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Development and Evaluation of a Chronic Care Management Toolkit

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ABSTRACT
DEVELOPMENT AND EVALUATION OF A CHRONIC CARE MANAGEMENT TOOLKIT

Currently, little research is available on the topic of Chronic Care Management (CCM) service and its impact on patient health outcomes, largely because the service was recently introduced by Medicare in January 2015. The purpose of this Doctor in Nursing Practice (DNP) project is to create a Chronic Care Management (CCM) Toolkit specific to an established pulmonology practice based in a Central California community. This quality improvement pilot project also included an evaluation of the newly developed CCM Toolkit designed for this project. The evaluation was accomplished by surveying CCM care team members in this pulmonary practice (an internal group), and providers who have experience in providing care in patients with chronic conditions (an external group). Both internal and external groups agreed that the toolkit could be successfully implemented in the practice and could be easily adapted to a wide variety of practice settings. In addition, both groups provided valuable recommendations for improving the toolkit. This project is the first known study on the topic of implementing the CCM service in a small independent practice. The newly developed CCM Toolkit offers a framework, and can serve as a roadmap, for practices seeking to provide CCM service to their patients with multiple chronic conditions. Future research is needed in a number of areas. Studies exploring patient satisfaction with the care received, assessing the efficiency of the care coordination, and evaluating the impact of the CCM service on patient care outcomes, such as increased quality of life, decreased exacerbation, decreased hospitalization and reduced health care cost, will generate much needed evidence on the topic of the CCM model.

Heidi Hongxin He
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By

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CHAPTER 1: INTRODUCTION

Chronic conditions are physical, mental, or cognitive illnesses lasting a year or more, requiring ongoing medical attention, limiting activities of daily living (U. S. Department of Health and Human Services, HHS, 2014). Approximately one in three Americans of all ages, and three out of four Americans aged 65 years or older, have two or more chronic conditions (HHS, 2010). Patients with multiple chronic conditions (MCC) are facing increased challenges physically, psychologically, and financially (Institute of Medicine, IOM, 2012). Chronic illnesses account for 70% of deaths, and 75% of the $2 trillion in annual U.S. health care spending (IOM, 2012), and 95% of all Medicare spending (Benjamin, 2010). Despite the astronomical spending on chronic care management, the quality of health care related to chronic care is suboptimal (Improving Chronic Illness Care, ICIC, n.d.). Improving the care of chronic illnesses has become a major public health priority (IOM, 2012).

The focus of health care is shifting from reactive acute and specialty care, to proactive patient centered primary care (IOM, 2012). This shift is becoming increasingly evident with the passage and implementation of the Affordable Care Act (ACA). The ACA includes many quality related provisions, and is expected to have great impact in quality improvement efforts (Bielaszka-DuVernay, 2011). To improve health care quality, health outcomes and reduce health care cost, the HHS recognized care coordination as one of the top National Quality Strategies (2011). Identifying evidence supported models of care coordination for persons with multiple chronic conditions is one of the objectives in HHS's goal of changing the health system to improve the health of patients with multiple chronic conditions (HHS, 2010).

Several care coordination models, including Patient Centered Medical Homes (PCMHs) and the Transitional Care Model, have been introduced to improve patient

centered care, care coordination, and health outcomes (Boyle, 2012). These innovative care management models have demonstrated clinical effectiveness and cost savings. A meta-analysis of 36 randomized clinical trials concluded that care coordination reduced hospital admissions, and reduced emergency department visits, among older patients with chronic conditions (Tricco et al., 2014). In addition, care coordination interventions improved many aspects of quality of care for patients with chronic illnesses, including patient activation, goal setting, and problem solving (Tuchman et al., 2015a).

In January 2015, a new care coordination model, Chronic Care Management (CCM) service was introduced by Medicare (U. S. Department of Health and Human Services, Centers for Medicare and Medicaid Services, CMS, 2015). This non face to face care coordination service is only available for high risk patients with multiple chronic conditions (CMS, 2015). Each month, 20 minutes of clinical staff time is eligible for Medicare reimbursement. Electronic care plans containing actionable instructions are required for CCM service. Other required elements include: periodic review and revision of the care plans, medication management, communication with the patient and other treating health professionals for care coordination, and management of care transitions. The goal for CCM service is to proactively manage patient's health, rather than to only treat disease and illness (CMS, 2015).

Purpose

Chronic care management service is complex and extensive. To provide effective CCM service with all required elements, a systematic approach is imperative for efficient and successful implementation. Establishing an implementation toolkit to guide the CCM service is the logical first step. The purpose of this project is to develop a CCM Toolkit specific to an established pulmonology practice based in a Central California community. Ultimately, the toolkit will be expanded to include benchmarks that allow

evaluation of the efficacy and efficiency of the model. However, for this project, the focus was the development of the toolkit. The project also included a pilot evaluation of the newly developed CCM Toolkit. This evaluation was accomplished by surveying CCM care team members in this pulmonary practice, and nurse practitioners in a Doctor in Nursing Practice program who have experience in providing care to patients with chronic conditions.

Theoretical Framework

The Chronic Care Model was used to guide the design of the CCM Toolkit. The Chronic Care Model was developed to overcome the deficiencies that existed in the management of chronic illnesses (Wagner, 1998). The effectiveness of the Chronic Care Model in improving clinical outcomes and patient care satisfaction was well established. Practice redesign based on the Chronic Care Model improved the quality of care and the patients' health outcome, particularly when practice changes occur across multiple elements of the Chronic Care Model (Coleman, Austin, Brach, & Wagner, 2009). More recently, The Chronic Care Model was used as a framework in defining the model elements for several new care models, such as Patient Centered Medical Home and Accountable Care Organizations (IOM, 2012).

The main assumption of the model is that high quality care of chronic illnesses requires productive interactions between informed, activated patients and prepared practice teams (Improving Chronic Illness Care, n. d.). The Chronic Care Model consists of six interrelated concepts: the health system, delivery system design, decision support, clinical information systems, self-management support, and the community. To achieve the transformation for health care delivery system, and to improve health care outcome, all six concepts need to be integrated to create a synergistic effect (ICIC, n. d.).

The Chronic Care Model provides a conceptual framework for the CCM Toolkit. The CCM Toolkit includes four components: staff workflow, CCM enrollment, comprehensive enrollment visit, and monthly non face to face encounters. These components incorporate several elements of the Chronic Care Model, specifically, delivery system design, clinical information systems and decision support, self-management support, and the community.

Delivery System Design

An important component in delivery system design is care coordination. Care coordination is only possible by clearly defining the composition of the health care team and describing the function of each team member. The goal of delivery system design is to assure effective, efficient clinical care through planned patient interactions, active regular follow up and case management (ICIC, n. d.). The CCM Toolkit provides a staff workflow sheet specifying the task assignments for each care team member ensuring planned patient interactions, regular follow up and case management. The CCM Toolkit also provides protocols for coordination of patient care including collaboration among all care team members within the practice; collaboration and coordination among all providers outside the practice, including community and social services; and, on-going communications with patients and caregivers.

Care Coordination

Care coordination can further be enhanced by a comprehensive clinical information system that allows the sharing of information with patients and providers efficiently while maintaining patient confidentiality. Electronic care plan sharing with patients and providers is a required element for CCM (CMS, 2015). The Electronic Medical Record (EMR) system will allow patients to access their care plans, and the associated educational materials, electronically via a patient's portal. The staff workflow

chart includes the collaboration with Information Technology (IT) support to customize workflow for the CCM service encounters, including initial face to face evaluation, creation and revision of care plans, subsequent monthly non face to face encounters, and other care coordination activities. The retrievable data from EMR can be beneficial in monitoring performance and quality improvement efforts. They are not the focus of the current project, but can be used in future studies.

The CCM Toolkit includes patient centered comprehensive care plan based on the in-depth assessment of the patient's physical, social and environmental factors. It provides detailed actionable self-management guide to the patients. The care coordination includes ongoing communication with patient and their care providers, and provides ongoing self-management support for patients with multiple chronic conditions and their families.

Self-Management Support

Self-management support is another critical component of the Chronic Care Management model. The goal of self-management support is to empower and prepare patients to manage their health and healthcare (ICIC, n. d.). The management of chronic illness will not be effective without patients' active participation in their self-management. Self-management support aims to acknowledge the patients' central role in their care and foster a sense of responsibility for their own health. Patients' self-management skills and confidence need to be assessed along with patients' clinical status. Patients need to be educated on basic information regarding their diagnosis and strategies for living with chronic illness, and be offered emotional and psychological support. Self-management support does not begin and end with a class, but is an ongoing process (ICIC, n. d.).

Self-management support can be more effective by mobilizing of community resources to meet the needs of patients. Often community programs can fill gaps in needed services and resources (ICIC, 2014). The CCM toolkit includes the assessment of community resources and the coordination of referrals when needed.

Summary

There is an emerging body of literature supporting the need for better management of multiple chronic conditions, and indicating the requirement of ongoing medical management and support for patients with multiple chronic conditions. To best care for patients with multiple chronic conditions, Boyd (2014) suggested providers think beyond disease, recognize heterogeneity, and incorporate patient preferences and values regarding burdens, risks and benefits. In other words, find out what matters the most to the patients. Using a planned monthly, twenty minute non face to face interaction with patients with multiple chronic conditions, the Chronic Care Management service is an innovative model to provide sustained patient centered care, and patient self-management support.

The Chronic Care Management service holds great promise as an evidenced based example of care coordination HHS seeks to implement for the care of persons with multiple chronic conditions. The CCM Toolkit is essential for the successful implementation of the chronic care management service in this central California pulmonary practice. This project will contribute to Institute of Healthcare Improvement (IHI)'s Triple Aim (n.d.): improving the patient experience of care including quality and satisfaction, improving the health of populations, and reducing the per capita cost of health care at the point of care.

CHAPTER 2: LITERATURE REVIEW

Currently, little research is available on the topic of Chronic Care Management (CCM) service and its impact on patient health outcomes because the service was just introduced in January 2015 (The Center for Medicare and Medicaid Services, CMS, 2015). However, other care coordination models, such as Patient Centered Medical Homes (PCMHs) (Beadles et al., 2015) and the Transitional Care Model (TCM) (Bradway et al., 2012), contain several elements of CCM service, such as medication management, care coordination, patient centered care, and providing patient self-management support. These care coordination models have demonstrated the effectiveness in improving care outcome and decreasing care costs (Tricco et al., 2014; Tuchman et al., 2015). The literature that supports the effectiveness of these care coordination models in managing chronic conditions will be reviewed, and analyzed in this chapter.

The Transitional Care Model (TCM)

The Transitional Care Model (TCM) encompasses a broad range of services focusing on safe transition from acute hospital settings to community settings (Bradway et al., 2012). To evaluate the effect of the TCM, Naylor et al. (2013) conducted a prospective, quasi-experimental research study. Eligible subjects were: Aetna's Medicare Advantage members, 65 years of age or older, able to be reached by telephone, and having two or more specific risk factors. Those risk factors included functional deficits, history of mental/ emotional illness, four or more active coexisting health conditions, and six or more prescribed medications. Other risk factors included were: two or more hospitalizations within the past 6 months, hospitalization within the past 30 days, inadequate support system, poor self-rating of health, and documented history of non-adherence to the therapeutic regimen (Naylor et al., 2013).

One hundred seventy two Aetna Medicare Advantage members in the Mid-Atlantic region who received the TCM were included in the study. Several instruments were used for data collection. Medical Outcome Study Short Form SF-12, Geriatric Depression Scale, Symptom Bother Scale and Global Health Rating were used to assess subjects' physical and functional health, emotional status, symptom status, and quality of life respectively. Wilcoxon sum tests were used to compare ordinal data, and t-test was used for interval or ratio data. For each subject in the TCM group, a control member was elected. Propensity modelling was used to ensure the homogeneity between interventional and control groups. Risk of re-admission or death was calculated using a proportional hazards (Cox) regression model for all matched pairs. Post intervention, all health status and quality of life measures were improved. A significant decrease in the number of re-hospitalizations, total hospital days, and a decrease in total health care costs were observed at 3 months (Naylor et al., 2013).

A clearly explained sampling strategy with detailed inclusion criteria and use of multiple instruments for data collection are the strengths for this study. In addition, the authors recognized that Advanced Practice Nurses (APNs) played an essential role in the TCM success by establishing trusting relationships with patients, family and clinicians, collaborating with clinicians in developing a rational and streamlined plan of care (Naylor et al., 2013). However, the inclusion criteria of enrollment in a specific insurance coverage, and the convenience sampling method, made it difficult to generalize the research findings.

Implementing a care coordination program can face many challenges. An exploratory qualitative study by Bradway et al. (2012) described barriers associated with providing transitional care to cognitively impaired elders and their caregivers. As part of a larger study done at the University of Pennsylvania Health System (UPHS) hospitals, this article examined the clinical notes generated from the implementation of TCM.

Fifteen narrative case summaries and field notes were randomly selected. Major themes were identified using a directed content analysis. Among the barriers identified in patients and their caregivers were: lack of baseline knowledge about post hospital care, inability to acknowledge the severity of patients' illnesses or the implications of their symptoms, and not consistently following mutually developed plans of care, or ongoing suggestions from the APNs. Challenges for care coordination identified were: patients and care givers having difficulty arranging follow ups, not accepting assistance from APNs, and lack of coordination among multiple care givers. In addition, the caregiver burden was identified as a barrier as well (Bradway et al., 2012). The findings highlighted the difficulties the health care providers faced when providing transitional care to the patients, and underscored the challenges the patients and care givers encountered when coping with and managing patients' chronic illnesses (Bradway et al., 2012).

The triangulation of data is the strength of this article. Individual care summaries written by Advanced Practice Nurses (APNs) served as the primary data source. The field notes written by two of the study co- investigators during the case conferences were used as a secondary source. The article mentioned the inclusion criteria for the parent study, but failed to mention the method used in selecting the fifteen case summaries. Lack of detailed description of sampling strategy can compromise the credibility of the study results.

An Integrated Program

Jain et al. (2014) evaluated the effectiveness of an integrated program, a pulmonologist led Chronic Lung Disease Program (CLDP), in reducing recurrent exacerbations and hospitalization in patients with asthma and chronic obstructive lung disease (COPD). The study was conducted in a 600 bed community-based academic

hospital affiliated with a medical school. Purposive sampling of 106 patients, above 18 years of age with physician diagnosed asthma or COPD, who had more than two asthma or COPD exacerbations requiring emergency room visits or hospitalizations within the prior year were recruited into the CLDP. CLDP included clinical evaluation, on site pulmonary function testing, health education, and a self- management action plan. Paired samples t-test was used to compare means of annual emergency room visits or respiratory related hospitalizations pre and post CLDP. Jain et al. (2014) found that there was a significant reduction in the mean ER visits and hospitalizations for both respiratory related and all cause events. The mean 30 day respiratory related re-hospitalizations were significantly reduced as well. The large sample size, and well described interventions, are the strength of this article (Jain et al. (2014). Nevertheless, the fact the study was conducted in one single site decreases the external validity of the findings.

Although this research only focused on the effect of interventions on one chronic condition, asthma or COPD, it demonstrated that an integrated management program, including self-management support, health education and clinical evaluation can be effective in reducing hospitalization rates. Furthermore, patients with severe asthma and COPD are often reported to have multiple comorbidities (Jain et al., 2014). The findings can be applicable to patients with multiple chronic conditions.

The Patient Centered Medical Homes (PCMHs)

The Patient Centered Medical Homes (PCMHs), aim to provide comprehensive, person centered and coordinated primary care (Beadles et al., 2015), and have shown promise in improving care management also. Medication adherence is of utmost importance in management of chronic illness. Beadles et al. (2015) conducted a retrospective cohort study to compare medication adherence among Community Care of North Carolina (CCNC) medical home enrollees with non-enrollees. CCNC is a statewide

medical home program for the North Carolina Medicaid population. Medicaid patients receiving new medications for major depressive disorder (N=9303), hypertension (N=12,595), diabetes mellitus (N=6409) and hyperlipidemia (N=9263) were included. Patients with Asthma, COPD and schizophrenia were excluded. Adherence to medication was assessed during a rolling 12 month follow up period. A person-level fixed effects regression was used to examine adherences between patients enrolled and not enrolled in the CCNC medical home. Propensity score and person-level random-effect models were used in sensitivity analyses. The results showed increased medication adherence among the medical home enrollees compared with non- enrollees (Beadles et al., 2015). This study evaluated the effectiveness of a statewide program. The fact, that measure of medication adherence was derived from claims data, rather than observing actual mediation use, can affect the reliability and validity of the data. Still, the use of robust statistical analyses and the large sample size strengthen the external validity (Melnyk & Fineout-Overholt, 2005).

