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Use of the Coleman Transition Model to Reduce COPD Readmissions

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Abstract

This paper explores the use of the Coleman Transition Model as an evidenced based intervention to reduce 30-day readmissions of Chronic Obstructive Pulmonary Disease (COPD) patients on a pulmonary unit. Nearly 20% of Medicare beneficiaries are re-hospitalized within 30 days after discharge, resulting in an annual cost of approximately $17 billion. Hospitals can engage in activities to lower their rate of readmissions. The evidenced based intervention includes robust case management using The Coleman Transition Model in hospitalized COPD patients to reduce readmissions. COPD is a prevalent, complex, and costly condition to manage. COPD is now the third leading cause of death in the United States. Multiple studies were compared to determine if integrated care models that include readmission risk stratification and case management improve the quality of care provided to the COPD population and decreased all cause 30-day readmissions to the acute care setting by providing standardized education, coordinated discharge planning and follow-up.

Keywords: copd, case management, discharge, readmissions, risk stratification

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Use of the Coleman Transition Model to Reduce COPD Readmissions

Background and Significance

Hospital readmissions are common and costly. Recent studies estimated the 30-day readmission rate in the United States to be 18% among Medicare beneficiaries and costing an estimated $17 billion annually (Donze, Aujesky, Williams, & Schnipper, 2013). Because at least some hospital readmissions may be avoidable, readmission rates are now used for benchmarking hospital quality, resulting in financial penalties for hospitals with poor outcomes. Literature shows wide variation in hospital readmission rates, suggesting that patients admitted to certain hospitals are more likely to experience readmissions compared to hospitals that engage in activities to lower their rate of readmissions (Boccuti & Casillas, 2015). These activities include clarifying patient discharge instructions and coordinating care with post-acute care providers and primary care physicians (Boccuti & Casillas, 2015, p. 1).

The Centers for Medicare and Medicaid (CMS) introduced the Hospital Readmission Reduction Program (HRRP) in 2012 in an effort to incentivize hospitals to engage in these types of activities to reduce readmissions or be assessed financial penalties by reducing overall dollars received (Jencks, Williams, & Coleman, 2009). These penalties focused on patients diagnosed with pneumonia, heart failure and acute myocardial infarction. In 2014, Medicare expanded the HRRP to include Chronic Obstructive Pulmonary Disease (COPD).

COPD is a progressive and rarely reversible disease in which dyspnea, chronic fatigue, anxiety, and depression are common features (Jencks et al., 2009, p. 172). COPD is now the third leading cause of death in the United States, (Centers for Disease Control and Prevention website [CDC], 2015) and an alarming 9.8% of Kentucky residents surveyed in 2011 reported having been told by a health care professional that they have COPD (CDC, 2012). Individuals with

COPD are challenging to treat effectively, often because they require complex treatment regimens and health information provided to COPD patients during medical consultations has been cited as poor and confusing (Stellefson et al., 2014, p. 61). However, studies have shown that focused care models, like the Coleman Transition Model (CTM), can improve post discharge outcomes (El Morr, Ginsburg, Nam, & Woollard, 2017).

The CTM, developed by Eric Coleman (2003), is a program designed to foster patient engagement and promote a smooth transition from the hospital or facility to the home. It has been shown to decrease re-hospitalizations (Coleman, 2003). This model rests on four pillars: medication self-management; maintenance of a personal health record; primary care physician follow-up; and the patient's alertness to red flags (Nelson & Pulley, 2015). A case manager focuses on these patient's and helps them develop self-management skills with coaching that starts in the hospital prior to discharge. The case manager also educates the patient on their condition, medications and red flag events. They make follow up appointments for the patients prior to discharge and after discharge call the patient to ensure that the transition has occurred smoothly.

Pre- and post-discharge transition interventions are resource-intensive and costly. Therefore, identifying patients associated with higher risk of readmission is a more cost-effective way to allocate resources and reduce readmissions (El Morr et al., 2017). This allows health care workers to focus discharge interventions, like the Coleman Transition Model (CTM), on patients who are at highest risk for poor post-discharge outcomes. The purpose of this evidence-based project was to decrease 30-day readmission rates of COPD patients by using the CTM.

