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Utilizing Home Health Services to Reduce High-Risk Readmissions: A Quality Improvement
Project

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Section I: Abstract

The Centers for Medicare and Medicaid (CMS), the Joint Commission (TJC), Institute for Healthcare Improvement (IHI), and the Agency for Healthcare Research and Quality (AHRQ) have all highlighted readmissions as an issue in healthcare that needs to be addressed. Many of these organizations have piloted programs which aim to decrease readmissions.

The MAP (Medication Focus, Access Assistance, and Provider Collaboration) program seeks to decrease the readmission rate of high-risk patients. Readmissions are costly and often lead to negative patient outcomes. To decrease cost to the hospital and avoid penalties from the Centers for Medicare and Medicaid (CMS), the MAP program was created to support patients after discharge. Patients who are identified as high risk for readmission are referred to the program and contacted by a home health agency which has a partnership with the department. They receive an in-person home health visit and telephone calls with a medical social worker (MSW). Patients who were high-risk but did not receive services between April and June 2018 had a readmission rate of 25.58%, while patients who received the MAP services had a readmission rate of only 8.96%. This program has decreased the overall readmission rate of patients who otherwise had a high-risk of returning to the hospital within 30 days.

Section II: Introduction

Problem Description

Readmissions are an important focus of the organization and the department where MAP is being instituted. The hospital historically has poor readmission rates. For patients admitted to our hospital before the program was initiated, the high-risk patient readmission rate was close to

30%. Readmissions are associated with poor patient outcomes and are also extremely costly. One in five of all Medicare patients who have been admitted to the hospital are readmitted within 30 days, costing the healthcare industry \$15 billion (Steiner, 2015). CMS policies which adjust payments to hospitals with high readmission rates have renewed focus for individuals and organizations to discover what factors contribute to readmissions. In the past two years alone, this hospital was fined \$1.1 million by CMS in penalties for their readmission rate. This did not include the thousands of dollars fined for each patient by their insurer.

Readmissions were contributed to particularly by high risk patients. These patients had a higher risk for readmitting because of a lack of resources, such as lack of insurance and inability to understand or afford medications. They also commonly lacked a provider, and because of this had no follow up after discharge (Appendix A).

One of the approaches taken by this institution was the Care Coordination Department paying for patients to be placed in assisted living facilities or supportive care facilities, rather than having to continue paying for their admissions. However, this was a burden on the budget of the department because these placements would cost the department approximately \$4000 a month per patient. This quality improvement project was implemented so new approaches to solving this problem could be piloted.

Available Knowledge

After assessing the microsystem, several patient factors seemed to contribute to the issue of readmitting. By assessing at the characteristics of the patients who were readmitting, care coordination leadership created a list of criteria which included: age greater than 80, substance or alcohol abuse, new chronic diagnosis, multiple chronic illnesses, homelessness, living alone, and

inadequate insurance. The care coordinators/case managers in the department would eventually use these criteria to identify patients that should be referred to the MAP program.

Ma et. al. describes what contributes to patients readmitting to the hospital setting, who have been receiving home health care (Appendix B). This article describes a systematic review which found that factors contributing to hospital readmissions include older age, male gender, multicomorbidity, frailty, living alone, prior utilization of hospital care, need for caregiver assistance, insurance type, psychotic disorders, and type of diagnosis as major factors for readmissions. (Ma, Shang, Miner, Lennox, & Squires, 2018). This review seems to support the list of high-risk criteria that we created for care coordinators because we have most of their identified characteristics included in our list. In a randomized controlled trial protocol, older adults were separated into four groups: no follow-up, exercise and phone follow-up, exercise only, and phone follow-up only (Appendix B). These groups were created to see if older adults would be less likely to readmit to the hospital if they were followed up with within 72 hours of discharge (Courtney, Edwards, Chang, Parker, Finlayson, & Hamilton, 2011). This protocol will support our set up of the MAP program and evaluate the results of instituting it on the readmission. In a systematic review, Long, Babbit, and Cohn (2017) look to understand if home telemonitoring can help reduce readmissions for patients with chronic heart failure (Appendix B). They were able to show that the use of healthcare professionals using telephonic follow-up had the capability make a difference on readmission rate, but larger sample sizes are needed to make official recommendations (Long, Babbit, & Cohn, 2017). This article, while not providing official recommendations, showed that telephonic monitoring is considering a good choice in decreasing readmissions, even though more research needs to be done on this topic. Using a similar model to the one used by Hudali, Robinson, & Bhattarai, we created a system of follow-

