 2012). It has been discovered that 23% of adults read at or below a 5th grade level (Safeer & Keenan, 2005; The Joint Commission, 2010). For this reason, patient education should be written at or below a 5th grade reading level (Remshardt, 2011; The Joint Commission, 2010). This increases patient satisfaction and comprehension of material (Stossel et al., 2012; Williams et al., 2016). Readability, which is defined as the average grade and difficulty level of written material (Hadden et al., 2017), by itself does not translate into patient comprehension of education material. Compounding this problem is the finding that various readability calculators (Flesch-Kincaid, Gunning Fox Index, etc.) used to compute ease of reading often provide different results (Stossel et al., 2012; Williams, et al., 2016).

Increased patient satisfaction and patient comprehension of written material was observed when education materials were revised to a lower grade level (Stossel et al., 2012; Williams et al., 2016). Limitations of these studies included focusing solely on readability of material and giving no consideration to layout, content, or previous patient knowledge. Further limitations were that various readability calculators may give different results and that readability by itself does not translate into patient comprehension of education material (Stossel et al., 2012; Williams, et al., 2016). To facilitate comprehension of written and verbal education material, facial expression and body language are also used to provide key information (Vermier et al., 2015). Another consideration is that more than 85% of patients are ashamed of their limited literacy; as such, the educator needs to carefully monitor patients for signs that this might be the case (Brown et al., 2016).

Health Literacy Level

The National Library of Medicine (n.d, p.4) defines health literacy as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.” In the United States, 36% of the adult population has limited health literacy skills (AHRQ, 2020). Health literacy requires patients to make connections between obtaining, processing, and subsequently understanding healthcare information and services, and then tying that knowledge into their disease process (Remshardt, 2011). Patients who do not understand their medication regimen struggle with medication non-adherence and other health care issues that are linked to low health literacy (Joplin et al., 2015). Educating patients requires nurses to make sure patients comprehend ever more complex

medication regimens which can be confusing even to patients with higher levels of health literacy (Remshardt, 2011).

To combat the challenge of low health literacy, the educational message must be simple and understandable with the expectation that the patient is able to summarize and restate the information (Remshardt, 2011). The Joint Commission (2010) recommends that written material for patient education should use bullet points to divide complex information, and recommends the use of different fonts, layouts, and designs throughout the document to improve health literacy. Visual aids can also be used to enhance patient health literacy (Remshardt, 2011; Pratt & Searles, 2017).

Teach-back

Implementing teach-back into the educational approach has been shown to increase patient satisfaction, disease comprehension, patient disease self-management, decreased readmissions (Yen & Leasure, 2019) and improved patient comprehension of medication instructions (Waszak et al., 2018). Limitations were small sample size, inability to track patients for follow-up, and patients who had previously received some type of medication education (Waszak et al., 2018; Yen & Leasure, 2019). HCAHPS scores measuring patient satisfaction of new medication teaching and associated side effects improved anywhere from 10% to 47% when teach-back was implemented in the hospital setting (Ahrens & Wirgens, 2013, Gillam et al., 2016, Prochnow et al, 2019). Limitations across these studies included lack of patient follow-up, small sample size, lack of using a control group, and pre-and-post implementation studies. Finally, evidence from a systematic review by Talevski et al. (2020) discovered that the use of the teach-back technique was effective in 19 out of 20 studies among multiple healthcare

settings; this accounted for a 95% effectiveness of using this method. Limitations of the studies used in this review were that half of the studies lacked a detailed implementation description. A meta-analysis was impossible due to the heterogeneity of outcome measures. In seven studies the teach-back was done by the researchers themselves (Talevski et al., 2020).

Simplified, Standardized Tool

Quality improvement projects that include a standardized medication education tool have successfully achieved excellent outcomes upon implementation of such projects. A medication hand-out that includes drug classification, drug action, and the top five side effects of common medications, improved new medication education and side effects HCAHPS scores by 43% on a telemetry unit with positive patient feedback (Ingles et al., n.d.). Similarly, scholarly projects completed by students as a requirement of graduation have demonstrated drastic improvement in medication HCAHPS scores upon implementation of the intervention in their respective healthcare systems (Orgon, 2019; Ross, 2018; Salmon, 2020). The tools used are geared towards a simplified, standardized process using the teach-back approach and all projects demonstrated increased HCAHPS scores in the medication domain (Gibson et al, 2017; Ingles et al., n.d.; Orgon, 2019; Ross, 2018; Rovell et al, 2012; Salmon, 2020). In one project, medication HCAHPS scores increased from the 11th percentile to the 82nd percentile (Salmon, 2020), while another project demonstrated a more than 30% increase across medication HCAHPS scores (Ross, 2018). The limitations of these studies included nurse inconsistency with tool usage, patient motivating factors, and patients who verbalized that they did not understand the content (Orgon, 2019, Ross, 2018; Salmon, 2020).

Evidence shows that there are benefits of an education tool that lists commonly prescribed medications and side effects and is placed at the bedside where it is readily accessible to patients and nurses at any time (Ahrens, 2013, Gillam, 2016, Haupt, 2015, Talbot, 2018, Villareal, et al., 2017). Strengths across these studies include patient verbalization of tool simplicity, recognizing the importance of proper education, ease of tool use for nurses, and use of the tool in most any setting (Ahrens, 2013, Haupt, 2015, Talbot, 2018; Villareal et al., 2017). The limitations described are lack of a control groups and the difficulties of measuring success if the medication is not part of the common classes listed. Major increases in HCAHPS scores are demonstrated across all studies. Finally, a systematic review found that written information in general did not increase patient knowledge, but the way information is presented is what creates the difference in patient knowledge (Raynor et al., 2007). Limitations identified in this review include the delivery and nature of the content and several of the methods used in many of the studies were of poor quality (Raynor et al., 2007).

