Hispanics with Serious Mental Illness and at Risk for Cardiovascular Disease:

Self-Management Behaviors and Barriers to Living a Healthy Lifestyle

Arminda Pérez Gomes

Submitted in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
under the Executive Committee of the
Graduate School of Arts and Sciences

COLUMBIA UNIVERSITY

2015

Abstract

Hispanics with serious mental illness and at risk for cardiovascular disease:

Self-management behaviors and barriers to living a healthy lifestyle

Arminda Pérez Gomes

Persons with serious mental illness (SMI) are in worse physical health compared to persons in the general population and are more likely to develop medical conditions, such as obesity and diabetes, which place them at risk for cardiovascular disease (CVD). There is some evidence that Hispanics with serious mental illness are at greater risk for developing CVD risk factors compared to non-Hispanic Whites with SMI mainly due to health disparities. This study asks the questions: 1) What self-management behaviors do Hispanics with SMI and at risk of CVD engage in or attempt to engage in?, 2) How do measures of self-efficacy and patient activation correspond to self-management behaviors and barriers?, and 3) How do patients' and stakeholders' reports of barriers converge or diverge? Self-efficacy theory and social ecology theory were used as theoretical frameworks. Twenty four consumers were recruited from an outpatient mental health clinic. Seventeen stakeholders were recruited through various sites. A convergent mixed methods approach was used. Quantitative measures of self-efficacy and patient activation were compared to qualitative data on self-management behaviors and barriers to healthy living. Additionally, two sets of qualitative data on consumers' and stakeholders' perceptions of barriers to healthy living were compared to determine if they converged. Self-management behaviors identified included: healthy eating, seeking medical care, engaging in physical activity, involving others, self-motivation, use of faith, and engaging in structured and unstructured activities. Consumers with high levels of self-efficacy and patient activation tended to engage in more self-management behaviors regularly and perceived fewer barriers. Consumers with the lowest levels of self- efficacy and patient activation engaged in fewer self-management

behaviors regularly and encountered more barriers. Consumer and stakeholder perceptions of barriers to healthy living experienced by consumers did converge, with the exception of the following additional barriers which were only identified by stakeholders: lack of health education, lack of formal education, consumer beliefs and fears, and body image. Using an ecological approach, barriers were identified at different environmental levels, often interacting. Overall, self-efficacy and patient activation may have an important influence on self-management behaviors among Hispanics with SMI and at risk for CVD. There is the possibility that barriers may moderate this relationship. Additionally, an ecological approach to understanding barriers to healthy living can be used to locate barriers and develop interventions which address them.

Table of Contents

List of Tables

List of Figures

Acknowledgements

I would like to express my gratitude to my committee members, all of whom have been so supportive of my efforts throughout the years. First, I would like to thank my dissertation co-sponsors, Denise Burnette and Leopoldo Cabassa for their guidance, feedback and constant support throughout this process. I am very grateful for their mentorship over the years. I am also grateful I had the opportunity to study qualitative methods under Dr. Burnette. It prepared me well for this dissertation. I would especially like to thank Dr. Cabassa for giving me the opportunity to work on his study where I learned so much, and for allowing me to use his data for my dissertation. I would like to thank Ellen Lukens for her support beginning with my application to the doctoral program. I appreciate the opportunity I was given. I would like to thank Victoria Rizzo for giving me my first opportunity at research in the doctoral program. Finally, everything I learned in Victoria Raveis' gerontology courses I will take with me into my work. I would also like to thank Julien Teitler, Lindsay Bennett, and Jessica Troiano for their administrative support over the years, and for helping the doctoral students navigate life at Columbia. Finally, I would like to thank my mother, Carmen Gomes, who is my biggest cheerleader and my greatest ally. She has patiently stood by me during these many years of study, some of those years very difficult, and always knew I would finish.

Dedication

For my mom

1. Introduction

Persons with serious mental illness (SMI; e.g. schizophrenia, bipolar disorder, depression) have higher rates of cardiovascular disease (CVD) risk factors, such as diabetes (Cabassa, Lambert, Chou, Chang, Tafesse, & Carson, 2005), obesity (Compton, Daumit, & Druss, 2006) and metabolic syndrome (McEvoy et al., 2005) compared to the general population, placing them at greater risk for developing and dying from CVD. Hispanics with SMI may be at greater risk for developing CVD compared to non-Hispanic Whites (NHW) with SMI. Hispanics with SMI have high rates of obesity, diabetes, MS and heart disease compared to NHW with SMI (Hellerstein et al., 2007; Kato, Currier, Gomez, Hall, & Gonzalez-Blanco, 2004), making Hispanics with SMI more vulnerable to complications due to multiple medical illnesses and premature death. Regardless of what medical services are being provided, it is ultimately left to the individual and their families to manage an illness outside the system of care. The conditions listed above are chronic non-communicable diseases, which require a great deal of self-management. Self-management is “the individual’s ability to manage the symptoms, treatment, physical and psychosocial consequences and life style changes inherent in living with a chronic condition” (Barlow, Wright, Sheasby, Turner, & Hainsworth, 2002, p. 178). It has become increasingly emphasized in the literature on chronic illness care as a critical component of illness management (Sterling, von Esenwein, Tucker, Fricks, & Druss, 2010).

Given that Hispanics with SMI live with multiple comorbid conditions, which are often complex and require self-care, it is important to understand the self-management strategies they use to cope with their illnesses, as well as the contextual barriers they face, which prevent them from following through on the health and lifestyle recommendations made by stakeholders involved in their care (e.g., physicians, mental health professionals). Knowledge of self-management strategies and barriers can help health care professionals formulate treatment recommendations and can also help inform the development of effective and targeted interventions to help Hispanics with SMI better manage the medical conditions which place them at greater risk for CVD. Given that self-management is about the individual, and the individual is part of a broader environment, this study looks at self-management behaviors and barriers using self-efficacy theory and an ecological approach on a sample of mostly Dominicans with SMI.

Little is known about self-management behaviors among persons with SMI in general, and particularly Hispanics, outside of studies on self-management interventions. Also missing from the literature is research on what stakeholders involved in the care of Hispanics with SMI and at risk for CVD understand as the barriers to living a healthy lifestyle for this population. Finally, there is a gap in the literature of studies looking at self-management behaviors within the context of barriers among persons with SMI and comorbid medical illnesses, Hispanics included. This convergent mixed methods study addresses gaps in the literature by examining the self-management strategies of an understudied population, considering self-management within the context of consumer-identified barriers, and comparing both consumer and stakeholder views on barriers to healthy living, both for illness prevention and management of an existing condition.

This convergent mixed methods study asks the following questions:

a. What self-management behaviors do Hispanics with SMI and at risk of CVD engage in or attempt to engage in (qualitative data)?

b. How do self-management behaviors (qualitative data) correspond to measures of self-efficacy and consumer activation (quantitative data)?

    i. Hypothesis 1i: There will be a positive association between levels of self-efficacy and self-management behaviors. Hypothesis 1ii: There will be a positive association between consumer activation and self-management behaviors.

2. What are the barriers to living a healthy lifestyle:

    a. Identified by consumers (qualitative data)

        i. How do these barriers (qualitative data) correspond with measures of self-efficacy and consumer activation (quantitative data)?

            1. Hypothesis 2i: There will be a negative association between self-efficacy and barriers. Hypothesis 2ii: There will be a negative association between consumer activation and barriers.

3. What are the barriers to healthy living identified by stakeholders involved in consumers' care (qualitative data)

    a. How do consumers' and stakeholders' reports of barriers converge or diverge?

2. Review of the Literature

2.1 CVD Risk Factors: Persons with SMI and Hispanics with SMI

Persons with serious mental illness (SMI) die earlier and have a higher relative risk of death than people without SMI largely due to preventable illnesses, such as CVD (Colton & Manderscheid, 2006; Druss, Zhao, Von Esenwein, Morrato, & Marcus, 2011; Parks, Svendsen, Singer, & Foti, 2006). Findings are conflicting with regard to how many years of life are lost among persons with SMI. Some studies note 25 years (Parks et al., 2006), while others note 8-10 years (Druss et al., 2011). The large difference in projected years of life lost may have to do with the studies themselves, specifically their samples. Parks's (2006) sample came from the public mental health system, while Druss (2011) used a national dataset. A more recent meta-analysis found that the risk of mortality was 2.22 times higher among persons with mental disorders compared to the general population, with ten years of potential life lost (Walker, McGee & Druss, 2015). What is clear is persons with SMI are dying at younger ages due to health problems. Heart disease is linked to early mortality among persons with SMI (Colton & Manderscheid, 2006). Schizophrenia is associated with higher incidence of CVD, stroke and congestive heart failure (Fan, Wu, Shen, Ji, & Zhan, 2013). Among persons with bipolar disorder, the association between cardiovascular risk and the disorder is comparable to rates among persons with schizophrenia (Swartz & Fagiolini, 2012). Persons with SMI are also more likely to have multiple comorbid conditions (e.g., diabetes, metabolic syndrome, obesity) which are risk factors for developing CVD compared to the general population (Calkin, Gardner, Ransom, & Alda, 2013; Henderson et al., 2005; Lambert et al., 2005; McElroy & Keck Jr., 2012).

Persons with SMI have higher rates of obesity compared to the general population, which places them at greater risk for developing heart disease and diabetes (Chwastiak et al., 2009; McElroy & Keck Jr., 2012; Ratliff, Palmese, Reutenauer, Srihari, & Tek, 2013). Obesity is one and a half to two times more prevalent among persons with schizophrenia compared to the general population (Chwastiak et al., 2009). The prevalence of obesity and diabetes among persons with schizophrenia is one and a half to two times that of the general population (American Diabetes Association, American Psychiatric Association, American Association of Clinical Endocrinologists, & North American Association for the Study of Obesity, 2004). Higher rates of obesity have also been found among persons with bipolar disorder compared to the general population (L. B. Goldstein et al., 2011; McElroy & Keck Jr., 2012). In addition to creating medical problems, obesity may impact a psychiatric illness. Persons with bipolar disorder who were also obese are more likely to have increased psychiatric symptoms, such as depression, compared to persons with bipolar disorder at normal weight (B. I. Goldstein, Liu, Schaffer, Sala, & Blanco, 2013).

Higher rates of diabetes have been found among persons with SMI (American Diabetes Association et al., 2004; Calkin et al., 2013). Rates of diabetes among persons with schizophrenia and bipolar disorder are higher than the general population (Calkin et al., 2013; Dixon, Weiden, Delahanty, & al, 2000). Diabetes can contribute to premature mortality among persons with mental disorders. A study of persons with co-occurring substance abuse and psychotic disorders found that 49% died from diabetes within a twelve year period (Jackson, Covell, Drake, & Essock, 2007). There is also a connection between having diabetes and severity of psychiatric symptoms. Persons with bipolar disorder and Type II diabetes have been shown to have more severe psychiatric symptoms and tend to be less responsive to psychiatric treatment (Calkin et al., 2013). It may be that persons with SMI who are more chronically symptomatic are less able to care for themselves placing them at greater risk for developing diabetes and other illnesses. It may also be that the diabetes itself impacts the symptoms of a psychiatric illness.

Metabolic syndrome (MetS) is another risk factor for CVD which is found in higher rates among persons with SMI (Basu et al., 2004; McEvoy et al., 2005). MetS is a clustering of risk factors for CVD characterized by the presence of three or more of the following: abdominal obesity, low high density lipoprotein (HDL), elevated fasting triglycerides, hypertension, and impaired fasting glucose or overt diabetes (Fagiolini, Frank, Scott, Turkin, & Kupfer, 2005; McEvoy et al., 2005). Persons with SMI and MetS have three to five times the risk of dying from coronary heart disease compared to the general population (Fagiolini et al., 2005; McEvoy et al., 2005). Persons with schizophrenia have three times the risk of developing MetS compared to the general population (McEvoy et al., 2005). High rates of MetS have also been seen among persons with bipolar disorder (Fagiolini et al., 2005). The chronic stress and strain experienced by persons with SMI along with poor coping can lead to hyper-vigilance, excess cortisol production and, ultimately, MetS (Toalson, Saeeduddin, Hardy, & Kabinoff, 2004).

Hispanics in the United States with SMI may face a double jeopardy for developing CVD, first as members of an ethnic minority with higher rates of risk factors when compared to other groups and, second, as individuals with a severe mental illness. There is evidence that Hispanics have higher rates of mental illness compared to other groups. In a national survey on drug use and health, the Substance Abuse and Mental Health Services Administration (SAMHSA) found that, among adults 18 years and older who had received mental health treatment within the past year, 28% of Hispanics sampled had been treated for a serious mental illness compared to 16% of NHW and 19 % of Black/African Americans (SAMHSA, 2012). There is also evidence of higher rates of medical risk factors for CVD. It has been well-documented that Hispanics in the general population have higher rates of Type II diabetes compared to non-Hispanic Whites (NHW; Centers for Disease Control and Prevention, 2011; Fryar, Hirsch, Eberhardt, Yoon, & Wright, 2010). Hispanics have higher diagnosed rates of diabetes (11.8%) compared to NHW (7.1%; Centers for Disease Control and Prevention, 2011). There is also evidence of higher rates of obesity and MetS, both risk factors for diabetes, among Hispanics compared to NHW (Centers for Disease Control and Prevention, 2009; Flegal, Carroll, Ogden, & Curtin, 2010; Jordan et al., 2012). Hispanics also have higher rates of obesity compared to NHW (28.7% of Hispanics versus 23.7% of NHW; Centers for Disease Control and Prevention, 2009). When the diversity of Hispanics is considered, group differences emerge. Hispanics from a Puerto Rican background, Hispanics with lower socioeconomic status, and those with higher levels of acculturation had a higher prevalence of risk factors (three or more) compared to other Hispanic groups (Daviglus et al, 2012). Puerto Ricans have the highest rates of diabetes, obesity, and current smoking compared to other Hispanic groups (Daviglus et al, 2015; Pabon-Nau, Cohen, Meigs, & Grant, 2010).

There may be a gender difference in rates of obesity among Hispanics. Flegal, Caroll, Ogden & Curtin (2010) found that Hispanics age 20 and older tend to have higher rates of obesity compared to same aged NHW, with women having higher rates than men. Studies looking at rates of MetS among different Hispanic groups have found higher rates and gender differences as well (Davidson et al., 2007; Jordan et al., 2012). In a study of MetS in the New

York City area, Hispanics had higher rates of MetS compared to NHW, but prevalence was higher among Hispanic women versus Hispanic men (Jordan et al., 2012). Findings suggest Hispanic women may be more vulnerable to certain CVD risk factors.

Findings on rates of hypertension among Hispanics have been mixed, with some studies stating there are lower rates among Hispanics compared to NHW (Borrell, Crawford, Huynh, & Dumanovsky, 2008), and others suggesting rates are slightly higher (Centers for Disease Control and Prevention, 2013b). Here, groups difference may play a role as with diabetes and obesity. Hispanics are a diverse group with differences in nationality, culture and race. The heterogeneity among Hispanics may account for some of the findings on rates of hypertension, as well as other illnesses. For example, in a study of hypertension and race conducted in New York City, there were lower rates of reported hypertension among Hispanics compared to NHW (Borrell et al., 2008). However, Black Hispanics had greater odds of reporting hypertension compared to White Hispanics, suggesting race was a factor in the prevalence of hypertension (Borrell et al., 2008). While findings on hypertension have been inconsistent, there is evidence of higher rates of the illness among specific Hispanic groups, such as Caribbean Hispanics, especially Puerto Ricans, compared to NHW (Pabon-Nau et al., 2010; Pickering, 2004).

The limited studies that have looked at CVD risk factors for Hispanics with SMI have found higher rates in this population. In a study of the effects of Clozapine, a second generation antipsychotic (SGA), Hispanic consumers were found to be at greater risk for developing diabetes compared to NHW (Henderson et al., 2005). Hispanics with schizophrenia gained more weight and had higher rates of obesity compared to NHW with schizophrenia following treatment with some SGA (e.g. Olanzapine, Aripiprazole; Ader, Garvey, Phillips, Nemeroff, Gharabawi, Mahmoud et al, 2008). In a study of consumers with co-occurring substance abuse and psychotic disorders, participants with a diagnosis of diabetes were more likely to be Hispanic (Jackson et al., 2007). A study of morbidity and mortality rates in an outpatient clinic with a predominantly Hispanic consumer population found that these consumers were at high risk for obesity, diabetes, and cardiac disease (Hellerstein et al., 2007). Finally, Hispanics with schizophrenia have a significantly greater prevalence of MetS than their non-Hispanic counterparts (Kato et al., 2004). There is a lack of literature on CVD risk factors among racial and ethnic minorities with SMI, as most studies looking at CVD risk factors among persons with SMI do not typically stratify their sample by race or have small numbers of racial and ethnic minorities in their sample (Carliner, Collins, Cabassa, McNallen, Joestl, & Lewis-Fernández, 2014). However, a critical review of the literature in this area suggests there is evidence of additive risk for CVD risk factors among racial/ethnic minorities with SMI (Carliner et al, 2014).

Many factors contribute to the higher rates of comorbid CVD risk factors among persons with SMI. The side effects of psychotropic medications, specifically SGA, are a significant cause. Many SGA are associated with obesity, diabetes, hypertension, hyperlipidemia (Daumit et al., 2008; Henderson et al., 2005; Lambert et al., 2005; McCloughen & Foster, 2011). SGA can cause a rapid increase in body weight that may continue even after one year of treatment and can lead to metabolic changes, specifically changes in lipid serums, which are also a risk factor for CVD (ADA et al., 2004). However, not all SGA produce the same degree of side effects. SGA differ in their effects on weight gain, and lipid and glucose regulation (Raedler, 2010). Clozapine and olanzapine are typically associated with weight gain and poor physical health (D. L. Kelly et al., 2010; Raedler, 2010). Ethnicity may also impact the effects of SGA. In a ten-year naturalistic study of the effects of Clozapine, an SGA, Hispanics with SMI were found to be at greater risk for developing diabetes and of dying from CVD following treatment with Clozapine (Henderson et al., 2005).

Apart from medication effects, adverse health behaviors among persons with SMI also contribute to chronic disease. Smoking, an unhealthy diet, and physical inactivity are all prevalent among persons with SMI and can negatively impact their health, as well as increase their risk of CVD (Cerimele & Katon, 2013; Dickerson et al., 2013; Janney et al., 2013; Stark Casagrande et al., 2011). Persons with SMI are at high risk of developing chronic diseases associated with sedentary behavior (Richardson et al., 2005). In a study of sedentary behavior and psychiatric symptoms, 81% of participants exhibited sedentary behavior for thirteen hours per day, not including sleep time (Janney et al., 2013). Higher rates of physical inactivity are more common among certain groups. Hispanics in the general population are less physically active than their NHW counterparts (CDC, 2013). Residence in urban areas may play a role in lower rates of physical activity among Hispanics. In a study of population rates of Hispanics by location, it was found that 77% of Hispanics resided in the top 100 largest metropolitan areas in the U.S. and their suburbs (Brown & Hugo Lopez, 2013). In urban areas, particularly in lower income areas, unsafe neighborhoods, distressed physical environments and lack of parks and locations for exercise prevent residents from exercising (Lopez & Hynes, 2006). Other adverse behaviors also impact the physical health of persons with SMI. High rates of smoking among persons with SMI are especially concerning. It is estimated that 50-80% of persons with SMI smoke (Newcomer & Hennekens, 2007). Smoking rates are especially high among persons with schizophrenia (Dickerson et al., 2013; McClave, McKnight-Eily, Davis, & Dube, 2010). Finally, the effects of substance abuse also compromises the health of individuals with potentially deadly consequences (Druss, 2007).