Theoretical Framework

The Health Promotion Model (Pender, 1982) guided the evidenced based practice intervention during this project. The Health Promotion Model (HPM) defines health as a dynamic state rather than simply the absence of disease (Pender, 1982). Health promotion is directed at increasing a patient's level of well-being. The health promotion model describes the multidimensional nature of persons as they interact within their environment to pursue health. According to Pender (1982), there are four assumptions within the HPM:

1. Individuals seek to actively regulate their own behavior.
2. Individuals, in all their biopsychosocial complexity, interact with the environment, progressively transforming the environment as well as being transformed over time.
3. Health professionals, such as nurses, constitute a part of the interpersonal environment, which exerts influence on people through their life span.
4. Self-initiated reconfiguration of the person-environment interactive patterns is essential to changing behavior.

This theory was important to keep in mind when considering education and case management of the COPD population. The HPM, as explained by Bandura (2004), shows that knowledge of health risks and benefits creates the precondition for change. If people lack knowledge about how their life style habits affect their health, they have little reason to put themselves through the chore of changing the detrimental habits they enjoy. Additional influences are needed for most people to overcome the impediments to adopting new lifestyle habits and maintaining them. This focal belief is the foundation of human motivation and action (Bandura, 2004, p. 144).

Review of Literature

A systematic literature search was done to identify studies pertaining to readmission risk stratification, case management intervention, standardized education and discharge planning in COPD patients were examined through the use of CINAHL and PubMed databases. Studies selected for review were all randomized control trials (RCT) and included (Shah, Churpek, Perraillon, & Konetzka, 2015); (Garcia-Aymerich, Hernandez, Alonso, Casas, Rodriguez-Roisin, Anto, & Roca, 2007); (Jennings, Thavarajah, Mendez, Eichenhorn, Kvale, & Yessayan, 2015); (Coleman, Parry, Chalmers, & Min, 2006); (Ko, Ngai, Ng, Chan, Cheung, Leung, & Hui, 2014); (Farkas, Kadivec, Kosnik, & Lainscak, 2011); or prospective cohort studies (Coleman & Roman, 2015). All demonstrated that integrated case management of the COPD patient reduced all cause 30-day readmission rates in adult (>18 years of age) patients recently hospitalized with COPD exacerbation.

Shah et al., (2015) recently reviewed Medicare claims data from 2006 to 2010 in seven states, with an index admission, or first admission, for COPD. Rates of index COPD admission and readmission, patient demographics, readmission diagnoses, and use of post-acute care (PAC) were all investigated.

During the review period, there were 26,798,404 inpatient admissions, of which 4% were index COPD admissions. At 30 days, 20% were readmitted to the hospital. Respiratory related diseases accounted for only one-half of the reasons for readmission, and COPD was the most common diagnosis, explaining 28% of all readmissions. Patients discharged home without home care were more likely to be readmitted for COPD than patients discharged to PAC (31% vs 19%, $p = .001$). Readmitted beneficiaries were more likely to have a longer median length of stay (days vs 4 days, $p = .0001$), and have more comorbidities ($p = .001$).

The evidence found that Medicare patients with COPD exacerbations were usually not readmitted for COPD, and these reasons differ depending on PAC use. Readmitted patients are more likely to be dually enrolled in Medicare and Medicaid, suggesting that the addition of COPD to the readmissions penalty may further worsen the disproportionately high penalties seen in safety net hospitals.

A RCT conducted by Garcia-Aymerich et al. (2007) studied the effectiveness of integrated care intervention in terms of clinical and functional status, quality of life, lifestyle, and self- management, under the hypothesis that changes in these factors could explain an observed reduction in readmissions. The sample included 113 COPD patients (14% female) recruited after hospital discharge in Barcelona, Spain and randomly assigned to either integrated care (n=44) or usual care (n=69).

