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Severe Mental Illness in Adults and Physical Health Outcomes

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SEVERE MENTAL ILLNESS IN ADULTS
AND
PHYSICAL HEALTH OUTCOMES
KATHRYN LYNN SPEETER

A Dissertation Submitted to the Graduate Faculty of
GRAND VALLEY STATE UNIVERSITY
In
Partial Fulfillment of the Requirements
For the Degree of
Doctor of Nursing Practice

Kirkhof College of Nursing

August 2013
Dedication

I dedicate this dissertation to my family: to my husband, John Speeter; to my mother and father, Mary and Randy VandeWater; to my daughter, Marissa Padding; to my brother, Ken Stam; and to all of my additional family members who have so faithfully joined with me in this educational journey. You have been a constant source of support, strength, and inspiration to me! Without your unfailing love, patience, sacrifices, and understanding I would not have been successful in achieving my degree and accomplishing my goals with this project. You have often been my cheerleaders just when I needed you! Thank you for the many times you provided me with just the right word of encouragement, a prayer, humor, or an opportunity to do something fun to nourish my spirit.

To my husband, thank you for never giving up on me, or allowing me to give up on myself, when I experienced more challenges than expected at various points throughout this journey. Thank you for your unwavering love and support, and for the countless, special gifts of tender care you so generously gave me!

To my mother, I would like to thank you for your constant love, wisdom, and guidance that you have selflessly provided to me throughout my entire life. Thank-you for your unwavering faith in me, and for teaching me that I can accomplish anything I put my mind to through Christ who strengthens me, and with dedication and commitment to my goals. You continue to be a role model for me!
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Abstract

Severe Mental Illness in Adults and Physical Health Outcomes

Adults with severe mental illness (SMI) experience higher morbidity and mortality rates than the general population due to poor physical health and because physical and psychiatric health are rarely addressed holistically. Two questions were posed for this project: (a) Will the use of a physical health screening tool and development of health-promotion goals result in a change in healthy lifestyle behaviors for participants? (b) Will case managers see value in the use of the screening tool and health-promotion action plan development and incorporate the tool into their day-to-day work with clients?

Fourteen adults with SMI, from a community case management clinic, participated. Ages ranged from 25-60 (mean = 42). Most were diagnosed with Bipolar Disorder; all experienced a physical health concern. These included overweight, hypertension, diabetes, and musculoskeletal problems with chronic pain.

Three appointments were held with each participant. A Physical Health Check (PHC) tool was used to obtain a physical health history and develop a health-promotion goal for the project. Appointments focused on progress towards stated goals and providing support and resources for goal accomplishment. Initial and final data included height, weight, Body Mass Index calculation, waist circumference, and self-efficacy (using the Self-Efficacy for Managing Chronic Disease 6-Item Scale). A focus group with case managers obtained their perceptions on the use of the PHC tool, intentional focus on clients’ physical health, and health-promotion goal development.

Descriptive and qualitative analyses were used for the biometric, goal progress, and focus group data. A paired $t$-Test was used to analyze the pre- and post-self-efficacy scores.
All clients worked on their health-promotion goals, incorporating healthy lifestyle behaviors into their lives. Modest weight loss and a reduction in waist circumference were noted. A significant increase ($p < 0.05$) was noted in self-efficacy related to clients’ perceived ability to accomplish health-promotion goals. Case managers valued the use of the PHC tool by a dedicated health professional focused on physical health.

Addressing the physical and psychiatric health needs in an integrated manner for adults with SMI improves their health status. The DNP prepared nurse is a valuable resource to translate the research evidence for this holistic approach into practice.
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CHAPTER 1
INTRODUCTION

Description of the Practice Problem

According to the World Health Organization (WHO, 2011) an estimated 450 million people worldwide suffer from some form of mental illness, which makes it one of the leading causes of poor health and disability worldwide. Severe forms of mental illness include diagnoses such as schizophrenia, bipolar disorder, and major depression. Poorer health outcomes, higher morbidity and mortality, and a reduced life expectancy are attributable to individuals with severe mental illness (SMI).

Schizophrenia, as one form of SMI, affects approximately seven individuals per thousand of the adult population, or 24 million people worldwide (WHO, 2011). The Centers for Disease Control and Prevention (CDC, 2011) report that individuals experience their first episode of schizophrenia when they are approximately 21-27 years of age. Although schizophrenia is a disorder that responds to treatment, particularly in the initial stages of disease onset, it is estimated that greater than 50% of individuals with this disease are not receiving appropriate care. The early onset and incidence of schizophrenia and the lack of appropriate treatment for many individuals with this disease make this population of adults more vulnerable than the general population for experiencing poorer health outcomes.

The National Institute of Mental Health (NIMH, 2009) reports that individuals with schizophrenia often do not seek appropriate treatment until the disease is well established which makes efforts towards the prevention of disease progression and co-morbid physical conditions a greater challenge. Delays in treatment often result in
recurrent episodes of psychosis and an increased incidence of unemployment, homelessness, and incarceration (NIMH, 2009). In a study conducted by Badger, McNiece, Bonham, Jacobson, and Gelenberg (2003), they noted that adult participants with schizophrenia experienced poorer health than the general population. This finding appeared to be related to frequent delays in seeking necessary health care services, and to generally unhealthy lifestyles.

**Evaluation of the Problem through Literature**

Recent research documents that the physical health of individuals with schizophrenia and other forms of severe mental illness (SMI) is often poor and results in a reduced life expectancy and higher mortality rate compared with the general population. This is often related to unhealthy lifestyle factors and a lack of timely and adequate health care for their disease (Bradshaw, Lovell, Bee, & Mairs, 2005; Day, 2007; Pack, 2009; Weinstein, Henwood, Cody, Jordan, & Lelar, 2011; Wildgust & Beary, 2010). Despite the fact that suicide and accidents are high risk factors among this population Harris and Barraclough (1998) report that 92% of premature deaths occur related to natural causes as a result of poor physical health.

Severe mental illness is often associated with multiple chronic physical illnesses including hypertension, obesity, diabetes, cardiovascular diseases, and circulatory disorders (Bell, Farmer, Ries, & Srebnik, 2009; De Hert et al., 2010; Klam, McLay, & Grabke, 2006; Kreyenbuhl et al., 2006; Pack, 2009; Phelan et al., 2004). Many of the antipsychotic medications used in treatment may also contribute to the development of metabolic syndrome and diabetes among this population. Happell et al. (2011) cite that the use of psychotropic medications leads to an increase in obesity and the development
of metabolic syndrome (MetS) that contribute to poorer physical health status in people with SMI. They also note other factors that affect their health status. These include smoking, drug and alcohol use, and lower levels of physical exercise and effective nutritional intake in this population. In addition, the authors note an overall lack of physical health screening with these individuals.

**Proposal to Address the Health Care Issue**

Given the fact that adults with SMI experience a greater degree of physical health conditions and higher incidence of mortality than the general population, it is very important for health care providers to become actively involved in monitoring and assessing the physical health needs of adults with severe mental illness. Pack (2009) and Bradshaw et al. (2005) note that mental health professionals often focus more on the psychiatric symptoms of their patients and overlook their physical health care needs, especially when the psychiatric symptoms are severe and predominant. Doctor of Nursing Practice (DNP) certified as Advanced Practice Registered Nurses (APRNs) are uniquely qualified to care for this population because of their holistic approach to assessing, prioritizing, and addressing the health care needs, and evaluating the outcomes of care.

Monitoring and treating the physical as well as psychiatric symptoms of disease among this population will help to reduce the burden of disease and enhance the quality of life for these individuals. Utilizing a DNP prepared nurse to integrate a holistic care approach to treating adults with SMI will likely improve the overall health status of this population. Improving physical health status can improve psychological health status and vice versa when focused attention is directed to the comprehensive and holistic health
care needs of this population. Phelan et al. (2004) noted that adults with schizophrenia, one form of severe mental illness, are less likely to report physical symptoms spontaneously; however they will often respond to systematic questions by health care providers. The authors describe the use of a Physical Health Check (PHC) tool that has been demonstrated to yield positive results in eliciting information from adults with SMI regarding their physical health needs. The tool is used to evaluate the physical health status of individuals with SMI, prioritize risk factors for developing chronic health conditions, and identify health-promotion activities to address these concerns.

The proposed outcome of the physical health evaluation is to incorporate a holistic and individualized plan of care that minimizes the potential for developing these chronic health conditions among this population, or mitigates the negative outcomes associated with these chronic conditions when they are not well managed. Through this project the DNP APRN student will use this tool and incorporate the information into the treatment plan for each client, communicating the results with the inter-disciplinary team members. This physical health information and health-promotion action plan will be integrated into clients’ overall inter-disciplinary treatment plans on an ongoing basis. The ability to identify changes in physical status and address concerns before a client’s health deteriorates will help to reduce the effects of chronic illness and improve the quality of life for these individuals.

The purpose of this scholarly project is to answer two questions. One, will the implementation of a comprehensive physical health check tool with adults with SMI result in lifestyle behavior changes that positively influence their physical health? Two,
will the implementation of this tool be acceptable to the organization and sustainable for use beyond the scope of this project?
CHAPTER 2
THEORETICAL FRAMEWORK

Health promotion and primary prevention services are essential for improving the health and quality of life of individuals and the populations to which they belong. These services can be provided to people of all ages, genders, races, demographics, and in all types of settings (McEwen & Wills, 2007; Pender, Murdaugh, & Parsons, 2011). Given the fact that adults with severe mental illness (SMI) have higher morbidity and mortality rates than the general population, health promotion and primary prevention interventions are especially important for this group. The purpose of this project is to implement a physical health check tool from which an acceptable and actionable plan of care can be developed. Two theoretical frameworks support this purpose. The two models selected that are relevant to this study include Donabedian’s model for the analysis of quality of care and Pender’s Health Promotion Model (HPM).

Donabedian’s Model for the Analysis of Quality of Care

Donabedian (1988) describes a model for the analysis of the quality of health care, identifying three key concepts: structure, process, and outcomes. He describes the significant role these concepts have in evaluating the quality of health care, and the role that patients, families, and providers play in the health care process.

According to Donabedian (1988), attributes of structure include material resources, human resources, and organizational structure. Process, as a key concept in this model, is defined as those activities accomplished in “giving and receiving care” (Donabedian, 1988, p. 1745). Outcome is defined as “the effects of care on the health
status of patients and populations” (Donabedian, 1988, p. 1745). Included as part of the outcome are the patient’s knowledge, behavior, and satisfaction with care.

Donabedian’s model points out that each of these key concepts influence and support one another. They are not mutually exclusive. He describes this as a “three-part approach to quality assessment because it is unlikely to have a good process without first having a good structure, and it is unlikely to experience a positive outcome without having a good process” (Donabedian, 1988, p. 1745). He also highlights the fact that healthy interpersonal relationships between patients and clinicians are required in order for the process of care to be effective. A clinician can make an accurate diagnosis and treatment recommendation, yet if the patient is unwilling or unable to effectively follow-through with the treatment the expected positive outcome will not be achieved. This speaks to the importance of the nurse in this project developing positive interpersonal relationships with clients to effectively engage them in their care and promote their commitment to the identified action plan.

The variables that will be operationalized in this project include components of Donabedian’s key concepts of structure, process, and outcome. Structure will be operationalized through the use of a Doctor of Nursing Practice (DNP) Advanced Practice Registered Nurse (APRN) as an integral part of the inter-disciplinary team working collaboratively with clients and team members. As described in Donabedian’s model it will be important for the nurse to develop positive interpersonal relationships with clients to effectively engage them in their care and promote their commitment to the identified action plan. It will also be important for the nurse to establish effective interpersonal relationships with the inter-disciplinary team members to promote their
engagement in the process of supporting clients with their physical health goals, and acceptance of the translation of evidence-based research into practice through the use of the Physical Health Check (PHC) tool on an ongoing basis as part of their day-to-day work.

Variables that will be operationalized in this project related to the key concept of process involve, (a) the use of the PHC tool with clients to screen and identify modifiable risk factors for disease, (b) the development of an agreed upon health-p promotion action plan in collaboration with clients, and (c) the incorporation of the action plan into the inter-disciplinary treatment plan. The effective operationalization of these variables will require the engagement of clients and the inter-disciplinary team members in accepting the use of the PHC tool as part of the comprehensive treatment and services provided at the clinic including the acceptance of the health promotion action plan. The DNP prepared APRN will communicate results of the physical health screening and health-promotion goals with the case managers so that they can provide additional support to clients during their individual appointments. The DNP prepared APRN will also communicate any health concerns not already identified by the team to the team nurses and/or psychiatrist for further follow-up.

Outcome variables that are relevant to this project include, (a) evidence that clients are making positive changes in their health through ongoing engagement in health-promoting behaviors, and (b) evidence that the inter-disciplinary team has effectively accepted and integrated the use of the PHC tool and related process of care into their day-to-day work.
The Health Promotion Model

The Health Promotion Model (HPM), introduced by Pender, was developed as a framework for “integrating nursing and behavioral science perspectives on factors that influence health behaviors” (McEwen & Wills, 2007, p. 247). The model was developed out of the expectancy-value and social-cognitive theories by integrating concepts from both theories to form a model that is comprehensive and holistic in nature. The HPM recognizes the significance of both the interpersonal and environmental factors that influence individuals in their pursuit of health and explains why they do or do not engage in health promoting behaviors (Pender et al., 2011). The model explores and predicts factors that motivate individuals to engage in health-promoting behaviors. According to Pender et al. (2011) key concepts of the model include:

- Individual characteristics and experiences (prior related behavior and personal factors – biological, psychological, sociocultural),
- Behavior-specific cognitions and affect (perceived benefits or barriers to action, perceived self-efficacy, activity-related affect, interpersonal influences, and structural influences – options, demand characteristics, aesthetics),
- Behavioral outcomes (immediate competing demands and preferences, commitment to a plan of action, and health-promoting behavior).

Self-efficacy, as one of the key concepts of the HPM, is incorporated from Albert Bandura’s Social Learning Theory. According to Bandura (1994), self-efficacy is defined as “people’s beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives” (para. 1). These beliefs exert a strong influence over how people feel, think, motivate themselves, and
behave. If people have a high level of self-efficacy they are more likely to establish challenging goals for themselves and believe they can succeed. They also form a stronger sense of commitment to their action plans to achieve their goals. On the other hand, if people have a low level of self-efficacy they are more likely to avoid challenges, believe they do not have the ability to perform certain goals or tasks, and focus on negative thoughts and feelings of failure. Skills to perform identified behaviors are not enough in and of themselves to achieve success. Individuals must believe they can use those skills to effectively accomplish their goals. Self-efficacy is influenced and developed through experiences where individuals have mastered their goals, through observing others accomplishing a particular activity, through encouragement and support from others, and through their own perceptions and feelings that motivate them to effectively take action. Their motivation is affected by their level of self-efficacy in how they determine goals for themselves, how much effort they expend on those goals, how long they persevere in the face of difficulties, and their resilience to failure (Bandura, 1993).

Pender’s HPM describes prior related behavior as indirectly influencing health promoting behaviors through perceived benefits, perceived barriers, and perceived self-efficacy. These behavior-specific cognition and affect variables are the ones that are most significant in motivating, influencing, and sustaining engagement in health-promoting behaviors. According to the model, behaviors identified as desired health-promoting behaviors are initiated by individuals’ commitment to a plan of action. This plan of action must include: (a) specific strategies for engaging in and sustaining the health-promoting behaviors as well as, (b) a commitment to initiate the plan at a specific
time and place. Without both of these components it is likely that the action plan will only be acknowledged but not acted upon. The model recognizes that competing demands and preferences may all interrupt an individual’s commitment to following through on his/her identified action plan. These demands are often described as competing priorities, e.g., other responsibilities, finances, or the desire to do something other than the action plan. Strong commitment by individuals to their action plan is required for successful engagement in and sustainment of the plan.

The end-point or outcome of the HPM is the actual health-promoting behavior. The underlying premise of the model is that engaging in and sustaining an identified behavior will yield positive health outcomes, e.g., improved health, quality of life, and functional ability. A diagram of the HPM is shown in Figure 1.

The evaluation of clients’ perceived benefits, barriers, and self-efficacy related to their action plan are selected as variables from Pender’s model that will be operationalized in this project. These variables are significant for clients’ success in accomplishing their identified health goals. Engaging in health promoting behaviors to mitigate the risk of co-morbid disease will be influenced by clients’ level of self-efficacy and motivation to follow-through on these behaviors. It will be important for the nurse to assess clients’ perceptions of benefits, barriers, and self-efficacy related to engaging in health-promoting behaviors through the use of the PHC tool (Phelan et al., 2004) and a standardized self-efficacy assessment tool developed at the Stanford Patient Education Research Center (Lorig, Sobel, Ritter, Laurent, & Hobbs, 2001). Based upon the results of this assessment the nurse will develop strategies for enhancing benefits, minimizing
barriers, and increasing levels of self-efficacy, knowledge, and skill with clients to promote successful accomplishment of their action plan and a sustainable change in their lifestyle. The inter-disciplinary team members will also provide assistance and support to the clients through individual and group modalities to enhance the effectiveness of strategies that support the key concepts of the HPM and can be continued beyond the scope of this project.

**Research on the Use of the Health Promotion Model**

The HPM has been used to successfully predict health-promoting behaviors with populations of people such as low income seniors, low income culturally diverse middle school students, African Americans with diabetes, parents of young children promoting bicycle safety, college students trying to quit smoking, cardiac patients engaging in physical activity, and factory workers’ use of hearing protection for safety (McEwen & Wills, 2007). There were no documented studies found in the literature related to physical health screening and health promotion activities with the SMI adult population. The absence of research in this particular area of inquiry represents an opportunity for the focus of this project.

