4-15-2019

Implementation of a Nurse-Led Transitional Care Model for Older Adults with COPD Admitted to Home Health

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Implementation of a Nurse-Led Transitional Care Model for Older Adults with COPD Admitted to Home Health

A Scholarly Project Presented to the Faculty of the School of Nursing

Boise State University

In partial fulfillment of the requirements

For the Degree of Doctor of Nursing Practice

By

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Abstract

Problem Description: The importance of management of chronic disease and preventing rehospitalization has been identified at national and local levels. Chronic obstructive pulmonary disease (COPD) is one of the chronic diseases with notable rates of emergency department use and recurrence of hospitalizations.

Rationale: Implementation of transitional care models have been successful for health care organizations in chronic disease management.

Interventions: The health-social partnership transitional care management program (HSTCMP) was used to design a transitional care model process pilot for a home health agency (HHA) within a health system. This process used a multidisciplinary team led by a registered nurse for older adult patients with COPD.

Results: The staff of the HHA demonstrated increased knowledge of transitional care and implemented the transitional care process for 35% of COPD patients. The agency identified the process components that worked well and areas needing further development.

Summary: Barriers were identified in the process pilot implementation including lack of knowledge on accessing members of the multidisciplinary team, vacancies in positions of key players, and previously unknown issues with the electronic health record.

Conclusion: The selected transitional care model provided a standardized, evidence-based model for the HHA. The process required revisions to work more efficiently since the identification of barriers. The agency would benefit from a second implementation of the process with the identified revisions.

Keywords: transitional care, chronic obstructive pulmonary disease, home health

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Problem Description

Problem Background

At the national level, the Affordable Care Act and the Hospital Readmission Reduction Program (HRRP) have addressed the problem of acute care readmissions (CMS, 2018). Centers for Medicare and Medicaid Services (CMS) has defined readmission as a hospital admission within 30 days of discharge to the same hospital or another hospital. Chronic obstructive pulmonary disease (COPD) is one of the eight targeted diseases and disorders in this readmission prevention initiative (Centers for Medicare and Medicaid Services, 2016). Chronic lower respiratory disease which includes COPD was the third leading cause of death in 2014 (National Center for Health Statistics, 2016). In the state where the DNP Scholarly Project was based, chronic lower respiratory disease is the third leading cause of death (*Department of Health and Welfare, 2014).

Local Problem

Hospital readmissions have also been identified as an increasing issue among the population of patients with chronic obstructive pulmonary disease (COPD) admitted to the HHA within the partnering organization. The HHA did not have a standardized process for managing patient transitions of the COPD population from the inpatient setting to home health care. As reported by the Director of the HHA, the agency had recognized an increase in emergency department visits and readmissions into acute care

within a 30-day timeframe in the older adult with COPD population (A. L., personal communication, February 28, 2017; July 21, 2017).

Transitions have been identified to be time points where the chronically ill experience errors in efficiency or quality (Naylor, Aiken, Kurtzman, Olds & Hirschman, 2011). This organization has demonstrated increasing success with their process for managing patients with heart failure through collaboration with the Care Transition Team, the Heart Failure Clinic, and the Heart Health and Rehabilitation Center.

Available Knowledge

Literature Review

An integrative review was completed to examine the interventions for managing care during transition from the acute setting for older adult patients with chronic disease. More specifically, the review focused on interventions for older adults with chronic obstructive pulmonary disease (COPD) discharged with home health care services.

The 2010 Institute of Medicine (IOM) report included recommendations for the profession of nursing to engage with the changes in health care (IOM, 2016). The literature review identified interventions with successful nurse-led outcomes. Implementation of nurse-led case management (NCM) significantly contributes to enhancing self-efficacy of older patients with co- morbid, chronic diseases. Evidence shows that improvement in self-efficacy for chronic disease management reduces hospital readmission and increases quality of life (Chow & Wong, 2014).

A systematic search was conducted using MedLine and CINAHL databases. The search strategy was to identify the studies that included the older adult patient with chronic disease discharging from an acute care setting. The searches used the following

terms: older adults, chronic disease, and readmissions. The articles were organized in a Literature Review Summary table utilizing the JHNEBP Individual Evidence Summary Tool (see Appendix A). The patient populations were discharged patients with chronic disease. The interventions in this level included nurse-led transitional models incorporating a home visit and telephone calls for the intervention group (Chow &Wong, 2014; Wong, Chow, Chan & Tam, 2014; Wong & Yeung, 2015). All patients had a least one chronic disease in these studies. The most effective interventions included home visits, telephone calls, and had a nurse as team-lead.

Additionally, the literature review included content from nationally recognized experts on transitional care. These authors and studies were cited within other transitional care literature. This level provided validation for the nurse's role in care coordination and transitional care. They also supported the impact of transitional care for the older adult population including a home visit with follow-up telephone calls within a four-month time frame for a reduction in hospital admissions and emergency department visits (Fraher, Spetz & Naylor, 2016; Morrison, Palumbo, & Rambur, 2016).

The interventions provided a baseline assessment pre-discharge and post-discharge, at least one home visit, and a series of telephone calls based on identified need. A reduction of readmissions in the intervention groups versus control groups demonstrated 11.3% versus 25.7% (Wong et al., 2014) and 7.4% versus 14.8% (Wong & Yeung, 2015). Additional outcomes for intervention groups were lower emergency visits 1.9% versus 13% (Wong & Yeung, 2015). Low et al., 2015 demonstrated a reduction in hospital admissions and emergency department attendance by 12.05 days at three months and 20.03 days at six months.

Synthesis of the Evidence

The evidence demonstrated overall success in reducing the rates of readmission within 30-days for the older adult patient with chronic illness. All studies demonstrated a reduction in readmission rates and emergency department visits. The patient population identified in these studies were older adults with chronic disease, with nurse-led interventions, and were successful in single site or multi-site. It appeared these may be translatable to other chronic diseases and would be appropriate for chronic obstructive pulmonary disease (COPD). Using the evidence collected, a nurse-led transitional care model using a combination of home visits and telephone call was identified to be effective for reducing readmission rates and ED visits.

Rationale

Theoretical Model

The theoretical framework selected to guide this project is the health-social partnership transitional care management program (HSTCMP), which includes care delivered by a nurse case manager (NCM) and trained volunteers (TVs) over a four-week period (Wong, Ho, Yeung, Tam & Chow, 2011). The health-social partnership design was selected because of the inclusion of a multidisciplinary team and the use of home visits and telephone follow-up calls. These components were utilized in successful studies included in the literature review (Chow & Wong, 2014; Low et al., 2015; Wong et al., 2014; Wong & Yeung, 2015; Naylor et al., 2011).

Additionally, the realistic time frame of a four-week period is supported by other transitional care studies (Chow &Wong, 2014; Naylor et al, 2011; Wong et al., 2014; Wong & Yeung, 2015). Four weeks was projected to be a manageable timeframe for the

DNP Scholarly Project and would easily fall within the prescribed home health patient care episode of 60 days. The four weeks in the HSTCMP are as follows:

Week 1: Home visit completed by the NCM and TV.

Week 2: Follow-up telephone call by the NCM.

Week 3: The TVs conduct a joint home visit.

Week 4: Final Follow-up telephone call by the NCM.

The HSTCMP utilizes four distinct features first identified by Wong, Mok, Chan & Tsang (2005). Wong, et al. concluded in a study using nurse follow-up for transitional care that successful interventions shared these common features and summarized them as "4 C's." Wong et al. further defined the 4 C's and substantiated each component with studies now considered to be empirical work for transitional care: comprehensiveness (holistic care), continuity (home visits and telephone call follow-up), collaboration (multidisciplinary team) and coordination (nurse case manager). The authors also identified the 4 C's model to be specifically effective for transitional care in the chronically ill patient population. This study and the featured 4 C's are included in other transitional care model frameworks and interventions (Wong et al., 2014; Wong & Yeung, 2015).

Project Framework

A logic model (see Appendix B) was created using the Kellogg Logic Model template to outline the resources or inputs, activities, outputs, outcomes and impact of the project. The resources that were identified for this project included the Cardiopulmonary Team and the Home Health Pilot Team. Additional non-human resources were identified as the electronic health record and the network files, referred to as the Shared drive. For

this Scholarly Project (SP), the COPD patients were the specified recipients of this standardized transitional care model, but were not participants in the project pilot phase or part of the outcomes evaluation plan.

Specific Aims

The purpose of the Scholarly Project was implementation of a process for the partnering organization to better transition COPD patients from acute care to home. The project was designed to occur in at least two phases. The first phase was a piloted process within the HHA. The patients selected for the Transitional Care Process Pilot had COPD as one of their active inpatient diagnoses and received a home health referral prior to their inpatient discharge. The process' short-term outcomes focused on the collaboration, performance, and feedback of the pilot clinicians. Phase Two was designed to commence after the completion of the SP and provided the pilot site time for revision of process elements and implementation of the assessment of the long-term outcomes which expand to include outcome measurement of the patient population (see Appendix C).

Context

The population included the older adult patient with COPD. For this project, the older adult was defined as 65 and older to align with the CDC data on the leading causes of death for this population. The older adult that was considered for inclusion had a preceding hospitalization or admission with a diagnosis of COPD to an inpatient unit within the partnering organization's health system. Using the leading causes of death among older persons, information from the Hospital Readmission Reduction Program

(HRRP), and identification of the local problem, the Scholarly Project focused on the older adult with COPD (Centers for Medicare and Medicaid Services, 2016).

The partnering organization's health system is a network of six separately licensed medical centers, clinics, and outpatient centers located in the Northwest Region of the United States. The health system has the only fully hospital-owned HHA in the state. The HHA has skilled nursing services, physical therapy, occupational therapy, speech therapy, social work, respiratory therapy, registered dieticians, and home health aides for both adult and pediatric patients. It also offers telehealth monitoring and covers a multi-county territory within the partnering organization's service area (A. L., personal communication, July 21, 2017).

The Heart Health and Rehabilitation Center is an additional resource for the community patient with COPD. This specialty clinic includes pulmonary rehabilitation services for individuals with chronic lung disease. Not all patients that are discharged home can tolerate these interventions after an inpatient admission. The HHA has an ongoing collaboration with the clinic focused on care transitions for these populations. A similar plan was previously completed for the Heart Failure population (A. L., personal communication, July 21, 2017).

The HHA employs RN Care Managers, Physical Therapists, Occupational Therapists, Social Workers and certified nursing assistants. Respiratory Therapy has not traditionally been assigned exclusively to the HHA but to the inpatient division of the organization. A designated RT was available to the HHA two days per week during the project implementation. All disciplines that are assigned to patient care in the HHA must be prescribed by the physician ordering services. The Project was within compliance

with the regulations for provision of skilled care as outlined in the Conditions of Participation for Home Health Agencies regulated by the Centers of Medicare and Medicaid.

The Scholarly Project was provided with the resources that are generally available to provide care to a patient receiving home health services. This included the in-home care by the prescribed care team as described above. This also included written educational materials and medical supplies that are allowed under the prescribed skilled services. All care provided in the transitional care implementation was documented in the electronic health record.

The Cardiopulmonary Team, as described in the Interventions section, were identified as the formal stakeholder group. Additional stakeholders included the Home Health Regional Director and the Vice-President of the Post-Acute Care Division, the top tier of leadership for the HHA.

A memorandum of understanding (MOU) was obtained for the DNP student to work within the partnering organization. The MOU is not included in this document at the request of the partnering organization as it contains identifiable information. The MOU was finalized in the spring semester of the 2017-2018 academic year with the Center for Nursing Excellence, and a signed copy retained by the organization and DNP student.

Interventions

The interventions for the Transitional Care Process Pilot were developed by the Project Manager with the members of the Stakeholder group and the Pilot Team. The

membership of the both groups will be outlined. Subsequently, the interventions will be discussed.

In collaboration with the department director, the Cardiopulmonary Team and the Start of Care Team were identified for inclusion in the SP. These two existing groups were already responsible for monitoring the COPD population and with agency admissions, respectively prior to the project implementation (A. L., personal communication, December 20, 2017). The Start of Care Team, the Home Health clinicians of the Cardiopulmonary Team, and other identified home health staff formed the Pilot Team. The DNP student acted as the project manager and will be referred to as Project Manager (PM).

The Cardiopulmonary Team was a task force comprised of clinicians from the HHA, the Heart Health and Rehabilitation Center (an outpatient clinic), and an inpatient Respiratory Therapist (RT). The role of this team was to collaborate on the delivery of care within the region for patients with cardiopulmonary chronic disease. This team previously implemented a program for Heart Failure (HF) patients transitioning from acute care to home, as previously discussed. They continued to have oversight on the HF patient population during and after project implementation. The clinicians representing the HHA in this group include a Registered Nurse (RN) Supervisor, a Physical Therapy (PT) Supervisor, at least one additional RN, and at least one additional PT. This group was identified as stakeholder membership for the SP, participated in developing the process, and provided feedback in the evaluation process. This team was responsible for the selection of a dyspnea tool that is now used for all COPD patients within in the HHA (see Appendix D).

The Pilot Team was created for the purpose of the SP pilot. This team included all staff from the HHA whose roles within the HHA would naturally place them in the transitional care process. The selection process was done in collaboration with the Director of Home Health. The team was comprised of the following clinicians and non-clinicians based on their home health roles (A. L., personal communication, December 20, 2017):

- The Intake Office staff that receive and process home health referrals. This role is filled by a non-clinical staff person and under the direct supervision of an RN Clinical Supervisor. This individual(s) identified the diagnosis code(s) for COPD from the inpatient referral form and flagged the patient for the pilot.
- The Start of Care (SOC) Team are home health clinicians who complete all admission visits. This team includes RNs, PTs, and a SLP. They implemented the pilot's HSTCMP visit frequency and scheduled follow-up telephone calls for the entire 60-day episode of care.
- The Nurse Care Manager (NCM) was assigned by the RN Supervisor. The NCM received hand-off from the SOC clinician. The NCM ensured the HSTCMP visit frequency and telephone follow-up schedule is in place. This clinician had oversight for the remainder of the patient's home health episode (up to 60 days).
- The visit clinicians are RNs, PTs, OTs, an SLP, and MSWs that make all subsequent home visits. They followed the plan of care initiated by the SOC team and communicated with the NCM.

For the SP, the intervention was the implementation of a standardized visit frequency and telephone call follow-up plan using a nurse-led multidisciplinary team over a four-

week period. The transitional care process incorporated the use of a skill mix of care providers within the HHA. The intervention was delivered by the nurse care manager (NCM) and a multidisciplinary partner (MDP). The NCM coordinated the patient care episode (the period the patient is admitted to home health services). The MDP can be a PT, OT, RT, or MSW and was selected by the SOC clinician based on the admission assessment or was initially indicated on the home care referral. The selection criteria of the MDP was not included in SP process since the HHA receives the referral order for all disciplines from the ordering physician.

Logic Model

Using the Kellogg Logic Model Development Guide (2016), a logic model was created for this Scholarly Project (see Appendix B). The stakeholders and resources have been listed with their corresponding activities and outputs. Each input category's activities and outputs have corresponding short-term and long-term outcomes. Finally, the project impacts were identified in the final column of the logic model. The logic model resulted in the development of the projects outcomes. The short-term outcomes were the focus of the first phase met during the Scholarly Project timeline:

1. The Cardiopulmonary Team and the Pilot Team collaborated on and developed a referral and intake process for home health patients discharging from an acute care setting to pilot for patients with inpatient diagnosis of COPD by May 2018.
2. The Cardiopulmonary Team and the Pilot Team collaborated on and developed a process for admission to the Home Health Agency to pilot for patients with inpatient diagnosis of COPD by May 2018.