Summary/Discussion of Importance of Practice Change to Organization

In summary, education materials should be clearly articulated and delivered in a standardized and concise manner. To achieve this objective, development of a tool that incorporates verbal feedback and includes teach-back modalities should be created using a 5th grade literacy level (Remshardt, 2011). Developing a therapeutic patient/nurse partnership using evidence-based teach-back practices through the use of a simplified, standardized education tool will likely improve medication related HCAHPS scores upon implementation. The organization will not incur significant cost through the development and implementation of this tool and new

patient education process. There is already a clipboard in every patient room, and the cost of paper/ink supplies will likely be minimal. There will be no additional training cost associated with the new process. Training will be done as part orientation for new employees and during the daily morning huddle for current employees.

Increasing HCAHPS scores in the medication domain is the main objective of this project. CMS rewards hospitals through financial incentives on the quality of care that is provided by using data from HCAHPS scores (CMS, 2017). High HCAHPS scores correlate to lower medical malpractice, decreased mortality, and staff turnover while improving financial performance by building customer loyalty and brand reputation (Deloitte, 2016). Additionally, this practice change will reduce staff turnover and lower medical liabilities which are worthy of consideration when contemplating organizational benefit. Finally, hospitals with “excellent” HCAHPS scores have a net revenue margin of 4.7% compared to 1.8% for hospitals with “low” ratings (Deloitte, 2016). As such, it is acknowledged that improved HCAHPS scores increase financial performance significantly.

CHAPTER 3

SETTING AND METHODS

QI Framework

The Model for Improvement was used to guide the quality improvement project of implementing a standardized, simplified medication education tool on the Progressive Cardiovascular Unit (PCVU). This model is comprised of the following three questions: 1) figuring out what needs to be accomplished, 2) recognizing whether the specific change is an improvement, and 3) subsequently implementing changes that will result in improvement along with the Plan, Do, Study, Act (PDSA) Cycle (Langley et al., 2009, p. 5). Langley et al. (2009) state that these questions are asked and then answered with the end goal in mind through the use of the PDSA Cycle. The model is an exceptional guide for any quality improvement project because it allows one to continuously plan, carry out, observe/learn, and then modify the intervention as needed (Christoff, 2018). Langley et al. (2009) further propose that improvement is based on knowledge and that knowledge is derived from theory. The PDSA Cycle was used to facilitate this process through the use of deductive and inductive learning (Langley, et al., 2009, Lynch et al., 2018).

The Model for Improvement with the PDSA Cycle, a quality improvement framework, will be used to increase HCAHPS scores. This project will be deemed successful once HCAHPS scores on new medication education increase to 80% and education on new medication side effects scores increase to 60%. The change that took place was the design and implementation of a simplified medication education tool which simplified and standardized the medication

education process. Previous attempts to increase HCAHPS scores in the medication category in the past which were largely unsuccessful. Recognizing these pitfalls and subsequently addressing issues through the use of a PDSA Cycle was useful. Furthermore, whenever new problems were encountered, repeated use of properly designed PDSA Cycles led to quick and effective design changes which facilitated the desired end results (Bartman et al., 2018).

Agency Description

This project took place at a large, non-profit health care system based in central Montana with a service area of 38,000 square miles and community-based outreach services present in 94% of Montana counties. This health system has 220 inpatient hospital beds, numerous outpatient clinics, and serves approximately 164,000 residents. This facility was state of the art and employed more than 3,300 individuals and nearly 300 providers who practice more than 40 different specialties.

Setting

The PCVU is a 33-bed critical care cardiovascular, neurological, and intensive care step-down unit with all patient's requiring telemetry monitoring. Staff consists of a total of 56 registered nurses (RN's); eight RN's scheduled per 12-hour shift and one operation specialist per shift who serves as the unit charge nurse and go-to resource person for any questions. The patient demographics range from acute myocardial infarction, stroke, coronary artery stent placement, post-op coronary artery bypass grafting, thoracic surgeries, and patients who are not hemodynamically stable. The nurse/patient ratio is 1:4 with many of these patients spending only

one night in the hospital; as such, turnaround time can happen quickly and necessitates quick, thorough education on new medications and their side effects.

Target Population

The target population of this project were patients who stayed in the hospital for at least one overnight stay and required 24-hour telemetry monitoring. The majority of patients were estimated to be over 60 years of age, but this unit will take care of anyone over the age of 18. Most of the patients, approximately 75%, suffered from some type of cardiac issue (hypertension, rate control, etc.). Additionally, if patients developed some type of heart or neurological complication on another inpatient floor, transfer to PCVU took place. Approximately 15% of the patients on PCVU were step-down patients from the intensive care unit (ICU) who were stable but required an extra few days of telemetry monitoring while their needs were assessed and the logistics of a safe discharge plan were put in place.

Description of Stakeholders

The key stakeholders of this project were the patients who received care on PCVU, nurses who worked on PCVU, the unit manager of PCVU, hospital pharmacists, and hospital administration. The administrative stakeholders included the patient experience coordinator and personal in charge of hospital finances. Patients on the PCVU needed to be knowledgeable in regard to the medications that they received so that they consistently rate their hospital experience as positive and feel empowered to take control of their own health (Nicholson, et al., 2017). In addition, if patients were aware of side effects, they adhered to the prescribed medication regimen far better than patients who experienced side effects that were unexpected or

unanticipated (Taibanguay et al., 2019). Patients also might have considered internet reviews which potentially guided their choice of facilities that they choose for their care.

Nurses on the PCVU had a vested interest in the creation of this medication education tool that guided their patient teaching and was available at bedside for the patient to reference. Increasing HCAHPS scores related to medication and their side effects education were metrics that the PCVU manager and the patient experience coordinator tracked as part of unit and hospital metrics. As has already been explained, financial reimbursement is driven by patient experience and HCAHPS scores that are above national benchmarks. Financial incentives increase PCVU and hospital operating revenue and are a driver of profitability and growth.