The Community Case Management (CCM) team provides case management services to clients utilizing psychosocial and physical health assessments, individual and group educational modalities, supportive therapy, and psychiatric/medication management services. They are also establishing communication mechanisms to coordinate care with community health providers involved with clients. The HPM fits well from a philosophical and clinical standpoint with this outpatient program setting where the scholarly project will be conducted. The model supports the cognitive
behavioral therapy approach that is used by the program staff as part of their treatment modalities, as well as their treatment philosophy for empowering individuals to actively engage in promoting their own health and wellbeing.

**Connection between Pender’s and Donabedian’s Theoretical Models**

A positive connection exists between key concepts in the two theoretical models as it relates to this project. The role of a DNP APR as part of the inter-disciplinary team and engaged in translating evidence-based research into practice within this setting is operationalized as the concept of structure in Donabedian’s model. Use of the PHC and self-efficacy tools will assist the nurse in identifying modifiable risk factors for disease, collaborating with clients to develop health-promoting behaviors, and evaluating the perceived benefits, barriers, and self-efficacy of clients towards their identified action plan (process). On an ongoing basis, as opportunities exist for meeting with clients over time, the nurse will engage with them in evaluating their progress towards their goals, supporting and encouraging them to sustain progress, providing education as needed for knowledge and skill building, and encouraging their commitment to continue with their action plan (process). The nurse will share information regarding clients’ physical health status, health-promotion goals, and their progress towards goal achievement with the case managers so that additional support and resources can be provided to clients. If the structure and process of care are effective the results of clients’ engagement in health-promoting behaviors will yield a positive outcome.

**The Role of the DNP Prepared Nurse**

The competencies of the DNP prepared APRN are ideal for working with this population of individuals with SMI in order to advocate for health care improvement
across a broader arena within the community. It is important for the nurse to integrate the PHC tool and health-promotion action plan development process into the system of care at the clinic so that outcomes can be evaluated from an individual, SMI population, and systems level. Through the use of evidence-based practice interventions found in the research literature, the nurse can promote a positive environment that creates support and motivation for change and nurtures a sense of empowerment and self-efficacy on behalf of clients for implementing and sustaining change. In order to most effectively support clients in this project the nurse must have knowledge regarding factors that motivate individuals towards adopting health-promoting behaviors and how to provide meaningful education and support for initiating and sustaining the action plans. In addition, it is important for the nurse to possess knowledge on evaluating the outcomes of care to determine the quality and effectiveness of clinical treatment provided. These strategies serve to fulfill the DNP roles of expert clinician, leader, scholar, and educator (Chism, 2013).
CHAPTER 3
LITERATURE REVIEW

The literature supports the importance of examining physical health needs in adults with a severe mental illness (SMI) and addressing these needs in conjunction with their mental health needs. Too often it appears that gaps exist between primary care and psychiatry in addressing these needs in a comprehensive and holistic manner. This literature review will discuss the scope of the problem, barriers in accessing health care, and potential interventions in this population of adults.

Scope of the Problem

Health Problems and Modifiable Risk Factors for Disease

Higher morbidity and mortality rates are seen in persons with a severe mental illness compared to the general population according to the literature (Harris & Barraclough, 1998; Nocon & Owen, 2006; Ohlsen, Peacock, & Smith, 2005; Pendlebury & Holt, 2008; Phelan et al., 2004; Tirupati & Chua, 2007; White, Gray, & Jones, 2009; Wildgust & Beary, 2010). The studies suggest that lifestyle factors, prevalence of smoking, and barriers to accessing adequate physical health screening and corresponding treatment are all contributing factors towards higher morbidity and mortality in this population of adults. These factors are, in large part, modifiable risk factors that can be addressed and mitigated if clients and providers intentionally work together to address them with appropriate and timely services.

Wildgust and Beary (2010) conducted an extensive review of the literature on published studies related to modifiable risk factors contributing to excess mortality in schizophrenia, one form of severe mental illness. They examined the extent to which
these risk factors can be managed, thereby reducing mortality in this population. Their literature search primarily included systematic reviews and meta-analyses that examined the link between modifiable risk factors and mortality rates in adults with schizophrenia. The literature review included studies published between 1987 and January, 2010, and were found using the databases MEDLINE, Embase, and PsycINFO. The key words used in the search were schizophrenia, mortality, modifiable (OR reduction OR intervention). The authors excluded studies involving patients exhibiting drug abuse or violence.

A total of 974 papers were reviewed covering topics such as excess mortality in schizophrenia, modifiable mortality risk factors in schizophrenia and the general population, and studies designed to reduce mortality in schizophrenia. The authors were unable to find any published prospective studies examining the impact of interventions on reducing mortality. The authors cited six chief global risk factors for mortality. These include hypertension, physical inactivity/physical fitness, overweight/obesity, hyperlipidemia, diabetes, and smoking. The World Health Organization (WHO) also identified these six modifiable risk factors in 2009 as the most significant risk factors for mortality.

Findings from the extensive literature review conducted by these researchers show that the six top global risk factors for mortality in persons with schizophrenia appear to be significantly higher than in the general population. Reasons for this that were consistently noted in the literature include smoking, lack of exercise, obesity, and poorer access to quality health care services. Other factors contributing to mortality to a lesser degree involved cardiovascular, respiratory, circulatory, and digestive diseases, and
various cancers. On the positive side, the research shows that these modifiable risk factors should be amenable to being reduced through targeted strategies in the clinical setting. Although prospective studies examining the effect of targeted strategies to reduce the risk factors were missing from this review the findings offer a positive perspective towards further development of integrated and comprehensive services in the mental health setting that address both psychiatric and physical symptoms with clients. The authors recommend that clinicians adopt existing guidelines to promote physical health and well being in persons with schizophrenia, a form of severe mental illness.

One limitation of this literature review noted by the authors is the fact that they were unable to find any published prospective long-term studies examining the relationship between interventions targeted towards mitigating modifiable risk factors and a reduction of excess mortality in persons with schizophrenia (Wildgust & Beary, 2010). Despite the authors’ reservation with this cited limitation, the extensive literature review included close to 1,000 studies from around the world and noted consistencies across the studies in the types of modifiable risk factors that exist for this population. This information can serve as a foundation for further research to identify strategies that effectively address physical health risks and yield positive, measurable outcomes.

Many studies have been reviewed as part of the literature review for this scholarly project. The majority of the studies (16-18) were focused on adults with a severe mental illness who were receiving psychiatric treatment in an outpatient setting. Eight studies documented use of a variety of screening tools and procedures with clients to obtain a thorough and holistic health history and history of present illness. Measurements of weight, height, Body Mass Index (BMI), waist circumference, and blood pressure were
frequently obtained. Blood glucose levels, Glycosylated Hemoglobin (HgbA1c), and lipid panels were obtained in some studies on an inconsistent basis. Whether or not these blood level measurements were included in the health screenings did not make a noticeable difference in the results of the studies that were primarily focused on process improvements with screenings and documentation rather than on the resulting clinical outcomes. A few of the studies screened specifically for diabetes or Metabolic Syndrome (MetS) while others were broader in their screening and collection of health information. The focus of the majority of studies was on identifying specific health concerns or risk factors for disease and consistently documenting the clinical findings in the clients’ records. Most of the studies did not proceed further to the point of developing action plans focused on mitigating the effects of the health concerns or risk factors that can lead to higher morbidity and mortality rates and a poorer quality of life overall. Three of the studies that were more comprehensive in nature will be summarized more extensively in the section on Physical Health Screening. These studies are comparable to the population and setting where this project will be conducted.

**Barriers to Access to Health Care**

Nocon and Owen (2006) and Wildgust and Beary (2010) note that higher mortality rates for individuals with SMI are often associated with reduced access to quality health care to address their physical health needs. The barriers identified have included factors such as negative attitudes, or stigma, towards those who experience a mental illness (McCabe & Leas, 2008; Mesidore, Gidugu, Rogers, Kash-MacDonald, & Boardman, 2011; Nocon & Owen, 2006; Wildgust & Beary, 2010). Additional factors cited in the literature include difficulty with communication between those with SMI and their
primary care providers related to a dequately describing their physical health symptoms, as well as a lack of empathy and understanding on the part of primary care clinicians towards those with an SMI diagnosis (McCabe & Leas, 2008; Muir-Cochrane, 2006; O’Day, Killeen, Sutton, & Iezzoni, 2005).

Primarily the literature points out the barriers to accessing adequate physical health care needs on the part of individuals with SMI related to interpersonal factors between clinicians and patients. These include the communication barriers, stigma towards mental illness, and lack of empathy and understanding on the part of clinicians towards those with an SMI. Other related factors that have been cited to a lesser degree include financial limitations (O’Day et al., 2005; Mesidore et al., 2011), and the perception that gaps continue to exist in the physical health screening of individuals with SMI in the outpatient psychiatric setting (McCabe & Leas, 2008; Muir-Cochrane et al., 2006). Out of these studies the significance of integrating primary and mental health care, including the use of tools for intentional physical health screening, was described (McCabe & Leas, 2008; Mesidore et al., 2011; Muir-Cochrane et al., 2006).

**Physical Health Screening**

A thorough review of the literature was conducted regarding evidence of physical health screening in persons with SMI and the significance of screening on health outcomes. Multiple databases were searched including the Cumulative Index to Nursing and Allied Health (CINAHL), PsychINFO, Pub Med, and Google Scholar. Articles were selected for review from 2003-2011. Key search terms included schizophrenia, mental disorders - chronic, mental health, health promotion, exercise, health screening, patient assessment, health status, physical health, Community Mental Health (CMH) services,
ambulatory care, CMH nursing, psychiatric nursing, and metabolic syndrome.

Modifying search terms included adults (19-44), middle-aged (45-64), full text, English language, and peer-reviewed research studies. These studies documented the significance, and in a few cases the use, of a physical health screening tool to identify and address modifiable risk factors for disease in adults with a severe mental illness.

Brunero and Lamont (2009), De Hert et al. (2010), Ohlsen, Peacock, and Smith (2005), Phelan et al. (2004), Saddichha, Vishnuvardhan, and Akhtar (2011), Tirupati and Chua (2007), Waterreus and Laugharne (2009), White, Gray, and Jones (2009) all cite studies where a physical health screening tool was used with adults with a SMI to evaluate risk factors for diabetes, metabolic syndrome, or cardiovascular co-morbid conditions, or the presence of current co-morbid conditions. Two of these studies incorporated action plans for health promotion activities with clients to address identified health concerns (Phelan et al., 2004; White et al., 2009).

The literature points to the need for and value of physical health screening for adults with SMI as a way to improve their overall health status and quality of life. It also highlights the importance of this issue to clinical nursing practice. While there were limited studies conducted with the evaluation of health outcomes as a result of physical health screening and lifestyle behavior changes, the opportunity exists to add to the body of clinical knowledge and research by using a physical health screening tool and evaluating the associated outcomes in clinical practice. A couple of these research studies are similar to the scope of this project and will be summarized in more detail.
Use of a Standardized Assessment Tool

Phelan et al. (2004), as part of a multidisciplinary research group, conducted a literature search on physical health and mental illness. The researchers found that adults with schizophrenia are less likely to report physical symptoms spontaneously, however, they will often respond to systematic questions by health care providers. Based upon the results of their literature review the researchers developed a 27-item Physical Health Check (PHC) tool designed to gather meaningful physical health data from mental health clients and to develop action plans for health promotion and disease prevention. The PHC tool addresses diet, exercise, tobacco use, sexual practices, current physical health status, and recent use of health care services. The authors recommend that this tool be used every 12 months with clients.

The tool was introduced to a multidisciplinary team of mental health professionals in a Community Mental Health Team (CMHT) outpatient service covering an inner city area. Clinicians used the tool to evaluate the health status of their assigned clients. An opportunistic sample of clients over a 6-month period comprised the treatment group. Sixty clients were involved in the study. The average age was 43.8 years (ranging from 18-72 years); 40 clients were male; 34 had a primary diagnosis of schizophrenia; 7 had a primary diagnosis of depression; and 6 had a primary diagnosis of bipolar disorder. The majority of clients reported they smoked cigarettes daily, ate a poor diet, and did not exercise.

A comparison group was voluntarily recruited from a neighboring CMHT covering a similar inner city area. Both CMHTs had similar practice models. There were 45 clients involved in the comparison group and they were similar to those in the
treatment group in relation to age, gender, and primary diagnoses. The study does not mention how these clients were selected. The current treatment plans for these clients and the multidisciplinary progress notes over the recent 12-month period were evaluated to determine the routine physical health data collected. It is not clear if this time period corresponded with the 6-month time period of data collection for the treatment group or if the time periods were mutually exclusive.

Key variables included as part of the screening and evaluated for inclusion in the treatment plan were: the current physical health status of the clients; existing medical diagnoses; current diet, exercise, use of substances, e.g., alcohol, recreational drugs, and tobacco; and sexual practices. Any visits to their primary care physician and dentist were also documented including how long ago these providers saw them and what type of screening or treatment they received.

Results from the study with the treatment group revealed that the use of the PHC tool appeared to be useful for both clients and mental health professionals. There was a subjective sense that the quality of information collected about clients’ physical health care and needs was improved from previous screening procedures. The evaluations resulted in one or more agreed upon action plans between clients and providers in the CMHT center the majority of the time.

In contrast, the results from the comparison group revealed inconsistent, sporadic, and incomplete information regarding clients’ physical health care concerns and needs. In many cases there was no information documented regarding physical health. Approximately 64% of care plans had incomplete or no mention of physical health needs for clients. Similarly, the multidisciplinary notes did not include information on clients’
physical health status or needs the majority of the time. This presents a gap in identifying and addressing health concerns that can lead to physical illness. There were no statistical procedures reported with this study. The outcomes for the study included the presence or absence of documentation related to the identification of clients’ physical health status, health care needs, and action plans to address the prioritized needs.

The limitations of this study include the fact that the PHC tool was administered to a small sample of clients in only one CMHT center. It is uncertain whether or not these findings can be generalized to other settings, e.g., inpatient psychiatric units or populations of adults who are homeless. In addition, it is important to develop this research further in order to determine whether or not the gathering of meaningful physical health data and the development of action plans to address identified needs makes a difference in the overall health status of the clients. This study did not include a determination of the clients’ ability or motivation to comply with the action plans developed or if it made a difference in their physical health outcomes. Two strengths of the study are the comprehensiveness of health information gathered and the development of an action plan to address identified needs. The use of the PHC tool demonstrated more effective and thorough documentation of individuals’ health status and an action plan.

This study is very similar to the plan for this project. The population of adults with SMI, the outpatient setting for the intervention, and the location of the outpatient clinic in an inner city area are all similarities.

**Screening for Diabetes and Metabolic Disorders**

Brunero and Lamont (2009) conducted a study to determine the effectiveness of systematic screening in adults with SMI to evaluate the presence of Metabolic Syndrome
(MetS) or components of MetS. Metabolic syndrome is comprised of a cluster of conditions that create a higher risk for the development of cardiac disease, and include diabetes and prediabetes, abdominal obesity, hypercholesterolemia, and hypertension. Persons with SMI are at greater risk for developing MetS, particularly associated with the use of antipsychotic medications. The researchers noted that these conditions are modifiable risk factors that can be reduced through positive lifestyle changes; however these risk factors need to be identified through intentional screening on the part of health care professionals.

A Metabolic Syndrome Screening Tool (MSST) was adapted from its use in a previous study where an intervention group of 103 adults with severe mental illness were screened to determine the prevalence of MetS in those treated with Clozapine. The individuals were selected from a Clozapine Clinic. The use of a Clozapine clinic is significant in this study due to the side effects often experienced by individuals who are taking this anti-psychotic medication, including the risk for developing Metabolic Syndrome. Only 73 participants returned for blood samples so only these participants were included in the final analysis. Findings from this study revealed that the use of the MSST predictably improved the screening and documentation of clients’ health status and their potential for developing MetS. Nearly 62% of clients were diagnosed with MetS through the screening process. Brunero and Lamont (2009) sought to compare the results of the study using the MSST with another sample of clients where the MSST was not intentionally used and to examine if screening procedures and documentation of clients’ health status were comparable. The time period during which the documentation review of the comparison group was conducted occurred after the completion of the study.
using the MSST, although the authors did not identify the specific time period. The comparison group included an opportunistic sample of 72 adults with severe mental illness receiving psychiatric treatment in five different services: an inpatient psychiatric unit, a general admission unit, an aged care unit, a rehabilitation unit, and a psychiatric emergency room. There was no introduction of the MSST to the providers caring for patients in these five settings. They received whatever treatment was considered standard in the various practice settings.

Variables included in the documentation review and compared with those from the study using the MSST were blood pressure, BMI, fasting glucose level, fasting lipids, and waist circumference. A clinical audit was conducted by two mental health nurses over a one-week period for each of the five clinical settings (comparison group). The presence or absence of the variables and individual client results were compared with those of the intervention group from the previous study.

The results of the clinical documentation audit revealed that only 54.2% of patients had a recorded blood pressure, 41.7% had a record of a fasting glucose level, and 25% had a record of fasting lipids. There were no records of BMI or waist circumference for this comparison group of patients. The results of the clinical audits compared with the previous study using the MSST on a consistent basis highlight the gap that exists in practice for intentionally screening for MetS and the risk factors for developing this condition. While there were no statistical procedures conducted with this study and clinical audit, the researchers point out the fact that the use of a screening tool can improve the intentionality of screening for MetS in the SMI population who is at greater risk for developing this condition. A next step in the process would be to ensure that the
data are utilized to generate strategies and action plans to mitigate the risk for developing MetS or reduce its effects in the presence of the condition. This was beyond the scope of this particular study.