up with patients (Appendix B). Unlike their model, which featured a clinic for patients to visit, we offer home health services to patients who have a high risk for readmission. This study found that patients who received follow up services had a significantly lower readmission rate—3.8% when clients had follow-up versus 11.7% when they did not—helps to support our creation of the MAP program (Hudali, Robinson & Bhattarai, 2017). This research culminated to form my PICO question. For high risk patients, will free home health follow-up care decrease the readmission rate compared to patients who receive no intervention?

Rationale

Lazarus & Folkman's transactional theory of stress and coping supports the introduction of the MAP program for the patients at our hospital who are high-risk for readmission. This theory explains that stress results from an imbalance between demands and resources. When demands become too great and exceed our resources, we lose our ability to cope and the following stress is even worse than the initial event. This includes primary and secondary appraisal. Primary appraisal is the event itself, which may include harm/loss, threats, and challenges, and then the secondary appraisal is the resulting consideration of options to cope (Walinga, 2014). This theory supports the introduction of the MAP program. For patients who have a high-risk for readmission, they have an overwhelming number of demands, which includes all of the characteristics we use as criteria to refer to the program. Lazarus & Folkman's theory supports the additional resources we provide to patients in MAP because it assists with their coping and will help alleviate stress that would lead to a readmission.

Specific Project Aim

The purpose of this project is to decrease readmissions at our hospital, which will improve patient outcomes and decrease costs. This report's goal is to highlight exactly how we

instituted the MAP program and its effectiveness at decreasing readmission rates of high-risk patients over a period of months. The specific aim statement for this project is as follows: By October of 2018, the readmission rate for high-risk patients who receive MAP program services will decrease to below 10%. To calculate and monitor this readmission rate, the readmissions of all patients referred to the MAP program, including those who accept, decline, and who are unable to be contacted, will be monitored for 30 days after their discharge. The readmission data will then be compiled and calculated on a monthly basis, beginning in April of 2018 when a primary home health agency was secured.

Section III: Methods

Context

These are the results of my SWOT analysis (Appendix C). The strengths identified in our microsystem include its small size (relatively small number of patients served as well as small number of staff), its close relationship with community partners, and the support of leadership within the organization. Weaknesses include patient willingness to participate, problematic communication with a single home health agency, and patient census levels. Opportunities include expanding the program to other hospitals within the region and decreasing costs. Threats include issues with contacting patients and issues with referring patients. Considering these elements, I believe the MAP program has an extremely strong chance of having a positive effect on our readmission rate. As we begin to implement the program, these elements are being addressed and our weaknesses and threats have proven to be issues but are not completely detrimental to the improvement of patient outcomes and costs.

Intervention

The MAP program and its goal for implementation include multiple steps. Step one involves patients being referred to home health agencies that we partner with. The care coordinators of our department, who focus in patient discharge planning, ask the patient whether they would like to receive services. If they accept, the coordinators use an online program to book patients with agencies who we have previously created MAP protocols with. The agency to which the patient has been referred to accepts it as a MAP acceptance and we confirm the booking. After this, the agency will reach out to the patient within 48-72 hours of discharge. On some occasions they may even have a face-to-face visit while the patient is still admitted. The patient will be scheduled have a face-to-face appointment with an MSW and licensed vocational nurse (LVN) when convenient for the patient, as soon as possible and preferably within a week of discharge. Then, the patient will schedule three telephonic appointments with the MSW for the three following weeks, amounting to one month of follow-up services. The MSW can discuss with the patient their specific needs, including information about medications, securing a provider if needed, etc. They record brief notes regarding what was discussed with patient and report this information to us. They also identify which patients they were able to contact, and which ones did not answer or refused services. After 30 days, the care coordination department will assess whether the patient readmitted to any facility within the system. Each patient who receives services will cost a predetermined total of \$350, which includes the 4 total visits by the home health agency.