Facilitators and Barriers to Implementation

A Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis was a recommended tool used to successfully implement this quality improvement project. A SWOT analysis allowed for the identification and careful consideration of organizational strengths, weaknesses, existing opportunities, and any threats to the organization or project. Through the use of this tool, anticipated problems were potentially identified and mitigation strategies developed. Likewise, projects can be tailored to take full advantage of an organizations' existing strengths and opportunities and thereby help ensure project success (See Appendix B for SWOT Analysis).

This is a large organization with numerous resources that helped to facilitate the implementation of a medication and side effects education tool on the PCVU. Original plans for tool development included input from the lead pharmacist who has worked for the past twelve years for this organization and was knowledgeable in the day-to-day process of patient care and

organizational policy. Unfortunately, due to a pandemic and other issues, no input from the pharmacist was received. The tool was developed collaboratively between the project lead and the unit manager. The unit-based educator, who was in charge of all education including new employee onboarding, has been a member of the PCVU education committee for years and realized the struggles that RN's face when providing patient medication education. This individual has agreed to teach newly hired RNs on the new medication and side effects education tool and make this process a part of the required onboarding process for the PCVU. Improving new medication and side effects education was a goal of the patient experience coordinator for 2021. Finally, this project had the full support of the financial management team as HCAHPS scores drive financial reimbursement to the organization.

Identified weaknesses were that the RN's did not feel they had the time required to thoroughly educate patients on new medications and their side effects. The COVID-19 pandemic exacerbated this problem as it created an additional workload for nurses. High staff turnover, due to working short-handed, hampered project success. Finally, the lack of simple, quality education patient handouts to supplement the simplified new medications and their side effects tool was another limitation.

Opportunity that existed was the excellent teamwork of the PCVU RN's. This team worked well together and frequently helped out if a co-worker struggled or a patient did not do well. Another identified opportunity to facilitate change was that numerous RN's verbalized that change is needed to guide the patient medication education process. If change is requested, the likelihood of project success increases (Noguchi-Watanabe et al., 2018). Examples of medication tools that were available from organizations who have successfully used these tools to improve

HCAHPS scores in the medication and side effects education categories provided a framework for how a new medication tool could be developed and implemented (Ahrens et al., 2013; Gillam et al., 2016; Prochnow et al., 2019).

Threats to the success of this project were low patient survey responses which can be a frequent problem whenever surveys are sent to patients regarding their hospital stay concerning the care they received. Trying to measure the success of any project is difficult when the patient response rate is low. For example, if only two patients respond to the monthly CMS survey and one of them scores the new medication education a seven, a HCAHPS score of only 50% will be realized in this category for the respective month because this is below the nines and tens that are required for financial incentives (J.B., patient experience coordinator, personal communication). Upon hospital discharge, an organization is expected to let patients know that CMS will send a survey about their hospital experience, but there is little that can be done otherwise to mitigate low survey responses (J.B., patient experience coordinator, personal communication). Further threats to the success of this project were patient literacy level and patient distraction whenever education was provided. In addition, if a new medication is initiated on the day of patient discharge, there is little time to properly educate and allow the patient the opportunity of asking questions regarding new medications and side effects. Finally, poor nurse communication techniques and individuals who refuse to follow the new standardized process were additional threats to implementation.

Project Design

This project was designed to implement a standardized, systematic, evidence-based patient medication and side effects education tool on the PCVU of a large central Montana health

system. The overall goal of the project was to improve HCAHPS scores by increasing patient knowledge of new medications and their side effects, increase payments/reimbursements to the organization, and decrease nurse frustration with the medication education process. Patient education and understanding of prescribed medications were improved through the use of a simplified and standardized education tool which outlined eight of the most common classes of medications used on this floor and their side effects (Villareal et al., 2017). After approval of the tool by the unit manager, education of the PCVU staff was completed by the project lead. Following completion of RN teaching regarding the new medication and side effects education process, the tool was placed in every room on admission and used as a handy guide to educate patients. It was available to the patient for the duration of their hospital stay, thereby serving as a printed, easy to understand guide that the patient and nurse could refer to at any time. Using this tool increased patient knowledge of new medications and their side effects and decreased nurse frustrations with the new medication education process; thereby, HCAHPS scores should increase. Finally, achievement of HCAHPS scores that are above national benchmarks result in increased reimbursements to the organization through financial incentives. The specific, measurable, attainable, relevant, and time-based (SMART) goals that have been established for successful implementation of the project were as follows:

1. The new medication and side effects teaching tool will be 100% ready for use and approved by the unit manager before November 15, 2020.
2. The new medication and side effects teaching tool will be reviewed and approved by the unit manager by November 21, 2020.

3. 100% of nurses working on the PCVU will be trained regarding the use of the new medication and side effects education tool by December 1, 2020.
4. On the PCVU, the developed educational tool will be in patient rooms and in use 100% of the time by the end of week 4 of tool usage implementation.
5. Hospital HCAHPS scores on new medication education will increase from the current 75.7 % to 80 % by the second quarter of 2021.
6. Hospital HCAHPS scores on new medication side effects education scores will increase from the current 55.6 % to 60 % by the second quarter of 2021.

Project Methods

Procedures/Implementation Plan

This project implemented a standardized medication education tool which was placed in every patient room upon admission (See Appendix A). The medication education tool became a part of the initial admission paperwork packet that is prepared by the unit secretary and then given to the patient by the RN who admitted the patient. The RN then let the patient know what the standardized medication education tool is, how it should be used, and that it will be kept as a reference at the bedside that the patient may refer to at any time. The education handout was written at a 5th grade level to facilitate patient comprehension and included eight common classes of medications frequently prescribed on PCVU and their commonly associated side effects.

