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Case Managers' Perspectives of Hospital Postdischarge Services for Patients Diagnosed with Coronary Artery Disease

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Abstract

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Dissertation Submitted in Partial Fulfillment

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Abstract

The United States lacks postdischarge services, which can negatively impact hospital readmissions within 30 days. It is important for case managers to effectively leverage outpatient services to enhance patient care and reduce readmission rates. Grounded in the practice change model framework, this qualitative single case study explores the perspectives of case managers involved with postdischarge services for patients diagnosed with coronary artery disease (CAD). Participants included 13 case managers from two metropolitan hospitals in Atlanta, Georgia. To address the research problem and study purpose, data collection techniques included semi-structured interviews, case management discharge summaries, and reflective journal notes. The thematic analysis approach was used to observe and document themes that emerged. The five themes that emerged from data analysis were: (a) medication, (b) follow up appointments, (c) patient compliance with medical care instructions, (d) home health, and (e) outpatient case management. Patient discharge and quality of care to prevent or reduce readmission rates have always been a central axiom of hospital postdischarge services. Insights from this study addressing gaps in postdischarge services amongst patients diagnosed with CAD may lead to improved outcomes in patient care, thus contributing to positive social change across large metropolitan hospitals. Findings may also contribute to social change by providing solutions that may improve readmission rates within inpatient hospital settings.

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Chapter 1: Introduction to the Study

Cardiovascular diseases (CVDs) are the leading cause of global death and disability (Sun et al, 2018; Wu et al, 2020). In 2019, approximately 18.6 million people died as a result of CVDs (American Heart Association, 2021). Coronary artery disease (CAD) is the most common form of CVD, as it accounts for 40% of all CVD death worldwide (Pinaire et al., 2019; Senomer & Dichtl, 2019). In the United States of America (US), CVD is the primary cause of death (Centers for Disease Control and Prevention [CDC], 2020a). It is a serious public health concern and significant contributor to reduced quality of life (Gheorghe et al., 2018). According to the American Heart Association (AHA) (2021), about 126.9 million adult Americans had some form of CVD and in the year 2017, CVDs accounted for 868,662 deaths. CAD was the leading cause of deaths attributable to CVDs in 2018, accounting for 42.1% of all CVDs deaths and 13% (365,774) of all deaths that occurred in the US for that year (AHA, 2021). In 2017, about 18.2 million U.S. adults were diagnosed with CAD (CDC, 2019).

Disability and death caused by CAD have economic consequences for individuals, households, public institutions, economic agents, government, and society. The disease has an economic toll costing our healthcare system $216 billion per year and causing $147 billion in lost productivity on the job (CDC, 2019). If left unaddressed, the public health burden of CAD will not only persist but increase due to population growth and aging. Due to the chronic nature of CAD, healthcare providers usually implement long-term clinical interventions to improve patient outcomes. One of the interventions typically used is postdischarge services, which are designed to reduce the rate of

readmission of discharged patients (Warchol et al., 2019). To lower rehospitalization rates, case managers are assigned to provide discharge instructions and assist with postdischarge services for patients (Fabbri et al., 2017). Despite postdischarge initiatives, the 30-day readmission rate of discharged patients diagnosed with CAD is still as high as 21% amongst leading tertiary hospitals in the U.S. (Oliveira et al., 2019). There is currently no structured framework for case managers to adopt and optimize postdischarge services for patients diagnosed with CAD. Implications of this study for positive social change include gaining insight regarding case managers' perspectives of postdischarge services, which may provide knowledge that hospital administrators can use to reduce 30 day readmission rates and better align patients with outpatient services.

This chapter includes the background of the problem leading to the development of the problem statement, including a description of the gap in literature. The purpose, significance, nature of the study, research questions (RQs), and conceptual framework follow. I also present operational definitions used throughout the study and state assumptions, scope and delimitations, and limitations of the study.

Background of the Problem

The intent of this study was to explore perspectives of case managers regarding postdischarge services for patients diagnosed with CAD. By using effective postdischarge services, case managers of healthcare organizations may help reduce 30 day hospital readmissions amongst CAD patients. There was a significant increase in CVD cases in the US from 2013 to 2016 (AHA, 2019; America's Health Ranking [AHR], 2019). Although the burden of CVD is unequally distributed across the US, it affects

people of all ages and races (Barr, 2016; Havranek et al., 2016). CVD remains a major cause of premature death and disability in the US despite numerous interventions such as medication management, percutaneous intervention, and the Healthy Heart Initiative. Although these interventions have had a beneficial impact on patient outcomes, a novel approach to treating the disease must be implemented.

In 2017, the US had approximately 366,000 CAD deaths (Benjamin et al., 2019) and an estimated 18.2 million diagnoses (CDC, 2019). Currently, the hospital readmission rate for patients diagnosed with CVD in the United States is 41% (Tripathi et al., 2017).

As an example of the yearly healthcare cost of readmissions in a hospital setting, Aiken et al., (2018) suggests these values are high at approximately $17.4 billion. Such costs are associated with postdischarge services that have led to poor patient outcomes. Examples of such poor outcomes include mortality, readmission, poor patient satisfaction, non-mortality adverse outcomes (such as drug complications and wound infections), and prolonged hospital stays (Aiken et al., 2018). Transitions in care often increase patients' vulnerability to adverse events and often result in rehospitalization (Health Quality Ontario, 2017). Aforementioned factors related to patient outcomes have a direct influence on hospital readmission rates and institutional costs.

Problem Statement

Healthcare organizations are ethically responsible for ensuring that patients do not have untimely recurrent visits due to treatments. One way that hospitals have tended to this responsibility is to have essential clinical pathways that guide evidence-based

healthcare, discharge protocols, and postdischarge services in place with proper staffing. Continuous staff-patient relationships are necessary for patients with chronic diseases such as CAD. Key hospital personnel, like case managers, are vital for inpatient and outpatient services amongst patients diagnosed with CAD to assist in optimized treatment plans upon discharge. Postdischarge services are typically targeted at improving patient outcomes, with the primary goals being monitoring patients' recovery process, keeping them healthy, and preventing or reducing the possibility of readmission (Aiken et al., 2018).

The Centers for Medicare and Medicaid Services (CMS) established the Hospital Readmission Reduction Program (HRRP) in 2012 to improve the quality and value of patient care. It imposed financial penalties on hospitals with higher than expected rates of readmission within 30 days of patients diagnosed and discharged with CVD (CMS, 2019). Despite the 30-day readmission process that Medicare has implemented to reduce readmission rates, patients who are diagnosed with CAD are still returning to the hospital within 30 days of being discharged. Additionally, patients who come back to the hospital shortly after discharge are increasingly being treated in other parts of the hospital such as the emergency room (ER) or telemetry unit (observational department) with a secondary diagnosis apart from their original diagnoses to make hospital readmission rates appear lower (Wadheria et al., 2019). Hospital stays in other parts of healthcare facilities, as mentioned previously, increased from 2.6% to 4.7% in 2015 (Zuckerman et al., 2016). Although researchers have investigated this issue, there is a scarcity of information regarding the followup process that Medicare has benchmarked for patients diagnosed

with CAD. The research problem that was addressed in this study is the lack of knowledge amongst health care providers and hospital administrators on how case managers perceive postdischarge services for patients diagnosed with CAD.

Purpose of the Study

The purpose of this single case study design was to explore perspectives of case managers involved with postdischarge services for patients diagnosed with CAD. The target population included 13 case managers in an inpatient hospital setting in two hospitals located in the Atlanta, Georgia area who have successfully discharged patients diagnosed with CAD. I selected this geographical location because of the large number of heart specialty hospitals (38 in the area). Implications of this study for positive social change include the potential to provide knowledge that case managers can use to implement effective strategies to improve postdischarge services so that patients diagnosed with CAD do not return to the hospital within 30 days.

Significance of the Study

As the researcher, I used a qualitative approach to explore perspectives of case managers involved with postdischarge services for CAD patients in the inpatient hospital setting. By examining case managers' perspectives of such services, I was able to identify specific strategies that hospital facility leaders can implement to provide quality patient care to reduce 30 day readmission rates. The high rate of hospital readmission for patients diagnosed with CAD is a costly public health challenge in the US (Roth et al., 2017), exceeding $17 billion per year in Medicare expenses (Zuckerman et al., 2016). High hospital readmission rates can negatively impact cost and patient outcomes in the hospital

setting. Institutional readmission translates to penalties and reduced financial reimbursement for hospitals services (Warchol et al., 2019). From the patient perspective, a returned visit to the hospital diminishes quality of care and increases mortality rates (Aiken et al., 2018). As a result, some patients and their family members may consider the hospital's treatment offerings to be inefficient. Also, hospital readmissions are costly for hospitals. Investing in resources to have adequate discharge planning and readmission reduction programs may streamline efforts in terms of reducing readmission rates. Research findings may offer new insights that case managers can use to create evidence-based programs to improve quality of care for patients diagnosed with CAD.

Resource programs targeted at reducing readmission rates contribute positively to patients' health outcomes. Programs in the hospital setting that feature an interactive patient centric model with the aim of increasing staff communication and leveraging inpatient resources, for instance, could reduce 30 day readmission rates of patients, as well as decrease the number of funds that state and local hospitals annually spend on readmissions. With the implementation of a conceptual model, patients diagnosed with CAD could experience improvements in terms of their quality of health and outcomes and spend less out of pocket on readmission. The development of new postdischarge services could also reduce the number of premature deaths that result from CAD every year and directly reduce economic productivity loss. According to Henke et al. (2017), the quality of a successful discharge plan can offer a lower rate of readmission within 30 days, which directly affects higher reimbursement from Medicare and Medicaid. In

addition, results of the study may contribute to the body of knowledge on CAD healthcare.

Nature of the Study

In qualitative studies, the researcher must determine which study design is most suitable for the needs of the study. Interview questions that are well-planned and open-ended can enhance the evaluation experience and also add depth to participants' answers. To address the RQs in this study, I used a case study design to explore perspectives of case managers caring for patients diagnosed with CAD postdischarge. A single case study design was most appropriate for the study because this method can be applied using a single participant or a small group of research participants. A case study design is appropriate for gaining in-depth knowledge to explore contextual characteristics of a real-world subject. Well-crafted and open-ended interview questions enhanced assessment and also offered depth in terms of subjects' responses.

Additionally, the case study approach is the most suitable methodology because it offers researchers the opportunity to extensively study a targeted topic, used for a single instance or event; it facilitates selection and involves focusing on one or two issues that are fundamental to understanding the system being assessed (Ebneyamini et al., 2018). Through the case study approach, researchers can obtain real and thorough accounts of personal experiences of participants, which can reveal inner motives that drive them to adopt certain patterns of behavior. The case study design also allows researchers to assess interactions of all variables that are involved in a study by taking a holistic approach, thus facilitating a complete understanding of the targeted situation; this is especially useful

when there is a need to obtain in-depth information about an issue in its natural real-life context. Case study research is usually descriptive and exploratory in nature, and results can be presented via thick or rough descriptions. The thick description process involves a detailed description of the entity under investigation while rough description involves interpreting the meaning of data obtained from the study (Ridder, 2017).

As a qualitative researcher, I used a single case study design to explore perspectives of case managers involved with postdischarge services for patients diagnosed with CAD. The single case study design helps researchers understand a real-world case. This approach allows the researcher to base their study not solely on assumptions or stipulate as true claims that may conflict with what is accepted as true about a real world case. Yin (2018) said, "the case study method is pertinent when your research addresses either a descriptive question (what happened?) or an explanatory question (how or why something happened?)" (p. 112).

Research Questions

The RQs that I sought to answer were:

RQ1: How are case managers ensuring that patients diagnosed with CAD do not return to the hospital inpatient unit within 30 days of discharge?

RQ2: What postdischarge instructions are in place amongst case managers to ensure patients diagnosed with CAD are not readmitted within 30 days of discharge?

RQ3: How are case managers ensuring that patients diagnosed with CAD are following up with their postoperative services?

Conceptual Framework

The conceptual framework that is most suitable for this research topic is the practice change model. This model is mainly used for organizing, synthesizing, and understanding rationales for practice assessment approaches, which inform the development of quality improvement in healthcare organizations (Attieh et al., 2013). The framework can also influence interactions by explicitly suggesting to case managers to follow up with necessary care plans for patients diagnosed with CAD. Also, the model can enhance communication and motivation amongst case managers within a hospital setting when discharging and transitioning patients to implement a standard level of continuum care for patients diagnosed with CAD. This can be productive when managing postdischarge services to achieve effectiveness, quality care, and maximize outcomes.

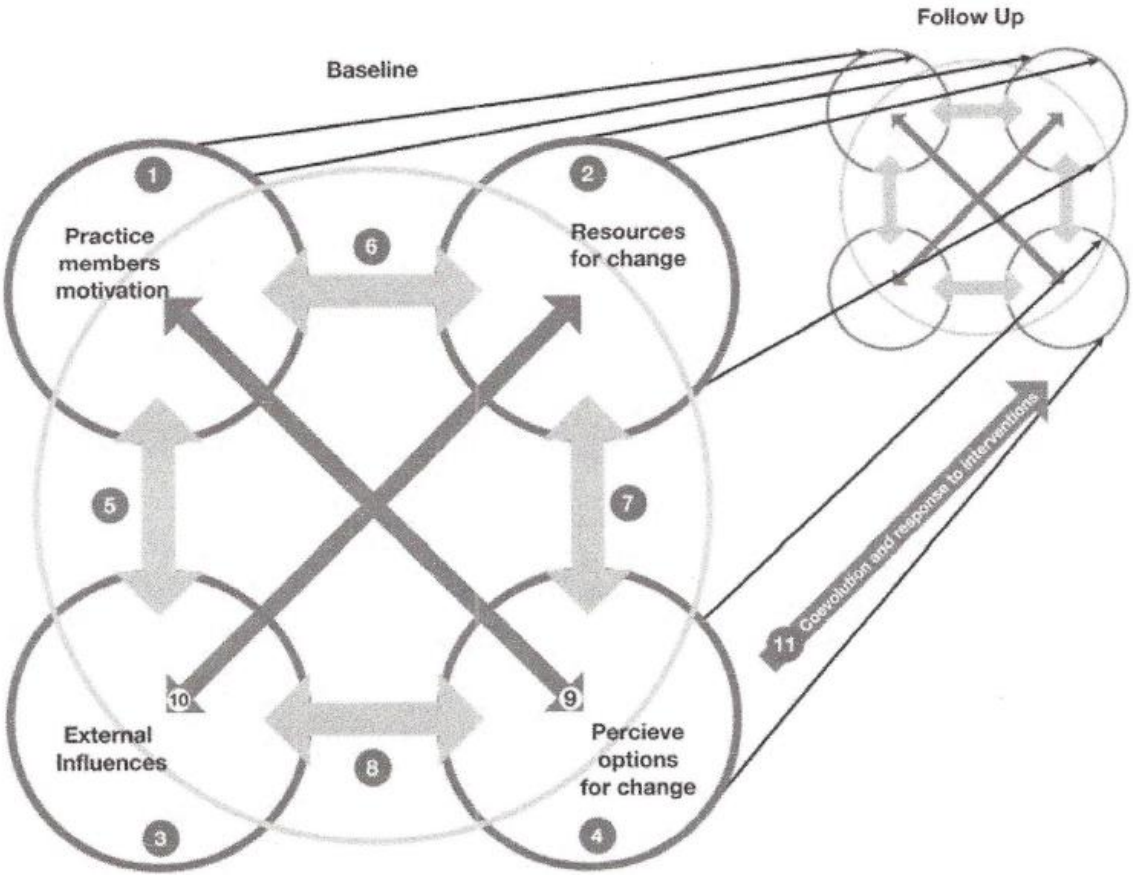
The model was chosen because it is s an effective tool that can be used in hospital settings because it provides a helpful assessment of available resources that can be leveraged by case managers and offered to patients diagnosed with CAD. According to Ruhe et al. (2009), the model includes the following four primary practice components. First, motivation involves hospital leaders setting a strategic direction for their CAD discharge team. Strategies related to motivation for change include setting the mission and vision, enabling team members, and reducing barriers for adequate postdischarge services. This component also involves the assessment of collectively shared values and motivations and the extent to which individuals adhere to shared principles. Second, resources for change should evaluate the necessary means to initiate and carry out the required resources for postdischarge services. This will include the assessment of the

quality and quantity of different types of resources that are made available for case managers to use for patients diagnosed with CAD. The third component to consider is external influences that involve the examination of the communication styles and pathways, the healthcare system, the nature of patients diagnosed with CAD involved, and interactions with local community organizations after discharge. The fourth and final component details perceived options for change assess the approach to postdischarged services, the results from changed efforts, perspective of opportunities, approaches to change initiative, and history of practice change.

The model includes a step-by-step process that case managers can use to help optimize discharge and postdischarge services for patients diagnosed with CAD (see Figure 1).

Figure 1

Practice Change Model Framework



Note. Adapted from "A Practice Change Model for Quality Improvement in Primary Care Practice" by Cohen, D., McDaniel, R.R., Crabtree, B.F., Ruhe, M.C., Weyer, S.M., Tallia, A., Miller, W.L., Goodwin, M.A., Nutting, P., Solberg, L.I., Zyzanksi, S.I., Jaen, C.R., Gilchrist, V., & Stange, K.C. , 2004, *Journal of Healthcare Management, Volume 49* (Issue 3), p. 159.

With the structured framework, case managers can use it to optimize discharge for patients diagnosed with CAD. Case managers facilitate discharge with patients in the inpatient hospital setting but lack consistent postdischarge services once the patient

leaves the institution. The practice change model is a framework that case managers could adopt for successful postdischarge services. The seven interactive steps that make up the model support ongoing and active implementation of patient contact in order to maximize inpatient resources and postdischarge services.

The model also includes seven interactive features, which can be described in detail as follow. First, in the inpatient setting, the case manager works alongside the physician and identifies that the patient is indeed a CAD patient, thus aligning an immediate patient postdischarge plan, upon admission, that will be implemented across all organizational domains.

Second, the case manager should assess resources. This stage in treatment will determine what available resources will be leveraged for the patient upon discharge. A clear gauge of the availability or lack of resources that influence motivation, system of patient care, and the administrative process will be examined.

The third feature offers analysis and implementation of some, if not all, inpatient staff resources from various organizational domains, this will offer a multidisciplinary approach of hospital departments and clinicians. In this phase, the team approach will encompass the leading cardiologist, primary care provider, nurse practitioner, floor nurse, nutritionist, pharmacist, and case manager. The case manager will be the lead caregiver upon postdischarge to ensure continuum care for the patient outside of the institution. This role will be an adaptive role working within the exchanges of the framework model and will be accessible for changed efforts and the change opportunities that influence resource acquisition. Discussion and examination of the patient's resources will be

assessed to delineate adequate postdischarged services in the areas of transportation, phone, secured email (i.e. electronic health records), texting, postal mail, and automated calling systems.

The fourth feature entails social factors that may influence or impede postdischarge services such as economic status, living situation, health literacy, and education, dietary needs, possible drug use, and access to care, and health care compliance. Once these factors are addressed, this will further streamline postdischarge services, expectations, and contingencies. This assessment of outside motivators will be adhered to that pertain to the patient and will be used as a rationale for or against change and change plans in their treatment that conflict with outside influences.

Directing the patient to discharge and/or a post-operative treatment plan will be reviewed and acknowledged between the case manager, physician, and patient in the fifth detail. The treatment plan will be scored both for the patient and for the case manager. The initiatives within the treatment plan will be exercised weekly, recording touch points, or lack thereof around postdischarge initiatives that are in place. This will further examine motivations that demand a specific plan for change or vision that competes with changed plans that are in place.

