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Chronic Care Management Implementation

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MSW Clinical Research Paper

University of St. Catherine/St. Thomas School of Social Work

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The Clinical Research Project is a graduation requirement for MSW students at St. Catherine University/University of St. Thomas School of Social Work in St. Paul, Minnesota and is conducted within a nine-month time frame to demonstrate facility with basic social research methods. Students must independently conceptualize a research problem, formulate a research design that is approved by a research committee and the university Institutional Review Board, implement the project, and publicly present the findings of the study. This project is neither a Master's thesis nor a dissertation.

Abstract

The process of implementing management of chronic diseases can be a rigorous task for any healthcare system willing to invest resources for this care model. This paper intends to address aspects of implementation of chronic care programs, including the key disciplines required to provide adequate services. To incorporate details associated with chronic care management, a review of chronic care management program literature was conducted, with the intent of assimilating information for a model suitable for an interdisciplinary team. The study determined that implementation processes are full of intricate details. Staffing needs to be well researched, and a multidisciplinary approach, including the patient and family/caregiver, are imperative to a successful program. Finally, implications such as the lack of administrative staff knowledge, are reviewed in order to allow for further exploration to be completed on this topic.

Keywords: chronic care, management, healthcare

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Introduction to Chronic Care Management Implementation

The management of chronic conditions is at the forefront of the healthcare community. As the healthcare industry evolves into a proactive approach, in which healthcare systems provide medical resources to actively seek medical conditions and treat them, versus a reactive approach where healthcare providers treat conditions/diseases once they have been definitively identified, the ability to provide care to patients also needs to evolve. The Centers for Medicare and Medicaid Services (CMS) have begun to focus on chronic care management services implementation within these healthcare systems. CMS (2015) defines chronic care management services as follows:

At least 20 minutes of clinical staff time directed by a physician or other qualified health care professional, per calendar month, with the following required elements: multiple (two or more) chronic conditions expected to last at least 12 months, or until the death of the patient; chronic conditions place the patient at significant risk of death, acute exacerbation/decompensation, or functional decline; and a comprehensive care plan established, implemented, revised, or monitored. (p.1)

Case Management has been recognized as an important component to achieving the goal of a proactive healthcare approach.

By using the defined diagnoses, such as, but not limited to, congestive heart failure, chronic obstructive pulmonary disease, or schizophrenia provided by CMS, we are able to gauge the prevalence of chronic medical conditions amongst enrollees within the Medicare system. In 2014, 56.9 million individuals were enrolled in the Medicare program (CMS, 2016). The estimation is approximately two thirds, or 37.5 million, of the enrollees would be considered

eligible for the chronic care management services under the guidelines of chronic medical conditions (CMS, 2015). As Medicare continues to change, and incentivize their payment structure by providing monetary compensation and penalties related to healthcare services being provided, healthcare systems and health plans will be forced to adapt accordingly (Grabowski, 2012; Mattke, Higgins, & Brook, 2015), resulting in a more proactive approach to treating chronic conditions.

Emotional, financial, and physical repercussions inflame people's attitudes towards dealing with chronic conditions. Cicirelli (2000) indicates family members of individuals with chronic conditions can struggle with accepting the role of becoming a caregiver. These repercussions can be mitigated through a strong chronic care management program. Financially, patients can expect to pay the normal co-pays or deductibles associated with their insurance, but they will not need to pay a fee associated with communication from clinic staff managing their chronic conditions outside of a provider appointment (Health and Human Services, 2015). However, other financial ramifications are linked to the healthcare system, specifically reimbursement for hospital admissions and outpatient services, which will result in the utilization of services such as telehealth, which is considered services provided by a healthcare facility, institution, or agency to a patient via telephone (Rine, 2016).

Telehealth will allow staff members the ability to connect with patients more consistently, resulting in a reduction of hospital admissions. Both healthcare systems and patients can stand to benefit from the reduction of hospitalizations. For example, healthcare systems will not be penalized for repeated admissions, while patients will not need to pay a co-payment for the admission. There is also the possibility for the healthcare system to receive monthly payments for patients whose primary insurance is Medicare. These healthcare systems

stand to collect approximately \$45 per patient per month. Patients can benefit from reduced need to arrange appointments to see their primary care provider, which can result in co-pays for these services. In regards to physical repercussions, patient-centered care will enable patients to actually have a say in how to proceed with treatments (Rizzo, Rowe, Shier Krieke, Kajaci, & Golden, 2015). Compliance with recommendations can result in a more desired outcome for the patient and family/caregiver.

Social workers have a longstanding history of working within care management systems. However, as the tide of healthcare changes, new challenges will present themselves. Psychosocial assessments will continue to be a primary focus, but the context of the assessment will need to be modified. Capabilities of patients and family members will need to be scrutinized more thoroughly. In other words, assessments will need to be conducted to determine if a patient and/or family member has the ability (cognitively or physically) to abide by recommendations. Conversations pertaining to treatment plans/recommendations, treatment preferences, community resources, caregiver needs, and end-of-life decisions are just a few areas likely needing to be explored (Keigher, 1997).

The purpose of this paper is to discuss the research associated with chronic care programs. Exploration of this topic will help further disseminate a model which is fairly new to the medical community, and to assist with promoting critical thinking skills in order to continue in the refinement of existing models.

Literature Review

Transition to a Holistic Chronic Care Management System

Healthcare has traditionally been considered an acute care system, in which it has been preferred to treat each individual diagnosis independently. The medical industry has created a market where a specialty provider has to be consulted in order to treat a specific disease. An example of this would be a patient who has been diagnosed with multiple diseases such as congestive heart failure and chronic obstructive pulmonary disease. Consultations would be placed to a Cardiologist and to a Pulmonologist. Each physician only treats one specific disease rather than looking at the patient from a global perspective. In return, there is a lack of a global treatment plan which is beneficial for all providers and the patient. Furthermore, Grabowski (2012) points out, “Traditional fee-for-service payment creates little incentive for providers to manage the volume and intensity of services” (p. 223). This individualistic approach to patient care has shown significant amounts of wasted money being utilized within the healthcare system. In fact, the treatment of these patients with chronic conditions from individualistic approaches cost approximately \$1.05 trillion in 2008 (Gervais, 2010). As healthcare systems progress to a population health focus there will be less focus on each patient, and more focus on disease-specific group health outcomes.

Population Served

The argument can be made that any person, regardless of health insurance, with multiple medical conditions could benefit from the chronic care management program. However, for the purpose of this literature review the focus will be on the elderly population utilizing Medicare benefits as their primary insurance policy. This will also include Medicare Advantage Programs

(MAPs), which are defined as private health plans aimed to allow Medicare beneficiaries an alternative option to traditional Medicare coverage. These plans cover all Medicare covered services, but are associated with different rates and copayments (American Association of Retired Persons, 2016). The vast majority of these individuals are 65 years of age or older, but studies tend to focus on the advanced ages. I will narrow this further by focusing on people of 75 years of age or older.