Limitations of this study include the fact that the comparison and intervention groups were selected from different types of settings at different points in time, there was a relatively small sample of participants, and clients in the two groups were likely receiving treatment with a variety of different medications. Clients in the intervention group were all participating in services at a Clozapine clinic while the medication treatment for those in the comparison group is not mentioned. Given these limitations it is difficult to generalize results of the study across other populations of adults with severe mental illness. The study also looked only at the consistency of screening for MetS and documenting the results in the clinical records of the clients. There were no health related outcomes included as variables in the study, and the authors point out the need for further longitudinal studies to assess the impact of systematic screening on physical health outcomes (Brunero & Lamont, 2009).

**Screening for Cardiovascular Risk Factors**

A study evaluating the physical health screening for cardiovascular risk factors in adults with SMI was conducted by Kreyenbuhl et al. (2006). The purpose of this study was to identify the extent and management of cardiovascular risk in patients diagnosed with both Type 2 Diabetes and severe and persistent mental illness. The researchers could not find other studies of this nature in the literature and wanted to pursue this specific focus in their study.
Participants were recruited from a larger investigational study that occurred between September 1, 1999, and September 30, 2002. The original participants included 201 individuals with a diagnosis of diabetes and severe mental illness (SMI) and 99 individuals with a diagnosis of diabetes without SMI. For the current study a convenience sample of 95 individuals with a severe mental illness and diabetes, and 48 individuals with diabetes without SMI were recruited. Some of these individuals participated in the previous investigational study and agreed to return for the current study. The current study involved conducting a screening interview with all participants to determine their physical health status and prescribed current medications. Data from the interview were compared with data collected from the previous investigational study.

Variables included in both studies were diabetes-related health factors, presence of co-morbid physical health conditions, services or treatments used for these conditions, services or treatments used for psychiatric conditions, smoking status, quality of life, medications prescribed, presence or absence of the use of statins, angiotensin-converting enzyme inhibitors (ACEIs), or angiotensin II receptor blockers (ARBs), and Glycosylated Hemoglobin (HgbA1c). Fasting glucose levels and a lipid profile were also measured in the current study.

The results of the study revealed that cardiovascular risk factors are treated less aggressively in patients with both Type 2 diabetes and a SMI compared with those with diabetes without SMI. Fifty-four percent of patients with schizophrenia and 64% of patients with a mood disorder had a diagnosis of Metabolic Syndrome (MetS) compared with 71% of diabetics who did not have an SMI diagnosis. More patients with diabetes and SMI were smokers and were treated with psychotropic medications with known
adverse metabolic effects. For all participants including those without a SMI diagnosis it was noted that few diabetic patients were achieving target goals for blood pressure and cholesterol. All participants, with and without SMI, had appropriate access to medical care services. Less than one fourth of patients with a SMI compared with approximately half of patients without a SMI were treated with both statins and ACEIs or ARBs. The researchers point out the importance of enhancing our efforts to improve blood pressure control and cholesterol levels in all diabetic patients regardless of additional medical diagnoses. They also emphasize the importance of interventions to improve modifiable cardiovascular risk factors in those with diabetes and a severe mental illness.

A few limitations of this study are the relatively small sample size, as well as having no results demonstrating the effects of intentional screening on the intervention group. In addition, the researchers did not investigate whether any of the diabetic patients had contraindications to treatment with statins or ACEIs or ARBs. Further investigation is needed into potential barriers to diabetic care that is equitable across all populations: in those with and without a severe mental illness.

This study is helpful in considering this scholarly project in the context of examining modifiable risk factors in adults with a severe mental illness and determining whether MetS or cardiovascular risk factors are significant for individuals. The study also looked at the co-morbid conditions often associated with adults with SMI that are so prevalent within the target population of this project. The project can help to add to the existing body of knowledge regarding intentional screening for physical conditions that allow for effective identification of lifestyle changes to mitigate the risk of disease.
Focus of Scholarly Project

The focus of this scholarly project is on the use of a physical health screening tool with adults with SMI in an outpatient psychiatric treatment setting. As previously noted the identification of physical health care needs in addition to psychiatric needs is paramount to achieving the best overall health care goals in this population. Within the context of this project screening techniques will include measurement of weight, height, BMI, waist circumference, and blood pressure. If laboratory results obtained through the client’s psychiatric treatment plan are available, then information on glucose levels, HgbA1c, and lipid panel will be included as part of the screening process. The information obtained from the screening will be used in dialogue with the client to identify at least one modifiable risk factor that can be addressed through a health promotion activity, e.g., exercise, nutrition, or smoking cessation. An action plan developed in collaboration with the client will be included as part of their interdisciplinary treatment plan. Progress on their goal achievement will be evaluated at every clinic visit. Interventions will include client education, support, and assistance, as needed, e.g., access to community resources.

In addition to the theoretical framework incorporating structure, process, outcome, barriers, and self-efficacy in working with individuals, the studies found in the literature on the topic of physical health screening in adults with SMI help to highlight this area as a current problem that needs to be addressed within the health care system. While there were a variety of health screening tools identified in the literature the use of the Physical Health Check tool is selected for use in this project. Many of the tools used in the studies documented the current health status and concerns of clients and focused on
the documentation of the screening results in the clinical records. The PHC tool is more comprehensive and incorporates the development of an action plan in collaboration with the client that is designed to address prioritized health needs from a health promotion and disease prevention standpoint. It moves beyond the evaluation of documentation and process improvement outcomes to determining a strategy that may ultimately improve the health status and quality of life for clients with SMI.
CHAPTER 4

METHODS AND MEASUREMENTS

The purpose of this scholarly project was to evaluate the implementation of the Physical Health Check (PHC) tool for adults with a severe mental illness (SMI) and to determine if the implementation resulted in an actionable plan that the client and agency accepted. Documented evidence that clients were making positive changes in their health through progress on their health promotion goals was used to determine if this purpose was achieved. Additional evidence included documentation of their health promotion goals in their treatment plans and documentation of progress towards their goals in the case managers’ progress notes. The outcome of this project also included an assessment of case managers’ attitudes about the value and effectiveness of the PHC tool, and the intentional focus on clients’ physical health needs and health promotion goals.

Project Location

This project was conducted at a Community Case Management (CCM) outpatient clinic that is part of a large psychiatric healthcare system that includes inpatient, outpatient, and residential services. The main campus of this health care system is located in a medium-sized midwestern town of the United States with a population estimate of 608,453 in the County’s Metropolitan Statistical Area (US Census Bureau, 2011). The CCM clinic is located in an inner city area of the town and is characterized by the presence of many people with low socioeconomic status, some of whom are homeless. There are many agencies in the area that serve this population through providing food, shelter, emotional support, and physical health care.
**Target Population**

The population of clients served by the CCM clinic includes adults 18 years of age and over. As of July, 2012 there were a total of 346 persons receiving services through the clinic. Approximately 54% were female and 46% were male. Approximately 18% were between the ages of 18-29, 79% between the ages of 30-64, and one individual was over the age of 64 years. There are a variety of racial and ethnic groups represented by the adults who receive services. Forty-two percent are White, 9% Black, 3% Hispanic, and 42% unreported. The majority of clients are of low socioeconomic status and many are unemployed, in large part due to their mental illness and associated disability. The clients are referred to the clinic primarily by a local Community Mental Health agency that provides funding for mental health services through Medicaid or indigent funds.

The psychiatric diagnoses of clients at the CCM clinic are considered to be severe and persistent. Diagnoses include schizophrenia or schizoaffective disorder, bipolar disorder, and major depression. Approximately 85-90% of the clients are taking psychotropic medications to treat the symptoms of their illness. Many clients also have an Axis II diagnosis of a personality disorder. There are many clients with an Axis III medical illness of a chronic nature, e.g., hypertension, obesity, diabetes, cardiac condition, and/or chronic pain associated with musculoskeletal conditions. For those who do not have a co-morbid physical illness many clients have risk factors for developing a medical disease due to their lifestyle, poor nutritional habits, smoking, and long term use of psychotropic medications. The inter-disciplinary team members at the clinic were willing to consider the use of a screening tool with clients that included
physical assessment and a health-promotion action plan. Assessment of clients’ physical health status, identifying plans to address their physical health needs, and coordinating care with other community health care providers are relatively new requirements, mandated by an external agency, for clinic staff to address and document.

**Recruitment of Sample**

The case managers at the clinic evaluated their caseloads to select potential clients for participation in the project. While all clients were considered eligible to participate if they were not displaying signs of psychosis, the case managers identified those clients who appeared more at risk for developing a medical illness or already had an illness in addition to their psychiatric diagnosis. During the project recruitment period, which extended from February 25, 2013, to April 12, 2013, the case managers saw a total of 243 individual clients. Out of this total number of clients 26 individuals were recommended for participation in the project. Twenty of these individuals received a recruitment letter (Appendix B) at an appointment on site from their case manager or the project coordinator. The letter describes the project, what they could expect from participation in the project, and an invitation to participate. Five individuals received a phone call from their case manager or project coordinator to provide the project information and an invitation to participate if they did not have a scheduled appointment during the recruitment phase of the project. One individual could not be contacted by phone or in person to provide the information. Following receipt of the recruitment letter or phone contact and an opportunity to have questions answered about the project, clients indicated their willingness to participate or their decision to decline. For those who expressed interest in participating, appointments for an initial, follow-up, and final meeting were
scheduled through the project coordinator with support and assistance as needed from the program secretary.

**Project Sample**

Case managers recommended 26 individuals for participation in the project. They were taken from the total population of clients who are served by the CCM clinic. They were recommended based on the likelihood they would benefit from participating in the project and be willing to participate. The sample met the eligibility criteria for the project including the absence of psychotic symptoms at the time of recruitment for the project. One individual could not be contacted to explain the project despite five attempts to reach her; therefore, the recruitment process was never initiated with this client.

Following the recruitment process for the project, the initial pool of possible participants was 25 persons. Eight of these did not follow through with participation for various reasons. Four individuals declined to participate, one could not be contacted to schedule appointments despite several attempts to contact her, one person was hospitalized for psychiatric reasons, and two individuals did not keep their scheduled appointments despite being scheduled twice. Of those who declined to participate, two did not give a reason, one indicated she was interested in the project but could not commit to it due to the amount of time she needed to spend in school, and one individual declined due to her current medical health status and frequency of health care appointments.

The final sample of individuals who participated in the initial appointment and informed consent process was 17 persons. The sample included 11 females (65%) and six males (35%). Fifteen were white (88%) and two were African American (12%).
individual’s ethnic background was Portuguese. No one was identified as Hispanic. The age range of the sample was 23-60 years with a mean age of 42 years. Twelve of these individuals were diagnosed with bipolar disorder (70%), three with schizoaffective disorder (18%), and 2 with a mood disorder (12%). One person was diagnosed with an impulse control disorder (6%), and two with a developmental disorder (18%). Five (29%) individuals had a concurrent polysubstance use disorder (alcohol, cannabis, and/or cocaine). On Axis II, eight (47%) participants had a diagnosed personality disorder, one (6%) individual was diagnosed with mild mental retardation, and one (6%) with Attention Deficit Hyperactivity Disorder. All but one of the participants had medical diagnoses identified. These included being overweight, hypertension, diabetes, musculoskeletal problems/chronic pain, gastroesophageal reflux disease, and migraine headaches. One person in the final sample had a history of closed head injury.

Fourteen of the individuals from the original sample completed all three appointments for the project and are included in the final analysis. Out of the original 17 individuals, one was hospitalized for medical reasons and could not complete the project. One individual was hospitalized for psychiatric reasons and was not available to complete the final appointment. One individual did not keep her second appointment and, even though she indicated interest in completing the project when contacted, she did not follow through with scheduling the appointment. Table 1 contains data comparing the demographic characteristics of the participants in the original (n=17) and post-attrition (n=14) sample. The participants in the post-attrition sample have essentially the same characteristics as the original sample. The samples are not representative of the CCM clinic population for gender, age, ethnicity, and Diagnostic and Statistical Manual of
Mental Disorders (DSM-IV-TR) diagnoses (American Psychiatric Association, 2000). Compared to the clinic population there were more women, fewer men, fewer young people, and more white persons who participated in the project.

Table 1

*Participant Demographics before and after Attrition*

<table>
<thead>
<tr>
<th>Category</th>
<th>Original Sample n=17</th>
<th></th>
<th>Post-Attrition Sample n=14</th>
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<tr>
<td>Race</td>
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<tr>
<td>White</td>
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<td>82%</td>
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<td>79%</td>
</tr>
<tr>
<td>African American</td>
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<td>12%</td>
<td>2</td>
<td>14%</td>
</tr>
<tr>
<td>Other</td>
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<td>6%</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>35%</td>
<td>6</td>
<td>43%</td>
</tr>
<tr>
<td>Female</td>
<td>11</td>
<td>65%</td>
<td>8</td>
<td>57%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
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</tr>
<tr>
<td>18-24</td>
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<td>6%</td>
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</tr>
<tr>
<td>25-34</td>
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<td>1</td>
<td>7%</td>
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<td>7%</td>
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<td>0</td>
<td>0%</td>
<td>0</td>
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</table>

There are a total of nine case managers who work in the CCM clinic. Eight of them referred clients for participation in the project. One of them is the supervisor for the case management team and has a smaller caseload of clients. She did not have any identified clients to refer for this project. A total of seven case managers had clients who followed through with all three appointments for the project. The case managers who referred clients for participation in the project have 1-10 years of experience in the mental health field. The case manager who referred the majority of clients has 10 years of
experience. Their professional degrees include Licensed and Limited License Bachelor’s of Social Work degrees (LBSW and LLBSW), Licensed and Limited License Master’s of Social Work degrees (LMSW and LLMSW), and one person with a Temporary Limited License Psychology degree (TLLP). The case management supervisor who participated in the review of referrals and provided clinical oversight for the team has 18 years of experience in the mental health field and possesses LBSW and Limited License Professional Counselor degrees.

The project coordinator had the opportunity to work with the majority of case managers in a previous internship experience one year prior to the implementation of this project. The mutual relationships, trust, and respect that were developed through this experience were helpful in engendering support for this project and the recruitment of participants.

**Instruments and Measures**

Nine instruments were used to obtain the data for this project. These instruments included a Demographic Information Data Collection tool, the Physical Health Check (PHC) tool, a Self-Efficacy scale, Clinical Information Data Collection tools for initial, follow-up, and final appointments, and an Electronic Medical Record Data Collection tool. The project coordinator conducted a focus group meeting with case managers during the final week of the project. The purpose of the focus group was to obtain and record the case managers’ attitudes and observations about the value and effectiveness of the PHC tool, and the intentional focus on clients’ physical health needs and health promotion goals.
Demographic Information Data Collection Tool

The Demographic Information Data Collection tool (Appendix C) was used to record information regarding each participant. The information obtained included the numeric code that was assigned to clients to protect their identity and privacy, the date of their initial appointment with their case manager at the CCM clinic, their gender, age, race, Axis I-V diagnoses from the DSM-IV-TR (APA, 2000), and current medications prescribed. Smoking status was collected on this form as well as on the PHC tool.

Physical Health Check Tool

The PHC tool (Rethink Mental Illness, 2011) was used during the initial appointment with each participant. Permission for its use is in Appendix D. Data gathered and documented on this tool included information on clients’ general health and lifestyle, a symptoms checklist, screening checks routinely completed, an action plan for health-promotion, and perceptions of clients related to their satisfaction, concerns, and need for support regarding the physical health screening and action plan development process.

General health and lifestyle questions address areas such as the presence of any diagnosed physical illnesses and treatment, any disabilities or impairments, family history of physical illnesses, current medications prescribed, nutrition and physical activity, smoking and use of alcohol or recreational drugs, and any concerns clients had about their personal health. Two questions inquire about their perceived need for education on their medications or on the risk of sexually transmitted diseases.

The symptoms checklist section of the PHC tool requires the client to report the presence of various symptoms including increased thirst, frequent urination,
breathlessness, unexpected weight gain or loss, blackouts, constipation, sexual dysfunction, or chest pain. A body map is used to indicate areas where clients are experiencing pain or discomfort including skin, dental, ear problems, or incontinence. A description of clients’ intensity of pain or discomfort is documented, including the related frequency and impact on their lifestyle or activities of daily living.

The screening checks section of the PHC tool documents information about the dates of clients’ last visits to their Primary Care Provider, dentist, and ophthalmologist; when they last had their blood tested; and if they had ever had an electrocardiogram. Gender specific information obtained from women includes the date of their last cervical papanicolaou test, menstrual period, and mammogram if age 50 years or over, and the frequency of their periods and performance of self-breast exams. Gender specific information obtained from men includes how often they examine their testicles and when they had their last prostate screening test if age 50 years or over. Clients’ height, weight, Body Mass Index (BMI), waist circumference, and blood pressure are also recorded on the tool.

The action plan is included in the final section of the PHC tool. In collaboration with the clients, their health needs were identified and prioritized, and one health-promotion activity was identified and agreed upon by the client and documented in this section of the tool. Final information documented on the tool includes clients’ perceptions of satisfaction with the agreed upon action plan, any concerns they had regarding their ability to follow through on the action plan, and any additional support they felt they needed to be successful in carrying out their action plan.
The PHC tool does not include any scoring mechanism or ranking of answers. It is a tool used to document the physical health status and needs of clients, similar to a review of systems. It includes an action plan to address prioritized physical health care needs.

The PHC tool is currently being used by an organization called Rethink Mental Illness in collaboration with Dr. Michael Phelan, one of the original developers of the tool, and in collaboration with an expert steering group (Rethink Mental Illness, 2011). There are no data available to document the validity and reliability of this tool. Face validity through the agreement of a group of experts was used to determine the effectiveness of this tool for the purposes of this project.