The sixth premise evaluates the availability of post-acute services within the immediate week and throughout the first 30 days for the patient. These instructions will be made available upon discharge with scheduled postdischarge follow-up from the case manager within 24 to 48 hours. The phase involves the assessment of acquisition or lack of access to resources due to outside influences.

Lastly are monitoring of the patient and postdischarge services. Continued discharge services of available resources via phone, email, and text will coexist even when the patient has scheduled with their primary care physician and clinical cardiologist. Adhering to a multidisciplinary team approach and keeping the case manager at the center of communication will be instrumental. The case manager will continue to document, monitor, benchmark, and flag all external influences to maximize health outcomes for the patient. An account of scheduled post-acute services (cardiac rehab/cardiac education, tobacco/lifestyle cessation programs), medication adherence, and patient compliance will be noted in the patient's file. This will address motivations, resources, outside influences, and beliefs that relate to changes as they evolve.

Operational Definitions

Operational definitions are as follows:

Cardiovascular diseases (CVD): Conditions that are linked to disorders of the heart and blood vessels (Stewart et al., 2017).

Coronary Artery Disease (CAD): The narrowing or blockage of the coronary arteries (Bauersachs et al., 2019).

Hospital case managers: Staff members in the hospital setting who effectively organize the complex care needs of patients across treatment channels alongside medical providers (Fabbri et al., 2017).*Postdischarge services:* Interventions that hospitals render to their patients in order to successfully guide them through recovery and thereby improve patient outcomes (Fabbri et al., 2017).

30 day readmission rate: Estimate of unplanned CAD readmissions to acute care hospitals within 30 days after being discharged from an earlier hospitalization (Roth et al., 2017).

Assumptions

The assumptions made in this study are as follows. First, that case managers caring for patients diagnosed with CAD would want to have postdischarge services for their patients and those services were not readily available to them. Second, it is assumed that the current available postdischarge services from case managers are inadequate in meeting the needs of patients diagnosed with CAD. Finally, I assume that I would have access to case management discharge summaries, and to the inpatient hospital discharge policy.

Limitations

Potential limitations that arose during this study included difficulties in terms of recruiting participants as well as sample size of participants, both due to restrictions imposed by COVID-19 pandemic. Although I achieved the intended number of participants and statistically I had enough subjects to complete the interview process, it was challenging during recruitment, and I found myself staying at the interview site later than anticipated. This was due to the rise in case management caseloads during the peak of the COVID-19 pandemic. Additionally, 13 case managers as a sample size may have been an insufficient number to address perspectives and knowledge. Specifically, since I only studied case managers in Atlanta, GA, results may not be representative of case managers in other geographic settings. Moreover, in the study, I used a single case study

design, which could have also limited results compared to those I could have obtained from a multiple case study design. However, educational and resource restrictions prevented completion of a multiple case study.

Scope and Delimitations

This study includes the perspectives of case managers. I included case managers involved with postdischarge services in the hospital setting to reduce readmissions of patients diagnosed with CAD. For this study, All participants were case managers who engaged in postdischarge services for patients diagnosed with CAD. A total of 13 case managers from two metropolitan hospitals in Atlanta, GA were interviewed. I only focused on postdischarge services that case managers can use to reduce readmissions of patients diagnosed with CAD.

Summary

CVDs are a leading cause of disability and death in the US. CAD is the most prevalent form of CVD, and a large number of Americans are diagnosed with this disease. Although several interventions have been put in place by the government and private organizations, CAD remains a major public health concern in the US. The disease demands a sense of urgency to reduce the negative impact of the syndrome on individuals, government expenditures, and society. I examined postdischarge services from case managers who provided for patients diagnosed with CAD who were then discharged from the inpatient unit hospital setting. In this study, I focused on postdischarge services for patients diagnosed with CAD provided by case managers to prevent readmission rates. As the investigator, I also focused on perspective of case

managers in terms of ensuring patients diagnosed with CAD are not readmitted within 30 days of discharge. Generally, quality postdischarge services are expected to reduce 30 day readmission rates of patients, thus ensuring that they experience optimized health outcomes. My aim is that results obtained from this study are published in peer-reviewed journals to add to the body of knowledge regarding postdischarge services for patients diagnosed with CAD.

Chapter 2: Review of Literature

The literature review in this study provides information that case managers can implement when developing postdischarge services for patients diagnosed with CAD using the seven-step process model. This chapter also includes existing research and information regarding CVD and CAD, risk factors for CAD, impact of the disease on patients' quality of life, postdischarge services available for patients, and the impact of postdischarge services on 30 day readmission rates of patients. The duties and responsibilities of hospital case managers in terms of implementing appropriate postdischarge services for patients and monitoring this process are also examined by way of CVD and CAD. This chapter includes a systematic review of the effectiveness of postdischarge services on adherence of patients to Medicare guidelines and reductions in 30 day readmission rates of patients.

Case management refers to the collaborative process of assessment, planning, facilitating, care coordination, and evaluation advocacy for options and services to meet individual and family comprehensive health needs using communication and available resources that promote quality and cost-effective outcomes (Hudon et al., 2016). The case management team is usually made up of different healthcare professionals, and the role of case management is primarily handled by hospital case managers. Case management is an important aspect of patient-centered and integrated care services and is usually focused on comprehensive coordination of services across a continuum of care.

Literature Search Strategies

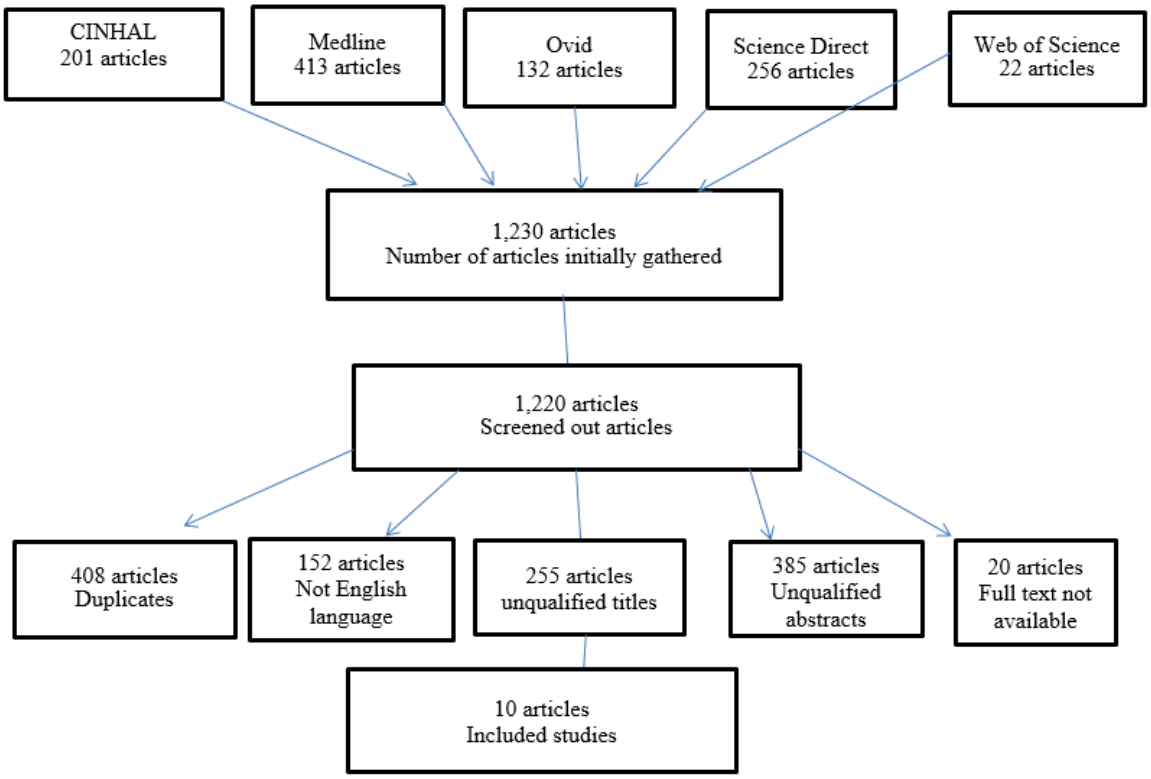
This literature review involves the identification, synthesis, and assessment of available evidence to generate a robust and empirically-derived solution that answers specific RQs. Institutional or hospital protocols associated with the literature review process allowed me to gather information about already established evidence, mechanisms used to produce the evidence, and variation in terms of evidence across studies. The approach involves a rigorous review of relevant literature that is objective and transparent as well as aimed at minimizing bias and ensuring replicability.

Sources published between 2018 and 2022 were reviewed using both online resources and community libraries. The following databases were used in this study: Science Direct, Ovid, MEDLINE, Web of Science, and CINAHL. Keywords that were used to search for relevant literature were: *cardiovascular diseases, CAD, postdischarge services, hospital case managers,* and *30 day readmission rates*.

A total of 1,230 articles were initially gathered. Duplicates were removed (408 total) from initial articles, leaving 822 articles. Further screening of remaining articles showed 152 articles did not meet predetermined language criteria. Subsequent processing resulted in the removal of 225 articles that did not meet title criteria, 385 papers that did not meet abstract requirements, and 20 papers whose full texts were not available. At the end of the review process, only 10 relevant works of literature were included in this study (see Figure 2).

Figure 2

Literature Flow Chart



Shortlisted studies were critically appraised using a relevant checklist provided by the Critical Skills Appraisal Program (CSAP). The appraisal process includes consideration of study objectives, design, settings, background, literature review, methods, target population, sampling strategies, ethical issues, data collection methods, analysis techniques, findings, and limitations. For each source, relevance, generalizability, and potential contribution of each study to this project were considered. Each source was closely read several times to identify and extract key points that enabled relationships between studies to be recognized. Each stage of the selection process was

conducted systematically and with rigorous scrutiny to ensure that biased information was avoided.

Literature Review Findings

CVD is a general term for a group of medical conditions that involve the narrowing or blocking of arterial vessels (World Health Organization 2021). Medical conditions that characterize the disease include coronary heart diseases, cerebrovascular diseases, peripheral arterial diseases, congenital heart diseases, thrombosis, stroke, and rheumatic heart diseases (Stewart et al., 2017). General symptoms associated with CVD include pain in the center of the chest, pain in the arms, elbow, jaw, back, or left shoulder, difficulty breathing, shortness of breath, vomiting, cold sweat, paleness, and lightheadedness (WHO, 2017).

Risk factors for CVD include behaviors and lifestyles that increase the probability of developing the disease. Critical risk factors for CVDs include smoking, physical inactivity, unhealthy diets, obesity, high blood cholesterol, high blood pressure, high blood sugar, alcoholic drinking, genetic predisposition, and advanced aging (Benjamin et al., 2017).

The overall prevalence of CVD has been estimated to be about 7.9 million in the US (Murphy et al., 2015). The disease has also been identified as the primary cause of death and disability in the US.

CVDs typically range from asymptomatic, with a patient being diagnosed with CAD, to conventional, such as when a patient has a major cardiovascular event. Although CVD is preventable, the number of people that develop the condition continues to

increase yearly (Kumar, 2017). In the US, CVD is a leading cause of long-term disability and premature deaths; it also contributes to rising costs of healthcare as it has been recognized as the most expensive disease (CDC, 2021). Thus, CVD is a costly medical condition that has continued to rise while placing social and economic burdens on those diagnosed with the disease.

From 2010 to 2020, the AHA has the strategic goal of improving the CVD health of Americans by 20% and reducing CVD mortality death by 20% (Sidney et al., 2016). Based on data pertaining to cardiovascular prevalence, obtained from the National Health and Nutrition Examination Survey (NHANES) between 2013 and 2016, the prevalence of CVD in adults older than 20 years old is 48% in the US. This is equivalent to 121.5 million people, and prevalence increases with age for both genders (Virani et al., 2020). Based on data obtained from National Health Insurance Scheme (NHIS) for 2017, age-adjusted prevalence for CVD in US adults was 10.6%; the percentage prevalence for Whites, Blacks, Hispanics, and Asians was 11%, 9.7%, and 6.1%, respectively. Generally, prevalence rates were higher in men at 9% versus 6% than women (Virani et al., 2020). However, the risk level of CVD event like a myocardial infarction or stroke increases amongst all ethnic groups, ages, and races.

CAD

There are different types of CVD, and they have different mechanisms and pathologies. The most common forms of CVD include the following: arrhythmias, congenital heart disease, CAD, aorta disease, heart attack, heart failure, hypertension, cardiomyopathy, myocardial infarction, mitral valve regurgitation, and deep vein

thrombosis and pulmonary embolism (Malakar et al., 2019; Khan et al., 2020). The CVD with the highest prevalence in the United States of America is CAD; it is an atherosclerotic inflammatory disease that manifests clinically in the form of stable angina, unstable angina, myocardial infarction, ischemic cardiomyopathy, and sudden cardiac death (Malakar et al., 2019; Khan et al., 2020). CAD is also known as ischemic heart disease (IHD) and atherosclerotic cardiovascular disease (ACD). CAD is a progressive disease that typically starts in childhood with the development of fatty streaks and manifests clinically in middle to late adulthood (Shah, 2019). It is the largest single contributor to CVD deaths across the USA and in the world at large (Ardeshna et al., 2018). Acute myocardial infarction is the most harmful clinical presentation of CAD; every year, about 1.5 million new cases of acute myocardial infarction are recorded with over 500,000 cases resulting in death (CDC, 2019). Among other clinical presentations of CAD, congestive heart failure has become the most common discharge diagnosis for patients in American hospitals (Shah, 2019). The occurrence of CAD amongst cardiovascular disease, its prevalence, and discharged diagnoses sheds light on how severe this disease affects the American population.

According to data obtained from the National Health and Nutrition Examination Survey (NHANES) for the year 2013 to 2016, an estimated 18.2 million Americans 20 years and older are living with CAD. Among the elderly, who are aged 60 years and above, the prevalence is higher among males (7.4%) compared to females (6.2%). Based on data obtained from the National Health Interview Survey (NHIS) for the year 2017, the CAD prevalence among different races for individuals aged 18 years and above is

5.9% for blacks, 5.6% for whites, 4.3% for Asians, and 2.7% for American Indian/Alaska natives (Virani et al., 2020). Every year, CAD accounts for about 610,000 premature deaths in America, implying that CAD is responsible for about 1 in every 4 deaths (CDC, 2019). In addition, the yearly healthcare costs of CAD are costly; the government spends more than 200 billion dollars on the disease every year (Brown et al., 2020). The expenditure is considerable and yet the disease appears to be outpacing efforts and advancement in the cardiovascular care community.

CAD involves the building up of plaques in the walls of the blood vessels (arteries) that supply blood to the heart. In addition to the roles of plaques in the development of CAD, recently researchers have found out that inflammation and the immune system play pivotal roles in the development of CAD (Fioranelli et al., 2018). The disease can be classified as either obstructive or non-obstructive (Waheed et al., 2020). Obstructive CAD refers to a type of CAD in which atherosclerotic plaques block the flow of blood supply and result in angina symptoms. Non-obstructive CAD, on the other hand, is not associated with the formation of plaques; instead, the arteries developed other problems such as coronary vasospasm, endothelial dysfunction, microvascular dysfunction, and myocardial bridging.

Symptoms, Diagnosis, Treatment, and Management of CAD

The signs and symptoms associated with CAD include the following: chest pain, jaw pain, diaphoresis, shortness of breath, weakness, fatigue, dizziness, palpitation, leg swelling, weight gain, intermittent claudication, stable angina pectoris, tachycardia, atrial fibrillation, ventricular tachycardia, altered blood pressure (high or low), heart murmur,

tachypnea, syncope, gallop and pulmonary edema (Shah et al., 2019). When case managers work alongside physicians during the identification and intake process to help in the diagnosis of CAD, laboratory tests, and imaging assessments are routinely utilized. The laboratory tests used in the diagnosis of CAD are complete blood count, lipid profile, thyroid functional test, chemistry panel, blood glucose, hemoglobin measurement, myocardial fractional flow reserve, coronary flow reserve, C-reactive protein concentration, and cardiac troponin. The imaging studies that are used in the diagnosis of CAD include echocardiography, nuclear imaging, cardiac computed tomography with CT angiography, electron beam CT scanning, optical coherence tomography imaging, magnetic resonance imaging, positron emission tomography, and coronary angiography (Shah et al., 2019). Each instrument is a vital component in obtaining a complete diagnosis for patients with displayed signs of CAD.

Different types of drugs are used in the management of CAD; the specificity of drugs prescribed depends on the clinical presentation of the disease. For the management of angina, the commonly used agents are nitrates, beta-blockers, calcium channel blockers, and ranolazine. Other agents used in the management of CAD generally include the following: angiotensin-converting enzyme inhibitors, antiplatelet agents for acute coronary events, intravenous glycoprotein inhibitors, aspirin, thienopyridine antiplatelet agents, ticagrelor, statins, and PCSK-9 inhibitors. Treatment procedures that are commonly used are coronary bypass grafting, percutaneous coronary intervention, and percutaneous transluminal coronary angioplasty (Shah et al., 2019). These treatment

measures of medical management and intervention therapy are approaches that are strongly suggested when a patient is diagnosed with CAD.

Risk Factors for CAD

Although the complications of CAD are typically seen in older adults, the main pathological process, leading to CAD begins early in life and advances gradually through adolescence and early adulthood. The rate of advancement of the pathological process is influenced by certain factors that increase individuals' risk of developing CAD. The factors are classified into modifiable and non-modifiable factors. Modifiable factors are those risk factors that can be altered, and they include hypertension, smoking, hyperlipidemia, physical inactivity, diabetes, chronic kidney diseases, obesity, alcohol consumption, and psychological factors. The non-modifiable factors are gender, age, family, and race (Anderson & Durstine, 2019). Research has shown that proper control of modifiable risk factors of CAD can lead to a significant reduction in CAD events (Pencina et al., 2019). Both risk factors should always be considered when being assessed and normed to lessen a cardiovascular event such as a heart attack or stroke due to CAD.

Modifiable Risk Factors and the Influence of Case Managers

The current stage of advancement of health services can be regarded as multiple changes that affect the organizational pathway of key production lines (inpatient and outpatient departments) and the method of use by its staff. The conceptual framework is an approach by which healthcare organizations are aimed at and accountable for continuous improvement in the quality of health services. In this perspective of a conceptual framework, the roles and responsibilities of the case manager with its clinical,

managerial, and financial services become a vital player to ensure efficiency and effectiveness across the continuum of care within inpatient and outpatient services. Case management services fit accordingly in the context of patient financial assistance, disease promotion, and awareness, resulting in improved life, through coordination. This integration of different professional contributions ensures continuity of care through all stages of treatment can result in increased quality of care. Additionally, understanding disease state awareness and the role of case management is critical to the discharge, instructed postdischarge services, and outcomes for patients that are diagnosed with CAD. The increase of disease state awareness and case management role influence could be more functionally utilized to reduce gaps in patient care.

Hypertension

The comorbidities of hypertension are common in patients with CAD and affect clinical outcomes. The more risk factors an individual has, the more likely they will develop CAD or even die (AHA, 2019). Hypertension is one of the three key factors that increase an individual's risk of having CAD. The other two risk factors are a high level of LDL cholesterol and smoking.

In line with the patients that have a secondary illness, case managers can offer guidance on the definition of hypertension, its causes, the risk factors, its significance, unwanted side effects, medication treatment, changes in lifestyle (reducing body weight to normal, regular physical exercise, salt limitation, diet, smoking and alcohol intake),

and the importance of blood pressure monitoring to patients diagnosed with CAD. This approach can offer key measures in reducing the patient's risk of elevated blood pressure.