Medicare as an insurance policy has several options associated with it. It is comprised of Medicare Part A, Part B, Part C, and Part D (CMS, 2016). While Medicare Part A is considered free, Parts B and D are considered supplements and constitute paying a monthly premium to utilize them. Part A assists with expenses associated with hospitalizations, home care, and rehabilitative care in a skilled nursing facility (nursing homes). Part B has been created to assist with the expenses of outpatient care such as seeing one's primary care provider for general medical needs. Part D acts as a program to assist an individual with their prescriptions. While these three play their part to help cover the expense of medical care, Part C was created to allow people an alternative option other the traditional Medicare insurance. Medicare Advantage Plans were created to follow through with the requirements of Medicare Part C.

These policies were created by private insurance companies to help meet the needs of the consumer. While an individual still retains, and pays for, the standard Medicare benefits, these private insurance companies help to manage an individual's plan/policy. Typically, there is an additional cost associated with these policies. However, a customer can choose from a variety of options which may influence the amount of money needing to be paid upon utilizing the policy (American Association of Retired Persons, 2016).

There are several factors which play into the care of these individuals. First and most likely are the financial constraints these individuals live within. Many are not able to afford premium Medicare insurance packages or the co-pays associated with medical interventions. It is common for these individuals to live on a fixed income, which can at times only consist of Social Security Benefits. These benefits are only further reduced on a monthly basis due to the fact Medicare premiums are automatically redrawn from a person's Social Security compensation. Another factor is limited family involvement. Examples can vary, but are not limited to, family members not having time to attend appointments, limited communication with the patient, or financial constraints limiting participation. Medical professionals may look to family to provide the extra assistance that is needed. However, Cicirell (2000) suggests the most common form of support is emotional and advice giving (p. 169). When considering the implementation of a program, administrative staff will need to discuss how interventions can be managed by staff.

Chronic Care Management Implementation

To date, little information and research exists regarding the actual implementation process. Research of Medicare's goal information suggests there are many pieces to the puzzle that is chronic care management. Unfortunately, Medicare does not provide a great amount of direction on how to implement a program. Instead, they indicate there should be an emphasis on healthcare systems utilizing community resources as well as patient-centered care (Tilly, 2010). Granted, this is a small amount of direction provided by Medicare, but not enough to simply create a system. Unfortunately, this is where the problem lies. Because of this ambiguity, organizations are left with the difficult task of creating a program which follows the guidelines

set forth, but manipulating it to fit the patient population they serve. Fortunately, with the research that is available there are some common denominators to focus on.

Patient-centered care

Involvement of a patient in their own healthcare is of extreme importance. This type of focus can allow an organization to bridge the gaps created by a fragmented healthcare system (Spoorenberg, et al. 2015). The ability of an organization to embrace a patient and allow them to feel a part of the team can improve a person's overall experiences and interactions regarding their healthcare. Spoorenberg, et al. (2015) found it was essential for elderly patients to be involved in their own care. A sense of belonging and importance was felt as well as appreciation of the staff for allowing the patient time to provide their own insight into their health. Patient-centered care allows the individual the autonomy to make their own decisions while simultaneously being provided helpful knowledge and guidance when necessary. A sense of ownership and confidence can be empowering during a time when people can feel at their most vulnerable (Soloman, 2010).

Case management

As chronic care management has pushed into the spotlight so has the need for case managers to assist with the complex issues surrounding patients with chronic medical conditions. Case management is a complex network of staff members assigned to a set of specific patients. The staff goal is to "organize care involved in the marshaling of personnel and other resources needed to carry out all required patient care activities" (Carter, 2014, p. 7). Activities can consist of medication reconciliation, appointment notifications, community resource arrangements, psychosocial assessments, or assistance with healthcare decisions. Granted, the duties do not just

stop there. According to Carter (2014) in a response to Medicare's push for care coordination, large corporations began to hire nurses to fulfill the role of case manager. While the effort was successful to an extent it really did not tap into the individualized needs of each patient.

While nursing staff are extremely effective in identifying the current issue, the approach did not allow a global perspective to be utilized when working with the patient. Other areas of expertise such as social work, psychology, medical doctors, and advanced practice providers such as nurse practitioners began to be identified as needs. These different areas of expertise would allow the formation of a multidisciplinary team, which can thoroughly and effectively treat a patient holistically versus just individually (McEwen, 2015). In other words, the team treats all of the patient's medical issues versus hand-picking individual diagnoses to focus on.

Staff

Chronic care management definitely lives up to this name. The level of care associated with individuals who are suffering from multiple chronic conditions does not decline. In fact, as the individual continues to age their health continues to decline. Tinetti, McAvay, Murphy, Gross, Lin and Allore (2012) provide us with some insight into the effect of chronic diseases as it pertains to death with older adults. The table below outlines a four year study they conducted with 22,890 individual Medicare beneficiaries:

Table 3. Diseases Contributing to Death in the Medicare Current Beneficiary Survey Cohort According to the Empirical Method

Disease or Condition	Proportional Contribution,% (95% CI) ^a
Heart failure	20.0 (17.9–22.2)
Dementia	13.6 (12.1–15.2)
Chronic lower respiratory disease ^b	12.4 (10.4–14.9)
Pneumonia, influenza	5.3 (4.5–6.3)
Lung cancer	4.1 (3.3–5.2)
Acute kidney injury	3.3 (2.7–4.1)
Stroke	2.4 (2.0–2.9)
Septicemia	1.4 (1.1–1.9)
Liver disease, hepatitis	1.2 (0.5–2.5)
Myocardial infarction	1.1 (0.7–1.4)
Colorectal cancer	0.6 (0.2–1.1)
Unintentional injury ^c	0.6 (0.3–0.9)
Acute intestinal event (obstruction, peritonitis, abscess)	0.6 (0.3–0.9)
Lymphoma	0.5 (0.2–0.7)
Head and neck cancer	0.4 (0.1–0.7)
Total	67.6 (66.0–69.4)

Analyses included participants from 2002 to 2006. Diseases identified using claims data. Process for selecting these diseases described under Statistical Analysis.

^a Proportional contribution determined using longitudinal extension of the average attributable fraction; 95% confidence intervals (CIs) were estimated by generating 100 bootstrap samples. The proportions include the direct effect of each disease plus the effect of significant interactions between pairs of diseases (e.g., between lung cancer and heart failure or between acute cardiovascular disease and dementia). In no case did the combination of two diseases account for a higher proportion of deaths than the effects of the individual diseases added together (i.e., no interactions were synergistic).

^b Chronic obstructive pulmonary disease, interstitial lung disease, and other chronic lower respiratory disease.