Vanderboom, Thackeray, and Rhudy (2015) conducted a qualitative descriptive design to identify the characteristics of patients who benefited from care coordination, and to describe the most effective interventions in caring for patients with complex chronic care needs. As part of a larger practice improvement project, 13 experienced nurse care coordinators (NCCs) were interviewed. These NCCs were from 13 clinical sites affiliated with an academic medical center. These clinical sites included a various clinic practices including primary care, family medicine and specialty clinics, in both urban and rural settings. All participants were females with at least 2 years' experience as a NCC. The interview data was analyzed using a qualitative content analysis. Five major themes emerged to describe the patient characteristics: multiple complex problems, limited family support, limited financial resources, language and cultural attributes and early in their disease trajectory. Three themes were identified to describe the most

effective interventions used by NCCs: providing holistic care, providing relationship-base care, and finding and using community resources. These findings highlight that contextual factors, such as condition specific factors, physical and social environment, and individual and family characteristics, all influence self-management processes and outcomes (Vanderboom et al., 2015). The study finding's external validity was strengthened by the fact that the participants were from multiple clinical locations with an array of sizes and practices types. However, data reliability may be affected because participants' retrospective recall of their experience might not be accurate.

As a group, the articles reviewed demonstrated that integrating care coordination into patient care management can decrease hospital readmission, increase medication adherence, and decrease health care cost. Patient centered care, including self-management support as part of the integrated program, has also shown effectiveness in increasing medication adherence and decreasing hospitalization. These articles also highlighted the challenges patients faced in coping with chronic illnesses, and providers faced in implementing care coordination. In addition, patients with multiple chronic conditions (MCC) were identified as the most likely to benefit from the care coordination service.

Chronic Care Management and Its Potential

The newly introduced Chronic Care Management service includes many similar evidence based elements, such as medication management, care coordination, providing patient self-management support including actionable care plan and relevant information, and care transition management. However, much of the research reviewed on similar care coordination services, such as Patient Centered Medical Model (Beadles et al., 2015) and Transitional Care Model (Bradway et al., 2012) has been conducted in large medical facilities associate with academic institutions, insurance companies, or state sponsored

programs. These programs involve substantial resources, including a team of researchers and a team of providers, medical assistances, pharmacists, social workers, psychologists, dietitians, and specialists. Although the research concerning these services has shown a reduction in hospital readmissions among older adults (Stranges, Marshall, Walker, Hall, Griffith, & Remington, 2015; Jackson, Shahsahebi, Wedlake, & Dubard, 2015), the findings may be difficult to replicate in small private practices with limited human and financial resources. Implementing CCM service in a small private practice will address the benefits of this newly available service in a real world setting, generate evidence that can be replicated in similar small practices with limited resources, and support the evidence based practice.

In addition, unlike other care coordination services, CCM is a non face to face service. This milestone care coordination policy demonstrated CMS's recognition of the importance of care that occurs outside of a face-to-face visit (CMS, 2013). Evidence generated from the implementation of CCM will also contribute to the literature supporting the effectiveness of planned non face to face interactions with patients with MCC.

Many patients with multiple chronic conditions are elderly and extremely frail. Traveling to the clinic, and waiting in the clinic, can be a hardship all by itself. This non face to face service can function as telephonic monitoring, the most basic type of telehealth. Telephonic monitoring is described as scheduled encounters between patients and providers occurring via the telephone (McGonigle & Mastrian, 2015). The benefits of telehealth include: early detection of deterioration in chronic conditions by frequent monitoring of patients' report of symptoms, facilitation of rapid titration of medical therapies, and increased chances of symptom improvement and resolution (Atkin & Barrett, 2012).

Summary

There is an emerging body of evidence supporting the effectiveness of care coordination models in chronic illnesses management, as discussed in this chapter. Chronic Care Management service holds great promise in improving patients' care coordination, improving patient safety and improving self-care management support in patients with multiple chronic illnesses. The tested CCM Toolkit can be useful to other small practices seeking to provide CCM service to their patients, and further contribute to improving population health.

CHAPTER 3: METHODOLOGY

The focus of this quality improvement project was to create a Chronic Care Management (CCM) Toolkit specific to an established pulmonology practice based in a Central California community. The project also included an evaluation of the newly developed CCM Toolkit. This evaluation was accomplished by surveying CCM care team members in this pulmonary practice, and other providers who had experience in providing care to patients with chronic conditions. In this chapter, the design of the study, the instrument used, the sample selection, and the method of data collection will be described in detail.

Setting

The practice, for which the CCM Toolkit was designed, was a small private pulmonology practice in central California. There were only two providers, the physician and a nurse practitioner, four clinical supporting staff, and one administrator in the practice. A high percentage of the patients in this pulmonology practice were high acuity patients with multiple chronic conditions, and were at risk for functional decline or exacerbations requiring hospitalization. These patients were the intended population for the CCM by Centers for Medicare & Medicare Services (CMS) (2015). The providers followed the patients in the hospitals, if the patients were to be hospitalized. This unique characteristic of the practice facilitated the patient's care coordination from the hospital discharge to the outpatient follow up, and allowed the tracking of the patients' hospitalization admissions. Although the outcome evaluation of the CCM was not the focus of this project, hospitalization admissions can be outcome criteria for future studies.

The setting for this project was significantly different from the settings used in other research on similar subjects. Much of the available research on the topic of multiple chronic conditions management has been done in large facilities, such as academic

centers affiliated with medical schools, large insurance groups, or state sponsored programs, with multidisciplinary involvement and a plethora of resources.

Methodology

Project Design

This quality improvement project was designed to evaluate a toolkit that was created to guide the implementation of the CCM in a small private practice. The focus of this project was to develop the CCM toolkit and evaluate the feasibility of implementing the toolkit, using two study groups. The ultimate long term outcome measurements for the CCM were patient satisfaction, decreased episodes of exacerbations of their chronic conditions, and decreased hospital admissions, although they were not the focus of this project. There were two steps in this project design.

First Step: Develop the Chronic Care Management Toolkit

The first step was the development of the toolkit. The toolkit was based on the CCM requirements set forth by CMS. This CCM toolkit served as a road map for the implementation of the CCM, which would ultimately improve the practice of chronic care management in the pulmonary practice. It included specific guidelines for the implementation of the CCM model, with a focus on patients with chronic lung disease (chronic obstructive lung disease or asthma) and one other chronic condition.

The following is a brief description of the CCM toolkit. The original CCM toolkit in its entirety is presented in Appendix A. There are four components in this CCM toolkit.

1. Chronic Care Management Staff Workflow

   This workflow chart specifies the task assignments for each member of the care team during planning, implementation and evaluation phase.

2. Chronic Care Management Enrollment
   a. The goal for this phase is to offer CCM service to all eligible patients.
   b. Included materials
      i. CCM enrollment script

         The purpose of this script is to ensure consistency when information is presented to eligible patients by members of the care team.

      ii. CCM program patient consent form

         This is a required element for CCM by CMS (2015)

      iii. CCM patient information

         The purpose of this document is to provide patient friendly information and easy to follow instructions for CCM patients.

      iv. Template for CCM ID Card
         1. Managing care transitions between and among health care providers and settings is an important part of the CCM service (CMS, 2015)
         2. This CCM ID card serves as a tool to facilitate this care coordination

      v. Intake form: “All about Me”

1. This form provides an opportunity for the patient to share their concerns, and their learning needs with the providers.
2. This form allows patients an opportunity to self-assess and providers an opportunity to assess patients' perception of their physical, functional and psychosocial states.
3. The patient's ability to complete the form gives the providers an overall picture of patients' health literacy level.
4. The provider will review the intake form, and assist the patient in completing the form during the Comprehensive Enrollment Visit.

3. Comprehensive Enrollment Visit
    a. The goal for this phase is to create a patient centered, comprehensive care plan based on a comprehensive patient assessment
    b. Included materials
        i. Comprehensive Assessment and Patient Centered Care Plan Template

        This template functions as a checklist to ensure all CMS required elements are completed in the Electronic Medical Record (EMR) for the comprehensive assessment and the patient centered care plan.

ii. Action Plan Templates

These templates provide actionable instructions for the patients' symptom management and can be tailored to the individual needs of each patient.

1. My Chronic Obstructive Pulmonary Disease Action Plan
2. My Asthma Action Plan
3. My Congestive Heart Failure Action Plan

iii. Short Term and Long Term Goals Templates

These templates provide measurable, achievable goals for patients, and can be tailored to the individual needs of each patient.

iv. My Achievement Record

1. This record will be given to the patient during the Comprehensive Enrollment Visit.
2. It provides a validation of patients' progress in their ongoing efforts of improving their health.

4. Monthly Non Face to Face Encounters
    a. The goal for this phase is to provide ongoing self-management support, including medication management, and facilitate care coordination. These encounters may be accomplished by phone calls or electronical communications.
    b. Included materials

i. Chronic Care Management Care Coordination Protocol

This protocol provides detailed instructions in the following areas:

1. Ongoing self-care support
2. Medication adherence
3. Life Style Modification
4. Preventative care
5. Care Coordination

ii. Clinical Flow Charts

The purpose of these Clinical Flow Charts is to provide ongoing assessment for implementation of evidence based care.

iii. Resources Library

This section provides various resources to staff and patients.

Second Step: A Pilot Project to Evaluate the Toolkit

Subjects

Once the CCM Toolkit development was completed, the pilot project to evaluate the toolkit was implemented. Purposive sampling method was used in this project. Two groups of health care providers, one internal group and one external group, with experience in providing chronic disease management were invited to review and evaluate the toolkit. The internal group consisted of all members of the CCM care team in this central California established pulmonary practice, including a receptionist, a Registered Nurse, and Certified Medical Assistants (total of 6 participants). The external group consisted of nurse practitioners with experience in providing chronic care management.

These nurse practitioners (total of 9 participants) were identified from a class of Doctor in Nursing Practice (DNP) students. Providers with no experience in providing chronic care management were excluded. An informed consent detailing the purpose and the potential risks of the project was included at the beginning of the survey.

Participants were asked to review and evaluate each component in the CCM toolkit using a survey specifically designed for the evaluation of the toolkit. The survey allowed both quantitative and qualitative feedback from the participants. The results of the survey were important in evaluating the feasibility, and identifying the weaknesses of the CCM toolkit, and allowing an improvement in the protocol prior to implementation.

Data Collection/Implementation

The data were collected over a period of 3 months. The data collection method varied slightly between the internal and external group. To the internal group, the completed CCM Toolkit was presented in person during a practice staff meeting. The hard copies of CCM Toolkit were distributed to each of the participants. The link to the survey monkey was provided after the presentation. The participants were asked to complete the survey after they have reviewed the CCM Toolkit in detail, at a time and location of their choosing.

The nurse practitioners from a class of Doctor in Nursing Practice (DNP) students were contacted in person by this author during a class meeting. Nine nurse practitioners with experience managing chronic disease were identified, and invited to review and evaluate the CCM Toolkit. After confirming their interest, the CCM Toolkit (Appendix A) and a cover letter (Appendix B) were sent to the selected participants electronically. An electronic survey link from Survey Monkey was sent to the participants at the same time.

The survey was created specifically for the evaluation of the newly created Chronic Care Management Toolkit (Appendix C) by this author. The survey has not been tested or validated. This survey included an introduction detailing the purpose of the project, a consent disclosure, a demographic survey, and an evaluation of each component of the CCM Toolkit. The survey, using Survey Monkey, may be completed at the location and the time of participants' choosing. The review of the toolkit should take approximately 30 minutes. The completion of the survey should take approximately 15 minutes. The responses from Survey Monkey were anonymous, therefore, confidentiality was maintained.

Demographic information such as age, gender, credential, years of education, years of experience, and prior experience with managing patients with chronic illnesses, were collected. The evaluation of each component of the CCM toolkit was categorized. The initial plan for analysis of the quantitative data from the survey was to use the SSPS software in consultation with an experienced statistician. However, because the small sample size, the descriptive statistic was simply calculated using the Microsoft Excel program. The qualitative data were reviewed and categorized to identify the recurring themes and patterns (Melnyk & Fineout-Overholt, 2005) by this author.

Ethical Considerations

The study was approved by the Institutional Review Board (IRB) at California State University, Fresno. The project proposal was reviewed and approved by the administrator at Comprehensive Pulmonary and Critical Care Associates. A Memorandum of Understanding (MOU) from Comprehensive Pulmonary and Critical Care Associate (Appendix D) was obtained in June 2015.

Potential Benefits

The completed and evaluated CCM toolkit will address several of the six national quality aims advocated by the Institute of Medicine (2001); that patient care should be safe, effective, patient-centered, timely, efficient, and equitable. Specifically, medication reconciliation addresses the aim for patient safety. The individualized care plan and action plan focus on the aim of patient centered care. Care coordination, one of the top health care quality improvement strategies (HHS, 2011), is implemented by providing the chronic care management service. The tested CCM toolkit will be readily adaptable to the care of a variety of chronic conditions, and can be useful to other small practices seeking to provide CCM service to their patients, and further contributing to improving population health.

Participants of this capstone project had the opportunity to evaluate a new implementation toolkit for the Chronic Care Management model. These participants may gain new knowledge concerning this newly introduced Medicare service, and may implement similar projects in their place of employment. In addition, by offering their professional opinions, these health care professionals contribute to the generation of new knowledge in improving health care quality and improving population health at the point of care.

Potential Risks

The participation of this project was associated with no or very minimal potential psychological, social, physical, or legal risks, because this phase of the project had no patient care involvement. Reviewing and providing feedback on the Chronic Care Management Toolkit might be time consuming, which might cause inconvenience in participants' busy lives.

The precautions taken to minimize risks. The participation of this pilot project was entirely voluntary. Participants were free to refuse to respond to any of the questions, or terminate the participation of the project at any time. The responses in the Survey Monkey were anonymous. There was no adverse effect associated with the refusal to participate in the project.

Compensation of Subjects

Participants were not compensated for participating in the survey.

Summary

Implementing an innovative care model, such as CCM service, at the point of care will provide direct benefits to the patients, have direct impact on patient health outcomes, and generate practice based evidence to facilitate care quality improvement. The result of this pilot study will contribute to the current literature by generating evidence from “real world” practice based research on the topic of implementing Chronic Care Management service.

CHAPTER 4: RESULTS

This quality improvement project consisted of two steps. The first step was the development of a CCM Toolkit for a small, but well established, private pulmonary practice in the Central Valley of California. The goal for this CCM Toolkit was to facilitate the implementation of effective CCM service for patients with multiple chronic conditions. A brief description of the complete CCM Toolkit developed by this author is included in Chapter 3: Methodology. The complete CCM Toolkit is included in Appendix A, due to the length of the document. The second step was to implement a pilot evaluation of the CCM toolkit. The evaluation of the CCM toolkit sought valuable feedback from providers who were experienced in managing patients with multiple chronic conditions.

In this chapter, the survey results from two health care provider groups, one internal group and one external group, will be discussed in detail. The internal group consisted of the staff in this established pulmonary practice in the Central California. The external group consisted of nurse practitioners from a class of Doctor in Nursing Practice (DNP) students who were experienced in providing chronic care management.

Overview

The survey created by this author for evaluation of the CCM Toolkit was distributed electronically to both the internal and external groups using Survey Monkey. The participants completed the survey at a time and a place of their choosing. The data were collected over a period of 3 months.

All five staff members who participated the staff meeting completed the survey, with a response rate of 100% for the internal group. However, further evaluation of the survey data revealed that one of the participants responded with strongly disagree to all questions without any comments. Logically, if a participant strongly disagrees with all

items, that person would have made some comments or suggestions for improvement. Without any comments or suggestions, it is entirely possible that the participant was intended to mark strongly agree instead. The data from this participant was not included in the analysis for the internal group. As a result, the internal group consists of four participants for the purpose of the data analysis. The response rate for the external group was similarly favorable. Seven out of nine nurse practitioners who were invited completed the survey, resulting a response rate of 77.7%. One of the participants only provided demographic information without completing the survey. Consequently, the data from this participant was not included in the data analysis, reducing the number of participants in the external group to six. It is an acceptable practice to eliminate data from the data analysis when more than 30% of the data is missing (Melnyk & Fineout-Overholt, 2005).

