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Enhancing patient medication knowledge: Utilizing an educational tool to improve patient satisfaction scores

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Abstract

The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey has recognized the need for medication education with communication about medication as a patient satisfaction indicator. Literature shows a medication guide or tool that is readily accessible and easy to understand for the patient can help provide nurses with a teach back method to help increase patient knowledge about common medications. Continued use of this tool will then positively affect communication between patients and providers thereby increasing medication communication related HCAHPS survey scores. Review of current Stanford Health Care HCAHPS survey data shows that all nursing units are continually well below the benchmark target goal of 70.7% for medication education. The goal of this improvement and education plan is to make a medication education tool (MET) nurses can provide to patients during admission that can be helpful in teaching patients about common medications used while in the hospital. After implementation, audits were performed to see if nurses were using the medication education tool and if patients were hearing about side effects related to medications. HCAHPS scores were reviewed monthly to track the effectiveness of the medication tool on patient satisfaction indicators. In conclusion, results were found to be unremarkable on patient satisfaction scores and use of the MET by nurses was inconsistent. However, many barriers were encountered throughout the project, such as, high staff turnover, multiple unit changes and patient condition, that may have negatively impacted the use of the MET. Despite the negative findings, research shows this education tool can have positive aspects if used appropriately. Thus, next steps should be to analyze these barriers and inconsistencies in order to find a means to engrain the use of the MET into unit culture.

Problem Description

Since February of 2017, Stanford Healthcare has been sending Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) surveys to patients who have been recently discharged from the hospital. These surveys provide a national standard for collecting patient's perspectives of care as well as enable consumers to compare patient satisfaction among other hospitals. Though HCAHPS is a voluntary measurement tool, it is a requirement for full reimbursement from Medicare (Petrullo, Lamar, Otti, Mill, & Viola, 2013). Stanford Healthcare has embraced this measurement tool as it relates to patient satisfaction to improve quality care and overall patient outcomes making HCAHPS an important part of daily care for nursing staff. This is especially true since six out of seven topics on the survey are directly related to nursing care.

Subsequently, HCAHPS has further initiated hospital wide initiatives that focus particularly on responsiveness of hospital staff, care transitions, and communication about medications to improve patient satisfactions. Communication about medications has become a primary focus on many units through the hospital but especially so on D2/G2S, a surgical intermediate intensive care unit (IICU). This quality improvement project will utilize a microsystem assessment to implement a Plan-Do-Study-Act (PDSA) model to help effectively enhance medication communication. The goal of this project is to help increase patient involvement in care, improve communication between nurses and patients and ultimately increase HCAHPS scores for the unit.

The focus unit of this project is D2/G2S, a 22-bed surgical intermediate intensive care unit (IICU) at Stanford Healthcare. The primary patient population on this unit are vascular and thoracic surgery patients as well as lung and kidney transplant patients. After surgery, most of

these patients will have newly prescribed medications that they will be taken for an extended period, if not for their rest of their life. This is especially true for the transplant patients who undergo extensive medication education with a pharmacist two to three days post-operative, depending on their condition. With the complexities of these medications, it is important to have continued education about the implications and side effects so patients will have adequate medication compliance.

Despite the importance of the medications being provided, nurses continue to struggle in providing adequate education to patients. The unit has continually struggled to reach benchmark status on communication about medication HCAHPS scores. Appendix A shows data from 2017 and 2018 fiscal year. During this time, the unit has had a score of 63.6 % in the communication about medications section, well below the target goal of 70.7%. When assessing specific questions related to medication communication, this unit has scored 50.4% when patients were asked if hospital staff described possible side effects in a well understood manner before giving a new medication. Despite continued education during pre-shift huddles about these scores, there has been little to no increase of these percentages. With a significant decrease occurring in these scores since February of 2018. This decrease combined with the unchanged scoring after education has occurred, provides evidence that the unit needs further prompting in enhancing communication about medications.

Available Knowledge

The following PICO question was used for research on this topic: post-surgical patients, medication education tool/handout with common medication side effects compared to only verbal education of medication side effects to increased patient satisfaction scores. This question

led to various articles that articulated the need for increased medication education and HCAHPS scores.

Current studies have shown that patient-centered communication help improve medication adherence which thereby reduces relapse of disease and readmission to the hospital. Continually, providing medication information that is tailored to the patients' needs results in increased patient satisfaction. Providing tailored, high quality education can then be beneficial in helping patients recognize the importance of a medication while overcoming any concerns (Linn, Weert, Dijk, Horne, & Smit, 2014).

Further literature shows a medication guide or tool that is readily accessible and easy to understand for the patient can help provide nurses with a teach back method to help increase patient knowledge about common medications. Continued use of this medication tool can then positively affect medication communication related HCAHPS survey scores. Consistent orientation and training of staff in the use of the medication education tool is important for success in practice (Gillam, Gillam, Casler, & Curcio, 2015).

Additionally, information suggests that improved communication between patients and providers about medications can decrease preventable medication errors during a patient hospitalization and even after being discharged. It is, however, important to recognize that medication management requires collaboration across all roles and care settings to decrease medication errors. Thus, including other healthcare professionals in the use of the medication tool will help increase this communication as well as patient safety (Kitson, Price, Lau, & Showler, 2013).

Continually, a quality improvement project by Gillam, Gillam, Casler and Curcio (2016) had many applicable aspects and reflected a successful medication education tool on a similar

population of patients. Though their medication education tool intervention was the use of a "mug shot" which had reusable water mugs with sticker labels that had common medications used with their side effects compared to only using a standard medication information sheet (SMIS). Though the intervention in this article was a step beyond the intervention listed in the PICO above, it provided adequate data of success that medication education has on patient satisfaction during admission.

Another example found was a quality improvement project that implemented three interventions of manager rounding, discharge phone calls and discharge teaching, targeting increasing HCAHPS scores at suburban medical center. Throughout the 18month project, survey scores demonstrated a consistent upward trend (Kennedy, Craig, Wiesel, Reimels, & Wright, 2013). Though, again this project was not exactly the same as the above PICO question it provided insight on how nursing interventions impact HCAHPS scores. Which can overall be helpful when planning and executing a medication education tool quality improvement project that is targeting patient satisfaction.

Overall, this evidence supports the need for enhancing communication about medications to patients on the surgical intermediate ICU. Providing increased provider-patient communication about medications, using a unique medication education tool (MET), can aid in improving patient satisfaction indicators while providing safe, effective care to patients through increased knowledge about medications. This knowledge enhancement for patient's can then provide assurance about their abilities to use medications safely upon discharge.

Rationale

Since 2007, Stanford has been designated as a Magnet facility by the American Nurses Credentialing Center. This recognizes both nursing excellence as well as quality care and

innovations in nursing. The overall foundation of the Magnet model is about delivering superior patient care which encompasses patient outcomes as well as measuring and improving the quality and delivery of care. The magnet recognition program is designed to identify healthcare facilities committed to quality improvement in terms of nursing care delivery (Friese, Xia, Ghaferi, Birjmeyer, & Banerjee, 2015). With the ideologies of the Magnet Recognition Program in mind, Stanford focuses on initiatives that will provide patient centered care with the best quality from nurses. Thus, starting a patient medication education program to enhance patient satisfaction aligns with these improvement goals.

To further support the Magnet model, Stanford Healthcare developed a professional practice model shown in figure 1. This practice model defines the components of nursing practice to bring significance to nurses' daily work. Within this model, people are at the core which makes patients, families, and communities the primary focus. Around the core of the model are the essential components of the Nursing Professional Practice Model which support patient care excellence. These concepts are care delivery and clinical practice, professional nursing role, professional development, shared governance, collaborative environment, and education and research. The practice model is then guided by Stanford's mission: "To care, To Educate, To Discover. This mission statement is then supported by the following values of honesty, excellence, advocacy, respect, teamwork, and compassion (Professional, n.d.).

Figure 1. Stanford Professional Practice Model

Reflecting the professional practice model, the MET aligns with these concepts as it seeks to individualize care for patients using an understandable educational tool while educating them on the proper use of medications. The MET can ensure patients are being provided excellent, compassionate care while advocating for the patient's abilities to care for themselves upon discharge.

As mentioned above, HCAHPS plays an important role in daily nursing care. Not only does it dictate patient satisfaction on the unit it also dictates reimbursement from Medicare. With this incentive, hospitals are placing increased pressure on units to better HCAHPS scores through quality improvement projects focusing on communication (Tevis, Kennedy, & Kent 2015). Since medication education, specifically about new medications is consistently low scoring, focusing this project on education about new medications and developing a MET became a reasonable decision (appendix A). This project understands the value of HCAHPS scores and will provide opportunities for engaging the patient while increasing communication between the nurse and patient.

To better understand why HCAHPS scores are continually low, a cause and effect diagram was created which is shown in Appendix B. The diagram highlights factors which contribute to inefficiencies in workflow and why medication education may not be occurring. The professionals involved include nursing staff and unit management. The patients play a key role due to their condition, variable educational level, as well as their motivation to learn. The current resources or tools available for medication education are Lexicomp and Mircomedix, both online medication database where information about medication can be pulled up in a browser or printed. Environmental factors that affect medication education involve the complexities of patients, the high acuity of the unit as well as simultaneous unit projects occurring.

With this root cause analysis in mind, its understood that nurses need a streamline means of providing education in a quick and concise manner as patient load can often be very busy. The hope of the MET will be to provide something for the patient to read and understand for themselves so when nurses are passing medication, patients will already have the education piece on hand that nurses can refer to.