The new medication and side effects education tool was developed by the project leader and reviewed and approved by the PCVU manager. Once approval was granted, education of the PCVU RN's was completed by the project leader and included a handout of the medication education tool and an educational session on the expected use. The RN training was expected to

occur by the project leader at 0700 morning PCVU report and again at 1900 night-shift report. RN's on the PCVU typically work blocks with Wednesday night and Thursday morning being the group turnover days. Using this plan on consecutive weeks was proposed to allow for the majority of RN's to be educated using this scheduled shift switch pattern. Additionally, a PCVU wide email was sent with an attachment of the medication tool and a description of this project. This information was also placed in the "huddle book," which is a binder of weekly unit updates, unit expectations, and required education completed weekly by each RN. The expected use was that the RN delivered the medication education tool to the patient's room upon admission to the PCVU and described to the patient how the tool will be available at bedside, should be used to facilitate teaching, and used as a medication and side effects patient reference.

Human Subject Protection

A query to the Montana State University Internal Review Board was completed prior to the implementation of this project. Since there were no patient data or patient identifiers obtained, this project was exempt from IRB review. Education of the nurses prior to rollout of the medication education tool, only required attendance at the tool informational session. HCAHPS scores are an aggregate of de-identified patient data, so no human subjects' protection was required for this part of the outcome measures.

Data Collection and Analysis

A sample of six rooms out of a PCVU total of 33 were selected for auditing purposes. Audit checks were completed twice a week to make sure that the tool was in the room and at the patient bedside. The project leader completed room audit checks for a duration of four weeks.

Two PDSA Cycles were completed. A run chart helped identify the project leader of any issues. (Timeline/Implementation plan see Appendix C).

After development of the new medication and side effects education tool, training of the PCVU RN's was done by the project leader. A goal of 100% was set that the unit nurses attended these training sessions as described earlier with signature confirmation of attendance. Nurses who missed this training were able to review the weekly "huddle book" and also received an email explaining the new medication and side effects tool with a copy of the tool attached. Data was analyzed at the completion of each PDSA cycle to inform the project lead for needed adjustments.

Finally, as this project was designed to increase new medication education and side effects HCAHPS scores, an increase in scores in these two categories will be the final measurement of project success. These scores are calculated by CMS (2011) and are categorized by "Top Box, Middle Box, and Bottom Box." Top Box scores are most favorable (Always, Yes, Definitely), Bottom Box are least favorable (Sometimes, Never, No, Definitely No, Probably No), and Middle Box are the midpoint (Usually, Probably Yes) with patients answering these questions as included in the parentheses (CMS, 2011). This data will be available by Quarter 2 of 2021. Limitations are patient responses and the amount of time that passed between project implementation and when HCAHPS scores are available for the respective period.

Resources Needed

One significant identified resource was the lead pharmacist at whose expertise was unfortunately not available due to the COVID-19 pandemic. The unit manager and patient experience coordinator were required resources because they were in a position to deal with

nurses' problems if lack of tool placement in room became an issue. The PCVU managers approval of the tool and her guidance were needed throughout the project. The organization did not incur significant cost through the development and implementation of this tool and the new patient education process. There was already a clipboard in every patient room, and the cost of paper/ink supplies was minimal. No additional training cost was associated with the new process. Training was done as part of new employee orientation and for current employees, it was a part of daily morning and evening huddle.

Feasibility and Plan for Sustainability

This was a feasible plan as it required minimal finances to implement and had the potential to significantly improve patient satisfaction and hospital reimbursement through higher HCAHPS scores in the new medication and side effects education category. Time constraints were a limitation as the project leader is a full-time student and also had to work outside of school hours. The PCVU is an extremely busy floor and some limitations encountered where that the nurses were too busy to educate patients or forgot to make sure that the medication tool was at the patient bedside.

For sustainability and to ingrain this process as the new standard, the unit educator agreed to educate new nurses on the medication and side effects tool as a part of new nurse orientation process. Additionally, this person devoted an annual 15-minute time slot during one of the quarterly eight-hour training sessions that all RN's were required to attend. There was already a patient experience coordinator at Hwho is monitoring HCAHPS scores, so this individual will continue to monitor for sustainability and will let the unit manager know if HCAHPS scores

again lag in the medication and side effects education category. Monitoring of HCAHPS scores will alert management of any problems early on so that corrective action can be implemented.

CHAPTER 4

RESULTS

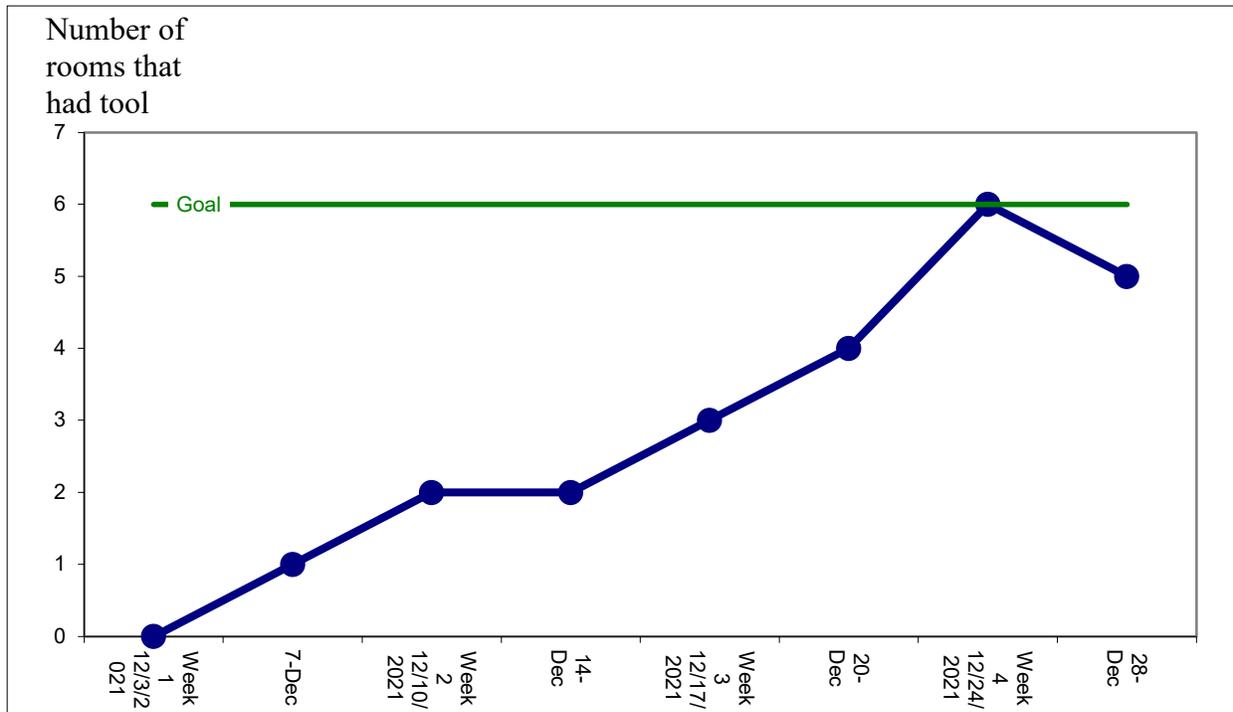
A key component to increasing new medication and side effects HCAHPS scores was the creation of a simplified, easy to understand patient education tool. The goal of having this education tool developed and ready for approval by the PCVU manager on November 15, 2020 was not met. The tool was created on November 20, 2020 and sent to the unit manager for approval. Modifications to the tool were suggested. As a result, the goal of securing manger approval for the new medication and side effects tool was not met by November 21, 2020. Manager approval was granted on November 26, 2021 after tool revision. Permission to educate staff was granted on this day.