Persons with SMI are more likely to receive poor quality medical care which also contributes to their diminished health (Druss & Walker, 2011). Persons with SMI are less likely to receive treatment in the event of a cardiac crisis (Newcomer & Hennekens, 2007; Scott, Platania-Phung, & Happell, 2012). CVD risk factors, such as diabetes, dyslipidemia, hypertension and obesity are all undertreated within this population (Morrato et al., 2011; Scott et al., 2012). In a study of consumers taking SGA, less than 20% received baseline serum glucose testing, and less than 10% received lipid testing (Morrato, Newcomer, Allen, & Valuck, 2008). Both glucose and lipid levels can be impacted by SGA resulting in diabetes and high cholesterol. In the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE), a nationwide, public health study of the effects of older versus newer antipsychotics, researchers studying medical treatment rates among persons with schizophrenia found that 30.2% of diagnosed diabetics, 62.4% of diagnosed hypertensive consumers, and 88.8% of consumers with dyslipidemia were not receiving treatment (Nasrallah et al., 2006). Women of color, Hispanic women included, with schizophrenia were especially vulnerable to going untreated (50% treatment rate for diabetes, 4% treatment rate for dyslipidemia (Nasrallah et al., 2006). Hispanics with schizophrenia were 21% less likely to be treated for hypertension than NHW persons with schizophrenia (Nasrallah et al., 2006).

The literature on health disparities can elucidate possible causes for the differences in health status between Hispanics with SMI versus NHW with SMI. Health disparities are defined as group differences in morbidity and mortality that are distributed inequitably by gender, race or ethnicity, education, income, disability, geographic locations and/or sexual orientation (U.S. Department of Health ans Human Services, 2000). Hispanics with SMI are affected by their minority status, having a disabling mental illness with stigma attached, and, oftentimes, poverty. Health disparities are potentially avoidable and negatively affect socially disadvantaged groups (Diez Roux, 2012). The fundamental cause model is one approach to explaining health disparities. Social conditions, such as socioeconomic status, influence relationships and access to resources which may impact a person's health (Link & Phelan, 1995). Socioeconomic status is a fundamental cause of disease and mortality because economic disparities endure in society, whereas the mechanisms by which they exert their influence may change over time (Phelan & Link, 2004). Other models are based on an ecological framework, where contextual factors at the social, environmental and societal levels impact an individual or group's overall health (Castro, Shaibi, & Boehm-Smith, 2009). Marmot (2005) argues for a broader understanding of the effects of poverty on health beyond economic deprivation and including contextual factors such as the conditions where people live and work. In the case of Hispanics with SMI, their ethnicity and having a psychiatric illness may make them more susceptible to discrimination in the health care system (Cabassa et al., 2013).

It should be noted that not all studies support the existence of health and medical care disparities among Hispanics with SMI. In a study of the relationship between race, ethnicity and psychiatric diagnosis and the prevalence of multiple chronic medical conditions, Hispanics with a psychiatric diagnosis were found to have significantly lower odds of having multiple chronic medical conditions compared to NHW with a psychiatric diagnosis (Cabassa, Humensky, et al., 2013). The same holds true for racial and ethnic disparities in medical care. A study of diabetes care in persons with SMI, found that being Hispanic was associated with better quality diabetes care and fewer hospitalizations (Druss et al., 2012). It is not clear what the sources of the discrepancies are in health disparities among Hispanics with SMI. Immigrant status may play a role. However, while newly arrived Hispanic immigrants may be in better health, their health gradually worsens the longer they are in the U.S. with increasing rates of obesity, hypertension and heart disease (Dey & Lucas, 2006; Sanchez-Birkhead, Kennedy, Callister, & Miyamoto, 2011). The effects of acculturation are another possibility. However, social and economic determinants have been found to be more important predictors than culture in understanding health care disparities (Zambrana & Carter-Pokras, 2010). Acculturation acts as a proxy for economic determinants in cases of utilization of health care services, for example. Less acculturated Hispanics may be less likely to use health care services, but they may also have more limited economic means than more acculturated Hispanics which may have more of an impact when seeking services (Zambrana & Carter-Pokras, 2010). The effect of social supports on health disparities is also not clear. Social networks have been found to influence health promoting, as well as health damaging behaviors (Berkman & Glass, 2000). However, there is a lack of studies examining social support and health disparities and inconsistent findings of a buffering effect among studies which have been completed (Gorman & Porter, 2011). Studies of racial and ethnic health disparities among persons with SMI are an emerging field and further exploration is needed. However, there is evidence to support the assertion that Hispanics with SMI are in poor physical health.

2.2 Self-Management and Barriers

People living with a chronic illness spend the majority of their time outside the system of care. It falls to them and, oftentimes, their families to manage their illness and ensure their wellbeing on a day-to-day basis. How they accomplish this is the result of their self-management behaviors. Researchers have defined self-management in different ways. Frequently cited in the literature, Barlow's (2002, p. 178) definition of self-management is the "the individual's ability to manage the symptoms, treatment, physical and psychosocial consequences and life-style changes inherent in living with a chronic condition." The individual must be able to monitor his or her condition and respond cognitively, behaviorally and emotionally as needed to maintain a satisfactory quality of life (Barlow et al., 2002). Self-management is a dynamic process with continuous self-regulation (Barlow et al., 2002). There is an interplay between the person and the illness, with ongoing self-monitoring, constantly having to adapt to changes in one's body and health, and learning new ways to self-care and cope. Consumers are active participants in their treatment. Seeking health care is one element of self-management. Chronic medical illnesses also require changes in lifestyle. Recommendations for maintaining a healthy lifestyle can include dietary changes, engaging in regular physical activity, and stopping smoking. Studying self-management behaviors is important, because they have the potential to positively impact a person's health status and ensure wellness, making it a critical component of chronic illness care.

Self-management interventions have been widely used and tested on persons with chronic illnesses (e.g. diabetes, arthritis, asthma) and with different populations (e.g., older adults, persons with mental illness) . Self-management programs have been found to improve outcomes related to health behaviors, symptoms, and health care experiences by teaching self-management skills and providing consumer education. The Chronic Disease Self-Management Program (CDSMP), a well-established and well-studied intervention, has been shown to improve health behaviors (e.g., increase exercise), and health status (e.g., reductions of pain among persons with arthritis and back pain), and reduce health care utilization (K. R. Lorig & Holman, 2003). Interventions aimed at diabetes and hypertension self-management in older adults have been found to improve glucose measurement and decrease blood pressure (Chodosh et al., 2005). Among Hispanics, the CDSMP has been found to increase the use of physicians, while decreasing hospitalizations (K. R. Lorig, Ritter, & Jacquez, 2005). A diabetes self-management program aimed at low-income Spanish-speaking persons resulted in a reduction in HbA1c levels (an indicator of diabetes) (Rosal et al., 2005).

Self-management programs targeting persons with mental disorders have been developed to help manage mental illness, and also manage comorbid medical illnesses. In some cases, the two aims are integrated (e.g., management of both physical and mental health). Self-management programs for persons with SMI also integrate wellness and recovery by emphasizing health over disease and teaching persons with mental disorders the skills to better manage their illnesses and improve their well-being (Sterling et al., 2010). The Living Well Program (Goldberg et al., 2013) is one example of a self-management program for persons with SMI. It is based on the CDSMP and uses a peer- led format to provide consumer education and teach skills related to goal setting and problem solving. A key component is building consumers' confidence so that they can carry out the tasks needed to manage their illness. Living Well was found to improve self-management techniques, improve diet, increase physical activity and decrease emergency room usage for medical care (Goldberg et al., 2013). Other self-management programs have been successful in helping persons with SMI lose weight (Klam, McLay, & Grabke, 2006) and increase primary care visits (Druss, Zhao, et al., 2010). It should be noted that, Hispanics are underrepresented in studies of self-management interventions aimed at persons with SMI. In one study, Hispanics accounted for merely 2.1 % of the sample (N=139; K. R. Lorig, Ritter, Pifer, & Werner, 2013), in another 6.6% (N=183; Mueser, Bartels, Santos, Pratt, & Riera, 2012). In some studies, Hispanics are not included in the sample at all (Druss, Zhao, et al., 2010; Kroenke et al., 2009). The lack of inclusion of Hispanics with SMI in these studies represents a gap in the literature on the effectiveness of self-management programs for this population.

Barriers to self-management have been studied in persons with chronic medical conditions and persons with SMI. Barriers occur within the context of a person's life and environment. Despite an individual's best efforts, barriers may emerge at multiple levels and can thwart attempts to self-manage an illness. Persons with SMI can face a number of barriers to living a healthy lifestyle, such as financial constraints stemming from poverty and a lack of employment (Druss & von Esenwein, 2006; O'Day, Killeen, Sutton, & Iezzoni, 2005). Persons with SMI may be socially isolated and lack needed social supports (Shor & Shalev, 2013). The side effects of psychotropic medications can compound health problems (American Diabetes Association et al., 2004). The health and mental health organizations persons with SMI interact with may not support their efforts to live healthy (e.g., a community program that serves unhealthy meals) (Shor & Shalev, 2013). It can be difficult for persons with SMI to find a primary care physician who is empathic, has good communication skills, and has some knowledge and understanding of psychiatric illnesses, which may negatively impact the medical care they receive (O'Day et al., 2005). For Hispanics with SMI, language barriers and experiences of racism and stigma when seeking medical help create additional barriers to obtaining treatment (Cabassa, Gomes, et al., 2013). Barriers are points where interventions can be targeted to enable persons with SMI to return to self-managing. Barriers also tell us what persons with SMI need to have in order to be able to effectively self-manage, e.g. social supports, financial stability and empathic providers.

2.3 Theoretical Frameworks

Given that self-management is about the individual dealing with a disease within a context, self-efficacy theory and social ecology theory were chosen as the two theoretical frameworks to be used in this study. Self-efficacy theory focuses on individual persons, and how their perceptions about their abilities to effect change inform their health behaviors (Bandura, 1997). It is the underlying theory of most self-management programs and has been used to explain self-management behaviors in coping with a chronic illness, making it an important framework for this study (K. R. Lorig & Holman, 2003). Social ecology theory takes a broader view of health promotion and considers the contextual factors which influence individual behavior (Sallis, Owen, & Fisher, 2008). While self-efficacy theory explains the individual psychology behind self-management behaviors, social ecology theory considers the ecology around the behaviors and how they influence self-management. The combination of the two theories provides a more comprehensive picture of self-management and barriers.

2.3.1 Self-Efficacy Theory

Developed by Albert Bandura (1977), self-efficacy theory stems from social cognitive theory and is the theoretical framework for many self-management programs (K. R. Lorig & Holman, 2003; Newman, Steed, & Mulligan, 2004). Self-efficacy is the belief individuals have in their ability to take the actions needed to achieve a given outcome (Bandura, 1997). It is tied to people's sense of control over their situation. A person's perceived self-efficacy will impact what behavior is initiated in a situation, how much effort the person will put in, and whether the person will sustain the behavior in the face of obstacles (Bandura, 1977). Past performance outcomes influence perceived self-efficacy the most (Bandura, 1986). Whether people have been successful in effecting change before will influence how they perceive their ability to do so in the present. While self-efficacy theory focuses on individual agency, it is grounded in social cognitive theory, which also considers the influence of the environment on individual behavior (Bandura, 1986). Social cognitive theory emphasizes reciprocal determinism, meaning individual behavior is influenced both by the person and the environment (Bandura, 1986). At the same time, a person can influence their environment through their behaviors. The activities and environments people choose affect the course of their life (Bandura, 2012). People are able to create their environments to better control their lives. However, imposed environments over which people have no control act on individuals whether they like it or not (Bandura, 2012). An example is the experience of living in a low-income neighborhood necessitated by economic hardship.

The use of self-efficacy theory to understand self-management is largely influenced by Lorig's work (Bandura, 1997; K. R. Lorig & Holman, 2003). In early studies of the CDSMP on persons with arthritis, it was found that improvements in health behaviors were not associated with improvements in health status (K. R. Lorig & Holman, 2003; K. R. Lorig et al., 1989`). A follow-up qualitative study revealed that participants attributed improvements in their health status to feeling more in control of their illness after completing Lorig's self-management program (Lenker, Lorig, & Gallagher, 1984; K. R. Lorig & Holman, 2003). Participants' self-perceptions of their situation determined whether or not they made an effort to self-manage (Holman & Lorig, 2004). Participants with positive perceptions made an effort and had better outcomes, while those with negative perceptions tended to be inactive and have worse outcomes (Holman & Lorig, 2004). Lorig collaborated with Bandura, and self-efficacy theory was identified as the theory underlying the CDSMP, and, ultimately, the concept of self-management. Self-efficacy influences self-management behaviors. A study of self-efficacy among persons with diabetes found that, with every 10% increase in self-efficacy, participants were more likely to report self-management behaviors such as keeping an optimal diet, exercising more, and self-monitoring glucose levels (Sarkar, Fisher, & Schillinger, 2006). Findings were true across race and ethnicity.

Self-efficacy theory highlights the importance of feeling in control in the face of circumstances as a motivator to take action or remain inactive. Bandura (1997) argues that people's beliefs about whether they can motivate themselves and regulate their behavior will impact whether or not they change unhealthy habits or adopt healthier behaviors. Perceived inefficacy originates in a person's belief that they have little or no chance of effecting changes related to their illness (Bandura, 1997). In other words, persons who feel confident that they can carry out the tasks needed to achieve a particular health goal will be more likely to take action, thus self-managing. Persons who do not feel in control of an illness and lack the confidence that they can take the actions necessary to care for an illness will be less likely to take action and self-manage. However, individual actions do not occur within a vacuum. Behaviors occur within a context, which may also exert an influence.

Increasing levels of self-efficacy is especially important among persons with SMI. In a study of self-efficacy and self-care among persons with SMI, SMI participants had limited health knowledge and low self-efficacy in self-managing their physical health (Schmutte et al., 2009). They expressed a sense of futility and powerlessness as far as improving their health. Mental health symptoms may also impact self-efficacy. As depression increases, self-efficacy decreases as does the frequency of engaging in recommended self-management behaviors (Adam & Folds, 2014). Self-efficacy may play a critical role in improving well-being for persons with SMI with physical health problems.

2.3.1.1 Patient Activation

Patient activation is a concept related to self-efficacy, but focusing more on how engaged consumers are in their own health care (Hibbard, Greene, & Overton, 2013). Studied extensively by Judith Hibbard, she defines patient activation as having the capability and willingness to take an active role in managing one's health and health care (Hibbard & Cunningham, 2008). It is the extent to which consumers understand they must take an active role in managing their health, and the extent to which they feel able they can fill that role (Hibbard & Mahoney, 2010). Whether they feel able speaks to their self-perceptions and degree of confidence in their abilities (Hibbard et al., 2008; Hibbard & Mahoney, 2010). Experience also impacts activation by broadening consumers' skills in self-managing (Hibbard & Mahoney, 2010). Consumers who are more activated are more likely to follow a treatment regimen, seek out preventive care, and participate in making decisions about their care (Hibbard et al., 2013). They also incur lower health care costs (Hibbard et al., 2013). Among adults with schizophrenia, higher patient activation is associated with positive recovery attitudes, greater hope, and less emotional discomfort (Kukla, Salyers, & Lysaker, 2013).

2.3.2 Social Ecology Theory

Ecological theory has been applied to health behaviors using models related to health promotion (see Fisher et al., 2005; McLeroy, Bibeau, Steckler, & Glanz, 1988). The underlying principle of an ecological model is that behavior is influenced at multiple levels (e.g., individual, social, community; Sallis et al., 2008). Fisher (2008) argues that different ecological health promotion models may have different components, but they share two key elements. First, individual behavior reflects the influence of different levels, or what Fisher terms as "layers" (2008, p. 4). Second, there is a reciprocal interaction between different layers. For example, individuals may be influenced by their social network, but they may, in turn, influence their social network themselves. For this study, I will use Stokols' (1992) social ecology model of health promotion, which has been widely used.

Stokols' model (1992) rests on four assumptions. First, health behavior is influenced by individual characteristics, as well as social and physical environments. For example, people's individual biology or emotional health may impact how they manage an illness. The presence of social supports may also influence health behaviors, (e.g. a family supportive of dietary changes will prepare meals the person with an illness can eat). Second, environments are multidimensional, meaning they can be characterized by physical and social features, natural and built components, objective and subjective qualities, and scale or proximity to the individual.

Analyses of health and health promotion are contextual and multilevel. Different levels can exert a simultaneous effect. For example, the effects of living in an unsafe neighborhood which can limit outdoor physical activity and hinder weight loss may be combined with a provider who does not speak Spanish. A Spanish-speaking individual might be limited in learning about other options for weight loss. Third, human and environment interactions can be studied at different scales (e.g., the individual, families, cultural groups or whole populations). Fourth, social ecology draws from systems theory (Bronfenbrenner, 1989). People influence their setting, and their settings, in turn, influence their health behaviors. A family with poor dietary habits may be influenced by the family member with an illness to eat better, which in turn helps the individual to maintain a healthy diet.

Stokols (1992) argues that a social ecology approach gives greater attention to the social, institutional and cultural contexts of people and environment relations than earlier ecological models. Social ecology theories focus on health promotion, which Stokols (1992, 1996) distinguishes from disease prevention. Health promotion emphasizes the role of individuals, groups and organizations as active agents in influencing health practices and policies to ensure individual and collective wellbeing. A limitation of earlier disease prevention programs was the focus on changing the individual without recognizing contextual factors and their interdependence (Stokols, 1996). The social ecology model explains how different environments interact at multiple levels and influence individual or group health behaviors. Self-management behaviors can be understood within an environmental context, which can explain how contextual elements help or hinder self-management, as well as consider how individual agency works in context. An ecological perspective is also important to understanding the barriers to healthy living, which studies recognize originate at different ecological levels, something which can inform where an intervention is targeted (Shor & Shalev, 2013). However, it is equally useful in identifying supports for self-managing.