3. The Project Manager created an education session, approved by the Cardiopulmonary Team, on the Transitional Care Process Pilot to be delivered to the home health staff and clinicians participating in the Process pilot by May 2018.
4. 100% of the participating home health staff and clinicians received education on the Transitional Care Process Pilot by end of May 2018.
5. Participating home health staff and clinicians demonstrated knowledge of the Transitional Care Process Pilot by end of May 2018.
6. The Home Health Agency implemented the Transitional Care Process Pilot for 90% of COPD patients who meet pilot project criteria by end of June 2018.
7. The Home Health Agency utilized a standardized care management plan (prescribed interventions) for 90% COPD patients who meet pilot project criteria by end of June 2018.
8. 80% of the Cardiopulmonary Team and the Pilot Team provided feedback on the implementation of the Transitional Care Process Pilot to improve process for the next phase by Oct. 2018.
9. The unanticipated COPD-related readmission rate for COPD patients who meet pilot project criteria, will be at or below the national benchmark of 30% at 30 days from admission to home health services.
10. The use of the emergency department for treatment of COPD-related symptoms for COPD patients who meet pilot project criteria reduces by the local benchmark at 30 days of admission to home health services.

The long-term outcomes were intended to be attainable 1 to 2 years following the Scholarly Project, during Phase 2:

11. Clinicians had increased awareness of needs of the COPD patient population requiring home health care by April 2019.
12. The Home Health Agency and the Cardiopulmonary Team refined the referral and intake process used in the pilot by April 2019
13. The Home Health Agency and the Cardiopulmonary Team refined the admission process used in the pilot by April 2019.
14. The Home Health Agency and the Cardiopulmonary Team refined the care management plan including prescribed interventions for COPD patients used the in pilot by April 2019.
15. The Home Health Agency and the Cardiopulmonary Team expands the Transitional Care Process for COPD patients within health system by June 2019.

Providing consistency in the referral process geared towards respiratory disease will benefit the population with this chronic illness considering that transitions are a high-risk time point for the older adult population (Naylor, Aiken, Kurtzman, Olds and Hirschman, 2011); as would completing a review of the individual patient's health record to identify specific reasons for the need for inpatient admission. Documentation of these specific reasons was captured on the referral form and tracked on the Chart Audit Form (see Appendix F).

Collaboration on the implementation of the transition care pilot between the discharging inpatient department and the HHA was intentional. Studies with

comprehensive discharge planning and home visits are found to be effective (Naylor et al., 2011). For the successful intervention, the planning phase required several activities with collaborative participation of the stakeholders. Through a series of meetings including the specified stakeholders (see Appendix C), the team was to develop a minimum requirement for referral information and handoff, an admission process, a patient-specific care management plan (within the HSTCMP model), educational materials for the patient, and these were to be included into an education plan for the pilot clinicians. The HHA had existing clinical pathways with education material approved by the partnering organization. No new patient educational materials were created for the pilot project.

Correlation of Interventions with the Theoretical Model

As previously discussed, the health-social partnership transitional care management program (HSTCMP) with the inclusion of the 4 C's was the selected theoretical model. The RN Care Manager (NCM) was the team lead with a minimum of one other clinician. Considering the patients transitioned to a new care setting had respiratory disease, a respiratory therapist was available for inclusion on the team.

Timeline

The project implementation took place from May to December 2018. The complete timeline for the DNP Scholarly Project is outlined in Appendix F. The table consists of activities divided into phases: planning, implementation, data collection, analysis, and dissemination. The timeframe for each activity is designated a color corresponding to the academic session in which it will be completed.

Measures

Data Collection Tools and Project Outcomes

Data collection was completed through multiple data collection instruments: chart audits, checklists, time and attendance records, surveys, and reports from the EHR. Using the Kirkpatrick level of educational outcomes to guide the evaluation methods, data collection instruments were identified and goals of analysis were created. An Outcomes Evaluation Table was created to display each outcome with the corresponding evaluation strategy (see Appendix C). Each instrument was reviewed and approved by the Cardiopulmonary and Pilot Teams.

The Project Manager did not have access to any patient information or patient identifiers. All forms created and used for data collection were completed by the HHA employees and stored in the assigned secure network drive, referred to as the Shared drive.

Chart Audits

The Chart Audit Form (Outcomes 1, 2, 6, and 7; see Appendix E) was created to capture the data elements on an individual patient from referral to discharge. The Chart Audit form has three sections and was designed to be completed by the HHA employee(s) who would typically access the data in their role. The Project Manager took into consideration the everyday workflow and processes of this group of staff and clinicians to limit the amount of added responsibility because of the Pilot. The form was updated to better meet the needs of the HHA.

Checklists

A Transitional Care Process Education Session checklist (see Appendix G) was created using the education objectives for the session (Outcome 3). The Project Manager

and the stakeholder group used the checklist to verify that all components of the Transitional Care Process Pilot had been incorporated into the education session and education documents.

Surveys

Four surveys were developed and used in the evaluation plan of the Scholarly Project: Pre-Test: Knowledge of Transitional Care Process (Outcome 5; see Appendix H), Transitional Care Process Pilot: Reaction to Education Presentation Survey (Outcome 4; see Appendix I), Post-Test: Knowledge of Transitional Care Process (Outcome 5; see Appendix J), and Survey: Feedback on COPD Transitional Care Process Pilot (Outcome 8; see Appendix K). The surveys were developed within the framework of Kirkpatrick's Levels of Evaluation using surveys featured by Kirkpatrick and Kirkpatrick (2006) and Kirkpatrick Partners (2010-2012).

EHR Reports

Reports generated from the electronic health record (EHR) were generated by members of the Quality Team (sub-team of the Pilot Team). The HHA has a report that obtains information from the diagnostic code and Modified BORG scale entry. The data captured indicated if a COPD patient on home health services is readmitted to the acute care setting and/or uses the services of the emergency department. The purpose of these data collection instruments was to quantify the rate of readmissions and unanticipated use of the ED for all COPD patient recipients of the transitional care model (Outcomes 9 and 10). The rates of admissions and ED visits for home health patients was already monitored by the Quality Team members and did not change because of the process implementation.

Analysis

Quantitative Analysis

Outcomes 1-3, 5-7, and 9-10 were evaluated using quantitative data analysis. Descriptive statistics were utilized in the summarizing of information and nominal counts of each element of data in the outcome evaluation methods, including chart audits and surveys. This project was intended to be the implementation and evaluation of a process to improve quality of care, rather than research. As such, the stakeholders were most interested in measuring and evaluating the consistency of the implementation efforts and the feedback of the Pilot Team and the Cardiopulmonary Team. The data need to be summarized rather than compared to a control group or greater population (Houser, 2015).

Outcome 4 was evaluated using nominal-level data, by tracking the presence of educational objectives and time and attendance to identify HHA staff who received education on the standardized transitional care process, respectively. These data provided the number of attendees, and captured the percentage of each professional discipline and percentage of non-clinicians in attendance.

Outcome 5 data was collected and analyzed using a pre- and post-survey method. A 10-point Likert scale was used for each question. Data was collected and a mean aggregate calculated for each item on the pre-test, and then again for the related item on the post-test. The mean aggregate pre-test score and post-test score for each item was compared to determine whether a change in knowledge had occurred following the educational intervention.

Qualitative Data

For Outcomes 4 and 8, surveys collected responses to elicit qualitative information to answer the following questions:

- What about the transitional care process was useful?
- What about the transitional care process could have been done differently?
- Identify elements that could be added to the process to make it better for future use.

This method provided information on what made the program effective, how it worked to produce outcomes. (Goodrick & Rogers, 2015). A matrix display was created and feedback was summarized for each question, with representative quotes used to illustrate participant perspectives (see Appendix R). The purpose of using qualitative feedback from these questions was to provide direction in the future phases of the project as addressed in Outcomes 11 through 14.

Data remained on site of the partnering organization and the Project Manager accessed all data for analysis on site. All data was calculated by hand, with the use of Excel spreadsheets, and SurveyMonkey®. No statistical software was required, as data was collected with nominal counts. All qualitative data obtained through the participant feedback on the pilot process was summarized with representative quotes.

Ethical Considerations

Potential ethics issues were considered in the planning, implementation, and analysis phases of the Scholarly Project. DNP Program faculty of Boise State University and the individuals at the partnering organization were involved in the ethical review of the project. For the DNP Scholarly Project, the participants were the clinicians associated with the pilot in the HHA. Participation in the pilot was voluntary. The interventions applied as part process were not outside of the skilled services that are

normally provided to a patient of the HHA. The visit frequency, disciplines referred, availability of telephone support, and supplies were under oversight of the agency's internal quality control processes. The consent to services protocol were not impacted by the project intervention. The intent of the pilot project was to provide a standardized process for admitting, assigning a visit frequency, and monitoring the pilot process with the specified population.

Confidentiality Management

The DNP student was not an employee of the partnering organization and therefore did not have access to the health records. The DNP student was given approval to conduct the project work under the director of the HHA for the length of the SP but with no access to patient records. Additionally, the student maintained communication with the organization's Center for Nursing Excellence, which oversees all nursing evidence-based practice projects and nursing research within the Health System (L. T., personal communication, January 2, 2018).

Conflicts of Interest

The DNP student had no conflicts of interest with the setting nor project topic. There were no identified conflicts of interest with other programs or departments within the partnering organization.

Biases

The leadership from the HHA was committed to the project in time and resources. All members of the pilot team were provided with clearly defined roles. The DNP student as Project Manager facilitated the collaboration process to maintain vision in the planning and implementation phases and avoid potential bias.

Threats to Quality

Potential threats to quality in this project were the unanticipated problems within the planning and implementation phases. The DNP student worked closely with faculty and leadership within the setting to identify all potential threats at all levels of the project proposal and implementation.

IRB Application and Project Determination

The DNP student submitted applications through the Partnering Organization's IRB and Boise State University's IRB in the spring semester. The Partnering Organization provided a letter of determination stating the project was deemed to be an evidence-based practice improvement and for performance improvement and was not deemed to be research involving human subjects. This letter was submitted with the application to the Boise State University IRB. The Boise State University IRB determined that the SP met the qualifications for a Quality Improvement or Process Improvement and was not identified as research.

Results

The SP implementation period ran from May 9, 2018 to October 26, 2018. The data collection started concurrently but concluded December 2, 2019. The intended timeline for the implementation phase was to begin in May and conclude in the fall with concurrent data collection. The implementation began as planned but the data collection period continued past schedule. The last patient was included in the Pilot on October 26th. Per the data collection plan, the RN Supervisor completed the chart audits, and scanned and stored all audits in the Shared Drive folder. This was completed on

December 2. All outcome analysis was conducted on-site per the agreement with the partnering organization.

The SP outcomes provided direction in the pilot's implementation and process measurement (see Appendix C, Outcome Evaluation Table). All the SP outcomes were measured and analyzed. Contextual elements that interacted with the implementation and all unintended consequences were identified. Several changes were required during the SP implementation and the impact on the planned outcomes will be discussed. See Appendix N for a detailed list of the SP intervention, as well as the changes made from the original implementation plan.

Outcomes 1, 2, and 3 were pre-implementation and involved the collaboration of the Cardiopulmonary Team and members of the Pilot Team in creating the components of the intervention for referral, intake, admission, and staff education. These outcomes were successfully met and resulted in the creation of the Transitional Care Process Pilot: Chart Audit Form (Outcomes 1 and 2; see Appendix C) and a checklist of the education components for the Process Pilot (Outcome 3; see Appendix G).

The SP implementation began with the planned education session on the Transitional Care Model during an all staff meeting on May 9 (Outcome 4). Staff, clinicians and non-clinicians were present physically and online through Skype. Attendance of those physically present was collected by the PM and the attendance of those online was collected by the PT Supervisor (Outcome 4). The Pre-Test Survey and Reaction to Education Presentation Survey (see Appendices H and I) were provided to those on-site and the SurveyMonkey® electronic versions of both surveys were provided to those off-site (Outcome 5).

Outcome 4 was met; 100% of participating HHA staff and clinicians were provided education on the Transitional Care Process Pilot. This step in the intervention evolved from the original design of a one-time event to an ongoing project activity. The PM maintained a list of the names, roles, and education dates for all clinicians that participated in the pilot. Fifty-two clinicians received training from May through September. Twenty-four of these Pilot members were present for the initial session. The remaining Pilot members received training at a follow-up session or one-on-one with the PM.

Outcome 5 was intended to demonstrate knowledge, by the end of May 2018, of the Transitional Care Model and on the specific process designed for the HHA. This outcome was met; however, the timeline was extended as this outcome required ongoing measurement due to the addition of new staff and increased clinician involvement in the Pilot. Additionally, it was originally intended to measure each participant's growth in knowledge using a 10-point Likert scale pre- and post-test; however, the intent to allow participants to remain anonymous did not provide an avenue to measure individual knowledge growth (see Appendices H and J). The PT Supervisor misplaced the attendance list from the online attendees of the initial education session, further limiting the ability to measure increased knowledge by discipline. Therefore, the data were analyzed as an aggregate of the HHA Pilot Team's growth in knowledge on the Process being piloted. To track that a pre-test was completed, the post-test included a survey item to identify if the individual had completed a pre-test. If the post-test did not indicate that a pre-test had been completed, this survey was not calculated in the aggregate data for the discipline group. Twenty-three pre-test surveys were received and 15 post-test surveys

were received. Two post-tests indicated an answer of "unsure" for the completion of a pre-test, therefore, the response rate was counted as 13. The aggregate data demonstrated increased knowledge on the Transitional Care Process for the HHA in all categories, except for knowledge of reason for referral (question B); this demonstrated no change of knowledge (see Appendix O).

Outcomes 6 and 7 were not met. The HHA tracked patient admissions from May through October, and 28 patients were originally identified with COPD as an inpatient diagnosis and eligible for the Process Pilot. Ten of the 28 or 35%, were ultimately considered to be enrolled into the Pilot, not reaching the goal of 90% enrollment of the HHA's COPD patients. Thirteen were considered as "not enrolled" for various reasons, however should be included as they met the criteria. Five patients had been assigned a pilot number and had partially completed audit forms, but data were not maintained and could not be categorized as enrolled or not enrolled. Only two of the enrolled patients demonstrated that the Process Pilot had been fully implemented (see Appendix Q).

Outcomes 6 and 7 were measured through use of a form created for the Process Pilot, demonstrating the degree of utilization of the process with the COPD patient population. Incorporating recommendations from the Intake Office Lead and RN Supervisor, edits were made to the original form just after implementation but prior to accepting patients for the Process Pilot (see Appendix E).

The Transitional Care Model Participant Feedback Survey (Outcome 8, see Appendix K), was sent electronically in the last week of October. Ten surveys were received and nine of the 10 indicated that they had participated in the Pilot. The non-participant's scores for quantitative data were not included in the data analysis. The data

demonstrated that the Transitional Care Model Process was perceived as positive and overall functional. The qualitative feedback collected from this survey were categorized (see Appendix R). This was a small sample size but highlighted process strengths that included the standardized visit frequency, the dyspnea scale, and the use staff education handouts. The identified opportunities for future phases of Transitional Care implementation included better coordination for the MDP joint visit, the addition of discussion on transitional care patients during the weekly team meeting, and more time designated for staff education.

Outcomes 9 and 10 were not met by the end of the implementation phase of the project. The intent was to start capturing baseline data for frequency of ED use and re-hospitalization rates for the HHA, as this baseline data hadn't been previously collected for these indicators. The HHA was prepared to track this by adding areas for specific documentation for COPD patients including symptoms and the Modified BORG Dyspnea Scale in their EHR, which would enable report generation (see Appendices D and S). Outcomes were not measured because these data were not collected. This was intended to be collected during the implementation phase but was not due to time restraints of the HHA staff. A plan for implementation for these outcomes will be included in the recommendations for future phases.