The goal to educate 100% of the PCVU nurses on the new medication and side effects tool by December 1, 2020 was not met. On this date, 18 PCVU nurses (42% of total RN's) were educated. The total nurses educated by December 8, 2020 were 46 (87%). A total of 5 part time RN's (9%) and 2 full-time RN's (4%) did not receive education on the patient education tool. In addition, 3 secretaries and the unit manager were educated on the tool and its use.

The goal of having the tool at the patient bedside 100% of the time after Week 4 of project implementation was not met. To confirm that the tool was at the bedside, twice weekly audit checks were completed for a total of four weeks. These audit checks started the week of December 1, 2020 and were completed the week of December 28, 2020. Two PDSA Cycles were completed. Improved rates of having the tool in the audited rooms were realized after each respective two-week PDSA Cycle. (see fig.1).

HCAHPS data will not be available until Quarter 2, 2021 from CMS. As such, it is unknown at this time whether the goal of increasing hospital HCAHPS scores on new medication education from the current 75.7 % to 80 % was successful. Likewise, increasing hospital HCAHPS scores on new medication side effects education from the current 55.6 % to 60 % is not available either. This data will also be available after Quarter 2, 2021.

Figure 1. Twice Weekly Audits



Note. This figure provides a graphical representation of rooms with education tool at bedside during each audit. 6 rooms out of a total of 33 PCVU rooms were audited twice weekly. Two PDSA Cycles, each a duration of two weeks, were completed.

CHAPTER 5

DISCUSSION

This project was designed to implement a standardized, evidence-based approach to increase HCAHPS scores in the new medication and side effects education category. The main objectives that were identified at the onset of this project were to increase patient knowledge of new medications, increase payments/reimbursements to the organization, and decrease nurse frustration with medication education. Six SMART goals were established as objective measures for project success. A tight timeline was established early on in the project. Multiple instances occurred where goals were not met in a timely fashion due to unforeseen circumstances. This being the case, adjustments were made accordingly.

With patient outcomes and satisfaction scores in the new medication education category being directly tied to understanding of new medication and side effects education (Marcus, 2014; Waszak et al., 2018; Yen & Leasure, 2019), a new medication and side effects education tool was created per recommendations that identified best practices to increase patient literacy level (Stossel et al., 2012; Williams et al., 2016). This patient education tool was written at or below a 5th grade level due to recommended best practices (Remshardt, 2011; The Joint Commission, 2010). Revising extremely technical information to meet the above criteria proved difficult; as a result, development of the medication tool took one week longer than anticipated. This being the unfortunate situation, established timelines throughout the project were adjusted accordingly due to a worldwide pandemic, overburdened hospital capacity, and staffing shortages as will be detailed later.

Personal interviews with patients demonstrated that this revised, simplified tool increased patient understanding of their medications consistent with similar studies that increased patient satisfaction and overall positive healthcare outcomes (Joplin et al., 2015; Pratt & Searles, 2017; Remshardt, 2011). The tool was placed at the patient bedside so that the patient could reference his/her medications at any time as supported by numerous studies (Ahrens & Wirges, 2013; Fereidouni et al., 2019, Prochnow et al., 2019, Rodgers et al., 2018). Several nurses on the PCVU were excited to have the new medication and side effects teaching tool at the patient bedside and comments received were “this was really needed” and “the patients like it.” These comments suggest that understanding the specific needs of patient medication education is important for developing tools that will be successful. Interviews with several nurses midway through project implementation supported this intervention.

Patients who were on the PCVU and had recently suffered heart attacks and/or those with newly diagnosed heart failure were described as patients where the tool worked particularly well and facilitated patient teaching. The medication education tool was geared to such a patient population as it was known by the project lead that the majority of patients on the unit were admitted for cardiac problems and were prescribed similar medications that were included in the tool. Furthermore, the medication education tool facilitated patient/nurse communication and provided a written guide to support verbal instruction which is consistent with similar education interventions (Ahrens & Wirges, 2013; Joanna Briggs Institute [JBI], 2007, Vermier et al., 2015). Identification of medications common to certain floors (i.e., Surgical, Medical, Oncology, Intensive Care, Pediatrics, Labor and Delivery, etc.) would certainly increase medication and side effects education HCAHPS scores for these respective patient populations.

