Follow-up Phone Calls and 30-day Readmission Reduction

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Abstract

As financial burdens related to medical care and insurance reimbursement continue to loom over health care institutions, focus on decreasing thirty day readmissions has come to the forefront of improvement. Readmissions are frequently found to be unnecessary and costly with numerous studies performed on the actual financial cost along with fines associated with unplanned readmissions nearing $18 billion back in 2004 (Robinson, Esquivel & Vlahov, 2012). Additional studies on interventions applied in efforts to reduce readmission rates have proven both successful and necessary for which further investigation is warranted within specific subsets of patients. The purpose of this research is to identify the impact of telephone calls post discharge on readmission rates within a population of cardiac surgery patients. Support for this proposed question comes from Imogene King’s theory of mutual goal setting and mutually working towards that goal (1981). A retrospective descriptive design is recommended in exploration of this interventions efficacy, with results being widely applicable within the medical community.

**Can Follow-up Phone Calls Decrease 30-day Readmission Rates in the Adult Cardiac Surgery Patient Population?**

**Introduction**

**Background and Significance**

 As health care continues to expand to accommodate the needs of today’s population, medical facilities are left with a large burden: to balance the increase in the cost associated with caring for patients with the decrease in private insurance and government program reimbursement. In order to combat this growing issue, many health care institutions have focused on identifying areas for improvement: decreasing the amount of hospital acquired infections, reducing the number of pressure related wounds obtained during hospitalization, and most importantly, reducing the number of patient readmissions within thirty days post discharge.

Postel, Frank, Barry, Satou, Shemin & Benharash (2014) conducted a study to illustrate the direct cost of readmission to an institution without insurance reimbursement. They concluded that over a twelve-month period, unplanned thirty-day patient readmissions cost a medical facility a total of $812,600, with individual patient costs averaging $144,000 (p. 1005). Following the readmission penalty a net loss of $11,950 per patient was found to exist (Postel et. al., 2014, p. 1005). This financial burden carries a significant impact; it reduces the amount resources available to the staff, negatively affects the level of patient care, and in some cases forces facilities to close and leave communities without adequate health care. Further highlighting the scale of financial implications 30-day readmissions cause, Robinson, Esquivel, & Vlahov (2012) list a cost of $17.4 billion in readmissions alone in 2004 (p. 338).

**Purpose**

 The topic regarding financial implications and financial responsibility will continue to be a prevalent part of modern day medicine as fines continue to be levied against medical facilities due to readmission rates. This is of greatest concern for acute care facilities where readmission rates are especially high in adult populations with any chronic condition or surgery/procedure. Little is known about the effects of a follow-up phone call post discharge has on the number of readmission rates within the adult cardiac surgery population. The purpose of this research is to determine the impact that a follow-up telephone call, placed after discharge, will have on readmission rates up to 30 days following discharge within the adult cardiac surgery population.

**Review of Literature**

**Theoretical Framework**

Imogene King’s theoretical concepts and theory of goal attainment can be applied to help understand the research seeking to identify whether telephone intervention following discharge can make an impact on 30-day readmission. Her theory underscores the importance of patient and provider collaboration to achieve mutually set goals (1981). A major element of her theory, the interpersonal system, is when two individuals can successfully “come together in a health care organization to help and to be helped to maintain a state of health that permits functioning in roles” (King, 1981, p. 142). The concepts within this system are that of interaction, transaction, and communication with an assumption that without collaboration between the individuals, progress toward goal attainment cannot be achieved (King, 1981). This element can be successfully applied towards the various interventions focusing on reducing 30-day readmissions when providers begin to see the pivotal role they play within the relationship.

In an interview conducted by Fawcett, King herself draws light to the uniqueness of her own theory by stating “the framework can be taken out of nursing”, therefore the application of her theory can apply to the focus of the intended research as a strong guide (2001, p. 314). Furthermore this theory underscores the importance of collaboration and responsibility in order to be able to successfully set and achieve goals. In the absence of goal setting and collaboration, 30-day readmission rates and the its financial burden will continue to be prevalent within the medical community. Therefore when two individuals work together towards the goal of avoiding/reducing 30-day readmissions differences in readmission rates should be noted.