Contextual Elements

The contextual elements identified in the design of the SP including the population, the local care environment, the elements of the project setting, and the organizational culture and readiness for change, were evaluated in relationship to the interventions as implemented. The population of the older adult with COPD remained

the implementation focus, but the eligibility for inclusion was broadened due to the nature of receipt of referrals from the inpatient side of the partnering organization. In the first week of July, the HHA did not have any qualifying patients. The Project Manager met with the Director and RN Supervisor to review the admission criteria. One identified concern was that patients with COPD may be missed if the Intake Office is only used the primary diagnosis from the referral. In their opinion and experience, the referring sites may list a more generic reason for admission such as "activity intolerance" or "deconditioned." In these examples, the referral will typically be for physical therapy services only, even if an active or recent exacerbation of the COPD is present. It was decided to expand the pilot admission criteria to include any patient with a diagnosis of COPD on their problem list. If nursing services had not been indicated on the initial referral, the HHA would request that nursing services be added for assessment of COPD home management. This change produced an increase in the number of patients included in the Transitional Care Process Pilot from what was identified in the beginning of the implementation phase.

As the partnering organization is a health system, there are resources within sectors of the system that were useful to the implementation and others that were underutilized. To provide a "kick-off," the implementation phase began with a department-wide staff meeting, with an intentional focus on chronic disease management for the HHA. During this meeting, new initiatives planned for the HHA within the post-acute care division, were announced by the Vice-President, including the Transitional Care Model Process Pilot. The PM was given time during this meeting to present an overview of the goals for the Pilot and deliver the first education presentation.

An additional resource was the representation of the Heart Health and Rehabilitation Center on the Stakeholder Team by a PT and RT. These individuals brought knowledge from their service in several areas within the health system to provide expertise and guidance in the formation and implementation of the Process Pilot. An RT was designated to service the HHA on Tuesdays and Thursdays at the start of the implementation phase and this assignment remains indefinitely. Unfortunately, his services were not accessed by the HHA clinicians and ultimately, he only served as an advisor to the PM during the cardiopulmonary group meetings. This is a service that should be fully utilized and will be addressed in Recommendations.

The physical location of the HHA had impact on the Process Pilot implementation. The nature of home health care service requires clinicians to be functioning independently over a large service area. The clinicians rely heavily on communication through email and meetings are held primarily through technology including conference calls and Skype. The PM was required to work on-site and could not be present in most of the meetings to avoid information that would breach patient privacy. This requirement is important due to patient privacy and confidentiality concerns; however, it was a barrier to providing training and ongoing support to the Pilot Team. This was also identified as a weakness of the Process by 3 of 9 respondents in the Feedback Survey (see Appendix R).

As an additional contextual element relating to physical location, the HHA moved locations during project implementation. The plan to relocate was known by the leadership team, but was accelerated, causing a decreased focus on the implementation of this Process Pilot by the HHA team. It required a temporary suspension of data access

for the PM, extending the length of the data collection and analysis time line. The HHA leadership did plan for work space and transferred all designated equipment for the PM in the new location.

The Process Pilot was intentionally designed to incorporate the HSTCMP Transitional Care Model into the existing daily operations of the cooperating HHA, so the elements would be completed by individuals who would typically perform these functions, to lessen the burden of implementing a new process. However, there were several staffing changes that resulted in complications in this design. Prior to starting the Process Pilot, the RN Supervisor, who was also the lead RN for the Stakeholder group, resigned from her position and left the HHA. A second RN Supervisor was assigned to the Pilot, however, the details of the Pilot and goals for the SP were unknown to her. Although willing, she did not have adequate time to dedicate to the Pilot and did not attend the Cardiopulmonary Team meetings (Stakeholder group). This change resulted in the Stakeholder group being all non-nursing clinicians. The new RN Supervisor did assume the responsibility of all other components of the intervention.

As the implementation ran through the summer months, this coincided with several nurses taking vacations during this time. Many of the nurses who received education on the pilot in May, did not have the opportunity to implement the model prior to their scheduled vacation, requiring additional education when they returned. Three more resources were developed to assist in ongoing education reinforcement: a summary of the intervention steps, an overview of the pilot, and protocol for telephone calls (see Appendices T, U, and V). These were approved by the Stakeholder Group and were stored in and accessible by the Pilot Team from the COPD Project Shared drive folder.

These additions to the education portion of the Process will remain in the HHA for use in future phases.

An additional staffing issue with unintended consequences was vacancy of a Nursing Clinical Educator when the implementation commenced. Most the education for clinical staff was being completed by the Physical Therapy educators. This was not known by the PM when the SP was being designed. This vacancy provided opportunity for conversations on the need to provide this resource to the nursing staff in the HHA.

The HHA and the partnering organization launched a new EHR approximately 18 months prior to the start of the SP. The implementation of the Pilot exposed some previously unknown barriers with the new EHR's scheduling function. The clinicians were unable to schedule any telephone calls within the electronic health record, but the Scheduler found a way to complete this step from the office side of the system. This step was then built into the Process Pilot (see Appendix B). Education was provided to the clinicians on this feature enabling the HHA to start scheduling telephone call follow-ups for patients in and out of the Pilot.

Expenses for the Pilot implementation were projected to be $10,401.50 and the actual expenses were estimated to be $6,228.20 (see Appendix W). They are considered an estimate versus actual, as all salaries were based on market rates and the actual salaries of the Pilot Team were not used. Additionally, all meeting rooms and technology did not require an actual rental or use fee as they were within the HHA. These expenses are realistic and should be considered if the Pilot were to be replicated elsewhere. The estimated actual expenses were less than the projected expenses in all categories. All of the meetings with the Stakeholder group were planned to be completed in-person but

were ultimately done via Skype. The Skype business account is available to all within the partnering organization and is an in-kind donation. All educational materials were digitized and provided through email, reducing the number of printed materials.

The initial Statement of Operations has been updated to reflect the final number of patients admitted into the Pilot (see Appendix X). The net patient revenues remain as an estimate of the Medicare episodic payment, as actual patient revenue was not collected as part of the Pilot. It was decided to use the number of patients admitted to the Pilot as well as the number of patients categorized as unknown, due to the likely impact on expenses and revenue as they were confirmed to be active patients in the HHA. The patients who were not enrolled into the Pilot were categorized as either not having a COPD diagnosis or discharging from the HHA. Therefore, these patients would not have had the same impact on the calculated expense nor revenue.

Summary

The theoretical framework that was selected to support this Process, the health-social partnership transitional care management program (HSTCMP), includes a multidisciplinary team approach led by the RN making home visits and telephone call follow-ups over a four-week period (Wong, Ho, Yeung, Tam & Chow, 2011) and did align with the purpose and aim of the SP. The SP aimed to implement a Transitional Care Model for COPD patients by planning and initiating a process that would be realistic for the specific HHA. The first phase of implementation was designed for the length of the SP, with a second phase to follow with the HHA continuing to measure ED use and rehospitalization rates for their COPD population. The first phase successfully implemented the interventions for 10 patients. Two of these 10, received all steps of the

intervention as designed. The remaining eight patients received most steps of the intervention, but were noted to have missed a telephone call or the MDP joint-visit could not be verified to have occurred in the designated week. It is possible that that more than two patients had the complete process implemented but the data were not available to verify this was the case.

The staff of the HHA demonstrated increased knowledge of transitional care and the Process that was designed to fit into their daily operations (see Appendix O). A strength of this Process is the participation of the Pilot Team to continue to work to improve on the process implementation. The Pilot Team identified barriers with the Process or the contextual elements interacting with the Process informally throughout the Pilot. One example was the inability of the clinician to schedule telephone calls resulting in a dependency on the office staff. Other barriers were identified formally through the measurement of the project's outcomes, such as the lack of knowledge on how to access the services of the RT. The Pilot Team was composed of the various roles with the HHA and with their knowledge on transitional care, they can continue refining the process towards efficiency and consistency.

Interpretation

After the implementation of the Transitional Care Model Process Pilot was completed, the HHA retained elements of the SP Process Pilot for the COPD patient population. The ongoing process elements include identification of a COPD patient from referral, assigning clinicians the admission and subsequent visits, providing information to the clinicians on the Process intervention steps, a time point for collaboration with two disciplines, and using a standardized tool for assessment of dyspnea.

The aim of this project was to implement a process that would have a positive impact on the efforts to reduce emergency department utilization and readmissions of COPD patients in the post-acute care setting of home health. The next phase would include measuring the impact on these metrics. The studies used to develop this Process identified that the most effective interventions included home visits, telephone calls, and a nurse as team lead, and these were noted to have the most impact on the reduction of emergency department utilization and readmissions at three-months post intervention (Chow &Wong, 2014; Wong, Chow, Chan & Tam, 2014; Wong & Yeung, 2015; Low, et al., 2015; Naylor et al., 2011).

Several opportunities were identified through the measurement and analysis of the project outcomes. There are many advantages for the HHA's position within a health system. Many resources are available to them and not all were utilized. The SP PM identified and, in some instances, initiated preliminary conversations for future collaboration.

As discussed in the Results section, it was found early in the implementation that the eligibility criteria for inclusion in the Pilot was incongruent with the referrals that are typically received from the inpatient side of the partnering organization. It was decided to expand the pilot admission criteria to include any patient with a diagnosis of COPD on their inpatient problem list. If nursing services had not been indicated on the initial referral, the HHA would request that nursing services be added for assessment of COPD home management. An opportunity now exists to work with the Case Management Department of the partnering organization to better understand how to identify the

resources available in disease management for a COPD patient in the Post-Acute Care Division.

An important ongoing education topic for the HHA regarding the use of HSTCMP is not needing to exclude patients with cognitive issues. The only concern with a patient with cognitive barriers such as memory loss, would be in use of the Modified BORG, however, the patient would still benefit from the visit frequency, telephone call follow-up, and coordination between two disciplines (joint visit).

The opportunity for collaboration with other departments in the health system was identified, not only with Case Management, but with the Center for Nursing Excellence and the Heart Health and Rehabilitation Center. The Center for Nursing Excellence is responsible for oversight of research and quality improvement projects occurring with the health system. The Director for Nursing Services within the Center has personal experience and expertise in transition care and home health care. The HHA director has had preliminary conversations with the Center's Director for Nursing Services, regarding utilizing resources for continued outcome tracking in Transitional Care outcomes in the HHA.

The Heart Health and Rehabilitation Center has had a long-standing partnership with the HHA in the management of heart failure patients. They were represented on the SP Stakeholder Group and will continue to work with the HHA for patients with heart failure and COPD.

Lastly, the continued relationship with Respiratory Therapy is an ongoing opportunity that will bring strength to the Process for COPD patients in home health care. As the RT is not an employee of the HHA, but of the health system, he covers a broad

service area. Through the work on the Pilot, it was noted that he was not aware of the patient review meetings that occur weekly within the HHA. Having representation from an RT would be valuable to the home health care team. The PM connected the RT with the RN Supervisor and recommended that he be invited to the weekly patient review meetings.

While it would be ideal to have met all anticipated outcomes, it is not entirely realistic to expect that a project designed to implement a process would be without issues. The issues that were identified could be corrected to create a better fit for the HHA. These areas would need to be considered for future implementation as they are likely to remain a barrier:

- Ability to schedule telephone calls in the EHR
- Education time points: need for an ongoing plan for new employees and reinforcement of the process
- Availability of education handouts for the clinicians (paper and digital)
- Time for debrief with Pilot Team such as, discussion during patient review
- Knowledge of resources including those at system level, such as RT
- Communication with referral source such as, more accurate order or obtaining an order for a second discipline

Policy Implications

Patient referrals with an order for a single discipline-only were not eligible for the HSTCMP model as this model requires the use of a multidisciplinary partner in the intervention (Wong, Ho, Yeung, Tam & Chow, 2011). Considering that 38% of the patient exclusions were for this reason, the HHA should consider possible solutions, such

as having providers who support and potentially work for the HHA to provide orders for a second discipline (see Appendix Y).

Currently, nurse practitioners are unable to certify eligibly for home health care services under Medicare however, a potential solution is to establish a formal collaboration with the attending physician and a HHA Nurse Practitioner (NP) in the Home Health Care setting. After initial eligibility certification, the HHA NP could complete ongoing evaluation and assume the provider role for the length of the home health care episode. The HHA is working within their Post-Acute Care Division on hiring NPs that will make home visits. Currently the NPs are unable to be employees of the HHA, as they cannot bill for providing home care services under Medicare, but they can bill for services as providers. There are 4 NPs currently making home visits as providers of the Post-Acute Care Division and collaborating with the HHA. Further work is required to use the NP to benefit patient outcomes in home health care.

Limitations

This project had several limitations. For each of the outcome measures, there were small numbers to consider in both the eligible COPD patients for inclusion for the Process Pilot and the survey respondents. This Process Pilot was designed specifically for one HHA as a Quality Improvement project; is not research, thus generalizability is not a consideration. The steps of the intervention (see Appendix N) are designed for the flow of the participating HHA. However, these steps could be modified for the flow of another setting. The HSTCMP steps were not altered for this project.

Conclusions

The Transitional Care Model used in this Process is realistic for home health care agencies, as it incorporated interventions that are likely to exist in the daily operation of the service (multidisciplinary care, home visits, and telephone calls). The uniqueness of the model lies within the standardization of the intervention timing. Having an EHR that supports the scheduling of the interventions makes this a simple care delivery model. If not, then a manual step will be required to schedule the intervention activities. Having a RN to lead and provide education is imperative to the success of this model.

The partnering organization has other transitional care programs functioning in various departments and the Vice President of the Post-Acute Care Division will be introducing similar care models into the other sections within the division. This model has and can be applied to all chronic disease patients transitioning from acute care services (Chow &Wong, 2014; Wong, Chow, Chan & Tam, 2014; Wong & Yeung, 2015). As the key features are the NCM, home visits, and telephone call follow-up if a new site has the ability to apply these features, it could be an effective model.

As the pilot was designed to work within the existing operations of the HHA, it can continue after the project concludes. The Project Manager was responsible for training staff, providing tools and resources to aid staff in using the model, and analysis of the data. The RN Supervisor may assume the role data analysis or as previously recommended, the High Acuity Team (HAT) could assume this responsibility. Additionally, the RN Clinical Educator should assume the role in providing the transitional care education to new staff and reinforcing the key elements of the model in ongoing education modules.

The ongoing education plan will be imperative for the long-term success of the Transitional Care Model Process in the HHA. The Pilot highlighted the need to have a plan for initial education in the instances of new staff as well as ongoing education to reinforce the steps of the intervention. The PM fulfilled this role during the Pilot but has recommended that an RN clinical educator assume this role ongoing. The HHA has hired a new RN for this role but acknowledges that assuming the education for this evidence-based Process will take time for her to learn and incorporate.

Dissemination

The PM was offered to continue in this role as an employee. This new role provides opportunity for ongoing support and education on transitional care for the chronic disease populations. This role also provides opportunity to mentor the RN Clinical Educator. Moving from the role of a student on-site to an employee would also remove the barrier of not being able to access patient records or attend patient review meetings.

It is recommended that the HHA consider applying the HSTCMP model to all chronic disease patients. For this Pilot, there was the added intervention of using the Modified BORG Dyspnea Scale that was not part of the HSTCMP. This was done at request of the stakeholder group to assist them in meeting an outcome of the Cardiopulmonary Group. However, the model selected was not specific to COPD but used for multiple chronic diseases (Chow &Wong, 2014; Wong, Chow, Chan & Tam, 2014; Wong & Yeung, 2015). Using one process for all chronic disease populations would be less demanding on the clinicians as they would not need to know a different process for each population. The PM will work with the HHA high acuity team (HAT)

within the department to monitor the high acuity patient populations in addition to the Cardiopulmonary Group, which is a system-wide collaborative team. This high acuity group are the most suited to assume the management of this Process relieving the burden from the RN Supervisor in completing all the audits for the COPD population.