Case managers should also note that hypertension is diagnosed if the systolic blood pressure measured on two different days is at or above 140 mmHg or if the diastolic blood pressure for both days is at or above 90 mmHg (CDC, 2020b). This is vital information for the case management team as often times CAD patients have overnight hospital stays before discharge. Hypertension can cause severe damage to the heart by building up excessive pressure that hardens arteries and decreases the flow of blood and oxygen to the heart. Elevated blood pressure can cause chest pain, heart attack, heart failure, and irregular heartbeat (Malakar et al., 2019; WHO, 2020b). It is also beneficial for case management to report or document any discomfort or recurring pain the patient may have upon discharge.

Hypertension is a key risk factor for the development of cardiovascular disease (CVD) and the biggest risk factor for CAD. Previous studies have reported that hypertension and CAD are two of the principal factors that significantly increase individuals' risk of developing heart failure (Oh & Cho, 2020). It is critical that upon hospital intake and diagnosis that the case management team identifies how many risk factors, like hypertension the patient has.

Hyperlipidemia

Hyperlipidemia has been recognized as the second most common risk factor for CAD (Hill & Bordone, 2020). Hyperlipidemia is a chronic, progressive disease condition that is characterized by an elevated concentration of lipids in the body (Hedayatnia et al.,

2020). In the role of caring for patients diagnosed with hyperlipidemia, case managers can provide lifestyle advice (exercise, low-salt diet, smoking cessation, medication adherence), follow-up with physician orders of checked blood pressure and low-density lipoprotein level, and provided blood pressure measurements and a list of current medications to the patient's primary care physician prior to discharge. This will ensure that the patient is stable and assessed services can be applied accordingly. Case managers should understand the composition of the human lipid profile that includes cholesterol, apolipoproteins, chylomicrons, and lipoproteins. Understanding the physiological makeup will offer a clearer understanding of the compounded risk for CAD. There are three basic types of lipoprotein, that case managers should be versed in, they are low-density lipoproteins (LDLs), high-density lipoprotein (HDLs), and very-low-density lipoproteins (VLDLs) (Gupta et al., 2017). Elevated levels of LDL increase a person's risk of developing atherosclerotic plaque which results in CAD (Huang et al., 2017; Hill & Bordone, 2020). HDL, on the other hand, regulates cholesterol levels to prevent imbalances that typically increase the risk of atherosclerotic vascular diseases (Hill & Bordone, 2020). Other complications that can arise from undertreated or untreated hyperlipidemia include different types of vascular diseases, type 2 diabetes, high blood pressure, and death (Moor et al., 2017). Having abnormally high concentrations of fats and lipids in the blood further compounds the risk of hyperlipidemia and in fact, hyperlipidemia has been noted to cause an estimated 2.6 million deaths globally (WHO, 2020b). The cholesterol described in the shared lipoprotein is directly associated with the risk of CAD and is a key factor in predicting cardiovascular risk. To help diminish the

risk of CAD patients with an underlying risk factor of hyperlipidemia can be discharged via case management, standard discharge teaching, and physical therapy instructions developed and administered by the inpatient physician as part of discharge care. These instructions can include general guidelines for monitoring pulse, temperature, diet, and increasing personal activity and exercise instructions after discharge.

Physical Inactivity

Physical inactivity is among the leading risk factors for global mortality. Research shows that physically inactive people have up to a 30% increased risk of death compared to those who are physically active (Fletcher et al., 2018). Case managers can have an essential role in inspiring and motivating patients to adopt positive attitudes, and providing support when patients have negative attitudes or a natural aversion to physical activity. Regular physical activity has been shown to improve overall health and reduce the risk of chronic diseases such as CAD (Lacombe et al., 2019). A sedentary lifestyle is a risk factor for CAD (Zhang et al., 2020). Case managers may draw on national educational initiatives (e.g. Eufic.org), where the key message is to eat healthily, be physically active and live a longer life. Case managers can use it as a basis for assessment and advice. Evidence has shown that irrespective of age and race, physically active individuals have a higher level of cardiorespiratory fitness, health, wellness, and lowered risk of developing many chronic diseases compared to those who are physically inactive (Fletcher et al., 2018). To enhance cardiorespiratory fitness, the American Heart Association and American College of Sports Medicine have recommended that people engage in more physical exercise or aerobic exercise training (Piercy et al., 2018).

Having supportive information from major guidelines and industry leaders in the field of physical activity may help further discussions with patients.

Engaging in light to moderate exercise provides CVD benefits, lowers the risks of CAD, and reduces all-cause and CVD-specific mortality. Additionally, a higher level of physical activity attenuates elevated CVD morbidity and mortality in individuals with co-morbidity (Fletcher et al., 2018). Discussions with patients should focus on identifying and addressing barriers of low-dose physical exercise, encouraging patients to set achievable goals, and monitor their achievements. The case management team should also aim to build an individual's confidence for activity, which is critical in making lasting lifestyle modifications. Anderson and Durstine (2019) reported that the implementation of daily physical exercise as a prevention intervention supports an 80% risk reduction in CVD. In epidemiological studies, lack of physical exercise has been identified as an important risk factor for the development of CAD, while lifestyle intervention that involves a higher level of physical activities has been shown to have beneficial effects on CAD risk factors (Lavie et al., 2019). Regular physical activity reduces the risk of dying prematurely from CVD and is optimal for improving the fitness of the heart.

Instructional postdischarge services are imperative for case managers when caring for physically inactive patients. A study that employed postdischarge services that used an exercise-based cardiac rehabilitation program reported that the intervention reduced the need for percutaneous transluminal coronary angioplasty by 19%, non-fatal myocardial infarction by 21%, and cardiac mortality by 26%. (Anderson & Durstine,

2019) A similar study, which examined an intervention that incorporates exercise programming as part of cardiac rehabilitation demonstrated reduced CVD mortality by 8 to 10% and hospital readmission by 26 to 30%. Moreover, myocardial infarction patients enrolled in a cardiac rehabilitation program experienced improved quality of life between 11 to 36% improvement in aerobic functional capacity and decreased risk for subsequent cardiac events (Anderson & Durstine, 2019). Zachariah and Alex (2017) also submitted that physical exercise improves fitness level and quality of life by increasing the diameter of coronary arteries thereby preventing coronary occlusion (obstruction of the coronary artery). In addition, exercise also reduces blood pressure; it improves the concentration of protective HDL and also reduces the risk of arrhythmic events. Physical activity goals facilitated by case management should be discussed with the physician and the patient and must be representative and sensitive to culture and personal factors. Changes in physical activity for some patients may be as modest as chair-based movements, or incremental increases in activities of daily living such as housekeeping, yardwork, or using the stairs instead of elevators. Case management follow-up with physical activity interventions in the outpatient setting can be varied, examples include walking interventions and health coaching telephone calls and are all correlated to postdischarge services. Again, physical activity diminishes the risk of CAD and research has also suggested that physical inactivity and smoking are two collective risk factors that compound the risk of chronic diseases like CAD.

Smoking

Smoking is a significant risk factor that predisposes an individual to CVD. Annually an estimated 1.9 million people die as a result of tobacco-induced heart diseases; this is equivalent to 1 in 5 of all CVD deaths (WHO 2020b). Case managers have a key role to play in influencing the health of patients regarding tobacco usage. Whether working in a hospital or referring to outpatient-based services, case managers are ideally placed as one of the last staff members before discharge to encourage smokers to quit smoking. All forms of smoking; light, occasional and secondhand smoking, increase the risk of CAD. Even smokeless tobacco has been reported to be responsible for about 200,000 CAD deaths every year (WHO, 2020b). Current and recent smokers have a high risk of developing CVD and CAD compared to past smokers or non-smokers (Bank et al., 2019). The aforementioned statistics make it imperative that case managers offer any basic intervention, which can have a profound effect on encouraging a smoker to stop or to seek help to stop smoking. The risk of CVD is determined by the duration and intensity of tobacco use, which is measured by the number of cigarettes smoked per day; longer duration of use and higher intensity of smoking, increase the risk of developing CVD (Malakar et al., 2019). These factors place individuals who continue to smoke at a greater risk for diseases that affect the heart and blood vessels.

For example, about 30 to 40% of CAD deaths that occur annually have been attributed to smoking; also, research has shown that smokers have 70% more CAD mortality than non-smokers (Malakar et al., 2019). Smoking resulted in a 51% increased risk of CAD in diabetic patients and non-smokers, who are regularly exposed to

secondhand smoking have a 25 to 30% increased risk of CAD compared to those who are not exposed (Brown et al., 2020). Smoking has both direct and indirect influence on atherosclerotic lesions and promotes coronary occlusion (Malakar et al., 2019). Smoking causes a long-term elevation in blood pressure and heart rate and reduces the amount of oxygen that reaches the body's tissues (Hackshaw et al., 2017).

Where possible, case managers should be given sufficient, practical, and theoretical training and information to enable them to provide opportunistic advice, encourage tobacco cessation and offer advice on using nicotine replacement therapies. Many hospitals host local smoking cessation services and case management should follow up to ensure that these services are available to inpatients or implement postdischarge services to offer cessation counseling to inpatients. Smoking cessation (a service that aids in the discontinuation of tobacco usage/smoking) is part of the interventions organized for those diagnosed with CAD (WHO, 2020b). Tobacco cessation programs and services may be a viable option for patients diagnosed with CAD upon discharge and receiving postdischarge services, more importantly, cessation programs during hospitalization are an effective strategy. The success rate of cessation is relatively high (36.5%) adhered with compliance and cooperation of each department (Shin et al., 2016).

A foundational intervention to adhere to tobacco usage amongst patients is having case managers be a part of a framework that records the smoking status of outpatients and inpatients to ensure that these records are kept up to date. This will allow for suitable advice to be offered to patients. Smoking needs to be recognized amongst case

management as a leading cause of preventable death, it has a direct effect on the heart and damages other vital organs in the body.

Diabetes

The association between diabetes and CVD is directly correlated; diabetes increases the risk of CAD by two to four-fold (Hudspeth, 2018). A study reported that about 80% of diabetic patients die from CVD-related causes, mostly from CAD (Alfaddagh & Welty, 2020). Despite that diabetes is a nationwide issue, there is no universal approach to treating patients. Case managers have a vital role and opportunity to educate when caring for patients diagnosed with diabetes or who are being discharged on diabetic medical management. According to International Diabetes Federation (IDF), case managers should be aware that an estimated 463 million people in the world are presently living with Diabetes mellitus and about 4.2 million of this population die yearly as a result of the disease (IDF, 2019; Fan et al., 2019). Case managers should be prepared to explain the impact of the disease and the importance of prevention or delay of onset of type 2 diabetes in individuals at risk. Preventive measures shared from case managers to patients should be documented and include encouraging self-care, proper nutrition, and glucose monitoring. Encouraging self-care encompasses supporting the patient and helping them develop their own self-care with guidance from available resources by a registered nurse or physician. Case management should also observe and report any concerns that they might have about a patient that would affect their ability to self-care. Proper nutrition should be noted as a measure to identify foods and drinks with high sugar content. Case managers should encourage patients diagnosed with diabetes to follow the

nutritional plan and report any related problems. Additionally, document and follow up if the patient is using insulin or blood glucose-lowering therapies to ensure that they are filled and picked up from the pharmacy. This will ensure that the patient remains on therapy and closes any gaps in their medical management. Finally, case management should document and record that the patients can perform glucose monitoring tests unsupervised at the request of a registered nurse or physician.

CVD is the leading cause of morbidity and mortality in people diagnosed with diabetes (Brown et al., 2020) and it results in an annual estimated spend of $37.3 billion on CVD – diabetes-related costs (ADA, 2020). At the inpatient level, case managers should be aware that diabetes is associated with many complications including CAD, cerebrovascular disease, and peripheral artery disease (Sardu et al., 2019). Once a patient is diagnosed with diabetes the practitioner, case manager, and the patient should be thinking about heart disease as well.

In addition to the inherent increase in mortality rate in diabetic patients, when diabetes coexists with the manifestation of CVD, the mortality rate nearly doubles, leading to an estimated 12-year reduction in life expectancy (Pennells et al., 2019). The case management team should be aware that these patients present more disease. Patients that generally have more comorbidities have more complications and treatment may become challenging. Also, financial assistance may be required to manage their disease state. Also, physical exercise, diet, and lifestyle changes are the most important interventions that are usually used to prevent or delay CAD complications of diabetes mellitus (Chatterjee et al., 2018). Chronic kidney disease is one of the complications of

diabetes and is also common to CAD. When patients are diagnosed with diabetes and CAD it compounds their risk of having a major cardiovascular event such as a heart attack.

Chronic Kidney Disease

Chronic kidney disease (CKD) refers to kidney damage or decreased kidney function that lasts for more than three months. It is a serious public health concern with a universal prevalence of 13.4% and a mortality rate of approximately 1.2 million in 2017 (Kakitapali et al., 2020). Case managers can play a pivotal role in enabling people to be aware and following up with their condition; educating and facilitating CAD patients to make informed decisions about long-term treatment. Case managers should have a working knowledge of how acutely CKD increases the risk of CAD. In 2017, CKD resulted in 35.8 million DALYs (Disability Adjusted Life Year), 1.4 million CVD-related deaths, and 25.3 million CVD DALYs (Bikbov et al., 2020). CKD is an independent risk factor for the development and progression of CAD and is a risk multiplier in patients with diabetes and hypertension (Bikbov et al., 2020; Brown et al., 2020). CAD management is often complicated in people diagnosed with CKD because of comorbid conditions and potential side effects during treatment (Sarnak et al., 2020). If not managed carefully, CKD can become progressive; therefore, case managers are essential to ensure that all resources and measures are realistically leveraged to slow down the progression of the disease. A previous community-based study reported that early treatment can lead to a better prognosis and improved outcomes with patients diagnosed with CAD and CKD. Glomerular filtration rate and proteinuria are both biomarkers for

CKD and were both found to be independently associated with CAD. The risk of CAD was also found to increase gradually with the decline of the glomerular filtration rate (GFR), this implies that end-stage renal failure patients that are recognized as having a low GFR (under 60 mL/min/1.73m2) have the highest CVD risk among CKD population (Wu et al., 2019). Effective documentation, monitoring of the described biomarkers according to disease stage, health education, and appropriate timely referral to specialist services from case managers, can benefit individuals with CKD in terms of improving long-term outcomes. Minimizing a patient's risk is a hallmark approach to decreasing the severity of their disease state. Another factor that further heightens a patient's risk is obesity.

Obesity

Obesity is one of the independent factors that predispose individuals to CAD; it accelerates CAD progression and increases the risk of developing other CAD risk factors such as diabetes mellitus, hypertension, hyperlipidemia, and more (Ades & Savages, 2017). Case managers are well-positioned to recommend their patients to local weight management services before discharge, but collaboration within the healthcare team is key to effectively plan for patient care. Understanding what resources will work best for the patient and their family, disclosing nutritional benefits, the health care system, and obesity-related illnesses are critical as they pertain to CAD management.

No single approach to weight management is effective for all patients. A patient-centered approach is required. Research has shown that more than 80% of those diagnosed with CAD are either overweight or obese. A recent study reported that obese

individuals are twice as likely to develop CAD compared to those with normal weights (Brown et al., 2020). The statistics enlighten why case management is necessary for counseling obese individuals. Interventions provided by case management can include training (booklets containing information on nutrition, physical activity, and social relationships), follow-up telephone conversations twice a week, and reminders for appointments and what activities to do at home.

Another study also reported that CAD is associated with complex, elevated, and high-grade atherosclerotic coronary artery lesions (Einarson et al., 2018). Case managers should recognize when an individual is diagnosed with obesity, it not only leads to changes in the composition of one's body, but it also leads to functional and structural changes of the heart and arteries. Weight loss has been recognized as an effective health benefit for CAD that can significantly influence major risk factors such as hypertension, hyperlipidemia, and insulin resistance.

The role of case management and encouraging patients to weight loss has beneficial effects on the development of CAD in high-risk populations and on prognoses within the CAD population (Ades & Savages, 2017). Additionally, obese individuals, who engage in alcohol consumption, have a higher risk of developing CAD.

Alcohol Consumption

About 3 million deaths were attributed to the harmful use of alcohol in 2016 and more than 75% of these deaths occur among men (WHO, 2020a). Moreover, alcohol consumption was reported to be the seventh leading cause of death and disability-adjusted life-years accounting for 2.2% for females and 6.8% for males of total age-

standardized deaths and it has been identified as a major contributor to the global burden of CAD (WHO, 2018). Case managers having a general foundation of understanding alcohol consumption and its risk prepares their role to identify alcohol-related problems in patients and facilitate referral to treatment specialists.

Research findings on the effects of alcohol consumption on CVD have been contradictory. While some report that light to moderate alcohol consumption has protective effects on CVD, others reported that alcohol consumption increases the risk of CVD (Yoon et al., 2020). A study reported that there is a dose-response relationship between alcohol consumption and its effects on CVD incidence; CVD risk was correlated with the amount of alcohol consumed, drinking frequency, pattern of consumption, and type of alcoholic beverage consumed (Blanch & Badimon, 2020).

Case managers can follow up with a diagnosis of abuse from an analysis provided by the practitioner of the patient's assessment and data collection retrieved if patients are mild, moderate, or severe consumers by the number of alcoholic beverages they consume daily and weekly. This would consider the severity of the alcohol abuse and dependence. Case management could then identify candidate-patients of alcohol-related illness and refer them to physicians or addictions specialists; and continue care in the forms of follow-up, monitoring, health maintenance, or health care support during their recovery process.

The modifiable factors described above can be controlled by individuals; this can be done by engaging in preventive practices to help control or completely diminish the risk factors. In contrast, non-modifiable factors are set by human genetics and cannot be

manipulated by human intervention. However, they should be recognized, and case managers should consider these factors when discharging and implementing postdischarge services. The non-modifiable factors that are associated with CAD are discussed further.

Nonmodifiable Factors

Age

Age is one of the three most important non-modifiable risk factors for CAD, the other two being gender and race. Cardiovascular changes such as the progressive deterioration of structure and function of the heart increase the risks of developing CAD and can be caused by aging (Paneni et al., 2017; Nordstrom et al., 2020). This is because as part of the aging process, the human body continuously accumulates damage at the cellular, molecular, and tissue levels, leading to loss of functionality and increased risk of morbidity and mortality. Elderly patients with complex illnesses face a confusing array of specialty and health care providers, as well as home and long-term care services and supports. Health service arrangements may be particularly confusing for frail aged patients with high health care needs. Case managers have competencies in assisting patients with managing complex chronic illness, ensuring smooth care transitions from inpatient to outpatient facilities, and assessing social issues that may present barriers to adhering to care plans and accessing needed services.

Case management offers diverse forms of training and skill sets to complex chronic care management, care coordination, and social issues assessment. This may include responding to multifaceted social concerns such as food and housing insecurity in

addition to medical concerns. Amongst therapeutic concerns, Pencina et al., (2019) reported that age, gender, and race are responsible for 63 to 80% of CAD risk model prognostic performance. Generally, CAD prevalence increases after the age of 35, while the lifetime risk of developing CAD for males after age 40 is 49%, and for females after age 40 is 32% (Pencina et al., 2019). As a person ages, it can cause changes to the heart which may increase a person's risk of developing CAD. The goals of integrated case management, care coordination, and assessment of social needs are to create more seamless, efficient, and compassionate pathways for patients through the complexity of illness aging, cultural sensitivity, and gender.

Gender

Generally, men are at an increased risk of developing CAD compared to women (Gheisari et al., 2020). Changes that occur during pregnancy and the physiological differences in hormonal levels during menopause had been identified as part of the factors that may contribute to the differences between the two genders. Case managers should adhere to the identification of gender-related differences as it relates to the importance of proper prevention, management, and treatment of CAD.