Integrated care in this study included the following: a comprehensive assessment of the patient at discharge including severity of the respiratory disease, evaluation of co-morbid conditions, treatment adherence, and analysis of requirements in terms of social support. Secondly, an educational session on self-management of the disease at discharge was conducted by a specialized respiratory nurse specifically trained for the study intervention. The education covered several items, including knowledge of the disease, smoking cessation, and teaching of self-management strategies to cope with future exacerbations. Lastly, an individually tailored care plan, following international guidelines was developed and shared through the interaction of the specialized nurse case manager and the primary care team.

To obtain baseline and post intervention comparisons researchers blindly administered a series of questionnaires. This included demographic data, COPD disease knowledge, Medication Adherence Scales (MAS) and St. George's Respiratory Questionnaire (SGRQ) which is a disease

specific instrument designed to measure impact on overall health, daily life, and perceived well-being in patients with obstructive airways disease. The questionnaire utilizes a scoring range of 0 to 100, with higher scores indicating improvement.

After one year, integrated care in COPD was shown to improve disease knowledge, specifically around exacerbation symptom recognition from 22% pre-intervention to 85% post intervention (p=<0.001) and treatment adherence with inhaler use from 37% pre-intervention to 71% post intervention (p=<0.001). Findings suggest these factors may play a role in the prevention of severe COPD exacerbations triggering hospital admissions and supported the concept of a specialized nurse to provide educational sessions, a joint visit with the primary care team and patient access to a call-center provided.

Jennings et al., (2015), conducted a RCT that included 172 patients with COPD. Patients were randomized to the intervention group (n = 93) and received bundled care consisting of a 60 minute visit by a member of the research team prior to discharge. During this visit, a core set of COPD risks were addressed, including current behaviors to manage COPD, inhaler/nebulizer education, exacerbation action plan information and breathing techniques. Active smokers received smoking cessation counseling and, with patient agreement, were enrolled in a smoking cessation program. Patients with gastroesophageal reflux symptoms, were advised on dietary and lifestyle modifications. Forty-eight hours after discharge, patients in the bundle group were contacted by telephone to reinforce the items in the bundle. The control group (n=79) received usual care and all enrolled participants were evaluated and treated per standards of care, as directed by the inpatient primary care team.

Results of the study noted that 18 of 79 in the control group (23%) and 18 of 93 in the bundle group (19%) were readmitted within 30 days. The risk of ED visits or hospitalizations

within 30 days was not different between the groups (risk difference, 23%; 95% CI, 16% to 9%; p= .58). Overall, the time to readmission in 30 and 90 days was similar between groups (log-rank test p=.71 and .88, respectively). Results indicate that a pre-discharge bundle intervention alone may not be sufficient enough to reduce the 30-day risk of hospitalizations or ED visits. More resources may be needed to generate measurable effect on readmission rates (Jennings et al., 2015).

Coleman et al., (2006) performed a RCT to determine the effectiveness of patient engagement in care transition in decreasing readmissions. Over a one year period, participants (N = 750) admitted to the hospital for various conditions were randomized to the intervention group (n = 379) or to a usual care group (n=371). The intervention group received guidance from a "transition coach" who used tools to promote cross-site communication and continuity of care across settings. Patients and caregivers were also encouraged to take a more active role in their care and to assert their preferences. Rates of readmission were measured at 30, 90, and 180 days.

Intervention patients had lower readmission rates at 30 days (8.3 vs 11.9, p=.048) and at 90 days (16.7 vs 22.5, p=.04) than control subjects. Concluding that coaching chronically ill older patients and their caregivers to ensure that their needs are met during care transitions reduce the rates of subsequent admissions (Coleman et al., 2006).

More recently, Coleman et al. (2015), reviewed data from a prospective cohort of 83 patient and family caregiver partnerships discharged from a hospital. The domains of the CTM were modified to incorporate those areas that family caregivers identified as wanting to feel better prepared and more confident. The enhanced family caregiver CTM significantly improved

activation, quality, goal achievement, satisfaction, and medication safety. The enhanced family caregiver CTM may have application in improving the hospital discharge experience.