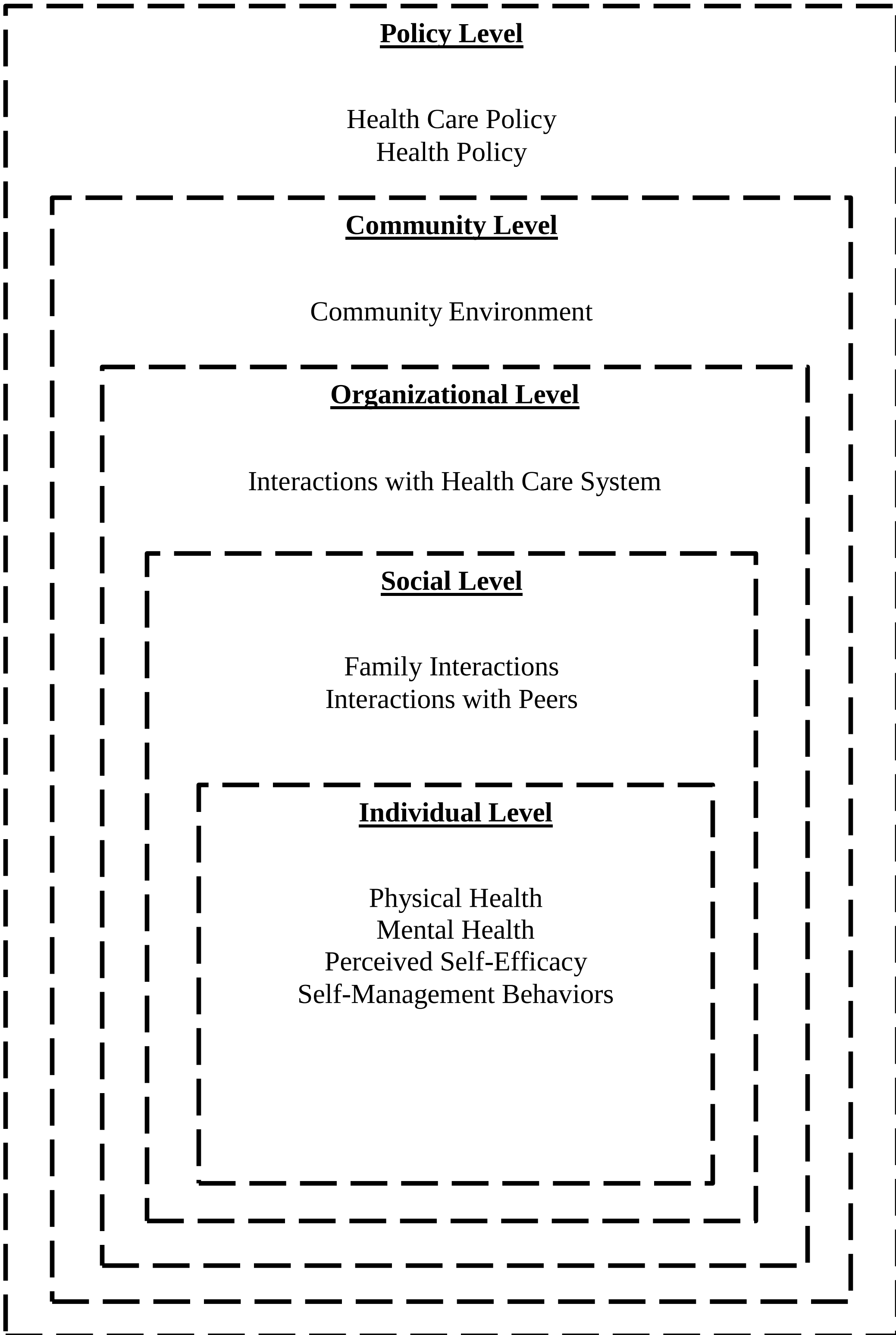
2.3.3 Model Incorporating Self-Efficacy and Ecological Theories

Figure 1 represents a model incorporating self-efficacy and ecological environment. Perceived self-efficacy is an individual level factor, along with illness and self-management behaviors. The individual is surrounded by consecutive environmental levels which exert an influence, such as the social (family and peers), organizational (the health care system), community, and policy levels (health and health care policy). The lines separating each level are dotted highlighting the reciprocal nature of interactions between levels (Sallis et al., 2008). The environment acts on the individual, and the individual, in turn, acts on the environment. For example, perceived self-efficacy, along with illness and self-management behaviors are all factors which shape people's experiences with their own health and health care. They may also influence interactions between the individual and other levels, such as the health care system located at the organizational level. People who experience perceived inefficacy may be less inclined to ask their providers questions or participate in treatment formulation, because they feel their efforts will not have an effect on their health. The dotted lines also indicate the model is fluid and multilevel interactions can occur. For example, organizational and social factors can simultaneously influence the individual. Providers who make dietary recommendations which are not supported by family members cooking in the household may negatively impact consumers' perception of their ability to manage their health.

2.4 Summary

In sum, Hispanics with SMI face numerous health issues, which they must independently manage on a daily basis. Their ability to self-manage their medical conditions is critical to their health and well-being, especially since there is evidence they are more likely to receive poor quality medical care. Self- management is an ongoing process with constant self-regulation, self-monitoring, and responding in ways which are appropriate for caring for one's illness and maintaining a good quality of life. Self-efficacy theory can explain self-management behaviors as a product of feeling in control of one's illness and confidence in one's abilities to act in order to attain a health goal. Barriers inevitably emerge which can undermine a person's efforts to self-manage their illness. Once a barrier has been identified, it can be dealt with to help the individual successfully resume their efforts to self-care. Social ecology theory can help explain where barriers are located in the environment and how they may be influencing self-management behaviors. Understanding self-management strategies and barriers can inform both treatment recommendations and the development of interventions aimed at changing health behaviors and improving chronic illness management among Hispanics with SMI and at risk of CVD.

Figure 1. Ecological Model Incorporating Self-Efficacy



3. Methods

This study uses a convergent mixed methods approach to triangulate quantitative and qualitative data. The data used in this study are from a secondary dataset of quantitative and qualitative data collected as part of a larger clinical study of the implementation of a health care management program for Hispanics with SMI and at risk for CVD (K01 MH091108-01A1; PI; Cabassa; Cabassa, Druss, Wang & Lewis-Fernández., 2011). The parent study was funded by the National Institute of Mental Health. Data were collected on Hispanic consumers with SMI and stakeholders involved in the care of this population (e.g., primary care physicians, mental health providers, consumer advocates). This study uses consumer and stakeholder data. Sampling and methodology for the parent study as it relates to this study is described. Scores from the Patient Activation Measure (PAM; Hibbard, Stockard, Mahoney, & Tusler, 2004) and the Chronic Disease Self-Efficacy Scale (CDSE; K. R. Lorig et al., 1996) were used. Both instruments were selected for use because of their ability to measure self-management and self-efficacy. Qualitative data obtained from consumer focus groups were also used. Study procedures were approved by the appropriate institutional review boards at Columbia University and the New York State Psychiatric Institute (IRB-AAAJ8451).

3.1 Sample

3.1.1 Consumer

Consumer data were collected between October, 2011 and February, 2012 at a public outpatient mental health clinic in Northern Manhattan New York City that serves predominantly Spanish speaking Hispanics of Dominican and Puerto Rican descent. A purposive sampling strategy was used. Potential participants were referred to the study by their mental health clinician. Eligibility criteria included consumers who: 1) were active consumers at the clinic, 2) were 18 years of age or older, 3) self-identified as Hispanic, 4) who spoke English or Spanish, 5) had a chart diagnosis of a serious mental illness (e.g., schizophrenia, bipolar disorder), and 6) had at least one CVD risk factor (body mass index [BMI] ≥ 25, diabetes mellitus, current smoker, hypertension or hyperlipidemia). Consumers were ineligible to participate in the parent study if they met the following exclusionary criteria: 1) they were in need of detoxification, 2) they were at acute risk of suicidal or homicidal ideation at the time of recruitment, 3) they failed a capacity-to-consent questionnaire, or 4) they were cognitively impaired, as detected by the Mini-Cog Examination (Palmer & Meldon, 2003). Fifty-three consumers were referred and screened. Eleven refused to participate (e.g., not interested), and two failed the capacity-to-consent questionnaire. A total of 40 Hispanic consumers participated in the parent study and completed structured interviews. All were invited to participate in focus group discussions. Twenty-four participated in five focus groups. One consumer who participated in the focus groups did not complete a structured interview. The consumer sample for the present study was limited to the focus group participants (N=24). Consumers were compensated $15.00 plus a $4.00 metrocard for the structured interview, and $25.00 plus a $4.00 metrocard for participating in the focus group.

3.1.2 Stakeholder

Stakeholders involved in the care of Hispanics with SMI were also interviewed to obtain their views on frequent health issues among this consumer population, challenges they perceive consumers face in living a healthy lifestyle, and their opinion on the health care management intervention. A snowball sampling strategy was used to recruit individuals from four stakeholder groups: mental health providers, primary care providers, administrators, and consumer advocates. These groups were chosen because they are the potential implementers of health care manager programs in our community. Mental health providers (e.g., psychiatrists, social workers) were recruited from the study site. Primary care providers (e.g., physicians, nurses) were recruited from community primary care clinics that provide medical services to consumers from the study site. Administrators included individuals from multiple disciplines (e.g., psychiatry, social work) who were in leadership positions at mental health agencies which were affiliated to or received contracts from the New York State Office of Mental Health. Consumer advocates were individuals self-identified as former consumers of mental health services who were employed either at mental health agencies or consumer advocacy organizations.

Key informants at the study site and contacts from the New York Office of Mental Health were asked to refer health professionals in the categories above who would have a unique perspective on the care of the sample population and the health care management program. Once interviews began, participants were then asked to refer individuals to participate. A combination of approaches to identify participants was used including presentations at staff meetings at mental health and primary care clinics, referrals from the Director of Research at the New York State Office of Mental Health and nominations of colleagues from participants. Eligible participants were employed at least part-time at their agencies and currently involved in services aimed at improving the physical health of people with SMI. A total of 20 stakeholders were recruited and interviewed between September, 2011 and May, 2013. An initial review of the stakeholder data revealed that only 17 stakeholders discussed barriers facing consumers, eliminating three from the sample. Five of the 17 total were providers (mental health professionals) at the clinic where this study took place and may have worked with consumers in the sample. See Table A2 in Appendix A for stakeholder sample characteristics. Stakeholders were compensated $20.00 for participating, although many declined compensation.

3.2 Consumer Structured Interviews

Structured interviews were conducted with the total sample of participants, including 23 of the focus group participants. Interviews lasted approximately 90 minutes and were administered in the consumer's preferred language (English or Spanish). Information about consumers' demographic characteristics, place of birth, years living in the U.S., language preferences, and self-reported medical conditions were collected (see Table A1 Consumer Sample Characteristics in the Appendix A). Standardized instruments measuring patient activation and self-efficacy were included in the interviews. The only data from the structured interviews used in this study are the data pertaining to sample characteristics, the PAM and the CDSE.

3.2.1 Measures

The Patient Activation Measure (PAM) is a 13-item scale that assesses consumers' knowledge, skills, and confidence related to self-management (Hibbard, Mahoney, Stockard, & Tusler, 2005). See Appendix B for the complete scale. It has strong psychometric properties, has been tested across a range of chronic illnesses, and is available in English and Spanish (Hibbard et al., 2005; Hibbard & Tusler, 2007; Skolasky, Mackenzie, Wegener, & Riley, 2008). The Spanish version has been reviewed for face and content validity in studies of patient activation among Latinos (Lubetkin, Zabor, Brennessel, Kemeny, & Hay, 2014; Maranda, Deen, Elshafey, Herrera, & Gold, 2014). PAM scores range from 0 (no activation) to 100 (high activation). Scores are grouped according to level of activation. Level 1 (score of 45.2 or lower) is the least activated. Consumers at level 1likely do not feel in charge of their health or care, They lack confidence in their ability to self-manage and feel overwhelmed by their health care (Hibbard & Tusler, 2007). Consumers at level 2 (score of 47.4 to 52.9) are less activated and likely lack knowledge about their health issues. They also lack confidence in dealing with their health care (Hibbard & Tusler, 2007). Level 3 (score of 56.4 to 66.0) is more activated. Consumers at this level have knowledge of their conditions and treatment, are more confident in dealing with their health issues, and are just beginning to make changes related to their health (Hibbard & Tusler, 2007). Level 4 (score of 68.5 or above) is the most activated. Consumers at this level have made the most behavior changes needed for their health but may have difficulty maintaining them (Hibbard & Tusler, 2007). The PAM had good internal consistency (α= 0.80) in the sample of 23 focus groups participants who completed a structured interview.

The Chronic Disease Self-Efficacy scale (CDSE) was used to measure self-efficacy. See Appendix C for the complete scale. The CDSE is a 17-item scale that assesses self-efficacy in different domains related to self-management of a chronic illness: 1) Exercise Regularly Scale, 2) Get Information about Disease Scale, 3) Obtain Help from Community, Family, Friends Scale, 4) Communicate with Physician Scale, and 5) Manage Disease in General Scale (K. R. Lorig et al., 1996). It has established internal consistency and test-retest reliability, has been used in numerous self-management studies, and is available and validated in English and Spanish (K. R. Lorig et al., 1996). All subscales were used with the exception of the Getting Information about Disease Scale. Qualitative data did not address this issue. The average scores for each subscale were used. Responses range from 0 to 10 with higher scores representing higher self-efficacy. Consumer scores on each scale were compared to the median for the sample. A pattern emerged which enabled me to organize consumers' CDSE scores on all scales collectively by differentiating them according to a high, intermediate or low range. High range consumers scored above the median on three or more self-efficacy scales and were considered to have the highest self-efficacy scores in the sample. Consumers in the intermediate range scored above the median on two scales and were considered to have moderate self-efficacy scores. Consumers in the low range scored below the median on three or more scales and were considered to have the lowest self-efficacy scores. The subscales of the CDSE had good internal consistency for the 23 participants focus group participants who completed structured interviews (Exercise Regularly Scale, α= 0.69; Obtain Help from Community, Family, Friends Scale, α= 0.84; Communicate with Physician Scale, α= 0.93; Manage Disease in General Scale, α= 0.90).

3.3 Chart Abstractions

I conducted chart abstractions supervised by the principal investigator on the parent study. The following clinical information was collected from consumers' medical records to describe their overall physical and mental health: primary mental health diagnosis, physical health conditions, type of psychiatric medications, and smoking status. Information from chart abstractions was collected for descriptive purposes.

3.4 Consumer Focus Groups

Five focus groups were conducted at the study site in Spanish. Each focus group lasted 90 minutes, and consisted of 3-9 consumers. All groups were audiotaped and professionally transcribed. Researchers used a focus group guide composed of open-ended questions and probes to elicit consumers' views about their self-management strategies (see Appendix D). Examples of questions and probes included were: What do you do to manage your health problems? What do you do to stay healthy or control your health problems? What causes someone to have heart problems? How does being Latino/a influence a person developing heart problems? How does mental illness influence heart problems? Focus groups were facilitated by the principal investigator with a research assistant as co-facilitator present. The principal investigator would generate a summary note about the focus group (his impressions of the group and the information they shared) along with input from the research assistant obtained in a debriefing immediately after a focus group took place.

3.5 Stakeholder Interviews

Semi-structured qualitative interviews were conducted by the Principal Investigator either in person at the participants' work site (n =11) or via telephone (n = 9). A stakeholder guide was used for each interview and consisted of structured and open-ended questions (see Appendix E for the complete guide). Interviews were audiotaped, professionally transcribed, and lasted approximately sixty minutes. Stakeholder interviews were conducted either in person at a location of the participant's choosing or over the phone. Interviews lasted 45-60 minutes. Interviews were audiotaped and professionally transcribed. Interviews were divided into two sections: the stakeholder's experience with Hispanic persons with SMI, and the stakeholder's views and opinions on the health care management intervention. The section of the interview focusing on the stakeholder's experience with the study population included questions about the stakeholder's opinion of the challenges to maintaining a healthy lifestyle for Hispanics with SMI. It is this data which is used in this study to identify stakeholder perceived barriers. Examples of questions asked include: What do you think are the most frequent health problems for Hispanics with SMI? What do you think are the challenges for this population to live a healthy lifestyle? The principal investigator conducted the stakeholder interviews and generated a summary note about his impression of the interview and the information gathered after its conclusion. A research assistant reviewed the interview transcripts and summary notes and wrote a summary report which summarized the key information gathered in the interview.

3.6 Data Analysis

Quantitative data were entered and analyzed in SPSS (IBM Corp., 2011). I looked at measures of central tendency, means, and Cronbach Alphas for the PAM and the CDSE. Qualitative data (e.g., focus group transcripts, stakeholder interview transcripts, summary notes, summary reports) were entered in Atlas.ti (Muhr, 2004) and analyzed using open coding and the constant comparative method of grounded theory (Strauss & Corbin, 1998). Both the principal investigator and I reviewed the transcripts, and independently drafted memos and developed an initial code list. An intern also participated in the process for consumer focus group data. We then met regularly to present and discuss our respective codes, interpretation of the data, and analytical questions. The outcome of these meetings led to the development of codebooks for each set of qualitative data: consumer focus groups and stakeholder interviews. For this study, open coding was used to develop a code book based on a priori and emergent codes. For the consumer sample, data from the “self-management” code and the “barriers to healthy lifestyle” code from the parent study was used to conduct a secondary analysis of self-management behaviors and identify barriers from the consumer perspective. A second level of coding was done with selective coding on these specific codes. For the stakeholder sample, data from the "barriers to a healthy lifestyle" code was used to identify barriers from the stakeholders' perspective. I drafted memos for ongoing analysis of data and codes and development of themes. I also generated queries and reports in Atlas.ti on major codes. I met regularly with the Principal Investigator to review my work and findings.

The trustworthiness of data was ensured several ways. The participation of a research team in the development of codes and the coding of both consumer and stakeholder data limited researcher bias through peer debriefing and enabled the triangulation of findings across team members (Padgett, D. K., 1998). The use of summary reports of stakeholder interviews ensured that my interpretation of the salient points of each interview were consistent with the principal investigator, also limited researcher bias and could be included in an audit trail (Padgett, D. K., 1998). I met regularly with the Principal Investigator to review my work and debrief while coding stakeholder data for the parent study. Given that that the study for this dissertation involved a secondary analysis, I ensured trustworthiness by drafting memos for ongoing analysis of data and codes and development of themes. The audit trail for this study included memos, as well as the grids used to compare quantitative and qualitative data and consumer versus stakeholder data. These documents could be used in a review of decision making. I also continued to meet regularly with the Principal Investigator to review my work and findings to debrief and prevent researcher bias.

A mixed method approach using a convergence design was used to analyze data. Mixed methods were selected because a combination of both the qualitative and quantitative data available to me provided a better understanding of self-management and barriers to healthy living than if each were looked at alone (Robins et al., 2008). A convergent design allows for the merging of datasets to triangulate findings (Palinkas et al., 2011). This ensures the trustworthiness of findings (Johnson, Onwuegbuzie, & Turner, 2007; Palinkas et al., 2011). In this study, I triangulated data by bringing two datasets and different respondents (consumer and stakeholder) together to compare findings on the phenomenon of self-management. While analysis of convergence is used to confirm findings, discrepant findings were also analyzed to give a fuller understanding of the complex phenomenon of self-management and barriers (Wagner et al., 2012).

I began by rereading all consumer focus group transcripts in their entirety and drafted memos. I then read the coding reports for self-management and barriers to healthy living. I developed a new codebook for which incorporated prior codes with new ones refining them for this study. I then coded previously coded transcripts with the new codes. I created a matrix using an excel spreadsheet to organize and compare quantitative and qualitative data and determine the existence of a typology. Table 1 gives an example of the matrix used:

Table 1. Example of Data Analysis Matrix for Self-Management Typology

Consumer ID	PAM Score/Level	CDSE Scores	Case Summary of Consumer

The case summary illustrated the self-management behaviors and barriers for each consumer. I was able to use the matrix to group consumer behaviors and barriers according to range of self-efficacy score (high, intermediate, low), and level of patient activation. Once I organized behaviors and barriers into quantitative groups which could be readily compared, I looked again at the qualitative data to clarify what was the experience of each consumer’s reported self-management behaviors and barriers. The purpose of this strategy was to determine substantive differences in experiences for each collective group which could help explain findings and develop a typology, if one emerged. I also ran a Pearson's correlation of mean self-efficacy scores and patient activation scores to determine if there were similarities between these two instruments.