Providing education to all of the PCVU nurses prior to project implementation was impossible after missing some important deadlines early on. Initially, the plan was to have all the nurses on PCVU complete education on the tool by December 1, 2020. Unfortunately, having secured manager approval only four days prior, this goal was not met. Not wanting to delay implementation, a rolling educational process was developed. All nurses working on December 1 were individually educated on this project. They were provided instructions on tool usage and the expectation of having the tool at the patient bedside. After the initial training session on December 1st, the remaining nursing staff received individual one-to-one training was provided by the project lead utilizing the PCVU master staffing list and a check-off style approach.

A PDSA Cycle was completed after the 1st week of implementation. A discovery was made that nurses were not placing the tool at the patient bedside if the patient was from an assisted living facility, was obtunded, or had an at home primary caregiver. Such situations were not taken into account during the project planning phase. To counter this problem, it was determined that every patient admitted to the PCVU floor should have the tool at the patient bedside. For patients requiring a caregiver, it was noted that this medication education tool would be useful because it is essential that whoever administers medications should be aware of the prescribed medications therapeutic use and its side effects.

The project audit design was created to sample six rooms out of a total of 33 available. The PCVU is divided into four nursing station pods and labeled as follows, “Red Pod 8 rooms, Blue Pod 9 rooms, Green Pod 8 rooms, and Yellow Pod 8 rooms. Prior to each day’s audit check, a selection of one or two rooms from each Pod were identified for audit two times per week.

These rooms were audited as to whether the new medication and side effects education tool was at the patient bedside.

Of concern is that if an audit check was completed on a new patient admission, the possibility existed that the nurse had not yet had the opportunity to make sure the tool was delivered to the patient bedside. If this happened, the room was labeled as not having the tool at the bedside, even though it was likely that it would have been there a few hours later. It is a requirement that telemetry strips be placed into the patient chart upon admission, when this strip is placed, it should be used as a cue to deliver the medication tool to the patient bedside.

Finally, the possibility existed that more than 50% of a given days audit checks were potentially patients assigned to one nurse. If the assigned nurse wasn't at all concerned in making sure that the new medication and side effects tool was at the bedside, low tool at the patient bedside audit rates resulted. Likewise, if a nurse was extremely diligent in making sure that the education tool was at the patient bedside, it resulted in a score of 100% of having the tool in the room. As such, it is crucial that RN buy-in is encouraged because the success of a project may hinge on this fact. To facilitate RN support, a suggestion would be to have nurses at the initial education session to identify two facts identifying why they consider medication education important and how new medication and side effects education will benefit patient outcomes. If individual nurses continue to struggle with placing the medication tool at the bedside, a one-to-one session with the unit manager will serve to enable a joint approach in solving this problem.

Meeting the last two identified goals which are increasing HCAHPS scores of new medication education from the current 75.7 % to 80 % by the second quarter of 2021 and new medication side effects education scores from the current 55.6 % to 60 % by the second

quarter of 2021 have not yet been realized. This is due to CMS reporting HCAHPS scores two quarters after the actual patient hospital stay dates. Time is required to interview patients on their hospital experience/perception of care and then publish this data to organizations.

Challenges

Significant barriers to implementation were encountered. PCVU manager approval of the medication education tool was not granted until four days prior to anticipated project roll-out because the manager had other pressing issues to deal with at a time when the hospital capacity was at 130%. Tool revision was required after the PCVU manager recommended a verbiage change. Although this slowed the progress of the project, it ultimately led to an improved, clearly worded medication education tool.

Another challenge was that the lead pharmacist was not able to help with the creation of the new medication and side effects tool. This was identified as a strength in the original SWOT analysis but failed to materialize. This pharmacist spends the majority of his time on the Intensive Care Unit which was under strict lockdown due to the COVID-19 pandemic and a 130% hospital capacity. By not receiving any input from this individual, upon submission of the tool to the unit manager, revisions were needed. These revisions caused further delay.

Missing out on the luxury of a two-week cushion to educate staff on the upcoming project and tool implementation, a decision was made to initially educate each nurse individually. This was challenging because a significant amount of time was spent educating each individual nurse versus the group approach that was planned. Complicating the education stage even further was the COVID-19 pandemic and high staff turnover rate. Typical nurse schedules were completely reshuffled because of sickness among staff (COVID-19 infections)

and the addition of several Federal Emergency Management Agency (FEMA) nurses who were sent to help alleviate a major hospital staffing crisis. This complicated the normal PCVU workflow as these FEMA nurses were unfamiliar with the PCVU daily routine. Even though it was significantly more time consuming, the individualized project and tool education approach greatly aided this part of the project. The ability to individually educate the FEMA nurses to project expectation was far greater than a group education setting. This allowed individual nurses to ask questions which likely wouldn't have been the case in the planned group education.

This project was implemented over the Christmas holiday. This proved to be a major challenge because a number of the nurses working their typical stretch had the holiday off. As a consequence, a significant disruption to the usual workflow undoubtedly caused the 20% drop of having the tool at the patient bedside during this week. Poor communication further hindered the twice weekly audit rate. This was a threat to project success initially and was realized after completion of the first PDSA Cycle. Upon diving into this problem, it was discovered that nurses were not placing the medication tool at the patient bedside when the patient had neurological deficits, had at-home caregivers, and/or was not on this floor due to cardiac reasons. This was addressed by re-educating staff. A decision was made to place the tool at the bedside regardless of patient diagnosis. Audit score outcomes improved after this correction.

Limitations

There were limitations identified as to the project audit design. The PCVU is a 33-bed unit and includes patients with multiple disease diagnosis and numerous patient co-morbidities. The new medication and side effects education tool was created with a focus on cardiac patients. This being the case, the possibility certainly existed that some patients were not prescribed any

medications outlined on the tool. The tool, per recommendations, outlined eight of the most common classes of medications used on this floor and their side effects (Villareal et al., 2017). This was a limitation that could severely impact new medication and side effects HCAHPS scores by not being all inclusive and/or comprehensive of prescribed medications.