Implementation of this Process with a larger COPD patient population is needed to obtain more information on the effectiveness of reducing the utilization of ED and rehospitalization rates for COPD-related reasons. If a larger population is not available, a longer time period for process implementation should be considered. The Project Manager as a system employee will now function as a consultant to oversee the ongoing refining and implementation within the health system.

The SP considered outcomes and impacts for the next three to five years following implementation of the pilot (see Appendix B) and the HHA could collect data to measure the long-term impact on patient outcomes. The HHA will need to begin to monitor emergency department utilization and rehospitalization rates for COPD-related events for the patients included in the first phase of the Process Pilot. Prior to starting the next phase of the COPD Transitional Care Model, the HHA leadership will need to collaborate with the sectors recommended above to have a clear outcome management plan secured.

The state where the SP is based and the partnering organization will not be referred to by name at the request of the partnering agent. All references with identifying information have been blinded and complete references have been maintained by the Project Manager.

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Appendix A

Literature Review Summary Table

Johns Hopkins Nursing Evidence-Based Practice

Individual Evidence Summary Tool

EBP Question: Can implementation of nurse-led transitional care reduce rates of readmission to the acute care setting and decreased use of the emergency department for the older adult with chronic obstructive pulmonary disease (COPD) receiving home health care services?

Date: Summer 2018

Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
1	Chow 2014	RCT	281 Sample size needed for Alpha was 74 for each group. This study was able to maintain 87, 96 and 98 in the three intervention arms. Large, Single hospital	Aim: To examine the effects of a nurse-led case management program for hospital-discharged older adults with co-morbidities. Implementation of nurse-led case mgmt. (NCMs) significantly contributes to enhance self-efficacy of older patients with co-morbid, chronic diseases. Improvement in self-efficacy for chronic disease management reduced	One limitation is potential (not known). Only known potential is single site: 1. Patients consenting to participate may be more health conscious and already more independent. 2. Single hospital setting	Level 1 A: High

Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				hospital readmission and increased quality of life.		
2	Wong et al. 2014	RCT	610 Control: 210 Home Visits with call: 196 Calls only: 204 Large, single hospital	Focus of differentiating effect of home visits and telephone calls. Transitional model used a skill mix including nursing students to support the nurse care manager. [nurse led] The home group had a sign. lower readmission rate than the control group (11.3% versus 25.7%). Did not find significant difference in the call-only group. Also measured quality of life and self-efficacy and satisfaction.	Neither limitation will impact EBP question: 1. Conducted among patients with chronic disease. May not be able to generalize. 2. No cost analysis to link the utilization outcome with cost.	Level 1 A: High
3	Wong 2015	RCT	108 3 regional hospitals	Focus: transitional care program for stroke survivors. Very specific transitional care track.	Limitations identified do not impact the EBP question with the exception of #3: 1. Generalizability needs to be	Level 1 B: Good

Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				Led by holistic care managers (states this is usually a nurse) At 8 weeks, a difference although not statistically significant in hospital readmission 7.4% versus. 14.8%). Statistically significant in lower emergency visits 1.9% versus 13%).	confirmed (past acute care settings) 2. Missing values were replaced by group means (for QofL outcome) 3. Only examined outcomes, not process (potential) 4. Findings only included the clinical and patient outcomes, omitting cost analysis to address possible economic gain of program 5. Only tested up to 8 weeks after discharge	

Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
4	Low 2015	Quasi-experimental	259 Tertiary hospital in Singapore	Patients enrolled in the program had significantly lower rates of hospital utilization: reduction in hospital admissions and emergency department attendance: 12.05 days at 3 months and 20.03 days at 6 months. [Does not impact EBP question]: The overall cost savings from reductions in admissions and emergency department attendances attributed to our program for 259 patients was estimated to be S$4.7 million (Singapore currency)	Limitations states were only probably or do not impact EBP question, respectively: 1. Possibility that the patient's acute hospital utilization will decline naturally without intervention. 2. Do not have full data on startup costs, implementation costs to evaluate the exact cost-effectiveness	Level 2 A: High
5	Naylor 2011	Systematic Review	N/A	All studies targeted high risk patients who were elderly; were chronically ill with conditions such as congestive heart failure, asthma, diabetes, or depression; or had histories	1. Only two studies accounted for costs of hospital readmissions, emergency department visits, unscheduled	Level 2 A: High

Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				of multiple readmissions, or combinations of these. The nine interventions that reported a statistically significant positive effect on at least one measure of readmissions: total all-cause readmissions, time to first readmission, or length of readmission stay Review offers important insights into the delivery of effective transitional care and informs policies developed under the Affordable Care Act. We offer recommendations intended to promote the adoption of effective interventions, foster transparency and accountability, and strengthen the health care workforce in its delivery of these interventions	physician visits, visiting nurses and other health care personnel, and intervention costs. 2. None of the reviewed interventions targeted dual eligible, cognitively impaired, or medically underserved populations. 3. None of the interventions is a complete match to the multiple components of this law.	

Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
6	Fraher (with Naylor) 2015	Research Brief	NA			Level 5 A: High
7	Morrison 2016	Retrospective descriptive study	CNS group 98 PPC group 41	CNS program also showed a statistically significant decrease in ED visits, while the PPC program did not.	1. Absence of a randomized controlled design 2. Unable to exclude those receiving home health care and hospice in CNS group 3. Wide variety of differences between both programs limits direct comparisons 4. Data on cost were not collected therefore unable to draw conclusion on cost savings	Level 5 B: Good

Appendix B

Kellogg Logic Model

Scholarly Project Title: Implementation of a nurse-led transitional care model for older adults with COPD admitted to Home Health.

Resources/Inputs	Activities	Outputs	Outcomes: Short term	Outcomes: Long term	Impact
Includes the human, financial, organizational, and community resources a program has available to direct toward the work.	Includes the processes, tools, events, technology, and actions that are intended to bring changes or results.	Direct products of program activities and may include types, levels and targets of services to be delivered by the program.	Specific changes in program. SMART. **Attainable during the DNP Scholarly Project timeline**	Specific changes in program. SMART. **Attainable 1-2 years after your DNP Project is completed.**	Fundamental intended or unintended change occurring because of **program activities within 3-5 years.**
The Cardiopulmonary Team **The Pilot Team: Office Staff** **Start of Care Team** **DNP Student/Project Manager** **HHA IT Supervisor** **Shared Drive**	Stakeholder group collaborates with the Home health care team to develop process for referral and intake of COPD patients to home health care. Home Health IT supervisor created folder in Shared Drive.	Referral form created; makes referral to home health care services for education. Handoff from inpatient setting to home health setting. The older adult patient population with COPD with focused transitional care from acute care to home health care.	The Cardiopulmonary Team and the Pilot Team collaborated on and developed a referral and intake process for home health patients discharging from an acute care setting to pilot for patients with inpatient diagnosis of COPD by May 2018.	The HHA and the Cardiopulmonary Team refined the referral and intake process used in the pilot by April 2019	The partnering organization's health system adopts transitional care model for all patients with COPD discharge to home health.

The Cardiopulmonary Team **The home health Care Pilot Team: Office Staff Start of Care Team Visit Clinicians** **DNP Student/Project Manager** **Electronic Health Record** **Shared Drive**	Stakeholder group collaborates with the Home health care teams to develop processes for admission of COPD.	Admission clinician applies standardized visit frequency and telephone call follow-up. Admission assessment and documentation standards defined for COPD admissions into pilot. Physicians/providers receive communication about the detailed plan to provide care (intervention) after acute care services end.	The Cardiopulmonary Team and the Pilot Team collaborated on and developed a process for admission to the home health services to pilot for patients with inpatient diagnosis of COPD by May 2018.	The HHA and the Cardiopulmonary Team refined the admission process used in the pilot by April 2019.	
The Cardiopulmonary Team **DNP Student/Project Manager**			The Project Manager created an education session, approved by the Cardiopulmonary Team, on the Transitional Care Process Pilot to be delivered to the HHA staff and clinicians participating in the Process pilot by May 2018.		
DNP Student/Project Manager	Develop educational plan for pilot clinicians		100% of the participating the HHA staff and clinicians received education on	The HHA establishes a standardized education module on	Clinicians learn more about managing COPD; improved

The home health Pilot Team **The home health clinicians** **Conference Room**	included in intervention.		the Transitional Care Process Pilot by end of May 2018.	the Transitional Care Process for new employees by May 2019.	management of patient during transitions.
DNP Student/Project Manager **The Home Health Pilot Team** **The Home Health Clinicians** **Conference Room** **Survey Application**			Participating HHA staff and clinicians demonstrated knowledge of the Transitional Care Process Pilot by end of May 2018.	Clinicians had increased awareness of needs of the COPD patient population requiring home health care by April 2019.	
The Cardiopulmonary Team **The Home Health Pilot Team: Quality Team** **DNP Student/Project Manager**			The HHA implemented the Transitional Care Process Pilot for 90% of COPD patients who meet pilot project criteria by end of June 2018.	The HHA with the Cardiopulmonary Team expands the Transitional Care Process for COPD patients within the partnering organization's Health System by Jan 2019.	Standardized documentation, facilitate chart audit and quality improvement measurement for this population and disease.

The Cardiopulmonary Team **The Home Health Pilot Team** **DNP Student/Project Manager**	Develop intervention from inpatient to home health setting: The 4 Cs Framework (Wong et al., 2011) Develop education materials for patient population: Handouts Internet sites		The HHA utilized a standardized care management plan (prescribed interventions) for 90% of COPD patients who meet pilot project criteria by end of June 2018.	The HHA with the Cardiopulmonary Team refined the care management plan including prescribed interventions for COPD patients used the in pilot by April 2019.	The older adult with COPD learns more about living with COPD; increased ability with self-managed care. Earlier identification and prevention of exacerbation of COPD.
The Cardiopulmonary Team **The Home Health Pilot Team** **DNP Student/Project Manager** **Survey Application**			80% of the Cardiopulmonary Team and the Pilot Team provided feedback on the implementation of the Transitional Care Process Pilot to improve process for the next phase by Oct. 2018.		
The Cardiopulmonary Team **The Home Health Pilot Team: Quality Team**		The HHA tracked all readmissions for COPD exacerbation daily during pilot.	The unanticipated COPD-related readmission rate for COPD patients who meet pilot project criteria, will be at or below the national		Reduction of readmissions into the acute care hospital and emergency departments.

DNP Student/Project Manager			benchmark of 30% at 30 days from admission to home health services.		
The Cardiopulmonary Team **The Home Health Pilot Team: Quality Team** **DNP Student/Project Manager**		The HHA tracked all ED visits for COPD exacerbation during pilot.	The use of the emergency department for treatment of COPD-related symptoms for COPD patients who meet pilot project criteria reduced by [insert local benchmark] at 30 days of admission to home health services.		Improved quality of life of COPD patient by remaining in home and community.

Planned Work **Intended Results**

Appendix C

Outcomes Evaluation Table

Outcome	Data Collection Instrument / Data	Analysis Goal	Analytic Technique
1. The Cardiopulmonary Team and the Pilot Team collaborated on and developed a referral and intake process for home health patients discharging from an acute care setting to pilot for patients with inpatient diagnosis of COPD by May 2018.	**Data Collection Instrument** Section 1 of Chart Audit Form will be used for collection of the data elements specified on the referral and discharge order (from acute care): • Reason for inpatient admission related to COPD • Inclusion of diagnostic code • Description of preceding events, reason for hospitalization **This tool has been developed and approved for use.** Format: TBD by Home Health Pilot Team Location: Shared Drive **Data** Pilot Process Patient Number Data could be located from the following sites: • Inpatient setting admission records • ICD-10 for COPD patients • Referral Form	To indicate specific components required to identify patients with COPD-related inpatient admission to include in the Transitional Care Process Pilot.	N/A
2. The Cardiopulmonary Team and the Pilot Team collaborated on and developed a process for admission	**Data Collection Instrument** Section 2 of Chart Audit Form will be used for collection of the data elements specified for admission documentation: • Audit the following:	To verify the admission process has been utilized to provide a standardized admission to the HHA for COPD patients in the Pilot.	N/A

to the HHA to pilot for patients with inpatient diagnosis of COPD by May 2018.	○ Home visit frequency ○ Telephone follow-up schedule frequency **This tool has been developed and approved for use.** Format: TBD by Home Health Pilot Team Location: Shared Drive **Data** Pilot Process Patient Number Data could be located from the following sites: • Team meeting notes • Admission Documentation Note (from each discipline) • Schedule/Patient Calendar: visit frequency for nursing visits and follow-up telephone calls	To identify the home visit frequency and telephone schedule for each COPD patient in the Pilot. To confirm the frequency is within the Transitional Care Process Pilot guidelines.	
3. The Project Manager created an education session, approved by the Cardiopulmonary Team, on the Transitional Care Process Pilot to be delivered to the home health staff and clinicians participating in the Process pilot by May 2018.	**Data Collection Instrument** • Checklist containing the objectives for the Transitional Care Process Education Session. **This tool has been developed and in draft form, pending approval.** Format: Objectives Checklist Location: Shared Drive **Data** The objectives for the Education Session will cover the following content areas: • Receipt of referral	To identify all components of the Transitional Care Process Pilot are present for a standardized education module for all participants of the Pilot.	N/A

	• Assignment of clinician for admission • Start of Care assessment • Start of Care visit frequency and telephone follow-up frequency • Intervention: Dyspnea Tool • Discharge • Outcome audit		
4. 100% of the participating home health staff and clinicians received education on the Transitional Care Process Pilot by end of May 2018.	**Data Collection Instrument** • Education session attendance sign-in sheet: o Date and time of education session o Name of attendee o Discipline and role of attendee **This tool has been developed and approved for use.** Format: Track time and attendance Location: Scanned into Shared Drive • Transitional Care Process Pilot Reaction to Education Session Survey: 5-point Likert scale: o Developed using Kirkpatrick's Level 1: Reaction to Education o Content of Survey (Kirkpatrick & Kirkpatrick, 2006, p. 32): ▪ Engagement: 5 questions using Likert scale; 1 question using comment field ▪ Reaction: 5 questions using Likert scale; 2	To identify the clinicians who have received education on the standardized Transitional Care Process Pilot for COPD patients. To identify the clinicians' reaction to the education module. Establish baseline for perception of value of the Transitional Care Process Pilot.	Nominal data: Count of attendees Number of attendees from each discipline Descriptive statistics: Summarize information, nominal count of each element of data in Likert scale. Explanatory methods: A matrix display will be created. Categorized by professional discipline, feedback will be summarized from final item on survey, with representative quotes used to illustrate participant's perspectives.

	questions using comment field **This tool has been developed.** Format: Paper survey and electronic survey (2 versions) Location: Results will be stored on Shared Drive **Data** Transitional Care Process Pilot Education Module will be offered to the clinicians and staff participating in the Transitional Care Process Pilot.		
5. Participating home health staff and clinicians demonstrated knowledge of the Transitional Care Process Pilot by end of May 2018.	**Data Collection Instrument** • Transitional Care Process Education Presentation Part 2 Survey: 5-point Likert scale: agree strongly, agree somewhat, neutral, disagree somewhat, and disagree strongly for each module content item. o Developed using Kirkpatrick's Level 2: Evaluation of Learning o Content of Survey: ▪ Referral ▪ Admission visit ▪ Visit Frequency and Telephone Call Frequency ▪ Dyspnea Tool o Includes all major sections of the education module on transitional care and the admission process developed by the Cardiopulmonary Team	To quantify the increase in knowledge gained through participation in an education module delivered on utilization of the referral form and patient education material in the transitional care program.	Descriptive statistics: Comparison of mean scores pre-test and post-test for each survey question.