Self-Efficacy Scale

The “Self-Efficacy for Managing Chronic Disease 6-Item Scale” (Lorig, et al., 2001) includes six items on which clients rate their perception of self-confidence (Appendix E). Clients’ responses on each of the six items are measured on a 10-point scale with “1” signifying a lack of confidence in their perceived ability for that item, and “10” signifying total confidence in their ability. They rate their perceptions on any number between “1” and “10” by circling the number that best represents their level of self-confidence at the time. Ten is the maximum score allowable for each individual item and for the total score. Scores are calculated by adding up the total ratings for each individual item and dividing by the total number of items scored, typically six items. The potential range of total scores is from 1-10. The mean score represents the overall score for the self-efficacy scale completed by participants at their initial and final appointments. Higher mean scores indicate higher levels of self-efficacy while lower
mean scores reflect lower self-efficacy. Four of the six items on the scale address perceptions of self-confidence related to clients’ ability to keep fatigue, physical pain or discomfort, emotional distress, or other symptoms or health problems resulting from their disease, from interfering with the things they want to do, e.g., their health-promotion action plan. The final two items address clients’ perceived confidence in their ability to perform the different tasks and activities needed to better manage their health condition, and their belief that these health-promotion activities could reduce illness symptoms affecting their everyday life.

The 6-item self-efficacy scale with a 10-point rating scale for responding to the six items has been tested on 605 subjects with chronic disease. Internal consistency reliability is found to be .91 and the test-retest reliability is reported as not applicable (Lorig et al., 2001). Using the Cronbach’s Alpha, the reliability rating in this project for the pre-test completed by the original sample of 17 individuals was .95. The reliability rating for the post-test completed by the remaining 14 individuals was .94.

**Clinical Information and Data Collection Tools**

The Clinical Information Data Collection tools included a tool for collecting data at the initial appointment (Appendix F), follow-up appointments (Appendix G), and the final appointment (Appendix H). The initial appointment tool was used to document results obtained through the completion of the PHC tool. Measures that were included in this clinical data set were the client’s code number, date of appointment, gender, age, race, height, weight, BMI, waist circumference, and blood pressure. If results of blood glucose and/or Glycosylated Hemoglobin (HgbA1c) were obtained as part of clients’ services with the CCM clinic, these measures were also included in the clinical data set,
including the date when the blood was collected. The self-efficacy score obtained at the initial appointment was also included on this data collection tool.

The clinical information data collection tool used for follow-up appointments recorded clients’ code number, date of appointment, and their perception of the estimated percentage of progress toward their specific action plan goal. Clients rated progress towards their health-promotion goals according to a 5-point scale. Each score represented the number of times the participant performed the health-promoting behavior since the previous appointment. A score of “1” indicated participants did not perform the health-promoting behavior. A score of “2” indicated the behavior was performed 1-2 times, a score of “3” indicated 3-4 times, and a score of “4” indicated five or more times. A score of “5” indicated participants met or exceeded the number of times they performed the behavior stated in the original health-promotion goal since the previous appointment. The tool also recorded any barriers clients’ were experiencing that were getting in the way of their progress, whether or not they believed the goal was too difficult and needed to be modified, factors that helped them with their progress, and any resources or support they believed they needed to help them with continued goal achievement.

The clinical information data collection tool used for the final appointment included clients’ code number, date of appointment, and a re-measurement of their height, weight, BMI, waist circumference, and blood pressure. If a blood glucose and/or HgbA1c level had been drawn since their initial appointment this information was also recorded on the tool, including the date the blood was drawn. Clients’ reports of the estimated percentage of progress made towards their action plan goals since the previous
appointment were recorded using the same 5-point scale as described for the follow-up appointments. The tool also recorded clients’ perceived barriers to progress, factors that helped them with their progress, and any resources or support they believed they needed to help them with continued progress. A repeat self-efficacy score was also recorded on this tool.

**Electronic Medical Record Data Collection Tool**

The Electronic Medical Record Data Collection tool (Appendix I) was used to document the presence or absence of documentation regarding the action plan developed by the client and project coordinator. The documentation of the action plan was intended to be present as an addendum to clients’ person-centered treatment plans and addressed by case managers in their progress notes following individual appointments with clients. The scoring of this tool included the percentage of overall compliance with the documentation by case managers in the treatment plan and progress notes. A score of 90% or greater was expected for the sum total of all clients participating in this project.

**Focus Group with Case Managers**

A focus group was conducted with case managers by the project coordinator during the last week of the project. Questions (Appendix J) were asked of the case managers in an open ended dialogue to determine their perceptions and attitudes towards the use of the PHC tool, the process of documenting clients’ physical health care needs and related action plans in their clinical records, and the intentional focus by the project coordinator on clients’ physical health needs and related health-promotion goals. Notes were taken by the project coordinator during the focus group. The case managers’
responses were recorded in narrative fashion by the project coordinator using several specific quotes.

Procedures

Informed Consent Procedures

Prior to implementation, this project was approved through the Human Research Review Committee at Grand Valley State University (Appendix K). During the initial appointment with clients the project coordinator reviewed the information about the project outlined on the Informed Consent form (Appendix L) and answered any questions they had about the project and their participation in it. As part of this process the potential risks and benefits for participating in the project were explained. The risks involved with participation were minimal; however, they included the potential for a breach of confidentiality and privacy with clients’ personal health status and demographic information collected for this project. All efforts were taken to ensure that this did not occur and that clients’ individual and personal information was kept strictly confidential. Each piece of paper used for data collection with clients was coded with a number that did not reveal their identity. A separate page listing clients’ names with their corresponding code numbers was kept locked in a secure location and was destroyed at the completion of this project. Potential benefits for participation in this project included the opportunity for clients to learn more about their health and for the project coordinator to learn more about how to integrate physical health needs into the health care of adults with severe mental illness.

Once the explanation of the project was provided to clients and any questions they had were answered, the project coordinator obtained their signature on the informed
consent form signifying their agreement to participate in the project. A copy of the signed form was given to the client. Clients were informed that they could terminate their participation in the project at any time without affecting their treatment and services at the CCM clinic.

An informed consent process was also conducted with the case managers at the beginning of the project to obtain their voluntary written agreement to participate. The project coordinator reviewed the information contained in the Informed Consent Form for Case Managers (Appendix M) and answered any questions they had about the project. Their consent included consent to participate in the focus group conducted at the end of the project. Their consent also included an understanding that the project coordinator would be conducting chart audits at the completion of the project to evaluate the presence or absence of documentation on clients’ physical health needs, their health promotion goal, and their progress towards their goal.

**Initial Appointment Procedures**

Following the initial appointment with clients the project coordinator collected their demographic data from the electronic health record (EHR). The data reported by clients on their current medication list was validated by the medication list in their EHR.

During the initial appointment with clients the project coordinator asked them the questions contained in the PHC tool and recorded their answers directly on the paper tool. Information on clients’ height, weight, BMI, and waist circumference were obtained and documented on the tool by the project coordinator. Clients used the tool to document their level of pain or discomfort using the body map in the “Symptoms Checklist” section of the tool by writing consecutive numbers on the map to indicate the location of their
pain or discomfort, e.g., 1, 2, and 3 to indicate three different locations where they were experiencing pain. Using these numbers from the body map, the project coordinator documented the intensity, frequency, and impact of the pain or discomfort on clients’ lifestyle on the table provided below the map.

Once the comprehensive screening process was completed the project coordinator collaboratively discussed with clients their prioritized health care needs and documented the information in the action plan section of the PHC tool. Health promotion strategies designed to mitigate the risk of disease or to reduce the burden of existing disease were discussed with the client. An action plan identifying at least one health-promoting behavior the client was willing to engage in was documented on the tool, including when the action would take place, how the client would follow up on the plan (i.e., progress discussed with the project coordinator and/or case manager at regularly scheduled appointments), and any other comments related to the action plan.

Following completion of the PHC tool and action plan development, the project coordinator provided clients with a copy of the self-efficacy scale and explained how to complete it. Clients used the scale to rate their level of self-confidence on each of the six items listed. The project coordinator used the responses to determine the self-efficacy score. The score was written on the scale and was used to evaluate the client’s level of self-efficacy for effectively accomplishing the agreed upon action plan. Results of this evaluation determined further client needs, e.g., education, community resources, supportive communication, or participation in educational groups offered by the CCM clinic case managers.
Communication of Health Needs and Action Plans with the Treatment Team

Following the initial appointment with clients the project coordinator communicated to the case managers, via confidential electronic mail messages, the prioritized health care needs, agreed upon health promotion goal, and the date and time of the next scheduled appointment between the client and project coordinator. The case manager used this information to support clients with their physical health care goals during their routine appointments with clients. The project coordinator filed the completed PHC tool in the client’s paper medical record in the “Medical Information” section.

Follow-up and Final Appointment Procedures

At the end of the initial appointment with clients the project coordinator mutually established a scheduled follow-up appointment. Regularly scheduled appointments between clients and case managers rarely exceed one month and are often scheduled every 1-2 weeks. The project coordinator made every effort to schedule appointments with clients immediately before or after their scheduled appointments with case managers to alleviate any burden on the part of clients with their schedules and transportation to the CCM clinic. Bus tickets were provided to one client, as a resource from the CCM clinic with the approval of the case manager, to assist with transportation to and from the clinic for appointments. Two follow-up appointments were scheduled with each client during the course of this project. The focus of these appointments was on discussing clients’ progress with their action plan, any barriers or challenges they were encountering, whether or not the goal needed to be modified in some way to make it more achievable, and any additional resources or support they believed they needed to help them
successfully accomplish their goals. The final appointment also included a re-
measurement of clients’ height, weight, BMI, waist circumference, blood pressure, and self-efficacy score. If blood glucose and/or HgbA1c levels were drawn since the initial appointment these values were also documented at the final appointment, including the date when the blood was drawn. Information obtained during the follow-up and final appointments with clients was communicated to case managers by the project coordinator in a confidential electronic mail message.

**Managing Data and Outcomes**

Information obtained from clients and/or their medical records was entered into the appropriate data collection tool by the project coordinator. Data related to clients included demographic data, clinical health indicators, self-efficacy scores, progress towards health-promotion goals, barriers and supports to help them with their progress, and whether or not their goal needed to be modified to make it more achievable. This information was obtained directly from clients by the project coordinator during their follow-up appointments. The frequency and amount of tobacco used by clients, if any, were recorded on the PHC tool and used as part of the data analysis for this project.

Data related to case managers included compliance with documentation of clients’ action plans and progress towards their specific health promotion goals. The project coordinator conducted a record review for all project participants to determine the presence or absence of the health promotion goal being incorporated into their treatment plans, and clients’ progress towards their goals documented in case managers’ progress notes. This information was recorded on the Electronic Medical Record Data Collection tool. The tool did not include the names of the case managers in order to protect their
confidentiality. Information assigned to individual case managers was documented according to an alpha code that was randomly chosen for each of them. Documentation to indicate which code correlated with each case manager was kept in a secure, locked location and was not copied or distributed to anyone. This list was destroyed upon completion of the project.

The case managers’ perceptions and attitudes towards the use of the PHC tool and focus on clients’ progress with health promotion goals were obtained in a focus group conducted by the project coordinator during the last week of the project. Four of the seven case managers who had clients who completed the project participated in the focus group. Two of the case managers were on vacation at the time of the scheduled focus group and one case manager had previously resigned from the clinic to pursue other employment. The focus group was held during one of the scheduled staff meetings at the CCM clinic. Questions used for discussion (Appendix J) focused on case managers’ perceptions of the value and effectiveness of the PHC tool, and the intentional focus on clients’ physical health care needs and health-promotion goals. The case managers’ thoughts about continuing to use the tool as part of their ongoing work with clients were also obtained and recorded. A narrative summary of responses was recorded by the project coordinator.
CHAPTER 5
RESULTS

The proposed questions to be answered by this scholarly project were focused on the clients and the case managers. The first question was whether or not the use of the Physical Health Check (PHC) tool for adults with a severe mental illness (SMI) and development of a health promotion goal would result in clients making positive lifestyle changes to benefit their physical health. The second question was whether or not the case managers would perceive the use of the PHC tool and intentional focus on clients’ physical health status as valuable and acceptable as part of the overall treatment plan for clients, and would incorporate the tool into their day-to-day work with clients over time.

Health Status of Sample

The health status of the final \( n=17 \) and post-attrition samples \( n=14 \) are noted in Table 2 with diagnoses listed for each individual according to Axis I-III from the DSM-IV-TR. The majority of individuals in both samples were diagnosed with Bipolar Disorder with approximately one-third having a secondary Axis I diagnosis of poly-substance abuse or dependence. A few individuals were diagnosed with schizoaffective disorder \( n=3 \) or a mood disorder \( n=2 \), and two were diagnosed with an impulse control or developmental disorder. More than half of the sample were diagnosed with an Axis II personality disorder and all but one individual had at least one diagnosed medical condition (Axis III). The top three medical conditions for the original sample included being overweight \( n=6 \), musculoskeletal conditions and related chronic pain \( n=5 \), and migraine or cluster headaches \( n=4 \). In the post-attrition sample the top two medical conditions included being overweight \( n=5 \) and musculoskeletal conditions and
Table 2

Participant Health Status before and after Attrition

<table>
<thead>
<tr>
<th>Category</th>
<th>Original Sample</th>
<th>Post-Attrition Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=17</td>
<td>n=14</td>
</tr>
<tr>
<td>Axis I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bipolar Disorder</td>
<td>12 71%</td>
<td>9 64%</td>
</tr>
<tr>
<td>Schizoaffective Disorder</td>
<td>3 18%</td>
<td>3 21%</td>
</tr>
<tr>
<td>Mood Disorder</td>
<td>2 12%</td>
<td>2 14%</td>
</tr>
<tr>
<td>Poly Substance Abuse</td>
<td>4 24%</td>
<td>3 21%</td>
</tr>
<tr>
<td>Impulse Control/Developmental Disorder</td>
<td>2 2%</td>
<td>1 7%</td>
</tr>
<tr>
<td>ADHD</td>
<td>1 6%</td>
<td>0 0%</td>
</tr>
<tr>
<td>Axis II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borderline Personality Disorder</td>
<td>5 29%</td>
<td>5 36%</td>
</tr>
<tr>
<td>Other Personality Disorder</td>
<td>3 18%</td>
<td>3 21%</td>
</tr>
<tr>
<td>Mild MR/Borderline Intellectual Functioning</td>
<td>2 65%</td>
<td>1 7%</td>
</tr>
<tr>
<td>Axis III</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td>2 12%</td>
<td>1 7%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>3 18%</td>
<td>3 21%</td>
</tr>
<tr>
<td>Overweight</td>
<td>6 35%</td>
<td>5 36%</td>
</tr>
<tr>
<td>Chronic Pain/Musculoskeletal</td>
<td>5 29%</td>
<td>5 36%</td>
</tr>
<tr>
<td>Gastrointestinal/GERD</td>
<td>3 18%</td>
<td>3 21%</td>
</tr>
<tr>
<td>Migraines/Head Injuries</td>
<td>4 23%</td>
<td>3 21%</td>
</tr>
<tr>
<td>Hypothyroidism</td>
<td>1 6%</td>
<td>1 7%</td>
</tr>
<tr>
<td>“Kidney Problems”</td>
<td>1 6%</td>
<td>0 0%</td>
</tr>
</tbody>
</table>

related chronic pain (n=5). The medical conditions comprising the third highest prevalence were migraine or cluster headaches (n=3), hypertension (n=3), and gastrointestinal symptoms (n=3). Two individuals were diagnosed with diabetes in the original sample and one remained in the post-attrition sample.

The majority of individuals who participated in this project had psychosocial and environmental factors (Axis IV) that contributed to their current level of functioning.
These included strained family relationships, lack of social support, loss of employment, and/or financial difficulties. Two individuals were homeless and were in the process of seeking temporary housing through the support of their case managers.

Incidental information collected as part of this project included the smoking status of each participant. Smoking status is significant for this population of adults with SMI and is often related to their physical health concerns. Of the final sample of 17 individuals, nine (53%) identified themselves as current smokers, five (29%) as former smokers who had successfully quit smoking, and three (18%) were never smokers. Of the post-attrition sample of 14 individuals, seven (50%) identified themselves as current smokers, four (29%) as former smokers who quit between several weeks to 11 years ago, and three (21%) as having never smoked with no plans to start. Two individuals indicated a desire to quit smoking while the remaining five individuals who smoked did not see this as a goal at this time in their lives.

The use of psychiatric medications can contribute to the development of Metabolic Syndrome that is characterized by an increase in weight, Body Mass Index, and waist circumference. The majority of participants in this study had an Axis III diagnosis of being overweight. The number of psychiatric medications prescribed for the clients who participated in this project ranged from two to seven medications. The mean number of psychiatric medications for both the original and post-attrition samples was 4.1. The number of medications prescribed to treat the various medical conditions for the sample, as documented in their medical records, ranged from zero to ten. The mean number of these medications for the original sample was 4.3, while the mean for the post-attrition sample was 4.6.
Health Promotion Goals for Lifestyle Changes

Clients were asked to identify one health-promotion goal they were willing to work on over the course of the five to seven weeks that they participated in the project. The majority of goals were related to lifestyle changes clients wished to make in order to improve their health status. Two main themes emerged from the selected goals. These were the use of exercise or modification of eating habits in order to lose weight. These goals are listed in Table 3. Additional goals selected by clients focused on reducing their intake of unhealthy foods ($n=3$), eating healthy meals ($n=2$), and reducing or quitting smoking ($n=2$).