Demographics

The survey began with questions to collect demographic information, such as credential, years of education, years of experience, and prior experience with managing patients with chronic illnesses, age and gender.

The Internal Group

The internal group (n=4) consisted entirely of office staff in the pulmonary practice, three MAs and one receptionist. For seventy five percent of the participants the highest educational level completed was high school, and twenty five percent had an Associate's degree. Their years of experience in caring for patients with chronic illnesses were varied, ranging from 1-5 years to 15- 20 years, as shown in Table 1. All the participants were female. Seventy five percent of them were 31-40 years old, and twenty five percent are 50-60 years old.

The External Group (NPs)

The external group (n=6) consists entirely of nurse practitioners with a Master's Degree (100%). Fifty percent of these participants practice in primary care settings, but the rest of the participants also practice in areas involving chronically ill populations, such as ambulatory care and geriatrics. As demonstrated in Table 1, 50% of the participants had 1-5 years of experience caring for patients with chronic illness, 33% with 6-10 years of experience, and 17% with 15-20 years of experience. All nurse practitioners participated in the survey were females. The age distributions were as follows: 33% 31-40 years old, 17% 41-50 years old, and 50% 51-60 years old.

Table 1. Demographic Information

	Internal Group (n=4)		External Group (n=6)	
	Frequency	Percentage	Frequency	Percentage
What is your credential?				
MD	0	0%	0	0%
NP	0	0%	6	100%
CNS	0	0%	0	0%
CMA, MA	3	75%	0	0%
Other (please specify)*	1	25%	0	0%
*Receptionist				
Highest educational level				
High School	3	75%	0	0%
Associates	1	25%	0	0%
Bachelors	0	0%	0	0%
Masters	0	0%	6	100%
Doctorate	0	0%	0	0%
What is your area of practice?				
Primary care practice	0	0%	3	50%
Pulmonary practice	4	100%	0	0%
Other (please specify) **	0	0%	3	50%

** Ambulatory care with chronically ill population, Geriatrics, Compensation and pension and mental health (original response data, no further information available)

Years of experience in caring for patients with chronic illnesses:				
Less than 1 year	0	0%	0	0%
1-5 years	1	25%	3	50%
6-10 years	1	25%	2	33%
11-15 years	1	25%	0	0%
15-20 years	1	25%	1	17%
More than 20 years	0	0%	0	0%
Your gender:				
Male	0	0%	0	0%
Female	4	100%	6	100%
Your age:				
20-30	0	0%	0	0%
31-40	3	75%	2	33%
41-50	0	0%	1	17%
51-60	1	25%	3	50%
61+	0	0%	0	0%

Survey Results

Questions about the CCM Toolkit as a whole, and questions about each component of the CCM Toolkit, were included in the survey. The participants were asked to respond using a Likert scale ranging from strongly disagree to strongly agree. In addition, the participants had the opportunity to make comments when responding to each question. This survey design allowed both quantitative data and qualitative data collection.

Quantitative Data: Entire Toolkit

The internal group. Seventy five percent of participants agreed or strongly agreed that the instruction provided was easy to follow (50% and 25%). One hundred percent of the internal group agreed that the instruction was adequate; the assignments for each member of the care team were appropriate; and all important areas were included. Seventy five percent agreed that there were no redundant items, and 25% responded with neither agree nor disagree. However, only 25% agreed that time and effort required to complete the tasks were reasonable while 75% responded to neither agree nor disagree.

The external group. One hundred percent of participants from the external group agreed or strongly agreed that the instruction provided was easy to follow (67% and 33%) and the instruction was adequate (17% and 83%). Eighty four percent agreed or strongly agreed (67% and 17%) that the assignments for each member of the care team were appropriate. Eighty three percent (50% and 33%) agreed or strongly agreed that all important areas were included. All participants agreed or strongly agreed that there were no redundant items. One of the participants skipped the question 6, time and effort required to complete the tasks were reasonable. Eighty percent of the participants who answered the question agree that the time and effort required to complete the tasks were reasonable. In general, the external group responded the questions regarding the entire toolkit more favorably compared to the responses from the internal group.

Table 2. Quantitative Survey Data: Entire Toolkit

	Internal Group (n=4)		External Group (n=6)	
	Frequency	Percentage	Frequency	Percentage
Q1. The instruction provided is easy to follow.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	1	25%	0	0%
Agree	2	50%	4	67%
Strongly agree	1	25%	2	33%
Q2. The instruction provided is adequate.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	0	0%	0	0%
Agree	4	100%	1	17%
Strongly agree	0	0%	5	83%

Q3. The assignments for each member of the care team are appropriate.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	0	0%	1	17%
Agree	4	100%	4	67%
Strongly agree	0	0%	1	17%
Q4. All important areas are included.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	0	0%	1	17%
Agree	4	100%	3	50%
Strongly agree	0	0%	2	33%
Q5. There are no redundant items.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	1	25%	0	0%
Agree	3	75%	2	33%
Strongly agree	0	0%	4	67%
Q6. Time and effort required to complete the tasks are reasonable.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	3	75%	1	20%*
Agree	1	25%	4	80%*
Strongly agree	0	0%	0	0%
*one of the participant skipped this question				

Quantitative Data: Each Individual Component

The internal group. One hundred percent of the internal group participants agreed or strongly agreed (75% and 25%) that component one, the workflow chart, can be successfully used in the practice and it can be applied to a wide variety of practice settings. Seventy five percent agreed or strongly agreed (50% and 25%) that component two, CCM Enrollment, can be successfully used in the practice, and seventy five percent agreed it can be applied to a wide variety of practice settings. Seventy five percent agreed

that component three, Comprehensive Enrollment Visit, can be can be successfully used in the practice and can be applied to a wide variety of practice settings. Component four, Monthly Non Face to Face Encounters, received the most favorable response, with 100% agree that it can be used in the practice, and 75% agreed or strongly agreed (50% and 25%) that it can be easily adapted to a wide variety of practice settings.

The external group. As detailed in Table 3, the participants from the external group offered very favorable feedback on each component of the toolkit. All the participants agreed or strongly agreed that each component, including the workflow chart, CCM enrollment, comprehensive Enrollment Visit and Monthly Non Face to Face Encounters, can be successfully used in the practice, and can be easily adapted to a wide variety of practice settings.

Table 3. Quantitative Survey Data: Each Individual Component

	Internal Group (n=4)		External Group (n=6)	
	Frequency	Percentage	Frequency	Percentage
Q7. This workflow chart can be successfully used in the practice.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	0	0%	0	0%
Agree	3	75%	4	67%
Strongly agree	1	25%	2	33%
Q8. This workflow chart can be applied to a wide variety of practice settings.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	0	0%	0	0%
Agree	3	75%	2	33%
Strongly agree	1	25%	4	67%
Q9. This guide for CCM Enrollment can be successfully used in the practice.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	1	25%	0	0%
Agree	2	50%	3	60%
Strongly agree	1	25%	2	40%

Q10. This guide for CCM Enrollment can be easily adapted to a wide variety of practice settings.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	1	25%	0	0%
Agree	3	75%	3	50%
Strongly agree	0	0%	3	50%
Q11. This guide for Comprehensive Enrollment Visit can be successfully used in the practice.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	1	25%	0	0%
Agree	3	75%	4	67%
Strongly agree	0	0%	2	33%
Q12. This guide for Comprehensive Enrollment Visit can be easily adapted to a wide variety of practice settings.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	1	25%	0	0%
Agree	3	75%	4	67%
Strongly agree	0	0%	2	33%
Q13. This guide for Monthly Non Face to Face Encounters can be successfully used in the practice.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	0	0%	0	0%
Agree	4	100%	3	50%
Strongly agree	0	0%	3	50%
Q14. This guide for Monthly Non Face to Face Encounters can be easily adapted to a wide variety of practice settings.				
Strongly disagree	0	0%	0	0%
Disagree	0	0%	0	0%
Neither agree nor disagree	1	25%	0	0%
Agree	2	50%	3	50%
Strongly agree	1	25%	3	50%

Qualitative Data: Entire Toolkit

The internal group. Only one of the participants from the internal group offered additional comments in the survey. For the entire toolkit, the questions she made comments are Q3 “The assignments for each member of the care team are appropriate”; Q5 “There are no redundant items”; and Q6 “Time and effort required to complete the tasks are reasonable.” She agreed that the assignment for each member of the care team are appropriate. However, she concerned about “finding time to follow through with phone calling, working on time allotment”. She commented on Q3 with “so far have not seen any repeat issues”. She again mentioned “still working on the time allotment” when responding to Q6. When asked “any other comments or suggestions for this CCM Toolkit”, she remarked: “Although finding time to follow through with phone calling, working on time allotment (can be challenging).”

The external group. As shown in Table 4, the external group remarked on almost all the questions about the entire toolkit. When responding to Q1 “The instruction provided is easy to follow”, one of the participants stated: “Easy to follow for the provider. However, the patient instruction and education sheets require a high level of literacy.” Another participant suggested formatting changes: “I would not use Roman numerals. I would just use numbers with a combination of letters to distinguish the subsets.” For Q2 “The instruction provided is adequate”, participants responded with “yes, with same comments as about” and “very comprehensive”. When answering Q3 “The assignments for each member of the care term are appropriate”, one of the participants questioned: “Who is the care coordinator, an RN? I do think an RN should probably be the care coordinator to do the teaching.” One participant recommended: “I would add under patient's goals ‘what is important to them’. This can guide your interactions and assist with compliance” when replying Q4 “all important areas are included”. Another participant commented “I am wondering how communication will

occur with primary care providers and cardiologists, especially if they still use paper charts." The external group offered several suggestions regarding Q6 "Time and effort required to complete the tacks are reasonable". These suggestions included: "Revise care plan every 6-9 months"; "I question the time frames and was a bit overwhelmed when considering completing these tasks and ongoing management and monitoring"; and "I think this will take a lot of time, but I am sure the effort will pay off."

Additional comments were offered by the external group when ask "Any other comments or suggestions for this CCM Toolkit". One participant suggested: "Please change words physician and doctor to 'provider or health care provider'". Another stated: "More use of pictures for the patient education piece instead of verbiage ie: have a picture of the asthma action plan. Bold statements and less words". The third participants advised: "The medication list should have more lines and should include a column for pill description and columns for morning, afternoon and night, so the patient can check when they take it. I would write out what POLST stands for so patients understand. I would put a column for last appointment next to current provider. I really like the achievement record."

Table 4. Qualitative Survey Data: Entire Toolkit

Internal Group (n=4)	External Group (n=6)
Q1. The instruction provided is easy to follow.	
	Easy to follow for the provider. However the patient instruction and education sheets require a high level of literacy. I would not use Roman numerals. I would just use numbers with a combination of letters to distinguish the subsets
Q2. The instruction provided is adequate.	
	Yes, with same comment as above. Very comprehensive

Q3. The assignments for each member of the care team are appropriate.	
Although finding time to follow through with phone calling, working on time allotment	Who is the care coordinator, a RN? I do think an RN should probably be the care coordinator to do the teaching.
Q4. All important areas are included.	
	I would add under patient's goals "what is important to them". This can guide your interactions and assist with compliance I am wondering how communication will occur with primary care providers and cardiologists, especially if they still use paper charts.
Q5. There are no redundant items.	
So far have not seen any repeat issues	
Q6. Time and effort required to complete the tasks are reasonable.	
Still working on the time allotment	Revise care plan every 6-9 months I question the time frames and was bit overwhelmed when considering completing these tasks and ongoing management and monitoring I think this will take a lot of time, but I am sure the effort will pay off.

Any other comments or suggestions for this CCM Toolkit:	
Although finding time to follow through with phone calling, working on time allotment	Please change words physician and doctor to "provider or health care provider" More use of pictures for the patient education piece instead of verbiage ie: have a picture of the asthma action plan. Bold statements and less words. The medication list should have more lines and should include a column for pill description and columns for morning, afternoon and night, so the patient can check when they take it. I would write out what POLST stands for so patients understand. I would put a column for last appointment next to current provider. I really like the achievement record.

Qualitative Data: Each Individual Component

The internal group. For each individual component of the toolkit, the internal group offered a few remarks. When responding to Q8 “this workflow chart can be applied to a wide variety of practice settings”, one participant answered: “Yes, it can be implemented in many areas.” In regards to Q9 “this guide for CCM Enrollment can be successfully used in the practice”, the participant stated: “so far patients are agreeable.” When asked Q13 “this guide for Monthly Non Face to Face Encounters can be successfully used in the practice”, the participant responded: “Just finding time at present to implement it.”

The external group. The participants from the external group offered suggestions and comments to all but two questions: Q7 “this workflow chart can be successfully used in the practice”; and Q9 “this guide for CCM Enrollment can be successfully used in the practice.” These questions were practice specific. Therefore it is understandable that the external group has no additional comments. When Q8 seeking the

opinions about “this workflow chart can be applied to a wide variety of practice settings”, participants remarked “again, define who care coordinator is”; and “as above for clarity for provider and other health care team members as well as for patient.” The external group advised to “add the patient’s goal success at evaluation; look at other metrics such as decreased ER visit or decreased LOS (length of stay)”, when asked for additional suggestions for Component 1: Staff Workflow Chart. Regarding Q10, “this guide for CCM Enrollment can be easily adapted to a wide variety of practice settings”, one participant agreed but “with additions and clarification tailored to the practice setting”. Another participant suggested to “take all Roman numerals out”.

One participant from the external group stated: “We should all be doing these things routinely now” when Q11 asking if the guide for Comprehensive Enrollment Visit could be easily adapted to a wide variety of practice settings. However, another participant expressed concern: “It does seem like a lot to go through in a 30 minute visit.” Q12 asked for the participants’ viewpoints if the guide for Comprehensive Enrollment Visit could be easily adapted to a wide variety of practice settings. One participant responded: “The majority does not need adaptation as the areas pertain to most situations.” Additionally, the external group made several recommendations for Component 3: Comprehensive Enrollment Visit. They suggested to include: “care plan revision every 6-9 months”; and “Be more specific how often to revise the care plan, what does periodically mean. I would suggest a range and then as needed on top of that”. One participant also commented: “It seems like each provider would need their own care coordinator or it would be difficult to make sure he or she is not double-booked.”

The comment for Q13 “This guide for Monthly Non Face to Face Encounters can be successfully used in the practice” was favorable. One participant stated: “Excellent. Again I would suggest changing physician to ‘provider’”. The only comment for Q14 “this guide for Monthly Non Face to Face Encounters can be easily adapted to a wide

variety of practice settings" was "as above for clarity for provider and other health care team members as well as for patient." One participant commented "(it) seems like a great idea" when asked if there was any other suggestions for Component 4: Monthly Non Face to Face Encounters. A summary of qualitative data is provided in Table 5.

Table 5. Qualitative Survey Data: Each Individual Component

Internal Group (n=4)	External Group (n=6)
Q7. This workflow chart can be successfully used in the practice.	
Neither group offered comments	
Q8. This workflow chart can be applied to a wide variety of practice settings.	
Yes, it can be implemented in many areas	Again, define who care coordinator is. As above for clarity for provider and other health care team members as well as for patient.
Any other suggestions for Component 1: Staff Workflow Chart	
	Maybe add the patient's goal success at evaluation. look at other metrics such as decreased ER visit or decreased LOS Good use of bullets, bold first line.
Q9. This guide for CCM Enrollment can be successfully used in the practice.	
so far patients are agreeable	
Q10. This guide for CCM Enrollment can be easily adapted to a wide variety of practice settings.	
	with additions and clarification tailored to the practice setting
Any other suggestions for Component 2: Chronic Care Management Enrollment	
	Take all Roman numerals out!
Q11. This guide for Comprehensive Enrollment Visit can be successfully used in the practice.	
	We should all be doing these things routinely now! It does seem like a lot to go through in a 30 minute visit.