^c Hip fracture and head trauma.

(Tinetti et al. 2012)

The information provided in this table provides a glimpse into the dramatic effect chronic diseases have on patients. The authors show approximately 67% of their participant population died due to a chronic medical condition, and in return closely resembles CMS' estimation of as many as 75% of Americans age 65 and older have at least one chronic condition (2016). This is

a large number of people who are requiring ongoing treatment up until the time of their death. As mentioned earlier, a multidisciplinary team can be invaluable to this population to help manage the disease process and meet the individual's needs.

Collaboration between disciplines is the backbone of providing well designed chronic care management. Each area of expertise contributes to the collective group. This allows the team to focus on the patient as a whole, but also allows for each specialty to showcase their abilities. The unified group can provide care to the patient on an individual basis or as a group. This unification also allows for a smoother transition during the implementation process of the program. Every staff member with the team understands the purpose of the process: provide continuity and quality care to individuals with chronic conditions (Solberg, et al., 2006). In the case of individuals providing care, the team is still intact, yet individualized to provide services in their area of expertise, because the entire team is aware of the service being provided.

Primary Care Providers are trained to treat and diagnose the patients accordingly. They can also serve as the gateway between a specialty provider's recommendations, the patient, family, chronic care management team, and the administrative staff authorizing the program to continue. Finally, they serve as the authority figure who is capable of prescribing or re-prescribing the necessary medications needed to treat the patient (Institute for Healthcare Improvement, 2016).

Registered nurses are vital to the treatment as well. Their ability to field incoming phone calls and triage them as needed is essential. This ability to triage and assist with medical needs without requiring a hospitalization or clinic appointment helps reduce the amount of money being wasted within the healthcare system. Another role often overlooked is the nurse's ability

to reconcile medications. This is invaluable to patients and families who are having difficulties with managing their medications at home. Medication compliance, whether intentional or unintentional, is a major contributing factor in a person's overall health (Rizzo, et al, 2015).

Social workers are another important facet in chronic care management. According to Kramer (2012), social workers have been found to offer their services to more than just patients and families. Often they are contributing their ability to ground team members in the present versus focusing on the past or future. Many times the social worker is able to bring another team member who is highly focused on a medical solution for the patient back to what is truly the main focus: the patient's rights and wishes. The ability to provide a biopsychosocial assessment of a client helps to shed light on factors which may be directly or indirectly influencing the health of an individual, and in return helps to promote a holistic approach to care (MacDonald, 2000). Outside of these elements Kramer (2012) also mentioned in her study many times the social worker would act as a communication tool to convey the wishes of the patient and family as well as organize meetings with the team.

Patient responsibility & contributions

When we think of responsibility typically we do not view it in the context of healthcare. However, in a patient-centered system such as chronic care management the patient does have the responsibility to take part in their healthcare. Granted, the patient does have the choice not to take part in the program, but if they do choose to, their input is vital to the success or failure of the treatment plan. Patients with multiple chronic conditions can literally dictate the tides of their health by their willingness to follow through with medical recommendations (Soloman, 2010). In this aspect the contribution of a patient is in the form of self-determination. The

patient has the responsibility of making an informed decision about whether or not to follow through with the recommendations being suggested by their provider. This can also make or break the success of an implemented program; patient and family contribution are essential to a successful program (Soloman, 2010).

This leads into the responsibility of the patient to provide insight into how they are feeling about their care. While this element can be difficult to grasp for healthcare staff, it is vital to allow the patient to express themselves and voice their true feelings about what direction they are wanting to proceed with. The Health, Prevention, and Wellness Program, as outlined by Jane Tilly (2010), provides elderly individuals with chronic conditions to participate in programs meant to promote health improvement. This is another way a patient with chronic conditions can assert control over their care. Without this we are taking the patient-centered focus of the system away and regressing to an acute care model.

As a whole, communication is largely the responsibility and a contribution of the patient and their family. Fortunately, in our tech-savvy world there are more opportunities for these individuals to communicate their needs (Soloman, 2010). Outside of utilizing a landline or cell phone the internet has become a major contributor to allowing patients the ability to make contact with their healthcare staff without actually seeing them. Electronic health systems (EHR) now allow individuals access to their medical chart through a secured internet feed. They are capable of reviewing their chart in full detail, and have the capability of sending an electronic message to their provider or healthcare staff. EHR “has been modified extensively to reflect the triple aim of our health system: improving the quality of care, advancing health outcomes, and lowering health care costs” (Martelle, et al., 2015, p. 1752; Wang, Kuntz-Melcavage, Forrest, Lu, Piet, Evans, Uriyo, Sherry, Richardson, Hawkins, & Neale, 2015).

Summary

As the healthcare system within the United States continues to move in the direction of being proactive versus reactive we find ourselves at a crossroads. Organizations are being pressed to adapt with the evolution of healthcare. New programs are needing to be designed. Medicare has initiated this process by providing criteria to combat the growing need to address chronic conditions (CMS, 2015). In return this has also assisted in the identification of the population organizations can focus on: Medicare beneficiaries.

The difficulty comes in the form of implementation: how to create and implement a program is in the hands of the organizations. While some may relish this opportunity, others will view it as another difficulty to add to the ever-growing numbers of difficulties associated with the evolution of healthcare. Staffing will be a critical component associated with the implementation (Grabowski, 2012). Surrounding the patient with the necessary staff to assist in the support of the healthcare needs will help promote the patient-centered approach. In return patients and families will feel empowered to actively take part in their healthcare decisions and in some cases dictate the direction of the medical care (Cicirelli, 2000). The implementation process is multi-factorial, and needs to be thoroughly explored to provide a well-rounded view of the implementation process for a chronic care management program. The Institute of Healthcare Management (2016) has provided several options for the implementation process, but it is up to each healthcare system to determine how to implement a chronic care management program.

Conceptual Framework

Chronic care management of patients' health care needs has become a focal point within the healthcare industry. Now, more than ever, decisions are needing to be made in order to

implement programs which will assist patients with their chronic medical conditions, and simultaneously provide incentives to staff members to promote buy-in of a chronic care management program. With seventy percent of all deaths related to individuals with chronic medical conditions (Teh, 2006), healthcare organizations find themselves at a crossroads: create nothing and lose money, or counteract this issue by implementing a program to assist these patients. It is crucial to have a high level of knowledge pertaining to the conditions the organization is looking to treat. However, the medical aspect of this treatment also needs to be balanced with knowledge of these patient's social and psychological needs. Having a thorough understanding of these components will allow staff to treat the patient globally and proactively.

Biopsychosocial Model

The Biopsychosocial Model provides an opportunity to scrutinize a healthcare program outside of the traditional Medical Model. A biopsychosocial approach allows for information to be gathered from the patient on a biological, social, and psychological basis. While each provides great detail into its specificity, they fall short in evaluating the patient globally. Combined, these three allow staff to exploit their abilities to serve the patient individually, but also encourage staff members to share information with one another.