Additionally, there was a short project trial implementation period with data collected for a 4-week period. Different results might have been obtained had the duration been longer. Finally, due to CMS releasing results of HCAHPS scores at least two quarters later than project implementation, there is no way to know how much an improvement the new medication and side effects education tool had on HCAHPS scores. This will continue to be a challenge going forward as six months is a significant timeframe to readjust and implement new PDSA Cycles if satisfactory score increases aren't seen. Likewise, the above is true if only mediocre improvement is realized. Patient response to CMS surveys is a variable that is out of the control of this project as some months only two patients might respond. This could skew results.

Recommendations

Creating a simplified new medication and side effects education tool is a simple, cost-effective approach in improving new medication and side effects HCAHPS scores while increasing patient satisfaction and compliance with treatment regimens. Such a tool is easily used by nurses to guide patient medication education and is available as a handy bedside tool that the patient can refer to at any time to refresh their comprehension of new medications and subsequent side effects. Quality healthcare outcomes in regard to patient safety and patient satisfaction are greatly increased when patients are actively involved in their own care and communication lines are open (ACOG, 2012; Berman & Chutka, 2016; Leonard, 2017; Voigt-

Barbarowicz et al., 2020). This project is easily adaptable to any hospital patient population by identifying which medications are most commonly prescribed for a certain patient population (hospital unit) and then incorporating those medications into the tool format to meet those patient (unit) requirements.

This medication education and side effects teaching tool had 8 common classes of medications included. This was done to simplify the tool and make it easy to use. Reflecting on this and considering the limitations of such a short list of medications, it is recommended that 12 medications could easily be included without creating too much clutter or substantially increasing difficulty of tool use and/or readability. This would offer a 50% increase in medications that could be added to the tool and thereby cover more prescribed medications.

Lessons learned and recommendations that would be useful to others wishing to implement similar projects would be a clear initial vision where the unit manager, a pharmacist, and the patient experience coordinator collaborate with the quality improvement project leader. Fostering a culture of nurses that are invested in increasing patient satisfaction and are determined to play a major role in the project would be deemed an essential component. This project was implemented around two major holidays (Thanksgiving and Christmas) which likely made it more difficult to implement. A suggestion would be to consider another time of the year when implementing such a large project. Education of nurses on tool use was sub-optimal. This was the result of issues as detailed above and not securing manager approval until four days prior to implementation of project. A recommendation would be to allow for at least a month of training and to give all staff the opportunity to check their emails which were used as part of the education process. A thorough, in-depth analysis of a PDSA Cycles when outcome expectations

were not met is fully recommended. Finally, input from nurses who are part of the day-to-day process of patient care must be considered when goals are not met. Through such collaboration, insight gained is used to guide PDSA Cycles which are certainly recommended whenever expected outcomes are not attained.

Strengths include a design that may easily be transferred to other units. Literature review from various projects implemented in various other inpatient hospital settings support this idea (Ahrens & Wirges, 2013; Gillam et al., 2016; Prochnow et al., 2019; Talbot, 2018). Using the medication education tool as a template, other unit specific medications may be easily identified, and the medication education tool tailored to these units. Education of nurses and the audit process of having the tool at the bedside is quite adaptable. The steps outlined in this project along with relevant PDSA Cycles when problems arise, are easily disseminated to other areas without major adjustments. Although there are many similarities to previous work, this project differs from work done by others as it was adapted to a specific hospital inpatient unit, meant for a specific patient population, and designed to accommodate the current unit workflow. It further differs in that audit checks were completed twice a week to ensure that the medication education tool was at the patient bedside in an attempt to have at least some measurement which might increase future HCAHPS scores as at the time of project completion this data was not available.

Improving HCAHPS scores was a feasible plan as it required minimal cost to implement. Reimbursement to the organization should likely be significant as payments from CMS account for 80% of total yearly revenue. Increased HCAHPS scores equate to increased revenue. For sustainability, the unit manager will take ownership of this project and conduct audit checks as needed to make sure that the tool is at the patient bedside. There is already a process for audit

checks to make sure that a similar patient handout is in the room, so this will not be an additional burden. The unit educator will educate new nurses on the medication and side effects tool as a part of new nurse orientation process and make it part of yearly mandatory training. The patient experience coordinator will monitor HCAHPS scores for continued improvement. This will alert management of any problems so that corrective action can be implemented.

DNP Essentials

The American Association of Colleges of Nursing (AACN) in 2006 identified eight practice essentials/competencies that the Doctor of Nursing Practice (DNP) student should achieve (AACN, 2006). Doctoral education, through the incorporation of these practice essentials, serves to prepare graduates to see themselves as effective leaders and capable of initiating and driving healthcare change through the use of collaboration and evidence-based practice (Bowie et al., 2019). This project met essential II, organizational and systems leadership for quality improvement and systems thinking, III, clinical scholarship and analytical methods for evidence-based practice, VI, interprofessional collaboration for improving patient and population health outcomes, VII, clinical prevention and population health for improving the nation's health, and VIII, advanced nursing practice.

Essentials II, VI, and VII were met through the work of this project. The PCVU at this hospital was assessed and a discovery made that medication HCAHPS scores in the new medication and side effects category could be improved. Further delving into this problem, it was identified that a more thorough patient medication education process that empowered both the nurse and the patient was needed. Development of the medication education tool served to increase patient medication and medication side effect knowledge. A better understanding of the

prescribed medication regime increases patient treatment adherence to slow or improve disease progression and thereby leads to improved healthcare outcomes. The tool empowered nurse medication education because it was used as a written guide to complement verbal instruction. Multiple members of the healthcare team were involved in making this project successful. Fluidity of a successful team approach was evident throughout the project as collaboration with various team members was required. The design and implementation of this project achieved all three of these competencies.