Family caregivers experienced a mean improvement in activation of 6 points on a 0–10 scale (p = .0001). Sixty-four percent (95% confidence interval [CI], 52–75%) of patient and family caregivers met or exceeded self-identified goals. Transitions Coaches identified 71% (95% CI, 60–80%) of patients as having medication discrepancies or errors after hospital discharge and coached family caregivers on how to respond. Almost all (99%) (95% CI, 92–100%) participants would recommend the model to a friend of family member (Coleman et al., 2015).

Ko et al., (2014) recruited 185 patients admitted for acute exacerbation of COPD between September 2010 and December 2012 to investigate the effect of a comprehensive COPD management program in decreasing COPD readmissions 1 year before and 1 year after the program. COPD care teams provided crisis support and maintenance therapy for the COPD patients for a total of 16 weeks. The mean (SD) age of the subjects and FEV1 % predicted normal were 76.9 ± 7.37 yrs. and 44.4 ± 21% respectively. 40 (22%). Results suggest the readmissions for COPD decreased from 2.39 ± 2.05 one year before program to 1.65 ± 2.1 one year after program (mean difference 0.75 ± 2.11 episodes, p = < 0.001).

Farkas et al., (2011) studied the effectiveness of discharge-coordinator intervention in patients with COPD in an RCT. COPD patients in Global Initiative for Chronic Obstructive Lung Disease (GOLD) stages II–IV, hospitalized because of acute exacerbation were randomized in a 1:1 fashion to the intervention group (n =118) who received care organized by a discharge coordinator or a control group who received usual care (n = 135) . Results identified that after

180 days, fewer patients receiving the intervention were hospitalized for COPD (14% versus 31%, $p = .002$) or for any cause (31% versus 44%, $p = .033$).

In time-to-event analysis, intervention was associated with lower rates of COPD hospitalizations. A Cox model of proportional hazards, adjusted for sex, age, GOLD stage, heart failure, malignant disease, and long-term oxygen treatment, demonstrated that intervention reduced the risk of COPD hospitalization (hazard ratio 0.43, 95% confidence interval 0.24–0.77, $p = .002$). Concluding that in COPD patients requiring hospital admission, coordinated discharge improved patient and healthcare system-related outcomes. Among patients hospitalized for acute COPD exacerbation, discharge coordinator intervention reduced both COPD hospitalizations and all-cause hospitalizations (Farkas, et al., 2011).

Synthesis of Research Findings

The literature demonstrates that integrated care with either a specialized respiratory therapist or case manager reduced unplanned readmissions for the COPD patient. Educating the patient on COPD symptoms, exacerbation warning signs and lifestyle changes, as well as, improving transitions across care settings and including primary care in care planning all played a role in the overall goal of reducing 30 day readmissions.

All studies similarly compared patients older than 18 years old diagnosed with COPD who received some degree of care management during the index hospitalization or immediately after discharge from the acute exacerbation. All studies compared the effects of a case management intervention on other factors outside of readmissions including, medication adherence, quality of life, length of stay and pulmonary function.

Agency Description

The healthcare system where the evidenced based intervention occurred, consists of 6 facilities, over 1200 licensed beds and approximately 40,000 annual admissions covering Northern Kentucky as the safety net hospital for the region. The setting for the intervention is a 45-bed pulmonary unit in the largest of those 6 medical facilities (508 licensed beds). This unit was chosen as the site for implementation due to the large number of adult COPD patients admitted there. In 2017, 325 patients with a diagnosis related code (DRG) of 190,191 or 192 were admitted to this site. DRG Coding is a system to classify hospital cases into one of approximately 500 diagnosis groups which are expected to use similar hospital resources. This population showed an average readmission rate of approximately 22%. Forty-nine percent of those patients were eligible for the HRRP program with an average readmission rate of 26% (Appendix A).