Family History

Family history is an important risk factor for CAD development; a recent study estimated that the heritability of CAD ranges between 40% and 50% (Said et al., 2019). Case managers should establish a routine review of obtained family medical histories, including the family history questionnaire or checklist to ensure proper risk resource allocation for the patient. Research shows that people with a family history of premature

cardiac death before the age of 50 years usually have an increased risk of CAD mortality (Brown et al., 2020). This is imperative for case management as a family risk factor for a patient could be suited for additional postdischarge services. Hajar (2017) reported that a father or brother diagnosed with CAD before the age of 55 and a mother or sister diagnosed before the age of 65 are considered risk factors. Family history information should be reviewed and updated regularly, especially when there are significant changes to family history.

Hospital Readmission Rates for Patients Diagnosed with CAD

The aging population and multiple chronic comorbidities requiring highly complex care have been implicated as two of the major causes of hospital readmission. Hospital readmission rate refers to the percentage of discharged patients, who returned to hospitals within 30 days after discharge. Hospital readmission rate is one of the key measures for gauging the quality of care available to patients in US hospitals. Recently, the problem of hospital readmission becomes a popular topic and it has been identified as one of the potential means of addressing the issues of cost of care, quality of care, and care transition. Given the high readmission rates, substantial economic burden, and poor outcomes associated with readmission (Sadiq et al., 2020), various interventions were introduced at different levels to curb the rising tide of hospital readmission rates in the US (Yeo et al., 2019). However, these interventions have been encouraging they appear to have fallen short considering the rise in hospitalization.

One of the key interventions that were introduced is the Hospital Readmission Reduction Program (HRRP). The program was established in 2010 as a product of the

Patient Protection and Affordable Care Act (ACA) with the core aim of reducing excess hospital readmissions, lowering healthcare costs, and improving patient safety and outcomes (Gai & Pachamanova, 2019). HRRP was part of the Centers for Medicare and Medicaid Services (CMMS) value-based programs that were set up to provide better care for individuals and populations at lower costs (Bailey et al., 2019). As part of the mandatory reporting requirement by CMMS, hospitals were expected to report 30 day readmission rates of some chronic conditions including coronary artery bypass graft surgery. In 2012, HRRP began to penalize hospitals with excess readmission. Public reporting of readmission rates by hospitals serves two key purposes. First, it increases the transparency of the quality of care delivered by hospitals, and this, in turn, helps patients to select hospitals that provide better care. Second, public reporting will enforce hospitals to develop and implement appropriate strategies to reduce readmission rates (Upadhyay et al., 2019). This model further emphasizes an approach to meet value-based care for patients.

Despite the 30 days readmission program that Medicare has implemented to reduce readmission rates, patients are still returning to hospitals within 30 days of being discharged. Several reasons had been implicated in hospital readmission. A recent study conducted by Brunner-La Rocca et al (2020) investigated the 30 day hospital readmission rate for various chronic conditions in different countries of the world. The results of the study indicated that the reasons for readmission are different from the cause of initial admission in more than 50% of the cases examined (Brunner-La Rocca et al., 2020). This result highlights the complexity of the readmission problem and the need to focus both on

the disease that causes the initial hospitalization as well as other frequently related conditions. One of the most important related conditions in hospital readmission is the presence of comorbidities in patients. There is a direct relationship between the number of comorbidities, readmission rate, and mortality rates; the higher the number of comorbidities, the higher the risk of readmission and mortality (Glans et al., 2020). Although it has not been clarified whether comorbidities primarily increase the susceptibility of patients' condition to deterioration or increase the risk of the emergence of other diseases, it has been confirmed that comorbidities increase the complexity of an existing disease condition (Haug et al., 2020). This evidence suggests that a person-centered approach to readmissions may be more effective in reducing readmission rates (Brunner-La Rocca et al., 2020). This view was collaborated by Kong and Wilkinson (2020), who recommended that treatment strategies for chronic conditions should focus on addressing comorbid conditions due to their prevalence, complexity, and potential impacts on hospital readmission.

Apart from multi-comorbidities, other factors that influence readmission rates include patient factors, social determinants of health, environmental factors, healthcare system factors, healthcare worker effects, and the nature of postdischarge care. Postdischarge care covers services such as personnel follow-up, coordination of primary care, medication management, etc. (Brunner-La Rocca et al., 2020). Although there are various reasons why patients are readmitted, some reasons are more common to patients who have specific conditions. For instance, the common causes of readmission for patients, who are initially admitted for chronic obstructive pulmonary disease (COPD)

include the following: respiratory failure, congestive heart failure, cardiac dysrhythmias, pneumonia, asthma, septicaemia, fluid and electrolytes disorder, intestinal infection, and non-specific chest pain (Kong & Wilkinson, 2020). There are other causes that are common to all disease conditions; a good example, in this case, is infection.

To avoid costly Medicare financial penalties associated with excess readmission, some health facilities strive to reduce their readmission rate by providing their returning patients with secondary diagnoses that are different from initial diagnoses (Wadheria et al., 2019). Disease management programs are usually recommended for chronic conditions such as CAD, heart failure, and chronic obstructive coronary disease to reduce readmission (Axon et al., 2016; Laborde et al., 2016). Hospital case managers are staff members, who are specifically trained to handle the complex needs of patients with chronic diseases.

Hospitals and their management personnel strive to be progressive and proactive in considering practitioner role and patient need when administering and discharging patient service plans. The goal is for mid-level providers, case managers, and practitioners within the hospital setting to gain a clear level of understanding that will enhance the discharge and offer appropriate postdischarge services for patients. The case manager has an opportunity to maximize best practices that are geared to the needs of patients diagnosed with CAD through the use of the seven-phase step process.

Seven-Phase Step Process

The seven-phase process provides a detailed step-by-step explanation for case managers to successfully assess, identify, and discharge the needs of patients with CAD.

The steps depict the phases and the factors that are interdependent and are vital in motivating, understanding, and transitioning patients diagnosed with CAD for postdischarge services in the inpatient hospital setting. The seven-phase step process served as a guide to structure the literature review, which helped to provide the answers to the research questions. Following are the seven steps, along with the methodology for implementing postdischarge services for case managers to care for patients with CAD, and information about the theoretical framework (see Table 1)

Table 1

Operationalization of the Practice Change Model Framework

Step Interdependencies	Operationalization
Motivation for Change Step 1: Alignment of motivations (1← →2)	• Engage with practices in creative problem solving and brainstorming • Work on problems with practice teams • Work to develop practice strengths
Resources for Change Step 2: Reciprocal effects of motivation and resources Motivational reciprocity (1← →3)	• Identify and stimulate external systems that may motivate key stakeholders to make a change • Identify and stimulate key stakeholders who may motivate a change in external systems.
Perceived Options Step 3: Resources availability for a change trajectory (2← →4)	• Energize key stakeholders by helping them see new change opportunities • Portray the steps toward a change as reasonable and "doable" • Shift practice organizational culture to fit technical change. Fit technical change to practice organizational culture.
External Influences Step 4: External influences and practice vision for change	• Be realistic yet positive about opportunities for change • Motivate key stakeholders
Step 5: Practice Values and vision for change (3← →2)	• Be attuned to external forces • Assess the new opportunities that external changes may offer • Continually evaluate the practices' interrelationship with external systems • Assess how the change may affect other potential levers for change
Step 6: External influences and resources (1← →4)	• Continually toggle between evaluating practices' ability to and opportunities for change to understand the available and viable paths for change
Step 7: Coevolution and response to intervention over time	• Evaluate the input outside motivators may have on the practice • Continually monitor external systems and their impact on the practice • Encourage practices to be proactive rather than reactive • Empower practices; they can influence external systems

Note. Adapted from "A Practice Change Model for Quality Improvement in Primary Care Practice" byCohen, D., McDaniel, R.R., Crabtree, B.F., Ruhe, M.C., Weyer, S.M., Tallia, A., Miller, W.L., Goodwin, M.A., Nutting, P., Solberg, L.I., Zyzanksi, S.I., Jaen, C.R., Gilchrist, V., & Stange, K.C. , 2004, *Journal of Healthcare Management, Volume 49* (Issue 3), p. 161.

Motivation for Change

In previous studies, stakeholders in hospital settings have suggested that hospital readmission rates for patients diagnosed with CAD continue to be a concern. A description of the framework's elements tailored towards the case managers' detailed actions and motivations are presented to align patients diagnosed with CAD with respective resources. The individual motivation of the case manager and the degree to which the motivations of case managers are affiliated may all have an impact on how effective the discharge and postdischarge services impact patients diagnosed with CAD (Uittenbroek et al., 2018). The case manager in this structure has an investment in the inpatient unit to influence how the discharge and postdischarge process works.

The initial step of identifying and triggering systems that can motivate case managers to embrace the phased steps are critical to aligning patient-centric goals across the medium channel before discharge (Joo et al., 2017). Provision of medical care for individuals with chronic conditions is often complex and typically requires multiple resources, treatments, and providers. The continuous increase in hospital readmission for patients with chronic conditions calls for effective strategies that facilitate the provision of high-complex and patient-centered services that can reduce the trend. According to Joo and Liu (2017), chronic diseases cannot be handled by short-term treatments; they need continuous and prolonged care by healthcare providers. As such, in the initial stage case managers should identify all available resources that can be availed to the patient to maximize health outcomes and reduce hospital readmissions.

Resources for Change

Frequent hospital usage by patients with chronic diseases is majorly due to fragmented, episodic, and poorly transitioned care between healthcare settings. To reduce the costs associated with the care of this population (chronically ill people) and improve the quality of care, appropriate interventions have to be developed that will improve care coordination and care plan implementation (Joo & Huber, 2017). A prime example of such intervention is the implementation of case management. Case management is a model of care-delivery that incorporates quality of care and cost containment from hospital admission to discharge; it focuses on available resources, episodes of diseases, and encompasses all aspects in which CAD patients can receive assistance.

these implemented qualities and characteristics can offer a case manager the opportunity to modify both its clinical approach and its values and/or beliefs regarding patient outcomes. This may come from effectively evaluating the clinical resources that will help optimize the patient's discharge and postdischarge services (Hudon et al., 2016). These are fundamental steps towards leveraging assets that are within the scope of work for the case management team. A case managers' motivational ability to adapt and pivot is formed by a vast collection of available inpatient resources and a team approach (Joo & Huber, 2017). This involves the clinical team on the floor and the relationship amongst case management, clear communication amongst all involved practitioners, and decisions that are practical and in the best interest of patients diagnosed with CAD.

Moreover, a clear collection of immediate and long-term disseminated resources may provide benefit to the patient once case managers are fully involved and adherent to

the opportunities of change. Case managers will need to identify how they may see opportunities with the discharge plan but also how these perspectives may limit their ways of embracing and leveraging them to the patient (Fabbri et al., 2017). This role within a group-centered framework requires knowledge and experience, as well as competencies (Uittenbroek et al., 2018). Enhancing patient discharge by being efficient, offering efficacious services, and implementing postdischarge services can affect change in multiple areas for patients diagnosed with CAD. In this stage, case managers should be open, motivated, and encouraged to stratify the available resources for patients diagnosed with CAD.

Perceived Options

Resource Availability for Positive Outcome Trajectory

The postdischarge services that offer a level of continuum care for patients diagnosed with CAD can be considered external drivers that will aid in enhancing patient discharge outcomes. These external systems that are aligned to the patient's goals and discharge summary can impact and be impacted by case management and a case managers' motivation for change (Fabbri et al., 2017). The case manager has the responsibility to facilitate and coordinate the care of patients while they are in their care. It is critical for case management to understand and arrange outside resources for the patient. This recognition shapes how the case manager perceives their efforts and the opportunities for immediate and continuing support for patients diagnosed with CAD. Efforts intended to change case management motivation may be achieved by influencing inpatient CAD protocol and reimbursement structures related to case management (Fabbri et al., 2017). Jointly, motivated case managers may produce changes in postdischarge-services where interrelationships are connected.

Developing change trajectories

A thorough evaluation of available resources is one of the cornerstone steps in ensuring that case management can pivot and adhere to change opportunities (Hudon et al., 2016). This approach can be observed by assessing two areas within the case management department. Initially, is a valuation of the case managers' ability to change, and secondly is a calculation of the operational resources allotted to make a change (Hudon et al., 2016). Case management should consistently straddle between discharge

practice management tactics and opportunities to leverage resources to enhance the patient's outcomes. Both of these approaches and their effects are the shared development of change trajectories that can influence discharge and postdischarge services for patients diagnosed with CAD. In this phase, department leaders and case managers should align comprehensive motives and incentives to encourage change to positive behavior that will ultimately benefit patients diagnosed with CAD.

External Influences and Practice Vision for Change

How case managers leverage resources and their choices for change should be flexible when assessing and implementing opportunities for the patient. Internal and external planning resources may impact how the case management position recognizes its opportunities to influence the patient's postdischarge summary with regards to potential readmission (Warchol et al., 2019). The amount and influence of the patient's treatment options also shape how they perceive their opportunity to affect change postdischarge (Hudon et al., 2016). As a result, the choices that are availed can motivate or demotivate the case management department. Factors that are considered in the selection pertain to the patients' economic and insurance status, underlying diseases, the patients' health literacy, compliance, and severity of disease such as CAD. The department is primarily used for patients, who require an intense level of care, examples of such patients are those in terminal phases of life, the elderly population, and frequent hospital users (Fabbri et al., 2017). Case managers in this evaluation and implementation phase play a critical role in determining what available resources can benefit the patient.

Case management has been recognized as an effective means of managing patients with chronic conditions such as CAD. Case management encompasses a collaborative approach that is used to assess, plan, facilitate and coordinate care to meet patients' healthcare needs through communication and available resources with the intent of improving individual and health system outcomes (Hudon et al., 2016).

When compared to other chronic conditions that require intervention management, case management can be considered more intensive regarding time and resources. Their services are often used when coordination and integration of care are difficult for patients to manage on their own. Case management is used in hospital settings to promote quality, safe, and cost-effective care through effective utilization of available resources (Fabbri et al., 2017). Their influence and decision-making should be adequately leveraged to help maximize the outcome for patients. At this stage, case management should align the requested and available postdischarge services to the patient. The postdischarge services should be realistic, timely, and achievable considering the patients' demographic.

Practice Values and Vision for Change Amongst Case Managers

Outside motivators and resources for change: The availability of external resources and a patient's socioeconomic status may affect the decision-making for case management and how resources are utilized (Huddon et al., 2016). Also, how the case manager can evaluate its capacity to change may affect how the case management department interacts and connects with external factors and institutions relating to the patient (Fabbri et al., 2017). When these factors are considered and it is noted that

patients diagnosed with CAD are frequent users of healthcare services due to the chronic nature of their illness, they use hospital services for increasingly complex needs that arise from factors such as multi-morbidity, psychosocial, or a combination of both factors (Huddon et al., 2016). These modifications can improve or diminish the case managers' ability to employ and alter current activities for patients diagnosed with CAD, along with the values or mission in the inpatient unit.

Patients diagnosed with CAD require care from many professionals in the health and social service care systems; they have a high risk of encountering difficulties, regarding care integration and also have an increased risk of incapacity and mortality (Bauersachs et al., 2019). Healthcare providers are usually limited when dealing with patients diagnosed with CAD due to their complex needs, fragmentation of care, and episodic nature of their visit to the hospital. These factors lead to patients receiving suboptimal care, exhausting an overwhelmed healthcare system that contributes to rising costs. Joo & Liu, (2017) have suggested that to address the issue, case management has been identified as an effective intervention. Case management and all supported staff that have a "touch point" with patients diagnosed with CAD should be aligned and in agreement with postdischarge services in this phase. Collectively agreeing and following up with a discharged plan will ensure maximized care by the inpatient unit for the patient and reduce the likelihood of readmissions.

External Influences and Resources: Motivation, Innovation, and Independence

The more influence and motivation the case manager has may lead to an improved and pioneering approach of the inpatient unit and any opportunities for change (Fabbri et al.,

2017). Allowing the possibility to offer and improve current discharge plans through innovation may improve case management motivation and prospective resources may influence change (Huddon et al., 2016). Amongst the elements, there is a collaboration that offers an effect that may benefit patients diagnosed with CAD. Conversely, removing resources tailored to the patient's discharge summary may discourage case management motivation and may also be associated with hospital institutions that steer away from novel approaches and underutilize resources that may benefit the patient (Joo & Liu, 2017). Possible change choices outside of an inpatient hospital unit must become perceptible and therefore a part of routine discharge practices to optimize patient care.

There is evidence from previous studies that case management has a positive impact on the care experience, care outcomes, and service utilization when appropriately designed and implemented for patients. Case management usually works best when it is designed as part of a wider program; the cumulative impact of multiple interventions helps to increase the chance of its success. A clear example of case management utility is the Programs of All-inclusive Care for the Elderly (PACE), which was created by Medicare and Medicaid. PACE is a national program of comprehensive care for adults who are at least 55 years old, who meet the criteria of nursing home placement but prefer to stay at their own home and have an assessment indicating that living at home with the support of PACE is a safe option. Previous studies showed that PACE intervention has brought reductions in hospital and nursing home utilization. When compared with a control group, participants of the PACE program showed a 50% reduction in hospital use and a 20% reduction in nursing home usage (CMS, 2019). Another example of an

intervention that showcases the positive impact of case management is Guided Care, which was created in 2001 by researchers from John Hopkins University and licensed to healthcare systems. Guided Care is a proactive model of comprehensive health care for older patients with multiple chronic conditions; it consists of primary care, a Guided Care nurse, who is working with two or more physicians and other healthcare providers to deliver coordinated, cost-effective, and patient-centered health care to patients with chronic conditions (Hostetter et al., 2016). Evaluative studies of Guided Care intervention showed that the program is associated with reduced care costs, reduced visits to accident and emergency departments, reduced hospital admissions, and lower length of hospital stay when compared with non-users of the program. Also, evaluative studies on both PACE and Guided Care have shown that both interventions have positive impacts on health outcomes and improved patients' satisfaction. Considering the success of health institutions that implemented case management as an integral role in their treatment and care; case managers at this stage should evaluate postdischarge order set and follow up with discharged patients within 24 to 48 hours to ensure that the patient is undergoing the instructed postdischarge services.

Coevolution and Response to Interventions Over Time

External influences and practice vision for change

Outside health service systems may affect how case managers perceive and gauge their opportunities to impact social change for the patient. Mutually, how a case manager measures opportunity for social change may result in an altered continuum route with outside health facilities (Huddon et al., 2016). It is therefore important to involve case

managers in revisions and further development of guidelines and organization of case management as well as to their managers. It is also important to provide continuous training and support, including peer-to-peer coaching (Uittenbroek et al., 2018). The duties of a case manager include assessing, planning, implementing, monitoring, and evaluating actions that are needed to meet the needs of patients. These duties are carried out via utilization review, discharge planning, resources management, coordination of care among the health care team, transition of post-acute care, acute inpatient rehabilitation, coordination of interdisciplinary team meetings, verification of benefits and authorization of services, and facilitation of referrals (Hudon et al., 2018). The case manager role is widespread and interacts with several disciplinary roles that can offer detailed and systematic care within the hospital.

In short, case managers in this final stage can assist patients to promote an increased quality of postdischarged care that results in improved life through coordination and integration of contributions of different healthcare professionals and ensuring continuity of care through all stages of treatment (Fabbri et al., 2017). In this phase, case managers can work collaboratively with almost all members of the health care team, they can also provide great benefit in working with third-party payers, pharmacy, cardiac rehab facilities, tobacco cessation programs, and other external resources such as home care agencies, nursing homes, sub-acute facilities, etc. (Joo & Huber, 2017). The case manager as the primary stakeholder in this theoretical framework can use this concept to express interest in applying effort towards the target of optimal discharge and follow-up for patients diagnosed with CAD.