Table 3

Participant Health-Promotion Goals

<table>
<thead>
<tr>
<th>Category</th>
<th>Post-Attrition Sample</th>
<th>$n$</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise</td>
<td></td>
<td>8</td>
<td>57%</td>
</tr>
<tr>
<td>Exercise 5-10 minutes per day 5x/week</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercise ½ hour 2x/week</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercise ½ hour 4x/week (pre-attrition sample)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participate in aerobics class 3x/week (pre-attrition sample)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercise ½ hour 7x/week (walking or Wii Fit)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk 10-15 minutes per day 4x/week</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercise at the YMCA 3x/week</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercise at least 2x/week (YMCA or alternative)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercise at YMCA at least 4x/week (up from 2x/week)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk ½ hour at least 2x/week</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight Loss</td>
<td></td>
<td>2</td>
<td>14%</td>
</tr>
<tr>
<td>Lose 10-20 pounds in 3 months</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lose weight by eliminating fried foods and eating only 1 small snack after dinner each evening</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Self-Efficacy

The 6-item self-efficacy scale was given to clients at the end of their initial and final appointments with the project coordinator. The scale was intended to measure clients’ overall confidence level in their ability to accomplish their health-promotion goals despite various symptoms they experienced as a result of their physical and/or psychiatric conditions, or their prescribed medications.

Table 4 shows the scores for the post-attrition sample who completed the self-efficacy scale at the initial and final appointments. Utilizing clients’ individual scores on the pre- and post-health promotion goal implementation self-efficacy scale the ranges and median were calculated and are noted in the Table. Lower scores equate to a lower level of self-efficacy. Clients’ perceptions of their ability to keep their fatigue and physical discomfort from interfering with their health-promotion goals increased by the final appointment as noted by the increase in the median self-efficacy scores. The median scores were relatively high (7-8.5) on the two items related to clients’ perceived ability to keep their emotional distress or other symptoms associated with health problems from interfering with their goal accomplishment. In addition, the median scores for the final two items reflected clients’ perceptions that they could manage the symptoms of their illness without needing to seek additional medical care or medications. The median scores for three of these four items remained the same between the pre-test and the post-test, and the item reflecting clients’ perceptions of their ability to keep symptoms and health issues other than their psychological concerns from interfering with their goal accomplishment increased.
<table>
<thead>
<tr>
<th>Self-Efficacy Scale Individual Items</th>
<th>Pre-test Item Range</th>
<th>Post-test Item Range</th>
<th>Pre-test Item Median</th>
<th>Post-test Item Median</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=14</td>
<td>n=14</td>
<td>n=14</td>
<td>n=14</td>
</tr>
<tr>
<td>1. How confident are you that you can keep the <strong>fatigue</strong> caused by your disease from interfering with the things you want to do?</td>
<td>1-10</td>
<td>1-10</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>2. How confident are you that you can keep the <strong>physical discomfort</strong> or pain of your disease from interfering with the things you want to do?</td>
<td>1-10</td>
<td>2-10</td>
<td>6</td>
<td>8.5</td>
</tr>
<tr>
<td>3. How confident are you that you can keep the <strong>emotional distress</strong> caused by your disease from interfering with the things you want to do?</td>
<td>1-10</td>
<td>3-10</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>4. How confident are you that you can keep any <strong>other symptoms or health problems</strong> you have from interfering with the things you want to do?</td>
<td>1-10</td>
<td>3-10</td>
<td>6.5</td>
<td>8</td>
</tr>
<tr>
<td>5. How confident are you that you can do the different tasks and activities needed to manage your health condition so as to <strong>reduce your need to see a doctor</strong>?</td>
<td>1-10</td>
<td>1-10</td>
<td>8.5</td>
<td>8.5</td>
</tr>
<tr>
<td>6. How confident are you that you can <strong>do things other than just taking medication</strong> to reduce how much your illness affects your everyday life?</td>
<td>1-10</td>
<td>3-10</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

Total Scale Median Score

6.75 8

*Note:* For items 1 and 2 only 13 respondents completed these on the pre-test.
The total overall scores increased from the pre- to the post-health promotion goal implementation for nine (64%) participants, while the overall scores remained the same for two (14%) participants and decreased for three (21%) participants. These results are shown in Table 5. Fatigue and/or physical discomfort as a result of physical health concerns were the items the majority of clients scored with the lowest self-efficacy ratings on the initial self-efficacy scale completion (pre-test). Emotional symptoms associated with clients’ psychiatric illnesses were scored with lower self-efficacy ratings for four individuals on the pre-test and for two individuals on the post-test.

The most common reasons clients reported as contributing to their fatigue or physical discomfort were musculoskeletal problems or chronic headaches. One participant reported periodic fatigue and discomfort due to pregnancy. One participant reported the lowest possible self-efficacy ratings on all six items due to her emotional distress and psychiatric symptoms on the initial self-efficacy scale completion. She reported higher self-efficacy scores on each of the six items after discontinuing her psychotropic medications under medical supervision. She reported that the amount of medications she had been taking contributed to her emotional distress and lack of confidence in her ability to perform her health-promotion goal. When the medications were discontinued she felt her symptoms, along with her self-efficacy level, improved.

Several individuals reported higher self-efficacy related to their perceived ability to accomplish their goals through their personal lifestyle changes rather than relying on primary care providers and/or medications to assist them. Two individuals indicated a greater need for support from their primary care providers due to current physical health concerns that needed attention. One of these participants was also experiencing a higher
Table 5

*Post-Attrition Sample Change in Pre- and Post-Project Implementation Self-Efficacy Scores*

<table>
<thead>
<tr>
<th>Self-Efficacy Scale Individual Items</th>
<th>Clients with ↑ scores n (%)</th>
<th>Clients with same scores n (%)</th>
<th>Clients with ↓ scores n (%)</th>
<th>Clients with no pre-score n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How confident are you that you can keep the <strong>fatigue</strong> caused by your disease from interfering with the things you want to do?</td>
<td>9 (64%)</td>
<td>4 (29%)</td>
<td>0 (0%)</td>
<td>1 (7%)</td>
</tr>
<tr>
<td>2. How confident are you that you can keep the <strong>physical discomfort</strong> or pain of your disease from interfering with the things you want to do?</td>
<td>9 (64%)</td>
<td>3 (21%)</td>
<td>1 (7%)</td>
<td>1 (7%)</td>
</tr>
<tr>
<td>3. How confident are you that you can keep the <strong>emotional distress</strong> caused by your disease from interfering with the things you want to do?</td>
<td>7 (50%)</td>
<td>5 (36%)</td>
<td>2 (14%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>4. How confident are you that you can keep any <strong>other symptoms or health problems</strong> you have from interfering with the things you want to do?</td>
<td>7 (50%)</td>
<td>3 (21%)</td>
<td>4 (29%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>5. How confident are you that you can do the different tasks and activities needed to manage your health condition so as to <strong>reduce your need to see a doctor</strong>?</td>
<td>6 (43%)</td>
<td>5 (36%)</td>
<td>3 (21%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>6. How confident are you that you can <strong>do things other than just taking medication</strong> to reduce how much your illness affects your everyday life?</td>
<td>6 (43%)</td>
<td>4 (29%)</td>
<td>3 (21%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Total Self-Efficacy Score</td>
<td>9 (64%)</td>
<td>2 (14%)</td>
<td>3 (21%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>
degree of emotional distress related to legal charges and time spent in jail.

A paired $t$-test was run on the difference between the pre- and post-self-efficacy scale total scores. The $t$-test demonstrated a significant increase ($p < 0.05$) in the overall self-efficacy levels of clients related to their perceived ability to accomplish their health-promotion goals. Table 6 shows the statistical results of this analysis.

Table 6

*Self-Efficacy Total Scores Analyzed Using the Paired $t$-Test (n=14)*

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>$t$-Test Score</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Scores for Pre-</td>
<td>1-10</td>
<td>6.55</td>
<td>2.56</td>
<td>-2.284</td>
<td>.040</td>
</tr>
<tr>
<td>Self-Efficacy Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Scores for Post-</td>
<td>1-10</td>
<td>7.39</td>
<td>2.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Efficacy Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Barriers, Facilitators, and Progress Toward Goals**

After the initial appointment two follow-up appointments were planned between the project coordinator and each participant. Out of the original sample two individuals did not keep or schedule their follow-up appointments. One of these individuals indicated interest in the project but did not follow through on scheduling appointments. The other individual was hospitalized for medical reasons and did not return a phone call regarding her interest in scheduling a follow-up appointment after she was discharged from the acute care setting. A third person from the original sample kept her follow-up appointment but did not follow through with the final appointment due to being hospitalized for a relapse in her psychiatric symptoms. The remaining 14 participants from the original sample followed through with the initial and two follow-up
appointments. Each appointment was scheduled 10 days to 2½ weeks apart depending upon the participants’ availability. Initial appointments were 50 minutes to 75 minutes in length and the two follow-up appointments were 20-30 minutes in length.

During the follow-up appointments participants discussed performance of their goals since the previous meeting. They also highlighted barriers and facilitators to their progress, and any resources or support they felt they needed to be successful with goal accomplishment. Table 7 shows participants’ ratings of goal performance from the follow-up appointment to the final appointment. At the follow-up appointment three participants reported that they had not worked on their goal activities. At the final appointments all participants were performing their goal activities or exceeding goal performance. Eight participants showed increased performance between the follow-up to final appointments and six participants reported the same amount of progress from one appointment to the next. All participants actively worked on their health-promotion goals throughout the course of this project.

Barriers to making progress towards health-promotion goals were identified by 11 of the 14 participants who completed the project. The top three barriers most frequently cited during the follow-up and/or final appointments included (a) poor weather (February and March) that decreased motivation to accomplish outdoor exercise, (b) transportation or financial constraints that made it more challenging to purchase healthy foods or go to the YMCA for exercise, and (c) medical conditions that made exercise more difficult to accomplish. Additional barriers included distractions and “being preoccupied with other things,” not having an exercise partner to help with motivation, and recognizing a poor
lifestyle choice, e.g., cigarette smoking, as a “bad habit” that had become a normal part of daily living. During the follow-up appointment when asked if they felt their goals were

Table 7

Post-Attrition Sample Ratings on Progress Toward Goals

<table>
<thead>
<tr>
<th>Participant #</th>
<th>Progress Rating Follow-up Appointment</th>
<th>Progress Rating Final Appointment</th>
<th>Amount of Change</th>
<th>Direction of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>↑</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>↑</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>↑</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>↑</td>
</tr>
<tr>
<td>9</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>↑</td>
</tr>
<tr>
<td>11</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>↑</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>↑</td>
</tr>
<tr>
<td>14</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>↑</td>
</tr>
</tbody>
</table>

too difficult and needed to be modified, 13 of the 14 participants said “no, it wasn’t too difficult to accomplish.” One participant modified her goal slightly due to an increase in her psychiatric symptoms that became a barrier for her. She was able to successfully accomplish her original goal by the final appointment.

Facilitators to goal accomplishment cited most frequently by participants included a sense of motivation for accomplishing their goal. One individual said, “I set my mind to it and am sticking with it!” Another individual said, “I get my mind to it and go out there and do it.” Several other participants indicated motivation to accomplish their goal
was what kept them focused on daily progress. Writing down goals, utilizing positive self-talk and relaxation techniques, and enlisting the support of family, friends, and/or community resources helped with goal accomplishment. When the weather improved this was also cited as a facilitator to goal progress for those who planned routine outdoor exercise. Use of the local YMCA was also helpful to several individuals when they had the resources to purchase a membership and had transportation to the facility.

The most frequently cited resources participants indicated they needed to assist them with their goals included ongoing support from family members, friends, the project coordinator and/or case manager, and community support groups or other professionals in the community. Two individuals requested a phone call from the project coordinator between the follow-up and final appointments to check in with them on their goal progress and to offer encouragement and support. One of the individuals was contacted for a 5-minute phone conversation and a voice mail message was left for the other individual who was not available when contacted.

The majority of participants demonstrated progress towards their goals over the course of the five to six weeks they were involved in the project. Participants’ comments were not solicited on the data collection tools used in this project; however, several clients spontaneously reported that they found value in the use of the PHC tool and intentional focus on their physical health needs and health-promotion goal progress. All of them expressed motivation to continue making healthy lifestyle changes and to continue with their health-promotion goals following the conclusion of the project.
Clinical Health Indicators

During the initial and final appointments clinical health indicators were again measured for each participant. These included height, weight, a BMI calculation, waist circumference, and blood pressure. Two individuals reported improvement in their blood glucose and HgbA1c results over the course of the project as measured by their primary health care provider in the community. The laboratory results for these tests were not available for review by the project coordinator.

Positive changes were noted in the clinical health indicators between the initial and final appointments for several participants. Table 8 shows the changes in weight, BMI, waist circumference, and blood pressure (B/P) for each participant.

Weight loss for 11 participants ranged from 1 to 8.5 pounds, with five individuals each losing 5 or more pounds. Two individuals gained between 2 to 4 pounds. One individual was pregnant and gained 11.5 pounds. The BMI results varied with the statistics for weight loss with 11 participants realizing a decrease in their BMI, two a very slight increase, and one a greater increase (1.67) due to pregnancy. Despite the fact that weight loss was only stated as a goal for two of the participants, eight of them focused on exercise-related goals that likely contributed to their weight loss. Even though changes in weight and BMI were realized none were significant.

Ten participants experienced a reduction in waist circumference that ranged from 0.75 to 2.5 inches. One person’s waist circumference increased by 0.5 inch, and the individual who was pregnant experienced an increase in waist circumference by 1.25 inches. One individual’s waist circumference stayed the same and one had missing data from the initial appointment.
Blood pressure (B/P) readings between the two appointments did not show a
demonstrable change. In one case, the individual had B/P readings of 139/91 and 143/94.
These results were reported to the clinic nurses for follow-up. At the final appointment Table 8

Post-Attrition Sample Health Indicators Pre- and Post-Project Implementation

<table>
<thead>
<tr>
<th>Client #</th>
<th>Ht (In.)</th>
<th>Pre-Wt (Lbs)</th>
<th>Post-Wt (Lbs)</th>
<th>Pre-BMI</th>
<th>Post-BMI</th>
<th>Pre-Waist Circ</th>
<th>Post-Waist Circ</th>
<th>Pre-B/P</th>
<th>Post-B/P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>67</td>
<td>195</td>
<td>194</td>
<td>30.54</td>
<td>30.38</td>
<td>N/A</td>
<td>39.5</td>
<td>138/90</td>
<td>129/75</td>
</tr>
<tr>
<td>2</td>
<td>67</td>
<td>200</td>
<td>193</td>
<td>31.32</td>
<td>30.22</td>
<td>45</td>
<td>44</td>
<td>122/84</td>
<td>122/79</td>
</tr>
<tr>
<td>3</td>
<td>64</td>
<td>180</td>
<td>173</td>
<td>30.89</td>
<td>28.79</td>
<td>39.5</td>
<td>38</td>
<td>139/91</td>
<td>143/94</td>
</tr>
<tr>
<td>4</td>
<td>64</td>
<td>193</td>
<td>197</td>
<td>33.12</td>
<td>33.81</td>
<td>45.5</td>
<td>43</td>
<td>133/87</td>
<td>125/86</td>
</tr>
<tr>
<td>5</td>
<td>65</td>
<td>190.5</td>
<td>192.5</td>
<td>31.7</td>
<td>32.03</td>
<td>42.75</td>
<td>43.25</td>
<td>N/A</td>
<td>129/86</td>
</tr>
<tr>
<td>6</td>
<td>64</td>
<td>233.5</td>
<td>225</td>
<td>40.08</td>
<td>38.62</td>
<td>48</td>
<td>48</td>
<td>125/83</td>
<td>135/87</td>
</tr>
<tr>
<td>7</td>
<td>75.5</td>
<td>254</td>
<td>251</td>
<td>31.33</td>
<td>30.96</td>
<td>47</td>
<td>45.5</td>
<td>136/96</td>
<td>143/94</td>
</tr>
<tr>
<td>8</td>
<td>60.5</td>
<td>209</td>
<td>206.5</td>
<td>40.14</td>
<td>39.66</td>
<td>44</td>
<td>43</td>
<td>104/68</td>
<td>122/72</td>
</tr>
<tr>
<td>9</td>
<td>60</td>
<td>181.8</td>
<td>180</td>
<td>35.49</td>
<td>35.15</td>
<td>37</td>
<td>35.5</td>
<td>133/85</td>
<td>134/85</td>
</tr>
<tr>
<td>10</td>
<td>69.7</td>
<td>165.5</td>
<td>177</td>
<td>23.91</td>
<td>25.58</td>
<td>35.75</td>
<td>37</td>
<td>131/81</td>
<td>121/81</td>
</tr>
<tr>
<td>11</td>
<td>72.7</td>
<td>234</td>
<td>233.5</td>
<td>31.08</td>
<td>31.02</td>
<td>44.75</td>
<td>44</td>
<td>118/75</td>
<td>112/76</td>
</tr>
<tr>
<td>12</td>
<td>71</td>
<td>224</td>
<td>219</td>
<td>31.24</td>
<td>30.54</td>
<td>46.5</td>
<td>45.75</td>
<td>145/100</td>
<td>126/86</td>
</tr>
<tr>
<td>13</td>
<td>63.2</td>
<td>152</td>
<td>148</td>
<td>26.71</td>
<td>26.01</td>
<td>35</td>
<td>32.5</td>
<td>139/95</td>
<td>144/96</td>
</tr>
<tr>
<td>14</td>
<td>64.2</td>
<td>119</td>
<td>112</td>
<td>20.27</td>
<td>19.07</td>
<td>30</td>
<td>29.25</td>
<td>130/84</td>
<td>142/92</td>
</tr>
</tbody>
</table>

the client reported that she had recently started taking antihypertensive medication as
prescribed by her primary care provider. In another case an individual’s initial B/P reading was 145/100. The client reported that he occasionally forgets to take his
antihypertensive medication and had forgotten to take it that morning. This was reported
to the clinic nurses and case manager who followed up by assisting the client with
medication set-up assistance and reminders to take his medication. By the final
appointment his B/P was 126/86 and he indicated he had been compliant with taking his
medication consistently as prescribed.
Role of Case Managers in Supporting Clients’ Goals

Case managers take an active role in working with clients towards goal achievement. Often this involves mental health-related goals, employment, financial assistance, community resources and support, and educational goals. Throughout the course of the project the project coordinator provided written updates to the case managers via confidential electronic mail regarding their clients’ health-promotion goals, progress made towards goal achievement, and resources needed to assist them with their progress. The project coordinator was available on site for partial or full days, two to three days per week throughout the project implementation, and was available to discuss clients’ progress or resource needs in person.