The evidence-based intervention is in congruence with the hospital's strategic plan and is aligned with the hospitals vision of providing comprehensive and compassionate care that improves the health of the people served by improving the quality of care provided and decreasing readmission rates.

Key stakeholders of the project included the COPD patient and caregivers enrolled in the intervention, the COPD workgroup, case management staff assigned to the pulmonary unit, medical staff and hospital leadership. Each of these individual groups play a role in the resources available and care of the COPD patient.

Project Design

The PARIHS Framework

The PARIHS (Promoting Action on Research Implementation) framework is a multidimensional framework that was introduced and developed by Kitson, Harvey & McCormack (1998), to represent the complexity of the change processes involved in implementing research-based practice. The PARIHS framework presents successful evidenced based practice implementation as a function of the relationships among evidence, context, and facilitation. The framework considers these elements to have a dynamic, simultaneous relationship. The three elements, evidence, context, and facilitation, are each positioned on a high to low continuum. The proposition is that for implementation of evidence to be successful, there needs to be clarity about the nature of the evidence being used, the quality of context, and the type of facilitation needed to ensure a successful change process (Kitson, Harvey, & McCormack, 1998, p. 149).

Successful implementation occurs when evidence is high and the context is relevant to the culture. Least successful implementation of evidence seems to be experienced in situations where both the contextual conditions and facilitation are low or inadequate (Kitson, Harvey & McCormack, 1998, p. 156).

The PARIHS framework when applied to the research for an integrated case management model in the care of the COPD patient was used as a framework not only to identify practice changes with relevant evidence and context, but evidence that was able to be replicated and implemented in the practice setting targeted for the CTM intervention.

Project Methods

The Coleman Transition Model

The CTM was designed to foster patient engagement and promote a smooth transition from the hospital or skilled nursing facility to the home. It has been shown to decrease re-hospitalization (Coleman, 2003). The CTM uses social workers, nurses, or coaches to assist patients with four pillars of care including:

1. Medication management
2. Patient-centered health record
3. Primary care physician/specialist follow-up
4. Patient knowledge of red flags

The coach is key to encouraging the patient and family caregiver to assume a more active role in their care. The coach does not fix problems, rather, coaches model and facilitate new behaviors, skill transfer, and communication strategies for patients and families to build confidence that they can successfully respond to common problems that arise during care transitions. The role of the coach is to promote more effective care transitions through improved self-management skills, and enhanced patient-provider communication. For this intervention, hospital nurse case managers were utilized as CTM coaches.

IRB Approval

Due to the nature and purpose of this evidenced based intervention there was no potential risks associated to either employees or patients who participated in this project. There was no additional risk or injury to human subjects in any area of development of this project and included only observations of public behavior and use of blinded information and/or anonymous data on human subjects.

All appropriate documentation was submitted to the IRB at Eastern Kentucky University (EKU). The hospital site where the intervention was implemented waived IRB approval and relied on EKU's validation of the project.

Measures and Instruments

The LACE index tool developed by Van Walraven et al., (2010), was applied to all patients admitted to the identified unit with a primary diagnosis of COPD or COPD exacerbation. The LACE index was derived and validated as an easy to use index that is moderately discriminative and accurate in predicting the risk of early death or unplanned readmission after discharge from hospital to the community. The study concluded that four categories demonstrated the strongest correlation with unplanned readmissions: length of stay ("L"), acute or emergent admissions to the hospital ("A"), co-morbidities ("C") and visits to emergency department ("E"). Index scores range from 0 to 19, where a higher score indicates an increased chance of readmission and a 1-point increase in the LACE score increased the odds of unplanned readmission by 18% (odds ratio 1.18, 95% CI 1.14–1.21). The LACE index in the entire cohort was moderately discriminative for 30-day unplanned readmission (C statistic 0.679, 95% CI 0.650–0.708).

The LACE index tool was available in the organization prior to project implementation and was automatically applied to each COPD patient admitted to the pulmonary unit within the acute care hospital by the EHR. Patients that scored in the high risk for readmission range (>15) were approached for consent to participate in the intervention.