	This tool has been developed and approved for use. Format: Paper survey and electronic survey (2 versions) Location: Results will be stored on Shared Drive Survey will be administered prior to participating in the Transitional Care Process Education Module and again after completion of the education module. **Data** Survey questions: • Knowledge of referral form use • Knowledge of patient education material Identification of learning from the Education Module (Kirkpatrick Level 2).		
6. The HHA implemented the Transitional Care Process Pilot for 90% COPD patients who meet pilot project criteria by end of June 2018.	**Data Collection Instrument** Section 3 of Chart Audit Form. Quality Team will continue log started in Outcome 1: • COPD Diagnosis and ICD-10 • Location of patient (zip code) • Reason for home health care referral • Referral date • Admission date • Disciplines assigned to plan of care • Home visit frequency planned and actual visits made	Approximately two weeks to one month period of implementation will be allowed for clinicians to function within the Transitional Care Process Pilot prior to commencement of data collection on perceived value and readmission.	Descriptive statistics: Summarize information, nominal count of each element of data identified on the log.

	• Telephone visit frequency planned and actual calls made. **This tool has been developed and approved for use.** Format: TBD by Home Health Pilot Team Location: Shared Drive **Data** Kirkpatrick Level 3 • Number of patients included in pilot • Documented reasons for initial admission to inpatient setting		
7. The HHA utilized a standardized care management plan (prescribed interventions) for 90% COPD patients who meet pilot project criteria by end of June 2018.	**Data Collection Instrument** Section 3 of the Chart Audit Form: • Notes from conference discussion taken by Quality Team clinician. • Log kept by Quality Team clinicians (maintained daily). • Audit of documentation completed by team on admission and subsequent home visits and telephone calls by Quality Team clinicians. **This tool has been developed and approved for use.** Format: TBD by Home Health Pilot Team Location: Shared Drive **Data** Use of the care management plan will indicate a change in behavior or performance (Kirkpatrick Level 3).	To verify that the pilot clinicians have delivered interventions consistent with the transitional care model. To verify that the pilot clinicians have utilized the Dyspnea Tool selected by the Cardiopulmonary Team (specific tool has not yet been confirmed).	Descriptive statistics: Summarize information, nominal count of each element of data identified for the chart audit.

	The care provided is discussed at the weekly team meeting as well as documented in the patient visit documentation. The documentation is reviewed at discharge by the Quality Team. • Weekly team meeting discussion on use of plan. • EHR (EHR)		
8. 80% of the Cardiopulmonary Team and the Pilot Team provided feedback on the implementation of the Transitional Care Process Pilot to improve process for the next phase by Oct. 2018.	**Data Collection Instrument** Transitional Care Model Perception Survey with open-ended questions allowing clinicians to provide feedback on: • Referral of the COPD patient • Admission Visit • Scheduling of subsequent visits and telephone follow-up using standardized frequency. • Intervention: education on use of Dyspnea Tool Additional Questions: • What about the Transitional Care Process Pilot brought value to the patient care episode? • What could have been done differently to increase the value of the process? **This tool is not yet developed.** Format: Paper survey and electronic survey (2 versions) Location: Shared Drive **Data**	To collect feedback of the pilot clinicians on the value of implementing a Transitional Care Process Pilot. To identify additional needs and/or resources needed to improve the process.	Descriptive statistics: Summarize information, nominal count of each element of data in Likert scale. Explanatory methods: A matrix display will be created. Categorized by professional discipline, feedback will be summarized for each question, with representative quotes used to illustrate participant's perspectives.

	Written responses by the pilot clinicians. Identification of results of the Transitional Care Process Pilot from the perspective of the clinicians (Kirkpatrick Level 1).		
9. The unanticipated COPD-related readmission rate for COPD patients who meet pilot project criteria, will be at or below the national benchmark of 30% at 30 days from admission to home health services.	**Data Collection Instrument** • Care Managers send email to Quality Team regarding changes in status • Generated by the home health Quality Team. **This tool is a EHR report created for use by this project.** Format: EHR Report Location: Shared Drive **Data** • Location of patient's home (zip code) • Clinicians assigned to care episode • Reason for readmission • ICD-10 • # of home health visits made • # of telephone calls made • Modified Borg Dyspnea Scale score Identification of results of the Transitional Care Process Pilot from the perspective of the clinicians.	To quantify the rate of readmissions following education and implementation of the COPD-specific Transitional Care Process Pilot for the population admitted to home health from acute care.	Descriptive statistics: Summarize information, nominal count of each element of data identified for the log/report audit.
10. The use of the emergency department for treatment of COPD-related symptoms for COPD	**Data Collection Instrument** • Care Managers send email to Quality Team regarding changes in status	To quantify the rate of unanticipated use of emergency services for COPD-related treatment within 30 days of admission	Descriptive statistics: Summarize information, nominal count of each element of data

patients who meet pilot project criteria reduces by [insert local benchmark] at 30 days of admission to home health services.	• Generated by the home health's Quality Team **This tool is a EHR report created for use by this project.** Format: EHR Report Location: Shared Drive **Data** • Location of patient's home (zip code) • Clinicians assigned to care episode • Reason for visit • Admission status • # of home health visits made • # of telephone calls made • Modified Borg Dyspnea Scale score Identification of results of the Transitional Care Process Pilot from the perspective of the clinicians.	to home health services following acute care discharge.	identified for log/report audit.

Appendix D

Modified Borg Dyspnea Scale

Appendix E

Transitional Care Process Pilot: Chart Audit Form (Original)

Pilot Process Patient Number (do not include any patient identifiers): _____

Section 1: Complete this section on referral to home care.

Reason for Inpatient Admission Related to COPD diagnosis:

_____

Diagnostic Code(s):

_____

Description of Events Leading Up to Hospitalization or Reason for Hospitalization:

_____

Section 2: Complete this section after admission visit completed.

List the home visit frequency for the patient care episode (each discipline):

List the telephone visit frequency for the patient care episode (each discipline):

Section 3: Complete this section after patient's discharge from service.

List the actual home visit frequency made for the patient care episode (each discipline):

List the actual telephone visit frequency made for the patient care episode (each discipline):

Summary of Interventions Delivered:

☐ Education on Dyspnea Tool Provided
Additional Information:

Appendix F

Timeline for DNP Scholarly Project

Project: Nurse-led Transitional Care for Older Adults with COPD																				
Activity	**March 2017**	**April 2017**	**Summer 2017**	**Sept 2017**	**Oct 2017**	**Nov 2017**	**Dec 2017**	**Jan 2018**	**Feb 2018**	**Mar 2018**	**April 2018**	**Summer 2018**	**Sept 2018**	**Oct 2018**	**Nov 2018**	**Dec 2018**	**Jan 2019**	**Feb 2019**	**Mar 2019**	**April 2019**
PHASE: PLANNING																				
Present Project Idea (Campus Visit)	**X**																			
Literature Review, mission, vision, problem statement, timeline for project																				
Obtain approval for clinical site																				
Meet with HHA (HHA) Director																				
Project Logic Model and Timeline																				
Project Goals and Outcomes																				
Project Proposal											**X**									
Meet with Leadership																				
Meet with Identified Stakeholders: Monthly																				

Working groups: Monthly to Every 2 Weeks																				
Marketing																				
Form care delivery team																				
Develop and produce assessment, education (patient handouts), and evaluation tools																				
Train the care delivery team																				
PHASE: IMPLEMENTATION (after 5th semester)												X								
Meet with implementation team: Bi-monthly																				
Implement Transitional Care Model																				
Follow through implementation in the HHA																				
4 Week Implementation (approx. 3 segments)																				
Meet with implementation team: Monthly																				

Implementation Completion (could potentially be sooner)																			
PHASE: DATA COLLECTION																			
PHASE: ANALYSIS																			
Impact of Intervention (includes financial)																			
PHASE: DISSEMENATION																			
Final Report																		X	

Appendix G

Checklist for Education Presentation Design

- ☐ Definition of Transitional Care
- ☐ Population defined: COPD
- ☐ Admission Criteria
- ☐ Visit Frequency
- ☐ Telephone Visit Frequency
- ☐ Admission Visit: use of Modified BORG
- ☐ Hand-off to Nurse Care Manager
- ☐ Chart Audit Form
- ☐ Communicating with the Project Manager- Do NOT share patient identifiers
- ☐ Storage of project forms (Shared Drive)
- ☐ Next Steps

Appendix H

Survey: Pre-Test of Knowledge of Transitional Care Process Pilot

PreTest- Knowledge of Transitional Care Process

* 1. I am knowledgeable about the definition of transitional care.

1=Strongly Disagree	2	3	4	5	6	7	8	9	10=Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 2. I am aware of a patient's reason for referral to home health services.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 3. I have sufficient information on the reason for a patient's inpatient admission (most recent).

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 4. I am knowledgeable on the use of the Modified BORG Dyspnea Scale.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 5. I am comfortable with providing education on the Modified BORG Dyspnea Scale during the admission.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 6. I am comfortable with providing education on the Modified BORG Dyspnea Scale on subsequent home visits.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 7. I use a standardized method for scheduling a home visit frequency after completing the admission visit.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 8. I use a standardized method for scheduling a telephone follow-up frequency after completing the admission visit.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

9. What is your discipline?

- ☐ RN
- ☐ PT
- ☐ OT
- ☐ RT
- ☐ Aide
- ☐ Office Staff/Non-Clinical
- ☐ Social Worker
- ☐ Other (please specify)

10. Did you attend a meeting with a presentation by Michelle Hunt for this project?

- ○ Yes
- ○ No
- ○ I do not remember

Appendix I

Transitional Care Process Pilot: Reaction to Education Presentation Survey

Reaction to Education Presentation-Transitional Care Process- Pilot Survey

* 1. I took responsibility for being fully involved during this presentation.

1=Strongly Disagree	2	3	4	5	6	7	8	9	10=Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 2. I was engaged with what was going on during the presentation.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 3. The meeting environment helped me learn.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 4. My learning was enhanced by the facilitator.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 5. This program held my interest.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

6. What suggestions do you have that would have increased your involvement?

1

* 7. I understand how to apply what I learned in my role.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 8. The education session will be helpful for my future success with patients with COPD.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 9. I will be able to use what I learned immediately.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 10. I understand why this presentation was offered.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 11. I am clear about what is expected of me on the job as a result of attending this presentation.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

12. What did you find to be the**most** relevant to your role?

13. What did you find to be the**least** relevant to your role?

2

Survey adapted from Kirkpatrick® Hybrid Evaluation Tool Template (2010-2012)

Appendix J

Survey: Post-Test of Knowledge of Transitional Care Process Pilot

Post-Test- Knowledge of Transitional Care Process

1. I completed the Pre-Test Survey.

- ◯ Yes
- ◯ No
- ◯ I do not remember.

2. Did you attend a meeting with a presentation by Michelle Hunt for this project?

- ◯ Yes
- ◯ No
- ◯ I do not remember

3. Please select how you obtained information about the COPD Transitional Care Process:

- ☐ Staff Meeting Presentation on May 16th (Anderson Center or Skype)
- ☐ Start of Care Team Meeting on May 29th (Garnet Room or Skype)
- ☐ One-on-One with Michelle (in-person, over email, or on the phone)
- ☐ I viewed the PowerPoint presentation.

Other (please specify)

* 4. I am knowledgeable about the definition of transitional care.

1=Strongly Disagree	2	3	4	5	6	7	8	9	10=Strongly Agree
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

* 5. I am aware of a patient's reason for referral to home health services.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

1

* 6. I have sufficient information on the reason for a patient's inpatient admission (most recent).

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 7. I am knowledgeable on the use of the Modified BORG Dyspnea Scale.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 8. I am comfortable with providing education on the Modified BORG Dyspnea Scale during the admission.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 9. I am comfortable with providing education on the Modified BORG Dyspnea Scale on subsequent home visits.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 10. I use a standardized method for scheduling a home visit frequency after completing the admission visit.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

* 11. I use a standardized method for scheduling a telephone follow-up frequency after completing the admission visit.

1= Strongly Disagree	2	3	4	5	6	7	8	9	10= Strongly Agree
○	○	○	○	○	○	○	○	○	○

12. What is your discipline?

- [ ] RN
- [ ] PT
- [ ] OT
- [ ] RT
- [ ] Aide
- [ ] Office Staff/Non-Clinical
- [ ] Social Worker
- [ ] Other (please specify)

13. Is there anything you would like to tell us?

3

Survey adapted from Kirkpatrick® Hybrid Evaluation Tool Template (2010-2012)

Appendix K

Survey: Feedback on COPD Transitional Care Process Pilot

Feedback on COPD Transitional Care Process Pilot

* 1. Did you participate in the COPD Pilot?

- ◯ Yes
- ◯ No

* 2. What is your discipline?

- ☐ RN
- ☐ PT
- ☐ OT
- ☐ RT
- ☐ Other (please specify)
- ☐ Aide
- ☐ Office Staff/Non-Clinical
- ☐ Social Worker

* 3. What was your role in the COPD pilot?

- ☐ Clinician: I made a Start of Care (SOC) visit for the COPD patient.
- ☐ Clinician: I made at least one revisit for the COPD patient.
- ☐ Clinician: I made a follow-up telephone call to a COPD patient.
- ☐ Office: I scheduled visits and/or telephone calls for a COPD patient.
- ☐ Other (please specify)
- ☐ Office: I processed a referral for a COPD patient on the pilot.
- ☐ I was a member of the Stakeholder Group (Cardiopulmonary Team).
- ☐ I completed a chart audit or reviewed the COPD patient's health record.

* 4. Overall, the COPD Transitional Care Process worked well for this agency.

1=Strongly Disagree	2= Disagree	3=Neutral	4=Agree	5=Strongly Agree
◯	◯	◯	◯	◯

* 5. There is a clear process for identification of a COPD patient for Transitional Care.

1=Strongly Disagree	2= Disagree	3=Neutral	4=Agree	5=Strongly Agree	N/A- This does not apply to my position.
◯	◯	◯	◯	◯	◯

* 6. There is a clear process for scheduling the visit frequency for a COPD patient for Transitional Care.

1=Strongly Disagree	2= Disagree	3=Neutral	4=Agree	5=Strongly Agree	N/A- This does not apply to my position.
○	○	○	○	○	○

* 7. There is a clear process for scheduling follow-up telephone calls for a COPD patient for Transitional Care.

1=Strongly Disagree	2= Disagree	3=Neutral	4=Agree	5=Strongly Agree	N/A- This does not apply to my position.
○	○	○	○	○	○

* 8. The Modified BORG Dyspnea Tool works well for a COPD patient for Transitional Care.

1=Strongly Disagree	2= Disagree	3=Neutral	4=Agree	5=Strongly Agree	N/A- This does not apply to my position.
○	○	○	○	○	○

9. From your experience, what worked well using the COPD Transitional Care Model?

10. From your experience, what did NOT work well using the COPD Transitional Care Model?

11. What about the Transitional Care Model (e.g. standardized visit frequency, standardized telephone follow-up, joint visits, Dyspnea scale, etc) brought value to the patient care episode?