With the patient education needs in mind, prior quality improvement projects showed that when you provide patients with consistent information about new medications, that allows for teach back, patients were more likely to remember these medications (Prochnow, Meiers, & Scheckel, 2018). The MET will provide nurses with a tangible resource to use while educating patients. Since the MET will be left with the patient, it will also allow patients to become independent in their education about medications. Thus, when nurses give medications to patients, all needed information will be available for both the nurse and the patient. The MET can then be used as a guide for education while providing a means of teach back to help the

patient learn. The opportunity for the patient to take the MET home provides reminders to the patient on side effects of any new medications they may take upon discharge.

Specific Project Aim

This project will have the intent of increasing patient satisfaction for those discharged from the unit. This will further help increase the quality of care nurses are providing to patients daily. Using increased training, reminders, and a unique medication education tool, nurses will be able to integrate medication communication more frequently in their care for patients. The overall goal of this project is to increase the HCAHPS score of medication communication to benchmark status, thereby improving patient satisfaction, using a medication education tool for a surgical intermediate ICU within a 8-month timeframe.

The aim is to improve medication education in a surgical intermediate intensive care unit. The process begins with educating nurses on the need for increased medication education with patients. The process ends with a unique MET to provide to patients on admission to the unit. By working on the process, we expect 1) HCAHPS scores to improve 2) patients to be more involved in their care and 3) improved communication between nurses and patients. It is important to work on this now because there is an identified need for increased medication communication between nurses and patients to 1) improve patient satisfaction indicators 2) improve patient medication adherence 3) provide autonomy and knowledge to patients and 4) increase patient safety.

Context

A thorough microsystem assessment using the 5Ps: purpose, patients, professionals, processes and patterns was used to assesses the needs, barriers, and strengths of the unit. From this microsystem assessment, it was continually noticed that HCAHPS scores and

communication about medications were an issue on the unit. This allowed for an action plan to be developed which addressed the low HCAHPS scores in communication about medications.

To support these findings from the microsystem assessment, a Plan-Do-Study-Act (PDSA) cycle was developed. This methodology was used because the Institute for Healthcare Improvement (IHI) suggests using the PDSA cycle to help test a change in the real work setting. The PDSA cycle is a method for structuring and developing change that has a cyclic learning approach that allows for adaptions to changes specifically aimed at improvement. The cycle represents a pragmatic scientific method for testing that promotes a small-scale approach to testing interventions. The PDSA also allows for rapid assessment and provides flexibility to adapt the change as feedback is given. This action-oriented learning allows for a change, like increasing communication about medications, to be tested through planning, trying, observing the results and then acting what is learned from a proposed improvement method. The PDSA cycle allows for variabilities to occur in a complex setting like a high acuity IICU (Taylor, McNicholas, Nicolay, Darzi, Bell & Reed, 2015). The PDSA cycle developed for this project is outlined in figure 2 shows the thought process that led to implementation as well as next steps to consider during further phases of this project. As discussed, the plan for this project was to increase patient satisfaction scores related to medication education to benchmark status. To accomplish this goal, a medication education tool (MET) was developed that can provide medication education to patients in an easily understood format. This tool will be something patients can keep and take home with them upon discharge. The Study and Act provided information about barriers to use, problems with the MET and also allowed time to find new ways to ensure the MET was being used.

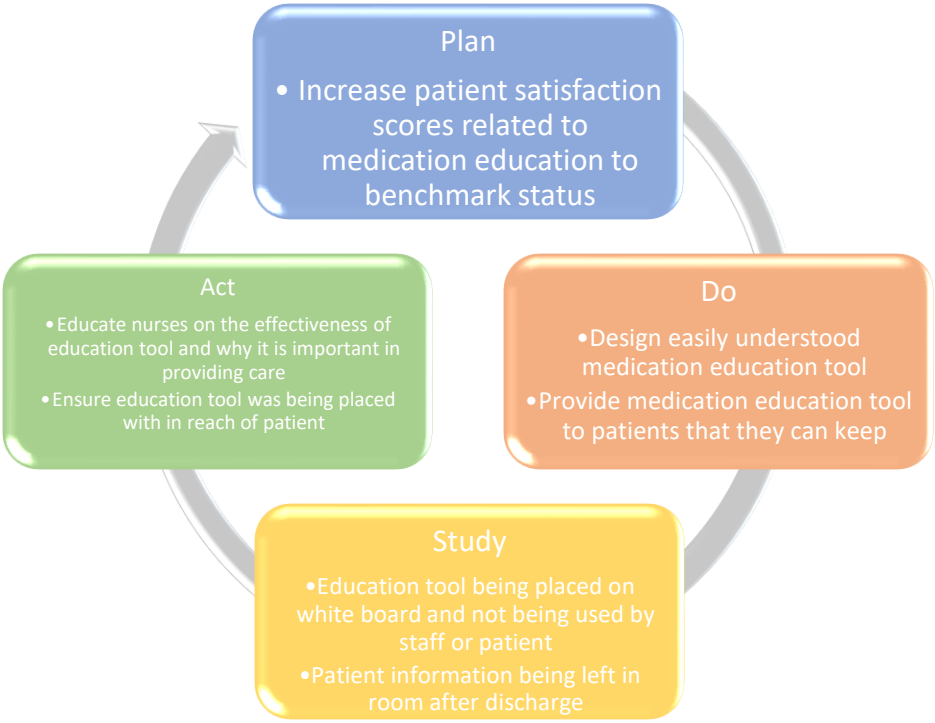

Figure . 1st PDSA for Medication Education Tool

To further support the implementation of the improvement project, a SWOT (strengths, weaknesses, opportunities and threats) analysis was created. This methodology provided elements to find value and barriers within the project. The SWOT analysis is outlined in figure 3. This analysis provides a better look at the project situation, assets, goals and obstructions. The SWOT analysis provided a better look at the strengths for this project which included increased patient satisfactions and HCAHPS scores as well as increased patient participation. These strengths will lead to further assets of increasing nursing medication education skills, increasing medication compliance, as well as increasing the hospital reputation. Weaknesses for this project include nurse's resistance, not sending patients home with the medication education tool, as well as current workload and acuity levels decreasing time to use MET. Opportunities for this project include reducing patient readmission, reduce patient complaints about care, provide more individualized care to patients, as well as provide easily accessible medication information to

patients. Threats to this project include multiple unit projects occurring simultaneously, adding more work to nurses' already heavy workload and increased risk for HIPPA violations by leaving patient information on the MET form after patient is discharged.

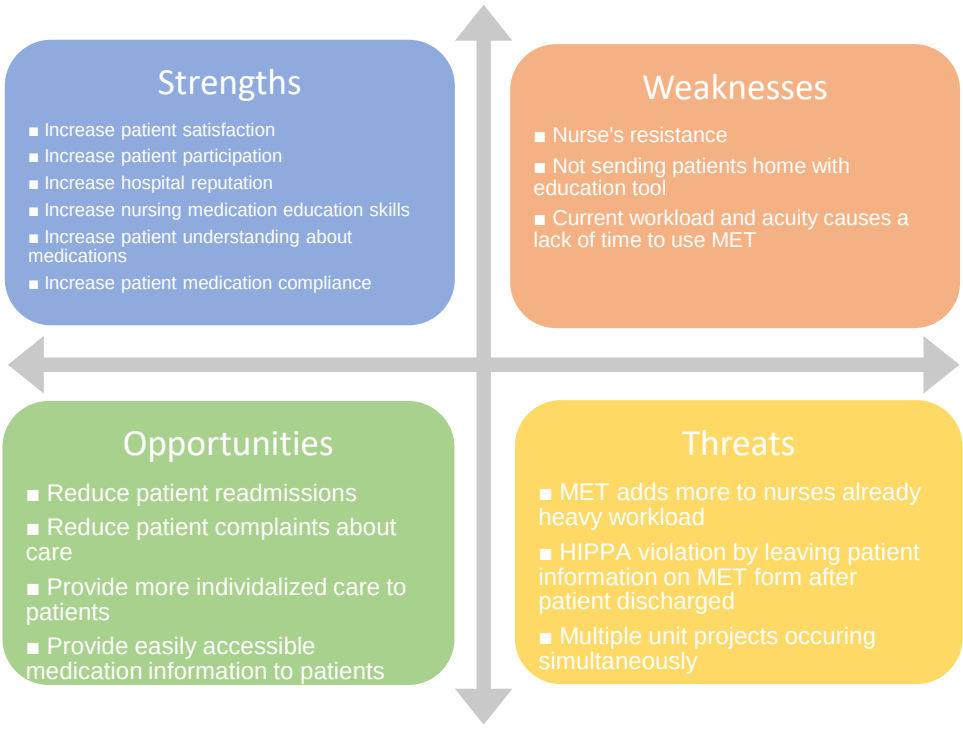

Figure 3. SWOT analysis

Intervention

MET Development

To support the project's aim, a MET has been developed by the unit Shared Leadership Committee (SLC) that is easily understandable with pictures and non-medical words. This will allow those who may have lower educational levels to still understand the information being provided. Since the unit has lung and kidney transplant patients with specific medications, sperate educational tools for each type of transplant has been developed. This will ensure these important life-saving medications will be fully understood by this patient population. Another tool, with common medications used for all patients on the unit, has also been developed. This will ensure all patients who come onto the unit will have proper education about common medications being provided to them. Appendix C shows each of these tools.

To differentiate these tools quickly, they will be printed on three different brightly colored printer paper: orange for kidney transplant, pink for lung transplant, and green for common medications for all patients. These three separate colors will ensure the appropriate MET is being given to each patient. Each MET will be placed in a sheet protector to ensure the papers are not ruined due to spills or other accidents.