Intervention and process measurements were also collected. This included the number of post discharge follow up phone calls completed by the case management team and the number of

post discharge follow up appointments kept by the COPD patients in an effort to understand the overall impact of the education provided on patient behavior.

Descriptive stats were obtained and summarized from discreet fields within the electronic health record (EHR). Readmission rates obtained from COPD patients during the same time frame from the previous year were collected. Data was then coded for confidentiality, imported into and analyzed utilizing SPSS™ software. Quantitative analysis of baseline readmission data and post intervention readmission data was conducted.

Implementation

The intervention was conducted over a 3 week period. A daily list of patients admitted to the pulmonary unit with a diagnosis of COPD or COPD Exacerbation were stratified for readmission risk by the LACE Index tool (Appendix B). The LACE Index tool was applied automatically through the organizations electronic health record (EHR) and was already available at the organization where the intervention occurred. Once the high risk COPD patient was identified as high risk, the potential participant was presented with a recruitment letter and verbally explained the steps to participation. Once consent was obtained, the participants received the CTM interventions which included the following:

Immediately prior to discharge, the patients received one-on-one education from the case manager about disease process, medications, red flag events and readmission prevention techniques. The participant was given a COPD booklet (Appendix C) and a *COPD Stop Light Card* (Appendix D) developed by the agency for reference.

The case manager coordinated a post discharge follow up appointment with a primary care physician at a time that was agreeable to all parties. The case manager notified the primary

care office care transition team of the readmission risk associated with the patient at the time the appointment was facilitated.

The patient received a post-discharge follow up phone call from the case management staff to ensure follow up care was completed and to minimize barriers to care in the community by coaching and mentoring patient behavior. The agency followed all applicable policy and protocols for documentation of the telephone encounter. This call lasted approximately 15-20 minutes in length. During the call the case manager reinforced discharge teaching, ensured that the patient did in fact, make the follow up appointment and that they did not have any needs identified in the home setting post discharge. If the patient had not attended the follow up appointment, every attempt to reschedule and facilitate the appointment occurred at that time. Any issues identified during the post discharge call unable to be resolved by the case manager were referred to the appropriate party. This included referrals to social services, pharmacy and physicians.

Descriptive statistics were obtained from discreet fields in the EHR. Intervention and process measurements were also collected; including the number of post discharge follow up phone calls completed by the case management team and the number of participants who kept post-discharge follow up appointments. All applicable agency policies were followed and Protected Health Information (PHI) without a valid authorization from the individual was maintained. Data was tracked in an Excel spreadsheet that was locked with a passcode.

Results

A convenience sample was obtained that included 20 patients, > than 18 years of age, who were admitted to the pulmonary unit with a diagnosis of COPD or COPD exacerbation. The mean age was 73.15 years and the mean LACE Index score was 18.90 (Table 1).

Table1
Sociodemographic Characteristics

Age	N	Mean	Minimum	Maximum
Age	20	73.15	50	91
LACE Index Score	20	18.90	15	26

The majority of participants considered themselves Caucasian at 90%. The majority of participants or 70% were female and 75% of participants self-reported either being a current or former smoker (Table 2).

Table 2
Sociodemographic Characteristics

Variable	Frequency	Percent
Ethnicity		
Caucasian	18	90
African American	1	5
Hispanic	1	5
Gender		
Male	6	30
Female	14	70
Smoking Status		
Former	9	45
Current	6	30
Never	5	25