Once I completed the consumer analysis, I turned to the stakeholder data. I also began by rereading transcripts for each stakeholder interview and drafting memos. I then read the coding report for barriers to healthy living. I used the new codes for barriers which identified the ecological level of the barrier and applied them to previously coded transcripts. I first created a table to capture data on barriers by stakeholder. The table listed the barrier identified, an explanation of the barrier according to the stakeholder and an illustrative quote. This table was useful to refer to each stakeholder individually and make comparisons by profession. I then created a second table data from consumers and stakeholders according to ecological level and barrier. Table 2 gives an example of the table used:

Table 2. Example of Comparison Table of Qualitative Findings Around Barriers to Healthy Living

Ecological Level	Barrier	Consumer	Stakeholder
Individual	SMI symptoms	X	X
Social	Lack of family support	X	X
Environment	Unsafe neighborhood	X	

Here, stakeholders were looked at collectively by barrier. I went back and forth between consumer data and stakeholder data to identify where points converged or diverged. I also looked within stakeholder data to identify differences by profession.

4. Results

4.1 Review of Study Aims

A review of study aims would be helpful at this point. This study asked the following questions: 1) What self-management behaviors do Hispanics with SMI and at risk of CVD engage in or attempt to engage in? and, 1a) How do behaviors correspond to measures of self-efficacy and patient activation? I hypothesized there would be a positive association between levels of self-efficacy and patient activation and self-management behaviors. This study also asked: 2) What are the barriers to living a healthy lifestyle as identified by consumers and stakeholders involved in their care? and, 2a) How do consumers' and stakeholders' reports of barriers converge or diverge? At the consumer level, I hypothesized there would be a negative association between self-efficacy and barriers, as well as patient activation and barriers.

4.2 Consumer Findings: Self-Management Behaviors and Barriers to Healthy Living

4.2.1 Sample Characteristics

Characteristics of the total sample and the focus group subsample are presented in Table A1. There were no statistically significant differences between the total sample and those who participated in the focus groups on key demographic characteristics (e.g., age, gender). Half of the total sample was female. On average, participants were fifty years of age, had less than a high school degree, were Dominican, and had lived in the U. S. for about thirty years. For the entire sample, the majority were Spanish speakers (55%) or bilingual (32.5%). Most rated their physical health as fair or poor. The most common chronic medical conditions were: high cholesterol, hypertension, arthritis, and diabetes mellitus. On average, participants had four medical conditions. The most common psychiatric conditions included: schizophrenia, schizoaffective disorder, and major depression. More than half of participants were taking second-generation antipsychotic medications (SGA). All of the participants had insurance coverage.

4.2.2 Consumer Self-Management Behaviors

Consumers reported engaging in a number of self-management behaviors. Consistent with Barlow's (2002) definition, the self-management behaviors described here represent positive behaviors aimed at health promotion. Some consumers used negative behaviors, such as smoking, to manage and cope with illness. These are not considered self-management behaviors. Instead they are categorized as unhealthy behaviors. Unhealthy behaviors will be addressed in the section on barriers. The most frequently discussed self-management behaviors were eating or managing one's diet, followed by seeking medical care and engaging in physical activity. Other behaviors included involving others in consumers' care, using self-motivation, drawing on consumers' faith, and participating in structured (e.g., attend mass at church) and unstructured (e.g., socialize with family and friends) activities. It should be noted that, while consumers identified clear self-management behaviors, a review of barriers indicates many do not engage in these behaviors consistently, though they may strive to. The behaviors outlined here, particularly eating healthy and exercising, represent the ideal for many. Also, while many may know what self-management behaviors they need to be engaging in, barriers prevent them from doing so.

4.2.2.1 The Relationship Between Physical and Mental Illness

The relationship between physical and mental illness influences how consumers self-manage and confront barriers. Therefore, it is important to understand consumers' views on how their physical and mental illnesses are related. Consumers felt that their mental and physical illnesses were interconnected, where problems in one area could cause problems in the other and vice versa, creating a vicious cycle where the consumer is never fully well on any level. A Latina consumer with schizophrenia explains it in the following way:

> If you have a problem with depression, you eat, eat, eat, or smoke, smoke, smoke, and it affects your heart. So, your heart says to your mind, or the obesity says to your mind, look, I'm eating a lot and it affects my cholesterol and it affects my sugar or other things. So that affects your mind because you say, ay, how ugly I am. Look at how fat. I can't find a boyfriend. I can't wear these clothes. I can't wear this blouse. I go to the store, everything is for skinny women. And there comes the depression and eating more. The cycle comes again to eat more and smoke more and have dependency on other things.

In this example, symptoms of mental illness can cause overeating and weight gain, which can lead to obesity and medical illnesses, such as diabetes. In turn, being overweight and in poor health can lead to depression and a worsening of symptoms of mental illness, which starts the cycle of, in this case, unhealthy behaviors all over again. The other side is the impact of physical health on mental illness. The following case example drawn from the sample describes this dynamic experienced by many consumers:

> A Latina consumer with major depression suffers from constant foot pain. She has sought treatment from several doctors, but none have been able to help her find relief. She tries to go to the gym to exercise, because she needs to watch her weight for health reasons. However, sometimes has to leave because of her foot pain or is not able to go at all. She also feels discomfort walking in the street. She has to wear orthopedic shoes, which she finds unattractive and which make her self-conscious. She avoids attending any family parties, because she cannot wear heels and feels she will not look attractive in flat shoes and a dress. Her foot pain lowers her self-esteem and isolates her, since she is unwilling to attend social events. Her constant discomfort is also difficult for her to deal with. Chronic pain impacts her mood and exacerbates her depression. She stopped attending the gym because of her depression and chronic pain and has gained weight, which she is not happy about. The lack of exercise is also bad for her health.

In this example, a physical health problem, specifically chronic pain, negatively impacts the consumer's quality of life and mood. Her depressed mood lessens her motivation to attend the gym, as does her chronic pain. Consequently she gains weight, which is a problem for her health and also worsens her mood. Given the interrelatedness of mental and physical illnesses for the consumers in this sample, discussions of self-management behaviors for physical illness inevitably brought up discussions of self-management behaviors for mental illness. It became clear that to address consumers' physical health, attention needed to be given to their mental health as well. These two things could not be separated.

4.2.2.2 Eating and Diet

Eating and managing one's diet was the most frequently discussed self-management behavior. Eating was a way to manage one's health, a source of comfort, and a pleasurable activity one could engage in for many consumers who have little other enjoyment in their lives. Consumers seemed knowledgeable, for the most part, about what constitutes healthy eating. Consumers described eating vegetables, greens and salads. They tried to limit the amount of meat they ate. They described eating foods low in fat, substituting margarine for butter, and cooking with less oil. They made an effort to drink more water and felt Latinos drink too much soda. Consumers also tried to eat smaller portions, something which was a struggle for them. Eating sweets was considered acceptable in moderation. They talked about the need to educate oneself about nutrition. Many attended the nutrition group at their clinic regularly. Some had also met with the clinic's nutritionist for guidance. They also described following their physicians' recommendations on what to eat or avoid (e.g., avoiding eggs in cases of high cholesterol). Consumers described strategies to help them manage their diet, such as making sure they kept healthy foods at home (e.g., fruits, vegetables) to snack on when they became hungry. This tactic helped consumers deal with increases in appetite and cravings for sweet and starchy foods resulting from psychiatric medications by controlling the food environment in their homes.

4.2.2.3 Seeking Medical Care

Seeking medical care when a health problem involved physical illness was the second most frequently discussed self-management behavior. However, equally important to consumers was seeking mental health care if their problem involved psychiatric illness. In this case, consumers would seek out their case manager or psychiatrist. Some consumers would discuss a physical problem with their case manager first before seeking medical care. Their case manager would then help by scheduling a medical appointment. Consumers would seek medical care out of necessity. While some were satisfied with their physicians and the care they received, others described more negative experiences. For a full discussion on consumer health care experiences involving the sample in this study, refer to Cabassa et al (2013). Briefly, consumers who were satisfied described being treated by doctors who listened, encouraged questions, and treated them respectfully. Positive relationships reflected core cultural norms valued by Hispanic consumers and were related to key patient-centered indicators. Consumers who reported negative experiences talked about having to wait months for an appointment, and doctors who did not have the time to talk with them, or who did not pay attention to them. Regardless of the quality of the encounter, consumers would still seek out medical care to manage an illness, changing physicians if they had to.

4.2.2.4 Exercise

Exercise was cited as a self-management behavior almost as frequently as seeking medical care. In this area, consumers were less knowledgeable about the recommended amount of exercise that produces health benefits. Recommended guidelines for weight management and heart health are 150 minutes of moderate intensity aerobic activity per week (e.g., brisk walking), or 75 minutes of vigorous intensity aerobic activity (e.g., jogging or running) per week for an adult depending on their age (Centers for Disease Control and Prevention, 2013a). Both of these options should be combined with muscle strengthening activities at least two days per week (Centers for Disease Control and Prevention, 2013a). Most consumers did not engage in this degree of frequency or this level of vigorous activity. Apart from lack of knowledge, other factors such as poor health, chronic pain and/or medication side effects, and lack of motivation to exercise also influenced how much consumers were able to exercise.

When they did exercise, consumers engaged in different types. The most popular and frequently cited form of exercise among consumers in this sample is walking. However, consumers varied in the frequency and length of time they spend on walking (e.g., 20 minutes, 45 minutes, twice a week, every day). Fewer consumers reported attending a gym and participating in organized sports. Consumers also reported exercising at home, by dancing or doing mild arm and leg movements for lifting and stretching. The latter was helpful for those who were struggling with pain. One person reported having and using a stationary bike regularly. Consumers also counted household chores as exercise, when, in fact, such activities do not involve the aerobic intensity needed to produce health benefits. For some consumers, household chores were the only form of exercise they engaged in. The weather and season had an impact on levels of physical activity. Consumers were less likely to go outside and walk in the winter.

While most consumers exercised alone, some reported exercising with a spouse or other family member. Consumers who exercised with a family member enjoyed the companionship, felt motivated by them, and, in one case, motivated their family members to lose weight. A Latina consumer with major depression describes walking with her brother:

> I am one of those people that really likes visiting people when they are in the hospital. And when I go to the hospital, I always invite my brother who is disabled. And I tell him, "Let's get together and we'll go to the hospital to see whatever person is there from church or from the group here." And I go to the hospital. And so he says, "We're going to go slowly, but we're going to walk there," to 168th. And when I get to 181st, I say to him, "You think I'm going to make it to 168th?" He says, "Why not? You're pretty big. Yes, you'll make it. I'm not going to take the bus or the train." So, he motivates me. And I can do it. I go, and I don't realize it when I get there. When I get there he says, "Now you talk to your friend. Me too. Our feet will rest. When we leave here, we're taking a little walk back." And he makes me go back by foot to my home.

Consumers who were able to exercise described feeling the benefits in the form of decreased pain for some chronic pain sufferers, as well as relaxation and stress relief.

4.2.2.5 Involving Others

Consumers would involve others in their care and daily life as a way to improve their physical and mental health if possible. Most consumers seemed isolated, with just a few reporting some form of social support. Consumers would typically involve family members when needed, but also significant others and friends. Family members who provided support included spouses, children, siblings and cousins. Socializing with family and friends raised consumers' spirits, was a pleasurable activity they could engage in, and helped with symptoms of depression. One Latino consumer with bipolar disorder explains how socializing and engaging in enjoyable activities helps him: "Doing things one likes. For example, go out with my cousin. We go out around there. Talk to my girlfriend. One relaxes and tries to feel better." A Latina consumer with schizophrenia describes reaching out to friends when she is not doing well emotionally:

> Today I feel well with the medications that I have here in this clinic. I really like this clinic. It's very good. I've been able to get better and stabilize myself mentally and emotionally. But I call. I have many friends and various close friends who I can talk to. If I can't talk to my psychiatrist, I talk to them. And I get out of that bad feeling of stress.

Family members also provided concrete help with health-related matters. This included monitoring whether the consumer was taking their medication and accompanying consumers to medical appointments. The latter was particularly important to consumers who often did not feel comfortable attending appointments alone, either due to language barriers or fear of the visit. Family members, such as spouses, also helped with household tasks such as laundry or cleaning. For consumers who could not cook and had family members who were involved, someone, usually a mother, would help prepare meals.

4.2.2.6 Self-Motivation

Consumers involve others, if they can, for help and encouragement. However, consumers also use self-motivation to keep themselves focused on wellness and improve their emotional health. Consumers talked about three aspects of self-motivation: *staying positive, doing your part,* and *letting go of stressors*. Consumers would stress the importance of staying positive in the face of debilitating medication side effects and symptoms in order to remain motivated and in good spirits. One Latino consumer with bipolar disorder explains, "The medication is what you make of it. I do everything. I drive. I work… Medication is not going to dominate me…You have to put the positive before you." Doing one's part, or "poner de su parte," referred to consumers making a concerted effort on their part to stay healthy in addition to the treatment they receive. A Latina consumer with schizoaffective disorder explains, “The medication does one part. You have to do the other part,” and “You have to help yourself.” Self-management behaviors are a way of *doing one’s part*. For example, in order to maintain a healthy diet, consumers felt one needed to educate oneself about what to eat and do one’s part by eating well. The idea is to help oneself by taking care of oneself. Finally, consumers talked about the importance of letting go of stressors, such as family problems, instead of dwelling on them in order to stay well and focused on their own needs. As one Latina consumer with bipolar disorder put it, “You have to get rid of everything that causes you stress, whether it’s family or whatever.” Another Latina consumer with schizoaffective disorder added in, “Yes, because I see when my daughter gets sick, I get sick also.”

4.2.2.7 Use of Faith

Consumers drew on their faith as another self-management behavior. Their faith and related activities provided comfort and support, both of which were important to their overall wellbeing. Engaging in faith-based activities also relieved stress. Consumers exercised their faith in different ways. Some attended church either weekly or more often. Prayer, either done alone or in the company of others who shared their beliefs, was regularly used. Others watched religious programming on television or listened on the radio. Many read the bible for support. Consumers who were isolated and alone were especially comforted by their faith. A Latina consumer with schizoaffective disorder had become isolated after her daughter moved and her dog died. She talks about how her faith has helped her:

> I go to church and to the groups and that helps me. Since I am alone and don’t have the dog or my daughter, I go to church. I have a cousin who is very devout, and I visit her and she visits me and we pray. She has little dogs too, and I go and

> I entertain myself with them. But faith helps a lot, and even though one might be well physically, if one doesn't have the grace of God, one feels unhappy.

Religious beliefs also served as a buffer for suicidal thoughts. A Latina consumer with major depressive disorder talks about how she would never attempt suicide because of her faith:

> I've never tried to take my life or hurt myself because I believe that, if I thought about hurting myself, I don't believe in God. I get out of that with my faith. I say, 'I don't need to take my life because God gave me life. Why would I need to take it?'

While not the most frequently cited self-management behavior, faith was still very important to consumers who relied on it.

4.2.2.8 Structured and Unstructured Activities

Consumers participated in structured and unstructured activities as another way of managing their illnesses. Structured activities have already been mentioned and include clinic groups and church masses. Clinic groups were frequently cited as something consumers participated in and found beneficial. As one Latino consumer with major depressive disorder put it, "the best medicine here [at the clinic] are the groups." One consumer worked, but this was unusual for consumers in this sample, who were mostly disabled and unemployed. Consumers spent the majority of their time engaging in numerous unstructured activities for their wellbeing and enjoyment. Household chores were a frequent task. Watching television was also a popular activity, especially during the winter when consumers were not able to be outside as much. Other unstructured activities included listening to music, taking a walk, growing plants, and reading. One person described meditating regularly. Sexual activity was discussed by two consumers, who found it to be beneficial in terms of relieving stress.

4.2.3 Barriers to Living a Healthy Lifestyle

While identifying self-management behaviors is useful to understanding health promoting behaviors which can be leveraged by providers, such behaviors are only half of the picture in terms of consumers' experiences trying to manage their health. Identifying what consumers experience as barriers to healthy living allows us to understand: 1) the challenges consumers face in managing their health, and 2) what undermines their efforts to self-care. The most frequently mentioned barriers are poor physical health, chronic pain, economic factors (having limited financial means), and consumers' social environment. From an ecological perspective, most barriers were located at the individual level, the organizational level (the health care system), the economic level, and the social (family) level in that order. Barriers often co-occurred and exerted simultaneous effects on the consumer, thus compounding the challenge for consumers to self-manage. Additionally, consumers faced multiple barriers in their daily lives. I will organize my discussion of barriers according to their ecological level.

4.2.3.1 Individual Level

At the individual level, consumers identified barriers related to health, and consumers' own behaviors. In terms of health, consumers identified poor physical health and mental illness as negatively impacting their efforts to stay well. Despite reported self-management behaviors, unhealthy individual behaviors were a problem for consumers and also created barriers. Such behaviors included unhealthy eating, lack of exercise and smoking.

Poor physical health. Consumers frequently cited poor physical health as a barrier to living a healthy lifestyle. Poor physical health meant consumers had chronic medical conditions, such as diabetes, multiple medical conditions, and/or pain issues. Consumers felt that health problems create more health problems and worsen a person's condition even more. For example, diabetes can cause vision problems. Pain limited many consumers from engaging in physical activity, contributing to a sedentary lifestyle. Pain was often cited as a reason why consumers did not exercise. Limited mobility also meant that consumers had to be careful engaging in basic activities, such as walking, climbing stairs and household chores. Tasks and activities would have to be done slowly. Consumers who did not have problems with pain but reported being in poor physical health, also describe being limited in their ability to do necessary tasks, such as household chores. A Latina consumer with major depressive disorder describes her multiple medical problems and how they limit her.

> [My health problems] take away my desire to do my chores…What there is to do at home. For example, sweeping, cleaning something, because I also can't do hardly anything because I am sick from head to toe. I have a lot of problems. I have diabetes. I have high blood pressure. The mind, all bad I would say and – let me see what else. Really bad arthritis, really bad, because I have had it for a long time.

Poor physical health caused emotional distress for both consumers who did and did not have pain issues. Consumers who were afflicted with chronic pain describe their lives as being dominated by the constant discomfort and frustration they experienced, resulting in emotional distress and worsening their mood. Consumers became depressed by being ill in general, especially when they had to spend a lot of time seeking medical care to find the source of the problem.