Q12. This guide for Comprehensive Enrollment Visit can be easily adapted to a wide variety of practice settings.	
	The majority does not need adaptation as the areas pertain to most situations.
Any other suggestions for Component 3: Comprehensive Enrollment Visit	
	care plan revision every 6-9 months Be more specific how often to revise the care plan, what does periodically mean. I would suggest a range and then as needed on top of that. It seems like each provider would need their own care coordinator or it would be difficult to make sure he or she is not double-booked.
Q13. This guide for Monthly Non Face to Face Encounters can be successfully used in the practice.	
Just finding time at present to implement it	Excellent. Again I would suggest changing physician to "provider
Q14. This guide for Monthly Non Face to Face Encounters can be easily adapted to a wide variety of practice settings.	
	As above for clarity for provider and other health care team members as well as for patient.
Any other suggestions for Component 4: Monthly Non Face to Face Encounters	
	Seems like a great idea

Qualitative Data Analysis

Qualitative survey data from both the internal group and external group were reviewed, categorized, and searched for recurring themes and patterns.

The Internal Group

The internal group offered limited qualitative feedback. Only one participant provided several comments throughout the survey. One common theme emerged from

those comments: finding time to follow through with phone calling and working on the time allotment were the main concerns.

The External Group

The external group offered numerous valuable constructive criticisms about the CCM Toolkit, resulting in significant qualitative data for analysis. As illustrated in Table 4, these comments were categorized into three themes: general feedback, suggestions for the CCM Toolkit, and questions or concerns. Table 6 outlined the theme analysis of the external group qualitative data.

Table 6. External Group Qualitative Data Analysis

Theme 1: General Feedback	
1a. Toolkit instructions	Easy to follow for the provider Very comprehensive Excellent. Seems like a great idea We should all be doing these things routinely now! I really like the achievement record.
1b. Adaptable to other settings	With additions and clarification tailored to the practice setting The majority does not need adaptation as the areas pertain to most situations.
Theme 2: Suggestions for the Toolkit	
2a. For Literacy Considerations	The patient instruction and education sheets require a high level of literacy. More use of pictures for the patient education piece instead of verbiage ie: have a picture of the asthma action plan. Bold statements and less words.

2b. For the Content	I would add under patient's goals "what is important to them". this can guide your interactions and assist with compliance Be more specific how often to revise the care plan, what does periodically mean. I would suggest a range and then as needed on top of that. Revise care plan every 6-9 months Maybe add the patient's goal success at evaluation. look at other metrics such as decreased ER visit or decreased LOS
2c. For the Format	The medication list should have more lines and should include a column for pill description and columns for morning, afternoon and night, so the patient can check when they take it. I would write out what POLST stands for so patients understand. I would put a column for last appointment next to current provider.
	I would not use Roman numerals. I would just use numbers with a combination of letters to distinguish the subsets Please change words physician and doctor to "provider or health care provider" Good use of bullets, bold first line.

Theme 3: Questions or Concerns

3a. Question about the care coordinator	Who is the care coordinator, a RN? I do think an RN should probably be the care coordinator to do the teaching. As above for clarity for provider and other health care team members as well as for patient. It seems like each provider would need their own care coordinator or it would be difficult to make sure he or she is not double-booked.
3b. Concerns about time constrains	I question the time frames and was bit overwhelmed when considering completing these tasks and ongoing management and monitoring I think this will take a lot of time, but I am sure the effort will pay off. It does seem like a lot to go through in a 30 minute visit.
3c. Other questions	I am wondering how communication will occur with primary care providers and cardiologists, especially if they still use paper charts.

Theme one: general feedback. The qualitative feedback from the external group echoed the favorable quantitative feedback. The comments from the participants included: instructions were “easy to follow for the provider”, “very comprehensive”, “excellent”, “seems like a great idea”, and “we should all be doing these things routinely now”, just to name a few. In addition, the participants felt that the CCM Toolkit could be adapted to other practice settings with minimal or no changes.

Theme two: suggestions for the CCM Toolkit. The external group reminded this author to consider patient’s literacy level when preparing patient instruction and education materials. These nurse practitioners, who were experienced in providing care to patients with chronic conditions, suggested using more pictures and “less words” for the patient education material. For the content of CCM Toolkit, the external group provided even more insightful recommendations in several areas. For example, one participant suggested to ask the patient “what is important” in the goals. This would result in better interactions with the patient, and would assist with patient compliance. Another suggestion from the external group was to specify the frequency of care plan revision. One suggested revising the care plan every six to nine month. Additionally, several recommendations was made regarding adding additional evaluation metrics such as the patient’s goal achievements, decreased emergency department visits and decreased length of stay. The external group also offered many suggestions regarding the format of the CCM Toolkit, including better structure the medication list, avoid abbreviations, avoid Roman numerals, and change “physician” to “provider or health care provider”.

Theme three: questions or concerns. Several comments were made about the care coordinator. One participant questioned who would be the care coordinator for the CCM service, and believed that a RN should probably be the care coordinator to do the teaching. Another participant felt that each provider would need their own care

coordinator to avoid double booking for the visits. A number of participants expressed concerns about all the tasks required to be accomplished, including initial assessment and ongoing management and monitoring, within the limited time allotted. Finally, one of the participants questioned how communication among all providers would occur if paper charts were still in use. Interestingly, using certified electronic health record (EHR) is a required element by CMS in providing CCM service (CMS, 2015). The providers are not eligible to bill for CCM service if they are still using paper charts.

Summary

In this chapter, the results from surveying two groups of health care providers were presented in detail. Both the internal group and external group evaluated the CCM Toolkit. The survey data including demographic information, quantitative survey data, and qualitative survey data, were described. The qualitative data was analyzed using the thematic analysis (Melnyk & Fineout-Overholt, 2005). Discussion of the significance of these survey results and recommendations for future research will be addressed in Chapter 5: Conclusion.

CHAPTER 5: CONCLUSION

This Doctor in Nursing Practice (DNP) project included two steps: developing a CCM Toolkit for a small central California independent medical practice, and evaluating the newly developed CCM Toolkit. The evaluation of the toolkit was achieved by surveying one internal and one external group of health care providers. The participants from both groups provided valuable input about the strengths and weaknesses of the CCM Toolkit, offered suggestions for improvement, and provided their opinions on the feasibility of implementing the CCM service (Table 7).

Table 7. CCM Toolkit Evaluation Overview

CCM Toolkit Evaluation Overview	
Toolkit Strength	**Concerns and Suggestions**

• Provided adequate and easy to follow instructions
• Appropriate assignments for each care team member
• Included all important areas without redundancy
• Could be successfully implemented in the practice
• Could be easily adapted to a wide variety of practice settings
	• Concerns about time constrains
	• Adding additional evaluation metrics
	  o Patient's goal achievements
	  o Decreased ED visits
	  o Decreased length of stay
	• Suggested that a RN needed to be the care coordinator
	• Be mindful of health literacy
	  o More pictures, less words
	• Other specific suggestions for toolkit format
	  o Ask the patient "what is important" in the goals
	  o Specify the frequency of care plan revisions

Discussion

A unique element of the study is that the survey inquired about the opinions of both practitioners and clinical staff. According to CMS (2015), only physicians, certified nurse midwives, clinical nurse specialists, nurse practitioners and physician assistants are eligible to provide and bill for the CCM service. The clinical staff may provide the CCM services incident to the services of the billing practitioner under the general supervision

of a practitioner. The external group represents practitioners who are eligible to provide and bill the new CCM services while the internal group represents clinical staff who can provide the CCM services incident to the service of the billing provider under general supervision (CMS, 2015). Participants from both internal and external groups were experienced in providing care to patients with chronic illnesses (Figure 1). However, the credential and educational backgrounds were quite different between the two groups. These differences offers distinct perspectives that the survey was seeking: unique viewpoints from both practitioners who direct and guide the CCM service, and clinical staff who implement the CCM service. This sampling method ensured data quality and completeness (Melnyk & Fineout-Overholt, 2005).

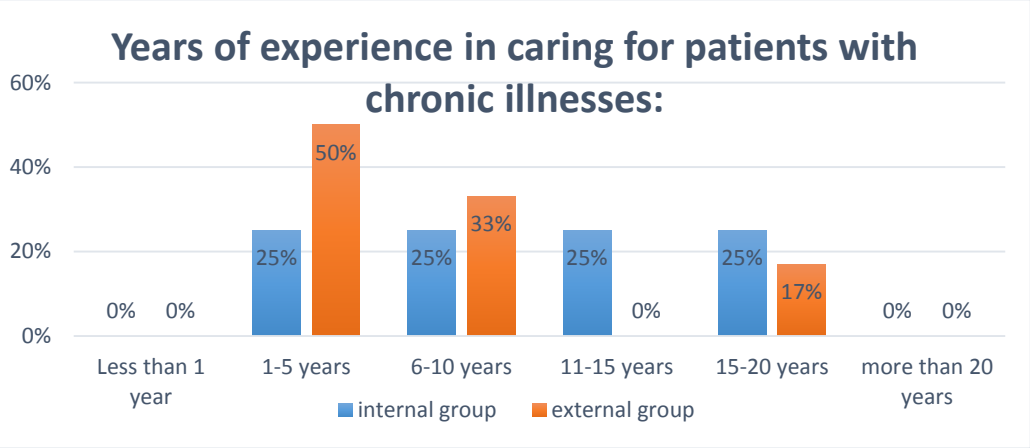

Figure 1. Years of experience

The analysis of the quantitative survey data from both internal and external groups was very positive. The findings supported that the newly developed CCM Toolkit provided adequate and easy to follow instructions (Q1 and Q2); the assignments for each care team member were appropriate (Q3); and all important areas were included without redundancy (Q4 and Q5). The internal group rated Q6 “time and effort required to complete the tasks are reasonable” much lower than the external group (Figure 2). The

concerns of completing all tasks in an allotted time by the internal group, could be the reason for this lower rating.

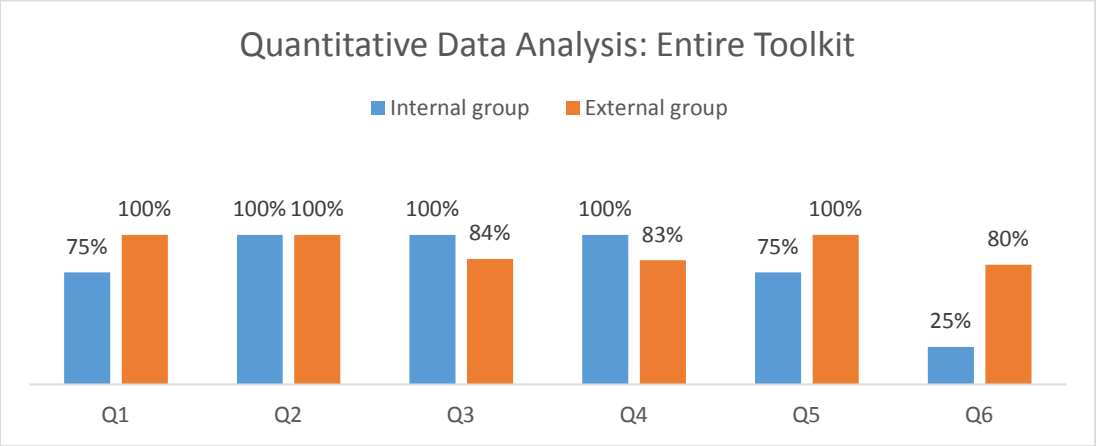

Figure 2. Quantitative data analysis: Entire toolkit

While both internal and external groups agreed the CCM Toolkit could be successfully implemented in the practice and easily adapted to a wide variety of practice settings, the external group rated the CCM Toolkit much higher in those items overall (Figure 3). It is possible that those nurse practitioners, who were experienced in providing care to patients with chronic conditions, had a better understanding of the requirements, and deeper appreciation of the tasks. Additionally, this group of nurse practitioners were from many different clinical settings. They felt more comfortable answering the questions about whether the toolkit is applicable to a wide variety of practice settings.

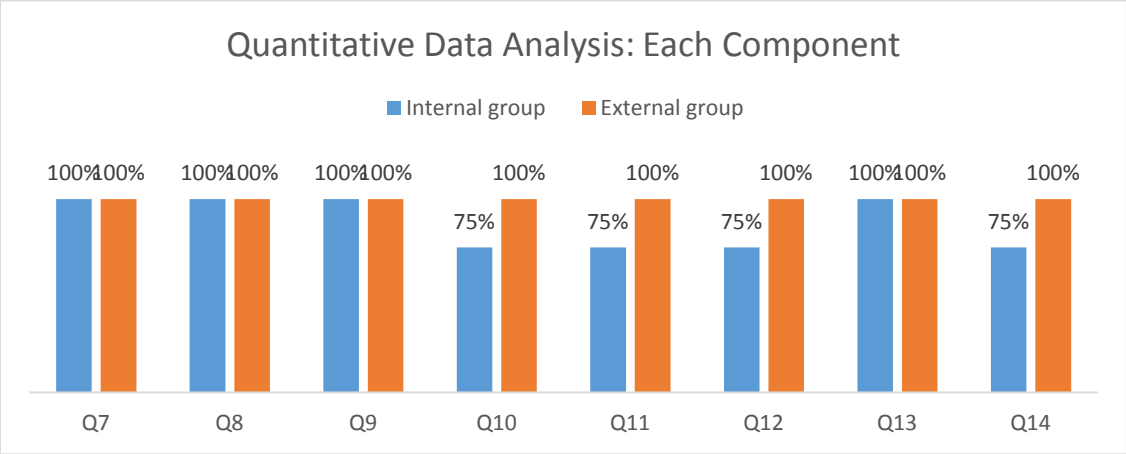

Figure 3. Quantitative data analysis: Each component

The analysis of the qualitative survey data has proven to be exceptionally beneficial. The amount of qualitative feedback from the internal group was less than that from the external group. This could be due to the difference in credential and educational background. The internal group may not feel comfortable offering comments and suggestions. In contrast, the external group is composed entirely of master's prepared experienced nurse practitioners. High quality and insightful comments were collected from the survey of the external group.

Time and resource constrains are known barriers in implementation of a new project (Porter-O'Grady & Malloch, 2011). These problems can be more acute in a small private medical practice with limited resources, including human, financial and physical resources. This private practice does not have any outside funding. Starting a new project, particularly a care coordination project, is labor intensive, and time consuming. This certainly poses additional burdens to the already busy staff. One common theme did emerge from the comments of the internal group, a concern about the time constrains. Comments such as "finding time to implement it" and "finding time to follow through with phone call" occurred multiple times. This theme was also echoed by the feedback from the external group. Several participants expressed similar concerns. While

developing the CCM Toolkit, it became increasingly obvious to this author that providing CCM service to patients with multiple chronic conditions is a daunting task. It requires a substantial commitment of financial and human resources to meet all the requirements set forth by CMS. The comments from both internal and external groups further validated this observation by the author.

Interestingly, participants from the external group recommended adding additional evaluation metrics such as the patient's goal achievements, decreased emergency department visits and decreased length of stay. Similar long term outcome measurements were considered by this author as well. As mentioned earlier in Chapter 3, Methodology, the ultimate long term outcome measurements for the CCM are patient satisfaction, decreased episodes of exacerbations of their chronic conditions, and decreased hospital admissions, although they are not the focus of this project.

One participant from the external group suggested that a RN needed to be the care coordinator to provide patient teaching. There is no doubt that a RN is better qualified than a medical assistant. On the other hand, these medical assistants are not functioning independently as a care coordinator, they are implementing specific tasks under the supervision and direction of a provider. Furthermore, Vanderboom, Thackeray, & Rhudy (2015) asserted that building and maintaining relationships is essential in providing patient centered care. This central California pulmonary practice enjoys very little staff turnover. The medical assistants in this practice were experienced and had established close working relationships with many of the patients during their tenures in the office. They can be particularly effective in providing patient self-care support. Evidence has shown that medical assistants can be very effective health coaches (Thom, et al. 2015).These unique qualities made these medical assistants better prepared for the tasks of implementing CCM service.

Another particularly insightful suggestion made by the external group was about health literacy. Nationally, among adults who received Medicare or Medicaid, 27% and 30%, respectively had below basic health literacy (National Center for Education Statistics, 2006). Identifying patients' health literacy levels, and making communication adjustments when providing health care information, are extremely important in providing culturally competent and patient centered care.

Limitations

The CCM Toolkit was designed specifically for the CCM service implementation in a central California pulmonary practice. Problems and solutions identified in the project may be specific to this type of practice. Even though both the internal and external group agreed that the CCM Toolkit could be successfully applied to a wide variety of practice settings, the sample size of this pilot study is small. As a result, it will be difficult to generalize the findings of this project. In addition, the toolkit would need some revisions based on the feedback from the survey, even though the result of the pilot evaluation of the CCM Toolkit was favorable. Finally, there is a potential for bias in this project, because the researcher who distributed the survey, collected and analyzed the data, knew all the participants personally.