Measures

Outcome measures that will be assessed include the number of readmissions of high-risk patients that occur once the program is well established and the readmission rate (in percentage of high-risk patients who readmit within 30 days). The readmission rate will be calculated for

patients who receive services, and those who do not, to evaluate the effectiveness of the MAP services they receive. The main process measure that will be examined will be the number of patients referred to the program who receive services. Other process measures include who are unable to be contacted and barriers in communication between the hospital, patients, and agencies.

Ethical Considerations

Ethical characteristics included the principles of autonomy, nonmaleficence, and beneficence. To maintain autonomy, we gave all patients who were identified at high risk the ability to choose whether they would receive services. Patients had the ability to refuse services and would not be contacted. This was not a mandatory program, and so it is believed we did not force patients to participate and they were autonomous in this decision. In creating this program, we wanted to act with the patients' best interests in mind and acting for the good of the patient, which covered the principles of nonmaleficence and beneficence.

Section IV: Results

The MAP program was piloted at the end of 2017 (Appendix D). This home health agency would provide 30 days of services. While the first few months, November 2017 to April 2018, had promising results, a major issue was discovered. The original home health agency contracted to provide services for MAP was not seeing all patients and was not providing details as to which patients were seen. This was a major barrier, because we could not calculate the readmission rate for patients who had received MAP services without knowing which patients had been contacted. In April of 2018, we contracted with a different home health agency to continue MAP services. This home health agency was willing and able to provide the details we

needed. Therefore, only data from May to October 2018 was deemed to be accurate enough to be analyzed.

From May to October of 2018, 169 patients were referred to the MAP program after being identified as high risk for readmission. 61 patients (36%) received services from the home health agency. The other 108 patients did not receive services, because they initially declined or were unable to be contacted by the home health agency. The patients who were unable to be contacted became a problem for the home health agency and will have to be reevaluated in the future. Of the 108 patients who did not receive services, 79 did not receive services because they were unable to be contacted or because they later declined. Many patients did not have a valid phone number or address when they discharged from the hospital which was the main factor that contributed to this. Additionally, many patients would simply not answer the phone.

The average readmission rate from May-October for patients who did not receive services was 18.5%. The patients who did receive MPA services had an average of only 9.83%. The readmission rate was also calculated by month (Appendix E) and fell below the goal of 10% during the months of June, July, and October. There was an outlier in the data during the month of September, when the readmission rate for those without services was 0% and lower than the rate of those who did have services.

When a patient readmits to the hospital within 30 days of their last discharge, insurance providers charge a penalty fee for each patient. This fee is dependent on the insurance provider, but it averages about \$14,000 per readmission (Gomez, 2016). To determine our cost saved, I took the 61 patients who received services and applied the 18.5% readmission rate for patients who did not receive services. If these 61 patients did not receive services, approximately 12 of them would have readmitted to the hospital. This would be a cost of \$168,000 in insurance

penalties. In reality, it was only 6 who readmitted after receiving services. We paid \$350 for all 61 patients, and penalties for 6 of them, with a total of \$105,350. This results in savings of 37% for these six months.

Section V: Discussion

Utilizing home health services after discharge for patients with a high risk for readmission proved to be successful. By providing these services, we decreased the average readmission rate to close to half of the rate of patients who did not receive services. This illustrates an improvement in patient outcomes and a decrease in costs. We met our project aim of decreasing the rate to below 10% by October of 2018. This successful change can be associated with the vigilance of the care coordination department to develop the program, and the support of the second home health agency in providing the follow-up care. Without community partner support, this program would not be successful.

The MAP program will continue and is projected to maintain or improve these results. It has the possibility of becoming a regional program within the hospital network it is a part of currently. The department leadership and home health agency have met to discuss how to improve the ability to contact patients after discharge and ensure patients who accept services receive them. The MAP program exemplifies that following patients after discharge and providing home health services with the assistance of community agencies, has the potential to improve patient outcomes and decrease the readmission rate, saving the hospital and healthcare industry thousands of dollars.