12. What could have been done differently to increase the value to the patient care episode?

13. Is there anything you would like to tell us?

Survey adapted from Kirkpatrick® Hybrid Evaluation Tool Template (2010-2012)

Appendix L

Scholarly Project 3-Year Budget Plan

Source of Expense	Expense Description	Dollar Value	Type of Cost (fixed or variable)	Description of Cost	Estimated Volume	Expense Per Unit
Stakeholder Group Collaboration		**Cost ($)**				
Administrative Supplies & Support	Printing Service: 0.11/page Referral form via EHR Hand-off Tool	$0.11	Fixed	Supplies	100 100	$11 $11
Rental of Meeting Room, $60 per meeting, 3x/year:	Meeting with Team to develop processes	$60	Fixed	Room rental rate	3	$180
Rental of Meeting Room, $60 per meeting, 3x/year:	Develop educational plan for pilot	$60	Fixed	Room rental rate	3	$180
Salaries of Team Project Manager: $30/hr (1) RN: $30/hr (1) RT: $28/hr (1) PT: $40/hr (1)	Salary for Pilot Team, $128/hr for 2 hours	$128	Variable	Salaries	6	$768
Rental of Meeting Room, $40 per meeting, 2x/year: Meeting with IT for form creation/modification in EHR		$40	Fixed	Room rental rate	2	$80
Salaries of Team-Project Manager: $30/hr (1)	Salary for Pilot Team Members,	$80	Variable	Salaries	2	$160

RN: $30/hr (1) IT: $20/hr (1)	$80/hr for 2 hours ***Category Total Requested***					$1,390
Home Health Agency Pilot Team		**Cost ($)**				
Rental of Meeting Room, $60 per meeting, 6x/year: Develop Admission Process; Education Session on intervention	Scheduled Project Meetings	$60	Fixed	Room rental rate	6	$360
Salaries of Team- Project Manager: $30/hr (1) RN: $30/hr (1) PT: $40/hr (1) Non-Clinical: $15/hr (2)	Salary for Pilot Team, $115/hr for 2 hours	$115	Variable	Cost of salary of Project Team for project planning	12	$1,380
Salaries	Fringe	$115	Variable	Additional time needed, prn	2	$230
Materials/Supplies	Printing Service: 0.11/page Handouts ***Category Total Requested:***	$0.11	Variable	Cost to provide education materials	150	$16.50 $11 $1,998
Assessment Tools/Documentation		**Cost ($)**				
Audit documentation standards for EHR (COPD): Tracking Tool (non-clinical staff $12/hr) Evaluation Salary (clinical staff $30/hr)	Audit of referral form in EHR; completion of tracking tool Salary for staff person, $12/hr for 15 minutes per chart.	$3 $7.50	variable	Cost of time for form completion Cost of time for audit	100 100	$300 $750

	SurveyMonkey: Administration of SP Pilot Surveys ***Category Total***	34/mo	Fixed	Price Plan	6	$204 $1,254
Project Manager On-Site		**Cost ($)**				
Project Manager On-Site for 12 weeks	2 days per week x 12 weeks ($30/hr) ***Category Total***	$30		Salary	192	$5,760 $5,760
	Grand Total					$10,402

Appendix M

Scholarly Project Statement of Operations

Statement of Operations	
Revenues	
Net patient revenue (Medicare Episodic Payment): 2,965.12 x 20 patients	59,302.40
In-Kind Contribution-Materials and Supplies	49.50
In-Kind Contribution- Labor of Episode Mgmt RN and Staff; Salaries for Pilot Clinicians (planning, meetings, education)	3,588
In-Kind Contribution-Meeting Rooms/Technology	800
In-Kind Contribution-Project Manager Salary	5,760
In-Kind Contribution - Services Labor expense for home visits: RN 134.42/visit x 8 PT 146.95/visit x 4 OT 147.95/visit x 2 RT 147.95/visit x 1 2,107.01x 20 patients	42,140.20
Total	***$111,640.10***
Expenses	
Operating expenses: Education/Training (inc. fringe)	230
Salaries for Pilot Clinicians: Project planning, meetings, and education	3,288
Project Manager Salary	5,760
Evaluation of Charts (Referral, admission, episode mgmt.) by Quality Team and Office Staff	1,050
In-Kind Expense - Services Labor expense for home visits: RN 134.42/visit x 8 PT 146.95/visit x 4 OT 147.95/visit x 2 RT 147.95/visit x 1 2,107.01x 20 patients	42,140.20
In-Kind Contribution- Other Services-webiste fee; SurveyMonkey	234

Supply expense In-Kind Expense-Materials and Supplies	49. 50
In-Kind Expense –Meeting Rooms/Technology	800
Total	**$53 ,551.70**
Operating Income	***$58 ,088.40***

Appendix N

Overview of Implementation Updates and Changes

The original design- steps of the intervention:

1. A referral will be received by the Intake staff. The *Transitional Care Process Pilot: Chart Audit Form* will be initiated by completing *Section 1*.
2. The RN Supervisor confirms pilot eligibility and assigns an RN Case Manager (NCM) and schedules the admission visit.
    a. The *Transitional Care Process Pilot: Chart Audit Form, Section 2* will be started.
    b. The RN Supervisor will email the clinician(s) to notify them of the assignment.
3. Week 1:
    a. Admission to home health care (Start of Care visit) and uses the Modified BORG Dyspnea Scale.
    b. The SOC clinician establishes a visit and telephone follow-up schedule.
    c. After the SOC, the RN Supervisor will confirm that the visit frequency and telephone follow-up schedule met the pilot criteria.
    d. The RN Supervisor will complete the *Transitional Care Process Pilot: Chart Audit Form, Section 2*. The *Form* will be filed with the Quality Team.
    e. The initial revisits are to be made by the NCM and MDP. The Modified BORG Dyspnea Scale will be used at revisits.
4. Week 2: A scheduled follow-up telephone call will be made by the NCM.
5. Week 3: A joint visit will be made by the NCM and MDP.
6. Week 4: A scheduled follow-up telephone call will be made by the NCM.
7. After Week 4, the plan of care resumes, as needed for the patient.
8. A Quality Team RN will complete a chart audit on the patient after the home health care episode is completed (patient discharged from services). The results will be documented on the *Transitional Care Process Pilot: Chart Audit Form* and the form will be scanned and stored in the COPD Project folder.

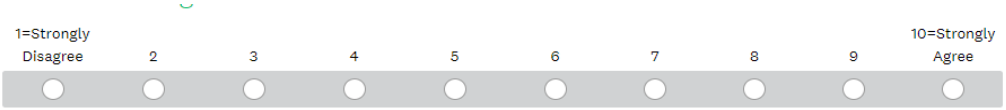
The actual results- steps of the intervention:

1. A referral was received by the Intake staff. The *Transitional Care Process Pilot: Referral and Chart Audit Form* was initiated by completing *Section 1*.
2. The RN Supervisor confirmed pilot eligibility and assigned an RN Case Manager (NCM) and scheduled the admission visit.
    a. The *Transitional Care Process Pilot: Referral and Chart Audit Form, Section 2* was started.
    b. The RN Supervisor emailed the clinician(s) to notify them of the assignment and provided the educational handouts and telephone protocol via email.
    c. The PM replied to the email with a reminder of her availability and the need to omit all patient identifiers from any communication with the PM.
3. Week 1:
    a. Admission to home health care (Start of Care visit) and initiation of the Modified BORG Dyspnea Scale.
    b. The SOC clinician established a visit and telephone follow schedule. Emailed the Scheduler with the frequencies for input into the EMR.
    c. After the SOC, the RN Supervisor confirmed that the visit frequency and telephone follow-up schedule met the pilot criteria and entered both frequencies in the Directions Tab.
    d. The RN Supervisor completed the *Transitional Care Process Pilot: Referral and Chart Audit Form, Section 2*.
    e. The initial revisits are made by the NCM and MDP. The Modified BORG Dyspnea Scale is used at revisits.
4. Week 2: A scheduled follow-up telephone call was made by the NCM.
    a. The NCM followed the Telephone Protocol which included the Modified BORG Dyspnea Scale.
5. Week 3: A joint visit was made by the NCM and MDP.
6. Week 4: A scheduled follow-up telephone call was made by the NCM.
    a. The NCM followed the Telephone Protocol which included the Modified BORG Dyspnea Scale.
7. After Week 4, the plan of care resumes as needed for the patient.
8. The RN Supervisor completed a chart audit on the patient after the home health care episode was complete (patient was discharged from services). The results were documented on the *Transitional Care Process Pilot: Referral and Chart Audit Form* and the form was scanned and stored in the COPD Project folder.

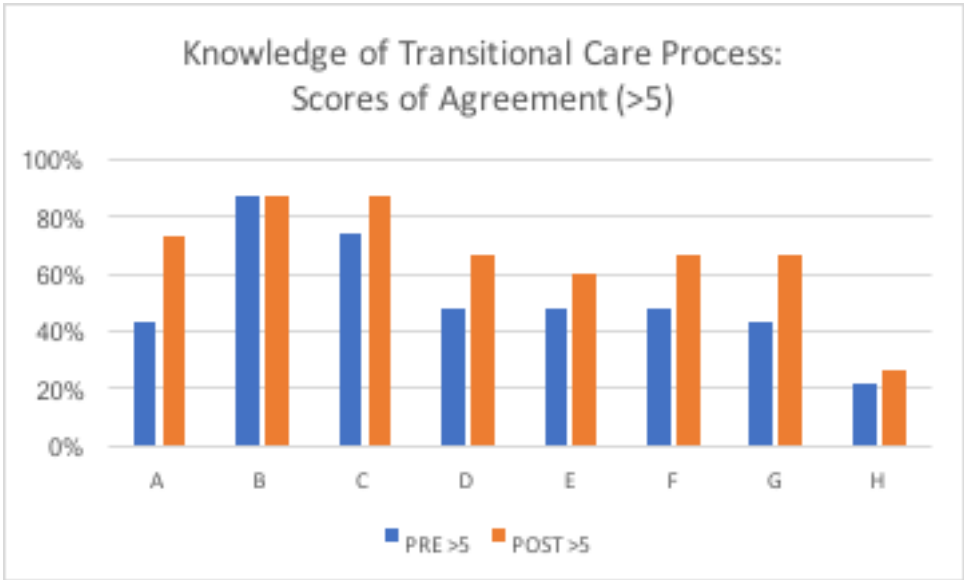
Appendix O

Data Analysis: Knowledge on Transitional Care

10-point Likert Scale



A. I am knowledgeable about the definition of transitional care.
B. I am aware of a patient's reason for referral to home health services
C. I have sufficient information on the reason for a patient's admission (most recent).
D. I am knowledgeable on the use of the Modified BORG Dyspnea Scale.
E. I am comfortable providing education on the Modified BORG Dyspnea Scale during the admission.
F. I am comfortable providing education on the Modified BORG Dyspnea Scale on subsequent home visits.
G. I use a standardized method for scheduling a home visit frequency after completing the admission visit.
H. I use a standardized method for scheduling a telephone follow-up frequency after completing the admission visit.



Appendix P

Transitional Care Process Pilot: Referral and Chart Audit Form

Pilot Process Patient Number (do not include any patient identifiers): _____

Transitional Care Process Pilot:
Referral and Chart Audit Form

Section 1: Intake Office | Section 2: RN Supervisor | Section 3: Quality Team RN

Section 1: Complete this section on referral to home care.

Intake Staff's Initials: _____ Date of Referral: _____

Reason for Inpatient Admission Related to COPD diagnosis:

_____

_____

Diagnostic Code(s): _____

Description of Events Leading Up to Hospitalization or Reason for Hospitalization:

_____

_____

Section 2: Assign to SOC Clinician and RN CM and then complete this section after admission visit completed.

RN Supervisor's Initials: _____ Name of RN Care Manager: _____

Name of SOC Clinician: _____ SOC Date: _____

☐ Direction Tab Updated ☐ Alerts Created

List the home visit frequency for the patient care episode (each discipline):

List the telephone visit frequency for the patient care episode (each discipline):

☐ Education on Dyspnea Tool Provided

Section 3: Complete this section after patient's discharge from service; upload into COPD Project Folder

Quality RN's Initials: _____ Date of Discharge: _____

List the actual home visit frequency made for the patient care episode (each discipline):

List the actual telephone visit frequency made for the patient care episode (each discipline):

Summary of Interventions Delivered:

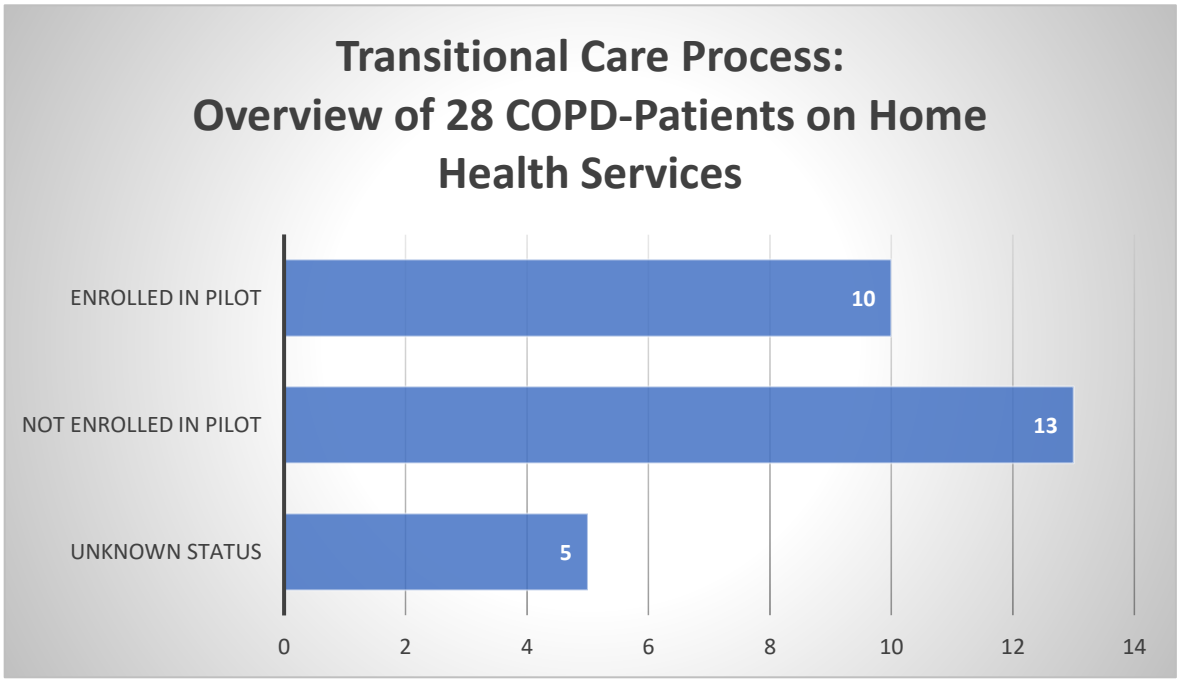
☐ Dyspnea Tool was used on home visits ☐ Dyspnea Tool was used on phone calls

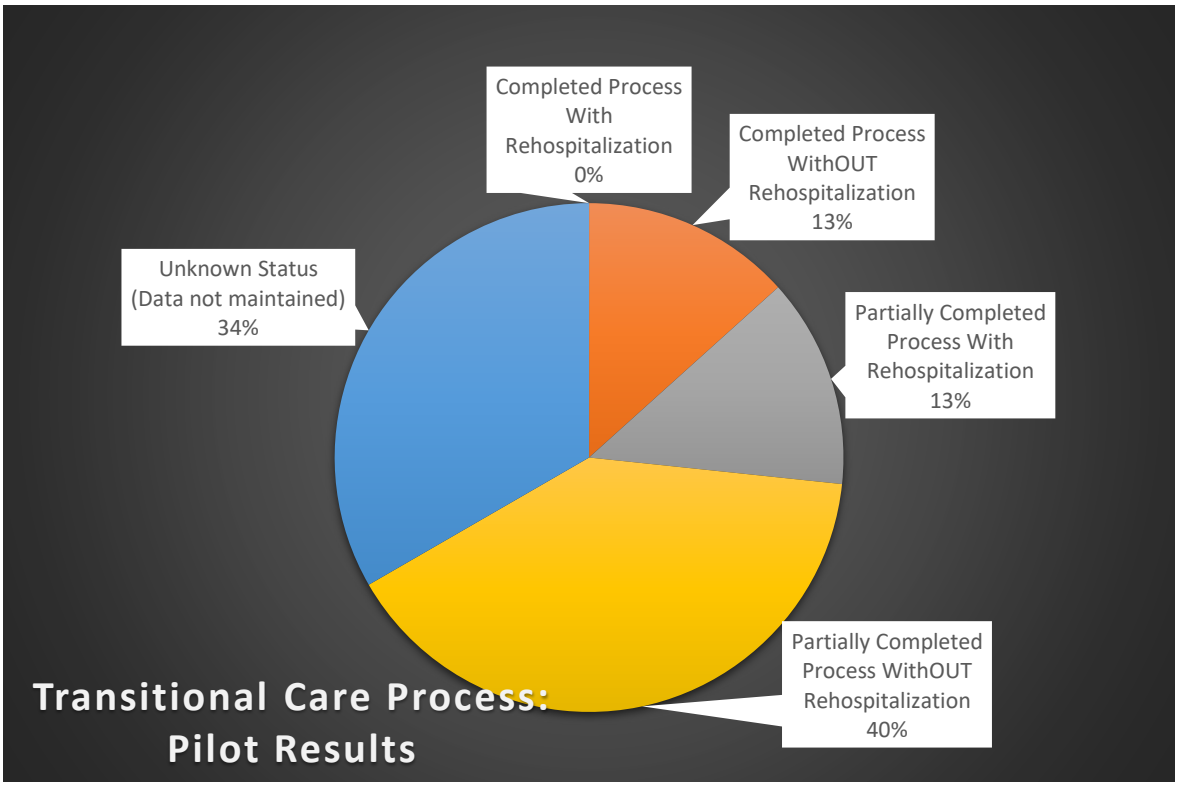
☐ Patient use ED while on service ☐ Patient had an inpatient admission for COPD while on service