Upon admission to the unit, the appropriate MET will be placed at the patients' bedside to be utilized each time the patient is being given medications during their stay. When the patient is discharged, the patient will be able to take the MET home with them for further reference of the new medications they have been provided.

Cost Effectiveness

When considering costs for this project, there should be very low costs involved. The largest cost will come from supplying colored paper to print the medication education tool as well as sheet protectors to place the tool in. There will need to be at least three different colors of paper since there will be a separate tool for lung transplant, kidney transplant and commonly seen medications for all patients. A package of 500 sheets of colored paper costs on average $6.00, thus three packages of colored paper will cost $18. Sheet protectors come in bundles of 100 costing $7.00 per bundle. To begin the project buying 7 bundles should be enough during the planned six-month period which would cost $49. The startup supply cost will total $76.

In addition, there should be no extra employee training cost incurred since education and reminders can occur during pre-shift huddle to decrease time outside of work needed to train nurses on the education tool. Preapproved staff meetings can be used to gain feedback and thoughts from nurses about how to improve aspects of the education tool as well as provide insight on the best way to add the education tool into daily practice.

Overall, it has been shown that patient education materials can help reduce healthcare costs since patients will be able to manage their conditions better. This can then improve patient outcomes thereby reducing costs (Elsevier, 2015). Further, hospitals with better HCAHPS survey scores may spend $357 more per patient day than hospitals with lower scores, they will typically earn $444 per patient day more in revenue (Betts, Balan-Cohen, Shukla, & Kumar, 2016).

Timeline

To support the implementation process of the MET, a gannt chart, shown in Appendix D, was created to formulate a timeline for the implementation and evaluation process of the project. The timeline begins with the planning phase on February 25, 2018 and continued until July 30,

2018. During this phase, the microsystem assessment was done to figure out the flow of the unit and what kinds of barriers or issues are present. Once this was done, meetings with SLC and unit management were held to discuss issues present and ideas to combat these issues. The one prominent issue that came forward was low HCAHPS scores for communication about medications. When this was realized, a plan was made to increase medication education about side effects for new medications. Once this was decided, one of the nurses on SLC designed a well thought out tool that could be used for all patients who were admitted on the unit. This tool was then re-designed for transplant patients as well, to ensure all medications were being educated.

The next phase, the training phase started on July 30, 2018. During this five-week time frame, that lasted until September 5, 2018, the nurses on the unit were informed about the new tool to be used for medication education. The training consisted of a short introduction explaining the MET during huddle, followed by management and SLC doing impromptu in-services with nurses throughout the work day. The impromptu in-services will allow more time for explanation as well provide time for the nurses to ask questions.

Once the training phase was completed, the first implementation phase began on September 10, 2018. Throughout this implementation phase, the tool was expected to be placed in each patients' room upon admission and nurses were encouraged to use the MET as frequently as they could with patients. This implementation phase lasted until December 31, 2018 which was followed by the beginning of the evaluation phase on January 5, 2019. This evaluation phase will last until April 19, 2019. The extended time for evaluation will provide time to explore barriers of use, issues concerning the MET, as well as allow for more time to help train and find more efficient ways to reimplement the MET. HCAHPS will also be reviewed during this time to

see if there were any increases to scores during the initial implementation. Audits will also be performed at least one time per week to see how often the tool is being used.

After the extended evaluation has been completed, the reimplementation process will begin on April 22, 2019 and last until August 15, 2019. During this time, the barriers of use will be addressed to ensure the use of the MET continues. The audits will continue throughout this reimplementation phase as well as weekly checks of HCAHPS scores. Once the reimplementation phase is completed, the next evaluation phase will begin on August 19, 2019 and then continue until October 4,2019. This a re-evaluation timeframe was shortened with the hope that many barriers and concerns were addressed in the prior evaluation phase.

Measures

Since the aim of this MET project is targeted at patient satisfaction and increasing HCAHPS scores, HCAHPS scores will be reviewed frequently. Specifically, the HCAHPS domain of communication about medications will be observed with the goal to reach benchmark status of 70.7%. The specific domain question of: “Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?” will also be looked at closely. This question directly correlates to the purpose and action of the MET that has been developed so variances or changes in scores from this question may help determine the effectiveness of the project.

To further support the use of the MET, an audit form will be used to track the use of the MET. Appendix E shows the audit form that will be used. The audit form has been developed using questions from HCAHPS and focuses on if the patient has new prescriptions as well as ifd if the patient has heard about side effects, The audit will further investigate if the tool is present

in each room and if the nurse is using use the MET. These questions will be most based off patients' perspective of the MET which will help gauge if the patient is learning from the tool. There will also be a "barriers to use" column to address any issue as to why the tool is not being used. The barriers found will be useful through the study and action portions to the PDSA cycle.

Ethical Considerations

When implementing the MET project, there were few ethical aspects to consider. The first being patient privacy. Since each patient would be receiving the same tool that will have their patient identifiers on the sheet, it is important for the nurses to make sure tool is being given to the correct patient. If the patient decides to not take their MET home, then it should be put into bin for shredding.

Other ethical considerations include patient autonomy. This MET is designed to educate the patients about their common medications and side effects. If the patient decides not to take these common medications after hearing about side effects, then nurses should have the understanding to respect the patients' choice. Though this project is targeted at increasing HCAHPS scores, the patients' wants, and needs should also be addressed. Providing more education to patients will help them be more involved in their care and ultimately more autonomous in their medical decisions while in the hospital.

Results

Implementation

To initiate the project, nurses were educated during pre-shift huddles about the medication education tool (MET). When the project first rolled out, there was an introduction of the MET followed by two to three weeks of impromptu in-service on the floor as time allowed.

This in-service was a short three to five explanation of the MET that was used for lung transplant, kidney transplant, or common medications (appendix C). Once this education was complete, the MET was printed on three different brightly colored papers to differentiate between the type of MET and left at the nurses' station near other admission paper work to be given to patients. Nursing assistants were utilized to help place the MET in the patients' room when preparing for a new patient to arrive. To ensure patients were being sent home with the tool, patient labels were being placed on each tool provided to the patient. After the initial education and roll out of the MET, reminders during pre-shift to use the MET were continued.

After the initial implementation of the MET 19 staff nurses were surveyed at a staff meeting to gather information about nurses' perception of medication education for patients. Even though this is only 51% of staff nurses, the information can still be useful in understanding how the nurses feel about providing medication education. This survey, shown in appendix D, asked six questions related to medication education. The first question asked was how long the nurse had been practicing. It was found that 26.3% of those interviewed have been a nurse for 0-2years, 26.3% have been nurses for 3-5 years, 42.1% for 6-8 years and 5.3% for 9+ years. The next question asked was how comfortable the nurses felt with providing medication education to patients. This showed that most nurses were either somewhat (52.6%) or very comfortable (47.4%) with providing this information. The next question asked how important the nurse felt medication education of side effects is for patients. It was found that nurses surveyed felt this was either very important (57.9%) or a somewhat important (36.8%) part of care. The fourth question asked what the nurse's perception was of the best way to provide patients with medication education. This question asked nurses to select all they felt applied to the situation. Of the nurses interviewed, 84.2% of nurses felt repetition and teach back were most important

and 78.9% of nurses felt verbal and written education were appropriate as well. This was followed by the question of when the nurse felt medication education should start and be provided to patients. The options included upon admission, throughout admission beginning with the first med pass on the unit, upon discharge or all of the above. It was found that 73.7% of the nurses interviewed felt that all of these times were the best to begin and provide medication education. The last question asked how often nurses were able to adequately provide medication education to patients. Most nurses expressed that either sometimes (42.1%) or usually (47.4%) were they able to provide enough education while one nurse expressed, they always were able to provide education.

The data from this survey provided valuable information about the nurses' perception of medication education during the study phase of the PDSA (figure 2). It is clear, that most nurses feel comfortable with providing medication education and understand the importance of doing so. However, it seems that most nurses have a hard time always providing adequate education to patients, despite their experience level.

To continue studying the effects of the MET, an audit form was used throughout February, March and April 2019 to understand the perceptions of the patients. The audit form used is shown in appendix D. This audit helped track who the nurse was for the day, if the patient was a lung or kidney transplant, if the tool was present in the room and being used by the nurse, if the MET was helpful in learning, as well as barriers to use. Since the audit was from a patient perception, this provided information on how well the MET was helping to educate the patients.

Outcomes

Throughout the study period, fifteen audits were performed on the unit. Data collected from these audits are shown in figures 4, 5, 6, and 7. The first question on the survey that was important and applicable to HCAHPS questions was if the patient was hearing about side effects of medications. Figure 4 shows that throughout most of the audits, the patients felt that the side effects were being talked about. This graph shows a spike in side effect communication during the February audits which correlates with both the MET being present in the room (Figure 5) and the RN using the MET (Figure 6). With all these aspects in place, patients expressed they felt they were able to learn from the MET (Figure 7).