**Literature Review and Supporting Evidence**

 The financial implication of 30-day readmissions has become an increasingly prevalent topic within the medical community. Literature search was conducted utilizing the database CINHAL plus with Full Text, MEDLINE with Full Text, and Google Scholar. An initial search was conducted using the terminology; 30-day readmission, follow-up, prevention, and readmission in a variety of combinations. Further refinement of criteria resulted in the addition of the terminology; cost, economics, Medicare, reducing, and penalties that yielded too large of an amount of results. Limitation of results was achieved with full text articles written within the previous ten years, which decreased the amount of literature available. Much of the literature focused on the financial reasons why research should be conducted on 30-day readmissions as well as studies already performed on causes of, and interventions for reduction of, 30-day readmissions. Numerous quantitative studies and reviews were conducted showing strong need of further implementation of 30-day readmission reduction measures

 Literature supporting the need to decrease 30-day readmissions is associated with the colossal cost of $17.4 billion in the year 2004 alone (Robinson, Esquivel, Vlahov, 2012, p. 338). An extensive literature review was conducted by the authors to determine readmission risk factors following discharge in those 60 years or older. Their findings focus the readers’ attention on the need for interventions to occur following patient discharge as a majority of contributing factors occur at that time (Robinson, Esquivel, Vlahov, 2012, p. 349). This finding supports the need for investigation into post-discharge interventions such as follow-up phone calls.

 Further support for this proposal can be found within a multi-analysis study that included; chart review, provider interview, patient-family interviews, and case assessment. Feigenbaum, Neuwirth, Trowbridge, Teplitsku ,Barnes, Fireman, Dorman, & Bellows (2012) found that nearly 94% of readmissions across 18 hospitals were possibly preventable in various degrees (p. 599). They concluded that existing tactics and new tactics regarding readmissions must be identified to reduce their cost. (Feigenbaum et. al., 2012, p. 604).

 Taking a closer look at “per patient cost” of readmission, Postel, Frank, Barry, Satou, Shemin, & Benharash (2014) conducted a retrospective review within the cardiac surgery sub-set of patients. This review showed strong evidence supporting preventable readmissions of nearly 27%, 18 patients, (of readmitted patients) that would have resulted in the savings of $215,100 dollars in Medicare penalty fees (p. 1005). Support for focus on readmission prevention tactics within the cardiac surgery population to decrease the cost is shown within this particular review.

 Although the implications of the retrospective cohort analysis performed by Black (2014) are not as strong as other literature, it does play a supportive role in the importance of readmission reduction focusing on a particular sub-set of patients (p. e206). Particular focus on those with cardiac conditions such as CHF and CAD, found within the cardiac surgery population previously described, is emphasized as they account for the majority of 30-day readmissions as described by Black (2014, p. e206). Black further concluded that most 30-day readmissions are “experienced by patients who have multiple, frequent hospital admissions” (2014, p. e206).

 Costantino, Frey, Hall & Painter (2013) conducted a retrospective study that had significant impact into the proposition of this authors proposed study. This study found a substantial savings of $13,964,773 for Medicare members who received a post-discharge telephone intervention versus those that did not (Costantino, Frey, Hall & Painter, 2013, p. 310). The results call for the need of exploration into whether the same outcome can be achieved within the cardiac surgery population that has numerous co-morbidities within its patient population. This will allow the determination if similar studies may yield similar or varying results.

**Research Question**

 The purpose of this study is to answer the following question: Do follow-up phone calls to post-operative adult cardiac surgery patients reduce the rate of readmission within 30 days of discharge? This question is prompted by the various literature findings on 30-day readmission populations, prevention techniques, and the lack of specific research within this population sub-set.