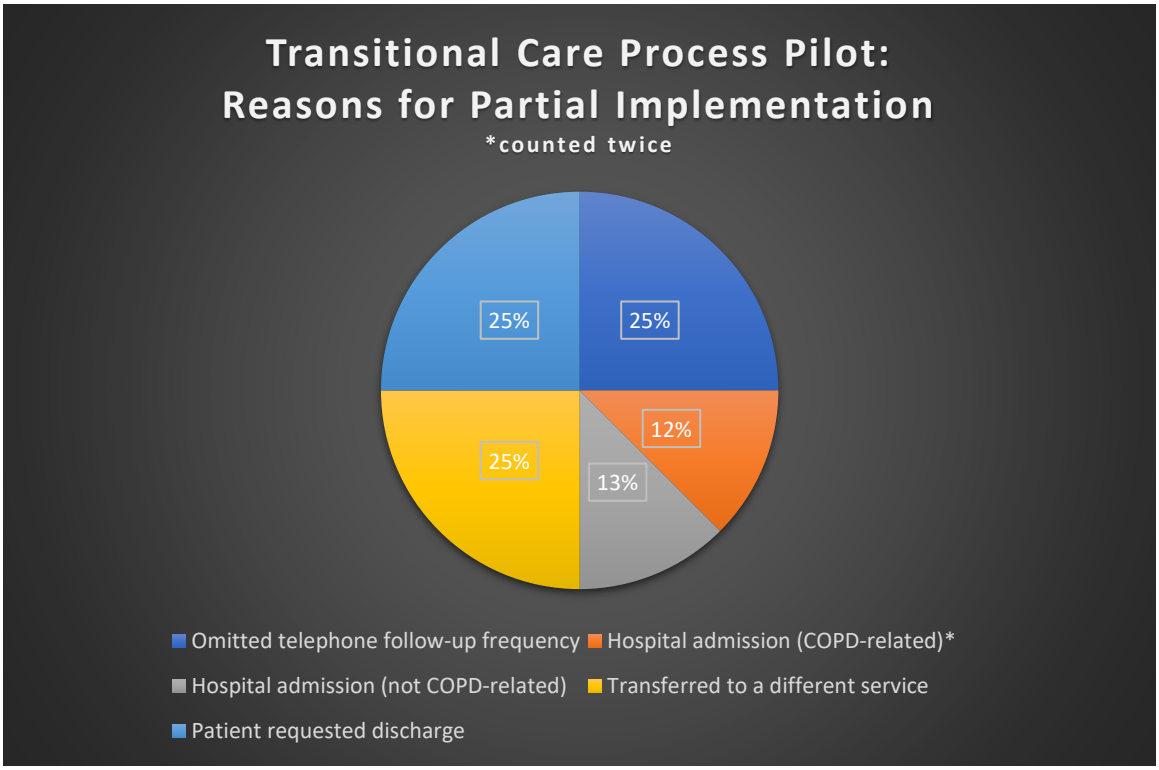
Additional Information (Chart on back of form)

Appendix Q

Transitional Care Process Pilot Results (Outcomes 6 and 7)

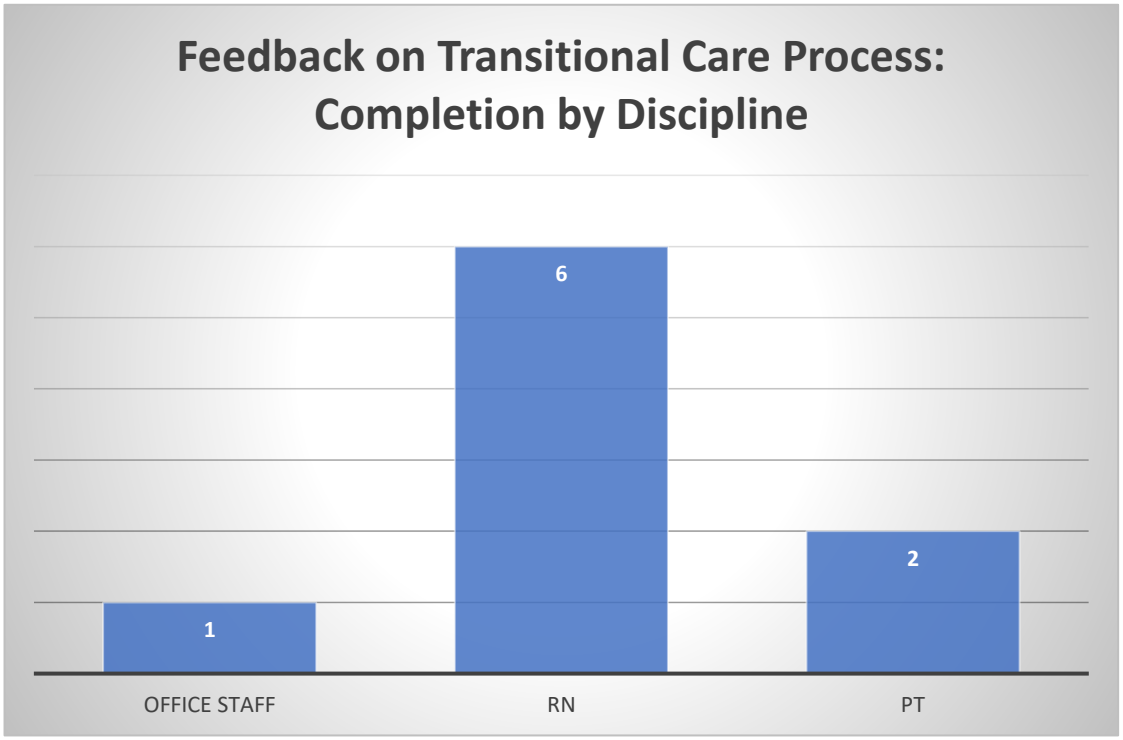


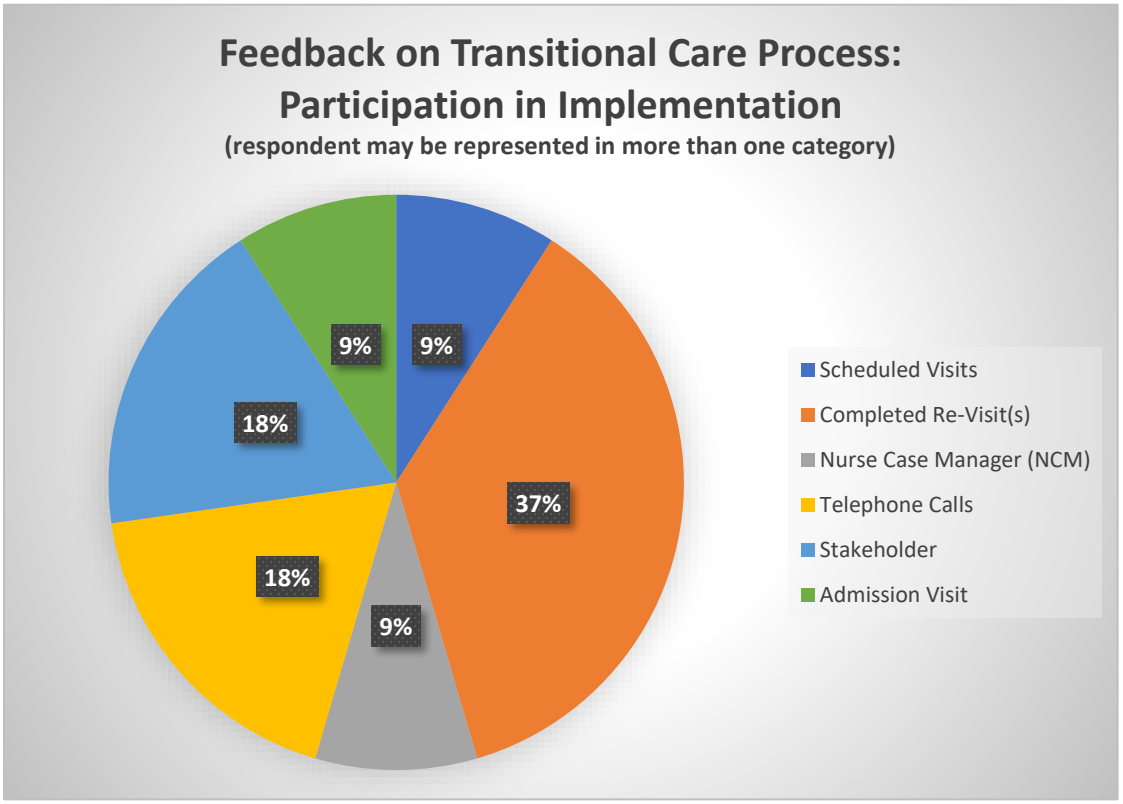


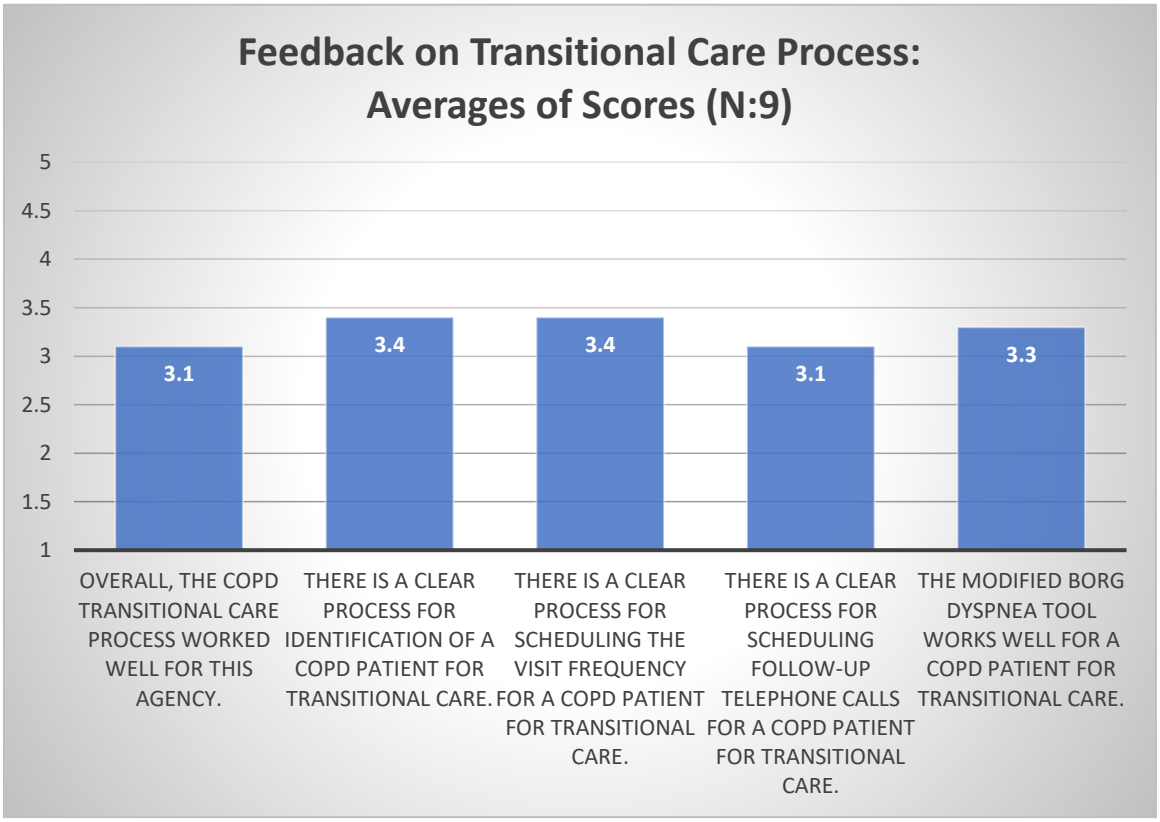

Transitional Care Process Pilot:
Reasons for Partial Implementation
*counted twice
25%
25%
12%
13%
25%
Omitted telephone follow-up frequency
Hospital admission (COPD-related)*
Hospital admission (not COPD-related)
Transferred to a different service
Patient requested discharge

Appendix R

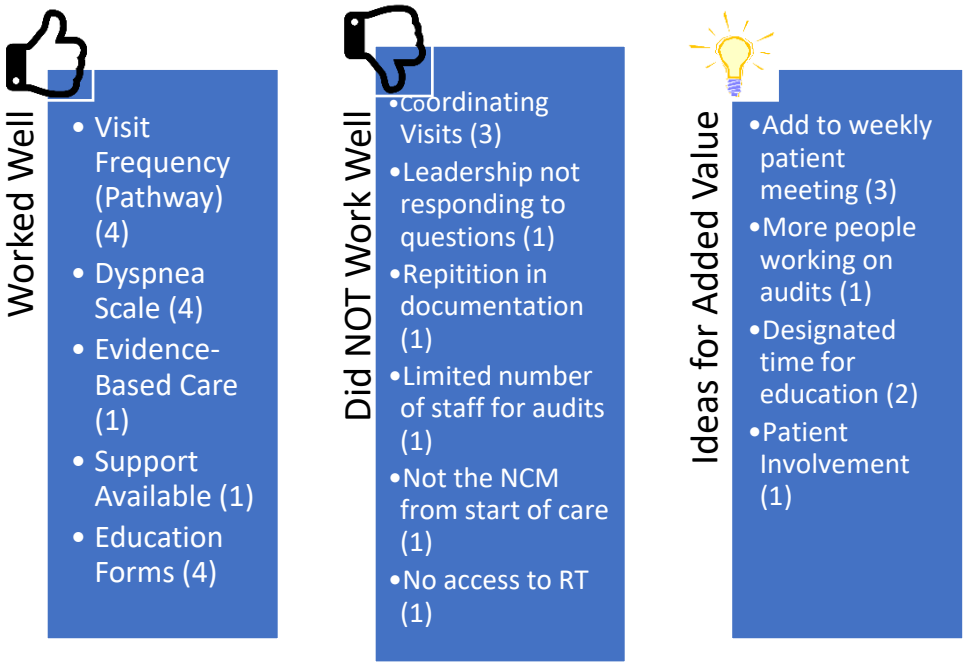
Results from Feedback on Transitional Care Process Pilot Survey