Section VI: References

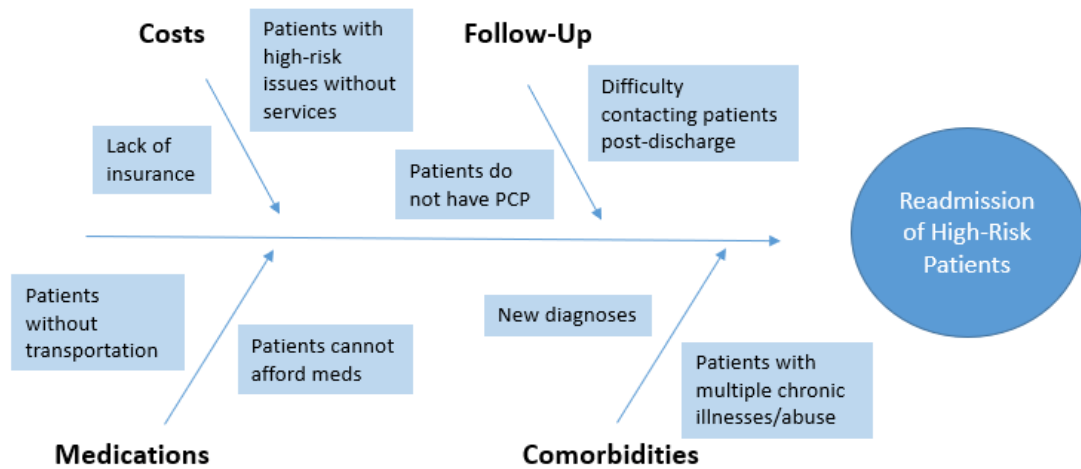
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Section VII: Appendices

Appendix A

Root Cause Analysis

Fishbone Diagram:



Appendix B

Evaluation Table

Citation	Conceptual Framework	Design/Method	Sample/Setting	Variables and their definitions	Measurement	Data Analysis	Findings	Appraisal: Worth to practice
Courtney, M., Edwards, H., Chang, A., Parker, A., Finlayson, K., Hamilton, K. (2011). A randomised controlled trial to prevent hospital readmissions and loss of functional ability in high risk older adults: A study protocol. BMC Health Services Research. 11(202).	RE-AIM evaluation framework	Randomized controlled trial	Acute care hospital discharges N=328	Control: usual care Groups: exercise group, telephone follow-up group, both intervention group	Readmissions	Chi square, ANOVA, and Kruskal-Wallis tests will be used for bivariate analysis	Lowering the use of acute care services is the most beneficial and significant cost saving expected as a result of positive outcomes	Important to note the lack of information about follow-up services and shows current models of discharge are not adequate
Hudale, T., Robinson, R., & Bhattarai, M.	N/A	Retrospective observational analysis	N=378 patients who were discharged from	Patients who were followed up with	Readmission rates, risks for readmission	Pearson's chi-square or Fisher's	11.7 vs 3.8 percent difference	Study showed a follow-up

<p>(2017). Reducing 30-day rehospitalization rates using a transition of care clinic model in a single medical center. Advances in Medicine.</p>			<p>Memorial Medical Center in Illinois</p>	<p>transitional care clinic vs. those who were not</p>		<p>exact test and reported as frequency (%)</p>	<p>when patients went to clinic, risk higher when DKA was Dx or COPD</p>	<p>with patients decreased readmission rate significantly</p>
<p>Long, G., Babbitt, A., Cohn, T. (2017). Impact of home telemonitoring on 30-day hospital readmission rates for patients with heart failure: A systematic review. MedSurg Nursing. 26(5).</p>	<p>N/A</p>	<p>Systematic review</p>	<p>Post-discharge from hospitals in eastern United States N=51,014 patients</p>	<p>Usual post-discharge care vs. telemonitoring on readmission rates</p>	<p>Readmission rates, mortality</p>	<p>N/A</p>	<p>50% decrease in mortality</p>	<p>Research gap when assessing readmission rates after interventions</p>