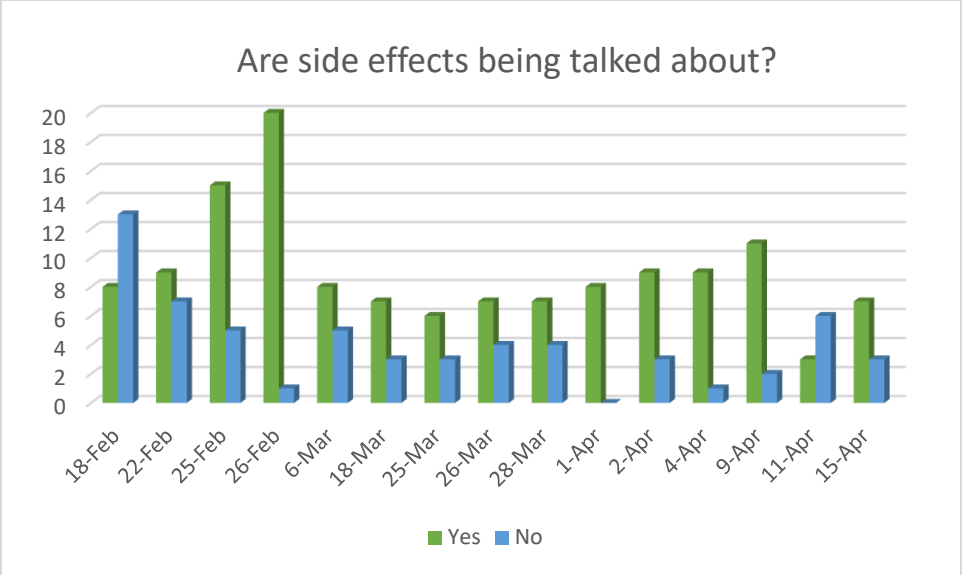

Figure 4 Audit results: Are side effects being talked about?

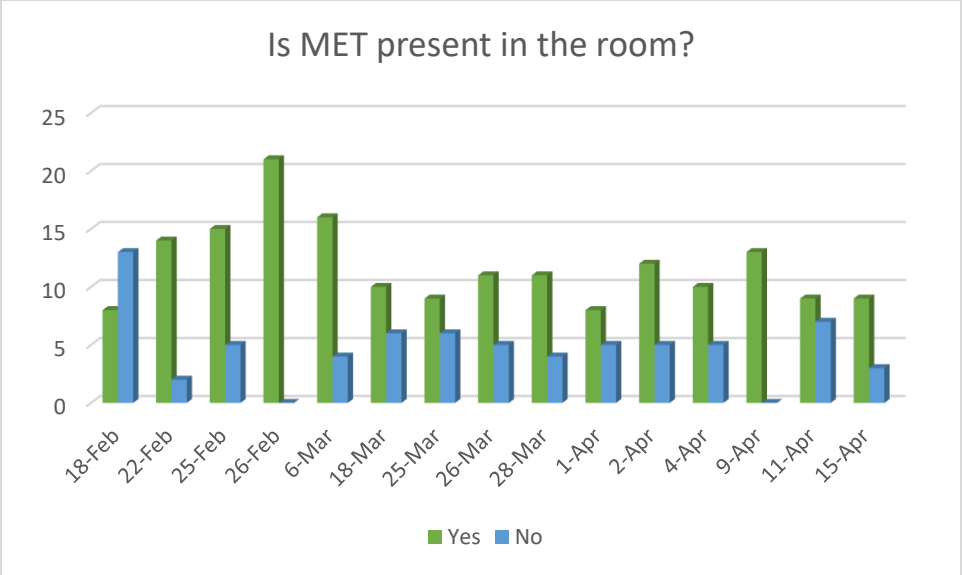

Figure 5. Audit results: Is the MET present in the room

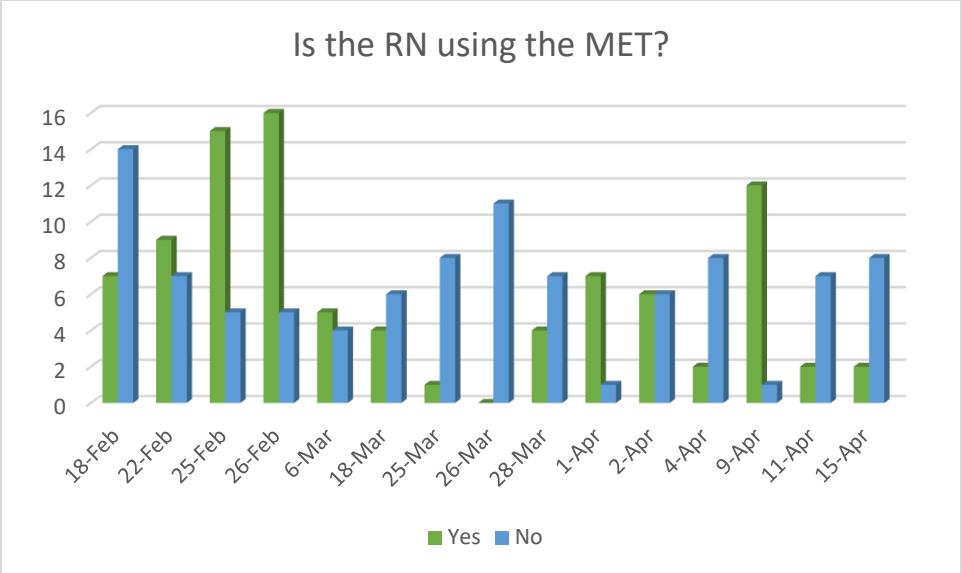

Figure 6. Audit results: Is the RN using the MET?

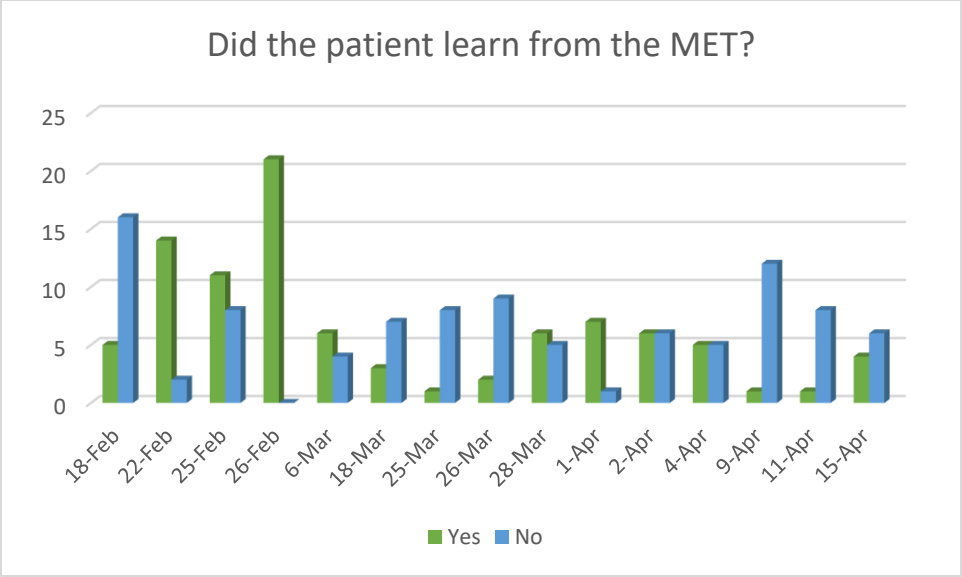

Figure 7. Audit results: Did the patient learn from the MET

To coincide with these successful encounters, figures 8 and 9 show HCAHPS scores over the duration of the project. These scores show that March HCAHPS data for communication about medications increased to beyond benchmark status at 83.3% and the specific domain question of side effects being described in a way patient understood increased to 66.7% from a low point of 30.8% in February.