Borrell-Carrio, Suchman, and Epstein (2004) indicate “communicating clinical evidence to foster dialogue, not just mechanical application of protocol” is essential to utilizing the Biopsychosocial Model to its fullest capability in a healthcare setting (p.1). Currently the communication amongst the healthcare industry is fragmented, at best. Communication amongst the staff and with patients is vital to carrying out and following through with medical treatments. In return, this communication helps to enhance the probability of success with the treatment.

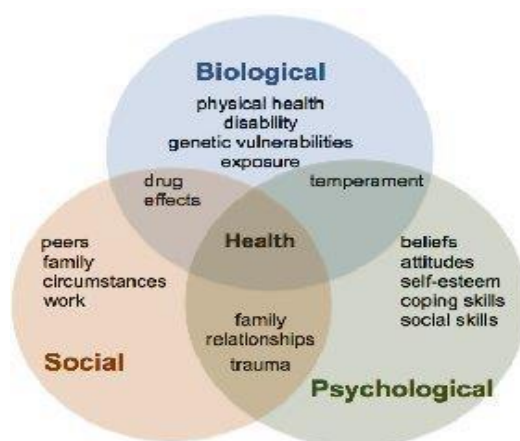
Communicating with the patient and family can also assist in the promotion of the patient becoming more involved in and confident in their healthcare. They know the team working with them is there to assist and act as a resource when needed.

Teams consisting of staff such as medical doctors, advanced practice providers, registered nurses, licensed practicing nurses, and social workers allow for each component of the Biopsychosocial Model to be utilized. Promotion of multidisciplinary teams allows for each member of the team to apply their unique set of skills to the patient's care (Townsend, Bruce, Hooten, & Rome, 2006). Granted, the direct communication with the Primary Care Provider will likely be less than with the other staff who are a part of the team; information can be quickly routed to the Primary Care Provider in order to receive further medical direction. However, in some cases, the medical needs of the patient can be managed by an advanced practice provider, such as a Nurse Practitioner or Physician Assistant. An example of this could be medication adjustments that do not relate to pain management through the use of narcotics.

While the medical component of patient care is handled by doctors, advanced practice providers, and nursing staff, the social and psychological aspects of the patient's care can be managed by the social worker. The social worker has the ability to assess the psychosocial needs of the patient on an on-going basis. Psychosocial factors such as depression, social isolation, social support, bereavement, anxiety, psychological distress, access to health care, and decreasing income contribute to a patient's overall health (Whitebird, 1999). Social workers play a vital role in being able to assess the needs which are not medical in nature, but do contribute to a person's overall health. The ability to piece these puzzles together can assist the staff addressing the medical component of the patient's care tremendously by allowing the team a perspective which can influence whether a certain medical treatment would be beneficial or

not. An example of this would be a patient's ability to afford medications such as insulin. Without assistance from health insurance benefits, insulin can cost hundreds of dollars on a monthly basis. Most patients with financial concerns being addressed by the social worker are likely not able to afford this much for insulin, and consequently may not adhere to medical recommendations. In return, this defeats the purpose of the medical treatment proposed by the primary care provider and nursing staff.

To help illustrate the Biopsychosocial Model the picture below helps to provide a visualization of how the model works within the healthcare industry:



(London Scientific, 2016)

As one can see, at the different intersecting points there are multiple components which effect different people at different times. While each can be broken into separate, distinct practices, they are extremely beneficial in determining how to approach the implementation of a chronic care management program. This illustration allows for a person to see the different components and to actually visualize how the model works within healthcare.

Method

In this study, I conducted a qualitative review of research literature, with the intent of identifying information that could be integrated to create a model for chronic care management programs. Collection of the information ultimately will assist in the design of a chronic care management program. Currently, the need for the University of St. Thomas Institutional Review Board is not needed due to the nature of researching literature available to the public.

Literature Research

A meticulous search of articles was conducted through the use of online academic databases and credible websites. The articles were collected from databases consisting of Social Work Abstracts, SocINDEX, ProQuest, PsycINFO, PubMed, and a variety of governmental and academic websites. Literature was collected by using word searches under specific titles. These consisted of the following combinations: “biopsychosocial model”, “chronic care management”, “chronic care management implementation”, “chronic care programs”, “chronic care”, “chronic diseases”, “medical social work”, “Medicare”, “social work”, and “staffing”. For the purpose of this research project, only articles published in the English language were utilized. However, there are articles related to research conducted and published outside of the United States of America.

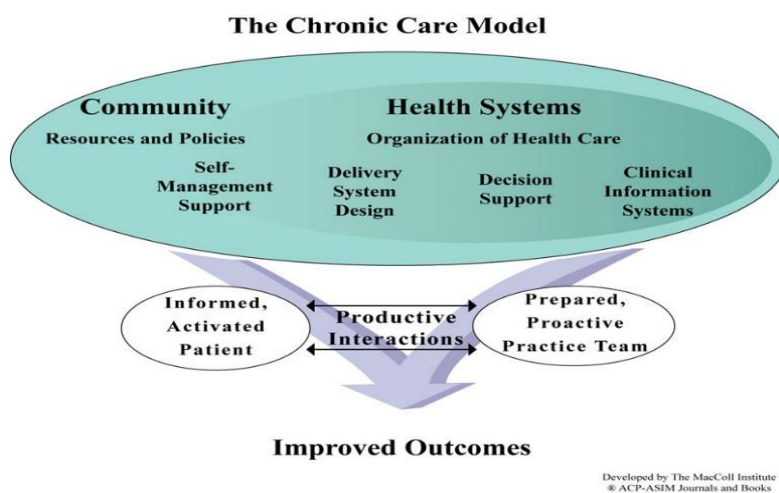
The articles chosen to contribute to this study were reviewed to determine if they fell within the scope of the Biopsychosocial Model. However, it is important to note, the articles were not required to fit within the scope of all three perspectives (biological, psychological, and social). The criteria utilized required the articles to outline a minimum of one of the three perspectives in relation to their viewpoint of chronic care. Articles which fell into the biological

perspective showed evidence-based practice related to standardized treatments within the medical community (Gervais, 2010). Medical staff utilize this type of practice to ensure the most current, up-to-date method is being practiced with the patient. Medication usage, specialty treatments, and other health diagnoses fall in the realm of the biological perspective. The psychological perspective provided information related to patients' mental health. Promotion of the self-management conceptualization model provides patients with the ability to understand and participate in their own health care (Soloman, 2010). A patient's perception of their chronic medical condition(s) can influence more than disease; their mental health can suffer, and studies have shown individuals with mental health disorders such as depression are at much higher risk of mortality (Teh, 2006). Lastly, the social perspective provided information specifically related to social work practice. Authors such as Thomas and Wedel (2014) and Grabowski (2012) delved into the issues related to community resources and financial concerns, specifically insurance coverage. Other articles which related to the social perspective also outlined family influence and social supports in the patients' lives. Social workers provided clinics with the unique opportunity to engage the patient within their own living environment (Fort Cowles, 2003). The information collected allowed staff to understand what resources are being utilized or may be needed in order to enhance the patient's care.