Implications for Nursing Practice

As discussed in Chapter 2: Literature Review, currently, there are very few studies in the literature addressing the topic of CCM service specifically. This is due, in part, to the fact that the CCM has just been introduced by Medicare in 2015 (CMS, 2015). In addition, most of the existing studies addressing care coordination models similar to the CCM model were conducted in major academic centers, by large insurance groups, or by state funded research. To the best of this author's knowledge, this is the first project exploring the topic of CCM service implementation in the setting of a small

independent medical practice. This project discovered several issues needing special consideration prior to the implementation of CCM service in a small practice.

First, given the complexity of the CCM service, it is imperative to establish a toolkit to guide the CCM service prior to implementation. However, the development of the toolkit can be an expensive proposition. The development of this CCM toolkit required the knowledge and expertise of an experienced nurse practitioner (NP) having an in depth understanding of the requirements set forth by CMS. Time spent in researching and developing the toolkit was substantial. The development of the toolkit for this small central California medical practice was supported entirely by in kind donation from a Doctor in Nursing Practice (DNP) student. It will be a substantial investment, for similar small businesses to develop and test a similar toolkit if they do not have an experienced nurse practitioner, who is also a DNP student, willing to donate the time and effort for the development of the toolkit.

Second, providing CCM services requires significant human resources. The initial face to face enrollment visit is a required component for the CCM service (CMS, 2015). An annual comprehensive visit is also required for periodic update and revision of the care plan. These visits are comprehensive office visits, and needed at least 30 to 60 minutes of visit time. Monthly 20 minute non face to face clinical time is required for subsequent CCM services (CMS, 2015).

As illustrated in Table 8, depending on the time spent on initial and annual visit, for every 100 CCM patients, a minimum of an additional 4.2 to 8.4 hours per month, 50 to 100 hours per year, are required. And an additional 33.33 hours per month, 400 hours per year, are required for clinical staff time to satisfy the requirement for billing purpose. Considering this estimation of time demand is based on “billable hours”, it is unrealistic and unreasonable to expect the already busy staff to provide CCM service without providing additional help. The concern of finding time to implement the CCM service,

and completing tasks in the allotted time, was a recurring theme from both the internal and external groups in their evaluation of the CCM toolkit. These concerns were obviously well founded.

Table 8. Personnel Gap Analysis

	Per Patient	Number of patients	Per Month	Per Year
Initial enrollment/ annual comprehensive visit **Once a Year**	30-60 minutes	100	4.2-8.4 Hour	50-100 Hour
Monthly encounter time	20 minutes	100	33.3 Hour	400 Hour

This project demonstrated that starting a new project, particularly a care coordination project, is labor intensive and time consuming. Additional financial resources and designated personnel are essential in providing CCM service.

Third, in theory, once the CCM service is fully implemented, the CCM service is reimbursed by Medicare at $42.6 per patient per month (CMC 2014)) for every 20 minutes spent on patient care coordination. The CCM service will generate revenue to offset the cost of the toolkit development and other initial investments mentioned previously. Providing monthly CCM service for every 100 patients will generate $51,120 per year revenue (Table 9). This amount does not include the initial enrollment visit and annual comprehensive visits. However, the challenge is predicting the number of patients enrolled in the CCM service. Not all eligible patients will enroll in the CCM service. Without knowing the number of CCM patients, it will be difficult to decide what additional personnel resources will be necessary. Compounding the time and resources needed, is necessary staff training. The initial investment for CCM implementation can be substantial. Nonetheless, Basu, Phillips, Bitton, Song, and Landon (2015)

hypothesized that practices using non physicians to provide chronic care management were more likely to experience revenue in excess of costs.

Table 9. Revenue from Monthly CCM Service

	Monthly Rate Per Patient	Number of Patients	Monthly Revenue	Yearly Revenue
Monthly CCM Service	$ 42.60	100	$ 4,260.00	$ 51,120.00

Further Research

In health care, neither cost nor benefit can be, or should be, measured in monetary terms. The CCM model, like other care coordination models such as PCMH and TCM, holds great promise in improving patient healthcare and patient health outcome. The most significant returns on the investment in CCM service will be in improved patient health outcomes and patient satisfaction. Anecdotally, this author observed significantly increased patient satisfaction and decreased chronic disease exacerbations, in patients are receiving the CCM service in this central California pulmonary practice. Improving the patient experience of care, including quality and satisfaction, is one of the Triple Aim advocated by the Institute of Healthcare Improvement (IHI) (n.d.). Assessing patient satisfaction with the care received would be a logical topic for future research.

Several other topics should be explored as well. Further research is needed in a number of areas, including assessing the efficiency of the care coordination and evaluating the impact of the CCM service on patient care outcomes, such as increased quality of life, decreased exacerbation, decreased hospitalization and reduced health care cost. Remarkably, the recommendations from the external group: to include additional evaluation metrics such as the patient's goal achievements, decreased emergency department visits and decreased length of stay, also provided additional topics for future research.

Conclusion

This project is the first known study on the topic of implementing the CCM service in a small independent medical practice. It contributes to the literature by creating a CCM Toolkit that can be adapted to a variety of practice settings, in particular smaller medical practices. The CCM toolkit addresses several of the six national quality aims advocated by the Institute of Medicine (2001); that patient care should be safe, effective, patient-centered, timely, efficient, and equitable. Specifically, medication reconciliation addresses the aim for patient safety. The individualized care plan and action plan focus on the aim of patient centered care. Care coordination, one of the top health care quality improvement strategies (HHS, 2011), is implemented by providing the chronic care management service.

This CCM Toolkit, version 1.0, is a work in progress. Clearly, taking into consideration the recommendations from both internal and external groups, as well as clinical experience using the toolkit, will result in revisions to improve its functionality. However, even in its current form, it offers a framework, and can serve as a roadmap, for practices seeking to provide CCM service to their patients with multiple chronic conditions. The availability of this template can significantly reduce the time and resources required to develop a practice specific toolkit. Providing a useful tool to other small medical practices seeking to provide CCM service to their patients, this project contributes to the effort of improving health care quality and improving population health at the point of care.

This project offers a unique perspective to the CCM service implementation from "a real world" experience. As illustrated by Bradway et al. (2012) implementing a care coordination program can face many challenges. Similarly, several challenges and concerns were discovered during this project. It became apparent that providing the CCM service to patients with multiple chronic conditions can be a daunting task, and requires

substantial commitments of financial and human resources. The challenge becomes more acute in small independent medical practices with no outside funding. However, the return on investment can be substantial, particularly in terms of patient health outcome.

The current health care climate is ideal for professional growth. Leading change and advancing health is the future of the nursing profession (Institue of Medicine, 2011). Advanced Practice Nurses (APNs) are well qualified to provide chronic care management. APNs are trained to provide patient centered care using a holistic approach, and are known as experts in care coordination (Robinson, 2010). Naylor et al. (2013) asserted that Advanced Practice Nurses (APNs) played an essential role in the TCM success. In addition, Advanced Practice Nurses, including Nurse Practitioners, Certified Nurse Midwives, and Clinical Nurse Specialists, are identified by as CMS eligible providers for CCM services (CMS, 2015). Success in providing the CCM service can add to the body of literature demonstrating that NPs provide high quality cost effective care, and contribute to the evidence supporting NP full practice.

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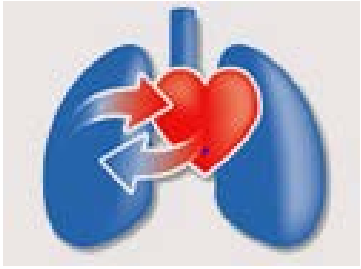
APPENDICES

APPENDIX A: CHRONIC CARE MANAGEMENT TOOLKIT

Chronic Care Management Toolkit (C)



Developed for

Comprehensive Pulmonary and Critical Care Associates

by

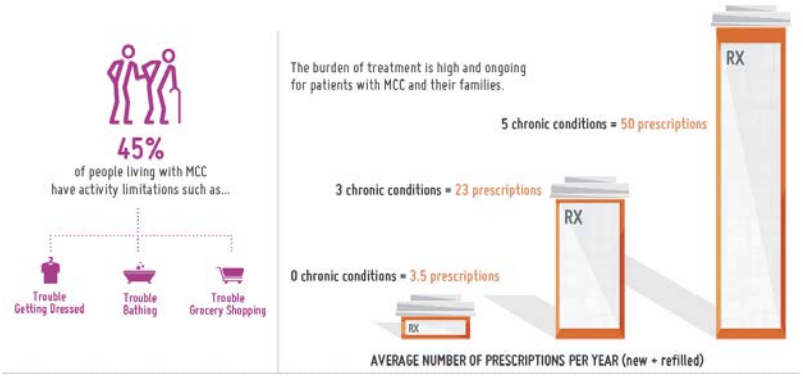
Heidi Hongxin He, MSN, FNP

Table of Contents

Introduction

Chronic Conditions

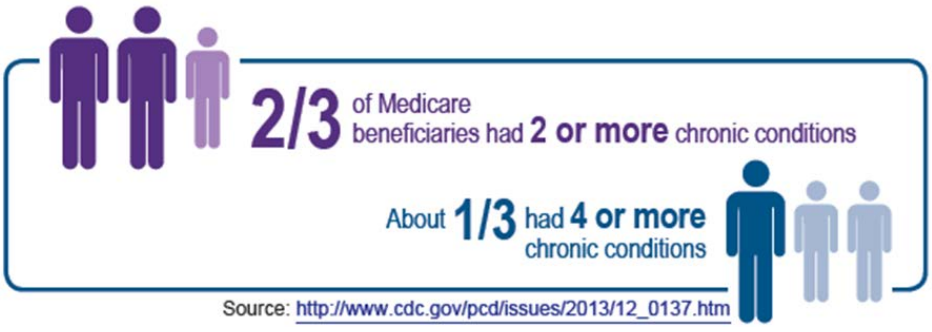
- Physical, mental, or cognitive illnesses that last a year or more and require ongoing medical attention, and limit activities of daily living (HHS, 2014).
- Account for
    - 70% of deaths and 75% of the $2 trillion in annual U.S. health care spending (Institute of Medicine, 2012)
    - 95% of all Medicare spending (Benjamin, 2010)
    - The quality of health care related to chronic care is suboptimal (IOM, 2012)



Source: http://www.ahrq.gov/professionals/prevention-chronic-care/decision/mcc/index.html

Multiple Chronic Conditions (MCC)

- Two or more chronic conditions
- Approximately 1/3 Americans has MCC, including one in 15 children (HHS, 2010)
- Among Americans aged 65 years and older, 3/4 have MCC (HHS, 2010)
- 2/3 Medicare beneficiaries have MCC (CMS, 2015)
- Patients with multiple chronic conditions (MCC) are facing increased challenges physically, psychologically and financially (IOM, 2012).



Chronic Care Management Service

- Introduced by Medicare in January 2015, to improve the care of chronic illnesses
- Available only to patients with multiple chronic conditions who are at high risk of death, acute exacerbation, or functional decline.
- The goal for CCM service is to proactively manage patient's health, rather than only treat disease and illness (CMS, 2015).

The additional key elements for CCM

- Patient consent
- A patient centered care plan based on a systematic assessment of the patient's medical, functional and psychosocial needs
- The electronic care plan contains actionable instructions, shared with patient and other providers

Each calendar month, under the direction of a designated CCM clinician (MD, APRN or PA), 20 minutes of clinical staff time is eligible for Medicare reimbursement. These non face to face care coordination activities include:

- Self-care support, ongoing patient assessment, and medication management
- Ensuring receipt of all recommended preventive care
- Communication with the patient and other treating health professionals for care coordination, and management of care transitions
- Care plan review and revision

CCM service is complex and extensive. This CCM Toolkit is developed to guide the implementation of Chronic Care Management at the medical office of Comprehensive Pulmonary and Critical Care Associates. It aims to provide a systematic approach to an effective and successful implementation.

Glossary

AAA	Abdominal Aortic Aneurysm
ACEI	Angiotensin Converting Enzyme Inhibitor
Action Plan	Actionable instructions that patient can follow based on symptoms
APRN	Advanced Practice Registered Nurse
ARB	Angiotensin Receptor Blocker
ASA	Aspirin
BiPAP	Bilevel Positive Airway Pressure
Care Coordinator	A designated certified medical assistant in charge of patient care coordination
CCM	Chronic Care Management
CHF	Congestive Heart Failure
CMS	The Center for Medicare and Medicaid Services
COPD	Chronic Obstructive Pulmonary Disease
CPAP	Continuous Positive Airway Pressure
DM	Diabetes Mellitus
DXA	Dual Energy X-ray Absorptiometry
ED	Emergency Department
EMR	Electronic Medical Record
FEV_1	Forced Expiratory Volume 1^{st} Second
FVC	Forced Vital Capacity
GOLD	Global Initiative for Chronic Obstructive Lung Disease
HHS	U. S. Department of Health and Human Services,
ICS	Inhaled Corticosteroid
IOM	Institute of Medicine

IT	Information Technology
LABA	Long Acting Beta Agonist
LDL	Low Density Lipoprotein
LVEF	Left Ventricle Ejection Fraction
MCC	Multiple Chronic Condition
MD	Medical Doctor
NP	Nurse Practitioner
O_2	Oxygen
PA	Physician Assistant
PEF	Peak Expiratory Flow
Provider	Physician or Nurse Practitioner
SABA	Short Acting Beta Agonist
SNF	Skilled Nursing Facility
TAR	Treatment Authorization Request
SOB	Short of Breath
Mini-Cog Test	The Mini-Cog Test is a 3 minute instrument to screen for cognitive impairment in older adults in the primary care setting

Chronic Care Management Staff Workflow

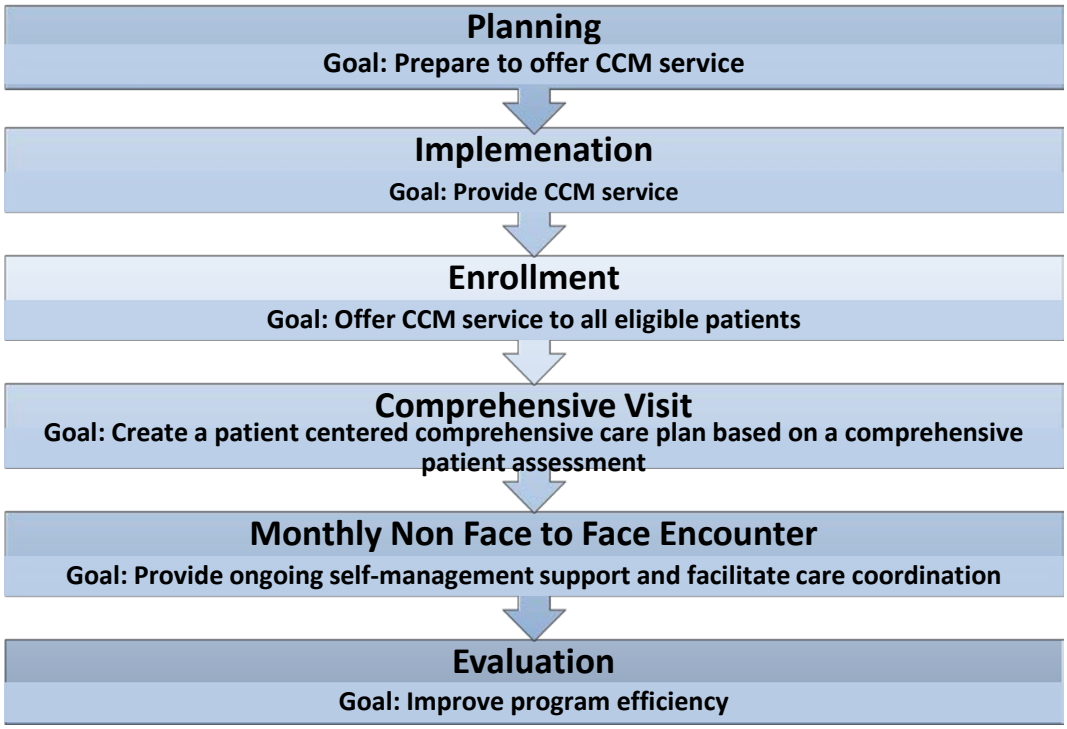
Chronic Care Management Staff Workflow

This workflow sheet aims at offering a general overview of the process of CCM service, and providing a clear description of the composition of the CCM care team and the function of each member.