Case Study Methodology Review

The case study methodology is used to answer the research questions put forth in the study. A single case study methodology was chosen because of its suitability. A case study is a qualitative research method of analysis that is based on an in-depth investigation of research interest to explore the causes of underlying principles (Ridder, 2017). The case study is an established research approach that can be used to explain, describe, or explore phenomena or events in their natural contexts. The method helps to generate a deep, multi-faceted understanding of targeted issues (Fabregues & Fetters, 2019). The method is exploratory and descriptive in nature and it investigates a phenomenon within its real-life context.

To develop a thorough understanding of a case of interest, the case study approach involves a collection of different forms of data. The use of multiple sources of data, known as data triangulation, has been identified as an effective means of increasing the internal validity of a study. Also, examining an issue from a different perspective helps to develop a holistic depiction of the phenomenon under investigation. An underlying assumption, in this case, is that data collected from different sources should lead to similar conclusions.

The framework for the study will help to shape and explore the perspectives of case managers. The researcher used an exploratory case study method for the proposed study. The study explored the experience of case managers involved with discharge and the development of follow-up services for patients diagnosed with CAD.

Data Collection

Data collection is an important aspect of a research study. It involves systematic gathering and measuring of information on specific variables of interest using established methods that enable one to provide answers for targeted research questions and evaluate outcomes (Neubauer et al., 2019). In a qualitative research study, the most popular methods through which primary data can be gathered from research participants are interviews, questionnaires, surveys, observations, documents and records, focus groups, and oral history (Neubauer et al., 2019). Amongst qualitative studies there are essentially two types of data; they are primary and secondary data. Primary data consist of first-hand information that a researcher collects for their investigation while secondary data is a type of approach that relies on existing research material accessed from educational institutions, libraries, or organizational reports.

The interview technique has been recognized as an effective method for obtaining information from research subjects. Qualitative interview has been described as an exchange with an informal character that is targeted at obtaining specific information (Busetto et al., 2020). Researchers use an interview to gain insight into an individual's subjective experience, motivation, and opinions. The interview platform allows researchers to carry out an in-depth exploration of subjects that are unique to the experiences of interviewees, permitting researchers to gain insight into how certain phenomena are experienced and perceived by the interviewees. An interview can be in the form of an individual or a group interview; it can also be done face to face, through telephone, or via the internet. There are three basic forms of interviews based on the

degree of freedom given to the interviewees in terms of type and volume of information allowed by the interviewer. They are structured, semi-structured, and unstructured interviews.

This study made use of a structured interview to collect data from research participants. A structured interview refers to a conversation in which an interviewer asks interviewees a set of pre-determined questions in a standardized order. Appendix A contains the list of interview questions for the participants. Asking the same questions in the same order helps the interviewer collect similar forms of data delivered in a uniform context. Using a structured interview approach makes evaluations more efficient, as the method allows interviewers to ask pre-determined questions that are targeted at collecting useful information from interviewees.

Conclusion

In Chapter 2, evidence was presented that patients diagnosed with CAD are at a higher risk of being readmitted back to the hospital within 30 days. Case managers play a vital role in the inpatient unit and have also provided to be an integral part of the discharge, development, and implementation of postdischarge for patients diagnosed with CAD. Hospital inpatient units are developing strategies and policies to quickly and efficiently discharge patients diagnosed with CAD out of their institutions to adhere to hospital satisfaction scores and patient outcomes. Although the hospitals have implemented policies, there is minimal implementation of postdischarge services to ensure that patients diagnosed with CAD are receiving adequate and the required continued level of postdischarge patient care.

Chapter 2 included historical information on the theoretical framework of the case study, which was the basis for the study. According to Alpi (2019), case studies are ways to explain, describe, or explore phenomena. Researchers using case study from a qualitative perspective should include rigor, steer away from generalizability, and focus on the purpose and what is learned from the case study to put into practice. In addition to the theoretical framework, the seven-phase step process can be used to implement opportunities between case managers and inpatient practice providers to successfully develop postdischarge services for patients diagnosed with CAD.

Chapter 3: Research Methods

Methodology

The most appropriate method for carrying out this study is a qualitative case study methodology. Semi-structured face-to-face interviews were used to gather useful information from participants.

Qualitative research is a free form of research; it is characterized by flexibility, interaction, and openness, and is primarily used to explore new areas of study. According to Busseto et al. (2020), qualitative research is:

> The study of the nature of phenomena including their quality, different manifestation, the context in which they appear, or the perspectives from which they can be perceived, but excluding their range, frequency, and place in an objectively determined chain of cause and effect. (p. 1)

Qualitative research methods are typically used to approach both research problems involving complex multicomponent interventions and research that focuses on improving interventions (Lamont et al., 2016). This approach involves collecting and exploring nonnumerical data to look into a problem or foster new ideas for research.

Interviews are one method of collecting qualitative data that is used in health research; others include observations, documentary study, and focus groups. Qualitative interviews are “an exchange with an informal character and a conversation with a goal” (Busseto et al., 2016, p. 19). In qualitative studies, interviews are commonly used to gain insight regarding research participants’ subjective experiences, motivations, and opinions. Qualitative interviews also have the advantage of being interactive and

permitting unexpected topics to emerge. This helps in terms of overcoming researcher-centered bias. There are three major types of interviews: open-ended, semi-structured, and close-ended interviews.

The purpose of this study was to explore perspectives of hospital case managers to gain insight into their involvement in postdischarge services for patients diagnosed with CAD. I was particularly focused on exploring perspectives of case managers involved with postdischarge services for patients diagnosed with CAD within 30 days of discharge. RQs were used in research to provide answers to the study; I identified factors that may help case managers to reduce readmission of patients diagnosed with CAD within 30 days after discharge. In this chapter, I describe the methodology used in this study.

The most vital roles in qualitative research are the ability to explain a study without bias, proper conduct during interviews, appropriate field observations, proper handling of data, and accurate analysis and interpretation of data (Sutton & Austin, 2015). Collection and analysis of qualitative data are implemented through an iterative approach to answer the RQs.

Research Design

Qualitative research designs include case studies, phenomenology, ethnography, and narratives (Saunders et al., 2016; Yin, 2018). As a qualitative researcher, I used a single case study design to explore perspectives of case managers involved in postdischarge services for patients diagnosed with CAD. The single case study design helps researchers understand a real-world case. I sought the use of a qualitative approach

for hospital nurses and their perspectives of actual and potential contributions to shared decision-making about life-prolonging treatment and perspectives of preconditions for such contributions. Hence, I set out to explore perspective of case managers involved with postdischarge services for patients diagnosed with CAD.

The method involves different types of data sources. In case studies, a real-time phenomenon is typically explored in natural contexts. The case study design is usually used when the research problem deals with how and why questions, the researcher cannot manipulate the behavior of study participants, if the boundary is not clear, in terms of the nature and time period covered by the case study between the phenomenon and context, and contextual conditions relevant to the phenomenon under study need to be covered (Yin, 2003).

Depending on the type of RQs that need to be answered, a case study can be explanatory, descriptive, or exploratory in nature. Also, the case study can include a single case, double cases, or multiple cases. Case study designs typically depend on thick descriptions, experimental details, and multiple realities. In a case study, situational factors are unknown before the study and cannot be controlled.

Data saturation happens when no new information is expected from additional interviews.

RQs

Well-defined RQs help to guide researchers when making decisions about the study design, appropriate participants, adequate sample size, types of data to be collected, and analytical methods. The three RQs were as follows:

RQ1: How are case managers ensuring that patients diagnosed with CAD do not return to the hospital inpatient unit within 30 days of discharge?

RQ2: What postdischarge instructions are in place amongst case managers to ensure patients diagnosed with CAD are not readmitted within 30 days of discharge?

RQ3: How are case managers ensuring that patients diagnosed with CAD are following up with their postoperative services?

Appropriate interview questions were developed by me; questions were validated via a pilot study before use in the main study. Results obtained from this study may aid in terms of creating awareness about difficulties that case managers face during the course of carrying out their tasks and duties. It may also help in terms of providing best practices that help healthcare providers and patients choose appropriate hospital followup care and services during admission and postdischarge.

Target Population and Sampling

The target population for this study is hospital case managers who are actively practicing and who provide postdischarge services for patients diagnosed with CAD. I interviewed 13 case managers at two large metropolitan hospitals (over 300 beds) and ensured the case managers sign a consent form on the day of the interview. Similar qualitative studies such as Wijoyo et al., 2020 utilized approximately the same number of participants, hence offering evidence to support the sample size of the studied population. As a qualitative researcher, I used a single case study design to explore the perspectives of case managers involved with postdischarge services for patients diagnosed with CAD to reduce hospital readmission rates. A single case study design helps a researcher

understand a real-world case and is based in part on the assumption that the understanding is likely to involve significant related conditions relevant to the case (Yin, 2018). For this single case study design, I selected case managers of two large metropolitan hospitals in Atlanta, Georgia who are involved with postdischarge services to reduce hospital readmissions.

Sample size pertains to the number of research subjects or observations that are included in a study. Qualitative researchers can use purposive sampling for primary studies to achieve a manageable amount of data (Ames et al., 2019). Rich data is many-layered, complex, comprehensive, and nuanced. It is important not only to have a lot of data to support the topic, but the data also needs to be rich (Fusch et al., 2018).

Choosing the right sample size is vital as it determines the precision of a study's estimate and its power to draw conclusions (Ames et al., 2019). Purposive sampling method was chosen because it is an excellent tool for identifying and selecting information-rich cases. With this method, one can select a group of individuals, who are especially knowledgeable about the phenomenon of interest. Occasionally, and because of their experience, selected individuals usually can communicate their opinions in an articulated and reflected manner. Also, purposive sampling encourages the effective use of limited resources (Bennot et al., 2016).

I explored and acquired the perspective of case managers involved with postdischarge services for patients diagnosed with CAD through a purposive sample of thirteen case managers to obtain rich data. I conducted face-to-face interviews with the case managers of the hospital to explore their perspective of postdischarge services for

patients diagnosed with CAD. Semi-structured interviews are best for gathering data analyzed qualitatively and help explore the context of what is happening (Saunders et al., 2016).

After I conducted the interviews, I summarized the recordings and created codes to record the information. A code in qualitative inquiry is a word, phrase, or sentence that represents aspects of data or captures the essence or features of data (Clark & Vealé, 2018). A coding schedule can help a researcher answer a research question and address the underlying objective (Saunders et al., 2015). I then grouped the codes based on the findings in the interviews to present thematic relationships among the participants' responses.

Study Participant Inclusion/Exclusion Criteria

To be eligible, potential participants must have at least three years of experience as a case manager, must be 25 years or older, must speak English fluently, and must be working specifically with patients diagnosed with CAD. This participation selection logic ensures that all recruited participants met the minimum requirements for recruitment and subsequent participation in the study through in-depth interviews.

Case managers with the aforementioned inclusion criteria will likely be skilled and sufficiently trained however special consideration were adhered to for participants' who have had unfortunate circumstances while working with patients diagnosed with CAD. These participants, if they chose to participate, will be allowed to stop their involvement at any point or time during the interview. Case managers are specialists with multiple roles in the hospital setting. They manage patient cases to coordinate and

integrate services of all healthcare providers, handling the case of patients, to ensure continuity of care throughout their inpatient treatment plan (Hudon et al., 2016). These criteria along with their experience allowed or the best-suited participants based on continuity of care between inpatient and outpatient services with patients diagnosed with CAD.

After obtaining permission to start the study from Walden University's IRB (approval # 01-11-22-0991317), a sample size of 13 hospital case managers from two different hospitals were selected. Potential participants were contacted through electronic mail provided by their department director. For those that showed their willingness to participate in the study, the researcher gave a thorough explanation of the nature of the study and how it may aid future policies in terms of developing appropriate care plans during hospital admission and follow-up services postdischarge for patients diagnosed with CAD.

Informed Consent

Appropriate measures are in place at Walden University to safeguard research subjects and to also perform accurate and ethical research. Informed consent is the foundation of ethical conduct and the protection of the rights and wellbeing of participants (Widmer et al., 2020). For the purpose of this study, the associated background information and procedure of the study were reviewed and made available to participants. After going through all the information participants were required to sign the informed consent form.

Informed consent ensures the proper process of getting permission before conducting a healthcare intervention or before disclosing an individual's information. This authorization encompasses the full disclosure of the nature of a study, the participants' involvement, and participants' voluntary choice to participate. Dankar et al. (2019) explained the three core elements of informed consent. Informed consent allows the full disclosure aspect places the demand on researchers to disclose all information about a study to participants, regardless of the effects it may have on their willingness to participate in the study. The information that should be disclosed includes the purpose of the research, research procedure, risks, anticipated benefits, alternative available procedures, and the participants' right to ask any question (Dankar, et al., 2019). Before individuals were recruited for research, the researcher ensured that willing participants had the mental capacity and ability to fully comprehend the information provided to them. They should be able to understand the risks and benefits associated with their decisions. The voluntary aspect of informed consent emphasizes the importance of the need for subjects' participation to be completely voluntary without any form of coercion, caveat, or influence from the researcher. In addition, participants should be able to withdrawal from the study without any consequence.

As the researcher, I did not target patients diagnosed with CAD as a research population because they fall under the vulnerable group; many ethical dilemmas typically arise when research involves vulnerable individuals. A vulnerable population refers to a disadvantaged group of people, who are unable to make informed choices, protect themselves from risks or keep their interests safeguarded. Examples are prisoners,

terminally ill, orphans, chronically ill (e.g. CAD), children, fetuses, pregnant women, militarily, etc. (Manti & Licari, 2018).

Confidentiality

Participants were duly informed that participation in the study was voluntary and they have the right to withdraw at any time without any consequence. They were also informed that some of their personal information will be collected during the study, but they were assured that the information will be kept confidential and will not be shared with any third party without their consent. For all the participants, pseudonyms were be used to replace their names and locations. During the interview, alphanumeric numbers were used to identify participants. After the interview, participants were given the researcher's contact information and they were informed that they can contact the researcher at any time to ask for information relating to the research. The researcher intends to keep the collected data in a secure and locked file cabinet at his residence for five years post research completion. After this, all the data will be destroyed using appropriate measures.

Geographical Location

The researcher concentrated on capturing research subjects from Atlanta, Georgia. The data collection process was set in motion by contacting the hospital directors of health facilities located in Atlanta via email and in person. Those that were interested were contacted via telephone and appointments were set up to discuss the participation of their case managers in the study. The final study sample was made up of 13 case

managers recruited from two large metropolitan hospitals, in Atlanta, Georgia. Data were collected via interview.

Data Collection Instruments

Useful data collection involves asking relevant questions, being an avid listener, staying adaptive, and understanding the case study's issues (Yin, 2018). The primary purpose of conducting a study is to contribute to the body of knowledge and gain a deep understanding of a topic. To achieve this goal, the selection of an appropriate research instrument to effectively capture data that allows analysis to then lead to the formulation of substantial and reliable answer(s) to research questions cannot be indiscriminately made.

Yin (2018) presents a thorough explanation of various data collection methods. I, as the qualitative researcher, was the primary data collection instrument. The researcher is typically the primary instrument of data collection and analysis (Clark & Vealé, 2018). I conducted semistructured interviews to gain insight into the perspectives of case managers involved with postdischarge services for patients diagnosed with CAD and how they use these services to reduce 30 day hospital readmission. In the interview process, it is essential that the participants are able to fully answer the questions while being mindful of the topic at hand and their responses (Elmir et al., 2011). As part of my duties to be ethical and conduct ethical research, I ensured the participants have the ability to fully answer the questions. Researchers may tend to ask questions based on the participants' answers and it is necessary to make the participants aware of that (Chenail, 2011). I completed 13 semi-structured interviews with case managers of a large metropolitan

hospital to gain an understanding of the perspective of case managers involved with postdischarge services for patients diagnosed with CAD.

I followed the interview protocol by recording the conversation and transcribing the data that I collected. The principal benefit of conducting a pilot study is that it provides researchers with an opportunity to make adjustments and revisions in the main study (Kim, 2011). I used a pilot study to enhance the reliability and validity of the data collection instrument. Strategic questions played an important role in validating the responses and information. The pilot study helped to verify and assess the data collection method and the trustworthiness of the qualitative results.

Data Collection Technique

Qualitative data were collected using an interview questionnaire. The data collection technique that I used in this study was a semi-structured interview protocol, (see Appendix A). Semi-structured interviews are an excellent choice for data collection. This approach offers a flexible but organized technique of obtaining a rich set of data for analysis (Peesker et al., 2019). The process involved contacting the Director of Care Coordination and Case Management services to schedule the interviews with each case manager and conduct face-to-face interviews. I provided the case managers with the interview protocol which also contained the research questions. I implemented the same arrangement and structure for each participant. The following are instances in which semi-structured interviews are advantageous: (a) the purpose of the exploration; (b) the significance of establishing personal contact; (c) the nature of collecting relevant

questions; and (d) length of time required and comprehensiveness of the development (Saunders et al., 2015).

Data Organization Techniques

I used codes and organized the data I collected from the participants face-to-face to create a thematic analysis. I highlighted different codes for the information and themes for each interview. A code in qualitative inquiry is a word, phrase, or sentence that represents aspects of data or captures the essence or features of data (Clark & Vealé, 2018). Clark and Vealé, (2018) suggested that qualitative data are presented as words from participant observation field notes, interview transcripts, journals, documents, and literature, thematic analyses with coding and sorting techniques commonly are conducted. Qualitative researchers can select a multitude of techniques to track their data such as creating labeling systems, research logs, and journals.

To effectively track my data, I used a journal for tracking details obtained from the research. A reflective journal helps the researcher note what has happened regarding the lessons that have gone well and the ones that could use improvement (Saunders et al., 2015). I protected and concealed the research subjects' information through redaction and password protection. I stored all study documentation in a secure and locked file cabinet and will keep the contents there for five years post research completion. After five years, all the data associated with this study will be destroyed by appropriate measures.

Pilot Study

To test the research instrument for the data collection, a pilot study was conducted before the main study. The principal benefit of conducting a pilot study is it provides

researchers with an opportunity to adjust and revise in the main study (Kim, 2011). The pilot study aimed to test the clarity and comprehension of the interview guide. Pilot study participants were recruited from a metropolitan hospital in Atlanta. Three participants were recruited via telephone and provided informed consent. Permission to record the interview session was obtained from the participants. The objectivity and the reality of the interview guide were tested by administering the questions to the three participants via a face-to-face individual semi-structured interview.

Rigor and Dependability

In the research process, validity refers to the degree of accuracy, with which a method measures the intended element in the study. Research with high validity produces results that encompasses the entire experimental concept, and establishes wether the results meet all of the requirements of the scientific research method. High reliability and dependability are two of the indicators that measure the quality of qualitative studies (Mohajan, 2017). Researchers have the responsibility of presenting a quality study by ensuring that the elements of rigor and dependability of the study are validated. Rigor refers to the strength of the study design and the appropriateness of the methods chosen as a means of answering presented research questions (Gill & Gill, 2020). Dependability pertains to the consistency and reliability of a study's results and the degree to which research procedures are documented. Proper documentation allows others to follow, replicate, critique, and audit the study process (Korstjen & Moser, 2018).