Gathering information from each individual perspective has allowed for a more global approach to implementation. As previously discussed, each has their own strengths. However, when combined the formulation of the Biopsychosocial Model is created. The Biopsychosocial Model will assist with providing a multifocal viewpoint, which in return will allow for the creation of a more comprehensive chronic care management program.

Results & Discussion

This review of literature was conducted in order to assist with identifying a program structure which promotes better health, organizational financial responsibility, and which can be implemented into an outpatient health care setting. The intention is to not provide a solution to all chronic care management programs, but rather to identify key components that can be considered beneficial to implementation of a program. Literature was examined in order to assist in identification of elements which can be of assistance in this process. Key elements were identified and will be discussed that work towards the achievement of a functional program structured. Below is a depiction associated with the purpose of a chronic care model.

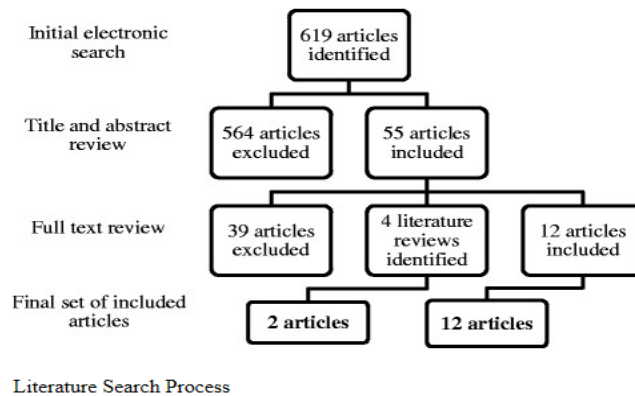


(Wagner, 1998)

The first theme which was identified in the literature was related to the methodology of collecting data. The literature I reviewed consisted of a systematic review approach and combination of qualitative and quantitative approaches. This information which I was reviewed

provided data that was collected through the process of studies of volunteers, an example of this is Sbardellotto, Costa, and Hyeda's (2016) cross-sectional epidemiologic prospective cohort study, as well as information compiled through extensive research of existing literature pertaining, like Drouin, Walker, McNeil, Elliot, and Stolee (2015) conducted, to chronic care management. A systematic approach to the development of a chronic care management program can be beneficial. This approach can assist with the formulation and analysis of program objectives. Data collection consisting of the patient population within the service area is pertinent. In other words, information needs to be obtained in order to determine what type(s) of chronic health conditions consist amongst the patients the clinic is serving so they can be effectively treated, and an appropriate program can be created. Without a thorough understanding of the afflictions patients are suffering from an appropriate treatment team cannot be assembled. This data can typically be collected from the information captured within the EHR of the health care organization. Reports are run with the intent to disseminate the information. However, this is not the only method utilized to create a program.

Drouin, et al. (2015) completed their search through the process of a systematic literature review as previously mentioned. The following depiction provides context to their approach:

Fig. 1

(Drouin et. al, 20015)

This approach allowed the researchers to cover many different studies which had been conducted. As one can see, the sheer number of articles at the beginning of the study was several hundred. However, as in this research study, the number was trimmed down in multiple steps in order to ensure the data collected were sufficient to assist in collecting information related to their chronic care research.

Throughout the literature it was evident several researchers of the publications I reviewed felt a collection of information was needing to be gathered through formalized studies. Sbardello et al. (2016) conducted their cross-sectional epidemiologic prospective cohort study which assisted in the collection and comparison of data collected from participating patients. In this case, they looked to compare data collected from 1,256 participants. As a whole, their data collected from these participants showed a collaborative multidisciplinary approach provided by the health care providers helped in reduction of hospitalizations and emergency room visits, and improved the financial impact on health care (Sbardello et. al, 2016). This formalized study

provides quantitative data to support the benefits of having multiple disciplines (i.e. social workers, registered nurses, primary care providers, etc.) working together to maintain a patient's health. As a result, health care systems stand to improve financially, which ultimately is a key strategic goal within a health care system.

These are two examples of the studies conducted to collect information on chronic care management. The studies provide important information into the overall formulation of a chronic care management program, but they do not complete the process. Gaps do exist, but through the collection of multiple sources, and a variety of research methods a bridge can be formed in order approach the formulation process from a Biopsychosocial Model perspective. This approach helps to view chronic care management from less of a medical perspective, and more from a global perspective. Wood, Miller, and Lehman (2015) provide us with an illustration of this model at work. They set out to utilize the Biopsychosocial Model to show how multiple systemic approaches can provide well rounded care to families and children with asthma. Granted, the patient population focuses on the pediatric population, but their visual can be utilized with multiple patient populations. They have identified the different issues associated with the three pillars of the Biopsychosocial Model; biology, psychology, and sociology.

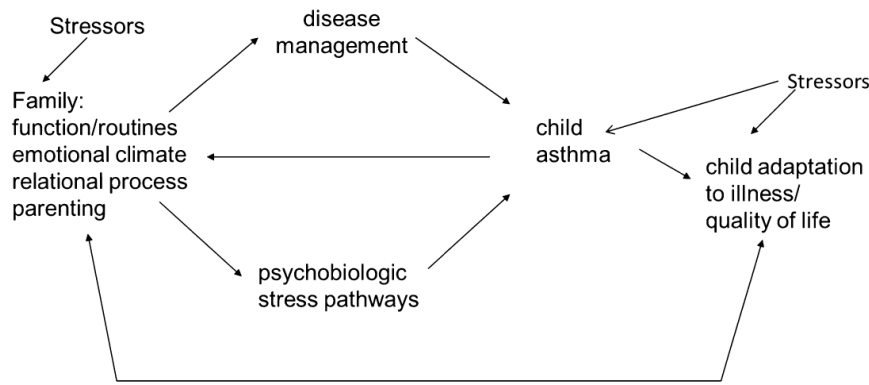


FIGURE 1. Relations between Family Function and Child Asthma.

(Woods et al., 2015)

While this model does provide an overview of the three pillars, it does lack information related to the sociological viewpoint. Woods et al. (2015) suggest utilizing Wright's model, which takes a look at the "socio-psycho-neurobiological mechanisms and pathways that can organize and specify prenatal research aimed at prevention" (p. 386). They found this model assisted in recognizing patterns associated with depressive symptoms within the parents. It also helped to identify stress related relations within the family. Outside of this example, the authors also discuss the sociological factor of poverty which contributes to the stress of a family caring for a child suffering from asthma. Unfortunately, due to the limited income and resources, these families contend with worrying about how to afford the appropriate treatment and medications.