<p>Ma, C., Shang, J., Miner, S., Lennox, L., Squires, A. (2018). The prevalence, reasons, and risk factors for hospital readmissions among home health care patients: A systematic review. Home Health Care Management and Practice. 30(2). 83-92.</p>	<p>N/A</p>	<p>Systematic review</p>	<p>N=18 (studies)</p>	<p>N/A</p>	<p>Risk factors for readmissions</p>	<p>N/A</p>	<p>Older age, poor health status, living alone, frailty, cancer, medication complexity, insurance type play a part in readmissions</p>	<p>Identified scarcity of readmission research, examined risk factors and reasons for readmission relevant to MAP</p>
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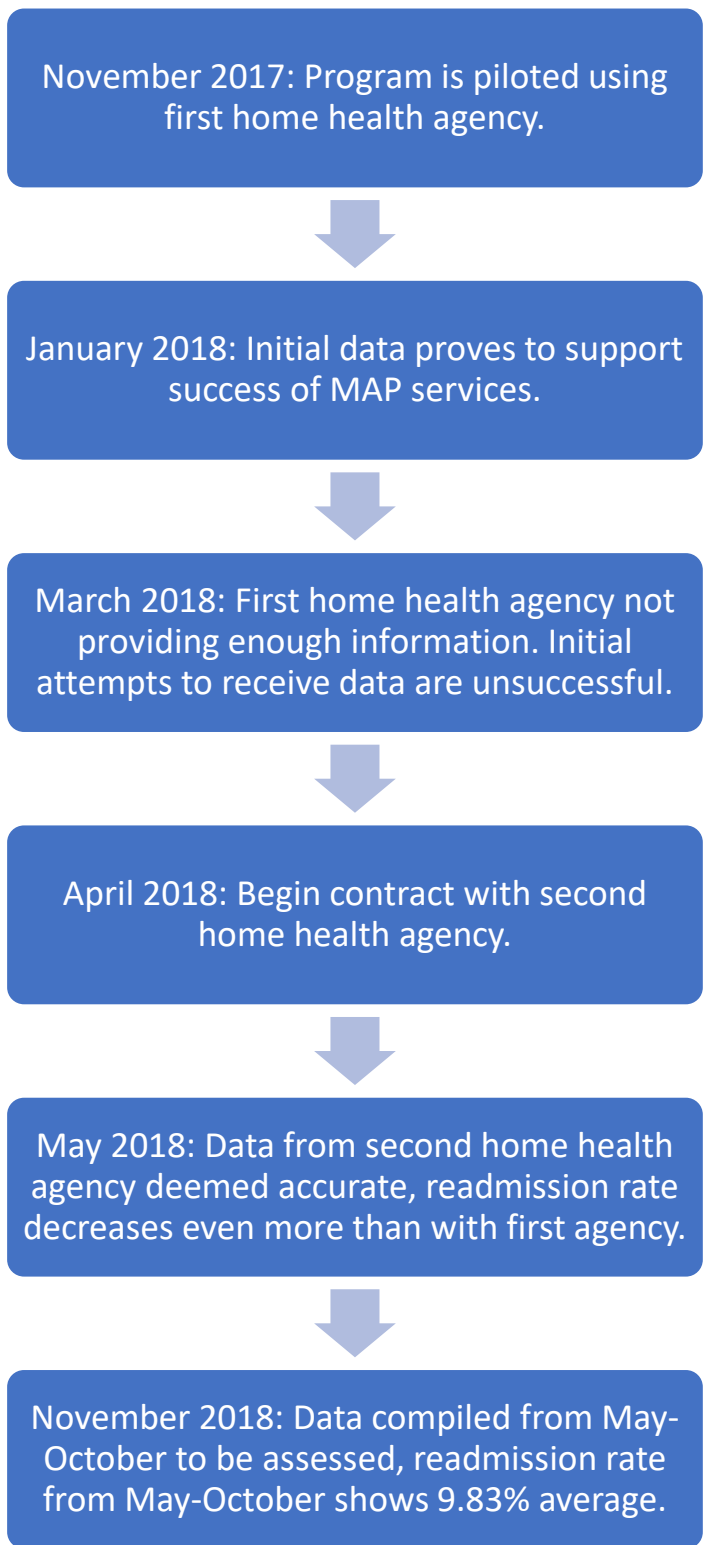
Appendix C

SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • relatively small number of patients served as well as small number of staff • close relationship with community partners • support of leadership within the organization 	<ul style="list-style-type: none"> • patient willingness to participate • problematic communication with a single home health agency
Opportunities	Threats
<ul style="list-style-type: none"> • expanding the program to other hospitals within the region and decreasing costs 	<ul style="list-style-type: none"> • issues with contacting patients • issues with referring patients • patient census levels

Appendix D

Chart showing timeline



Appendix E

Readmission Data