Case managers were asked to document clients’ health-promotion goals in the treatment plan in the electronic health record (EHR). They were also asked to document discussions with clients in the progress notes regarding their goals, progress made, and resources needed as part of their routine appointments. Out of the 17 participants in the original sample who developed a health-promotion goal, there was one instance of a case manager documenting the goal in the treatment plan (6%). Progress notes from appointments between the case managers and project participants included documentation related to clients’ health-promotion goals and their goal progress for six of the 14 individuals (40%) in the post-attrition sample. Although the documentation may not have reflected the degree to which case managers discussed goal progress with clients, these discussions occurred on multiple occasions as noted in one to one conversations between the project coordinator and case managers.
Perceptions of Case Managers

The project coordinator conducted a 30-minute focus group with case managers during the last week of the project. Four of the seven case managers with clients who participated in the project were able to attend. The case managers’ responses were recorded by the project coordinator (Appendix N). All focus group participants verbalized the benefit of having “another person focusing on the physical health of clients” and that they saw positive results from this work with clients, i.e., “they got a lot of benefit from working with an outside person.” The case managers talked about their focus on the mental health needs of clients which often included instrumental support such as helping to find housing for them, helping them access financial resources, and assisting them with life skills. They do not perceive that they have as much time as needed to focus on clients’ physical health needs even though they assess these needs during the psychosocial assessment. They saw it as a benefit to have someone on site to work as part of the team and to intentionally focus on the physical health needs.

A barrier to physical health need discussions described by the case managers was the lack of easy access to the information contained in the PHC tool. If this information was available as part of the EHR, they thought it would be beneficial as part of the integration efforts in addressing the physical and mental health of clients in the program. They believe this information would be valuable to case managers when they are on-call and receive calls from clients with whom they are not familiar, especially those who tend to make frequent emergency room visits. The case managers saw the PHC tool as more comprehensive and beneficial than the current nursing assessment tool that is used by the
Their perception was that more needs to be done for clients regarding their physical health assessment, goals, and support.

The overall perception of the case managers regarding the project and its focus on the physical health status and support of clients to achieve health goals was that it was very beneficial. Although they did not see a significant amount of change in physical health status due to the short duration of the project, they did perceive that clients found benefit from participation in the project and did make progress in their healthy lifestyle changes.

**Additional Participant Findings**

Additional information was obtained from the study participants in the post-attrition client sample. Several comments were made regarding the “thoroughness” of the physical health screening process using the PHC tool, and the value of having a professional exclusively focused on their physical health status and health-promotion opportunities. A few client participants mentioned that they found value in having the physical health information and health-promotion goals being communicated with their case managers. They expressed positive attitudes towards having the case managers and project coordinator being on site in the same location versus their experience with gaps in communication between their primary care providers in the community and the CCM team. In one case a participant described a scenario where her primary care provider had prescribed a new medication for her migraine headaches. She informed her psychiatrist about this. The psychiatrist made a change in her psychotropic medications due to possible negative interactions between the former medications and the new prescription for migraines. If the client had not informed the psychiatrist of this new prescription, she
would not have known about this change and it is possible that the client would have experienced negative side effects from the medication interactions.

There were no negative comments made by those who completed the project. Several individuals expressed an interest in hearing the results of the project.
CHAPTER 6
DISCUSSION

The focus of this scholarly project was on integrating a physical health screening and health-promotion process into the psychiatric treatment of adults with severe mental illness utilizing an evidence-based Physical Health Check (PHC) tool. While initially the project implementation focus was planned for adults with schizophrenia, the recruited participants’ SMI was Bipolar Disorder. A collaborative multi-disciplinary team approach was utilized to translate the research evidence into practice through the implementation of this intervention in a manner that could be sustainable by the team over time. Educational and supportive strategies were incorporated into the series of appointments with clients who participated in the project, and updates from each session were shared with their case managers. The concepts of barriers and facilitators to goal achievement, and self-efficacy, from the Health Promotion Model (HPM) were foundational to the project implementation. Donabedian’s model for the analysis of quality of care was instrumental in the development, implementation, and evaluation of this project utilizing the key concepts of structure, process, and outcome.

Summary of Findings

The intervention used in this scholarly project was designed to address two practice questions. The first question was whether or not the use of a physical health screening tool and development of health-promotion goals would result in a change in healthy lifestyle behaviors for participants. The second question was whether or not case managers would see value in the use of the Physical Health Check (PHC) tool and health-
promotion action plan development with clients and would incorporate this tool into their
day-to-day work with clients.

The results were positive in addressing the first question of this project.
Seventeen individuals participated in the initial physical health screening process and
developed a health-promotion goal. Fourteen of these people completed the project,
participating in all three appointments. While three participants did not work on their
health-promotion goals between the initial and follow-up appointments, by the final
appointment all 14 participants demonstrated progress on their stated goals. The
resources that helped them the most with goal progress included support from the project
coordinator, case managers, family members, and friends. Participants’ self-motivation
and intention to achieve their goals served as an additional strong facilitator to goal
progress. Barriers to goal progress reported by participants at various points throughout
the project were poor weather and lack of access to healthy foods and exercise due to
reduced finances or lack of transportation. In most cases the barriers were overcome
through community resources, modifications to planned strategies to achieve their goals,
and improvements in the weather.

Participants completed a self-efficacy scale at their initial and final appointments.
The median self-efficacy scores were rated in the middle to high range on the 10-point
rating scale. The scores reflected clients’ perceptions that they initially felt more
confident with managing their emotional distress and symptoms of their psychiatric
illness than with managing their symptoms of fatigue and discomfort. By the final
appointment, after experiencing progress towards their health promotion goals, clients’
perceptions of self-efficacy significantly increased ($p < .05$) in relation to managing the
physical health symptoms. Total self-efficacy scores increased between the initial and final appointments for the majority of participants.

Clinical indicators that demonstrated improvement throughout this project implementation included weight reduction and a reduction in waist circumference. Eleven participants experienced slight weight reduction and nine experienced a reduction in waist circumference. These results are compatible with the stated health-promotion goals that were developed by the majority of clients related to weight loss and/or exercise.

Participants in this project reported finding value in the use of the PHC tool and intentional focus on their physical health needs and health-promotion goal progress. All of them reported a desire and intention to continue working on their health-promotion goals beyond the completion of this project.

The second question to be answered by this project related to the case managers’ perceptions of the PHC tool and health-promotion goal development process. Case managers, during a focus group, verbalized seeing value in the use of this PHC tool and appreciated the comprehensive nature of the information compared to information obtained with the current nursing assessment tool. The case managers saw value in the focus on physical health needs and health-promotion goals and activities with clients, and having someone at the clinic devoted specifically to this work. While the case managers saw value in the use of the PHC tool, they stated that they do not have time in their schedules to incorporate the use of the tool into their day-to-day work. The case managers believe that utilizing the tool, and focusing on health-promotion goals with clients, can be accomplished by the RNs who are part of the inter-disciplinary team.
Conceptual Frameworks

One of the questions to be answered by this project was whether or not the intervention would result in clients making positive lifestyle changes to benefit their physical health. The second question to be answered was whether or not case managers would see the value in the use of this PHC tool, and the focus on clients’ physical health status, and would incorporate the use of this tool in their daily work with clients. The two conceptual models utilized to guide the intervention implementation and evaluation in this project were Donabedian’s model for the analysis of quality of care and Pender’s Health Promotion Model (HPM). The literature review provided additional guidance to the implementation of the intervention. Several studies demonstrated the importance of physical health screening and health promotion in adults, including the use of the PHC tool. Further, it was frequently noted that this screening process is significant for physical health promotion in adults with severe mental illness given the higher morbidity and mortality rates documented in this population.

Donabedian’s Model

Structure. Donabedian’s concept of structure focused on the involvement of a Doctor of Nursing Practice (DNP) student as the project coordinator. This individual met with each participant three times during a five to seven-week period utilizing Advanced Practice Registered Nurse (APRN) DNP competencies as outlined by the American Association of Colleges of Nursing (AACN, 2006). According to Donabedian (1988), the concept of structure incorporates attributes of human resources and organizational structure. Human resources in this project involved the project coordinator and case managers who provided support and encouragement to clients related to their goal
achievement and self-efficacy enhancement. Organizational structure included the integration of clients’ physical health screening and health-promotion process into their overall psychiatric treatment plan. The project coordinator provided case managers with written updates on their clients’ goals and progress so that they could also provide them with support and encouragement. The development of positive interpersonal relationships between the project coordinator and the clients and case managers was an important component of the structure. This was accomplished during the internship period prior to the intervention and during the client intervention itself.

One of the structure issues discovered throughout the project implementation was that the information gathered through the physical health check (PHC) screening tool was not readily accessible to the case managers in the clients’ electronic health record (EHR). Instead, the completed PHC tools were retained in the clients’ paper health record located in a building adjacent to the location of the case managers’ offices. This structural information technology barrier could be addressed by incorporating the PHC tool into the EHR. A second issue related to the structure of this intervention was that the nurses working in the program worked separately from the rest of the case management team and were not readily accessible for dialogue regarding clients’ physical or emotional health status. This structural barrier will be addressed in the next several months when the case management team, including the nurses and psychiatrists, will move into a new facility that allows them to work in the same location.

**Process.** Donabedian (1988) defines process as those activities accomplished in “giving and receiving care” (p. 1745). The implementation of the evidence-based PHC tool and collaborative development of a health-promotion action plan between the project
coordinator and participants served to operationalize the concept of process. This process incorporated the initial screening and goal development, followed by two additional appointments where progress towards goal achievement was assessed and education and support were provided. The process was facilitated through the implementation of this evidence-based tool as a key component to the intervention. Originally it was anticipated that the health-promotion goals and action plans would be incorporated into clients’ treatment plans in the Electronic Health Record (EHR). While this did not occur the majority of the time, the goals nevertheless were frequently addressed by case managers in their appointments with clients and documented to a degree in the progress notes. This barrier could be addressed by incorporating the PHC tool, including the health-promotion goal, into the EHR where they can be linked with the treatment plans for clients. All of the goals identified in the treatment plans are linked to the progress notes and serve as prompts for case managers to address and document clients’ progress towards their goals.

Anticipated process indicators also included the integration of the PHC tool and health-promotion goal development into the day-to-day work of the case management team. While the case managers supported the project and saw the value of the intentional focus on clients’ physical health, they did not feel they had the resources available to incorporate the use of the PHC tool into their work with clients on a longer-term basis. They did indicate an interest in continuing to support clients with their health-promotion goals as part of their routine appointments. This information provided an answer to the second question of this scholarly project; however, the ease of addressing these goals remains a barrier. This barrier could be addressed through adding the PHC tool processes to the EHR.
Process issues also involved the fact that the nurses were not using a physical assessment tool as comprehensive as the PHC tool, and did not focus on health-promotion goals as part of their work with clients. The structure of their work focused more exclusively on disease management rather than on incorporating health promotion as part of their process for assessing and supporting clients. This barrier could be addressed by incorporating the use of the PHC tool and health-promotion action plan development with clients as part of the role of the nurses on a day-to-day basis. The tool could be used as an enhancement to the current nursing assessment tool. The nursing assessment tool could be modified to remove any content that is redundant with the PHC tool. This would allow for sustainability of this intervention over time, as well as providing the opportunity to expand the use of the tool with all clients receiving services at the clinic.

**Outcome.** Outcomes in Donabedian’s model involve the health status of individuals and populations including their knowledge, behavior, and satisfaction with care (Donabedian, 1988). The development of the health-promotion goals by clients involved a commitment to making a behavior change in their lifestyle to improve their physical health status. Their level of satisfaction with their goal and the support offered to them were assessed at each appointment. Education was provided, as needed, based upon the assessment of clients’ knowledge related to their stated goal and associated objectives. Outcomes included the fact that clients indeed made positive changes in their physical health behaviors with some health status improvements noted over the course of the project. This outcome answered the first question of this scholarly project. The
majority of clients expressed satisfaction with their progress and a desire to continue with their goals after the conclusion of the project.

**Health Promotion Model**

The HPM explores and predicts factors that motivate individuals to engage in health-promoting behaviors. Utilizing this model the project incorporated the evaluation of barriers and facilitators to goal achievement with each client during the follow-up appointments. Resources were identified to minimize the barriers and support the facilitators towards successful goal achievement.

The HPM also includes the concept of self-efficacy as identified in Albert Bandura’s Social Learning Theory. Clients’ self-efficacy levels were evaluated at the beginning and at the end of their participation in the project. Information from the initial self-efficacy assessment was utilized to determine resources and support necessary to help clients feel better equipped to accomplish their goals. According to Bandura (1994), people with a high level of self-efficacy are better able to establish challenging goals for themselves and believe they can succeed. In addition to developing knowledge and skills to carry out established goals, it is equally important for people to believe they can use their knowledge and skills to effectively accomplish their goals. Throughout this project, as noted in the self-efficacy scores and ratings on goal performance between the follow-up and final appointments, it was evident that clients felt more self-efficacious when they were more successful with accomplishing their stated goal objectives.

Specific strategies and a commitment to a plan of action for accomplishing a health-promotion goal are both necessary for effective goal achievement according to the Health Promotion Model. These concepts helped to guide the implementation of the
intervention in this project. The development of health-promotion goals by clients incorporated specific action steps intended to help them accomplish their goals. During the follow-up appointments the specific goals and action steps were evaluated to determine if they were too difficult and needed to be modified in some way, or if they were still considered reasonable and desirable by the clients. Clients routinely indicated their goals were reasonable and they wanted to continue working on them. They identified the resources and facilitators needed to help them be successful with their goals.

The primary barrier to successful goal accomplishment identified by clients was inclement weather for exercise goals. From a theoretical model perspective there were no strategies that could assist with removing this barrier unless the client had access to funds to pay for a YMCA membership for indoor activity. The project coordinator inquired about the ability of the clinic to help subsidize a YMCA membership as had been done in the past; however, this was no longer a possibility. Another barrier identified by clients was transportation or finances to access healthy food choices. In several cases these barriers were resolved through the work and support of other adjunct community or charitable organizations. Clients were assisted in connecting with these resources through their case managers. The underlying barrier to accessing funds for YMCA membership, transportation, and access to healthy food choices was the fact that several of the participants experience poverty as part of their day-to-day life experience. Poverty for most clients served at CCM is a major barrier to engaging in healthy activities.

In most cases clients reported that they needed support from family, friends, case managers, and/or the project coordinator in order to continue with successful goal
accomplishment. These were the facilitators to goal achievement that were evaluated by the project coordinator during appointments with clients. In some cases, the improvements in weather from winter to spring, and increased access to financial resources were identified as helpful resources for clients to achieve their goals. The use of the HPM also included an evaluation of the clients’ level of commitment towards achieving their goals. They were given the opportunity to reaffirm their commitment to their plan of action at the follow-up and final appointments.

**Doctor of Nursing Practice Roles**

The American Association of Colleges of Nursing (AACN, 2006) outlines the “*Essentials of Doctoral Education for Advanced Nursing Practice.*” The DNP roles of scholar, innovator, leader, clinician, educator, and advocate, as described by Chism (2013), were enacted throughout this project and are directly related to the DNP Essential competencies.

The roles of scholar and innovator relate to *Essential III, Clinical Scholarship and Analytical Methods for Evidence-Based Practice* (AACN, 2006). These roles were enacted through the development, implementation, and evaluation of this project. An extensive appraisal of the research literature was conducted related to physical health screening and health-promotion interventions. The research evidence was used to guide this project through the application of relevant findings to this vulnerable population. Information technology skills were used to gather and analyze the data to create meaningful results for the project evaluation. Addressing barriers of EHR documentation of care were also identified. In addition, the project coordinator served as a consultant to
the multi-disciplinary team related to clients’ health status, goals, and progress towards goal achievement.

The role of leader was demonstrated through the DNP Essentials II and IV: Organizational and Systems Leadership for Quality Improvement and Systems Thinking, and Interprofessional Collaboration for Improving Patient and Population Health Outcomes (AACN, 2006). Chism (2013) highlights the importance of the DNP prepared APRN to utilize effective communication and collaboration skills when translating evidence-based research into practice to improve processes and outcomes. Successfully establishing positive relationships with the case managers prior to the project implementation, presenting the project to the case management team, and securing their buy-in and support for the project demonstrated interprofessional collaboration and leadership skills of the DNP APRN. The leadership role also included a commitment to being flexible and adaptable to the various scheduling needs of clients and case managers, creatively problem-solving to minimize barriers, and engaging support from the team for the recruitment of project participants. Development and evaluation of the project utilizing research findings and theoretical frameworks were additional skills demonstrated throughout this project.