Essentials III and VIII were met through an extensive literature search that identified best patient education practices and then used clinical judgement and systems thinking to design and implement this project. Critical appraisal of the research performed was then translated to the specific patient population of the PCVU. Twice weekly room audit checks were used to evaluate whether the tool was at the patient bedside. These audit checks helped identify project design flaws, examine outcomes, and then develop needed improvements through the use of PDSA Cycles. This effort assured patient-centered care by having medication education available at the patient bedside. Finally, with proper unit-specific modifications, dissemination to other hospital units is highly recommended to improve patient healthcare outcomes in other settings.

Summary

This project sought to increase HCAHPS scores in the new medication and side effects category on an inpatient hospital unit. A thorough literature search was performed, and best evidence-based recommendations applied to the creation of a simplified medication tool which would increase patient knowledge of their prescribed medications and provide a guide to nurses for patient education while ultimately increasing HCAHPS scores in the medication domain. The

nurses on the unit were then educated on this project and the use of the medication tool. Twice weekly audit checks for a total of four weeks were completed to make sure that the tool was at the patient bedside for the patient to reference at any time. Patient compliance to a prescribed medication regimen increases when patients understand their medications. This serves to empower patients and become invested in their health. Taking an active part in their healthcare treatment, improves healthcare outcomes. This ultimately improves patient satisfaction scores which consequently increase HCAHPS scores. This was the final aim that the project sought to accomplish.

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APPENDICES

APPENDIX A

PCVU COMMON MEDICATIONS, USES, AND SIDE EFFECTS

NURSE AND PATIENT EDUCATION TOOL

PCVU Common Medications, Uses, and Side Effects Nurse and Patient Education Tool		
Generic name of medication	Uses	Side effects
Heart medication: Angiotensin-converting enzyme inhibitors (ACEs) (lisinopril, catopril, enalapril, ramipril)	-Controls high blood pressure -Helps heart pump more effectively over time	Dizziness, low blood pressure, headache, dry cough
Heart medication: Angiotensin receptor blockers (ARBs) (candesartan, valsartan, losartan)	-Controls high blood pressure -For people who cannot take ACEs	Dizziness, low blood pressure, headache, no cough with ARBs
Heart medication: Beta-blockers (carvedilol, metoprolol, propranolol, atenolol, labetalol, sotalol)	-Controls high blood pressure -Decreases heart workload	Dizziness, tiredness, slow heart rate, low blood pressure, headache
Heart medication: Calcium channel blockers (amlodipine, diltiazem, nifedipine, felodipine, verapamil)	-Controls high blood pressure, irregular heart rate	Dizziness, headache, swelling of feet and ankles
Diuretics -get rid of too much fluid: (furosemide, metolazone, bumetanide)	-Controls high blood pressure by getting rid of fluid -Take in the morning	Dizziness, low blood pressure
Blood thinners: Anticoagulants (apixaban, enoxaparin, heparin, warfarin, rivaroxaban)	-Blood thinner to prevent blood clots	Bleeding, injection site pain
Cholesterol medications: Statins (atorvastatin, pravastatin, rosuvastatin, simvastatin)	-Reduce levels of LDL cholesterol -Used to help prevent heart attacks	Muscle aches and pains, abdominal cramps, No grapefruit allowed
Pain medications: (hydrocodone, oxycodone, tramadol, morphine, hydromorphone, fentanyl)	-Pain medicine helps decrease pain levels	Dizziness, sleepiness, nausea, constipation

APPENDIX B

SWOT ANALYSIS OF THE PROBLEM AND
IMPLICATIONS OF THE INTERVENTION

SWOT Analysis of the problem and implications of the intervention

<p align="center">Strengths</p> <p>Pharmacist readily available Unit based educator Backing of management Large organization with numerous resources</p>	<p align="center">Weaknesses</p> <p>RN time to educate High staff turnover Consistent knowledge/process on new medication education Lack of simple, quality education handouts in Meditech</p>
<p align="center">Opportunities</p> <p>Excellent teamwork Tools are available Successes of other organizations who have improved medication HCAHPS scores through a simplified teaching process Numerous RN's have verbalized that change is needed</p>	<p align="center">Threats</p> <p>Low patient survey responses Patient distractions when teaching on medications Patient literacy or grade level Timely obtainment of medications Nurse autonomy with teaching process Poor communication techniques</p>

APPENDIX C

LETTER TO THE INSTITUTIONAL REVIEW BOARD



**INSTITUTIONAL REVIEW BOARD
For the Protection of Human Subjects
FWA 00000165**

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MEMORANDUM

TO: Stephen Wurz and Margaret Hammersala

FROM: Mark Quinn *Mark Quinn CJ*
Chair, Institutional Review Board for the Protection of Human Subjects

DATE: November 24, 2020

RE: "Increasing Medication HCAHPS Scores Using a Standardized, Simplified Process to Educate Patients on Commonly Prescribed New Medications" [SW112420-EX]

The above research, described in your submission of November 19, 2020, is exempt from the requirement of review by the Institutional Review Board in accordance with the Code of Federal regulations, Part 46, section 101. The specific paragraph which applies to your research is:

- (b) (1) Research conducted in established or commonly accepted educational settings, involving normal educational practices such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
- (b) (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation; and (iii) the information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by section 16.111(a)(7).
- (b) (3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if: (i) the human subjects are elected or appointed public officials or candidates for public office, or (ii) federal statute(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
- (b) (4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available, or if the information is recorded by the investigator in such a manner that the subjects cannot be identified, directly or through identifiers linked to the subjects.
- (b) (5) Research and demonstration projects, which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.
- (b) (6) Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed, or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the FDA, or approved by the EPA, or the Food Safety and Inspection Service of the USDA.

Although review by the Institutional Review Board is not required for the above research, the Committee will be glad to review it. If you wish a review and committee approval, please submit 3 copies of the usual application form and it will be processed by expedited review.

APPENDIX D

IMPLEMENTATION PLAN TO INCREASE
HCAHPS SCORES

Implementation Plan to Increase Medication HCAHPS Scores Using a Standardized, Simplified Process to Educate Patients on Commonly Prescribed New Medications