CCM care team members:

- designated provider (MD or NP)
- care coordinator
- other CMAs
- receptionist
- other providers involved in patient care, within and outside of the practice

CCM Process



Planning

Goal: Prepare to offer CCM service

Task	Staff
• Identify eligible CCM service patients • Create "Medicare Chronic Care Management Eligible Patients" report • Create CCM consent form for the practice • Ensure all CMS required elements are included in the consent • Evaluate feasibility, ie: work to be completed and available staff • Assign a designated provider and a care coordinator for CCM patients • Create laminated CCM ID card	Administrator
• Create patient information sheet and form" All about Me" • Create care protocols • Create action plans • Create flowcharts • Create goal templates • Create medication labels	Provider

Implementation

CCM Enrollment

Goal: Offer CCM service to all eligible patients.

Task	Staff
For eligible patients who have routine follow up appointments:	
• Review appointment schedule to identify eligible patients daily • Print CCM consent form and place it in the chart • Alert the provider that the patient is eligible for CCM	Front office Intake MA
• Discuss and offer the CCM service to the patient, answer patient's questions • Confirm the consent form is signed by the patient if the patient is agreeable • Provide "Patient Information" and intake form: All about Me • Schedule a comprehensive CCM enrollment visit	Provider/ MA
• Allow sufficient block time for enrollment visit (30mins)	Administrator
For eligible patients who do not have routine follow up appointments:	
• Call patients to schedule an appointment	Receptionist
• Follow same procedure as above.	

Materials needed:

✓ Consent form	✓ Script for CCM	✓ Patient information	✓ All about Me

Comprehensive Enrollment Visit

Goal: Create a patient centered comprehensive care plan based on a comprehensive patient assessment

Staff: Assigned provider and care coordinator

Task	**Participants**
• Follow "Comprehensive Assessment and Patient Centered Care Plan Template" for: o Physical assessment o Mental assessment o Cognitive assessment o Psychosocial assessment o Functional assessment o Environmental assessment	Assigned provider and care coordinator
• Establish a comprehensive problem list	With patient and care giver
• Establish measureable and achievable goal	With patient and care giver
• Follow "Comprehensive Assessment and Patient Centered Care Plan Template" for: o Medication management o Symptom management o Patient individualized action plan	Assigned provider and care coordinator
• Create labels for medication indications • Label all medication bottles	care coordinator under the direction of assigned provider
• Ensure a copy of the care plan is available to o Patient, written or electronically o All care team members electronically o Providers outside the practice, electronically, as appropriate • Instruct patient to present CCM ID card o when in ED o when being discharged from the hospitals	care coordinator
• Assess internet and smart phone use • Encourage access of patient care portal	care coordinator
• Maintain an inventory of available social and community services	care coordinator
• Monitor and revise care plan yearly or PRN	Assigned provider and Care team member

Monthly Non Face to Face Encounters

Goal: Provide ongoing self-management support and facilitate care coordination

Staff: Care coordinator under the direction of the provider

Task:

- **Document each encounter with start and end time, and reason in EMR**
- **Alert the biller when total encounter time reached 20minutes for each calendar month**

Immediately After Initial Comprehensive Enrollment Visit

- Follow up phone call ASAP
- Ensure that patient received care plan and reviewed the care plan.
- Update any information that might be missing
- Follow up with patient for any questions or concerns
- Provide clarifications as needed
- Ensure patient received educational materials regarding
  - Medications: directions and indications
  - Diagnosis
- Discuss with patient short term goals and long term goals

Routine Monthly Non Face to Face Encounter

- Plan and organize routine monthly follow up for all CCM patients
  - Review all patients enrolled the CCM service
  - Plan and schedule phone follow up according to patient's needs
- Review patient care plan and action plans
- Refine measurable and achievable goals as needed

- Ensure ongoing communication with patient or caregiver at least monthly
- Follow established protocol for
  - Ongoing patient self-care support
  - medication adherence
  - life style modification
  - preventive service
  - care coordination

- Maintain and update flow sheet for ongoing assessment regarding implementation of evidence based care
  - preventive service
  - CHF
  - COPD
  - Asthma

Evaluation

Goal: Improve CCM quality and efficiency
Evaluation financial feasibility

Staff: Administrator

Implementation	Short Term Evaluation Measures
Enrollment	• Number of patients enrolled in CCM service o 3 month o 6 month o 12 month
Comprehensive Enrollment Visit	• Number of CCM patients had Comprehensive Enrollment Visit o 3 month o 6 month o 12 month
Monthly Non Face to Face Encounters	• Number of CCM patients qualified for monthly reimbursement o 3 month o 6 month o 12 month
	Long Term Evaluation Measures
	• Patient satisfactory • Patient medication compliance • Patient self-management skills • Quality measures o Completeness of clinical flow sheet • Life style changes o Smoking cessation

Chronic Care Management Enrollment

Chronic Care Management Enrollment Overview

1. The goal for this phase is to offer CCM service to all eligible patients.
2. Included materials are:
    vi. CCM enrollment script

        The purpose for this script is to ensure consistency when information is presented to eligible patients by members of the care team.

    vii. CCM program patient consent form

        This is a required element for CCM by CMS (2015).

    viii. CCM patient information

        The purpose for this document is to provide patient friendly information and easy to follow instructions for CCM patients.

    ix. Template for CCM ID Card

        1. Managing care transitions between and among health care providers and settings is an important part of CCM service (CMS, 2015).
        2. This CCM ID card serves as a tool to facilitate this care coordination.

    x. Intake form: “All about Me”

        1. This form provides an opportunity for the patient to share their concerns, and their learning needs with the providers.
        2. This form allows patients an opportunity to self-assess, and providers an opportunity to assess patients’ perception of their physical, functional and psychosocial states.
        3. Patient’s ability to complete the form gives the providers an overall picture of patients’ health literacy level.

Script for CCM Enrollment

We want to make sure you get the best care possible from everyone that is involved with your care. As a patient with multiple chronic conditions, you are eligible to participate in and will benefit from a new Medicare program.

As part of this Medicare program, we can talk to you on the phone about your symptoms; we can help you with the management of your medications; we can help coordinate your visits with other doctors and facilities, and for lab, radiology or other testing.

Together we will formulate a comprehensive care plan, with your input, during your comprehensive CCM enrollment visit, and provide with you a copy of the care plan. Medicare covers these non face to face services. Generally, there is not out of pocket expense to you. We need your consent if you wish to participate in the Chronic Care Management program.

We will schedule a comprehensive visit to develop a care plan that works the best for you. Our goal is to provide you with the best care possible, to decrease flare ups or worsening of your conditions, to keep you out of the hospital, and minimize costs and inconvenience to you.

Reference:

American College of Physicians. (2015). Chronic care management tool kit: What practices need to do to implement and bill CCM codes. Retrieved from: http://www.acponline.org/running_practice/payment_coding/medicare/chronic_care_management_toolkit.pdf

Comprehensive Pulmonary & Critical Care Associates

Where Caring is an Art and Healing is a Science

P.O. Box 2809
Bakersfield, CA 93303
(661) 633-5474

2811 H Street
Bakersfield, CA 93301
Fax (661) 633-9276

Chronic Care Management Agreement

By signing this Agreement, you consent that Comprehensive Pulmonary will provide chronic care management services (referred to as "CCM Services") to you as more fully described below.

CCM Services are available to you because you have been diagnosed with two (2) or more chronic conditions which are expected to last at least twelve (12) months and which place you at significant risk for health decline.

CCM Services include 24-hours-a-day, 7-days-a-week access to a health care provider in Provider's practice to address acute chronic care needs; systematic assessment of your health care needs; processes to assure that you timely receive preventative care services; medication reviews and oversight; a plan of care covering your health issues; and management of care transitions among health care providers and settings. The Provider will discuss with you the specific services that will be available to you and how to access those services.

Provider Obligations.

When providing CCM Services, the Provider must:

- Explain to you (and your caregiver, if applicable), and offer to you, all the CCM Services that are applicable to your conditions.
- Provide to you a written or electronic copy of your care plan.
- If you revoke this Agreement, provide you with a written communication of the revocations, stating the effective date of the revocation.

Beneficiary Acknowledgment and Authorization.

By signing this Agreement, you agree to the following:

- You consent to the Provider providing CCM Services to you.
- You authorize electronic communication of your medical information with other treating providers as part of coordination of your care.
- You acknowledge that only one practitioner can furnish CCM Services to you during a calendar month.
- You understand that cost-sharing will apply to CCM Services, so you may be billed for a portion of CCM Services even though CCM Services will not involve a face-to-face meeting with the provider.

Beneficiary Rights.

You have the following rights with respect to CCM Services:

- The Provider will provide you with a written or electronic copy of your care plan.
- You have the right to stop CCM Services at any time by revoking this Agreement effective at the end of the then-current month. You may revoke this agreement verbally by calling 661-633-5474 or in writing to. Upon receipt of your revocation, the Provider will give you written confirmation including the effective date of revocation.

Beneficiary **Beneficiary's Representative and/or Caregiver**

Signature:_____ Signature: _____

Print Name: _____ Print Name: _____

Date:_____Date:_____

The Chronic Condition Management (CCM) Program

Patient Information

Thank you for participating in the Chronic Care Management program. We want to provide you with the best care possible. Our goal is to help you feel better and take better care of yourself.

How Does the CCM Program Work?

The services you receive are ***in addition*** to the regular care you get from our office. That means you will still see our providers when you need regular follow ups, or have emergencies.

With the CCM program, we want to make sure you get the best care possible from everyone that is involved with your care. We can help coordinate your visits with other doctors and facilities, and your lab, radiology or other testing. We can talk to you on the phone about your symptoms; and we can help you with the management of your medications

What Happens Next?

We will schedule an in depth enrollment visit to discuss your concerns and goals, and together we will formulate a care plan. Working together to create the care plan, we can make sure that we are on the same page about plans to improve your health and help your reach goals that are important to you. We know it's a challenge to manage chronic diseases and life. We are here to help you manage your health in ways that fit into your life.

Before the enrollment visit

- Please complete the intake form as completely as possible
- Please bring the completed form, and any questions you might have to the visit
- Please bring all your medications, including inhalers and nebulizer medications
- Family members/ caregivers are invited to accompany you for the enrollment visit, at your discretion

During the enrollment visit

- We will assess and monitor your health problems and your functional status
- We will help you figure out which medications may be useful for your health problems
- We will help you to establish realistic and achievable goals, and provide the tools you need to achieve those goals
- We will provide you with an individualized care plan

After the enrollment visit

- We will communicate regularly with you, and with your permission, with your caregiver or family members, regarding your symptoms and symptom management
- We will give you the best information we can about your self-management options
- We will coordinate your care with other providers including other doctors, hospitals pharmacies, radiology services and other facilities

What Do I Need to Do?

We are here to help you, but you are in charge of your health. In order to achieve your health goals, you will need to

- Keep all your regularly scheduled appoints. CCM service does not replace routine follow up appointments
- Take all you medications as prescribed
- Follow the care plan as we agreed upon
- Follow the action plan as provided
- Contact us for any questions or concerns
- Present your CCM ID card when you have an emergency department visit or hospital admission.
- Contact us as soon as possible after an emergency department visit
- Contact us as soon as possible after being discharged from a hospital or a skilled nursing facility.

Template for CCM ID Card

Laminated, wallet size, 14 font

One side:

The above named patient is enrolled in Chronic Care Management Program at
Comprehensive Pulmonary and Critical Care Associates
Please notify our office as soon as possible when the patient is:

- Treated in the Emergency Department
- Admitted to or discharged from the hospital
- Admitted to or discharged from the Skilled Nursing Facility

The other side:
Same template as business card

Chronic Care Management Patient

Comprehensive Pulmonary and Critical Care Associates
2811 H Street, Bakersfield, CA 93301
Phone 661-633-5474
Fax 661-633-9276

All about Me

My Chronic and Long Term Diagnoses

Diagnosis	When Was Diagnosed	Comments
Example: COPD	Diagnosed in 2000	Followed by Dr. Anders

I understand the diagnosis of my chronic conditions. □ yes □ no

□ would like to learn more

_____

_____

I understand the self-management of my chronic conditions. □ yes □ no

□ would like to learn more

_____

I know the warning signs of my chronic conditions. □ yes □ no

□ would like to learn more _____

List of current providers

Name	**Description/ Specialty**	**Phone #**	**Fax #**	Role	**Comments**
Example: Dr. Alpha Anders	Lung doctor	661-633-5474	661-633-9276	Managing my lung problems	I see him every 3 months

List of current suppliers for medical needs

Service type	Name	Phone Number	address
Pharmacy	CVS		
Oxygen supplier			
Nebulizer			

I understand the roles of these providers. □ yes □ no
□ would like to learn more

_____

I know when and how to contact these providers. □ yes □ no
□ would like to learn more

_____

Medication List

Allergy:

Medications I am currently taking, including prescribed medications, vitamins and over the counter supplements

Medication Name	Directions	Use	Prescribed by	Comment
Example: Advair 250/50	**1 puff 2x/day**	**COPD**	**Dr. Anders**	**Uses every day**

I understand the purposes and instructions for these medications. □ yes □ no

□ would like to learn more _____

I always take these medications as prescribe. □ yes □ no because:

I am confused about these medications. □ yes □ no

I want the person working with me to know…

I have challenges with: □Vision □Hearing □Speech □Mobility □Transportation □Other

---

My primary language is: □ English □ Spanish □ Other

I need a translator: □ Yes

□No

My religion/spirituality impacts my health care:

□ Yes No

Comments

I have: □ Advanced Directives □ POLST

□ Power of Attorney □ I want to learn more

I live: □ Alone □ With a partner/spouse □ With family □ With others □ In assisted living

□ In a nursing home □ Other

Comments

I have good social support: □ Yes □ No

I have access to the Internet: □ Yes □ No

I am able to fill out these medical forms without difficulty: □ Yes □ No

□ Comments

_____

I would like to ask my providers about:

_____

_____

My health concerns

This section helps you identify the types of problems or concerns you are currently facing as you manage your health. Sharing your concerns helps your Care Team assist you with Next Steps.

□ My ability to manage my chronic condition(s)

□ End of life issues

□ Thinking/memory problems

□ Financial issues

□ Access to health care

□ Emotional issues

□ Spiritual support

□ Family Issues

□ Activities of daily living

□ Home safety

□ Mobility

□Transportation

□ Other Details

_____

Where I want to be – Life goals

A Life Goal is a motivating reason you are working toward better health.

Goal Description

How I'm getting there – Next steps

Next Steps are small, short-term steps that you are ready and willing to take towards obtaining your life goals. Be sure to reward yourself along the way!

☐Example:

I will take all my medications as prescribed every day
I will check my weight every day

Comprehensive Enrollment Visit

Comprehensive Enrollment Visit Overview

1. The goal for this phase is to create a patient centered comprehensive care plan based on a comprehensive patient assessment
2. Included materials are:
    i. Comprehensive Assessment and Patient Centered Care Plan Template

    This template functions as a checklist to ensure all CMS required elements are completed in the Electronic Medical Record (EMR) for the comprehensive assessment and the patient centered care plan.

    ii. Action Plan Templates

    These templates provide actionable instructions for patients' symptom management (CMS, 2015), and can be tailored to the individual needs of each patient.

        1. My Chronic Obstructive Pulmonary Disease Action Plan
        2. My Asthma Action Plan
        3. My Congestive Heart Failure Action Plan

    iii. Short Term and Long Term Goals Templates

    These templates provide measurable achievable goals (CMS, 2015) for patients, and can be tailored to the individual needs of each patient.

    iv. My Achievement Record

        1. This record will be given to the patient during the Comprehensive Enrollment Visit.
        2. It provides a validation of patients' progress in their ongoing efforts of improving their health.

Comprehensive Assessment and Patient Centered Care Plan Template

This template functions as a checklist to ensure all required elements are completed in the EMR for the comprehensive assessment and the patient centered care plan.