The clinician role was utilized extensively during appointments with clients throughout. Essential I, Scientific Underpinnings for Practice, and Essential VIII, Advanced Nursing Practice (AACN, 2006) were foundational to the demonstration of the clinician role. Evidence of these skills included the comprehensive physical health screening of clients, prioritization of their physical health needs, and the collaborative identification of health-promotion goals to address their needs. The majority of clients
had a variety of physical health problems that were amenable to health-promotion activities as recommended by the project coordinator. The role of clinician includes the development of therapeutic relationships with clients and the health care team to accomplish established goals. These relationships were established and were instrumental in realizing the positive outcomes of this project. In addition, the clinician utilizes research evidence to recommend therapeutic interventions to clients’ healthcare needs. This was accomplished through the information shared with clients during their individual appointments with the project coordinator.

Chism (2013) points out that the role of educator is not explicitly addressed in the DNP Essentials; however, this role can be found within the context of all eight Essentials. Throughout this project, the role of educator primarily related to Essential VII, Clinical Prevention and Population Health for Improving the Nation’s Health, and Essential VIII, Advanced Nursing Practice. Health-promotion goals were collaboratively developed, implemented by clients with support from the project coordinator and case managers, and evaluated at each follow-up appointment. The health-promotion and disease prevention focus of this project was designed to address gaps in the physical health screening of adults with severe mental illness. Education was provided to clients related to the health-promotion lifestyle behaviors that were identified as most important for addressing their prioritized health care needs. Evidence from the literature was used to guide the educational content.

The advocate role was demonstrated through the development and implementation of this project with this vulnerable adult population. The project coordinator provided support for clients in accomplishing their goals. Advocacy for
resources to support them were identified, as needed, and communicated to the case managers for follow-up. The project coordinator also provided resources to clients through follow-up phone contact to offer additional support, and through education on areas of interest for their physical health.

An advocacy role was also demonstrated as part of the system’s approach of this project. Advocacy with the inter-disciplinary team to introduce a process improvement change was demonstrated through the translation of evidence-based research into day-to-day practice to improve client outcomes through the physical health screening and health-promotion goal development processes.

**Project Strengths and Limitations**

One of the strengths recognized through this project was that the project coordinator had previous opportunities to work with this team in a different role. Relationships and mutual respect between the project coordinator and team members were already present at the time this project was introduced and this helped to promote buy-in and support for the project. The recruitment process for engaging clients in this project was enhanced by the trusting relationships previously established.

A second strength was that the project participants were motivated to engage in the project and commit to their health-promotion goals. One of the criteria for case managers recommending clients for participation in the project was that they would be motivated to work on their goals and be available for appointments with the project coordinator. The individuals who were recommended for, and accepted participation in the project were likely more motivated than others receiving services in the clinic although all of the clients could benefit from participation in this type of intervention.
A third strength is an external driving force that is related to the focus of this project. The primary organization that funds clients who receive treatment at the clinic completed a documentation audit nine months prior to the initiation of this project. One of the follow-up requirements from the audit included the mandate for case managers to specifically evaluate the physical health status and needs of clients as part of their psychosocial assessment, and to coordinate care with clients’ primary care providers in the community. This mandate created an incentive for the implementation of this project. The project provided an additional resource to the team designed to intentionally focus on the physical health status and needs of clients. The project coordinator was able to serve as a consultant to the team regarding clients’ physical health and health-promotion goals.

A limitation of this project was the small sample size of participants. While many clients (n=26) were identified as good candidates for participation several clients declined to participate, did not show up for scheduled appointments, or were hospitalized during the project. This resulted in a sample size of 17 clients who initially participated in the project and 14 who completed the project. Recruitment of clients was accomplished through recommendations from case managers or office staff and did not involve a random sampling technique. The recruitment process could have been improved to include more participants if the process had been extended to all clients receiving services at the clinic and supported by the case management team for all of their clients. Opportunities for providing transportation to appointments for those who do not have transportation readily available would also have helped to promote participation in the project.
Qualitative data were obtained from case managers through a focus group and the use of open-ended questions regarding the value of the project. One limitation is the small sample size of the focus group participants ($n=4$). One case manager left the organization for another employment opportunity and two case managers were on vacation at the time of the focus group. Positive feedback was received from the focus group; however, given the small sample size of participants the results could be inaccurate and incomplete. Nevertheless, the purpose of the focus group was to obtain information regarding the value of this intervention for the organization and this was accomplished through the focus group session.

**Recommendations**

The primary recommendation from this project is to continue to focus on clients’ physical health care needs and health-promotion activities as part of the day-to-day work of the team. While the case managers do not feel they have the time to devote to the intensive physical health screening and follow-up, there are Registered Nurses (RNs) who are part of the team and could potentially utilize the PHC tool and health-promotion process as part of their role in working with clients. The process is sustainable and applicable for all clients in the program if resources are dedicated to implement it on an ongoing basis. Implementing this intervention as part of the standard care for all clients receiving services at the clinic could be accomplished by utilizing a DNP prepared APRN who is part of the team. This individual could serve as a mentor and consultant to the RNs for implementing and evaluating this evidence-based PHC tool and health-promotion process with all clients at the clinic.
A second recommendation from this project is to incorporate the PHC tool as a form that is part of the electronic health record (EHR) and is integrated into the overall assessments and treatment plans for clients. Rather than simply scanning the document into the EHR, it needs to be one component of the overall inter-disciplinary plan for clients in order to achieve a comprehensive and holistic approach to care. The physical health information needs to be accessible to all members of the team in order for them to address the health care issues in a comprehensive and integrated manner with clients and their community health care providers. A related recommendation is to integrate the health promotion goal development component of the PHC tool into the treatment plan. This will provide automatic prompts for documentation in the EHR that can more effectively record clients’ progress with all of their goals, including their health-promotion goals, and be more easily retrieved through electronic reports for aggregate data analysis.

It is recommended that further data collection and analysis occur through the expansion of this screening process to other clients at the clinic. This will not only provide benefits to additional clients at the clinic, but will also allow for generalization of the results to a broader population of adults with severe mental illness receiving treatment in other health care settings. This will add to the body of scientific knowledge designed to improve the physical health status of this vulnerable population.

Summary

This project utilized research evidence and theoretical frameworks to translate research into practice through the use of a PHC tool and development of health-promotion goals with adults with severe mental illness. Results of the project
demonstrate that clients can commit to and engage in healthy lifestyle behaviors with focused attention on their progress, removal of barriers, and provision of necessary resources and support that help them to be successful. The majority of clients realized improved progress towards goal achievement and demonstrated a significant increase in their perceptions of self-efficacy over the course of the project.

There are no current plans to continue with the use of the PHC tool and health-promotion focus at the clinic; however, opportunities exist to use current RN resources to carry on this work with all clients at the clinic under the direction of a DNP-prepared nurse. The PHC tool is an assessment tool used to gather a comprehensive health history and can be completed by an RN. The RN can refer any special needs identified through the comprehensive assessment to the DNP-prepared nurse to address. The DNP-prepared nurse can also provide the leadership and direction to the nurses and inter-disciplinary team members to ensure that this physical health screening and health-promotion process is effectively integrated into the psychiatric treatment at the clinic for all clients. The DNP-prepared nurse is also able to collaborate and communicate with team members, providing the structure and leadership necessary to evaluate client outcomes and demonstrate a positive return on investment with this integrated, evidence-based process design. In the meantime, case managers continue to inquire about clients’ physical health status and needs, and provide support in the accomplishment of health-promotion goals when they are identified.

Throughout the project seven of the eight DNP Essentials and related roles were enacted. The Health Care Policy for Advocacy in Health Care (Essential VII) was not demonstrated as part of this project; however, this role would be instrumental in
advocating for process change in physical health assessment at the organizational level. At the population level, opportunities exist for future advocacy by the DNP-prepared APRN in efforts related to equitable access to and funding for physical health screening and health-promotion services for this vulnerable population. Advocacy to improve the health status of this population by reducing morbidity and mortality will promote the overall health of our nation. These efforts can be accomplished by the DNP-prepared APRN through active participation in professional associations and political advocacy opportunities at the local and state level.
APPENDICES
APPENDIX A

Permission for Use of the Health Promotion Diagram
Permission for Use of the Health Promotion Diagram (Publisher)

Oct 8, 2013

KATHRYN L. SPEETER, DNP, RN, NE-BC, MM, CPHQ
Grand Valley State University
141 68th Street, SE
Grand Rapids, MI 49548

Fax #: 616-831-2617

Dear Ms. Speeter:

You have our permission to include content from our text, *HEALTH PROMOTION IN NURSING PRACTICE, 6th Ed. by PENDER, NOLA J.; MURDAUGH, CAROLYN L.; PARSONS, MARY ANN*, in your Doctoral Dissertation thesis for your DNP degree certificate from GRAND VALLEY STATE UNIVERSITY.

Content to be published in PDF format on Grand Valley State University library webpage "ScholarWorks":

- Page 45 Figure 2-3 Health Promotion Model (revised)

Please credit our material as follows:


Sincerely,

Cheryl Freeman, Permissions Administrator
APPENDIX B

Recruitment Letter
Recruitment Letter

February, 2013

Dear ___________________

While seeing your case manager and doctor at the Community Case Management Clinic between February 19, 2013 – April 26, 2013 you will have the chance to be part of a special project led by a Nurse Practitioner (NP) intern who is the project leader. If you choose to be part of this project you will be able to meet 1-3 times with the project leader to talk about your physical health. Each meeting will take about ½ hour. The project leader will give you a consent form to sign to show that you wish to be part of the project. You will first have a chance to learn more about the project and to ask any questions.

During your first meeting with the project leader she will complete a physical health check form and will check your blood pressure, height, weight, and waist size. Then she will work with you to list your top 2-3 physical health needs and find one goal you are willing to work on to improve your physical health. During this meeting the project leader will also ask you to fill out a simple 6-item form to check on your level of support and your feelings about being able to meet your goal.

The project leader will be free to meet with you 1-2 more times after your first meeting to talk with you about your progress and offer any support you may need to meet your goal. The content from the forms you fill out and your goal to improve your physical health will be shared with your case manager and added to your treatment plan. The project leader and your case manager will offer support to you as you work on meeting your goal. The last meeting with the project leader will include a re-check of your blood pressure, height, weight, and waist size. You will also be asked to fill out the 6-item form that you filled out at your first meeting.

In order to protect your right to have your personal information kept private, whatever you share with the project leader as part of this project will not be shared outside of the Clinic in any way that connects the information to you.

If you have any questions about being part of this project and would like to speak with the project leader she will be happy to speak with you. Thank-you!

Kathy Speeter, RN, BSN, MM

Doctor of Nursing Practice Intern and Project Leader

This research protocol has been approved by Human Research Review Committee at Grand Valley State University. File No. 13-091-H Expiration: February 15, 2014
APPENDIX C

Demographic Information Data Collection Tool
DEMOGRAPHIC INFORMATION DATA COLLECTION TOOL

Code Number: ______________________  Date: ________________

Date of Initial Appointment with Case Manager at CCM: _______________________

Gender (M/F): ______________________

Age (Months): ______________________

Race: ______________________________

DSM-IV-R Diagnoses (Axis I-V):
   I:
      
   II:
      
   III:
      
   IV:
      
   V:

Current Medications:
APPENDIX D

Permission for Use of the Physical Health Check Tool
Permission for Use of the Physical Health Check Tool

July 17, 2012

Dear Kathryn,

Thank you for your message.

I am very happy for you to use the Physical Health Care Tool. Since I published the paper the work has been developed by RETHINK, and mental health charity who also do research.

You will copies of the PHC and other information about their work on their website: 
http://www.rethink.org/how_we_can_help/physical_health/physical_health_resources/physical_health_ch_1.html

and have I copied this email to Vanessa Pinfold who heads up their research team.

Good luck with your project

Best wishes

Michael

Dr Michael Phelan
Clinical Director
Local Services CSU
Ph 0208 354 8197
M 07957 385 875
APPENDIX E

Self-Efficacy Scale
Self-Efficacy for Managing Chronic Disease 6-Item Scale

We would like to know how confident you are in doing certain activities. For each of the following questions, please choose the number that corresponds to your confidence that you can do the tasks regularly at the present time.

1. How confident are you that you can keep the fatigue caused by your disease from interfering with the things you want to do?

2. How confident are you that you can keep the physical discomfort or pain of your disease from interfering with the things you want to do?

3. How confident are you that you can keep the emotional distress caused by your disease from interfering with the things you want to do?

4. How confident are you that you can keep any other symptoms or health problems you have from interfering with the things you want to do?

5. How confident are you that you can do the different tasks and activities needed to manage your health condition so as to reduce you need to see a doctor?

6. How confident are you that you can do things other than just taking medication to reduce how much you illness affects your everyday life?

Scoring

The score for each item is the number circled. If two consecutive numbers are circled, code the lower number (less self-efficacy). If the numbers are not consecutive, do not score the item. The score for the scale is the mean of the six items. If more than two items are missing, do not score the scale. Higher number indicates higher self-efficacy.
Characteristics

Tested on 605 subjects with chronic disease

<table>
<thead>
<tr>
<th>No. of items</th>
<th>Observed Range</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Internal Consistency Reliability</th>
<th>Test-Retest Reliability</th>
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</thead>
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<tr>
<td>6</td>
<td>1-10</td>
<td>5.17</td>
<td>2.22</td>
<td>.91</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source of Psychometric Data


Comments

This 6-item scale contains items taken from several SE scales developed for the Chronic Disease Self-Management study. We use this scale now, as it is much less burdensome for subjects. It covers several domains that are common across many chronic diseases, symptom control, role function, emotional functioning and communicating with physicians. For internet studies, we add radio buttons below each number. There are 2 ways to format these items. We use the format on this document, the other is shown on the web page. A 4-item version of this scale available in Spanish.

References


This scale is free to use without permission

Stanford Patient Education Research Center
1000 Welch Road, Suite 204
Palo Alto CA 94304
(650) 723-7935
(650) 725-9422 Fax
self-management@stanford.edu
http://patienteducation.standford.edu

Funded by the National Institute of Nursing Research (NINR)
APPENDIX F

Clinical Information Data Collection Tool - Initial
CLINICAL INFORMATION DATA COLLECTION TOOL
INITIAL APPOINTMENT WITH PROJECT COORDINATOR

Code Number: ____________________________ Date: __________________

Gender (M/F): __________________________
Age (Months): __________________________
Race: _________________________________
Height (Inches): ________________________
Weight (Pounds): ________________________
BMI: __________________________________
Waist Circumference (Inches): ___________

Blood Pressure: _________________________

Blood Glucose (if applicable): ____________ Date: __________________
HgbA1c (if applicable): _________________ Date: _________________

Self-Efficacy Score: _____________________
APPENDIX G

Clinical Information Data Collection Tool – Follow-up
CLINICAL INFORMATION DATA COLLECTION TOOL
FOLLOW-UP APPOINTMENTS WITH PROJECT COORDINATOR

Code Number: ______________________ Date: __________________

Progress towards health-promotion goal (Rank 1-5): _______
1=Did not perform health-promoting behavior since last appointment
2=Performed behavior 1-2 times since last appointment
3=Performed behavior 3-4 times since last appointment
4=Performed behavior 5 or more times since last appointment
5=Met or exceeded number of times stated in health-promotion goal for
   performing the behavior since last appointment

What have been the barriers to your progress?

Is the goal too difficult and does it need to be modified?

What has helped you with your progress?

Resources or support needed to help with continued goal achievement:
CLINICAL INFORMATION DATA COLLECTION TOOL
FINAL APPOINTMENT WITH PROJECT COORDINATOR

Code Number: ______________________  Date: __________________

Height (Inches): __________________

Weight (Pounds): __________________

BMI: ____________________________

Waist Circumference (Inches): ______

Blood Pressure: __________________

Blood Glucose (if applicable): ______ Date: ______________

HgbA1c (if applicable): ___________ Date: ______________

Progress towards health-promotion goal (Rank 1-5): ______________
  1=Did not perform health-promoting behavior since last appointment
  2=Performed behavior 1-2 times since last appointment
  3=Performed behavior 3-4 times since last appointment
  4=Performed behavior 5 or more times since last appointment
  5=Met or exceeded number of times stated in health-promotion goal for
     performing the behavior since last appointment

Self-Efficacy Score: _______________

What have been the barriers to your progress?

What has helped you with your progress?

What resources or support do you need to help you with continued goal achievement?
APPENDIX I

Electronic Medical Record Data Collection Tool
**ELECTRONIC MEDICAL RECORD DATA COLLECTION TOOL**

<table>
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<tr>
<th>Client Code</th>
<th>Action Plan is Incorporated into the Treatment Plan</th>
<th>Yes</th>
<th>No</th>
<th>Action Plan is Addressed by Case Manager in Progress Notes</th>
<th>Yes</th>
<th>No</th>
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A ✓ will be placed in the yes or no column to indicate the presence or absence of the action plan documentation in the EMR.
APPENDIX J

Focus Group Questions for Case Managers
FOCUS GROUP QUESTIONS FOR CASE MANAGERS

Date of Focus Group: ________________________

1. Do you perceive intentional physical health screening and action planning as an important issue? Why?

2. Did you find the documentation of physical health needs and related action plans in the person-centered plan and progress notes relatively easy to accomplish? If not, what are the challenges or barriers?

3. Does the information collected with the Physical Health Check tool create value to you for your assessment and treatment planning with clients? Name some specifics.

4. Have you seen physical and/or emotional health benefits with clients as a result of their participation in this project (physical health screening and health-promotion action planning)? Name some specifics.