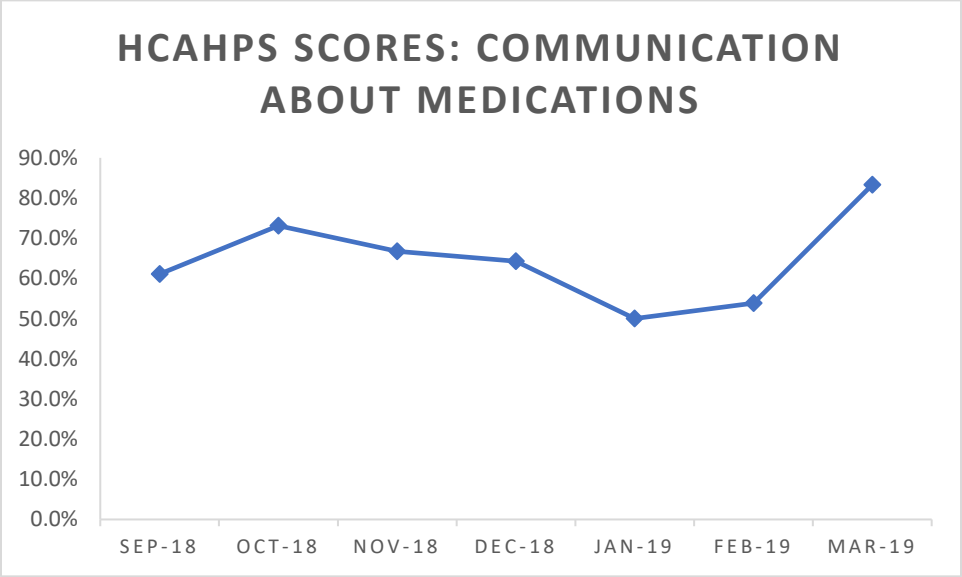

Figure 8. HCAHPS scores: Communication about medications

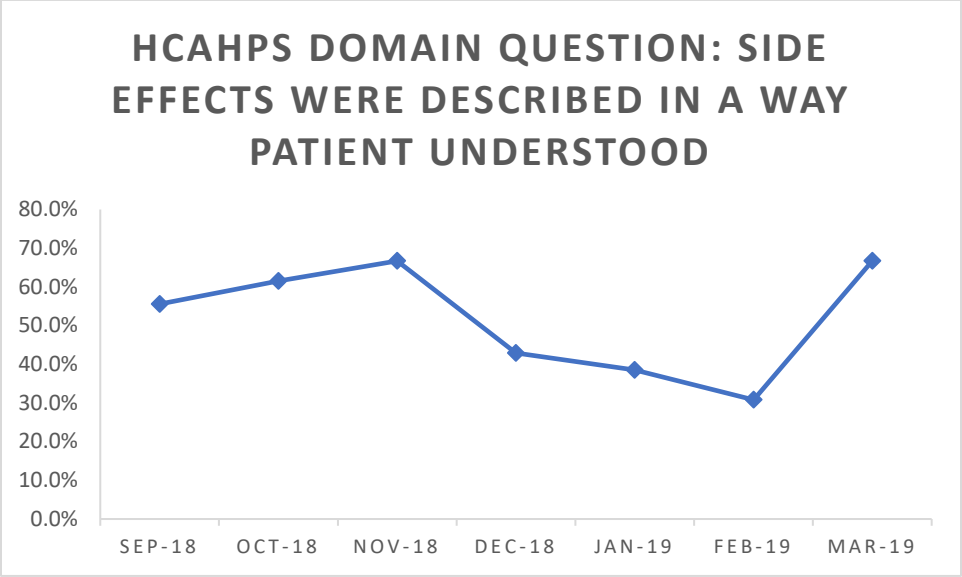

Figure 9. HCAHPS domain question: Side effects were described in a way patient understood.

Despite these positive aspects that occurred, data shows that there was no consistency with nurses using the medication tool (Figure 6). Helping nurses find consistency in using the MET may have a more positive effect on HCAHPS scores in the future. The audits aslo showed that patients consistently felt that they were not learning from the MET (figure 7).

To see how this project effected patient satisfaction scores, monthly HCAHPS scores were analyzed from the start of the project in September 2018 through March 2019 (Figure 8 &9). The data is unremarkable and shows no real improvement in scores. At the onset of the project in September 2018 the score began at 61.1% for the overall communication about medications and for the specific domain question of side effects being described in an understood manner, the score was 55.6%. There was an improvement through October 2018 to 73.1% and 61.5% for both data points and then another increase in November 2018 to 66.7% for only the

specific domain question being analyzed. For the entire communication about medications section, the score actually decreased to 66.7% in November 2018. During December 2018, January 2019, and February 2019, HCAHPS scores began to significantly decrease for the entire communications about medications domain to 64.3%, 50.0% and 53.8% respectively. The specific question analyzed had the same downward trend during these months as it decreased to 42.9% in December 38.5% in January and finally 30.8% in February. Though this downward trend is very dramatic, this could be due to twelve staff nurses and three assistant managers leaving during this timeframe. From this extensive turnover of staff, more travel nurses were hired, and float pool staff were used to fill the staffing ratio. Since the travel nurses and float pool nurses were not educated on the use of the MET, this could have led to decrease use of MET with side effect education and therefore the immense decrease in HCAHPS scores.

After this dramatic decrease during these three months, there was a substantial increase during March 2019. As mentioned, these scores for the specific domain question being analyzed increased to 66.7% and the entire communications about medications domain increased to 83.3%. These scores seemed to correlate with consistent audits being done throughout the month of February which showed positive results throughout this time.

Summary

Key Findings

In summary, the MET had an unremarkable effect on patient satisfaction scores throughout implementation of the project. However, after consistent auditing of the MET, scores did have a dramatic increase. This increase could mean more time is needed to find the best way to use the MET to provide medication education during a patient's time on the unit.

As evidenced by the staff surveys, nurses do understand the importance of medication education and most believe repetition and teach back are the best ways to help patients learn. Therefore, using a tool like the MET developed, could be beneficial for patients as nurses feel this is the best way to educate nurses. However, there are clear inconsistences of use that need to be addressed as this project continues. As the PDSA cycle continues, this finding will be explored with the staff to find out why it is not being used consistently and how to engrain the MET into the unit culture. A follow up survey will be done to address why the MET is not being used appropriately and how to integrate the MET into daily care.

Further, patients felt as if they were not learning from the MET. This is important to note, as the MET should be directly beneficing the patients through repeated information and encouraging self-learning. This information will be considered during the next action phase of the project. This will be addressed by doing a similar medication education survey for patients that was done for nurses. Providing a survey for patients at discharge can help understand further the patients' insight on how to learn during difficult circumstances while in the hospital.

Barriers

Throughout the project, there have been a variety of barriers that have been encountered while initiating the medication education tool (MET) project on this inpatient post-surgical IICU. The most difficult barrier to overcome has been the frequent staff turnover that has been recently occurring on the unit. As mentioned, during January and February, approximately twelve nurses and three assistant managers have left to go to other units or hospitals. This has caused a shift in the nursing buy in as many of the nurses who left were helping implement and carry forward the MET project. To accommodate this decrease in staff, float pool nurses are often utilized. Since these nurses have not been educated or made aware of this project, they may not prioritize or use

the MET as frequently as a staff member would. Travel nurses are also being utilized which decreases the overall amount of staff nurses on the unit making it difficult to have adequate buy in. Further, new staff nurses have been hired throughout April 2019 which means many of these new nurses do not know about the MET that should be used with patients. With this continued staff change, there will need to be another education or training period to inform the newly hired staff about the MET project and will involve further buy in from the new assistant managers that are hired.

Further barriers that have been encountered are multiple unit projects and changes are occurring simultaneously. Thus, not only are many core staff leaving, but nurses are being expected to learn new system wide changes while participating in unit culture changes. This has caused a strain on nurses as they are being trained on the implementation of the various projects being started. Since this is a high acuity, busy unit, having so many new things to implement has been a challenge for the nurses to balance and understand the value of each project. This has been mitigated by continually trying to educate nurses on the importance patient education has the quality of care they provide.

Other barriers include patient condition and motivation. When a patient has just come out of surgery or is unwilling to learn due to personal or diagnosis restraints, it can be difficult to educate a patient on new medications being provided. Despite this, nurses are encouraged and empowered to continue education with family members if they are available. Nurses are also encouraged to provide the MET to each patient despite their current condition thus providing patients with the opportunity to begin education despite constraints.

There has also been issue with patients whose primary language is not English. Even though the MET has detailed pictures describing side effects, patients who do not speak English

have had a difficult time using and understanding what the MET is being used for. Nurses have also been told to still provide the MET to these patients and try to use the pictures as a guide to help the patient understand. If further education needs to be done, a translator can also be used to assist the nurse in educating the patient. Also, once the MET has proven to be successful, the MET can be translated to other language commonly seen on the unit.

Conclusions

Overall, after the initial implementation of the MET, this tool seems to have little to no effect on current HCAHPS scores. However, despite the inconsistencies and barriers faced for this project, literature shows that developing a tool which provides teach back and repetition can be a sustainable resource to increase patient satisfaction scores. As mentioned, this specific project has barriers that should be addressed through the next study and act phases of the PDSA cycle. Addressing these barriers, will allow for appropriate changes to be made to ensure the MET is sustainable, with the hopes of being used on other units.

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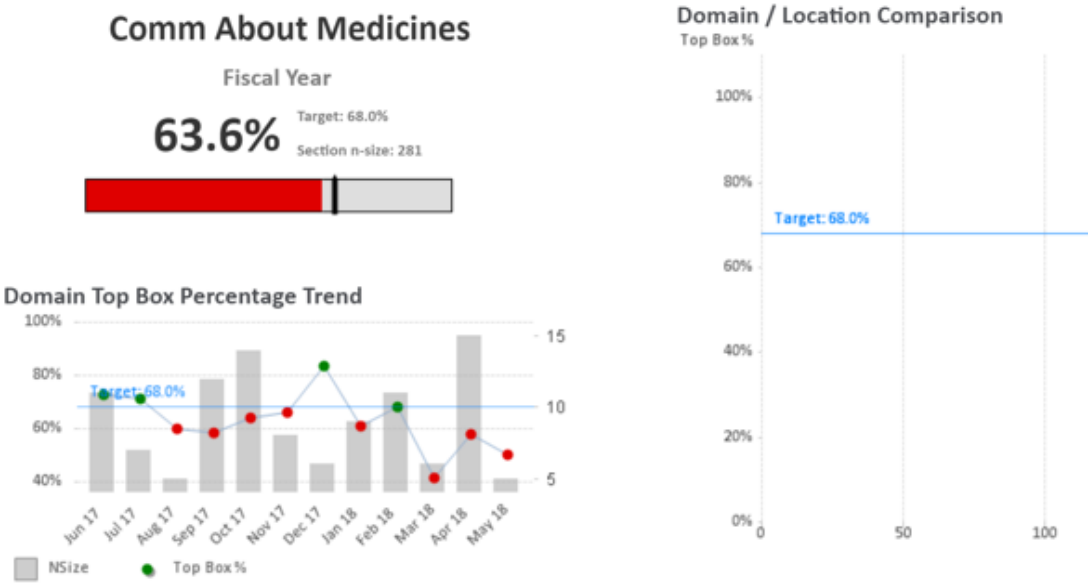
Appendix A