Mental illness. Consumers also felt their mental illness created a significant barrier to living a healthy lifestyle. Poor mental health made it difficult to do things, such as care for their appearance, and manage their illnesses. Mental illness was seen as worse than physical health problems. Consumers felt mental illness was harder to "control" than physical illness. The symptoms of mental illness were also seen as worse to experience than symptoms of physical illness. A Latina consumer with schizophrenia describes the difficulty of managing a mental illness:

> The mental is really horrible that illness because, for example, if you suffer from diabetes, you know you need to take insulin, give yourself an injection every day, and it passes, it's controlled. With the mental, the illness is controlled a little. But it's much worse the mental…The symptoms of the illness. It could be anything. It could be hearing voices, hallucinating, it could be whatever.

When symptomatic, consumers lacked the energy to care for themselves. Symptoms, such as insomnia, can also limit physical activity. Consumers become too tired to exercise. Consumers felt that between physical and mental illness, they were never fully well. A Latino consumer with schizophrenia describes never being fully well:

> Well, from what I see…the mentally ill, we're practically not even at 70%. We are always 60. Meaning that the medication is not helping not 90% of what it should. Not the mental, nor the diabetes, not either are helping. It's what I see of those of us who are here who have diabetes. We are always…meaning, that my sugar – I have to inject myself today. The mental, one day we are well, another day we're bad…It's not even an 80%. It's like 70, 65.

The treatment available to the mentally ill is also problematic. Consumers felt psychiatric medications just kept them stable, but never made them feel better.

Unhealthy behaviors: Eating. Another individual level barrier is the consumers' own behaviors. Consumers may choose to engage in unhealthy behaviors and become their own barrier. However, eating a healthy diet was one self-management strategy consumers reported. While some consumers managed their diet better than others, eating a healthy diet was a constant struggle for many because of medication side effects (e.g., increased hunger) and mental health symptoms (e.g., consumers would eat more when anxious or depressed). This suggests that consumers were not always able to maintain the self-management behaviors in which they claimed to be engaging. Many consumers reported eating traditional foods from Latino cultures, but felt these dishes were unhealthy as was the traditional Latino diet. Consumers cited the frequent practice of frying foods, the emphasis on rice and meats, and the heavy use of seasoning as unhealthy. A Latina consumer with schizophrenia explains:

> Rice, beans and meat. The flag. Everybody eats that. If it doesn't have meat…Now Latinos are eating vegetables. Before you didn't eat that because it wasn't considered important. There wasn't fruit. Now, they're liking fruit. But it's already too late. The damage is already done.

Consumers reported trying to change their traditional diet, but it was difficult for them to do. Other factors also contribute to unhealthy eating. Some consumers reported being unable to cook, making it difficult for them to prepare healthy meals. The high cost of healthy foods make them unaffordable for many. Consumers felt that many Latinos lacked education around healthy eating and how to buy and combine foods, which resulted in a poor diet. Consumers also reported liking sweets and heavy foods, which are more satisfying and filling. Again, this may be due to medication side effects which increase cravings for sugary and starchy foods. Some consumers also reported preferring to eat foods purchased from restaurants and delis. These consumers cooked less, if at all, and found it easier to buy prepared food, which was very accessible. A Latina consumer with schizoaffective disorder talks about buying prepared food:

> It's easier than having to think about what I'm going to buy and how I'm going to buy it and cook it. I need recipes, because I don't know how to cook healthy things. You have to really think about what you're going to buy and make. One doesn't have time. One is nervous to do things quickly and eat quickly, eat quickly.

She goes on to talk about how unhealthy foods are satisfying:

> I eat a lot of cheese and I know they say that's bad. It has a lot of cholesterol and fat. I eat big chunks of cheese….I love it. And rice pudding. Almost a pound and a half and I felt good for several hours…That rice pudding was prepared and I bought it from the deli. I know that that's bad that white rice with that cream, I know it's bad, but it fills you.

Unhealthy behaviors: Lack of exercise. Similar to eating habits, exercising was one self-management behavior identified but which did not always occur. While some consumers may try to engage in some form of exercise to manage their health, others live a more sedentary lifestyle and do not engage in physical activity enough or at all. These consumers describe staying indoors more and spending a lot of time watching television and eating. There are many reasons for this, some of which have already been mentioned. Consumers describe the side effects of psychiatric medications as one cause. For example, some medications can cause sedation making consumers less able to exercise. Poor physical health and chronic pain are another reason some consumers are less active. Lack of motivation also makes consumers less likely to push themselves to exercise. Some simply choose not to do it. The weather and season also influences consumers' degree of activity. Consumers are less able to spend time outside during the winter time. Finally, some consumers felt that Latinos exercised less in general.

Unhealthy behaviors: Smoking. Smoking is an unhealthy behavior which consumers often used to actually manage their health issues. Smokers with pain issues describe smoking to help cope with the discomfort. If they were in less pain, they felt they would smoke less. Smoking was also a way to cope with symptoms of mental illness, such as anxiety and auditory hallucinations. A Latino consumer with bipolar disorder explains, "Not even that it's damaging your lungs but you feel good psychologically. But it's destroying you inside. You don't see it but there it’s there.” Smokers were very aware of the dangers of smoking and the impact on their health. Yet quitting was a struggle. Many smokers had already tried the patch and medication, but none had been successful in quitting. Lack of willpower was one reason cited for why smokers in the sample were unable to quit.

4.2.3.2 Social Level

The social level encompasses family relationships, relationships with peers, and the experience of being part of the Latino community. Family relationships focus mainly on stressors and isolation, or lack of family support. Peer relationships provide companionship, entertainment, but also create bad habits. Many consumers felt that some of these bad habits were characteristic of Latinos and had implications for their health. A self-management strategy identified by consumers included involving others. These would be instances of positive involvement where real help was provided. Consumers also the involvement of others could sometimes be a negative experience, causing stress and a worsening of symptoms of mental illness.

Family stressors. While consumers described drawing on social supports as a self-management behavior, they also felt that their social network, primarily their families, can be a source of stress and problems, which can negatively impact both consumers’ physical and mental health. Consumers with family members who suffer from their own illnesses can decompensate when they see their family member become ill and suffer. Family struggles can cause stress and depression. One consumer, a Latino with schizophrenia, describes having a heart attack after an argument with a nephew:

> I used to smoke like a chimney. And I also had a heart condition before, but it wasn't – it would drop to 69, 66 and would come back and rise. And that happened to me because I had a bad time with my nephew, who is in Puerto Rico. He called me, and I had a bad time with him over the telephone, and the pain hit me here in the heart, because he said a word to me that I didn't like, so I scolded him. I told him that he couldn't talk to me that way, that I was his uncle and that I raised him. And it hurt my feelings that he talked to me in that way. So, there I had a heart attack.

For consumers in fragile health, family conflicts can have serious consequences for their wellbeing. Many consumers also described being isolated from their families. A spouse died or children moved away leaving them alone and lacking support. Isolation from family due to mental illness was another example given. In some cases, the support provided is negative rather than helpful. A Latina consumer with major depressive disorder describes being "watched over" by her daughter:

> I have a daughter, the older one, and she watches over me sometimes. I like to sing even though I sing badly, and she says – when I sing, she says 'Mamá, did you take your medicine?" She thinks it's because I'm ill. But it's not like that. It's that I like to sing, because I live almost alone. She lives in her room there with the computer. So, I'm almost alone in my home with just the television and sometimes music.

In this example, a strained relationship results in the consumer's being isolated despite living with her daughter.

The Latino lifestyle. Consumers described the lifestyle led by Latinos as inherently unhealthy. Consumers attribute poor health among Latinos to an unhealthy diet, drinking too much soda and not exercising. Consumers also described Latinos as leading a "disorganized life" that centers on enjoying themselves. A Latino consumer with bipolar disorder explains:

> I think because, like I said, the lifestyle. What happens? We, mainly, the custom of the Latino mostly – we have a lifestyle that is to enjoy, to spend the entire night

> jangeando [hanging out] as we say. The disco. Entertainment. So, from there comes the bad diet that we all do quickly. We eat. Instead of eating something healthy, we say, 'No, no. I don't have time. Let's go to the lounge. I'm going to bring McDonald's to the kids.' I have to go to a party tonight. I worry about getting a trim, getting bangs, that the guys are ok. At night, we go to a party, we drink and then we eat all that food that they prepare without control. So, it's like I told you, the lifestyle, the disorganization we have. We spend more time on things which attract us as entertainment, things to make us feel good. But we don't worry about doing things that will benefit us physically because it's thinking or what I should do – rest or sleep at the time I should go to sleep. So much time for la novela [the soap opera]. Let me read a book to entertain myself. Let me eat healthy. Let me exercise. Allocate our time adequately. If we organize ourselves like I'm saying and we make a schedule, like that at least we will accomplish 100%, or perhaps 75%, that makes everything better.

Apart from lifestyle behaviors which consumers described as unhealthy, consumers also felt that Latinos faced more stressors than other groups in society, which contribute to poor health. Consumers describe how Latinos have to cope with the challenges of language barriers, take the worst jobs available, work more than most and do not eat well. A Latino consumer with schizophrenia described a constant "tension" which Latinos deal with. The tension stems from economic stressors, trying to survive on limited means, supporting their families, and the strain all of this can place on family relations. Consumers felt that unhealthy behaviors and stress contributes to health problems among Latinos.

4.2.3.3 Organizational Level

Organizations identified as creating barriers were the health and mental health care systems. Included in the discussion of organizational barriers is the treatment offered for physical health and mental illness, specifically medications and their effects. Consumers grappled not only with structural barriers and negative provider behaviors in the public health system, but also struggled with the medications prescribed to treat their illnesses. Yet seeking medical care was one of the most frequently cited self-management behaviors for dealing with illness. Consumers may be seeking care but are dissatisfied with the care they sometimes receive. Another possibility is that they may not be seeking medical care as often as their responses suggest.

The health and mental health care systems. At the organizational level, consumers experienced barriers to healthy living imposed by the very systems meant to improve their health, specifically the health care system and the psychiatric treatment offered by the mental health care system. Consumers frustrated by the public health system described it as poor quality care, and Medicaid poor quality coverage. Consumers had difficulty accessing care describing long waits for appointments, doctors not spending enough time with them, and a lack of Spanish-speaking providers. A Latino consumer with bipolar disorder describes the importance of being able to express himself to his doctors in his own language:

> That's what I'm talking about. One goes to the doctor and he doesn't know the language and he has to find someone who speaks Spanish, things like that. Or that he speaks your language…For example, I had a doctor that spoke English. One time the Lithium he mentioned was damaging my liver, or something like that, and I didn't understand much at the beginning. I found [a doctor] who spoke Spanish. He said to me, "We have to stop it." And they discontinued it. And he explained well what was happening to me…because he could speak to me in Spanish. And I learned that in terms of language, even though I know my English, I feel more comfortable saying 'Ésto me pasa. [in Spanish, 'This is happening to me.']'

Consumers frustrated by the little time spent with them by providers felt they were not getting the care they needed. Doctors were less attentive, less thorough in their exams and in running tests. Consumers also described having to start over with new doctors frequently, because of the high turnover in public health clinics. The barriers imposed by the health care system complicated consumers efforts to seek medical care, a named self-management strategy.

Medication effects. A barrier frequently discussed by consumers was the negative effects of psychiatric medications on their health and their efforts to self-manage. Consumers' beliefs that medications can do more damage than good were extended to their views on psychiatric medications. They felt that instead of helping, side effects made things worse. For example, self-motivation was one self-management behavior use by consumers. As discussed, one piece of motivating oneself was the notion of doing one's part, or helping oneself. A Latino consumer with major depressive disorder describes the difficulty of helping himself because of the sedative effects of his medication:

> They say you have to do your part. But at times when they give me my injection, I do my part and like for three days I can't do anything, nothing. I have to be lying down, lying down.

It becomes difficult to do one's part when one is immobile. A known side effect of some antipsychotics is the increase in appetite and weight gain. A Latino consumer with schizoaffective disorder describes his struggles with medication-related weight gain, and how it impacted his efforts to self-manage:

> Well, I have problems with my diet also. I have to try and eat high in protein but very low in carbohydrates in order not to gain more weight. But I was much thinner before than I am now. I was taking Seroquel for a long time and I gained a tremendous amount of weight. So, I didn't have energy to do my chores. I had no desire to do any other type of activity other than staying home. I would listen to the radio, watch television, whatever. ..Medications, it's like they overcome you. They overcome your body.

The debilitating side effects of psychiatric medications compromised consumers' health by causing them to gain weight, limited their ability to exercise, and made healthy eating difficult because of increased hunger and cravings. There was also the belief that psychiatric medications do not make a person feel completely better, but only stabilize the symptoms of mental illness. A Latino consumer with bipolar disorder explains:

> …the medicine, like they say, you take it. But even though I take it, it's not that I'm going to feel well. [My doctor] maintains me at one level, but it's not that I'm going to feel good, good. You take them to keep following up, to not decline, but it's not that you will get better.

Overall, consumers felt that psychiatric medications not only caused more damage to their bodies, but would never return them to a state where they felt truly well. In both cases, the consumers' ability to engage in healthy behaviors or self-manage becomes compromised.

Consumers had similar concerns about medications for physical health issues. They worried a great deal about the medications they were taking, and the thought of having to take more. Taking multiple medications also created worry. A Latina consumer with bipolar disorder describes her concerns about taking too much medication:

> I worry also, because they gave me insulin and after the insulin I gained 20 pounds…It worries me, because I take nine pills and it's enough. Nine pills in the morning, and nine at night.

A Latino consumer with bipolar disorder explains the dangers of multiple medications: "They do damage. When there are many pills, they damage your body sometimes…They cure one thing, but they damage something else." Consumers would have to make concessions and take medications that would treat some of their problems, but which might cause other problems. This included having to take multiple medications.

4.2.3.4 Community Level

Community level barriers include the food environment and the physical environment. The food environment is characterized by the quality of available and readily accessible foods in the community or in consumers' homes. The physical environment includes consumers' neighborhoods and the communities in which they live. The physical environment also includes consumers' home environment and the quality of their living space.

Food environment. At the community level, the food environment presented barriers to healthy eating. Consumers felt they ate better when they had meals prepared for them, such as those served at their day program. Junk food and unhealthy food was readily accessible in the community and easier to eat since it already came prepared. Traditional dishes are served in consumers' homes, either cooked by them or family members. Although consumers consider the traditional diet unhealthy, they still prefer to eat it. For consumers who did not know how to cook and did not have social supports to help prepare meals, prepared foods bought in the community were their only option and, typically, an unhealthy one. Though consumers were making an effort to maintain a healthy diet, the lack of affordable healthy food options and the availability of cheap, unhealthy foods in their community contributed to their struggle to eat a healthy diet.

Physical environment. Consumers' physical environment within their homes and within the community also presented barriers to healthy living. Consumers described feeling unsafe walking in the streets of their neighborhood, which prevented them from doing as much outdoor physical activity as they might want in order to self-manage. Consumers' mental health symptoms may compound their discomfort being outside. For example, anxiety and paranoia may heighten their fearfulness. The physical environment also interfered with consumers' ability to engage in unstructured activities which were enjoyable to them. A Latina consumer with bipolar disorder describes how she used to enjoy gardening outside her home but was not able to any more:

> Before, I liked the garden that I had, but now no…Because they damaged it. They damaged it. They threw things on top of it as though it was a dumpster and now I don't do any gardening.

The physical environment within consumers' homes could also place consumers' at risk for health problems and was considered another barrier. A Latina consumer with major depressive disorder describes how the poor condition of her apartment in public housing worsens her health:

> I live in [public] housing. All of my walls are such that you can already see the black parts inside the wall. You already see it. All of the material has fallen on the floor. There is a leak of water, so that when it rains, the water passes, and the water lasts more than three hours falling from the fourteenth floor upstairs. So, all this water leaks through the wall. In front of my bed, I have to be ready with a mop when it rains a lot to get the water out. In the living room, I can't walk without socks, because I feel the cold. It's freezing even if it's summer. So, since I've been there, I get a lot of chest congestion. I am using medication daily for the allergy that I'm telling you is related to this apartment, because, before, I did not get that. So, I go and I tell her [consumer's doctor], 'I can't breathe.'

Both financial limitations and the physical environment can interact to create barriers to living a healthy lifestyle. One consumer, a Latina with an unspecified mood disorder is limited financially and must rent a room in another person's home. She describes how this has negatively impacted her ability to maintain a healthy diet:

> I have a lot of anemia. Yes, because where I was living these last eight to nine months after I lost my apartment, my life changed a lot with food. Because where I was living before, they didn't permit me to cook, and I was uncontrolled with food…Well, I was uncontrolled, because what my mother, my son and I ate at that time – we had a little refrigerator and we would buy those foods that came packaged and things like that so as not to bother in the kitchen…The foods that Smart Ones sell. That type of food that one buys. Rice, Chinese rice and things like that. Meats. So we would buy it and nothing else. Since I had a microwave in the room, we would heat it up. Because each person in their home has their

> system of food. So, where I live now [another rented room], they also have their system of food, and I can't impose mine. I'm simply – today she told me, 'Cook today. Make chicken with rice.' So I said, 'Check and see if there is salad,' because they don't like salad much. And I'm used, even if it's just a little, to eat salad with food. But they hardly eat salad. So, one has to adapt to what there is.

In this consumers' case, her living circumstances prevent her from engaging in the healthy eating behaviors she would like. Overall, the physical environment can create barriers for multiple self-management behaviors in different ways.

4.2.3.5 Economic Factors

Economic factors created additional barriers for consumers trying to live a healthy lifestyle. Consumers struggled with limited financial means. Part of their struggle included not being able to afford the things that would help their health, mainly healthy food. Almost all consumers, with the exception of one person, agreed that healthy foods, such as vegetables and fruits, are expensive, which sometimes prevent consumers from eating them. A Latino consumer with schizoaffective disorder explains:

> I don't follow a diet. No, no, no. I eat what appears because life is very hard and diets turn out to be costly…A diet of natural food is what comes out extremely costly. Vegetables are more expensive than meat.

Maintaining a diet was seen as expensive, though some consumers felt the benefits to their health should outweigh cost considerations. Still, budget considerations and the cost of food dictated what many consumers would eat. The supermarket was seen as too expensive, so consumers would find alternative places to shop, such as discount stores or street vendors. A Latino consumer schizophrenia describes how he shops for healthy food within his budget:

> I receive $256 in food stamps and that I use for the month for me and for my wife. And I tell her that I don't want food with too much fat – that it's better to eat

> healthy food. And we buy lots of containers of salad, of vegetables and so we go to the 'Ninety Cents [discount store]' and in 'Ninety Cents' they sell containers of salad more cheaply and we buy them at the 'Ninety Cents.' We don't buy it in the supermarket because, in the supermarket, it is really expensive. Same thing with green beans and that we buy at the 'Ninety Cents.'

Only one consumer in the sample, a Latino consumer with bipolar disorder, felt that healthy eating was affordable. He believed the problem was people lacked practical education on how to buy and combine foods.

4.3 Consumer Self-Efficacy and Patient Activation

On average, participants had moderate levels of self-efficacy for managing their chronic diseases (m = 6.06, sd = 1.92). Within the four patient activation levels ranging from being passive to adopting self-managing behaviors captured by the PAM, consumers, on average, fell within level 3. That is, participants were beginning to take self-management actions but lacked confidence about their efforts. A closer examination of the distribution of PAM scores in the sample indicates that the majority of participants (77.5%) fell within level 1 (passive and not confident) and level 3. Pearson's correlation between patient activation scores and mean self-efficacy scores indicated there is a correlation between these two instruments ($r=.530$, $p<.05$): when levels of self-efficacy increase, activation scores increase as well. In other words, consumers with greater perceived self-efficacy around managing their chronic illnesses are also more activated.