**Operational Definitions**

 Operational terms needing to be defined and clarified within this research are the dependent variable “readmission” and independent variable “follow-up phone calls”. Readmission can be understood as a hospital admission within 30 days of being discharged from a hospital that does not include an emergency department visit/care (Centers for Medicare & Medicaid Services, 2014). The variable, “follow-up phone calls”, is a telephone call that is placed by a trained medical provider following the initial discharge from a hospital within a defined time.

**Methods**

**Design**

 This particular study will utilize a retrospective descriptive design as its framework. It will evaluate the influence post-discharge telephone interventions on 30-day readmission rates within a specific adult cardiac surgery population following any procedure. Review of patients’ charts will be necessary to ascertain details of the telephone based interventions, and allow comparison between those successfully contacted and those not reached or who may have refused. Investigation into all 30-day post-discharge readmissions will be required to assess for outcome trends. Participating patients will also receive a paper questionnaire to learn their perspective regarding the aforementioned intervention and its role in their overall outcome.

**Setting**

 This study will be conducted in the 20 bed Cardio-Thoracic Intensive Care Unit (CTICU), host to the areas cardiac surgery program, which is part of a 431-bed hospital health center located in Syracuse, New York. This program utilizes a team of surgeons, physician assistants, and nurse practitioners to carry out complex patient services. The team performs procedures such as: coronary artery bypass graft, heart valve repairs/replacement, and other invasive treatments. Due to the sophistication of this area of medicine and the high risk for complications, patients are required to stay in this unit during their immediate recovery period.

**Sample**

 The population of patients included in this study will be any adult patient that underwent an invasive cardio-pulmonary surgical procedure from January 1st, 2014 through December 31st, 2014 at St. Joseph’s Hospital Health Center. Additionally, the participants must have been hospitalized for more than 48 hours in this dedicated stay, 24 of those hours in the CTICU. Patients discharged to home, long-term care facility, short-term care, physical rehab, or any other facilities are included within the study. Exclusion criteria consists of any patient transferred to another facility in the post-operative period, were transferred from another facility to receive perioperative care, or those who underwent surgery emergently. Also, those that required additional surgery not related to the heart, or required more than one month of hospitalization unrelated to the surgical procedure will be excluded from the study sample. Finally, those who ultimately deceased will not be included.

Due to the nature of the disease process related to this area of patient care, many of the participants carry one or more additional diagnosed problems. To address this factor, careful analysis will be done to decipher whether the readmission had a direct or indirect relationship with the surgical procedure performed.

**Ethical Considerations**

 St. Joseph’s Hospital Health Center’s Institutional Review Board (Syracuse, New York) will be contacted for ethical review and to ensure privacy and obtain approval for this study. Additionally patient privacy will be maintained following the Health Insurance Portability and Accountability act of 1996 and update in 2003 that includes the de-identification of all protected health information in any report of this study. The intended research will not require interventions to be performed on patients, rather chart reviews for specific information will be sought; therefore, permission will be requested from the institutional review board to omit any further patient consent. Data collection and review will take place within a designated and closed office, with two registered nurses or specially trained individuals reviewing the needed information. Ultimately, the data collection is intended to assist this institution with identifying areas of improvement related to patient follow-up, and determine whether previous methods were successful in reducing 30-day hospital readmission rates.

**Measurement Instruments**

 A close-ended, fixed response questionnaire will be the measurement instrument of choice for this study, as it will provide the most cost and time effective method of data collection. The questionnaire will ask clear and specific questions regarding whether the patient received a follow-up phone call following discharge after having open-heart surgery, as well as what was included in this conversation in terms of patient-specific plan of care. See Figure 1-1 for sample questions participants will be asked.

The questionnaire displays strong validity, more specifically content validity, because it accurately assesses the specific domain of content or concepts that are being measured. External validity can be noted due to the generalizations that can be made from the results. Careful consideration was taken into what was and was not included in the measurements, as well as alternative explanations for patient 30-day readmissions, giving this study internal validity.