HCAHPS Scores: Communication About Medications

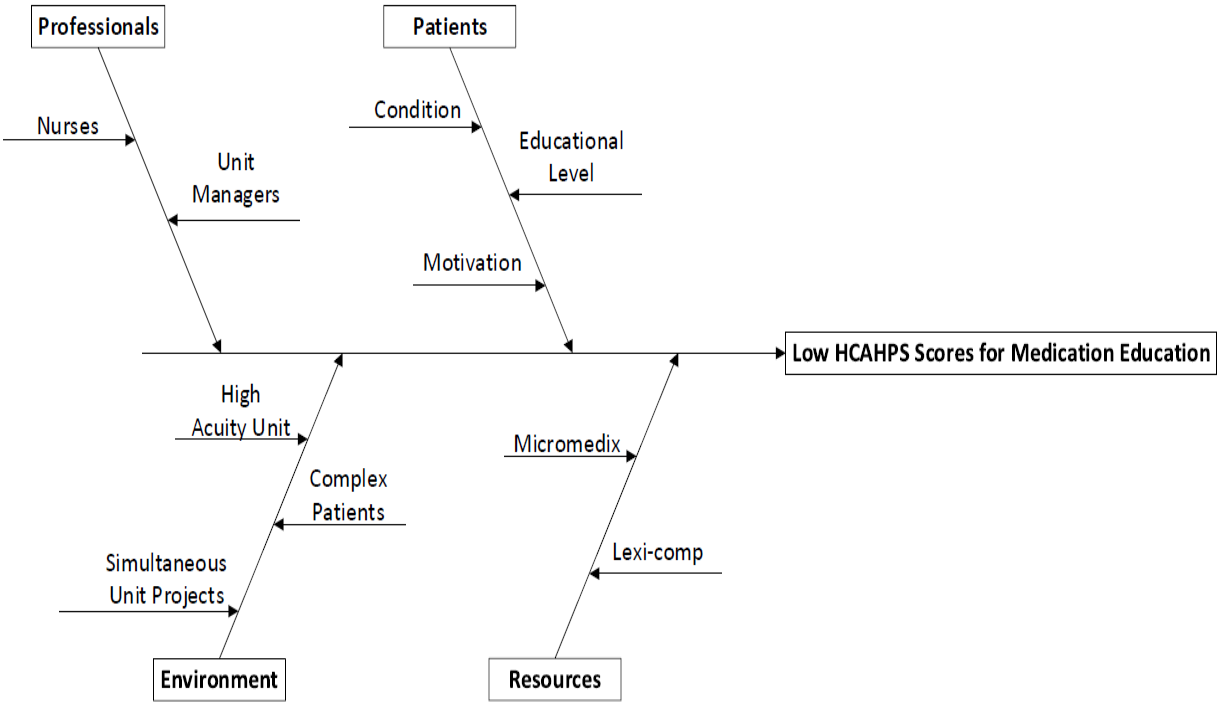


Comm About Medicines Domain Questions

Location	Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?	Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?
D2 (281)	50.4%	76.9%

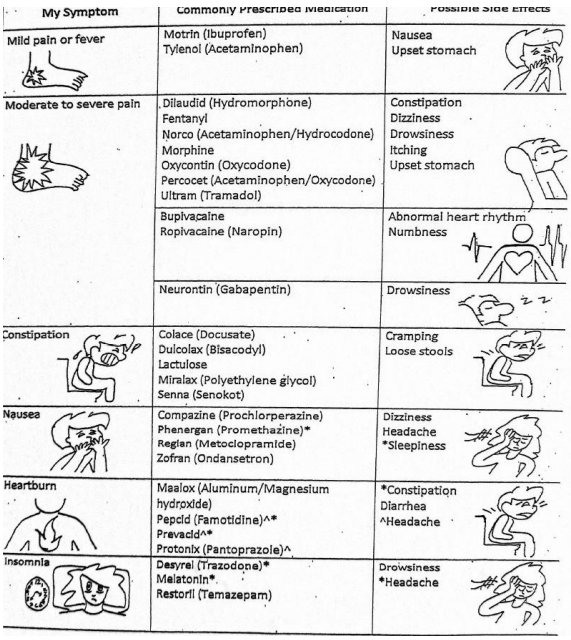
Appendix B

Root Cause Analysis Diagram

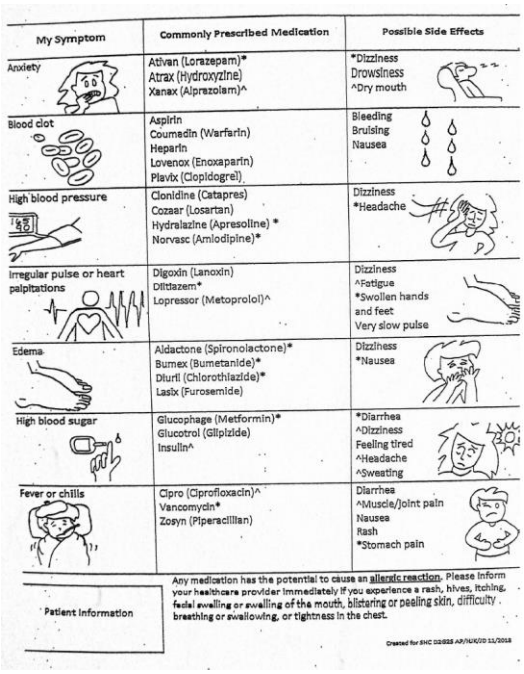


Appendix C

MET for Common Medications



My Symptom	Commonly Prescribed Medication	Possible Side Effects
Mild pain or fever	Motrin (Ibuprofen) Tylenol (Acetaminophen)	Nausea Upset stomach
Moderate to severe pain	Dilaudid (Hydromorphone) Fentanyl Norco (Acetaminophen/Hydrocodone) Morphine Oxycontin (Oxycodone) Percocet (Acetaminophen/Oxycodone) Ultram (Tramadol)	Constipation Dizziness Drowsiness Itching Upset stomach
	Bupivacaine Ropivacaine (Naropin)	Abnormal heart rhythm Numbness
	Neurontin (Gabapentin)	Drowsiness
Constipation	Colace (Docusate) Dulcolax (Bisacodyl) Lactulose Miralax (Polyethylene glycol) Senna (Senokot)	Cramping Loose stools
Nausea	Compazine (Prochlorperazine) Phenergan (Promethazine)* Reglan (Metoclopramide) Zofran (Ondansetron)	Dizziness Headache *Sleepiness
Heartburn	Maalox (Aluminum/Magnesium hydroxide) Pepcid (Famotidine)^* Prevacid^* Protonix (Pantoprazole)^	*Constipation Diarrhea ^Headache
Insomnia	Desyrel (Trazodone)* Melatonin* Restoril (Temazepam)	Drowsiness *Headache



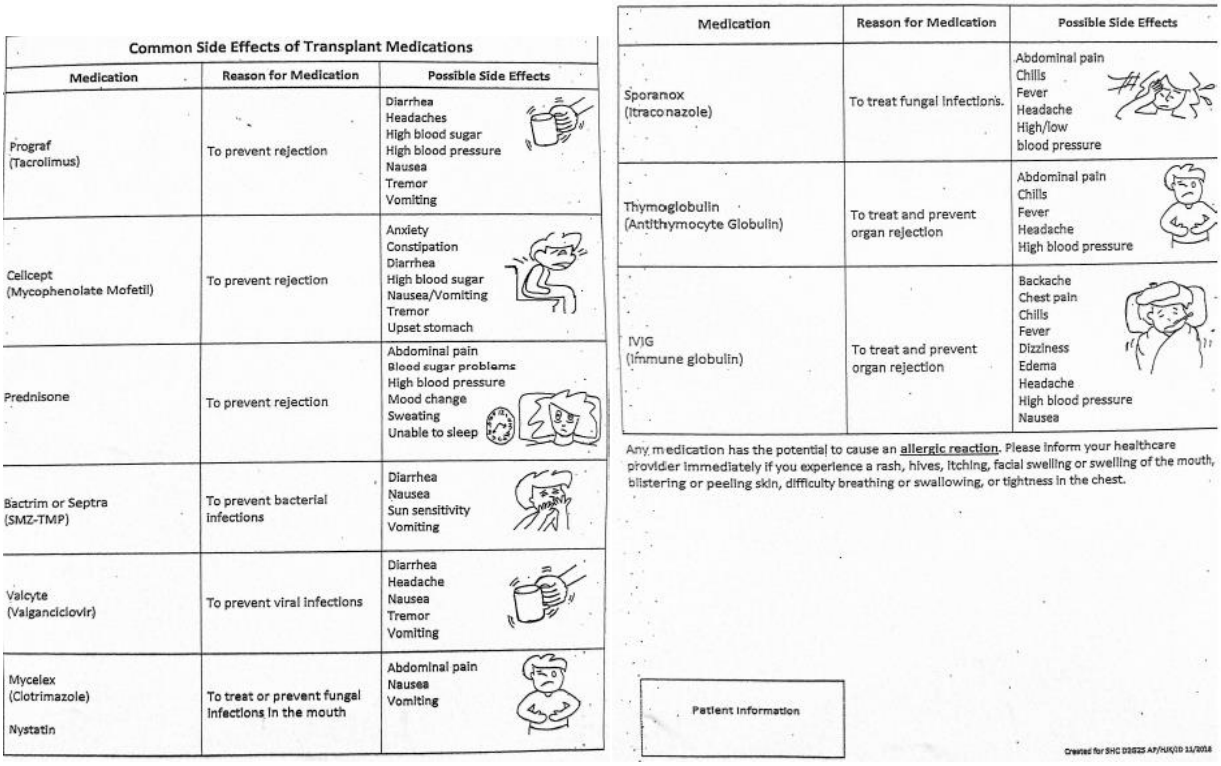
My Symptom	Commonly Prescribed Medication	Possible Side Effects
Anxiety	Ativan (Lorazepam)* Atrax (Hydroxyzine) Xanax (Alprazolam)^	*Dizziness Drowsiness ^Dry mouth
Blood clot	Aspirin Coumadin (Warfarin) Heparin Lovenox (Enoxaparin) Plavix (Clopidogrel)	Bleeding Bruising Nausea
High blood pressure	Clonidine (Catapres) Cozaar (Losartan) Hydralazine (Apresoline) * Norvasc (Amlodipine)*	Dizziness *Headache
Irregular pulse or heart palpitations	Digoxin (Lanoxin) Diltiazem* Lopressor (Metoprolol)^	Dizziness ^Fatigue *Swollen hands and feet Very slow pulse
Edema	Aldactone (Spironolactone)* Bumex (Bumetanide)* Diuril (Chlorothiazide)* Lasix (Furosemide)	Dizziness *Nausea
High blood sugar	Glucophage (Metformin)* Glucotrol (Glipizide) Insulin^	*Diarrhea ^Dizziness Feeling tired ^Headache ^Sweating
Fever or chills	Cipro (Ciprofloxacin)^ Vancomycin* Zosyn (Piperacillian)	Diarrhea ^Muscle/joint pain Nausea Rash *Stomach pain