Triangulation is one of the common standards by which the rigor of research is tested in a qualitative study. The method is used to identify convergence of information that was collected from numerous data sources, this is done to minimize bias and optimize accuracy in data collection and analysis (Johnson, Adkins & Chauvin, 2020). Triangulation of data sources was used to ensure the rigor and dependability of the study. Triangulation was applied to cross-check the data obtained from different sources such as observational field notes, journal entries, and a care coordinator evaluative discharge guide. Triangulation through literature review is critical in the research process; it is utilized to validate results obtained from studies, the opposite is also true, that is, data gathered from research subjects are used to validate the information gathered from the literature review.

Trustworthiness

For qualitative research to be considered trustworthy the research process must be systematic and rigorous and the researchers must be able to show that the data analysis was done in a precise, consistent, and exhaustive manner using various approaches. The level of trustworthiness of research is typically measured through credibility, transferability, confirmability, and dependability.

Credibility

Credibility applies to the degree of confidence that a researcher has in the truthfulness and accuracy of their findings. Credibility is related to all aspects of research design including research purpose, context, subjects' recruitment, data collected, and the quantity of data collected. All of these factors have an impact on how accurately the

research questions can be answered by the participants. For evaluation of qualitative research, credibility is usually considered in terms of intended research purpose; credible research decisions are those that are made in line with the researcher's purpose (Moon et al., 2016). In this study, the researcher used data and method triangulation, peer debriefing, and member checking to enhance the credibility of the study.

Transferability

Transferability refers to the extent to which the findings of particular research apply to other contexts or subjects and is a form of external validity. For qualitative study, transferability is only effective for case-to-case transfer. To enhance the transferability of this study results, the researcher provided a thick description that will enable others to transfer the results obtained to their research.

Confirmability

Confirmability relates to the amount wherein the results of the research are a function of only the participants' and conditions of the research and not from biases, motivation, interest, or perspective (Moon et al., 2016). To achieve confirmability, the researcher ensured that the results obtained are linked to the study conclusions in a way that can be followed and replicated.

Dependability

Dependability pertains to the level in which the results of the research are consistently repeated when the research is replicated with the same or similar participants in the same or similar contexts (Korstjen & Moser, 2018). In order to ensure the dependability of this study, the researcher gave detailed accounts of the methods that are

used in the research process; also, details of research design, implementation, and data collection were also given.

Data Analysis

I, as the qualitative researcher, performed the face-to-face interviews and managed the collection of all necessary documentation for the study. Methodological triangulation is the best-suited data analysis method for the research design. Methodological triangulation adds depth to the data that researchers collect and is useful in qualitative research designs where one may have multiple data collection methods to explore the importance members use to frame their world (Fusch et al., 2018). Triangulation adds depth, breadth, complexity, and richness to the research (Saunders et al., 2015). I used a range of information-gathering resources, such as case managers' discharge summaries for patients diagnosed with CAD, interview responses, and reflective journaling notes.

I analyze the collected information, which involved a variety of patterns and themes through the perspective of the practice change model framework. In health research, content analysis is also a popular method for analyzing qualitative data. It is typically used to analyze documented information in forms of texts, or media; it is especially used to analyze responses obtained from research interviewees (Busetto et al., 2020). Content analysis has been defined as a research technique that offers a systematic and objective method of making valid inferences from verbal, visual, and written data to describe and quantify specific phenomena (Bengtsson, 2016). Data from each participant was organized utilizing NVivo 12 software. As the researcher, I utilized a manual content

analysis method to assess the artifacts of curated information in the responses of participants. The content analysis method allowed me to view the target issue from the perspectives of the participants; this enhanced the capacity to recognize similar words in the interview transcripts and phrases that hold similar meanings. Data was sampled by analyzing words, phrases, sentences, paragraphs, and sections; this was done with the understanding that how language is used to construct events by participants providing meaning about their personal experiences and perspectives. In addition, I further identified relevant patterns and themes from the study and aligned them with the practice change model framework, and other additional academic literature.

Ethical Procedures

Any researcher who is conducting qualitative or quantitative research must consider the ethical implications of their work (Ellis, 2019). I obtained IRB approval from Walden University, which allowed me to collect and analyze data from the hospital where the case managers work. The research ethics and compliance department at Walden University require students to obtain IRB approval prior to collecting or analyzing data. (Saunders et al., 2015), has explained that codes of ethics are guiding principles put in place to overcome ethical dilemmas arising from different social norms and conflicting philosophical approaches.

I received approval from the Director of Care Coordination and Case Management Services that allowed me to collect and analyze data for my study. The approval has outlined the aim of the study, deliverables, and the length of desired outcomes of the research. Before the interview, I reviewed the purpose and the procedure

of the study with the participants, after that, the informed consent form was sent to them; the signed consent letters were received before the interviews were conducted. On the interview day, the purpose of the study was restated, and the participants were told that the interview sessions will be recorded. The hospital case managers could withdraw at will. Participants have the option to withdraw from participation and possibly withdraw data they have provided (Saunders et al., 2015). As a researcher, it is necessary to state how data will be stored and in what conditions to ensure the confidentiality of the participants and confidentiality of the data (Saunders et al., 2015). To protect the privacy and confidentiality of the participants, I assigned pseudonyms to each participant (for example, CM1, CM2, and CM 3) and coded the transcripts with different names. I protected the participants and their information through redaction and password protection. I stored all of the documentation on a password-protected hard drive and will keep it secure for the next 5 years. After 5 years, I will destroy all information that is associated with this study.

My central focus for participating as a researcher was to gain an understanding of the perspectives of case managers involved with discharge services for patients diagnosed with CAD in a large metropolitan hospital. An incentive for the case managers within the hospital was to have study findings to assist with the critical analysis of postdischarge services. Also, the case managers within the hospital may gain awareness into additional information about reducing hospital readmission rates within 30 days. The findings may help other researchers and case managers better align patients with outpatient services for high-risk patients such as patients diagnosed with CAD.

Summary

To effectively explore perspective and answer extensive questions to the study, the appropriate method and design was the single case study approach. As the researcher, I included in this chapter explanations of methods and designs that will be used to explore the perspective of hospital case managers, who provide services for patients diagnosed with CAD. I also took into consideration the research problem statement, purpose of study, and the research questions when choosing the methodology for the study. In addition, extra care was conducted to ensure internal and external validity by using data gathered from diverse sources.

Chapter 4 includes data analysis, interview information, common themes, and analyzed data. A summary of each participant's response is provided to reflect their exact views during interviews.

Chapter 4: Results

The purpose of this qualitative single case study was to explore case managers' perceptions of postdischarge services for patients diagnosed with CAD. To address the research problem and purpose of the study, I used qualitative data that were collected from multiple sources, including interviews, a case management evaluative discharge guide, and reflective journaling notes. Trustworthiness of study data was addressed by using triangulation.

Chapter 4 includes results of the pilot study and interviews as well as analysis of data obtained from participants. Raw data obtained from participants were analyzed via thematic analysis leading to the extraction of identifiable themes and collective descriptions. From analyzed data, I was able to identify factors that contribute to the topic under investigation.

Results of the Pilot Study

For the pilot study, all participants had a minimum of 3 years of case management experience, were older than 25, and were fluent in the English language. Three case managers who met the inclusion criteria participated in the pilot study. The first participant was 34 and had 8 years of experience as a case manager; the second participant was 43 and had 17 years of professional experience, while the third participant was 28 and had 6 years of working experience. Responses obtained from these three participants were collected and examined.

After reviewing data obtained from the pilot study, I confirmed that interview questions were clear, direct, and led to relevant responses from participants regarding the

topic under investigation; thus, there was no need to alter interview questions. The three participants expressed that the job title of case manager is an old term, and due to advancement in job duties and function, they are referred to now as care coordinators. At the end of the pilot study, the three case managers who participated in the study became ineligible to participate in the full-scale study, so data obtained from them was not incorporated.

Importance of the Pilot Study

I derived several benefits from conducting the pilot study before the main research. The most significant benefit associated with the pilot study is the improved competence I gained. The pilot study gave me insights regarding how much time would be needed to conduct the study and clarifying questions that were needed for the actual study. Major themes extracted during the pilot study included noncompliance amongst patients with healthcare treatment, care coordination, and follow up. Emerged themes are outlined using a sequential format in the data analysis section.

Data Analysis

The case study data analysis approach used in this study was Moustakas'(1994) modified Van Kaam method. The method was used to conduct coding and analysis of data obtained from the 13 case managers who participated in the main study. Applying the modified Van Kaam, I was able to follow specified steps for coding and analyzing the interview transcripts in order to understand the perspectives of case managers as a group. Words and phrases used by participants during interviews are referred to as invariant constituents. Results obtained from interviews were organized, analyzed, and synthesized

into themes. Initially, phenomena were investigated. This was followed by using clustering and thematizing. The fourth step involved the identification of invariant constituents followed by the creation of collective descriptions. Analysis was done employing both open and axial coding.

Data obtained from analysis were input into NVivo 12 to determine emerging common themes. NVivo contributed to the quality of this study by objectively extrapolating the phrases, patterns, and categories obtained in the study. Using relational analysis, which enabled the emergence of connections between concepts related to specific themes, themes obtained from data analysis were assessed for associations between responses. The modified Van Kaam method has been identified as a reliable method which is commonly used to extract invariant constituents and themes from texts obtained during interview sessions.

Bracketing

Moustakas (1994) said to discover knowledge, researchers must recognize and work with the bracketing process also known as epoche. Bracketing involves the act of setting aside personal thoughts, ideas, perceptions, and opinions (Moustakas, 1994). This is essential for collecting and analyzing data without bias during the research process. Bracketing was used to identify and make sense of participants' perceptions.

Listing and Preliminary Grouping

Transcription of data obtained from each participant was done with the aid of NVivo 12 and manual content analysis. Manual content analysis involves the placement of extrapolated data into categories and logging content into spreadsheets via programs

such as Microsoft Excel. Themes were then extracted from coded texts that are important to the RQs. Themes of participants included long hospital stays, hospital readmission, chronic care, partnership, and challenges faced by patients. Statements in the contexts of interviews were matched with the themes using source identification. The final stage of the data process involved determination of invariant constituents.

Reduction and Elimination

To gain a better understanding of the phenomenon under investigation, extrapolating and analyzing raw data, and implementing axial coding was used in this study. I adopted a descriptive coding strategy to identify and use emerging words and phrases for categorization and thematic analysis. Raw data obtained from the transcripts, contained the experiences of all 13 participants. Information collected from participant interviews provided an in-depth contextual understanding of perceptions of case managers regarding the specific nature of discharge and followup services for patients diagnosed with CAD.

Reduction of word phrases obtained in field notes and transcriptions involved using rich descriptions and developed categories obtained from the data analysis to eliminate repetitiveness and overlapping information (Sato, 2014). Responses given by each participant were coded and labeled with the aid of NVivo 12 using the manual content analysis method; this helped to maintain the integrity of coding. During the final stage of data analysis, it was noted and documented the participants' responses from the interview that were duplicated without omission of pattern identified words. This duplication offered patterns and themes that were documented for the study. This process

helps to ensure that data obtained from each participant are the same and can note for achieved saturation.

Clustering and Thematizing

Thematic labels were formed by clustering invariant constituents; this resulted in the emergence of specific themes. Listing and preliminary grouping methods of the data and categories of the pattern words and phrases were used to generate five themes: medication, followup appointment, home health, noncompliance, and outpatient case management.

The first step in clustering and thematizing involved the process of highlighting the keywords and phrases in the transcribed data, which provided direct relation to the topic under investigation. The highlighted keywords and phrases were then examined to determine their relevance to the research questions. The highlighted words and phrases are the themes, which accurately described the perspectives of the case managers. This process is used to extract the meaning units, which are organized into clusters or themes. Following this, the frequency of the responses and the primary and secondary themes in the data were examined.

After assessing the themes, important patterns that pertain to the perspective of the 13 case managers began to emerge. Specific meaning items from the participants' responses were organized into primary themes; codes were then assigned obtained from the participants' common responses and phrases. This was done to examine the frequency of the responses as potential themes. Each of the responses is made up of meaningful items, which are useful for determining the final cluster of themes. After clustering all

meaningful items, the emerged themes were then analyzed to determine the frequency of each theme.

Individual Structural Descriptions

The individual structural description refers to a brief summary of the interview transcripts obtained from each participant, which contains only the most relevant information. The structural description is used to describe participants' perceptions and experiences based on the raw responses obtained from them. In this study, structural descriptions were used to provide the raw renderings of each participant's views regarding the themes (Moustakas, 1994).

Collective Descriptions

The collective textural descriptions refer to specific responses from participants, which explain their perceptions about the topic under investigation. Collective descriptions were extracted from each participant's transcribed interview data. The transcribed files are made up of participants' thoughts with regards to the invariant constituents and themes (Moustakas, 1994). Collective descriptions are part of the discussion in Chapter 5.

Composite Descriptions

Composite descriptions were developed by analyzing individual collective descriptions (Moustakas, 1994), thus, integrating the collective descriptions into a universal description of the experience, which represents the group as a whole. Composite descriptions were used to illustrate the real meanings and areas of importance of the experience within the context of the topic under investigation. This approach is

vital as it offers the researcher an outline of the reoccurring and prominent themes across all the participants. A universal description outlining the extracted constituents along with the interview questions is shared in the results sections of this chapter.

Results

Examination of responses from the interview questions resulted in the emergence of primary and secondary themes. Throughout the interview I discovered very quickly an emergence of themes, saturation was achieved as there was no new information offered after interviewing the 13th participant. The participating case managers provided multiple responses to each of the interview questions, thus providing the study with a rich data set for the examination. The major themes that emerged in this study pertain to the experiences and perceptions of the case managers regarding hospital discharge and postdischarge services for patients diagnosed with CAD. Tables 1 – 10 present the evaluative data for the number and percentage of participants, who shared their experience.

Interview Question 1

Invariant constituents extracted from the responses to the first interview question include the following: discharge planning, discharge planning perspective, postdischarge, discharge care, acute care, intensive care, care coordinator, and discharge care (see Table 2).

Table 2

Interview Question 1: Level of Care

Invariant Constituents participant	Number of participants with the experience	Percentage of with the experience
Discharge planning	8	61.5
Discharge planning perspective	1	7.7
Postdischarge	1	7.7
Discharge Care	1	7.7
Acute care	2	15.4
Intensive care	1	7.7
Care coordinator	1	7.7
Discharge care	1	7.7

Interview Question 2

Major invariant constituents that emerged during participants' responses to interview question 2 were as follows: clinical, managers, discharge, team, rehab, health, outpatient, and coordination (see Table 3).

Table 3

Interview Question 2: Experience with CAD Patients Returning to the Hospital

Invariants Constituent participants experience	Number of participants with the experience	Percentage of with the
Clinical	6	46.2
Managers	5	38.5
Discharge	5	38.5
Team	5	38.5
Rehab	3	23.1
Health	3	23.1
Outpatient	2	15.4
Coordination	2	15.4

Responses obtained from most of the participants indicated that a significant amount of the patients diagnosed with CAD usually returned to the hospital shortly after discharge. The major reasons given for the hospital readmission of this group of patients are lack of follow-up care, lack of resources, lack of family support, and non-compliance with medications. The information obtained from the participants suggested that patients may be readmitted due to their previous symptoms or from new symptoms that just developed. The most common health complaint from readmitted patients is chest pain. Proper follow-up care of patients diagnosed with CAD will require multiple healthcare providers, who work together as a team. P13 said:

> So, I am in the Women's Center also. To be honest, I just have a lot of that (readmission). I do have some moms that come in that have some issues with

coronary issues and low-pressure issues and we do, unfortunately, see a lot of them return and basically, that's because of non-compliance with medication.

Interview Question 3

The most common themes that emerged when participants were responding to this question are barriers, health, issues, medication, and non-compliance. The full list of invariant constituents and their frequencies are presented in Table 4.

Table 4

Interview Question 3: Reasons for Readmission After 30 Days of Discharge

Invariant constituents	Number of participants with the experience	Percentage of participants with the experience
Non-compliance	4	30.8
Medication	4	30.8
Barriers	2	15.4
Health	2	15.4
Treatment	2	15.4
Lack of knowledge	2	15.4
Regimen	2	15.4
Staffing issues	4	30.8

The responses offered to interview question 4 by the participants indicated that multiple reasons are responsible for hospital readmission of patients diagnosed with CAD. The readmissions usually occur within 30 days of the last hospital discharge. Considering the emerging themes, the key reasons for readmission are non-compliance

with treatment and medication regimens, lack of knowledge, various types of barriers, and staffing issues. P9 said:

> So, I mean it could be several things. It could be just based on social environment, the patient may be not, they may not have supports at home to care for them and so maybe there, you know, a bit of their care is neglected due to lack of support. Other than that, generally, patients are set up for success when they leave home, with everything that they need. So, if anything I would say its lack of support or, you know when it comes to their own involvement in their care, they're not you know being compliant.

Interview Question 4

Several invariant constituents emerged from the responses that participants provided for interview question 4, they include the following: appointment, care, case managers, medication, primary care, and plan (see Table 5).

Table 5

Interview Question 4: Treatment Plans Developed for Patients Diagnosed with CAD

Invariant constituents	Number of participants with the experience	Percentage of participants with the experience
Care	8	61.5
Heart failure	8	61.5
Appointment	3	23.1
Care coordinator	3	23.1
Case managers	3	23.1
Health	6	46.2
Medication	2	15.4
Outpatient	6	46.2
Primary care	3	23.1
Program	2	15.4
Skilled nurse	2	15.4

The invariant constituents that emerged from the responses provided for interview question 4 suggested that treatment plans have been put in place by health facilities for patients diagnosed with CAD. The care plans are handled by various health care providers such as case managers, primary care doctors, care transition coaches, and care coordination assistants. The treatment plans are multifaceted for patients diagnosed with CAD and include specialized care, clinic appointments, and referral programs. P1 said:

> We try to make sure that we do a proper, you know, initial assessment we're looking for those social issues we're also kind of addressing, you know what their home life is their access to meds, access to transportation and access to care. But sometimes things do fall through the cracks. And we make sure that we when their discharge plan is complete, that we've kind of collaborated with our

treatment team with the physicians with nurses, making sure that you know whatever recommendations are made that we're getting those things wrapped up, and again making sure that those follow up here if we also do have outpatient case management who is supposed to follow certain patients as well and making sure that they are following through in getting the resources and tools that they need.

Interview Question 5

Interview question 5 was used to explore the understanding of external factors that have an impact on outcomes of discharge and postdischarge services for patients diagnosed with CAD. Emerging factors that appeared vital to the outcomes of discharge and postdischarge services include management, medication, insurance issues, and resources (see Table 6).

Table 6

Interview Question 5: External Influences Affecting Discharge Services

Invariant constituents	Number of participants with the experience	Percentage of participants with the experience
Family	7	53.8
Patient	4	30.8
Management	3	23.1
Medication	3	23.1
Insurance issues	2	15.4
Resources	2	15.4
Barriers	2	15.4
Population health	2	15.4
Care	2	15.4

Invariant constituents that emerged from the responses given to interview question 5 indicated that multiple external factors influence the discharge and postdischarge services offered to individuals diagnosed with CAD. Examples of such influences are the type of family support received by patients, compliance with medication regimen, availability of needed resources, quality of management received by the patients, insurance challenges. P3 said:

> One will be access to health care. Okay, so still goes back to the insurance issue. And I also think family support. Because if it's a CAD patient that is also kind of debilitated and they don't have family support, people to drive them to and from the appointment. It turned out to be non-compliant, not because they don't want to be compliant, but they don't have access to. And I also think lack of education by caregivers or family members.

Interview Question 6

Interview question 6 was used to gain a better understanding of the internal factors that determine the success rate of discharge and postdischarge services developed for individuals diagnosed with CAD. The most common invariant constituents within the category are care, time, medication, and doctors (see Table 7).