4.3.1 Typology of Self-Efficacy and Patient Activation

Findings for self-efficacy scores and for patient activation appear, on the surface, to be somewhat different. However, closer inspection of the experiences of self-management and barriers for each instrument's groups (high, moderate, low scores) show the results have more in common and indicate a typology. Overall, consumers with high self-efficacy scores relative to the sample used more self-management behaviors and encountered fewer barriers than consumers with low self-efficacy scores. This finding supports my hypotheses with regards to self-efficacy. I would have expected the same results for consumer activation scores, but my hypotheses were only partially supported. I found instead that consumers who were the most activated used the least amount of self-management behaviors. The least activated consumers used more, but this does not mean they were using these behaviors effectively. Consumers with low activation scores struggled more with maintaining the self-management behaviors they identified, similar to consumers with low self-efficacy scores. Consumers with high activation scores were more able to maintain self-management behaviors, just as consumers with high self-efficacy scores. As expected and also similar to self-efficacy groupings, the most activated consumers encountered the fewest barriers while the least activated consumers encountered the most. Consumers in the intermediate range for both groups were able to implement some self-management behaviors, while also struggling with some of the barriers seen among consumers in the lower ranges. Despite the differences in the amount of self-management behaviors used, there are more similarities between the self-efficacy and consumer activation groups than differences. This supports Pearson's correlation results indicating the two instruments are related and may measure similar concepts.

Figure 2 outlines a typology for consumers based on findings. Sample characteristics for each type are listed in Table A3. Both consumers with the highest self-efficacy scores, and consumers who were the most activated (Type 1) were better able to maintain their self-management behaviors and struggled less with behaviors like healthy eating and exercise. They were satisfied with their health care encounters. They also had more social supports. Consumers with moderate self-efficacy and activation scores (Type 2) were able to engage in self-management behaviors, but show signs of struggle and encounter more barriers. They exercise less and struggle more with diet than high level consumers. The presence of social support is inconsistent. They also report mixed experiences with their medical encounters. Consumers with low self-efficacy scores and consumers who were the least activated (Type 3) had a harder time maintaining self-management behaviors. Maintaining a healthy diet and exercising were especially challenging. They reported more unhealthy eating. They reported more negative health care encounters. They also seemed to lack social supports and the confidence that they can obtain help from others when they need it. They may be more isolated. Additionally, they seem to be in worse health, with more chronic pain issues, and lead more sedentary lives. Demographic data reveals they actually had fewer comorbid medical conditions that the Type 2 group (3.67 [1.4] versus 6.2 [2.5]). It may be that they experienced their physical and mental illnesses as more debilitating. All consumers who fell into the Type 3 group rated their health as fair or poor. Type 3 consumers also smoke, which may worsen their health. Type 3 consumers encountered the most barriers across all ecological levels, indicating they are experiencing challenges to managing their health in every aspect of their lives. Overall, consumers with higher self-efficacy scores and consumers who are most activated were more able to engage in self-management behaviors and encountered fewer barriers than consumers in the moderate and low ranges.

4.3.1.1 Type 1: High Self-Efficacy and Patient Activation

Case vignettes which are amalgams of consumers in the sample may help illustrate the three different types. The following vignette illustrates Type 1 consumers. Type 1 consumers are those in the higher range of scores. They have greater perceived self-efficacy across most domains measured by the CDSE scales used. They are also more activated. They are able to self-manage more effectively and encounter fewer barriers:

> Consumer is a Latino with schizoaffective disorder. He reports engaging in vigorous exercise regularly. He sometimes exercises with a friend or family member, He feels confident he can exercise to the degree needed to produce health benefits. He is able to manage his diet and eats healthy for the most part. He does not know how to cook, but has a mother who is involved and comes to his home to cook some meals, which helps him maintain his diet. He seeks medical care when he has a health problem and describes his medical encounters as positive for the most part. He usually feels comfortable communicating with his physician. He primarily struggles with poor physical health and poor mental health, especially the side effects of psychiatric medications. Despite his health problems, he is able to exercise regularly, which suggests he may be in better health than Type 2 or 3 consumers. Financial problems are also an issue, but he is able to find solutions, such as how to save money food shopping. However, overall, he reports few barriers and is able to manage most.

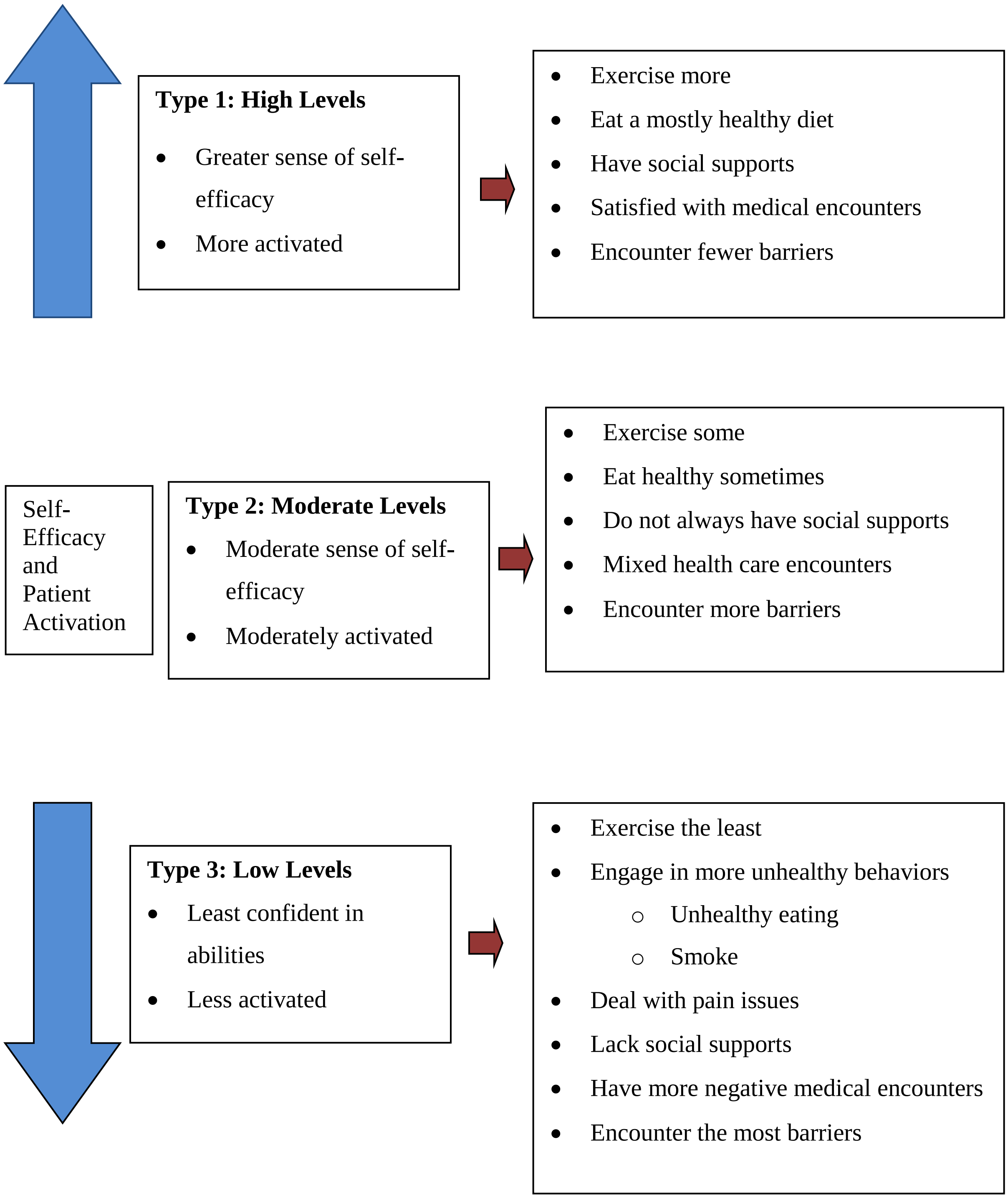
Following are quotes illustrating sample consumers in this category:

> Well, I'm grateful to my doctor and I like him a lot because when I ask him questions, he says, "Do you have questions?' And I tell him, "No, It's fine, doctor. I feel good.' Because he was going to go on to the lab results. When he does lab work, he looks at the computer and checks all the records, how they turned out if there was lab work and all that. That when the doctor talks a lot to you about the results. – *Latino consumer with major depression.*

> Now I've started going to a gym. It's been like two months…Sometimes I go with a cousin, sometimes alone…and yes, I've lost weight. – *Latino consumer with bipolar disorder*

> A diet for me is not easy because he [pointing to another participant] knows how to cook. I don't. My mom sometimes cooks for me. But I know how to make certain things, but not like diet. I buy a lot of vegetables in the supermarket and I prepare them at home. But it's not that I know how to cook them well. Vegetables

Figure 2. Consumer Typology: Self-Efficacy and Patient Activation



> you don't cook much. Fruits and vegetables. – *Latino consumer with bipolar disorder*

4.3.1.2 Type 2: Moderate Self-Efficacy and Patient Activation

Type 2 consumers fall in the intermediate range of scores. They have moderate levels of perceived self-efficacy and are moderately activated relative to the sample. They are able to engage in some self-management behaviors, but also struggle more than Type 1 consumers. They also encounter more barriers:

> Consumer is a Latina with bipolar disorder. She exercises but struggles sometimes to engage in the level of physical activity she needs to experience health benefits. She does make an effort to attend a gym, but does so irregularly. She tries to maintain a healthy diet, but struggles sometimes to consistently eat healthy. She is not always able to rely on her social supports. She has support in some areas, but is isolated in other ways. For example, she has a cousin whom she visits and prays with on occasion. However, she seldom sees her daughters and cannot count on them for help with things like accompanying her to doctor's appointments. She seeks medical care when needed, but does not always feel comfortable communicating with her physician. She also reports mixed experiences (positive and negative) with her medical encounters. She deals with poor mental and physical health, as well as chronic pain, which hinders her physically somewhat. She is also financially limited. She has a more difficult time coping with barriers, but she makes an effort to self-manage.

Following are quotes illustrating sample consumers in this category:

> I try to help myself. I try myself. Because before, I used to get more depressed than I do now. I thank [my psychiatrist and social worker] because they have helped me a lot. They tell me, 'You have to think about yourself first. Forget that your daughters are there. You're daughters have gone already. You can't count on being at home and your daughters are going to do some miracle with your health, with your life. You have to think of yourself.' – *Latina consumer with major depression*

> I have a loss of strength in my neck and in my lumbar spine. So, to help myself, I walk. I try to walk upright – I try to place my knees and feet properly so it has an effect. I try to stand up straight because I don't have strength. I have to make an effort to straighten myself. That's one thing and I also do exercises. – *Latino consumer with schizoaffective disorder.*

> I follow a diet of not eating too much fat and a lot of salad, tomato, lettuce, pickles, carrots. So that way I maintain a balanced diet. I eat at midday, but during the afternoon I drink a glass of milk or a glass of juice and like that I take a nap. I don't eat much because I gain weight immediately…Sometimes I feel like eating something during the night when I've gone to bed, so I get up. If I haven't eaten then I feel like getting up to eat but after 6pm, no more food. – *Latino consumer with schizophrenia.*

4.3.1.3 Type 3: Low Levels of Self-Efficacy and Activation.

Type 3 consumers fall in the low range of scores. They are the least confident about their ability to manage their chronic illnesses. They are also the least activated and not very engaged in their health care. They have the greatest difficulty maintaining self-management behaviors and encounter the most barriers compared to Types 1 and 2:

> Consumer is a Latina with schizophrenia. She has considerable difficulty with chronic pain and does not exercise much because of it. She describes housework as her main form of exercise and is unaware that this type of physical activity does not produce any real health benefits. She engages in behaviors which are detrimental to her health. She makes little effort to eat a healthy diet and has a preference for heavy foods and sweets, which she describes as more filling and satisfying. She also smokes despite being aware of the health risks. She has made attempts to quit, but has not been successful. She is isolated and has few friends. Her family is not involved. She has negative experiences with her physicians and does not feel confident communicating with them. This is problematic, because she suffers from multiple medical problems. Poor physical and mental health barriers for her as with Types 1 and 2 consumers. She finds her health sometimes prevents her from carrying out her daily activities, such as housework. She also deals with multiple barriers, which limit her ability to self-manage even further. The main ones are her health problems, especially chronic pain, and lack of supports. However she also struggles with poverty and poor quality housing. She lives in public housing and frequently gets sick from leaks and environmental problems within her home, such as mold. Overall, she has a great deal of difficulty self-managing her illnesses.

Following are quotes illustrating sample consumers in this category:

> I would like to walk and do some exercise but I can't. I have a lot of pains in my body. What I do is go to sleep early at my usual time, take my medication at my usual time, and try to cook every day, a good dinner or noontime, at two in the

> afternoon. I don't eat much. Before I used to eat a lot. Now I eat – I get full at midday. So, during the night I eat a little something, I eat a little and I always go to sleep early. I am active in my home doing housework. – *Latina consumer with schizoaffective disorder.*

> It's like I'm telling you, sometimes you can't talk much with the doctor because he gives you so little time. Because in the clinic that I go to that belongs to [local hospital] here on Broadway, there are too many people and the doctor can't handle it. You can't talk much with him. – *Latina consumer with schizoaffective disorder.*

> You become obesity which is eating. It's like they all say. What hits you is anxiety. You ate normally. At 7 you went to watch television. And at 10 before you go to bed you want to serve yourself again. You put it in the microwave. And you're like that. And that food wakes up in your stomach because you feel the next day that it's still there. – *Latino consumer with bipolar disorder.*

In all, hypotheses were supported with the exception of the association between consumer activation and self-management behaviors. However, closer inspection of qualitative data reveals that while consumers with low activation levels report more self-management behaviors, they do not engage in them regularly compared to the most activated consumers. A comparison of measures of self-efficacy and consumer activation with qualitative data revealed a pattern of self-management behaviors and barriers for consumers with high, moderate and low scores on each scale. A typology of three categories of consumers emerged which gives a fuller pictures of the experiences of consumers with different levels of self-efficacy and activation. Additionally, a relationship between the two measures became apparent and was supported by qualitative findings.

4.4 Stakeholder Findings: Barriers to Healthy Living

Stakeholders and consumers identified almost all of the same barriers at all ecological levels, indicating consumers and stakeholders have a similar idea of the challenges faced by consumers trying to self-manage. Interestingly, stakeholders identified more barriers than consumers, but only at the individual level. While identification of barriers tended to converge, explanation of the barrier by each groups diverged at times. Stakeholders may have identified the same barriers, but their understanding of these was sometimes different. However, stakeholder's differing viewpoints were not wholly incompatible with consumers' perspectives. Instead, stakeholders supplemented consumers' experiences based on their observations as providers. Explanations often complemented each other to provide a fuller picture of the barrier in question. In some cases, divergence meant that one group was clarifying an incomplete explanation by the other. For example, a stakeholder perception that consumers do not exercise can be supplemented with consumers' explanations of how psychiatric treatment and mental illness limit their ability to engage in physical activity. Finally, stakeholders recognized barriers across different ecological levels. While they identified more individual level barriers, suggesting stakeholders felt consumer-based issues created the most problems for consumers' health, stakeholders also recognized the impact of social, organizational, community and socioeconomic level factors which got in the way of consumers' efforts to self-manage. Table 2 outlines similarities and differences in understandings of barriers among consumers and stakeholders.

4.4.1 Sample Characteristics

The sample was composed of 17 stakeholders including 4 mental health providers, 5 primary care doctors, 3 administrators, and 5 consumer advocates. Sample characteristics are presented in the appendix in Table A2. Fifty-nine percent of our sample was female and half was either African American or Hispanic. Stakeholders came from different professions (e.g., social work, psychiatry, nursing) and had worked, on average, 16 years with Hispanics with SMI. See Table A2 for stakeholder sample characteristics.

4.4.2 Similarities Between Stakeholders and Consumer Views

In comparison to consumers, stakeholders had some similar views of barriers across ecological levels. At the individual level, stakeholders identified consumers' poor physical and chronic pain issues health as barriers, particularly with limiting exercise. Stakeholders agreed there was a connection between consumers' physical and mental health, where one impacts the other and vice versa. Stakeholders also felt that unhealthy behaviors on the part of consumers created barriers to healthy living. These behaviors included unhealthy diets, lack of exercise and smoking. The traditional diet of many Latino cultures was also considered unhealthy by both groups. Stakeholders felt that lack of self-management skills, specifically not being able to cook created barriers to maintaining a healthy diet. At the social level, stakeholders recognized families could sometimes be a source of stress as opposed to support, as well as a burden for consumers who need to provide financial support or child care. At the organizational level, stakeholders felt the structure of the health care system creates barriers by limiting accessibility. Appointments are difficulty to obtain. Providers did not have time to spend with consumers. Providers often do not speak Spanish. Stakeholders felt the language barrier existed in mental health settings as well. At the socioeconomic level, stakeholders understood that financial limitations prevent consumers from buying healthy foods to maintain a proper diet or enroll in a gym to exercise. Stakeholders were aware that many of their consumers considered their physical environment unsafe and uninviting, which prevented them from engaging in physical activity outdoors. Stakeholders also recognized the food environment offered cheap and easily accessible unhealthy food and few affordable outlets for healthy foods. Overall, stakeholders and consumers held some similar views of barriers related to: 1) the impact of consumers' health, 2) unhealthy habits, 3) social networks, 4) consumers' experiences with the health care system, 5) their financial limitations, and, 6) the communities in which consumers live.

4.4.3 Differences Between Stakeholders and Consumers

4.4.3.1 Individual Level

Individual level barriers identified by stakeholders focused on barriers to treatment compliance and illness management. Physicians, psychiatrists and mental health professionals especially held these opinions. Specific barriers included: 1) mental illness, 2) lack of health education, 3) consumer beliefs and fears, 4) body image, and, 5) lack of formal education.

Mental illness. Stakeholders also identified mental illness as a barrier to healthy living, but were more concerned about how the symptoms of mental illness interfered with consumers' ability to care for themselves and comply with treatment. Stakeholders felt that managing multiple medical conditions was difficult enough without having to also deal with having a mental illness. The cognitive impairments and symptoms that often accompany mental illness made managing complex conditions very difficult for consumers. A Hispanic, female psychiatrist explains:

> I can tell you this much – I have no idea to begin with how some of these patients are coping with so many illnesses, and how they are keeping things straight in their heads. Some of our patients have some level of cognitive problems. How do you keep everything straight? I have no idea how they are doing it. I know that the ones that have visiting nurses coming in and setting up their pillboxes have a little better than the other ones. But the other ones that don't, my sense of it is that sometimes they are taking things, and sometimes they are not taking things. Sometimes they run out of things and they are not sure who is prescribing them – sometimes they bring it here, and sometimes I say "No you have to go see your internist. I think that juggling all of that with limited cognitive abilities is a serious problem. A lot of our patients if they remember to take their medication once a day it is a lot. With complex regiments they really don't.