Patient Information

Any medication has the potential to cause an allergic reaction. Please inform your healthcare provider immediately if you experience a rash, hives, itching, facial swelling or swelling of the mouth, blistering or peeling skin, difficulty breathing or swallowing, or tightness in the chest.

Created for SHC D28825 AP/HJK/JD 11/2018

MET for Lung Transplant Patients



Common Side Effects of Transplant Medications

Medication	Reason for Medication	Possible Side Effects
Prograf (Tacrolimus)	To prevent rejection	Diarrhea Headaches High blood sugar High blood pressure Nausea Tremor Vomiting
Cellcept (Mycophenolate Mofetil)	To prevent rejection	Anxiety Constipation Diarrhea High blood sugar Nausea/Vomiting Tremor Upset stomach
Prednisone	To prevent rejection	Abdominal pain Blood sugar problems High blood pressure Mood change Sweating Unable to sleep
Bactrim or Septra (SMZ-TMP)	To prevent bacterial infections	Diarrhea Nausea Sun sensitivity Vomiting
Valcyte (Valganciclovir)	To prevent viral infections	Diarrhea Headache Nausea Tremor Vomiting
Mycelex (Clotrimazole) Nystatin	To treat or prevent fungal infections in the mouth	Abdominal pain Nausea Vomiting

Medication	Reason for Medication	Possible Side Effects
Sporanox (Itraconazole)	To treat fungal infections.	Abdominal pain Chills Fever Headache High/low blood pressure
Thymoglobulin (Antithymocyte Globulin)	To treat and prevent organ rejection	Abdominal pain Chills Fever Headache High blood pressure
IVIG (Immune globulin)	To treat and prevent organ rejection	Backache Chest pain Chills Fever Dizziness Edema Headache High blood pressure Nausea

Any medication has the potential to cause an allergic reaction. Please inform your healthcare provider immediately if you experience a rash, hives, itching, facial swelling or swelling of the mouth, blistering or peeling skin, difficulty breathing or swallowing, or tightness in the chest.

Patient Information

Created for SHC D28825 AP/HJK/JD 11/2018

MET for Kidney Transplant Patients

Common Side Effects of Kidney Transplant Medications

Medication	Reason for Medication	Possible Side Effects
Prograf (Tacrolimus)	To prevent rejection	Headaches High blood sugar Tremor
Cellcept (Mycophenolate Mofetil)	To prevent rejection	Diarrhea Nausea/Vomiting Upset stomach Birth defects Low white blood cell count
Prednisone	To prevent rejection	Blood sugar problems High blood pressure Mood change Unable to sleep Weight gain Increase appetite Fluid buildup
Bactrim or Septra (SMZ-TMP)	To prevent bacterial infections	Rash Nausea Sun sensitivity Vomiting
Valcyte (Valganciclovir)	To prevent viral infections	Affects blood counts
Mycelex (Clotrimazole) Nystatin	To treat or prevent fungal infections in the mouth	Abdominal pain Nausea Vomiting Bad taste

Medication	Reason for Medication	Possible Side Effects
Thymoglobulin (Antithymocyte Globulin)	To treat and prevent organ rejection	Muscle/Joint pain Chills Fever Short of breath Low blood pressure Low white blood cell count
IVIG (Immune globulin)	To treat and prevent organ rejection	Chills Fever Headache Nausea Anemia Blood clots Joint Pain High blood pressure Kidney dysfunction

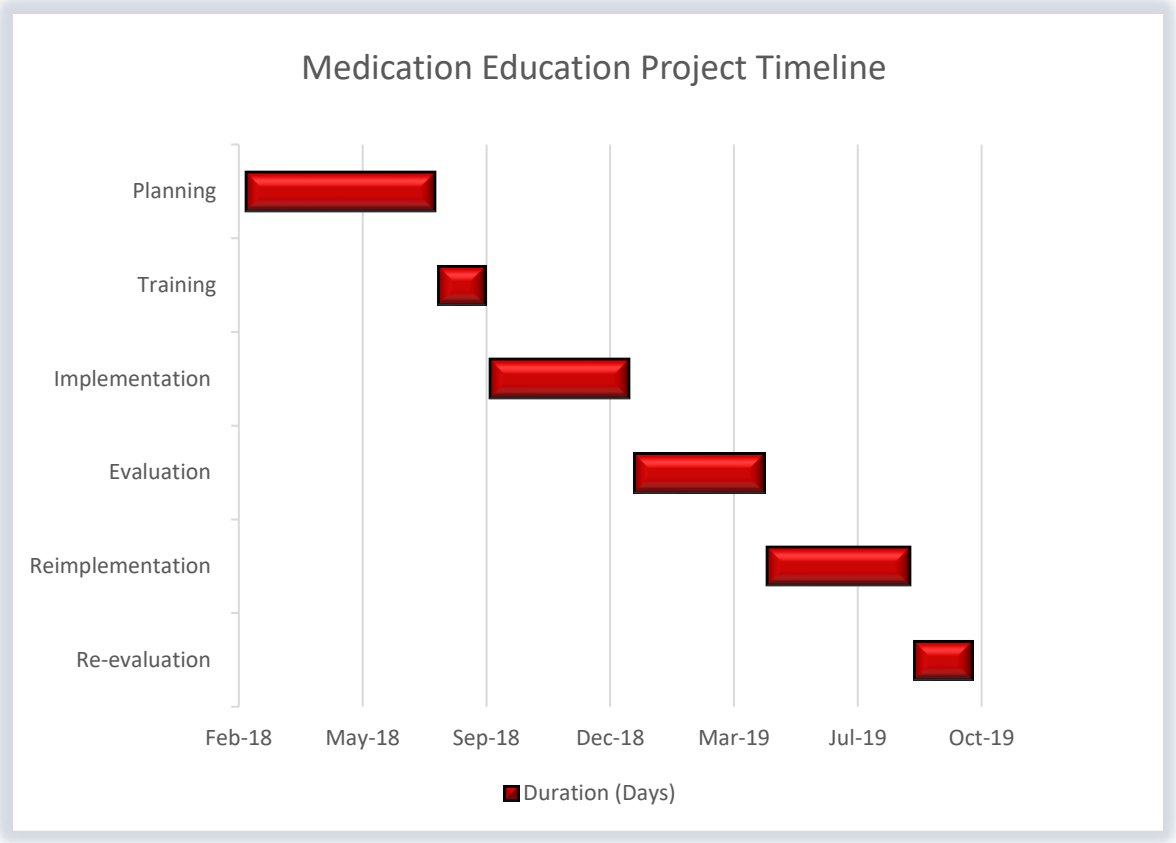
Any medication has the potential to cause an **allergic reaction**. Please inform your healthcare provider immediately if you experience a rash, hives, itching, facial swelling or swelling of the mouth, blistering or peeling skin, difficulty breathing or swallowing, or tightness in the chest.