Assessment	Plan	Comments

• Review and discuss with patient all information in "All About Me"
• Review and update all health history in EMR
  o Surgery history
  o Vaccines
  o Allergies
  o Past medical history
  o Health history
  o Family history
• Assess the knowledge needs of the patient and/or caregivers
	• Create a comprehensive problem list*
	• Provide education as needed
	• Educational material
	  o Regarding diagnosis*
	  o expected outcome and prognosis*
	• Ensure receipt of recommended preventive care service*
		• Use educational materials from existing EMR
		• Coordinate with primary care provider as needed
		  o Flu Vaccine
		  o Pneumonia Vaccine

• Review and update medication lists*
  o Assess medication adherence
  o Assess learning needs for medication
  o Discuss medication safety
	• Medication reconciliation*
	  o review of medication adherence
	  o review potential interactions
		• Create labels for medication indications, ie:
		  o Maintenance inhaler
		  o Rescue inhaler
		• Label all medications

• Review and update all members of patient care team
  o All providers/specialists
  o Pharmacy
  o DME supplier
• Assess needs for care coordination
	• Coordinate with other providers as needed*	• Ensure sharing of care plan when appreciate*

• Assess physical condition*
• Assess functional level*
  o SOB questionnaire
• Assess cognitive condition*
  o Mini-Cog test
	• Education regarding
	  o Prognosis*
	  o Expected outcome*
	  o warning signs and indications of exacerbation
		• Provide and discuss individualized action plans
		  o CHF
		  o COPD
		  o Asthma

• Review and update
  o Social history*
  o Environmental history*
• Assess barriers to care
	• Social and community services referral as needed	• Maintain an inventory* of available social and community services

• Assess needs for social and community services Assessments of the inventory of available resources*.		
• Assess patient's goals o long term goals o short term goals.	• Assist patient to establish goals that are o Measurable* o Achievable	• Refine goals in follow up encounters • Provide patient with My Achievement Record
• Ask if patient uses internet or smart phone • Inform patient that he or she will be able to access the following via portal 24/7: • The care plan • Patient education material	• Encourage patient to register for the portal • Care plan can be accessed via EMR electronically at all time • Provide hard copy of care plan*	• Revise care plan periodically*

***required elements for CCM service set forth by CMS (2015).**

Additional Materials

Action plans	Short and long goals template	Educational Materials
• COPD Action Plan • Asthma Action Plan • CHF Action Plan	• COPD • Asthma • CHF • DM • Reduce health risk • Smoking cessation	• Heart failure after your visit • Learning about heart failure • COPD after your visit • Learning about COPD • Asthma after your visit • Learning about Asthma • Quit smoking action plan

My Chronic Obstructive Pulmonary Disease Action Plan

My maintenance medications:	My rescue medications (for quick relief):

I have oxygen at home _____I have CPAP/Bipap at home_____

Green Zone: I am doing well today **Goal: Stay in Green Zone**	**Actions**
• Usual activity and exercise level • Usual amounts of cough and phlegm/mucus • Sleep well at night • Appetite is good	☐ Take daily medicines ☐ Use oxygen as prescribed ☐ Continue regular exercise/diet plan ☐ At all times avoid cigarette smoke, inhaled irritants ☐ Contact us if you need help with quitting smoking ☐ Get flu vaccine yearly_____ ☐ Get pneumonia vaccine every 5 years_____
Yellow Zone: I am having a bad day **Goal: Stop the symptoms before they get worse**	**Actions**
• More breathless than usual • I have less energy for my daily activities • Increased or thicker phlegm/mucus • Using quick relief inhaler/nebulizer more often • Swelling of ankles more than usual • More coughing than usual • I feel like I have a "chest cold" • Poor sleep and my symptoms woke me up • My appetite is not good • My medicine is not helping	**Contact us as soon as possible at 661-633-5474** ☐ Contact us as soon as possible at 661-633-5474 ☐ Continue daily medication ☐ Use quick relief inhaler every 4 hours ☐ Start Emergency Kit: an oral corticosteroid (specify name, dose, and duration) _____ ☐ Start an antibiotic (specify name, dose, and duration) _____ ☐ Use oxygen as prescribed ☐ Get plenty of rest ☐ Use pursed lip breathing ☐ At all times avoid cigarette smoke, inhaled irritants
Red Zone: I need urgent medical care **Goal: Avoid it as much as possible**	**Actions**
• Severe shortness of breath even at rest • Not able to do any activity because of trouble breathing • Not able to sleep because of trouble breathing • Fever or shaking chills • Feeling confused or very drowsy • Chest pains • Coughing up blood	☐ **Call 911 or Contact us immediately at 661-633-5474** ☐ While getting help, immediately do the following: Use quick relief inhaler 2p Use nebulizer may repeat one time immediately Use oxygen as prescribed Use pursed lip breathing

American Lung Association. (n.d.). My COPD action plan. Retrieved from: http://www.lung.org/lung-disease/copd/awareness/copd-action-plan-generic.pdf

My Asthma Action Plan

My maintenance medications:	My rescue medications (for quick relief):

I have Peak Flow Meter _____ My personal Best is_____

Green Zone: I am doing well today **Goal: Stay in Green Zone**	**Actions**
• No cough • No wheezing • No shortness of breath during the day or night • Peak flow is 80% of personal best	☐ Take daily medicines ☐ Continue regular exercise ☐ Avoid triggers ☐ At all times avoid cigarette smoke, inhaled irritants ☐ Get flu vaccine yearly_____ ☐ Get pneumonia vaccine every 5 years_____
Yellow Zone: I am having a bad day **Goal: take care of symptoms before they get worse**	**Actions**
• Increased cough • Increased wheezing • Increased shortness of breath during the day or night • Waking at night due to asthma symptoms • Can do some but not all usual activities • Peak flow is 60-79% of personal best	**Contact us as soon as possible at 661-633-5474** ☐ Contact us as soon as possible at 661-633-5474 ☐ Continue daily medication ☐ Use quick relief inhaler every 4 hours ☐ Take 2 more pulls in 20-30mins if symptoms continues ☐ Start Emergency Kit: an oral corticosteroid (specify name, dose, and duration ☐ Avoid triggers ☐ At all times avoid cigarette smoke, inhaled irritants
Red Zone: I need urgent medical care **Goal: Avoid it as much as possible**	**Actions**
• Severe shortness of breath even at rest • Quick relief inhaler is not helping • Cannot do usual activites • Peak flow is < 60% of personal best	☐ **Call 911 or Contact us immediately at 661-633-5474** ☐ While getting help, immediately do the following: Use quick relief inhaler 2p Use nebulizer may repeat one time immediately Use pursed lip breathing

U.S. Department of Health and Human services. (n.d.) Asthma action plan: Retrieved from: http://www.nhlbi.nih.gov/files/docs/public/lung/asthma_actplan.pdf

My Congestive Heart Failure Action Plan

My Ideal Weight (When I feel well) is _____ My water pill is_____

Green Zone I am having a good day	Action Symptoms controlled
Goal: Stay in Green Zone	
My weight is _____ • No weight gain • No chest pain • Usual activity and exercise level • Breathing is at usual level • Appetite is good	• Continue daily mediations • Continue daily weight • Continue low salt diet • Be as active as possible • Limit alcohol to 1 drinks a day • Avoid cigarette smoke • Talk to us if you need help quitting. • Avoid getting sick from colds and the flu • Get yearly flu vaccine date_____ • Get pneumonia vaccine every 5 years_____ • Keep routine follow up appointment
Yellow Zone I am having a bad day	Action **Contact us as soon as possible at 661-633-5474**
Goal: Take care of symptoms before they get worse	
• More breathless than usual • Weight gain of 3 or more pounds in 2 days • Increased swelling in legs, ankles or feet • More short of breath with activities • Too tired or weak that you can't do your usual activities • Increased cough • Increase in the number of pillows needed • Anything else unusual that bothers you	• Take an additional water pill as instructed • _____ • Continue to weigh daily • Get plenty of rest • Limit your fluid intake • _____ • Continue to limit your salt intake, alcohol intake and avoid cigarette smoke
Red Zone I am having a really bad day	Actions **Contact us Immediately at 661-633-5474**
Goal: Avoid the occurrence as much as possible	
• Severe shortness of breath • Extreme fatigue • Need to sit in chair to sleep • Chest pain at rest • Confusion • Feeling dizzy or lightheaded • severe swelling ankles or legs	• Be prepared that you might be sent to the emergency room

Chronic Heart Failure Self Management Plan (2015). Retrieved from: www.improvingchroniccare.org

Short Term and Long Team Goals

Template

<table>
<tr><th colspan="2">COPD/Asthma</th></tr>
<tr><td>Short Term Goals
By next follow-up appointment, I will</td><td>Long Term Goals</td></tr>
<tr><td>• Follow action plan
• Take all inhalers as prescribed
• Take medications as prescribed
• Know my maintenance medications
• Know my rescue medications
• Know how to take my inhalers
• Use oxygen as prescribed
• Know my triggers
• Be more active
• Keep my scheduled appointment</td><td>• No exacerbations in 6 month
• No hospitalization in 6 month
• Slow down the disease progression
• Maintain or achieve a healthy weight
• Cut back smoking if applicable
• Implement exercise plan of physical activity to 5 times per week as tolerated</td></tr>
<tr><td colspan="2">My healthcare team can support me by
• Providing me with educational material
• Providing action plan
• Prescribing appropriate medications
• Listening to my concern
• Referral to pulmonary rehab
• Providing flu vaccine yearly, and pneumonia vaccine every 5 years</td></tr>
<tr><td>Comments</td><td></td></tr>
<tr><td>Evaluation</td><td></td></tr>
<tr><td>Making progress
Date:</td><td>Making progress
Date:</td></tr>
<tr><td>Achieved:
Date</td><td>Achieved:
Date:</td></tr>
</table>

<table>
<tr><th colspan="2">DM</th></tr>
<tr><td>Short Term Goals
By next follow-up appointment, I will</td><td>Long Term Goals</td></tr>
<tr><td>• Check blood sugars as directed
• Keep track of blood sugar readings in a log
• Take medications as prescribed
• Follow a diabetic-friendly diet, manage portion control
• Implement exercise plan of physical activity to 5 times per week
• Keep my scheduled appointment</td><td>• Maintain hemoglobin A1c under 7, or at the level your provider recommends
• Annual eye examinations with ophthalmologist to screen for complications
• Maintain or achieve a healthy weight</td></tr>
<tr><td colspan="2">My healthcare team can support me by
• Referring me to a nutritionist or certified diabetes educator
• Providing me with resources for meal planning and healthy eating</td></tr>
<tr><td>Comments</td><td></td></tr>
<tr><td>Evaluation</td><td></td></tr>
<tr><td>Making progress
Date:</td><td>Making progress
Date:</td></tr>
<tr><td>Achieved:
Date</td><td>Achieved:
Date:</td></tr>
</table>

<table>
<tr><th colspan="2">Smoking Cessation</th></tr>
<tr><td>Short Term Goals

By next follow-up appointment, I will</td><td>Long Term Goals</td></tr>
<tr><td>Cut number of cigarettes smoked daily in half
Identify smoking triggers
Find strategies that help reduce cravings
Keep my scheduled appointment</td><td>Fully and permanently quit smoking
Improve lung function
Reduce health risks by quitting smoking</td></tr>
<tr><td colspan="2">My healthcare team can support me by
Considering medication to increase my chances of successfully quitting smoking
Identifying available resources
AMA quit smoking action plan
Smokefree.gov</td></tr>
<tr><td colspan="2">Commonly uses strategies
Regular exercise
Chew gum or hard candy
Identify triggers that lead to smoking, and establish new strategies for coping with these situations
Keep yourself busy
Contact additional resources for support, such as Smokefree.gov
Don't give up, even if you have a setback</td></tr>
<tr><td>Comments</td><td></td></tr>
<tr><td>Evaluation</td><td></td></tr>
<tr><td>Making progress
Date:</td><td>Making progress
Date:</td></tr>
<tr><td>Achieved:
Date</td><td>Achieved:
Date:</td></tr>
</table>

<table>
<tr><th colspan="2">Reduce Health Risks Associated with Coronary Artery Disease</th></tr>
<tr><td>Short Term Goals

By next follow-up appointment, I will</td><td>Long Term Goals</td></tr>
<tr><td>• Take medications as prescribed
• Start to follow a heart-healthy diet
• Monitor blood pressure
• Keep routine follow up appointment
• Consider quitting smoking (if applicable)</td><td>• blood pressures 140/90
• Maintain or achieve a healthy weight
• Maintain healthy diet
• Exercise regularly 30 minutes/ day 5x/week
• Not smoking
• Drink moderately</td></tr>
<tr><td colspan="2">My healthcare team can support me by:
• Providing medical management of risk factors such as hypertension
• Referral to a nutritionist
• Providing resources for meal planning and healthy eating
• Providing resources and support for quitting smoking
• Providing strategies for increasing physical activity</td></tr>
<tr><td>Comments</td><td></td></tr>
<tr><td>Evaluation</td><td></td></tr>
<tr><td>Making progress

Date:</td><td>Making progress

Date:</td></tr>
<tr><td>Achieved:

Date</td><td>Achieved:

Date:</td></tr>
</table>

<table>
<tr><th colspan="2">Congestive Heart Failure</th></tr>
<tr><td>Short Term Goals

By next follow-up appointment, I will</td><td>Long Term Goals</td></tr>
<tr><td>Follow action plan
Weigh myself daily
Know my “normal weight”
Not have any sudden weight gain
Take medications as prescribed
Know my water pill
Know when to take additional water pill
Use oxygen as prescribed
Know my triggers
Stay on low salt diet
Restrict my fluid intake when needed
Be more active
Keep my scheduled appointment</td><td>No exacerbations in 6 month
No hospitalization in 6 month
Slow down the disease progression
Maintain or achieve a healthy weight
Cut back smoking if applicable
Implement exercise plan of physical activity to 5 times per week as tolerated</td></tr>
<tr><td colspan="2">My healthcare team can support me by
Providing me with educational material
Providing action plan
Prescribing appropriate medications
Listening to my concerns
Referral to cardiac rehab
Providing flu vaccine yearly, and pneumonia vaccine every 5 years</td></tr>
<tr><td>Comments</td><td></td></tr>
<tr><td>Evaluation</td><td></td></tr>
<tr><td>Making progress

Date:</td><td>Making progress

Date:</td></tr>
</table>

My Achievement Record

This record card helps you to keep track of goals you have accomplished. Feel free to update this report card and share your accomplishments with us any time.

Goal achieved	**Achieved date**
Example: **Taking maintenance inhaler daily**	**8/3/15**

Monthly Non Face to Face Encounters

Monthly Non Face to Face Encounters Overview

1. The goal for this phase is to provide ongoing self-management support, including medication management, and facilitate care coordination.
2. Materials included are:
    a. Chronic Care Management Care Coordination Protocol

        This protocol provides detailed instructions in the following areas:

        i. Ongoing self-care support
        ii. Medication adherence
        iii. Life Style Modification
        iv. Preventative care
        v. Care Coordination

    b. Clinical Flow Charts

        The purpose of these Clinical Flow Charts is to provide ongoing assessment for implementation of evidence based care.

    c. Resources Library

        This section provides various resources to staff and patients.