5. Other comments regarding the use of the PHC tool for physical health screening and action planning:
APPENDIX K

HRRC Approval Letter
DATE: February 15, 2013

TO: Kathryn Speeter, BSN, RN, MM
FROM: Grand Valley State University Human Research Review Committee
STUDY TITLE: [405342-3] Severe Mental Illness in Adults and Physical Health Screening
REFERENCE #: 13-091-H
SUBMISSION TYPE: Revision

ACTION: APPROVED
APPROVAL DATE: February 15, 2013
EXPIRATION DATE: February 15, 2014
REVIEW TYPE: Expedited Review

Thank you for your submission of materials for this research study. The Human Research Review Committee has approved your research plan application as compliant with all applicable sections of the federal regulations, Michigan law, GVSU policies and HRRC procedures. All research must be conducted in accordance with this approved submission.

This approval is based on no greater than minimal risk to research participants. This study has received expedited review, category 2-4, based on the Office of Human Research Protections 1998 Guidance on Expedited Review Categories.

Please insert the following sentence into your information/consent documents as appropriate. All project materials produced for participants or the public must contain this information.

This research protocol has been approved by the Human Research Review Committee at Grand Valley State University. File No. 13-091-H Expiration: February 15, 2014.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note the following in order to comply with federal regulations and HRRC policy:

1. Any revision to previously approved materials must be approved by this office prior to initiation. Please use the Change in Protocol forms for this procedure. This includes, but is not limited to, changes in key personnel, study location, participant selection process, etc.

2. All UNEXPECTED PROBLEMS and SERIOUS ADVERSE EVENTS to participants or other parties affected by the research must be reported to this office within two days of the event occurrence. Please use the UP/SAE Report form. All instances of non-compliance or complaints regarding this study must be reported to this office in a timely manner. There are no specific forms for this report type.
3. All required research records must be securely retained in either paper or electronic format for a minimum of three years following the closure of the approved study. This includes signed consent documents from all participants.

4. This project requires continuing review by our office on an annual basis. Please use the appropriate Continuing Review forms when applying for approval extension.

   - Protocols that are active and open for enrollment require both the Primary Investigator and Authorizing Official to electronically sign the Continuing Review submission in IRBNet.
   - Protocols that are open for data analysis ONLY, require the Primary Investigator's signature.

If you have any questions, please contact the HRRC Office, Monday through Thursday, at (616) 331-3197 or hrc@gvsu.edu. The office observes all university holidays, and does not process applications during exam week or between academic terms. Please include your study title and reference number in all correspondence with this office.

cc:
APPENDIX L

Informed Consent Form – Clients
INFORMED CONSENT FOR PARTICIPATION IN PHYSICAL HEALTH SCREENING AND HEALTH PROMOTION PROJECT - CLIENTS

Name: _________________________________ Case #: ___________________

1. **TITLE**: Severe Mental Illness in Adults and Physical Health Screening

2. **RESEARCHERS**:
   a. Kathy Speeter, BSN, RN, MM – Doctoral Nursing Student at Grand Valley State University; Project Leader
   b. Dr. Andrea Bostrom, PhD, PMHCNS-BC – Dissertation Advisor, Kirkhof College of Nursing at Grand Valley State University

3. **PURPOSE**: Physical health screening in adults with mental illness is very important. Physical health needs are often not noticed and can lead to poor physical health outcomes and quality of life. It is important for health care workers to screen for and address physical health care needs as well as the mental health care needs in adults with mental illness. Persons who choose to be part of this project will have a complete physical health screening, creation of a goal to focus on their physical health needs, and assessment of their feelings about being able to meet their goal. They will receive support from the project leader and their case manager, and will have access to resources to help them meet their goal.

4. **REASON FOR INVITATION**: Persons who are invited to be part of this project are those whose case managers believe can benefit from the project. These persons have expressed an interest in improving their physical health and/or reducing their chances for having physical illness.

5. **HOW PARTICIPANTS WILL BE SELECTED**: Case managers from the clinic will recommend clients to be part of this project. They will recommend persons who they think can benefit from this project based upon their current physical health status and/or risks for having physical illness. Those who say they would like to be part of this project will be referred to the project leader for more details and to complete the informed consent process. Persons with a guardian and/or persons who are showing symptoms of psychosis will not be asked to be part of this study.
6. **PROCEDURES**: Persons who are part of this project will have 1-3 meetings with the project leader. During the first meeting the project leader will complete a physical health check form and will measure your blood pressure, height, weight, and waist size. After this part of the meeting the project leader will work with you to list your top 2-3 physical health needs and find one goal you are willing to work on to improve your physical health. During this meeting the project leader will also ask you to fill out a simple 6-item form to check on your level of support and your feelings about being able to meet your goal. The first meeting will take about 1 hour.

The project leader will be free to meet with you 1-2 more times after your first meeting to talk with you about your progress and offer any support you may need to meet your goal. These meetings will take about 1/2 hour.

The content from the forms you fill out and your goal to improve your physical health will be shared with your case manager and added to your treatment plan. The project leader and case manager will offer support to you as you work on meeting your goal. They will help you to find resources that you may need to meet your goal.

The last meeting with the project leader will include a re-check of your blood pressure, height, weight, and waist size. You will also be asked to fill out the 6-item form that you filled out at your first meeting. This meeting will take about 1/2 hour.

There will be no lab work needed as part of this project. If lab results have been ordered by your doctor as part of your treatment with the clinic, these results will be added as part of this project.

You will not need to pay any money in order to be part of this project.

7. **RISKS**: Possible risks are minimal for persons who are part of this project; however, they include the potential for a violation of your privacy with your information gathered in this project. All efforts will be taken to make sure that this does not happen and that your personal information is kept strictly private.

8. **POTENTIAL BENEFITS TO YOU**: Potential benefits to you if you are part of this project include the chance to learn more about your physical health and what you can do to improve your health.

9. **POTENTIAL BENEFITS TO SOCIETY**: Potential benefits from this project include more knowledge for your case managers, and for the project leader, about how to make sure the physical health needs are considered as part of the health care of adults with severe mental illness. This knowledge can be used to help other clients who receive services in the Community Case Management program in the future.

10. **VOLUNTARY PARTICIPATION**: Your participation in this project is completely voluntary. You do not have to participate in this project. You may quit at any time without any penalty to you.

11. **PRIVACY AND CONFIDENTIALITY**: Your name will not be given to anyone other than the Community Case Management team. All the information collected from you or about you will be kept confidential to the fullest extent allowed by law and your name will never be placed on any data collection tool.
In very rare situations specially authorized university or government officials may be able to see our research records in order to protect your rights and welfare.

12. RESEARCH STUDY RESULTS: If you want to learn about the results of this project you may ask for the information by contacting: Kathy Speeter – Project Leader through the Community Case Management office at (616) 222-4570.

13. PAYMENT: There will be no payment needed from you in order to be part of this project.

14. AGREEMENT TO PARTICIPATE: By signing this consent form below you are stating the following:
   • The details of this project have been explained to me including what I am being asked to do and the possible risks and benefits;
   • I have had a chance to have my questions answered;
   • I am voluntarily agreeing to participate in the project as described on this form;
   • I may ask more questions or quit participating at any time without any change in my care at the clinic.

_________________________ (Initial here) I have been given a copy of this paper for my records.

Print Name: ______________________________________________________
Sign Name in Ink: __________________________________________________
Date Signed: ______________________________________________________

15. AGREEMENT TO PROTECTED HEALTH INFORMATION: By signing this consent form below you are agreeing to have your personal protected health information as part of this study.

Print Name: ______________________________________________________
Sign Name in Ink: __________________________________________________
Date Signed: ______________________________________________________

16. If you have any questions about this study you may contact the project leader as follows:
   NAME: Kathy Speeter
   PHONE: (616) 222-4570
   E-MAIL: speeterk@mail.gvsu.edu

If you have any questions about your rights as someone who is part of this project, please contact the Research Protections Office at Grand Valley State University, Grand Rapids, MI.
Phone: (616) 331-3197
E-Mail: HRRC@GVSU.EDU

This research protocol has been approved by the Human Research Review Committee at Grand Valley State University. File NO. 13-091-H Expiration: February 15, 2014
APPENDIX M

Informed Consent Form – Case Managers
INFORMED CONSENT FOR PARTICIPATION IN PHYSICAL HEALTH SCREENING AND HEALTH PROMOTION PROJECT – CASE MANAGERS

Name: _________________________________

1. TITLE: Severe Mental Illness in Adults and Physical Health Screening

2. RESEARCHERS:
   c. Kathy Speeter, BSN, RN, MM – Doctoral Nursing Student at Grand Valley State University
   d. Dr. Andrea Bostrom, PhD, PMHCNS-BC – Dissertation Advisor, Kirkhof College of Nursing at Grand Valley State University

3. PURPOSE: Physical health screening in adults with mental illness is very important. Physical health needs often go undetected and can lead to poor physical health outcomes and quality of life. It is important for health care providers to screen for and address physical health care needs as well as psychiatric and emotional health care needs in adults with mental illness. Individuals who choose to participate in this project will have a comprehensive physical health screening evaluation, development of an action plan to address identified physical health needs, and evaluation of their self-confidence in accomplishing their action plan. They will receive support from the project coordinator and their case manager, and will have access to resources necessary to successfully accomplish their action plan goals.

4. REASON FOR INVITATION: Clients who are invited to participate in this project are those whose case managers believe can benefit from participation. These individuals have indicated they have an interest in improving their physical health and/or reducing their chances for developing physical illnesses.

5. HOW PARTICIPANTS WILL BE SELECTED: Case managers from the Community Case Management clinic will recommend individual clients to participate in this project. They will recommend individuals whom they believe can benefit from this project based upon their current physical health status and/or risks for developing physical illness. Those who are interested in participating will be referred to the project coordinator for education on the project and completion of the informed consent process. Individuals who have a guardian
and/or are currently experiencing symptoms of psychosis will be excluded from
the study.

6. **PROCEDURES:** Participation in this project involves participants having 1-3
individual meetings with the project coordinator. During the initial meeting the
project coordinator will complete a physical health screening questionnaire and
will measure their blood pressure, height, weight, and waist circumference.
Following this portion of the appointment the project coordinator will work with
them to prioritize their top 2-3 physical health needs and develop an action plan to
identify one health-promoting behavior they are willing to work on to improve
their physical health status. During this appointment the project coordinator will
also ask participants to complete a simple 6-item questionnaire to evaluate their
level of support and self-confidence in achieving their health-promotion goal.
The initial appointment is expected to take approximately 1 hour. The project
coordinator will meet with participants 2-3 more times for approximately ½ hour
each time to discuss their progress and determine if any additional support or
resources are needed to help them successfully accomplish their goals.

The information gathered from the questionnaires, discussions with clients
regarding their physical health needs, and the agreed upon health-promotion
action plan will be shared with the case manager. The case manager agrees to add
the information as an addendum to the client’s person-centered plan. The project
coordinator and case manager will offer support and encouragement to clients as
they take action towards achieving their goal and will help them to access any
community resources that may be necessary for them to be successful. Case
managers participating in this project agree to address the physical health needs
and progress towards the health-promotion goal with clients during their
individual appointments and to document this information in their progress notes.

The final appointment with the project coordinator will include a re-
measurement of participants’ blood pressure, height, weight, and waist
circumference. They will also be asked to complete the 6-item questionnaire that
they completed at their initial appointment. This appointment is expected to take
approximately ½ hour.

The case managers participating in this project understand that the project
coordinator will review their documentation on clients who are also participating
in the project. The documentation audit will be conducted at the end of the
project and will evaluate the presence or absence of information regarding clients’
physical health needs and health-promotion action plan in an addendum to the
person-centered plan, and documentation of clients’ progress towards their goal in
the progress notes for individual appointments. Case managers also agree to
participate in a focus group conducted by the project coordinator at the
completion of this project. The focus group will address case managers’
perceptions and attitudes towards the use of the Physical Health Check tool, the
physical health screening and action plan development process, and
documentation of this information in the clinical record.
7. **RISKS**: Potential risks involved in participating in this project are minimal; however, they include the potential for a breach of confidentiality and privacy with clients’ personal health status and identifying information. All efforts will be taken to ensure that this does not occur and that their individual and personal information is kept strictly confidential.

8. **POTENTIAL BENEFITS TO CLIENTS**: Potential benefits to clients participating in this project include the opportunity for them to learn more about their physical health and what they can do to improve their health.

9. **POTENTIAL BENEFITS TO SOCIETY**: Potential benefits from this project include increased knowledge for case managers in the program, and for the project coordinator, about how to integrate physical health needs into the health care of adults with serious mental illness. This knowledge can be used for the benefit of other clients participating in the Community Case Management program in the future.

10. **VOLUNTARY PARTICIPATION**: Your participation in this project is completely voluntary. You do not have to participate. You may quit at any time without any penalty to you.

11. **PRIVACY AND CONFIDENTIALITY**: Participants’ names will not be given to anyone other than the Community Case Management team. All the information collected from them or about them will be kept confidential to the fullest extent allowed by law. Documentation audits of case managers will not include their names on the data collection tools to protect their privacy. In very rare circumstances specially authorized university or government officials may be given access to our research records for purposes of protecting your rights and welfare.

12. **RESEARCH STUDY RESULTS**: If you wish to learn about the results of this study you may request that information by contacting: Kathy Speeter – Project Coordinator through the Community Case Management office at (616) 222-4570.

13. **PAYMENT**: There will be no payment for participation in this project.

14. **AGREEMENT TO PARTICIPATE**: By signing this consent form below you are stating the following:
   - The details of this project have been explained to me including what I am being asked to do and the anticipated risks and benefits;
   - I have had an opportunity to have my questions answered;
   - I am voluntarily agreeing to participate in the project as described on this form;
   - I may ask more questions or quit participating at any time without penalty. ____________ (Initial here) I have been given a copy of this document for my records.
15. If you have any questions about this study you may contact the project coordinator as follows:

NAME: Kathy Speeter
PHONE: (616) 222-4570
E-MAIL: speeterk@mail.gvsu.edu

If you have any questions about your rights as a project participant, please contact the Research Protections Office at Grand Valley State University, Grand Rapids, MI.

Phone: (616) 331-3197 E-Mail: HRRC@GVSU.EDU

This research protocol has been approved by the Human Research Review Committee at Grand Valley State University. File NO. 13-091-H Expiration: February 15, 2014.
APPENDIX N

Focus Group Narrative Responses by Case Managers
1. Do you perceive intentional physical health screening and action planning as an important issue? Why?

There was benefit from having another person focusing on clients’ physical health. “I heard positive feedback from clients who appreciated the focus on their physical health.”

“This is good stuff!”

“It has been out there as a gray area for case managers; there are always other things with clients and their priorities” that need to be addressed by case managers.

“I’m thinking about things differently”; case managers are seeing the need for resources devoted to working with clients on physical health and health-promotion goals because they do not have the time to effectively address these needs. “We are more focused on their mental health needs, helping to connect them with resources for finances, housing, and employment, dealing with substance abuse and mental health symptoms, etc. There is limited time to focus on their physical health.”

2. Did you find the documentation of physical health needs and related action plans in the person-centered plan and progress notes relatively easy to accomplish? If not, what are the challenges or barriers?

Case managers indicated they didn’t add an addendum to the treatment plan to incorporate the health-promotion goals. In some cases physical health goals were stated as part of the treatment plan based on the psychosocial assessment, “so we didn’t create something else” in addition to what was already there.

Case managers used the goals as part of their progress note documentation when discussing clients’ progress with them during their individual appointments. “We found your [project coordinator] e-mail updates very helpful to all case managers, and we discussed clients’ progress towards their physical health goals with them in our sessions.”

3. Does the information collected with the Physical Health Check tool create value to you for your assessment and treatment planning with clients? Name some specifics.

The information from the tool “is very comprehensive”. “The current nursing assessment tool is not a very good tool – not intensive enough and not engaging
with clients”. “You connected well with clients” and engaged them in the process of working on their physical health and related goals.

“We need more access to the tool.”

“The tool needs to be in the chart [electronic record].”

“The information in the tool would be very helpful to case managers when we are on-call” and need to address clients’ needs when they are in crisis, going to the emergency room, etc.

4. Have you seen physical and/or emotional health benefits with clients as a result of their participation in this project (physical health screening and health-promotion action planning)? Name some specifics.

“Definitely emotional! You helped [client’s name] with her motivation even though she didn’t see a lot of physical results after three appointments due to her extensive health and pain issues.”

“Yes. Clients got a lot of benefit from working with an outside person for additional support.”

One case manager viewed having an additional resource to focus on physical health as an analogy to his young children being “disobedient with the parents, i.e., case managers, and “being an angel with the grandparents”, i.e., project coordinator. Clients tended to focus more on their physical health needs and goals while working with someone other than the case manager and having an intentional focus on their physical health.

“[Client’s name] did really well. The meetings with you [project coordinator] really boosted him.”

“You [project coordinator] were very easy to work with, and [client’s name] really benefited from her meetings with you.”

“You were so welcoming. Clients wanted to come in and meet with you. They were engaged.” “You planted a seed” for clients to think about and focus on their physical health and related goals.

“I have seen a lot of motivation with [client’s name]. She used to sleep a lot and not take morning calls when I tried to contact her. Exercise and having more support has helped her with her motivation.”

“Clients could benefit from ongoing support, e.g., an exercise program or Weight Watcher’s group.”
5. Other comments regarding the use of the PHC tool for physical health screening and action planning:

“There is benefit to having an outside person to focus on clients’ physical health needs. They often say what they think we [case managers] want to hear.”

“A barrier is the hierarchy of needs with clients. It is hard to focus on their physical health needs when they have so many other concerns we need to address.”

“Overall, this was a good motivator for clients.”
LIST OF REFERENCES