Stakeholders felt consumers did not follow through on health concerns and treatment. Stakeholders felt consumers only went to the doctor when mental health providers told them to go and did not follow through with treatments and appointments. A 58 year old Hispanic social worker talks about consumers' reluctance to see their doctors:

> They probably do [have primary care physicians], but a lot of them don't go to their primary health care physician until they are told to go from here, for example. They wouldn't go on their own. They won't go regularly. I mean, it's really hard to get them to go. Not because it's not available, but they just don't want to go.

Figure 3. Similarities and Differences Between Stakeholders' and Consumers' Views of Barriers.

Ecological Level	Similar Views	Different Views
Individual	• Poor physical health and its effects • Effects of chronic pain • Connection between physical and mental health • Unhealthy behaviors: diet, lack of exercise, smoking • Lack of skills: cooking	• Mental illness and impact on treatment • Consumer beliefs about medications • Seeking medical care • Lack of health education • Consumer beliefs and fears • Consumer acceptance of fuller bodies • Lack of formal education
Social	• Family stressors	• Lack of social supports to help with treatment compliance
Organizational	• Health care system	• Mental health system
Community	• Physical environment • Food environment	
Socioeconomic	• Financial limitations	• Effects of poverty, minority status on health

In the area of physical symptoms, stakeholders felt consumers became somatic when the psychiatric symptoms were worse and were more likely to believe they had physical symptoms of illness, such as pain.

Stakeholders felt psychiatric symptoms, such as magical thinking and paranoia, caused consumers in this population to have “strange ideas” about what is happening to them health-wise, and what treatment might do to them. This could interfere with treatment, a primary concern for providers, especially primary care physicians and mental health professionals. A Hispanic, male primary care physician describes his experience treating symptomatic consumers with severe mental illness and the impact on their ability to self-manage:

> …for my severely schizophrenic, patients with diabetes where problems become – many of them are really, especially the paranoid schizophrenia, I’ve had a difficulty taking oral medications regularly. So getting them on one or two or even twice a day dosing has been very difficult. Some patients have been unable to do twice a day dosing of pills, because it just won’t happen. Maybe they don’t have home attendants for evening hours. So in order to make sure the medications are taken, everything has to be administered in the morning. In my severely mentally ill who have very active family members or somebody who is looking after them, it allows a little more flexibility. But even then, complex medication dosing, multiple finger-stick checking, that just doesn’t happen in the vast majority…They are just resistant to do that. There’s a lot of resistance, whether paranoia. I’ve had patients who thought the machine was communicating with people. So even when we have a program trying to get a glucometer that would immediately transmit those to make it easier for management, [the consumer] ended up requesting it to be taken away, because she thought it was sort of spying on her. And just in general, again, unless they have a very active family member or home attendant bringing in a glucometer or a glucose log, it’s very difficult. I mean, I have a number of patients who, they just don’t bring in their medications despite reminding in person, despite the automated phone calls I post to tell them to bring in their medications. They don’t.

This physician touches on a number of issues described by stakeholders, such as consumers’ difficulty managing multiple medications, and the effects of psychosis on treatment compliance.

Stakeholders were very aware of the impact of symptoms of mental illness on adhering to a medication regimen, psychiatric or for physical health. Specifically, stakeholders had observed that cognitive impairment, forgetfulness and symptoms such as paranoia caused people to not take their medications. Stakeholders struggled with consumers' beliefs around medications. They found consumers were oftentimes noncompliant, whether because of their beliefs or their symptoms of mental illness. A Non-Hispanic White, female primary care physician shares her experience with trying to prescribe medications for this population:

> Some medication adherence for some things are better than for others. For blood pressure medications, there's a really wide spectrum there. There are patients who we just can't get them to take their meds, and others who after months and months of taking it and seeing that it's high and taking their meds and seeing that the blood pressure's better, something they can visibly see, it gets easier. And after sort of a struggle, they'll often take their blood pressure medication. Diabetes medications are really trickier…the diabetes medications are harder because if the patient has one low blood sugar, or feels dizzy or feels some symptom that they think could be related to low blood sugar, then they really pull back, and they don't want to take their medication. And there's- for cholesterol to really struggle, because there's just really fixed beliefs in the population that these cholesterol medications damage the liver, so patients are always stopping those. It's like an ongoing pattern. Yeah, yeah because there's really a fixed belief in the population that those are dangerous medications.

Stakeholders also described how many consumers believed that psychiatric medications, such as antidepressants, did not need to be taken daily, but could be taken as needed instead. This pattern of taking psychiatric medications meant that symptoms would never remit or would recur. Stakeholders felt there was also a fear of psychiatric medications in this population.

Lack of health education. Lack of health education within this population was a problem which stakeholders believed contributed to poor health behaviors. Stakeholders spoke about consumers' lack of knowledge about physical health issues, and how this impacted their health and ability to self-manage. Stakeholders felt some consumers really knew nothing about medical problems. They had no knowledge of the indicators for certain illnesses (for example, glucose ranges for diabetics, blood pressure ranges for consumers with hypertension). They lacked knowledge of what to do to make changes if indicators were concerning. Consumers also lacked knowledge about prevention and handled health problems as they presented themselves. Stakeholders felt immigrant consumers did not follow through with routine care, because it may not be customary in their country to see doctors regularly or even once a year. Complicating matters further, stakeholders also felt consumers sometimes did not trust their providers and would not show for appointments, because they do not feel they will be told anything useful or get help.

Consumer beliefs and fears. Stakeholders identified other barriers at the individual level that consumers did not speak about, which related directly to their medical care. Consumer beliefs and fears were one area. According to stakeholders, individual beliefs may shape consumers' views about their own illness and ability to accept it. Internalized stigma about having a mental illness may make it more difficult for consumers to accept their diagnosis and engage in treatment. A Non-Hispanic White, male consumer advocate explains:

> To make a broad generalization, I would say, in general, people of color have more difficulty with accepting the medical model of psychiatric illness and therefore medication compliance… and this is a problem across the board and you know, almost everyone who gets ill, there's a period in which they don't acknowledge it, and, you know, a long period before they accept and engage in their treatment. And it seems like that journey's longer for people of color.

Consumers may also have fatalistic beliefs about their illness being destined, the will of God and outside their control. Feelings of helplessness or fatalistic thinking may be worse with psychiatric symptoms. An African-American male primary care physician explains:

> You know, I think I see a number of people sort of ascribing their health condition to, powers or forces outside of their own control. And I think with some of my patients say who have depression or thought disorders, it's kind of hard to really tease apart, you know, where perhaps their thought disorder starts and sort of that feeling of helplessness or not being able to control their illness, and where does that start. There may be a general belief that patients have about this is fate or this is something beyond my control, but perhaps with their mental illness that may be exaggerated. You know, perhaps people may feel there is not much I can do about this. Saying, whatever. I can't change it. Is that health belief or is that their depression talking?

Consumers may also feel that, if other family members had the same physical illnesses and, perhaps, succumbed to them, then that is what is in store for the consumer. A Hispanic, female social worker explains:

> Well there's almost like a fatalisti-, um fatalismo. Um, mi abuela, mi mama padeció de ésto [my grandmother, my mother had this] so, you know, they died and I'm going to die so, ese es el fatalismo [that's the fatalism]. You know, I cannot change destiny. Or I cannot do something to change destiny. ..Um, and the issue will, well that's more with the mentally ill, with the mental illness, well that's the way that I am and I'm not going to change it. But it's the same thing.

Stakeholders also felt consumers' spiritual beliefs impact how they self-manage. They may consult with healers, such as espiritistas, who may advise not to take medications or follow treatment recommended by their providers. They may also have beliefs about past transgressions coming to cause health problems for them in the present. These beliefs may have some root in reality, but may also be clouded by symptoms of mental illness. In the following vignette, an African American, male primary care physician describes treating a mentally ill consumer, whose family had experienced tragedy under the Dominican Republic's political system in the past. Her past experiences impacted her beliefs about her current health:

> I've had a patient who, you know, described a real series of tragedies that happened to her and her family in the Dominican Republic and talked about – she talked about a son who was actually killed and another family member who died

> under somewhat suspicious circumstances where she was wondering whether it was an accident (it was an automobile accident). You know, where she was saying she didn't really know whether it was an accident or whether somebody had done this on purpose. And she was talking about that it might have been related to the political problems with the regime in the Dominican Republic in the past. Again, she was one patient who is also being followed by "X" Mental Health Center. So, as she's telling me this long story of her family's problems in the DR and all those tragedies that have happened to her I began to wonder how much of this was real. You know, how much of her mental health problems here might've been post-traumatic stress type of problem, because there were just tremendous losses of life, as well as family station coming to this country and not having a profession or being dependent on others. So again, without really having a complete understanding of what goes on or went on in the past where she was coming from (the Dominican Republic) it was hard for me to sort of tease apart exactly what the history might've been or how much of this might be a part of her thought disorder.

The physician is highlighting why getting a clear sense of the consumer's history was essential to understanding her symptoms. It also illustrates how difficult it would be to treat her without having enough knowledge about her history. The vignette highlights the difficulties faced by clinicians in distinguishing between symptoms of psychosis, and thinking that might be might be rooted in reality. Teasing apart the two things is difficult for providers to do but essential for treatment. The physician in this example also raises the question of another possible diagnosis, post-traumatic stress disorder, which may have been overlooked and needed to be considered. It speaks to the different perspectives of providers involved in the care of one consumer.

Consumer fears also played a role in the management of their health. Stakeholders felt consumers were fearful of going to the doctor, even though consumers reported seeking medical care as an important self-management strategy. Stakeholders felt consumers were afraid of finding out there was something wrong with them. Stakeholders also felt consumers were fearful of travelling to unfamiliar parts of town for health care. In response to these fears, consumers would miss appointments or avoid seeking medical care.

Body image. Stakeholders felt cultural views around fuller bodies played a role in not losing weight or not adhering to a healthy diet. Some stakeholders felt cultural beliefs around body image impacted consumers' tendency to be overweight, with fuller bodies considered acceptable and more attractive. Others felt that the acceptance of fuller bodies was more common among older adults in this population. Consumers, younger consumers especially, were aware of being overweight and wanted to lose weight, but it was difficult. A Hispanic female psychiatrist discusses the generational dynamics of body image among Latino immigrants:

> You know it is interesting. I think the immigrant population does not have that problem. I think that is more first generation and second generation problem– I think most of the immigrants, they are used to seeing in their own culture people who are already – I think there is a level of obesity that is very rampant. Not only in the United States, but in the Caribbean and South America, and most people are obese if they are a certain age. There is a level of tolerance to it that you don't see in even first generation or second generation or the general population. I think the stigma of obesity has come more recently. As the media has influenced how people see things. That has taken shape. In our immigrant population they know they are overweight and they would like to lose weight…

Body image and weight is a complex issues impacted by age and immigration. As this psychiatrist points out, many immigrant consumers in her care who were overweight were interested in losing weight, suggesting a fuller body may not always be desirable. However, other stakeholders felt differently and believed that a preference for fuller bodies contributed to obesity among consumers.

Lack of formal education. Stakeholders felt lack of formal education among consumers created barriers to wellness. Stakeholders observed that some of their consumers had very little formal education. In some cases, they encountered consumers who were illiterate or had a grade school level education. Stakeholders felt less educated consumers had a harder time reading written health information. They also felt consumers' understanding of health information was limited by their low levels of education. A Hispanic, female peer specialist describes how education impacts her consumers' health knowledge:

> I think that, because there are patients who start and they know absolutely nothing about what things are called, for example, a medical problem. They [clinic group leaders] always deal with medical problems or health problems, so that patients have an idea because many are illiterate. There are people of all levels. Who have schooling, who don't have much. So, sometimes they are not familiar with a concept. I think that if they grasp – they grasp the information, not all of it, but if they continuously go to the group, they can get something out of it. They know.

In this stakeholder's view, while lack of education can limit consumers' understanding, consumer education and constant exposure to health concepts can improve it. Stakeholder views on consumers with higher educational levels were much more positive. Stakeholders felt consumers with higher levels of education were more stable in terms of their mental illness and may be better able to self-manage.

4.4.3.2 Social Level

Stakeholders recognized that many consumers lacked a social network and were alone. This was a barrier to treatment. While stakeholders recognized families could cause stress, they focused on the need for positive involvement of others for more effective illness management. They felt it was difficult for consumers dealing with severe mental and physical health problems to manage their illnesses without support. It required elements of strength and fortitude which many consumers did not have, and their loneliness was evident to some providers. If consumers were alone, it also meant they did not have anyone to accompany them to medical appointments, which was problematic since consumers often felt uncomfortable attending appointments alone, mainly because of the language barrier. Lack of family involvement also meant that stakeholders lacked an ally in the home who could help with medication compliance or even dietary changes. Consumers with involved family members or active home attendants were observed to be more compliant and more likely to change adverse health behaviors. An African American primary care physician explains the importance of provider-family contact:

> I don't know if it's a misconception but I find it hard to build in the discussion of well, perhaps I'm giving you a medicine to lower your cholesterol but at the same time you have to do some things about your diet or you have to work with your family to get the whole family involved and perhaps changing behavior or what you're eating or what you're buying at the store…So those kinds of conversations are hard to do sort of without the culture broker or the person who really understands how the family dynamic works and really understanding who's in charge of the family; who makes the decisions; who within the family structure, you know, is responsible for sort of the family's health beliefs and what actions they take around managing a chronic disease.

The success of treatment often depended on the ability to partner with a family member for stakeholders, such as primary care physicians. Consumers who were isolated were at a disadvantage.

4.4.3.3 Organizational Level

Stakeholders, namely consumer advocates, considered the mental health system and its lack of health promotion, as a barrier to healthy living. They felt that mental health staff, who tend to have more contact with consumers than medical providers, do not enable consumers to make healthy lifestyle changes. For example, a day program offering meals may serve unhealthy food and snacks to consumers who are otherwise being told to make dietary changes. Stakeholders also felt mental health providers did not do enough to teach consumers about the value of exercise and health issues in general. At one outpatient program in the stakeholder sample that did offer nutrition groups and consults with a nutritionist, they did not reinforce their own message, because the foods they offered consumers were typically unhealthy.

Psychiatric treatment is a main part of the mental health system's services. Medications are a significant part of psychiatric treatment. Stakeholders understood the problems psychiatric medications can cause for consumers, especially with regard to their physical health. Stakeholders felt psychiatric medications contributed to consumer obesity. Losing this weight was difficult. The medications also caused increased appetite and cravings for starchy, sugary foods, which created barriers for consumers trying to eat a healthy diet. Stakeholders also felt that psychiatric medications can cause physical illnesses, such as diabetes, and make consumers more prone to having certain medical conditions. What distinguishes stakeholders' views on medications are the hard choices they have to make in order to keep the consumer functioning as much as possible. This was especially true for psychiatrists and mental health professionals. Stakeholders realized that, for clinicians, it was often a trade-off: prescribing medications which can cause health issues, but also control debilitating psychiatric illnesses. A White, male psychiatrist explains:

> That's very difficult, because that's a real issue, especially at "X" Clinic. On the one hand you've got medications that clearly present risks, and on the other hand some of them may be effective at controlling symptoms. And I think you've got clinicians who feel that it's a trade-off, and they choose/believe that they know that the patient is doing reasonably well on the medication. To take them off it presents risks. It doesn't mean that, you know, they already might have diabetes or high blood pressure, and they're already overweight. Just because they take them off and put them on a different medication doesn't mean that's going to really improve, and they may be destabilized. So it can be very difficult to get our clinicians to take them off of medications that seem to, you know, be involved in increasing weight or, you know, putting patients at risk for diabetes who already are overweight and have high blood pressure and don't need another cardiometabolic risk factor. It's hard.

Stakeholders observed that consumers were aware of the potential side effects of psychiatric medications, such as Zyprexa, and will sometimes refuse to take them as a result. Apart from physical complications, stakeholders also recognized that psychiatric medications can decrease consumers' motivation to do things, because of side effects such as sedation.

4.4.3.4 Socioeconomic Factors

Stakeholders spoke more about the broader impact of socioeconomic status on consumers' health. Stakeholders talked about health disparities affecting this population and placing them at greater risk for health problems. They noted that poverty was associated with worse health. Consumers' minority status also placed them at greater risk for health problems. As a minority group, they were more likely live in low income areas and have less access to quality resources for wellness. Additionally, immigrants' health tends to worsen the longer they are in this country. A Non-Hispanic, White female psychiatrist and administrative professional explains how socioeconomic status and mental illness combine to create health problems for consumers:

> I mean, it's known that people of lower socioeconomic status are at high risk for obesity – a sedentary lifestyle, poor dietary habits. So I think, just being, working in this community which we know is of lower socioeconomic status is a risk factor. And then on top of that having a mental illness which often impacts, you know, level of activity, socialization, you know, your capacity to organize around having a healthy lifestyle. All that is impacted, so I think it also leads to obesity. Then their medications sometimes lead to obesity. So all that comes together.

The convergence of the effects of minority status, socioeconomic status, and mental illness compounded the risks faced by consumers in this population, which could lead to cardiovascular disease.

In all, Stakeholders identified similar barriers, but had a different understanding of some of these. More often, their views were informed by concerns about treatment adherence. Most barriers they identified were located at the individual level. However, stakeholders were aware of barriers across ecological levels which also impacted health and health care. At the individual level, stakeholders' focused on consumer beliefs which could impact treatment, such as beliefs about medications, treatment in general, and seeking medical care. Also a concern was consumers' knowledge about health issues and overall educational level. At the social level, stakeholders felt there was a need to involve family members or other persons to encourage treatment compliance and monitor medications. At the organizational level, stakeholders, especially consumer advocates, were more critical of the mental health system and its lack of health promotion. Finally, at the socioeconomic level, stakeholders were concerned about the health risks associated with minority status and poverty. Overall, stakeholders overlapped with consumers on most barriers, but also raised other issues which consumers either did not address or which they viewed differently.

5. Discussion

This study successfully used a convergent mixed methods approach which fully merged quantitative and qualitative data. A typology of consumers based on self-efficacy and patient activation levels was identified, as well as associated self-management behaviors and barriers. Three of the four study hypotheses were supported. There was a positive relationship between self-efficacy levels and self-management behaviors, and a negative relationship between self-efficacy levels and barriers. There was also a negative relationship between patient activation and barriers. Instead of the hypothesized positive relationship, there was a negative relationship between patient activation and self-management behaviors. Additionally, stakeholder and consumer perceptions of barriers were compared and found to be convergent, with a few exceptions. While both groups identified most of the same barriers, their views on these barriers sometimes differed but complemented each other. An analysis of consumer data revealed a variety of self-management behaviors. This discussion begins with a review of self-management findings, the development of a typology incorporating self-efficacy, patient activation, and self-management, stakeholder views on barriers consumers face to living a healthy lifestyle, and concluding with an ecological model of barriers.