Chronic Care Management Protocol

Goal: to provide ongoing self-care support for patients with multiple chronic conditions

Staff: Care coordinator under the direction of the designated provider

Intervention: Monthly Non Face to Face Encounters

Provide Ongoing Self-care Support

- Ensure patient reviewed and understands the care plan
- Ensure patient reviewed and understands the individualized action plans
- Monitoring patient's symptoms according to action plans
- Improve patient's symptom management by reinforcing action plans
- Reviewing proper breathing technique
- Determine education needs
    - Disease process
    - Prognosis
    - Expected outcome
- Use teach back technique to ensure patients understand
    - When chronic conditions are stable
    - When chronic conditions are worsening
    - What are the warning signs
- Assist patient in identifying triggers
- Encourage avoidance of triggers
- Refine achievable goals
- Encourage patient to review and update My Achievement Record

Assess Medication Adherence

- Review current medications
- Ensure patients understanding of:
    - medication indication
    - medication instructions
    - potential side effects
    - proper inhaler use
    - proper inhaler technique
    - breathing technique

- Review medication adherence
- Identify any barriers for medication adherence
    - Health literacy
    - Financial concern
    - Lack of understanding of disease process
- Assist patient in obtaining recommended medications
    - complete TAR as needed
    - coordination with alternative community resources, ie: Drug assist program
    - coordinate with provider to refill medications as needed

Life Style Modification

- Avoid triggers
- Be as active as possible
    - Discuss and document level of physical activities
    - Advise to start, increased or maintain activities
    - Discuss the option of rehab service
    - Refer to rehab services as needed
- Maintain healthy weight
- Maintain healthy diet
    - Refer to dietitian as needed
- Do not smoke.
    - Discuss smoking cession
    - Discuss if patient needs help
    - Provide support as needed
- Limit alcohol
- Avoid getting sick
    - Frequent Hand Washing
    - Avoid large crowd

Preventative

- Flu vaccine
- Pneumonia vaccine
- coordinate with primary care physician to ensure patient receipt of all recommended preventative services

Care Coordination

- Instruct patient to inform the care team as soon as possible, when
    - Discharged home after an emergency room visit
    - Discharged home after a hospitalization
    - Discharged from a skilled nurse facility
- Schedule follow up appoint within 2 days of discharge
- Obtain all pertinent information from the appropriate facilities
- Coordinate with hospital discharge planner to facility safe discharge

Clinical Flow Charts

Goal: Provide ongoing assessment for implementation of evidence based care

Staff: Provider and care coordinator

Intervention: Update flow sheet periodically, and coordinate with other providers as needed

COPD Flow Chart

Assessment	**Management**

• Dyspnea
  o Class I-IV
• Activity level
• GOLD
  o Class I-IV
• Last hospitalization
  o date
  o reason
• Risk
  o Number of exacerbation last year
  ▪ >2 =High risk
  o Number of hospitalization last year
  ▪ >1=high risk
  o FEV1<50% of predicted
• FVC
• FEV1
• FEV1/FVC
• O2 sat
  o At rest
  o With activity
  o Bedtime
	• Medication
	  • Long acting bronchodilator
	  • Maintenance medication
	  • Rescue medication
	  • Nebulizer
	• O2 therapy
	• CPAP/BiPAP
	• Smoking status
	  • Quit smoking plan
	• Activity level
	• Pulmonary rehab
	• Pulmonary function test yearly
	• Education needs
	  • Inhaler use
	  • Breathing technique
	  • Identify triggers
	  • Disease process

Measures: • Long acting bronchodilator for poorly controlled COPD • Last hospitalization date and reason	
Need to collaborate with IT to establish the flow sheet in EMR	

Global Initiative for Chronic Obstructive Lung Disease. (2015). Global strategy for diagnosis, management, and prevention of COPD. Retrieved from: http://www.goldcopd.org/Guidelines/guidelines-resources.html

National Quality Forum. (2012). Endorsement summary: Pulmonary and critical care measures. Retrieved from: http://www.qualityforum.org/News_And_Resources/Endorsement_Summaries/Endorsement_Summaries.aspx

Asthma Flow Chart

Assessment	**Mediations**	**Intervention**

• Symptoms
• Use of Rescue inhaler Frequency _____
• FVC
• FEV1
• PEF
•
	• ICS
	• LABA
	• SABA
	• Anti-leukotriene agent
	• Prednisone
	  o Last use
	  o How frequent
		• Identify Triggers
		• Asthma action plan
		• Home peak flow monitoring
		• Vaccines
		  o Flu
		  o Pneumonia
		• Smoking status
		  o Quit smoking plan

Measures: Long term control medications		
Need to modify flow sheet in current EMR		

US Department of Health and Human Services National Heart Lung Blood Institute. (2007). *National asthma education and prevention expert panel report 3: Guidelines for the diagnosis and* management *of asthma*. (NIH Publication No. 07-4051). Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/.

National Quality Forum. (2012). Endorsement summary: Pulmonary and critical care measures. Retrieved from: http://www.qualityforum.org/News_And_Resources/Endorsement_Summaries/Endorsement_Summaries.aspx

Congestive Care Failure Flow Chart*

Medications:	**Weight**	**Labs and Diagnostics**	**Action**
• Beta blocker • ACE/ARB • Diuretics • Digoxin • Antithrombotic	• BMI • Weight	• Electrolytes • BUN/Creatinine • LDL • 2d echo cardiogram Date_____ • LVEF_____%	• Cardiologist • Refer back to cardiology as needed • Smoking status o Quit smoking plan
Measures: if LVEF <40% , needs ACEI/ ARB, betaBlocker, ASA, LDL <100			
*Use Existing Congestive Care Failure Flow Sheet in EMR			

American Heart Association. (2013). 2013 ACCF/AHA guideline for management of heart failure. Circulation, 128, 240-327. doi: 10.1161/CIR.0b013e31829e8776 Retrieved from: http://circ.ahajournals.org/content/128/16/e240.full.pdf+html

National Quality Forum. (2012). Endorsement summary: Cardiovascular measures. Retrieved from:http://www.qualityforum.org/News_And_Resources/Endorsement_Summaries/Endorsement_Summaries.aspx

Recommended Preventive Services Flow Sheet

Recommended Preventive Services	**Action**
• Hypertension screening	Update data in EMR
• BMI screening	Update data in EMR

• Vaccine
  o Flu yearly
  o Pneumonia yearly
  o Shingle
• Colorectal cancer screening
• Osteoporosis screening: central DXA measurement
  o Women >65 years old
  o Steroid use >180 days in 9month
• AAA screening
  o Male smoker >65
  o + family history and >60
	• Coordinate with primary care physician (PCP)
	• Refer back to PCP as needed

Need to modify flow sheet in current EMR	

National Quality Forum. (2012). Endorsement summary: Preventive service measures. Retrieved from: http://www.qualityforum.org/News_And_Resources/Endorsement_Summaries/Endorsement_Summaries.aspx

Resources Library

Educational material from Athena

Examples:

- Heart failure after your visit
- Learning about heart failure
- COPD after your visit
- Learning about COPD
- Asthma after your visit
- Learning about Asthma
- How to use inhaler

Online resources

Examples

- AMA Healthier Life Steps: Action plan for quitting smoking

http://www.tcyh.org/smoking/downloads/ama/AMA%20Patient%20action%20plan%20for%20quitting.pdf

- Asthma Action Plan

http://www.nhlbi.nih.gov/files/docs/public/lung/asthma_actplan.pdf

Current list of available social and community services

Medication Labels

Examples:

Blood pressure	**Heart medicine**	**Blood sugar**
Water pill	**Rescue inhaler**	**Maintenance inhaler**

Reference

American College of Physicians. (2015). Chronic care management tool kit: What practices need to do to implement and bill CCM codes. Retrieved from http://www.acponline.org/running_practice/payment_coding/medicare/chronic_care_management_toolkit.pdf

American Heart Association. (2013). 2013 ACCF/AHA guideline for management of heart failure. Circulation, 128, 240-327. doi: 10.1161/CIR.0b013e31829e8776 Retrieved from http://circ.ahajournals.org/content/128/16/e240.full.pdf+html

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Benjamin, R. M. (2010). Multiple chronic conditions: A public health challenge. *Public Health Reports, 125*(5), 626–627.

Global Initiative for Chronic Obstructive Lung Disease. (2015). Global strategy for diagnosis, management, and prevention of COPD. Retrieved from http://www.goldcopd.org/Guidelines/guidelines-resources.html

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National Quality Forum. (2012). Endorsement summary: Cardiovascular measures. Retrieved from http://www.qualityforum.org/News_And_Resources/Endorsement_Summaries/Endorsement_Summaries.aspx

National Quality Forum. (2012). Endorsement summary: Preventive service measures. Retrieved from http://www.qualityforum.org/News_And_Resources/Endorsement_Summaries/Endorsement_Summaries.aspx

National Quality Forum. (2012). Endorsement summary: Pulmonary and critical care measures. Retrieved from http://www.qualityforum.org/News_And_Resources/Endorsement_Summaries/Endorsement_Summaries.aspx

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U. S. Department of Health and Human Services. (2014). HHS initiative on multiple chronic conditions. Retrieved from http://www.hhs.gov/ash/initiatives/mcc/

U. S. Department of Health and Human Services, Centers for Medicare & Medicare Services (2015). Chronic care management services fact sheet. Retrieved from

http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/ChronicCareManagement.pdf

US Department of Health and Human Services National Heart Lung Blood Institute. (2007). *National asthma education and prevention expert panel report 3: Guidelines for the diagnosis and management of asthma*. (NIH Publication No. 07-4051). Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/.

APPENDIX B: COVER LETTER

August 17, 2015

Dear Colleagues:

We are conducting a survey to evaluate a Chronic Care Management (CCM) Toolkit. This CCM Toolkit was created to provide guidelines in implementing the Chronic Care Management (CCM) model in a small private pulmonology specialty office.

Chronic Care Management is a new care coordination model, introduced by Medicare in January 2015. This non-face- to -face service is only available for high risk patients with multiple chronic conditions (The Center for Medicare and Medicaid Services, CMS, 2015).

Because of your experience and expertise in providing care for patients with multiple chronic illnesses, we are seeking your feedback on this Chronic Care Management Toolkit. The review of the toolkit will take approximately 30 minutes. The evaluation survey will take approximately 15 minutes to complete. All responses will be anonymous. No name or address of the responder will be included. Your participation in this survey is completely voluntary. You are free to skip a question or exit the survey at any time.

Your participation in this survey is very important to us. Your input is vital in identifying the weakness of the CCM Toolkit and allowing improvements in the protocol prior to implementation. Currently, little research is available on the topic of Chronic Care Management service and its impact on patient health outcomes, because the service was just introduced in January 2015. Evidence generated from the implementation of CCM will contribute to the literature on the effectiveness of these non-face-to- face interactions with patients who suffer from multiple chronic conditions.

Please find attached the Chronic Care Management (CCM) Toolkit, and the fact sheet for CCM by CMS. There are four components in the CCM Toolkit: staff workflow chart, CCM enrollment, Comprehensive enrollment visit, and monthly non face to face encounters. After you reviewed the CCM Toolkit, please complete the evaluation of the toolkit by clicking on the link below or copy and paste the link directly to your browser.
https://www.surveymonkey.com/r/RX8MBC7

Feel free to contact Heidi He if you have any questions regarding this project, and would like to be informed about the final findings of the study.

Respectfully

Danette Dutra, EdD, FNP-C,
Assistant Professor, School of Nursing, California State University, Fresno
Primary Investigator
ddutra@csufresno.edu
559-278-5615

Heidi Hongxin He, MSN, FNP-C,
Doctoral Student,
California State University, Fresno
Co-Investigator
hongxin@mail.fresnostate.edu
661-331-3610

APPENDIX C: SURVEY

Chronic Care Management Toolkit Evaluation Survey

Instruction and Consent

Thank you for your participation in this survey. This survey will take appropriately 15 minutes to complete.

You are invited to participate in this survey because of your experience and expertise in providing care for patients with multiple chronic illnesses. We are seeking your honest opinions about this Chronic Care Management Toolkit.

You can choose whether or not to participate in this survey. You may choose to stop your participation at any time. Your responses will remain anonymous and no name will be mentioned in the report.

Your participation in this survey is very important to us. Your input is vital in identifying the weakness of the CCM Toolkit and allowing improvement in the protocol prior to implementation. Currently, little research is available on the topic of Chronic Care Management service and its impact on patient health outcomes, because the service was just introduced in January 2015. Evidence generated from the implementation of CCM will contribute to the literature on the effectiveness of this planned non-face-to- face interactions with patients with multiple chronic conditions. By evaluating the CCM Toolkit, you are contributing to this evidence generation process.

Because this phase of the project has no patient care involvement, participation of this project is associated with no or very minimal potential psychological, social, physical, or legal risks. There is no compensation associated with the participation of this survey.

If you have any questions about this project, please feel free to contact Heidi Hongxin He, MSN, FNP-C at 661-331-3610 or hongxin@mail.fresnostate.edu. You may also contact Danette Dutra, EdD, FNP-C, Primary Investigator, at 559-278-5615 or ddutra@csufresno.edu .

I understand this information and agree to participate fully under the conditions stated above.

- o Agree to participate
- o Do not agree

Participant Demographic Information

What is your credential?

- o MD
- o NP
- o CNS
- o RN
- o CMA, MA
- o Other _____

Highest Educational Level

- o High School
- o Associates
- o Bachelors
- o Masters
- o Doctorate
- o Other _____

What is your area of practice?

- o Family practice
- o Pulmonary practice
- o Other _____

Years of experience in caring for patients with chronic illnesses:

- o Less than 1 year
- o 1-5 years
- o 6-10 years
- o More than 10 years

Your gender:

- o Male
- o Female

Your age:

- o 20-30
- o 31-40
- o 41-50
- o 50-60
- o 61+

Evaluation of the Chronic Care Management Toolkit

Please indicate the extent of your agreement or disagreement with each of the following statements regarding the CCM Toolkit. Additional comments or recommendations to each item are greatly appreciated.

The instruction provided is easy to follow.

- o Strongly disagree
- o Disagree
- o Neither agree nor disagree
- o Agree
- o Strongly agree
- o Comments or recommendations: _____

The instruction provided is adequate.

- o Strongly disagree
- o Disagree
- o Neither agree nor disagree
- o Agree
- o Strongly agree
- o Comments or recommendations: _____

The assignments for each member of the care team are appropriate.

- o Strongly disagree
- o Disagree
- o Neither agree nor disagree
- o Agree
- o Strongly agree
- o Comments or recommendations: _____

All important areas are included.

- o Strongly disagree
- o Disagree
- o Neither agree nor disagree
- o Agree
- o Strongly agree
- o Comments or recommendations: _____

There are no redundant items.

- o Strongly disagree
- o Disagree

- Neither agree nor disagree
- Agree
- Strongly agree
- Comments or recommendations: _____

Time and effort required to complete the tasks are reasonable.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree
- Comments or recommendations: _____

Please indicate the extent of your agreement or disagreement with each of the following statements regarding each component of the CCM Toolkit. Additional comments or recommendations to each item are greatly appreciated.

Component 1: Staff Workflow Chart

This workflow chart can be successfully used in the practice.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree
- Comments or recommendations: _____

This workflow chart can be applied to a wide variety of practice settings.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree
- Comments or recommendations: _____

Any other suggestions for Component 1: Staff Workflow Chart

_____

Component 2: Chronic Care Management Enrollment

This guide for Chronic Care Management Enrollment can be successfully used in the practice.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree
- Comments or recommendations: _____

This guide for Chronic Care Management Enrollment can be easily adapted to a wide variety of practice settings.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree
- Comments or recommendations: _____

Any other suggestions for Chronic Care Management Enrollment

_____

Component 3: Comprehensive Enrollment Visit

This guide for Comprehensive Enrollment Visit can be successfully used in the practice.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree
- Comments or recommendations: _____

This guide for Comprehensive Enrollment Visit can be easily adapted to a wide variety of practice settings.

- Strongly disagree
- Disagree
- Neither agree nor disagree

- Agree
- Strongly agree
- Comments or recommendations: _____

Any other suggestions for Component 3: Comprehensive Enrollment Visit

_____

Component 4: Monthly Non Face to Face Encounters

This guide for Monthly Non Face to Face Encounters can be successfully used in the practice.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree
- Comments or recommendations: _____

This guide for Monthly Non Face to Face Encounters can be adapted to a wide variety of practice settings.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree
- Comments or recommendations: _____
- Component 3: Comprehensive Enrollment Visit

Any other suggestions for Component 4: Monthly Non Face to Face Encounters

_____

Any other comments or suggestions for this CCM Toolkit:

_____

Thank you very much for completing this survey!

If you have any questions regarding this project, or would like to be informed about the final findings of the study, please feel free to contact

Heidi He
hongxin@mail.fresnostate.edu

661-331-3610

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Heidi Hongxin He, MSN, FNP-c
7909 Las Cruces Ave
Bakersfield, CA 93309

Re: Chronic Care Management Toolkit Proposal

Date: June 22, 2015

Dear Ms. Hongxin He:

I am pleased to provide you with this letter of support for your Doctor in Nursing Practice project.

I have reviewed your quality improvement project proposal: Chronic Care Management Toolkit. I found the proposal to be satisfactory. The evaluation of the toolkit by a focus group of providers is feasible. I support the survey of all members of Chronic Care Management (CCM) care team in our practice. The proposed toolkit for the CCM service and findings from the survey will contribute to our ongoing efforts of providing the best quality of care possible for our patients.

I am excited and look forward to working with you on this important project. Please feel free to contact me if you have any questions.

Sincerely

Avital Anders
Administrator
Comprehensive Pulmonary and Critical Care Associates
2811 H Street
Bakersfield, CA 93301