A secondary theme identified was the use of case management services. This position typically is held by a registered nurse or a social worker (Summers Holtrop, Potworoski, Fitzpatrick, Kowalk, and Green (2016). Case management does not have to be viewed as a single staff member, but rather could be viewed as a team within a team. When properly aligned,

care managers are essential to consistent communication and messaging (Voetsch, Sequeira, and Holmes Chavez, 2016) within the chronic care management program.

“Case managers may also be able to identify beneficiaries requiring attention and can intervene before the condition worsens” (Baker, Macaulay, Sorg, Diener, Johnson, & Birnbaum, 2013, p. 1565). Here we see the belief staff members who are in the role of case manager are able to provide assistance to individuals from an educational perspective. This appears to fit well with the age old adage; knowledge is power. The more a patient is able to understand their disease the better they will be at identifying symptoms suggesting their condition is worsening, and as previously mentioned, allowing time to intervene proactively rather than reactively.

Systems

Health care organizations are accepting the fact that programs are needing to be created in order to assist the patient population who are living with chronic medical conditions. A common element identified in the literature was the collaboration between all involved in an individual’s care. Ahmed, Ware, Visca, et al. (2015) indicate “interdisciplinary team care, standardized clinical process, support for primary care providers and for patient self-management support, and coordination of care” (p. 5) are key to collaboration. Without the buy-in of all individuals the task of managing chronic health condition becomes more difficult. Organizationally, staff members need to be prepared to accept the role they are given and understand what the ultimate goal is: achievement of the triple aim.

The concept of collaboration is more than the thought of an involved member working together. This is a generalized description, and in reality there is more intricacy associated with collaboration. For example, Voetsch et al. (2016) feel development and implementation of

communication is key to the success of a program. Communication can assist in clarification of expectations, delegation of projects, and identification of roles. Summers Holtrop et al., (2016) found communication was essential in relation to the utilization of Case Managers within the clinic setting. In fact, there was a variation in how these services were being used in relation to chronic care management. Some clinics were found to be communicating the needs to the Case Managers efficiently, but for other clinics the role of a Case Manager was not a formalized position. In these instances, the duties were split among the providers and nursing staff. It would appear in these situations communication was even more essential due to the increase in expectations to provide well rounded care to patients with chronic health conditions. However, one would have to wonder if it would be more efficient to create a role of Case Manager in order to focus on these duties, which in return would allow the other clinic staff to place more focus on other duties of their job.

Individual roles within the clinic are essential to the success of a chronic care management program. While the individuals collectively are viewed as a team, the reality is that each person is a subset of this team. Each brings unique qualities and knowledge that is valuable in a team and an individual role, including the patient. Rapley (2003) found clinical professionals were amazed by how a patient can be more of an “expert” in relation to their health conditions, especially when there is a focus on quality of life. This idea coincides with the concept of population health. The traditional model of health care, where the primary care provider is the expert and the patient follows the provider’s recommendations, has begun to fade. In its place is population health. Psychosocial and economic factors are not taken into consideration when developing a plan of care for patients (Wang et. al, 2015). While the

generalized view is considered a proactive approach to health care, there are still challenges to be aware of.

It is key to take into account more than the formalized health care organization processes. In other words, community resources and agencies need to be incorporated into the analysis. While the community may not be formally a part of the health care organization, they are still intertwined in an indirect fashion. Service utilization by the health care organization is needed to ensure a successful transition or maintenance of the patient within the community (Rottger, Blumel, Engel, et al., 2015). Skilled nursing facilities, home care agencies, volunteer services, and churches all play an important role in actively managing and engaging patients outside of a health care organization. The collaborative nature between a health care organization and these community organizations can help create a safety line for individuals who are suffering chronic diseases. The more resources available to an individual the more apt they are to advocate for their own health. Some examples to consider are parish nurses, community volunteer agencies, and disease specific associations (i.e. Alzheimer's Association).

Social work practice

Social work practice within the health care setting is becoming more common, and necessary. However, the role of the social worker can be skewed. From an interdisciplinary perspective, interdisciplinary teams value what a social worker can contribute. Unfortunately, there are also limitations which are placed on the social worker, whether intentional or unintentional (Kramer, 2013). These limitations can be implications associated with an undeveloped chronic case management program. The role of the social worker can be viewed as one who addresses the non-medical aspects of the patient care (Wang et al., 2015). In truth, this

is correct, but I pose the question, why does the social worker have to be limited to non-medical issues? The professional approach and opinion of social work can assist in the development process. Social work has been trained to view issues from a large picture, and to not focus one particular approach to solve an issue. Perhaps, as Fry (2009) suggests, social work can provide an alternative perspective to a medical model, as this model conflicts with social work practice.

Licensure of the social worker can make a difference for the social worker's role in chronic care management; for example a Licensed Independent Clinical Social Worker (LICSW) is capable of providing therapy to an individual. An individual's mental health is as important as their physical health, and in some cases even more important. Townsend et al. (2006) argues a social worker can be a valuable resource in relation to the health of individual. The expectation for all individuals on an interdisciplinary team is that they have a thorough knowledge base of the condition they are assisting in the treatment of.

The element of providing therapy in relation to medical complexities and the ability to cope with them is something a social worker can assess and assist with. While the social worker may not be able to prescribe an appropriate medical intervention, they do possess the ability to communicate to the appropriate provider the patient's identified needs. The role of the social worker is instrumental in providing "multiple and flexible opportunities for communication" with the patient and family (Holtrop et al., 2016, p. 2).

Strengths

Throughout the research it was evident patient populations were extensively studied in various way to collect data related to chronic medical conditions. In turn, this information was researched, and resulted in literature being published for the public to read. Information I was

able to collect was in the form a variety of methods; systematic, qualitative, and quantitative. However, I found the end result was the same: collect as much information on individuals suffering from chronic medical conditions in order to be analyzed and scrutinized. This eclectic collection of information has helped to provide a great variety in information that looked to increase the responsiveness to all citizen's health conditions (Rottger et al., 2015). The application of various research methods has provided a significant amount of information for the public to utilize in the design and development of new programs.

Even more so, is from where the information was collected. The information collected for this research project included data from a variety of areas. For example, Voetsch et al. (2016) decided to approach the topic by collecting information related to chronic disease coordination within multiple states. We can see this in the table which was provided by Voetsch et al. (2016).