The reliability of the questionnaire is high because will yield the same result on repeated trials. It demonstrates internal consistency by assessing the same quality (post-operative phone call). This will aid in data interpretation to predict outcomes and identify variable relationship limits.

Figure 1-1

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| --- | --- | --- |
| **Post-Cardiac Surgery Phone Call Follow-up Questionnaire** | **Yes** | **No** |
| Did you receive a follow-up phone call after discharge? (If no then do not fill out the remainder of the questions) |  |  |
| Did you receive instructions on how to tell the signs and symptoms of infection and what to do? |  |  |
| Did you receive diet instructions? |  |  |
| Did you receive information regarding activity limitations? |  |  |
| Did a home care nurse contact you within the first 48 hours of being out of the hospital (unless you were admitted to a facility)? |  |  |
| Was someone staying with you, 24/7 for the first full week of being out of the hospital (unless you were admitted to a facility)? |  |  |
| Was your pain level and control addressed? |  |  |
| Were your prescriptions (being filled and taken) addressed? |  |  |
| Were you readmitted to a hospital within 30 days following your discharge for any reason? |  |  |

**Data Collection**

 Data collection for this research will be a combination of retrospective chart review and via a close-ended fixed response questionnaire. These will allow for minimal degrees of error and allow for the least amount of resources (time and money) as possible. Data initially gathered would be from a book kept within the CTICU (managers office) detailing a list of patients admitted to the ICU, date of admission, surgery type and discharge date and time. Further details will need to be collected via electronic medical records from EPIC (documentation system utilized) for which the researcher will need clearance and access for. These details shall consist of the patients’ address, surgery outcome, length of stay and exact discharge date and time. Exclusion criterion as described in sample will be identifiable within the patients’ electronic chart.

 Once addresses are obtained, a mailing including the questionnaire a brief letter stating the intent and a return envelope with postage will be sent out to all individuals within the determined sample. Depending on the number of mailings needed, an outside agency may be contacted to assist with assembling and mailing the items described. A total of 45 days should be given prior to completing the compilation of data to ensure all responding individuals have had enough time to do so. Data compilation will be at the nominal level of measurement as the categories are unorderable and cannot be assigned an order therefore response will be categorized.

**Data Analysis**

Descriptive statistics is an appropriate method to utilize for analysis of this study, as it will allow for the data to be shown in a simple yet meaningful way. Furthermore this form of data analysis will allow us to make generalizations about the greater population of cardiac surgery patients based on the sample findings utilizing nominal data. The chi-square test is one type of statistical test utilized in determining the relationship that exists between two variables such as proposed in this study. This particular test will allow the relationship between follow-up phone calls and number of 30-day readmissions to be understood. Furthermore it will allow the researcher to answer the question of whether follow-up phone calls post-discharge truly do reduce 30-day readmission rates within the specific patient population.

**Limitations**

There are several theoretical and methodological limitations within this study. One of the greatest limitations may be the specificity of the population chosen as application to those outside the cardiac surgery realm might not be significant. Furthermore it does not allow for any control over the intervention (follow-up phone calls) as it is strictly a retrospective study. An additional variable that may exist is related to the questionnaires not being returned in appropriate numbers and/or not being filled out appropriately therefore reducing the amount of useable data for interpretation. Although out of the control of this researcher, this particular facility has undergone extensive staffing turnover within the past two years that may attribute to the quality and type of follow-up phone calls being conducted. Additionally the type of questions asked by the caller may have been altered without the knowledge of the researcher. A final limitation of this study that can exist is questionnaire data being entered incorrectly into an electronic document by the researcher due to fatigue or large amounts of data, thus causing a possibility of error.

**Dissemination of Findings**

 Following the completion of this study the results will be targeted towards a variety of healthcare workers and institutions. The institution where the study was conducted will be the primary benefiter, with application being highest within the cardiac surgery population at various health care organizations. These organizations will be able to benefit from positive results by further implementation and revision of follow-up phone calls in order to effect positive change in the reduction of 30-day readmissions.

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