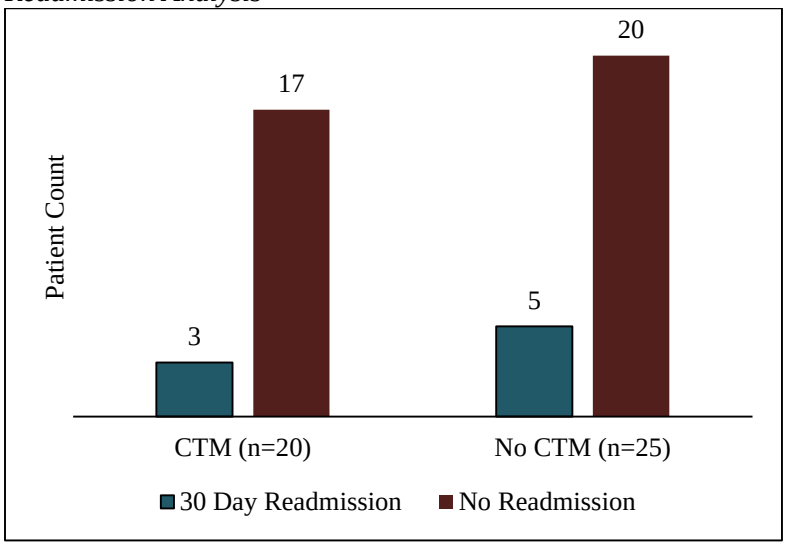
Of the 20 participants, the primary county of residence for participants was collected. The agency where the intervention occurred is a referral site for 4 surrounding counties. Prevalence by county may assist in building programs in a particular facility. The largest percentage (45%) of participants were referred from County C (Table 4).

Table 4
Frequency of County of Residence of Participants

County	Frequency	Percent
County A	4	20
County B	3	15
County C	9	45
County D	1	5
Other	3	15
Total	20	100

The readmission rate at the organization for patients on the pulmonary unit with COPD in 2017 was 20%. In 2018, the rate for COPD readmissions decreased to 15%, an overall reduction in readmission rates of 5%. This indicates that COPD patients that received the components of the CTM showed an improvement in readmission rates when compared to COPD patients from the same unit and time frame one year earlier (Graph 1).

Graph 1
Readmission Analysis



Discussion and Implications

Limitations to the project include a small sample size and the inability to track readmissions outside of the index agency. Further discussion and validation of ongoing results will be required to assess the continued impact of the CTM on the pulmonary unit and on a larger scale.

Replication of this project using the same methods discussed is possible at various locations within the organization. Dissemination of the project will rely on demographic data obtained surrounding county of residence. The hospital located in County C where 45% of our COPD patients are being referred from may ultimately become the next location for intervention.

The sustainability of this project is important as initial results show it would improve the education and care coordination of the COPD patient while improving outcomes by reducing readmissions. Sustainability of any project requires resources and although, case management is a funded activity within the hospital system already, leadership will have to allow time to be dedicated to this continued work despite other competing priorities which could require additional case management FTE. Other resources needed on an ongoing basis include, IS support for EHR applications, palliative care and hospice, respiratory therapy and primary care.

Additionally, a medical plan that includes end-of-life considerations and unnecessary hospital readmissions for progressively worsening advanced symptoms may need to be reviewed. It was noted that of the twenty patients receiving CTM intervention, four (20%) passed away during the 30 day review period. Although this outcome is not considered a readmission, it is further proof that COPD is a chronic and debilitating disease with no known cure. Over the last few years, there have been increasing calls for improvements in end of life care for those with advanced COPD (Spathis & Booth, 2008). In a statement from the American College of Chest,

physicians support the position that good quality palliative and end of life care should become an integral part of cardiopulmonary medicine (Selecky, Eliasson, Hall, Schneider, Varkey, & McCaffree, 2005)

Summary/Conclusions

In summary, reducing readmissions has become a requirement for hospitals across the United States to avoid financial penalties for excess readmission ratios. Despite the immediate need to improve the quality of discharge planning and transitional care, there is limited evidence based practice outlining how to best accomplish this. The literature reviewed, suggested that an integrated case management model, such as the CTM, and improved outcomes in COPD patients by reducing 30-day readmissions. However, given the resources required to provide this level of care, it is reasonable for hospitals to focus efforts on patients at higher risk of readmission. The LACE index tool is an appropriate tool to use in readmission risk stratification.

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