Table 7

Interview Question 6: Internal Factors Influencing Outcomes of Discharge and Postdischarge Services

Invariant constituents participants	Number of participants With the experience	Percentage of with the experience
Level of care	3	23.1
Time	2	15.4
Doctors	2	15.4
Medication	2	15.4

Invariant constituents that emerged from the responses given to interview question 6 suggested that the quality of care received by individuals diagnosed with CAD is one of the internal key factors that determine the outcomes of discharge services offered by health facilities. The care factor is sub-divided into three basic units, which are care coordination, primary care doctor, and primary care treatment. Another important factor is medication, availability of needed medications, assistance with medication use, and compliance with medication regimen. These shared elements are critical internal factors that determine the outcomes of CAD discharge and postdischarge services. P6 said:

> Lack of communication from the physicians because some of the patients don't really understand what their diagnosis meant, what the medications are for, how to take them. And so, if they don't of course they're not going to follow up or even take the medication.

Interview Question 7

This interview question was presented to participants to gain an insight into the instructions that might be needed from physicians before discharging individuals diagnosed with CAD. Various invariant constituents emerged from the responses given by the participants (see Table 8).

Table 8

Interview Question 7: Instructions from the Physician

Invariant constituents participants	Number of participants with the experience	Number of with the experience
Discharge planning	3	23.1
Predicted treatment plan	2	15.4
Cardiac home health	3	23.1
Medication instruction	1	7.7
Medication assistance	1	7.7
Medication regimen	1	7.7
Medical terms	2	15.4

Reviewing the replies and phrases frequently used by the participants when responding to interview question 7, the invariant constituents displayed that the instructions needed from the physician regarding postdischarge services entailed a discharge plan, a doable treatment plan, medication instruction and assistance, and instructions about self-care at home. P3 said:

> I think they will have to closely work with discharge plan and social workers to ensure that the patient has access to the medications, patient has access to transportation, or somebody to take them to their follow-up appointments, and also whatever they prescribe for them. Whatever the discharge plan is, it has to be something that is doable for the patient. So, if you want them to see a PCP, once a month, because they don't have insurance that might be doable. But, if you say, every two weeks, you also have to find out, can they afford to do that as well. They also want to make sure that the patient has a better understanding of what is going on with them. And then if they will need reinforcement, I think they should also do teaching before the patients leave, just like we do with diabetes. Or you give patients oxygen, and you teach them how to use it [it is a portable oxygen concentrator machine for patients diagnosed with comorbid conditions that need assistance breathing] in their home, they're going to come back and say the machine is not working. So, they need to be educated.

Interview Question 8

Interview question 8 was used to explore the perspectives of participants regarding factors that motivate them to ensure that individuals diagnosed with CAD have access to needed resources (see Table 9).

Table 9

Interview Question 8: Motivational Factors for Case Managers

Invariant constituents participants	Number of participants With the experience	Percentage of with the experience
Home medication assistance	2	15.4
Available medications	1	7.7
Care and peer coordination	2	15.4
Job perception	2	15.4
Community resources	2	15.4
Readmission risk score	2	15.4
Effective discharge plan	2	15.4

Responses obtained from the participants offered several different engaging experiences, one of the major factors that motivate case managers to provide all needed resources for individuals diagnosed with CAD upon discharge and postdischarge is the perception of each care coordinator about their job. Other motivating factors include effective care and peer coordination among health care providers, availability of needed resources, readmission risk score, and availability/assistance with medication. P4 said:

> Well, for all cases, in general, they're just helping their overall health. I mean, that's what motivates us to make sure that, however, we set them up to promote health and for them to somewhat gain back their normal function as much as possible with their new diagnosis and new issues if you will. But more importantly, making sure that they have the resources they need in order to be

> successful with all of these instructions and recommendations that they've been given. So as far as what motivates us is, of course, making sure that they don't return. That's a big thing. And just making sure that anything that we could have done avoids that with, of course, continuing to advocate for the patient, and understanding that their voice is kind of filtered through us most of the time. So although we may get what they need, we have to find a good way to mesh that together with their social needs or economic needs, their emotional needs. I mean, let's just be honest, now they're being told that they're sick, or chronically sick. So that's going to affect every aspect of the person.

Interview Question 9

Interview question 9 was posed to gain a deep understanding of the relationships that exist between case managers and among health care providers and third-party payers. Invariant constituents that emerged from participants' responses indicated that associations between the two groups of stakeholders are combined when caring for patients diagnosed with CAD (see Table 10).

Table 10

Interview Question 9: Involvement of Case Managers with Other Healthcare Stakeholders

Invariant constituents participant	Number of participants With the experience	Percentage of with the experience
Clinical team	3	23.1
Clinical nurse leader	1	7.7
Clinical pharmacist	1	7.7
Outpatient patient managers	5	38.5
Safe postdischarge plan	5	38.5
doctor manager charge nurse	4	30.8
cardiac rehab	3	23.1
care coordination	2	15.4
therapist	2	15.4

Invariant constituents that emerged from responses to question 9 revealed that case managers work as a team, together with other health care providers and third-party payers. They work hand in hand with professionals such as nurse leaders, pharmacists, doctor managers, and therapists to coordinate care and draw up effective discharge plans. However, the care that is offered is not standardized amongst care coordination. P11 said:

> So, we are very involved with the direct clinical team. So, like I said, we all do our interdisciplinary rounding which includes the pharmacist, the clinical pharmacists, the attending physician, and the bedside nurse if they have a clinical nurse leader. We're very involved in the direct clinical team, like we know we will have to reach out to see if they need cardiac rehab. And being on 2 north, we

go round with our heart failure APP. So, he's really good about writing referrals to the heart failure clinic.

Interview Question 10

Interview question 10 was used as a means of exploring efforts that case managers put in place to address individuals diagnosed with CAD within and post 30 days after been discharged from the hospital (see Table 11).

Table 11

Interview Question 10: Touchpoints Implemented for Patients Diagnosed with CAD

Invariant constituents	Number of participants With the experience	Number of participants with the experience
Outpatient case management	10	76.9
Patient case management	7	53.8
Home health	7	53.8
Primary care appointment	6	46.2
Appointment set up	4	30.8
Warning signs	4	30.8
Disease processing	3	23.1
Discharge planning	3	23.1
Care coordination	2	15.4

Based on emerged invariant constituents, case managers implement several touch points for individuals diagnosed with CAD within the first 30 days. For instance, they coordinate with other healthcare care providers to ensure that patients have smooth transitioning from hospitals to their homes. They also work to set out to ensure that

patients understand the diseases process of the ailment they are suffering from, know how to cater for themselves at home, and know whom to contact if they need help. P13 said:

> I feel like if we can capture and make sure that they have the resources that they need and they understand when they are supposed to be back to the doctor, what warning signs are if you know your warning signs of your disease process, you're less likely to wait end, where you end up in the ED and coming back. But if you are well educated and know the warning signs of your diagnosis, you can be more independent and be a master of your own destiny. I truly believe those things make a difference on the trajectory of a patient whether it's 30, 60, or 90 days, the more involved they are in their diagnosis, the more they take their meds, the more they understand their disease process, the warning signs and when they need to go back to the doctor.

Themes and Collective Descriptions

A collective examination of the responses obtained from all participants was clustered to form thematic labels. The responses are based on their perspectives as case managers. The primary and the secondary themes that emerged from the study data analysis were combined to develop common links between participants' experiences. The clustering of the primary and secondary themes yielded five comprehensive themes that represent the shared experiences of the 13 case managers in Atlanta, GA. The five themes that emerged from the study were: (a) medication, (b) appointment, (c) compliance with medical care instructions, (d) home health, and (e) outpatient case management.

The first common theme that emerged from the participants was discharge planning. All the participants share the perspective that one of the core tasks of all case managers is developing a discharge plan for patients diagnosed with CAD, who are about to be discharged from the inpatient unit. Case managers are directly involved in setting up discharge plans and have direct accountability with regards to readmission, thus, they typically focus most of their efforts on setting up effective discharge plans for CAD patients. Amongst others, the case manager shared that their efforts include discussing discharge options with patients, making necessary referrals for postdischarge services, contacting third payer parties for necessary benefits and authorization, and arranging convenient transportation for their patients, when the need may arise.

The second theme that emerged is care coordination. In their responses, the participants indicated that their daily duties involve working collaboratively with several other health care providers and third-party payers. They work closely with the other health stakeholders to ensure that patients receive coordinated care both in the hospital and after they are discharged.

The third theme that emerged is home health. All participants were of the view that patient education is very important and is a key determinant of the level of health that patients will enjoy when they get back to their homes. The case managers shared their experiences of how they usually coach their patients about handling their health conditions when they get home. Despite the teachings, most of the patients are usually at a loss about how to care for themselves when they get home and thus are usually back at the hospital shortly after discharge. An important sub-theme that emerged under home

health is family support. The participants were of the mindset that patients, who had quality family support, were less likely to be readmitted within 30 days postdischarge compared to those, who lack family support or experienced poor family support.

The fourth theme that emerged is non-compliance. Participants shared that non-compliance is the major problem they have with their patients and it is the major reason why patients are readmitted into hospitals within 30 days of discharge. In their responses, the participants revealed that most times, patients do not comply with medication, appointment schedule, and treatment regimen. There are several reasons why patients become non-compliant with their treatment regimen, but the major reason, as pointed out by the case managers is usually because of lack of resources (i.e., finances).

The fifth theme that emerged is outpatient case management. The participants shared that coordinating and guiding patients with appropriate outpatient services prior to discharge is a critical aspect of their roles. After patient discharge, the outpatient unit becomes the sector that is responsible for the continuity of care for patients diagnosed with CAD. Although significant efforts usually go into connecting patients with appropriate outpatient services, the participants expressed their frustration that those efforts are frequently dismal and diminished because patients are not followed up with accordingly and/or patients themselves do not comply with their set appointments or schedules. An important sub-theme that emerged under outpatient case management is follow-up care. The case managers shared that lack of follow-up care is one of the main reasons, why patients do not follow up with their pre-planned outpatient arrangements and it is also one of the key reasons, why the rate of readmission is high.

Composite Textural-Structural Analysis

This section includes composite textural descriptions created from the individual collective descriptions and the thematic categories that emerged from the study. The descriptions revealed how the participants perceived the core of their experience as case managers, and who organize and evaluate care options, aligning their patients' needs to maximize their outcomes. The themes and the corresponding experiences of the participants served as the basis for the overall conclusion presented in this study, thus, they are used in the attempt to answer the research questions of this study.

Interview questions 8 and 9 were used to form the understanding of participants' experience in implementing appropriate postdischarge services for their patients diagnosed with CAD. The case managers explained that they strive to ensure that patients have all the resources they need at their disposal before discharge from the hospital. They do this by working collaboratively with other health care providers and third-party payers. These steps are usually taken to ensure that patients are not readmitted within 30 days postdischarge. As advocates for patients, the participants considered this supportive role of patient care to be exceptionally challenging, which requires networking with other stakeholders in the health sector. Despite their efforts, the participants suggested that patients diagnosed with CAD most often do not make appropriate use of the services that are offered to them, thus, the high rate of hospital readmission. The data suggested that more research and support are needed to maximize the efforts that the case managers are investing in their patients.

Responses from interview questions 3 and 10 were used to form the understanding of participants' experience in developing postdischarge instructions that will ensure that patients do not return to the hospital within 30 days of discharge. According to the data obtained from the participants, instructions about medications are one of the major areas, where case managers usually offer postdischarge instructions. Other critical areas, where postdischarge instructions are usually given are outpatient scheduled appointments and a planned treatment regimen with a primary care provider. Failure of patients to comply with these instructions typically results in hospital readmission within 30 days of being discharged from the hospital.

Interview questions 5 and 6 were used to explore the faculties by which case managers ensure their efforts are successful postdischarge. Both internal and external factors influence the outcome of discharge and postdischarge services that are implemented for patients diagnosed with CAD. Considering the responses obtained from participants, it was suggested that case managers routinely exhaust the majority of resources that are applicable to each patient prior to discharge. After discharge, the patients are transferred to the institution's outpatient facility, which handles additional care for the patient moving forward. More importantly, the responses obtained from participants indicated a lack of continuum care and follow-up specifically for individuals diagnosed with CAD, this is one of the major reasons, why case managers usually lose touch with patients and it is also a critical factor for the high rate of hospital readmissions.

Summary

In this chapter, I presented a comprehensive summary of the results from 13 participants from the data analysis based on the Van Kaam method. Ten face-to-face semi-structured interview questions were used to explore case managers' perspectives of postdischarge services for patients diagnosed with CAD in Atlanta, GA. Responses to interview questions were used as a basis for generating critical insights about experiences of 13 case managers who took part in the study. This single case study revealed perceptions and professional experiences of participants, which emerged from data analysis and can be attributed to related themes and patterns.

In this study, I investigated the phenomenon, determined the order to themes which were central to the phenomenon, addressed essential relationships via clustering and thematizing invariant constituents, and development of composite structural descriptions. Composite structural descriptions were a collection of both primary and secondary themes that emerged from interviews. Five comprehensive themes emerged from data. The themes are medication, followup appointments, compliance with medical care instructions, home health, and outpatient case management. I enhanced data trustworthiness by deploying methodological triangulation of three data sources which included a semi-structured interview protocol, case managers' evaluative discharge summaries, and reflective field notes.

In Chapter 5, I present interpretations of findings from this study in comparison to the literature review in Chapter 2. Implication of findings to social change, theory, and practice followed by study limitations are addressed in Chapter 5. I also demonstrate how

my study extends the body of knowledge on case managers in terms of driving successful postdischarge services. Finally, I describe how future scholars and researchers can extend the findings of this study.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this qualitative single case study was to explore case managers' perceptions of postdischarge services for patients diagnosed with CAD. To address the research problem and purpose of the study, I used qualitative data that were collected from multiple sources of evidence, including interviews, a case management evaluative discharge guide, and reflective journaling notes. Triangulation of data sources was conducted to establish trustworthiness of data analysis. By using the qualitative research design, I was able to gather data regarding perceptions shared by participants in the study of case management postdischarge services needed to implement strategic change. Furthermore, interviews allowed for further elaboration of their personal experiences and unexpected data to emerge.

Chapter 5 includes a review and summary of the current study as well as an explanation of the perspectives of 13 hospital case managers who are involved in coordinating care for patients diagnosed with CAD. This chapter also includes the answers to the three RQs. The RQs are:

RQ1: How are case managers ensuring that patients diagnosed with CAD do not return to the hospital inpatient unit within 30 days of discharge?

RQ2: What postdischarge instructions are in place among case managers to ensure patients diagnosed with CAD are not readmitted within 30 days of discharge?

RQ3: How are case managers ensuring that patients diagnosed with CAD are following up with their postoperative services?

The chapter ends with a discussion of implications of findings and recommendations for future research.

Study Limitations

Study limitations refer to weaknesses associated with research, which may impact interpretations, findings, and conclusions of the investigation. There were two important limitations in the current study. The first limitation involved use of self-reported data. Data provided by interviewed case managers were self-reported and could not be independently verified for accuracy; thus, responses they provided were considered to be true or genuine. However, the case mangers interviewed cannot account for all case managers that work with patients diagnosed with CAD within inpatient hospital setting. Therefore, self-reported data could contain potential sources of bias involving selective memory (remembering or forgetting events that occurred in the past), telescoping (wrong recalling of the time of occurrence of an event), attribution (the act of attributing positive events to one's facility and attributing negative events to external forces), and exaggeration (the act of representing outcomes as more significant than they really were based on other relevant data).

Researcher bias was a second potential limitation of this study because I collected study data and performed data analysis. Potential biases in this case can be a result of interpretations of interview questions. Researcher bias was mitigated by using of bracketing. Bracketing refers to the process by which a researcher identifies and sets aside personal experiences, vested interests, assumptions, cultural factors, and hunches that could influence interpretation of studied data (Weatherford & Maitra, 2019).

Furthermore, ethical dilemmas were prevented by observing hospital protocols presented in Chapter 3; issues involving confidentiality, the integrity of the interview process, length of interviews, and risks and benefits of being in the study were addressed.

RQs

A detailed account of interview findings that addressed RQs examined in this study is presented in Chapter 4. Data obtained from participants were used to provide answers to RQs via individual narratives involving personal experiences regarding delivery of postdischarge services for patients diagnosed with CAD. Patients' responses to RQ1 was answered by P2, P3, P6, P7, P11, P12, and P13. From their responses, I learned that once patients are discharged, inpatient case managers typically do not have much involvement with them. Instead, they transfer cases to outpatient case managers. Followup by outpatient case managers is usually implemented within a week or two postdischarge, depending on the patients' status. To ensure discharged patients do not return to the hospital within the next 30 days, case managers use two tactics. This first tactic is an intervention to ensure that patients are discharged with filled prescriptions; case managers usually make sure that patients have access to their recommended prescriptions for the next 30 days prior to leaving the hospital. Second, case managers make certain that patients have scheduled follow up appointments before being discharged. In addition, case managers typically check that doctor recommendations concerning patients before patient discharge are addressed. Patients' compliance with their medication regimen and followup appointments historically decrease the likelihood

of having another CAD event as well as readmittance within 30 days postdischarge (AHA, 2019).

RQ2 was answered by P1, P2, P4, P5, P6, P7, P10, P11, P12, and P13. Based on responses of case managers, I gathered two key instructions are usually given to patients who are about to be discharged. The first instruction involves health education about the patient's condition and an emphasis on compliance with medical care instructions. Patients are normally provided with clear instructions about their diagnosis, necessary appointments and lifestyle modification. Understanding and applying the health education strategies are significant factors that determine whether a patient will return to the hospital within 30 days postdischarge or not. Another key instruction that is routinely given or discussed with patients before discharge involves home health care. Case managers regularly seek out resources such as patient disease awareness information, prescription coupons, and transition of care services that are available for patients when they are returning or are in the home. Patients are typically educated about the importance of home health care for their CAD diagnosis. At this stage, case managers usually check if any special resources can be provided to make it easy for patients to transition back into the home. For instance, case managers can arrange for transportation such as ambulances or wheelchairs for those patients who need help with transportation to the hospital for followup care. In those cases, patients are given clear instructions about arrangements that have been made for them. Case managers also provide instructions to patients about signs and symptoms of ailments that signify worsening

conditions and how to handle symptoms when they surface. When the need arises, instructions about diets are also given to patients before discharge.

RQ3 was answered through responses provided by all participants. Participants indicated that inpatient case managers have little influence over the affairs of CAD patients after they have been discharged from the inpatient hospital setting. Postdischarge, patients are transitioned to outpatient case managers, who then take the lead with followup care for discharged patients. As such, inpatient case managers usually ensure that all resources that the patient needs for continued care are in place to maximize outpatient services before the patient is discharged. In some cases, when discharged patients have special needs, outpatient case management is notified before discharge so that patients can receive proper attention after

Discussion

This study involved focusing on exploring and capturing case managers' perspectives of successful postdischarge services for patients diagnosed with CAD in the Atlanta, GA metropolitan area. The primary goal of this study is to contribute to the development of postdischarge services, amongst case managers for patients diagnosed with CAD. The study also focused on the influence of a knowledge base for case managers about effective strategies that can be implemented to improve postdischarge services for CAD patients to ensure that patients are not readmitted within 30 days postdischarge. The current study adds to the existing literature and the current knowledge base for case managers, families of individuals diagnosed with CAD, physicians, and

future researchers, who are interested in learning more about patients diagnosed with CAD and the postdischarges services available to them.