Patient Information

Created for SHC D2025 HJK/AP 01/2019

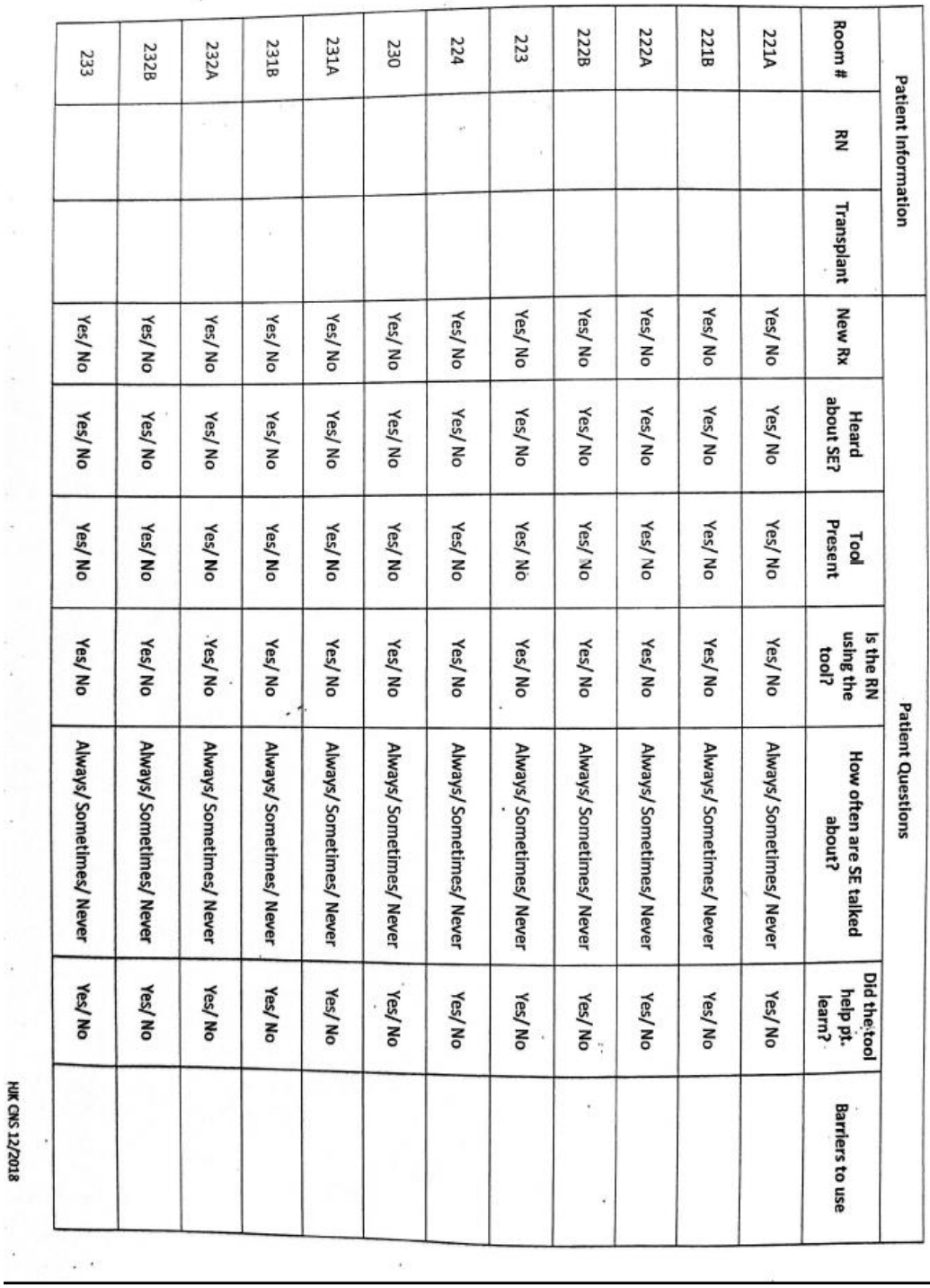
Appendix D

Medication Education Gannt Chart



Appendix E

Audit Tool



Patient Information			Patient Questions						
Room #	RN	Transplant	New Rx	Heard about SE?	Tool Present	Is the RN using the tool?	How often are SE talked about?	Did the tool help pt. learn?	Barriers to use
221A			Yes/ No	Yes/ No	Yes/ No	Yes/ No	Always/ Sometimes/ Never	Yes/ No	
221B			Yes/ No	Yes/ No	Yes/ No	Yes/ No	Always/ Sometimes/ Never	Yes/ No	
222A			Yes/ No	Yes/ No	Yes/ No	Yes/ No	Always/ Sometimes/ Never	Yes/ No	
222B			Yes/ No	Yes/ No	Yes/ No	Yes/ No	Always/ Sometimes/ Never	Yes/ No	
223			Yes/ No	Yes/ No	Yes/ No	Yes/ No	Always/ Sometimes/ Never	Yes/ No	
224			Yes/ No	Yes/ No	Yes/ No	Yes/ No	Always/ Sometimes/ Never	Yes/ No	
230			Yes/ No	Yes/ No	Yes/ No	Yes/ No	Always/ Sometimes/ Never	Yes/ No	
231A			Yes/ No	Yes/ No	Yes/ No	Yes/ No	Always/ Sometimes/ Never	Yes/ No	
231B			Yes/ No	Yes/ No	Yes/ No	Yes/ No	Always/ Sometimes/ Never	Yes/ No	
232A			Yes/ No	Yes/ No	Yes/ No	Yes/ No	Always/ Sometimes/ Never	Yes/ No	
232B			Yes/ No	Yes/ No	Yes/ No	Yes/ No	Always/ Sometimes/ Never	Yes/ No	
233			Yes/ No	Yes/ No	Yes/ No	Yes/ No	Always/ Sometimes/ Never	Yes/ No	

HJK CNS 12/2018

Appendix E

Medication Education Survey—Staff

1. How long have you been a nurse?

- ☐ 0-2yrs
- ☐ 3-5yrs
- ☐ 6-8yrs
- ☐ 9+yrs

2. How comfortable do you feel providing medication education about side effects to your patients?

- ☐ Not at all
- ☐ Not very
- ☐ Somewhat
- ☐ Very

3. How important do you believe providing medication education about side effects to your patients is?

- ☐ Not at all
- ☐ Not very
- ☐ Somewhat
- ☐ Very

4. From your experience, what is the best way to provide medication education to patients? Select all that apply

- ☐ Verbal education only
- ☐ Verbal + written education
- ☐ Written education only
- ☐ Repetition and teach back
- ☐ Other:

5. When do you believe is the best time to start and provide medication education for patients?

- ☐ Upon admission
- ☐ Through out admission beginning with first med pass on unit
- ☐ Upon discharge
- ☐ All of the above

6. How often are you able to provide adequate medication education to your patients?

- ☐ Never
- ☐ Sometimes
- ☐ Usually
- ☐ Always

Appendix F

Enhancing patient medication knowledge: Poster presentation

UNIVERSITY OF SAN FRANCISCO | School of Nursing and Health Professions

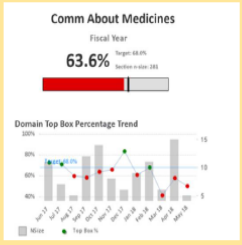
Enhancing patient medication knowledge:
Utilizing an educational tool to improve patient satisfaction scores

Liz Orgon BSN, RN

Problem:

- HCAHPS implementation
  - National standard for collecting patient perspectives
  - Voluntary but required for Medicare reimbursement
  - Initiation of hospital wide initiatives to improve scores
- High Acuity post surgical IICU struggles to meet benchmark status (70.7%) for communication about medications HCAHPS domain scores

2017-2018 FY HCAHPS Scores

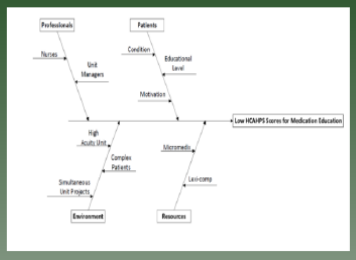


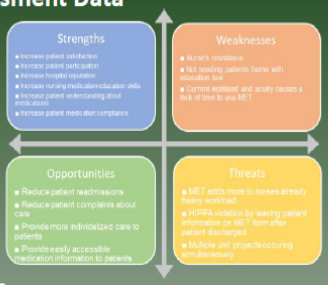
Project Aim

Within a 12-month time-frame the overall goal is to increase HCAHPS scores for medication communication to benchmark status. The intent is to Increase patient satisfaction for those discharged from the unit while increasing the quality of care nurses provide to patients. This will be accomplished by developing a medication education tool that will:

- ✓ **Improve HCAHPS scores**
- ✓ **Better involve patients in their care**
- ✓ **Improve communication between nurses and patients**

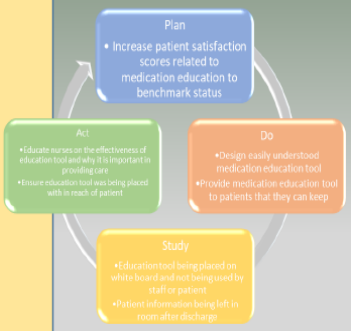
Microsystem Assessment Data



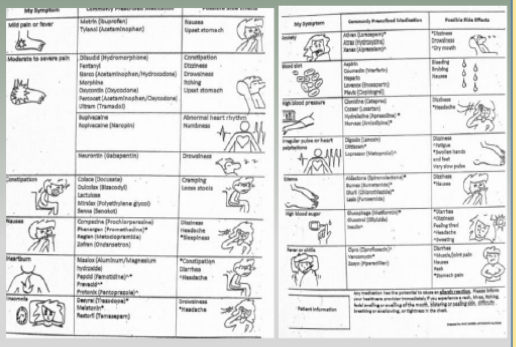


Interventions

PDSA Cycle

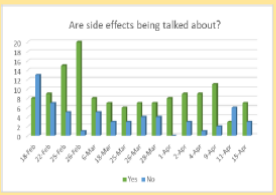


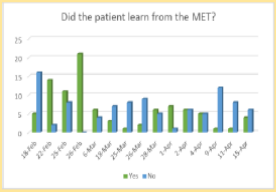
Medication Education tool



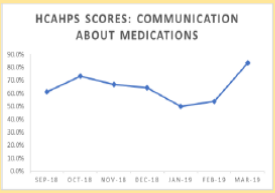
Results

Audit tool data:





HCAHPS Scores:



Barriers:

- Patient condition/motivation
  - Language barrier
  - Constraints due to diagnosis
  - Fresh Post-Op
- Multiple unit project
  - Time constraints
  - Strain on nurses
- Staff turnover
  - Decreased buy in
  - Decreased education from float pool and travel nurses

Acknowledgements

- Unit Manager: Trinie Harris RN, MSN, PCCN
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- Unit Shared Leadership Committee: An, Stacei, Katie, Kathryn, Helina
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