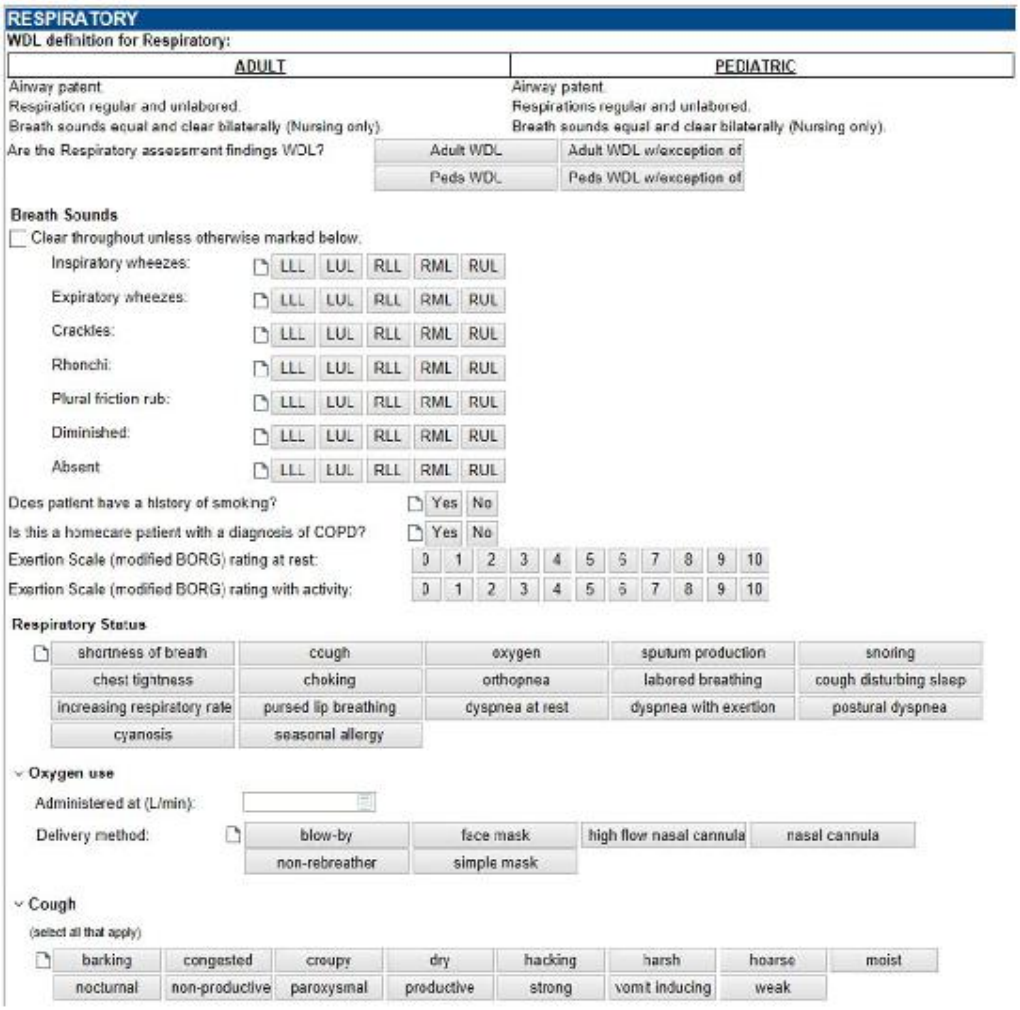


Qualitative Summary of Themes



Appendix S

HHA Respiratory Documentation with Updates for COPD Tracking



RESPIRATORY

WDL definition for Respiratory:

ADULT	PEDIATRIC
Airway patent. Respiration regular and unlabored. Breath sounds equal and clear bilaterally (Nursing only).	Airway patent. Respirations regular and unlabored. Breath sounds equal and clear bilaterally (Nursing only).

Are the Respiratory assessment findings WDL? — Adult WDL | Adult WDL w/exception of | Peds WDL | Peds WDL w/exception of

Breath Sounds

☐ Clear throughout unless otherwise marked below.

	LLL	LUL	RLL	RML	RUL
Inspiratory wheezes:	☐	☐	☐	☐	☐
Expiratory wheezes:	☐	☐	☐	☐	☐
Crackles:	☐	☐	☐	☐	☐
Rhonchi:	☐	☐	☐	☐	☐
Plural friction rub:	☐	☐	☐	☐	☐
Diminished:	☐	☐	☐	☐	☐
Absent	☐	☐	☐	☐	☐

Does patient have a history of smoking? ☐ Yes | No

Is this a homecare patient with a diagnosis of COPD? ☐ Yes | No

Exertion Scale (modified BORG) rating at rest: 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10

Exertion Scale (modified BORG) rating with activity: 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10

Respiratory Status

☐

shortness of breath	cough	oxygen	sputum production	snoring
chest tightness	choking	orthopnea	labored breathing	cough disturbing sleep
increasing respiratory rate	pursed lip breathing	dyspnea at rest	dyspnea with exertion	postural dyspnea
cyanosis	seasonal allergy			

Oxygen use

Administered at (L/min):

Delivery method: ☐ blow-by | face mask | high flow nasal cannula | nasal cannula | non-rebreather | simple mask

Cough

(select all that apply)

☐

barking	congested	croupy	dry	hacking	harsh	hoarse	moist
nocturnal	non-productive	paroxysmal	productive	strong	vomit inducing	weak	

Appendix T

Email Attachment: Summary of Intervention Steps

COPD Transitional Care Pilot- Information Card

Appendix U

Email Attachment: Overview of COPD Transitional Care Process Pilot

Appendix V

Email Attachment: Protocol for Telephone Calls

- The NCM initiates two calls for the patient [Week 2 and Week 4]
    - The initial one takes place after the first home visit in Week 2
    - The second one occurs during the fourth week, following the second home visit
- Use the same framework for assessment, intervention and outcomes as done in a home visit. This would be the plan of care initiated on SOC:
    - "Are there any new concerns since our last visit?"
    - Review the Modified BORG Dyspnea Scale:
    - "On our last visit you reported that your feeling of shortness of breath was a ____. What is today using the scale from 0 to 10 [Use Scale to direct the assessment]
- Review any other interventions from Plan of Care including use of prescribed medications, prescribed activities/exercises, and follow-up appointments with provider
- Mutual goals are reviewed in each of the calls
    - Review each short-term goal and long-term goal established at SOC
    - Establish a new goal, as appropriate
- Schedule or confirm next home visit date
- Document as Contact Type: Patient Encounter
- Send to the Care Team

Appendix W

Comparison of Projected and Estimated Actual Expense Report

PROJECTED EXPENSE REPORT

Source of Expense	Expense Description	Dollar Value	Type of Cost (Fixed or Variable)	Description of Cost	Estimated Volume	Expense Per Unit
Stakeholder Group Collaboration		**Cost ($)**				
Administrative Supplies & Support	Printing Service: Cost/Page	$0.11	Fixed	Supplies		
	Referral Form				100	$11.00
					100	$11.00
Rental of Meeting Room, $60 per meeting, 3 x 1 year	Meeting with team to develop process	$60	Fixed	Room Rental Rate	3	$180.00
Rental of Meeting Room, $60 per meeting, 3 x 1 year	Develop educational plan for pilot	$60	Fixed	Room Rental Rate	3	$180.00
Salaries of Team:						
Project Manager: $30/hr	Salary for Pilot Team, 2 hours	$128	Variable	Salaries	6	$768.00
RN: $30/hr						
RT: $28/hr						
PT: $40/hr						
Rental of Meeting Room, $40 per meeting, 2 x 1 year: Meeting with IT for form creation/modification in EHR		$40	Fixed	Room Rental Rate	2	$80.00
Salaries of Team:						
Project Manager- $30/hr	Salary for Pilot Team, 2 hours	$80	Variable	Salaries	2	$160.00
RN: $30/hr						
IT: $20/hr						
	Category Total Requested					**$1,390.00**
Home Health Agency Pilot Team		**Cost ($)**				
Rental of Meeting Room, $60 per meeting, 6 x 1 year: Develop Admission Process, Education Session on Intervention	Scheduled Project Meetings	$60	Fixed	Room Rental Rate	6	$360.00
Salaries of Team:		$115	Variable	Cost of Salary of Project Team for project planning	12	$1,380.00
Project Manager- $30/hr						
RN: $30/hr	Salary for					
PT: $40/hr	Pilot Team, 2					
Non-Clinical: $15/hr	$115/hr for 2 hours					
	Fringe (salary)	$115	Variable	Additional Time needed	2	$230.00
Materials/Supplies	Printing Service: Cost/Page					
	Handouts	$0.11	Variable	Cost to provide education materials	150	$16.50
						$11.00
	Category Total Requested:					**$1,997.50**
Assessment Tools/Documentation		**Cost ($)**				
Audit documentation standards for EHR COPD): Tracking Tool (non-clinical staff $12/hr)	Audit of referral form in EHR; completion of tracking tool- salary for staff person,	$3	Variable	Cost of time for form completion	100	$300.00
Evaluation Salary (clinical staff $30/hr)	$12/hr for 15 minutes per chart	$7.50	Variable	Cost of time for audit	100	$750.00
	SurveyMonkey: Administration of 5 Pilot Surveys	34/mo.	Fixed	Price Plan	6	$204.00
	Category Total Requested:					**$1,254.00**
Project Manager On-Site		**Cost ($)**				
Project Manager On-Site for 12 weeks	2 days per week x 12 weeks ($30/hr)	$30	Variable	Salary	$192	$5,760.00
	Grand Total					**$10,401.50**

ESTIMATED ACTUAL EXPENSE REPORT

Source of Expense	Expense Description	Dollar Value	Type of Cost (Fixed or Variable)	Description of Cost	Estimated Volume	Expense Per Unit	Comments
Stakeholder Group Collaboration		**Cost ($)**					
Administrative Supplies & Support							
Skype Meetings	Meeting with team to develop process	$0	Fixed	Room Rental Rate	6	$0.00	All meetings with Stakeholder Group held
Skype Meetings	Follow-up after implementation	$0	Fixed	Room Rental Rate	3	$0.00	All meetings with Stakeholder Group held
Salaries of Team:							
Project Manager: $30/hr	Salary for Pilot Team, 2 hours	$84	Variable	Salaries	9	$756.00	Estimation of salaries for time spent; each meeting approx. 30 min.
RN: $30/hr							
RT: $28/hr	$168/hr 30 min.						
PT: $40/hr x 2							
Meeting with IT for form creation/modification in EHR		$0	Fixed	Room Rental Rate	0	$0.00	This was completed prior to SPI by HHA
	Category Total Requested					**$756.00**	
Home Health Agency Pilot		**Cost ($)**					
Rental of Meeting Room, $60 per meeting: Develop Admission Process,	Scheduled Project Meetings	$60	Fixed	Room Rental Rate	2	$120.00	Met with SOC and Intake Office meeting room was in HHA, no actual cost (in-kind)
Salaries of Team:	Salary for Pilot Team, $208/30 min	$115	Variable	Cost of Salary of Project Team for project planning	2	$1,380.00	
Project Manager- $30/hr							
RN: $30/hr x 6							
PT: $40/hr x 4							
Non-Clinical: $15/hr x 3							
Training one-on-one: RN: $30/hr	Salary for RN, $15/30 min	$15			6	$90.00	
Materials/Supplies	Printing Service: Cost/Page						
	Handouts	$0.11	Variable	Cost to provide education materials	20	$2.20	
	Chart Audit Form	0.11	Variable	Printing of Chart Audit Forms	50	$5.50	
	Category Total Requested:					**$1,597.70**	
Assessment Tools/Documentation		**Cost ($)**					
Audit documentation standards for EHR COPD): Tracking Tool (non-clinical staff $12/hr)	Audit of referral form in EHR; completion of tracking tool- salary for staff person, $12/hr for 15 minutes per chart	$3	Variable	Cost of time for form completion	23	$69.00	
Evaluation Salary (clinical staff $30/hr)		$7.50	Variable	Cost of time for audit	23	$172.50	
	SurveyMonkey: Administration of 5 Pilot Surveys	111/3 mo	Fixed	Price Plan	3	$333.00	
	Category Total Requested:					**$574.50**	
Project Manager On-Site		**Cost ($)**					
Project Manager On-Site	110 hours ($30/hr)	$30	Variable	Salary	$110	$3,300.00	
	Grand Total					**$6,228.20**	

Appendix X

Comparison of Projected and Estimated Actual Statement of Operations

PROJECTED STATEMENT OF OPERATIONS				ESTIMATED ACTUAL STATEMENT OF OPERATIONS		
Revenues				**PROJECTED STATEMENT OF OPERATIONS**		**Comments**
Net patient revenue (Medicare Episodic Payment): 2,965.12 x 20 patients	$59,302.40			Net patient revenue (Medicare Episodic Payment): 2,965.12 x 15 patients	$44,476.80	Includes 10 enrolled & 5 unknown
In-Kind Contribution-Materials and Supplies	$49.50			In-Kind Contribution-Materials and Supplies	$24.20	
In-Kind Contribution- Labor of Episode Mgmt. RN and Staff; Salaries for Pilot Clinicians (planning, meetings, education)	$3,588.00			In-Kind Contribution- Labor of Episode Mgmt. RN and Staff; Salaries for Pilot Clinicians (planning, meetings, education)	$2,377.00	
In-Kind Contribution-Meeting Rooms/Technology	$800.00			In-Kind Contribution-Meeting Rooms/Technology	$120.00	
In-Kind Contribution-Project Manager Salary	$5,760.00			In-Kind Contribution-Project Manager Salary	$3,300.00	On-site
In-Kind Contribution- Services Labor expense for home visits: RN 134.42/visit x 8 PT 146.95/visit x 4 OT 147.95/visit x 2 RT 147.95/visit x 1 2,107.01 x 20 patients	$42,140.20			In-Kind Contribution- Services Labor expense for home visits: RN 134.42/visit x 8 PT 146.95/visit x 4 OT 147.95/visit x 2 RT 147.95/visit x 1 2,107.01 x 15 patients	$31,605.00	
Total	***$111,640.10***			***Total***	***$81,903.00***	
Expenses				**Expenses**		
Operating expenses: Education/Training (Inc. fringe)	-$230.00			Operating expenses: Education/Training (Inc. fringe)	-$60.00	
Salaries for Pilot Clinicians: Project planning, meetings, and education	-$3,288.00			Salaries for Pilot Clinicians: Project planning, meetings, and education	-$2,377.00	
Project Manager Salary	-$5,760.00			Project Manager Salary	-$3,300.00	
Evaluation of Charts (Referral, admission, episode mgmt.) by Quality Team and Office Staff	-$1,050.00			Evaluation of Charts (Referral, admission, episode mgmt.) by Quality Team and Office Staff	-$241.50	
In-Kind Expense- Services Labor expense for home visits: RN 134.42/visit x 8 PT 146.95/visit x 4 OT 147.95/visit x 2 RT 147.95/visit x 1 2,107.01 x 20 patients	-$42,140.20			In-Kind Expense- Services Labor expense for home visits: RN 134.42/visit x 8 PT 146.95/visit x 4 OT 147.95/visit x 2 RT 147.95/visit x 1 2,107.01 x 15 patients	-$31,605.00	
In-Kind Contribution- Other Services-website fee; SurveyMonkey	-$234.00			In-Kind Contribution- Other Services-website fee; SurveyMonkey	-$333.00	Paid for by PM
In-Kind Expense-Materials and Supplies	-$49.50			In-Kind Expense-Materials and Supplies	-$24.20	
In-Kind Expense- Meeting Rooms/Technology	-$800.00			In-Kind Expense- Meeting Rooms/Technology	-$120.00	
Total	***-$53,551.70***			***Total***	***-$38,060.70***	
Operating Income	**$58,088.40**			**Operating Income**	**$43,842.30**	

Appendix Y

Barriers: Reasons COPD Patient Excluded from Pilot