Important findings addressing RQ 1 indicate that case managers believed that access to recommend prescription drugs for the first 30 days and scheduling appropriate follow-up services prior to discharge are the key factors in ensuring that patients are not readmitted within 30 days. To effectively implement positive discharge outcomes, patients have to comply completely with all the instructions and arrangements made for them by case managers before discharge (Pietrzykowski et al, 2020). For RQ 1, the most recurrent theme throughout the interview process was outpatient case management. The case managers explained that patients are automatically out of their sphere of influence immediately after the patient is discharged from the hospital. Scheduled services postdischarge are assigned to the outpatient case management unit, which is now totally responsible for the follow-up care of discharged patients. Although case managers often put in place the majority of resources that patients will need before discharge, the outcomes of the discharge process still depend largely on the input of outpatient case management services, together with patients' compliance, medication utilization, and followup appointments.

Important discoveries addressing RQ 2 indicated that guidelines about prescription drugs, diets, self-care at home, follow-up appointments, and special arrangements for follow-up care are the major instructions that case managers typically provided to patients before discharge to ensure that they are not readmitted within 30 days postdischarge. The recurring themes for research question 2 include discharge

planning, treatment plan, cardiac home health, and medication instructions and regimen. When patients comply with all the instructions they are given before discharge, it significantly reduced their chance of being readmitted within 30 days of last discharge (Glans et al, 2020).

Key findings that address research question 3 indicate that inpatient case managers do not have any direct impact on patients once they are discharged from the hospital. This is a critical discovery as inpatient case management services are the last touchpoint for the patient but cannot directly employ the follow up services needed to prevent patients diagnosed with CAD from returning back to the hospital and maximize their outcomes disseminated in their provided treatment plan. The responsibilities for discharged patients rest largely with outpatient case management services. The outpatient department is responsible for ensuring that patients follow up with their post-operative services and receive appropriate follow-up care. Thus, case managers have little or no influence in ensuring that patients diagnosed with CAD are following up with their post-operative services.

The findings of this study align with the existing literature review on the practice change model framework, which contains seven interactive steps that support ongoing initiatives and active implementations focused on ensuring that inpatients' resources and postdischarges services are appropriately optimized. If future research occurs within the investigated topic area, the information provided in this study may enhance the understanding of case managers and other relevant stakeholders with regards to developing effective postdischarges services for patients diagnosed with CAD.

Implications of Findings

An examination of the study resulted in the identification of the perceptions and experiences of 13 case managers in the Atlanta, Georgia metropolitan area. Discoveries from the themes offered a perspective into the common factors associated with the development of postdischarge services for patients diagnosed with CAD. In the study, the following themes were analyzed: (a) medication, (b) follow-up appointment, (c) compliance, (d) home health, and (e) outpatient case management. The combined analysis and deep insight into the perceptions and experiences of case managers' perspectives of planning postdischarge services for patients diagnosed with CAD were significant. Initially, the findings of this study suggest that patient compliance with medications, follow-up appointments, and other instructions given by physicians before discharge is critical to the wellbeing of patients and it is a key determinant factor that indicates whether a patient will or will not be readmitted within 30 days postdischarge. Patients' outcomes in turn have significant social, economic, and medical consequences. This finding is in line with the work of Pietrzkowski et al, (2020), who reported that lack of adherence to prescribed medications is a serious limitation of long-term treatment in patients with cardiovascular diseases. Based on the results of this study, lack of medication adherence, follow-up appointments and other physician instructions have been shown to be a challenge for case managers and major contributors to readmission, morbidity, and mortality of patients (Levy et al, 2018). This finding is noteworthy because it presents an important opportunity for service development for patients

diagnosed with CAD in terms of improving adherence to CAD medication and other therapies after they have been discharged from the inpatient hospital setting.

The five themes (medication, follow-up appointment, compliance, instructions for home self-care, and outpatient case management) that developed from this study and related literature lay the foundation for future research as it relates to the development of postdischarges services. The development of the shared findings may offer a perspective that considers the needs of patients' long-term care requirements to help them live an improved quality of life after being discharged from the hospital. The study also provides insights for case managers on how they can enhance the present services that are available to patients diagnosed with CAD.

Significance of Findings

The significance of the research findings were to contribute to the perspectives of case managers in the successful development of postdischarge services for patients diagnosed with CAD and add to the current literature on postdischarges services development for CAD patients. The current research is significant because other case managers may gain an understanding of the factors that are needed to develop and implement successful postdischarge services for patients diagnosed with CAD. The information included in this study may serve as a source of data to other healthcare providers and other stakeholders, who are interested in reducing readmission rates of patients diagnosed with CAD.

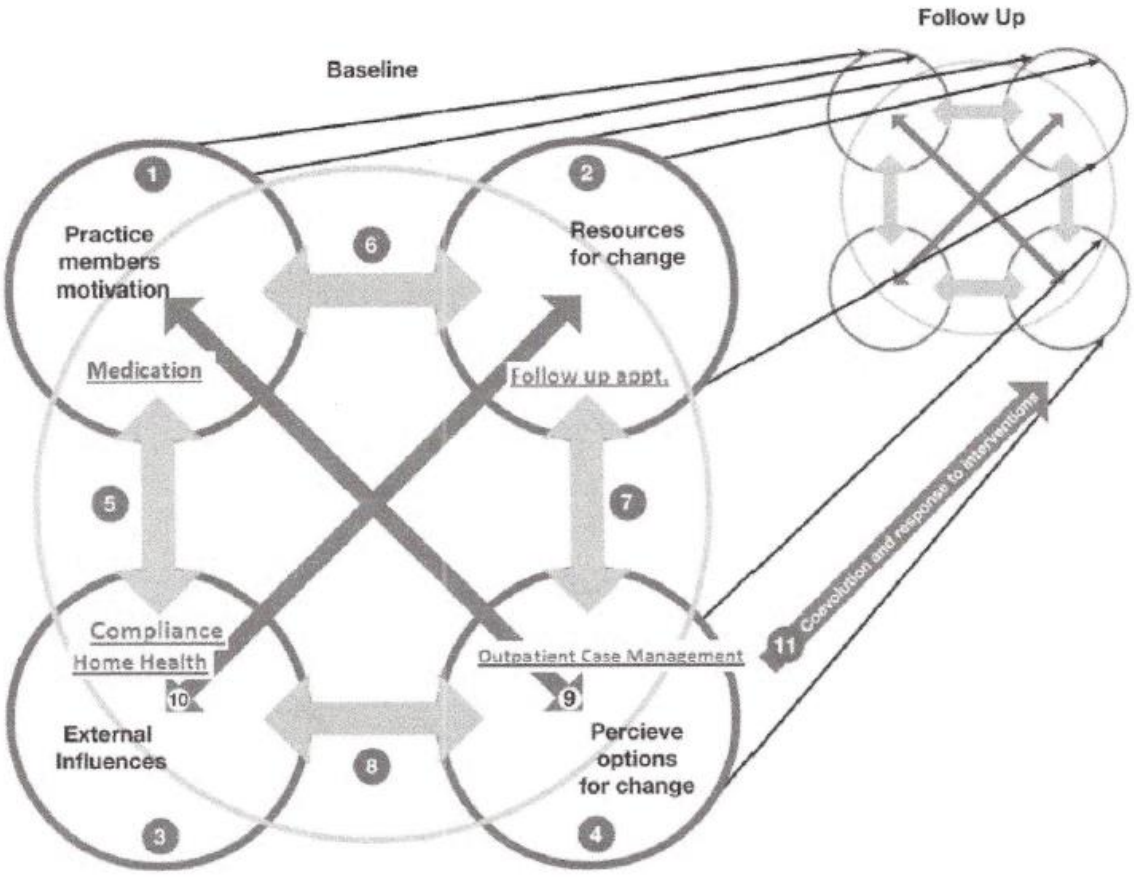
The practice change model is a framework that can be used to create sustainable practice improvement in postdischarge services. The framework showcases four critical

elements that are required for understanding and guiding practice change and it also emphasizes the evolving relationships among the elements for postdischage services. The practice change model framework based ability as a result of the findings in the research are to enact sustainable quality improvement on four key elements, which are motivation of key stakeholders to achieve the target for change, resources for change, external influencers, and opportunities for change.

The results obtained from this study suggest that the practice change model framework can be used to bring about the desired changes, such as improved patient outcomes and lower readmission rates, in postdischarges services for patients diagnosed with CAD. The data results for this study pinpoint medication, follow-up appointments, compliance, home health and outpatient case management as the critical elements that are applied in the conceptual model to determine the quality of postdischarge services accessible to patients diagnosed with CAD. The study results can be explained on the basis of the practice change model using the four key elements that are associated within the framework. A diagram of the study results are explained in the next section and the research findings are incorporated in the framework shown below.

Figure 3

Practice Change Model Framework Incoroporated with Data Results



Note. Figure recreated by the researcher, Brian Grant. Adapted from Cohen, D., McDaniel, R.R., Crabtree, B.F., Ruhe, M.C., Weyer, S.M., Tallia, A., Miller, W.L., Goodwin, M.A., Nutting, P., Solberg, L.I., Zyzanksi, S.I., Jaen, C.R., Gilchrist, V., & Stange, K.C. , 2004, *Journal of Healthcare Management, Volume 49* (Issue 3), p. 159.

Medication

The major key stakeholders in this study are case managers. There is a need for the case management team to recognize the necessity for improved postdischarge services. This pertains to medications that are used for treating patients diagnosed with CAD. It is critical that case managers remain motivated in achieving patient discharge goals of set targets to ensure that all assigned medications are prescribed, filled, and/or delivered in hand to the patient prior to discharge. Factors that can motivate case managers in this setting of CAD-specific medication management, as provided in the conceptual framework, can be a positive scored rating from the institution, once the case manager has aligned with the pharmacy or the patient to ensure fulfilment with the prescribed medication(s). Implementing these principles will enhance compliance with medication, and offer a reduction in readmission as noncompliance with medication is a leading cause of hospital readmissions (Bailey et al., 2019).

Followup Appointment

There are specific approaches and resources that case managers can implement to optimize postdischarge services and follow-up for patients diagnosed with CAD. Detailed touchpoints outlining specific followup measures directly for CAD patients, as suggested in the framework include a cross-section analysis with patient medication, the level of compliance with the patient as it relates to the receptivity of their diagnoses of CAD, scheduling, and what measures need to be in place for transportation, doctor and pharmacy visits. In addition, equipping the patient with adequate information and

resources with home health support, individually and with family is imperative to the follow-up process. And lastly, interconnecting and following up with outpatient case management is key in removing any gaps between the patient and their received care.

Compliance/Home Health

The external influencers outside the health care institution encompass the larger health care environment and the community. The relationships that case managers have with other healthcare personnel and the larger community will affect how compliant and directly impact the quality of postdischarge services accessible for patients diagnosed with CAD. Working as a team with the patient and family, transitioning into their home health setting as displayed in the conceptual model, will further the quality of postdischarge services for patients. Following up with the patient or outpatient unit in this transition will increase the rate of compliance with medication, scheduling, and follow-up appointments.

Outpatient Case Management

This component involves assessing the approach to postdischarges services provided to patients diagnosed with CAD. Case managers should leverage their contacts with various departments (i.e. outpatient case management) to gauge the effects of the patients' treatment plan or planned changes on postdischarge services. Case managers can evaluate previous efforts with implemented services applied in the inpatient setting such as medication, patient compliance, and follow-up; relay this to external influencers to adhere to an effective plan, thus maximizing patient outcomes and lowering hospital readmission rates.

The current research is significant because other case managers may gain an understanding of the factors that are needed to develop and implement successful postdischarge services for patients diagnosed with CAD. The information included in this study may serve as a source of data to other healthcare providers and other stakeholders, who are interested in reducing readmission rates of patients diagnosed with CAD.

Recommendations for Case Managers

The purpose of the current study was to explore the perspectives of case managers in the successful development of postdischarges services for patients diagnosed with CAD in the Atlanta, Georgia area. The study findings include valuable insight and information on developing postdischarge services for patients diagnosed with CAD. The following recommendations are for case managers, who want to develop effective postdischarge services for CAD patients.

The first recommendation is that case managers should intensify efforts on educating patients on the importance of adhering to their diagnosis, medical regimen, follow-up appointments, and other instructions presented to them before discharge from the hospital. By understanding the importance of patient education, case managers can share how vital the patients' involvement is to ensure that they have the best outcome. Increasing efforts on patients' education may increase the rate of compliance among discharged patients and this, in turn, will reduce the rate of readmissions.

The second recommendation is that case managers should develop formal transitioning of patients to the outpatient case management unit and create a protocol for monitoring those patients even after they are discharged from the hospital. From the

findings of this study an adaptable protocol that can be implemented prior to discharge is to ensure that there is a 'bedside delivery of medication' for patients that are diagnosed with CAD. This will enhance medication monitoring and ensure that patients will be transitioned with the necessary prescriptions needed to treat CAD. This form of continuous monitoring will enhance patients' ability to adhere to the instructions that they are given before their discharge. In a situation where both inpatient and outpatient case managers are monitoring a patient, the possibility of the patient having a positive outcome will be increased compared to a patient being monitored or followed up solely by the outpatient case management unit alone.

The third recommendation is that case managers should consider the possibility of developing and implementing home follow-up care that will ease the transition of patients from hospitals to their homes. The home follow-up care services should start operating immediately when a patient is discharged and should be able to continuously get in touch with patients until their first follow-up appointment. Home follow-up care services can help the outpatient case management unit have close-continued communication with each discharged patient; this may further enhance the rate of compliance among patients diagnosed with CAD. In addition to home follow-up care, case managers in liaison with external health providers can put in place other multifaceted interventions that can improve compliance amongst discharged patients and in turn reduce rates of readmission.

And lastly, the final recommendation should include political determinants that will help foster, support, and execute the aforementioned recommendations. Hospital administrators should lobby with state officials to begin soliciting advice to the Resource

Utilization Committee of the American Medical Association. With the support of the Utilization Committee, this petition should be directed to CMS to enact changes in service coding and reimbursement for patients that are diagnosed and discharged with CAD. Similar to telemedicine, a recommendation of one postdischarge follow-up call from the case manager should be instituted. Once a patient diagnosed with CAD is discharged from the hospital, with this new initiative, the inpatient case manager will be able to work with the outpatient department and the patient to ensure proper alignment of services are implemented. This extension in service has the planning potential to follow-up with the patient in the home, with outpatient services, and any additional cardiac care that is necessary. With this extension of service, this intervention can increase communication with the patient, may increase outcomes, and offers the potential to reduce the rate of hospital readmissions.

Recommendations for Future Study

Based on the findings of this study, future research on the focus of developing postdischarge services amongst case managers for patients diagnosed with CAD may be of assistance to hospital readmission committee members. Researchers may want to explore further and investigate factors and interventions that are required to develop effective postdischarge services for patients diagnosed with CAD. This study involved case managers from the Atlanta, Georgia area. Future investigators may want to explore the perspectives of case managers on postdischarges services for patients diagnosed with CAD in other geographical locations, cities, or states. A more diverse study, in this case, would allow investigators to compare and contrast what case managers in other facilities

and geographical areas considered as being important to developing postdischarge services for patients diagnosed with CAD.

In addition, future investigators may also want to explore the perspectives of patients diagnosed with CAD and their families concerning various factors that may contribute to the development of effective postdischarge services. The perspectives offered by CAD patients and their family members may offer new insights into the development of postdischarges services for CAD patients.

Summary

The purpose of this research was to explore the perspectives of case managers in the Atlanta, Georgia area on the planning of postdischarge services for patients diagnosed with CAD. The findings included new insights on the development of postdischarge services for patients with CAD. The existing literature, together with the current study findings, helped to provide a better understanding of the perspective of case managers in the development of postdischarge services for those patients that were diagnosed with CAD.

The study resulted in five common themes, which emerged from the primary and secondary themes. The comprehensive themes represented the commonality found between the 13 case managers, who participated in the study. Case managers indicated by their responses to 10 questions that (a) medication, (b) follow-up appointment, (c) compliance, (d) home health, and (e) outpatient case management were the most common themes responsible for the effective development of postdischarge services for patients diagnosed with CAD.

The primary tool used in the research, semi-structured interviews with open-ended questions, allowed the expansion of shared experiences by the participants (Yin, 2017). Hence, the study participants shared their views and professional experience, and perspective regarding postdischarge services for discharging patients diagnosed with CAD. The data from the study were used to conclude reference to case management competencies to successfully implement discharge initiatives and future research. As previously mentioned, data from the study aligns with conclusions drawn by Pietrzkowski et al, (2020) that patient medication utilization must be supported using a tailored framework for the patient to support compliance, an understanding of their disease state, the interdependence of agents for home support, and instrumental follow-up for recommended services.

Future research should focus on the integration of case management competencies into the delivery of postdischarge services amongst individuals tasked with implementing change initiatives within healthcare organizations. As Sligo et al. (2019) stated, literature was abundant about how a change initiative should or could be implemented, as there were no shortage of research providing recommendations for improvement initiatives. The consistent recommendations about providing postdischarge solutions to the implementation process do not consider if the personnel who are implementing the process are the correct decision-makers to implement social change. Therefore, future research, based on the case management competencies and recommendations presented in this dissertation, is suggested.

In the final analysis, case managers would be better able to identify factors necessary to develop successful postdischarge services for patients diagnosed with CAD. Further research could focus further on creating a more thorough understanding of the experiences of case managers in developing postdischarge services for patients diagnosed with CAD. Researchers could study other case managers and geographical locations in Georgia and across the United States. The current study, along with existing literature, contributed to expanding the knowledge about the perspective of case managers developing postdischarge services for patients diagnosed with CAD. The research added to the body of knowledge by discovering the most common themes and patterns that contribute to the lack of understanding of postdischarge services with patients diagnosed with CAD.

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Appendix A: Interview Protocol

Date:_____

Interviewee: (Identifying Number_____)

Years of Experience as a Case Manager: _____

Researcher to Participants Prologue:

Thank you for agreeing to participate in this study. I am going to ask you several questions relating to your experience in your professional role as a case manager. The questions will be focused specifically on your professional and case management perspective with discharge and postdischarge services for patients diagnosed with coronary artery disease. You are encouraged to elaborate where you feel comfortable and if you need any clarification from me regarding any of the stated questions, please feel free to ask. Are you ready to begin?

Interview Question 1 – What level of care do you provide in your department?

Interview Question 2 -- What is your experience in seeing patients diagnosed with CAD return to the hospital?

Interview Question 3 – Why do patients diagnosed with CAD return to the hospital after 30 days of discharge?

Interview Question 4 - What kind of treatment plan has been developed for patients diagnosed with CAD?

Interview Question 5 - What external influences would affect the successful discharge and postdischarge services for patients diagnosed with CAD.

Interview Question 6 - What internal influences would affect the successful discharge and postdischarge services for patients diagnosed with CAD.

Interview Question 7 - What instructions might be needed from the rounding physician with postdischarge services for patients diagnosed with CAD?

Interview Question 8 - What are the motivational factors amongst case managers to ensure resources are available upon discharge and for postdischarge services amongst patients diagnosed with CAD.

Interview Question 9 – How involved is case management with working collaboratively with other members of the health care team? (For example: *third-party payers, pharmacy, cardiac rehab facilities, tobacco cessation programs, and other home care agencies, etc*.

Interview Question 10 - What are the 'touch points' that case managers implement for a patient diagnosed with CAD within and post 30 days, 60 days, and 90 days after discharge.

Researcher to Participants: *Thank you for your time and participation in this study.*

Optional Interview Probes

1. Can you elaborate more on that issue?

2. Can you expound on that response?

3. How do you pull from your previous knowledge to implement that service?

4. What makes implementing that service challenging or satisfying?