Table 2

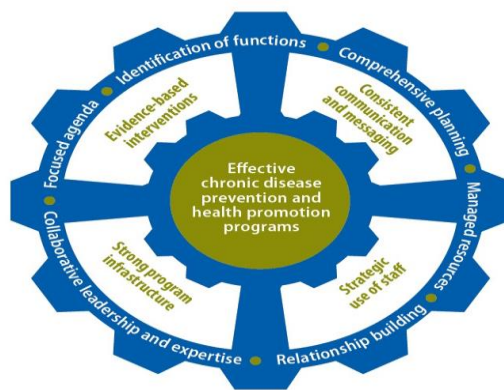
Data Collection Methods, Coordinated Chronic Disease Program, 2012

Data Analysis	Selection Criteria	No. of States	Data Source Description
Document review ^a	Progress in coordination and sustained activities: Queried 5 CDC program consultants who were each responsible for providing technical assistance to states through the CCDP program. • CDC program consultants recommended states that had successfully achieved CCDP objectives and sustained those activities beyond the project period. • 2 or 3 states per NCCDPHP region were included for geographic diversity	21 of 50 states and the District of Columbia	80 programmatic documents from the 21 states, including • CCDP plans • Sustainability plans • Communication plans • Evaluation plans • Critical functions assessment • Progress reports
Key informant interviews	Information-rich participants: • Robust data from document review • Recommendations from CDC program consultants	7 of 21 states	Notes from key informant interviews of 7 chronic disease directors
Conceptual model development ^b	NA	NA	Emerging themes from the document review and key informant interviews

Abbreviations: CCDP, Coordinated Chronic Disease Program; CDC, Centers for Disease Control and Prevention; NA, not available; NCCDPHP, National Center for Chronic Disease Prevention and Health Promotion.

(Voetsch et al., 2016)

Based on the method utilized the authors were able to develop a method they felt was sufficient to address chronic disease management. The following illustration outlines the author's perspective:



(Voetsch et al., 2016)

This provides readers with an image that represents the intricate details associated with their approach to chronic diseases.

The emphasis on collecting relevant data related to individuals with chronic conditions is exciting. There seems to be a collective understanding a program needs to be developed in order to assist the ever-increasing population of people with chronic health conditions. Continuing to collect data with various methods will assist in providing a well-rounded view of the issues related to chronic care management.

Limitations

The majority of people will experience failing health either directly or indirectly at some point in their life. Considering CMS has indicated a significant portion of Medicare recipients

have been diagnosed with a chronic health condition, there appears to be a need for chronic care management programs to be created and sustained. While a general outline, as previously mentioned, has been provided by CMS, the difficulty lies in the interpretation of the definition. The health care industry is left to create a program based on how they see fit in order to combat the influx of adults age 65 and older which is estimated to double from 37 million to greater than 70 million (Wells, Bharrarai, Hawkins, Cheng, Ruiz, Barnowski, Spivack, & Yeh, 2016). While this allows health care organizations the flexibility to tailor their programs to the needs of their patient population, this flexibility runs the risk of stifling curiosity and openness to change. The difficulty in this is to allow staff members to contribute to the change that is happening. Granted, not all ideas will be ideal for the change on the horizon, but allowing staff to openly express their viewpoints can assist in brainstorming process. If the administrative staff decide to implement a new program (which is a change), and do not allow the remaining staff running the program to have some stake in what is being developed, resistance and hesitancy can occur.

Yet another example of discrepancy within interpretation is related to the goals of the triple aim of the health care system, simply put, different authors have different definitions of what the triple aim is. There are similarities with the interpretations, but they still differ. For example, Martelle et al. (2015) lists the triple aim as: patient safety, population health, and human rights; whereas Wang et al. (2015) indicate the triple aim is: improving the quality of care, advancing health outcomes, and lowering health care costs. The flexibility, or ability, for open ended interpretation of a concept almost functions as a double-edged sword; it is nice to have the autonomy to interpret openly, but on the other hand, this autonomy can lead to confusion when attempting to interpret multiple sources for research.

Solution

I believe the establishment of a team which is created to specifically manage patients with chronic conditions is needed. A multidisciplinary approach is a necessity due to the variability of these patient's lives and medical conditions. This team could benefit from having the perspectives of a nurse practitioner or physician assistant, registered nurse, clinical social worker, licensed practicing nurse, psychiatrist, and the oversight of the individual patient's primary care provider as an overseer. The team's objective would be to specifically manage the chronic condition from a biopsychosocial perspective.

The nurse practitioner or physician would provide the medical oversight. They would prescribe and create the necessary medical treatment plan. However, they would also utilize the patient's primary care provider as the overseeing medical professional, as well as update them to the nature of the treatment plan.

Registered nurses would act as the medical professional to provide triage of these individuals when medical emergencies present themselves. The nurse has the medical oversight to assist the patient with carrying out the treatment plan when they are in the community. Their role allows them to become intimately familiar with the patient's medical condition, and to allow them the ability to utilize their best judgment to determine if a patient should come to the clinic or present to the emergency room.

A clinical social worker's role can be viewed as two-fold. First and foremost, they are there to assist the patient and their family with identifying resources available to utilize. These resources could be using a local volunteer agency for completion of daily chores around the house, or utilizing the local food shelf to provide a balanced meal. The options can potentially

be endless. Secondly, the social worker can provide therapy and counseling to the patients and family. As previously discussed, the psychosocial component of a patient's life is largely influenced by a patient's ability to manage their chronic condition.

Although licensed practicing nurses have a large amount of medical knowledge, they are limited to certain roles due to their licensure. However, their role is vital in this program. They are able to manage the process of contacting the individual patients to satisfy the CMS requirement of twenty minutes of contact with each patient per month (CMS, 2016). This role would also allow for the licensed practicing nurse to assist in medication administration if a patient needed to present to the clinic suddenly.

Psychiatrist's role can assist with the management of mental health conditions. Their ability to diagnose these conditions, as well as prescribe the appropriate medication to treat the condition is invaluable. Granted, due to the limited amount of psychiatrists, this member of the team may not be required to be present at all times. Perhaps their role could be considered part time.

Lastly, the primary care provider plays a vital role in the overall care of patients. While they may not be directly involved with the chronic care management team, they will still be indirectly involved. They will oversee all prescriptions and medical treatment provided by the nurse practitioner or physician assistant. Ultimately, they will be the final decision maker related to the treatment plan. However, they do not need to manage the chronic conditions on a regular basis. In other words, they have the flexibility to join the group when time allows.

Policy

While health care organizations are faced with the difficulties of implementing a chronic care management program they will also need to contend with the dilemmas related to policy implementation. CMS (2015) has indicated the clinical program providing these services needs to maintain twenty minutes of contact with each patient per month. The challenge is employing the staff to help maintain this standard. This requirement is stringent, but is necessary in order to create a successful program that can generate revenue. A standardized operational plan to determine who, when, and how to call patients will need to be developed. This challenge can be potentially remedied by the utilizations of a case management team. In order to remedy this situation, the case management team would need the ability to devise a plan with the overseeing administrative staff. A team consisting of administrative staff, primary care providers, and the case management team could assist in identifying the necessary steps to implementing a standardized operational approach.

However, as Summer Holtrop et al. (2016) found, some clinics either do not have or do not use their Case Management personnel in a fashion which would complement this requirement. In situations such as these, administrative staff will be faced with the challenge of organizing staff capable of carrying the required amount of contact with patients, as well as advertising their services to the primary care providers they work with. This communication will need to revolve around what the services consist of and how to access them. A proactive staff can assist with providing the necessary education to the providers in order to streamline the utilization of the program (Drouin et al., 2015). These staff members can provide information to providers to help them understand the services being provided, how to utilize them, and how to order them when appropriate.

Developing a model which allows the appropriate staff the time and training to complete the necessary requirements is imperative. A policy to outline the necessary stipulations needed to be completed would be beneficial to all who are involved in a chronic care management program. Also, specific descriptions of the job duties are needed in order to create an efficient team that is capable of handling the rigors of working with patients who suffer from chronic conditions. However, Fry (2009) feels it is more complicated than this: “additional differences between the professional groups such as length of training, pay scales, influence on patients’ direct care and registration of the professions . . . can cause power dynamics” (p. 111).

Research

The information provided in the literature provided a few different strategies in relation to data collection. These options varied from literature reviews to surveys of individuals with chronic medical conditions. Primarily this information collected seemed to relate to implications on certain disease-specific patient populations such as diabetes (Schmidt et al., 2012), or in broad generalizations related to chronic care. In fact, only one publication was related to development of a chronic care model (Voetsch et al. 2016).

The implications related to research are not in relation to how the data is collected, but the purpose of the data collection. With such limited literature related to model development the health care industry is left to struggle with creating its own interpretation of the guidelines set forth by CMS. Even in the case of Voetsch et al. (2015), as good of a job as they did, were only able to analyze “80 pragmatic documents, from 21 states” (p.1). This in itself would demonstrate the lack of information being provided through research. On the other hand, this also suggests a significant amount of time and effort is required in order to sufficiently collect enough data to assist in the development of an effective model. Boulton, Green, Boulton, Pacala, Snyder, and Leff

(2009) provide a table which details the complexity associated with data collection to determine if a chronic care model is successful:

Table 1. Summary of Evidence on 15 Successful Models of Chronic Care

Model	Studies	Quality of Care	Quality of Life	Functional Autonomy	Survival	Use/Cost of Health Services
A. Interdisciplinary primary care	1 meta-analysis 2 reviews 9 RCTs 3 QE studies 1 XS time series	↑ (11/11)	↑ (9/9)	↑ (6/9)	↑ (2*/14)	Lower use (9*/12) Lower costs (2*/8) Higher costs (1/7)
B. Care and case management	12 RCTs 1 QE study	↑ (4/4)	↑ (7/8)	↑ (1/4)	↑ (4/8)	Lower use (6/10) More use (4/10) Lower costs (1/3)
C. Disease management	1 review 1 meta-analysis 2 RCTs	↑ (1/1)	↑ (2/3)	↑ (1/1)	↑ (1/3)	Lower use (2*/3)
D. Preventive home visits	3 meta-analyses	NA	NA	↑ (2*/3)	↑ (3*/3)	Lower use (2*/3)
E. Comprehensive geriatric assessment, geriatric evaluation and management	10 RCTs 1 QE	↑ (4/4)	↑ (7/10)	↑ (6/11)	↑ (1/9)	Lower use (4/9) More use (3/9) Higher costs (1/5)
F. Pharmaceutical care	6 RCTs	↑ (4/4)	↑ (1/3)	NA	↑ (2/5)	Lower use (2/3)
G. Chronic disease self-management	1 meta-analysis 10 RCTs	NA	↑ (8*/9)	↑ (7*/7)	NA	Lower use (4/5) Lower costs (1/1)
H. Proactive rehabilitation	4 RCTs 1 QE study	NA	↑ (2/3)	↑ (4/5)	↑ (1/3)	Lower use (2/4) More use (1/4)
I. Caregiver education and support	2 meta-analyses 3 RCTs	NA	↑ (3*/3)	↑ (1/2)	ND (1/1)	Lower use (3*/4) Lower costs (1/1)
J. Transitional care	1 meta-analysis 2 RCTs	NA	↑ (2*/2)	ND (1/1)	↑ (1/2)	Lower use (2/3) Lower costs (3*/3)
K. Substitutive hospital-at-home	5 RCTs 1 QE study	ND (3/3)	↑ (5/6)	↑ (1/6)	ND (5/5)	Shorter LOS (3/3) Lower costs (5/5)
L. Early-discharge hospital-at-home	4 RCTs	NA	↑ (1/4)	↑ (1/4)	ND (3/3)	Lower use (4/4)
M. Care in nursing homes	5 QE studies 1 RCT	↑ (6/6)	↑ (1/1)	↑ (1/3)	↑ (1/2)	Lower use (4/4) More use (2/4) Lower costs (1/1)
N. Prevention and management of delirium	4 RCTs 2 QE studies	↑ (1/2)	↑ (5/5)	↑ (1/1)	↑ (1/3)	Shorter LOS (2/3) Lower costs (1/3)
O. Comprehensive inpatient care	2 meta-analyses 5 RCTs 1 QE study	↑ (1/1)	↑ (3*/4)	↑ (5*/6)	↑ (3*/6)	Lower use (2/8) More use (1/8)

Fractions: numerator = number of studies showing significant difference, denominator = number of studies in which this outcome was assessed.

* Includes meta-analysis.

NA = not assessed; ND = no difference; ↑ = better outcome; LOS = length of stay in hospital; QE = quasi-experimental; RCT = randomized controlled trial; XS = cross-sectional.

(Boult et al., 2009)

Commented [PLT1]: Looking at their table, I think it would be best to describe what you are seeing as being “complex.” Are you saying that several variables should be studied with respect to successful models of chronic care? If so, what variables seem most crucial when health care institutions seek to implement a good chronic care management program? Speaking to those variables would be more informative for your reader.

This table provides us with multiple ways to collect information which is relevant to a chronic care management program. The complexity consists with the multitude of approaches. While, it would appear appropriate to conduct the different studies and reviews, it may be difficult for a health care system to construct the necessary team to complete this task.

With that being said, I do feel there to be several variables that are integral to the development of a successful program. The interdisciplinary primary care, case management, chronic disease self-management, and disease management are extremely important. With these four variables in place, a sound structure can be created to build off of. However, I feel it is important to understand these are not the only four variable needed to achieve success. This is where research and studies can shed more light on the other components which would be beneficial within a chronic care management program.

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