5.1 Self-Management

Clear self-management behaviors emerged, which encompassed both physical and mental health care. These self-management behaviors were consistent with the typical self-management behaviors (e.g., taking medications, exercising, diet management) identified in the literature on chronic illness management (Auduluv, 2013; Schulman-Green et al., 2012). Consumers cited self-motivation as a way to stay engaged in their care. Consumers who believed they had to do their part to stay well were proactive in managing their diet and trying to exercise. They also participated in structured activities such as attending nutrition groups at their clinic to educate themselves about their illness needs. Dealing with the emotional impact of having a chronic illness, is another function of self-management (K. R. Lorig & Holman, 2003). Consumers described experiencing depression and anxiety as a result of the stressors experienced from being in poor health (e.g., being physically uncomfortable due to symptoms, experiencing chronic pain). Consumers talked about finding ways to counter negative emotions by engaging in pleasurable activities. Those who had social networks socialized with family and friends, as a way to relieve stress and bring enjoyment to their difficult lives. Finally, consumers' use of faith for support and comfort helped consumers persevere during difficult times and provided an opportunity for social contact through church activities.

The self-management behaviors consumers used addressed both their physical and mental illnesses. Physical chronic illness is often accompanied by mental health issues. Depression underlies many chronic illnesses (Copsey Spring, Yanni, & Levenson, 2007). Anxiety is often associated with diabetes and cardiovascular disease among Latinos (Ortega, Feldman, Steinman, & Alegría, 2006). While consumers in this population may be struggling with the emotional impact of having a chronic illness, they are also coping with having a serious mental illness. Consumers saw their physical and mental health as inextricably linked, describing a vicious cycle of influences where consumers are never fully well. Poor physical health can worsen symptoms of mental illness and vice versa. This cycle of illness seemed to shape the self-management behaviors used by consumers to manage their health. For example, consumers in poor physical health might be less able to engage in self-management activities, such as exercising or participating in social activities. They would sometimes experience a worsening of their mental health symptoms as a result of the impact their physical health had on their life (e.g., limiting their activities, causing physical discomfort). Symptoms of depression, anxiety, and psychosis would, in turn, make it more difficult for consumers to manage their physical health problems. They might eat foods that are less healthy and continue to refrain from physical activity because of fatigue and increasing self-isolation. Consumers might engage in self-management behaviors which addressed their limitations or were within the scope of their abilities, such as involving others in their care or using prayer for comfort.

5.2 Typology: Self-Efficacy and Consumer Activation

Consumers in the sample scored, on average, in the moderate range for self-efficacy and patient activation. However, it should be noted that consumers' scores are below the scores measured in other study samples with similar attributes. For example, the mean self-efficacy score for consumers in this study (m = 6.06, sd = 1.92) is below the baseline self-efficacy scores reported in a large Spanish-speaking Hispanic sample with chronic disease participating in a self-management intervention (m = 6.17, sd = 2.96; K. R. Lorig et al., 1999) and in a self-management intervention study of people with SMI and one chronic medical condition (m = 6.5, sd = 1.7; Goldberg et al., 2013). The average PAM score in this study (m = 55.28, sd = 18.03) is also below what has been reported in a national sample of Hispanics (m = 62.6) and non-Hispanic Whites (m = 66.2; Hibbard et al., 2008), and similar to the baseline PAM scores of participants in a peer-led intervention to improve medical self-management of people with SMI (m = 47.6, sd = 12.3; Druss, von Esenwein, et al., 2010). While a typology emerged showing differentiation in ranges of self-efficacy and activation relative to the sample, these consumers were already less confident that they could take action to self-manage and were less activated. Consequently, self-management activities, such as maintaining a healthy diet and exercising, were often a struggle for them. Factors influencing self-efficacy may include race, ethnicity, severity of illness and socioeconomic status (Blustein, Valentine, Mead, & Regenstein, 2008). A study looking at race and ethnicity in a sample of persons with CVD found that low income minority participants in worse health were less confident about managing their illness (Blustein et al., 2008). The association between race/ethnicity and illness self-efficacy was tied to economic and health disparities. Minority CVD consumers tended to be worse off financially and in worse physical health, both of which may have negatively influenced their confidence in their abilities to self-manage. This was true of consumers in the study sample. They had very limited financial means to care for themselves and were dealing with multiple chronic health conditions. Compared to other groups studied, they had lower levels of self-efficacy and patient-activation.

As predicted, consumers with higher levels of perceived self-efficacy used more self-management behaviors and encountered fewer barriers to healthy living. However, consumers who were more activated used fewer self-management behaviors. They also reported encountering fewer barriers to healthy living. It was predicted that more activated consumers would use more self-management behaviors. A closer examination of the distribution of PAM scores in our sample indicates that the majority of participants (77.5%) fell within level 1 (passive and not confident) and level 3. The lack of variability in activation scores would limit finding an association with self-efficacy. It may also be that, since there were so many more consumers who were less activated, they were reporting more self-management behaviors.

Another possibility is that, less activated consumers were using more self-management behaviors to compensate for the fact that they encountered more barriers. Although less activated consumers reported more self-management behaviors, qualitative data indicated they struggled more to maintain those behaviors, unlike consumers who were more activated.

A typology emerged which indicated three types of consumers. Type 1 consumers had the highest self-efficacy and activation scores compared to the sample and were the most able to maintain self-management behaviors. They also encountered fewer barriers. Type 2 consumers had moderate self-efficacy and activation scores. They encountered more barriers than Type 1 consumers, but less than Type 3. They had qualities of both Type 1 consumers and Type 3 consumers. For example, they were in worse health than Type 1 consumers and reported more chronic pain like Type 3 consumers, yet, like Type 1 consumers, they were able to engage in more physical activity than Type 3 patients. Type 3 consumers scored the lowest on self – efficacy and activation reported the most difficulty in maintaining self-management behaviors, seemed to be in the worst health and reported more unhealthy behaviors. This group also encountered the most barriers.

Perceived self-efficacy is an important contributor in the development of self-management skills (Holman & Lorig, 1992; K. R. Lorig & Holman, 2003). People who feel more confident that they can take action to manage their health will engage in self-management behaviors and maintain them by remaining motivated and persevering (Bandura, 1997). The same can be said for more activated persons. More activated consumers are more likely to adhere to a treatment regimen, participate in decisions about their care, and experience positive change in a variety of self-management behaviors (Hibbard, Mahoney, Stock, & Tusler, 2007; Hibbard et al., 2004; Skolasky, Mackenzie, Wegener, & Riley, 2011). Self-efficacy is also associated with health outcomes. For example, self-efficacy is associated with positive outcomes following a stroke, such as the ability to perform activities of daily living and levels of depression (Jones & Riazi, 2011). It is also associated with greater health related quality of life in persons living with multiple sclerosis (Motl, McAuley, Wynn, Sandroff, & Suh, 2013). Patient activation has also been shown to be associated with a broad range of health outcomes, such as blood pressure and cholesterol levels (Greene & Hibbard, 2012).

The Type 1 category of consumer, while reporting poor health as a barrier, seemed to be in better physical health compared to other groups, with almost no reports of chronic pain and greater ability to exercise. This may be due to the fact that they were more confident about their ability to manage their illnesses and more activated to participate in their care. Consequently, they engaged in more self-management behaviors and were more able to maintain them. This may have led to improvements in their health status compared to other types. This study found that low levels of self-efficacy and activation were associated with greater difficulty maintaining self-management behaviors and more perceived barriers. When people believe they cannot produce the changes they want to make for their health, they have little incentive to take action or persevere in the face of difficulties (Bandura, 1997, 2004). This may have been the case for consumers encountering more barriers. Patient activation also speaks to people's confidence in their ability to self-manage when ill, and how willing they are to take on the role of managing their health (Hibbard & Cunningham, 2008). Type 3 consumers lacked confidence in their abilities to engage in self-management behaviors and may have had little motivation to persevere in the presence of so many barriers. For example, these perceived barriers may have made consumers feel less confident in their ability to self-manage and less inclined to make an effort to self-care. They may not have felt they could overcome the barriers they encountered.

The introduction of barriers into an analysis of self-efficacy, patient activation and self-management offers new insights into these concepts for Hispanics with SMI. Hispanics with SMI are dealing with multitude of barriers to healthy living on so many levels. An explanation of the relationship between self-efficacy, patient activation, and self-management would be incomplete without incorporating the effects of barriers. Based on this study's findings, regular engagement in self-management behaviors and experience of barriers is associated with level of confidence in managing one's illness and engagement in one's own care among Hispanics with SMI. Type 3 consumers tell us that experiencing a greater number of barriers are less confident, less engaged, and engage in self-management behaviors less regularly. It is necessary to address barriers in order to boost confidence, improve engagement, and build self-management skills. Experiencing barriers may erode consumers' sense of self-efficacy and level of activation which may hamper their ability to self-manage. Self-management programs aimed at Hispanics with SMI need to include modules which teach consumers how to deal with barriers.

The relationship between self-efficacy, patient activation, and self-management behaviors seems to be moderated by barriers to living a healthy lifestyle. For example, a consumer may feel confident in their abilities and engaged in their care. However, if they encounter many barriers which hamper their efforts, they will struggle to self-manage. It is not possible to confirm this relationship without statistical analysis, which was not used in this study. However, qualitative evidence points toward a potential moderating effect that could be tested in future studies. A survey could be used to determine which barriers are present in the participant's life. It should then be considered whether to look at the effects of a single barrier or several. Specific self-management behaviors would have to be identified and selected for study (e.g., dieting and exercise). A scale could be used to determine to what degree consumers are engaging in these self-management behaviors (e.g., are they engaging regularly or struggling). The CDSE and PAM could be used to assess illness self-efficacy and patient activation.

The vicious cycle between mental and physical illness described by consumers may also influence self-management behaviors, and levels of self-efficacy and patient-activation. Consumers feel they are never fully well and are constantly trying to keep up with the typically negative interactions between both categories of illness. The experience of never feeling fully well despite their best efforts may diminish consumers' sense of self –efficacy and level of patient-activation. They may not feel confident they can manage their illness and may disengage from their own health care, which in turn may make them less likely to engage in self-management behaviors. Consumers felt their efforts to manage their illnesses were often futile because of the constant negative interactions among their multiple chronic conditions.

A Pearson's correlation ($r=.530$, $p<.05$) confirmed a significant relationship between the two measures, suggesting self-efficacy and patient activation are related concepts. This is consistent with a study of persons with multiple sclerosis which found significant correlations between illness self-efficacy and patient activation (Goodworth et al., 2014). The Pearson's correlation in this study shows a moderate relationship which suggests self-efficacy and patient activation is still two distinct concepts which should be considered separately. The CDSE measures a person's confidence in their ability to execute tasks related to managing a chronic disease (K. R. Lorig et al., 1996). The PAM also assesses a person's confidence in managing their health, but also considers knowledge and skills (Hibbard & Cunningham, 2008). While self-efficacy speaks to people's perceived ability to self-manage, patient activation speaks to how engaged they are in their own health and health care (Bandura, 1997; Hibbard & Cunningham, 2008; Holman & Lorig, 1992). There is a complementarity between the two concepts of patient activation and self-efficacy, which can be used to guide interventions. A consumer who is activated is ideally confident in their abilities to self-manage. However, consumers may be activated or willing to participate in their care, but still lack confidence in their abilities. Such consumers would be a prime candidate for interventions which focus on skill building exercises that would boost their confidence and keep them engaged in their care. Consumers who were not activated and lacked confidence in their ability to manage their illness might benefit from more coaching to get at the source of their lack of engagement and work on identifying skills they may already be using. Using both measures can help practitioners assess where the consumer is in terms of their confidence and ability to manage their health.

Measuring self-efficacy and patient activation is important when formulating treatment and interventions for persons with SMI and, more specifically, Hispanics with SMI. Persons with SMI tend to have lower rates of self-efficacy and patient activation compared to the general population (Goldberg et al., 2013; Mackenbach, 2012; Schmutte et al., 2009). An analysis of the 2007 Health Tracking Household Survey found that Hispanics have the lowest rates of high level activation compared to other groups (24.8% of Hispanics versus 45.3% of NHW and 39.5% of African Americans; Cunningham, Hibbard, & Gibbons, 2011). Immigration status plays a role in patient activation. Hispanics born in the United States tend to have higher activation scores than foreign-born Hispanics (Alegría et al., 2008). Language is also another factor. Bilingual

Hispanics tend to have higher activation scores than Spanish-speaking Hispanics (Alegría et al., 2008). Language barriers may mean that Spanish-speakers have less health information and are less able to navigate the health care system independently. They may also deal with health care providers who do not speak Spanish. All of these factors may impact their confidence in their ability to manage their health and make them less engaged in their care.

Targeting self-efficacy and activation among Hispanics with SMI, and persons with SMI in general, can improve self-management, as well as overall health and wellbeing. For example, among persons diagnosed with both depression and diabetes, those with high levels of depression tend to have lower levels of self-efficacy and are less likely to follow treatment recommendations related to diet and exercise compared to persons with high levels of self-efficacy (Adam & Folds, 2014). Those with high levels of self-efficacy are more likely to be less depressed. Patient activation has similar effects. Persons with SMI who have greater confidence in their ability to manage their illness and are more activated tend to have positive recovery attitudes, higher levels of hope, and experience less emotional discomfort (Kukla et al., 2013). The benefits of improving self-efficacy and patient activation can also be seen in Hispanic populations. Among U.S. and foreign born Hispanics, patient activation is strongly associated with self-reported quality of care and better communication with doctors (Alegría, Sribney, Perez, Laderman, & Keefe, 2009). Targeting activation among racial and ethnic minorities has the potential to reduce health disparities by empowering these groups (Cunningham et al., 2011; Hibbard et al., 2008). Hispanic immigrants, who tend to be less activated compared to other groups, would benefit especially (Cunningham et al., 2011). The concepts of self-efficacy and patient activation can be used to inform and adapt self-management interventions for Hispanics with SMI by tracking changes in levels of self-efficacy and patient activation and assess how levels correspond to skill development. Practitioners can gauge where consumers in this population are in terms of their level of confidence and engagement and tailor self-management interventions to the individual based on this information.

5.3 Stakeholder Views

Barriers to healthy living impacted consumers' ability to self-manage from the consumers' perspective. The next step was to see if stakeholders involved in the care of Hispanics with SMI and at risk for CVD had similar perceptions of the barriers to living a healthy lifestyle encountered by this population. The aim was to see where there was convergence and where perceptions differed, if at all. Stakeholders' understanding of the barriers faced by consumers has implications for treatment recommendations and non-adherence. If stakeholders had similar understanding of barriers, treatment recommendations should ideally recognize these barriers exist and offer solutions to address them. Such an approach might reduce non-adherence with dietary recommendations, for example.

Stakeholders and consumers identified almost all of the same barriers, which is reassuring in that it indicates both groups have a similar sense of the barriers faced by Hispanic consumers with SMI and at risk for CVD. This finding is similar to a study of persons with diabetes that also found concordance between health care provider and consumer perceptions of barriers, such as diet and exercise (Booth, Lowis, Dean, Hunter, & McKinley, 2013). The main barriers identified by both groups were: 1) the impact of consumers' health (e.g., being in poor health, having chronic pain), 2) unhealthy habits (e.g., smoking, eating poorly), 3) social networks (e.g., family stressors), 4) consumers' negative experiences with the health care system, 5) consumers' financial limitations, and, 6) the communities in which consumers live (e.g., unsafe neighborhoods which discourage physical activity outdoors). While most barriers converged, stakeholders identified some additional barriers which consumers did not. These included consumers' beliefs and fears, consumer acceptance of a fuller body image, and lack of formal education. It is interesting to note that the barriers identified by only stakeholders are very patient-centered and, in some way, seem to "blame the victim" for their health problems. In cases where the same barrier was identified, explanations between the two groups sometimes differed but complemented each other. Triangulating the two perspectives gave a fuller picture of the processes underlying the barrier and its impact. For example, lack of social support and negative family interactions meant stress for consumers, while lack of social support meant physicians could not partner with someone close to the consumer to ensure treatment recommendations were being followed. The two perspectives combined help to understand the impact of a lack of support on emotional and physical wellbeing.

It should be mentioned that professional role may have also influenced stakeholders' views on barriers, although this cannot be proven. For example, physicians were concerned about noncompliance with treatment, whereas consumer advocates were concerned with whether treatment recommendations were culturally syntonic. Different stakeholder groups may stress certain barriers over others consistent with their professional values and their goals as providers. For example, primary care physicians seek to treat an illness, so compliance with medication may be of paramount importance to them. Consumer advocates are concerned about protecting consumers' rights and ensuring fair treatment free from stigma and prejudice. They might be more concerned about a consumer who is being prescribed treatment that is not consistent with his or her cultural values. The influence of provider role in understanding barriers requires further study. However, findings suggest communication across the various disciplines involved in consumers' care is essential to merging differing perspectives which could positively impact treatment by collaboratively addressing challenges consumers are facing.

5.3.1 Diet Management

Managing one's diet was both a self-management strategy and a barrier. Consumer and provider views on the causes of unhealthy eating indicate a larger problem: identifying aspects of Hispanic cultural practices as problematic without looking more closely on how treatment recommendations conflict with these practices and why. Both consumers and stakeholders considered the traditional diets of many Hispanic cultures as unhealthy. Among stakeholders in this sample, primary care physicians most often expressed the notion that Hispanic diet is not healthy. However, as one consumer advocate pointed out, many providers make sweeping dietary recommendations which are not consonant with traditional diets or do not offer suggestions to make traditional dishes healthier so consumers can maintain a diet connected to their culture and upbringing. Instead, consumers were discouraged from eating dishes familiar to them. It would seem that both providers and consumers needed education on how to adapt traditional dishes to meet dietary recommendations. It would also seem that study consumers have internalized providers' negative opinions about traditional diets without being given options for how to maintain their diet.

Hispanics often report difficulty following a prescribed diet within their traditional diet (Hatcher & Whittemore, 2007). They may view recommended diets as unappealing and lacking variety. Often, dietary recommendations do not incorporate traditional dishes. Social factors also play a role. Attending family or social functions where others are not following the same diet makes adherence difficult. The high cost of healthy foods is also an issue (Booth et al., 2013). It may be that no one has offered them alternative suggestions of how they can modify traditional dishes to suit their dietary needs while maintaining cultural practices in cooking. In a study of non-Hispanic Black and Latino consumer views on their experiences with diabetes and hypertension, Latino participants, like the consumers in this study, described their traditional diet as unhealthy and a contributor to diabetes and hypertension (Russell et al., 2010). What Latino participants wanted but lacked was education on ways to complement healthy foods with their ethnic diet. LA VIDA, a diabetes management intervention, addressed the issue of traditional diets directly and with success (McCloskey & Flenniken, 2010). They offered participants education on how to modify traditional dishes while preserving taste as one component of their program. Participants reported feeling empowered and experienced greater self-efficacy following skill development.

The negative views study consumers have about traditional diets and the Latino lifestyle are concerning and suggest internalized racism. Internalized racism is the accepting and internalizing by marginalized racial populations of the negative messages and stereotypes associated with their racial group (Ahmed, Mohammed, & Williams, 2007; Pieterse & Carter, 2010). It intersects with institutional and personally mediated racism (Pieterse & Carter, 2010). In this case, providers' negative views about traditional Latinos diets being unhealthy have been internalized by consumers, who do not seem to see solutions for maintaining a traditional diet while following dietary recommendations. Similarly, consumers' views about Latinos spending too much time socializing and making poor choices when it comes to their health may be rooted in societal stereotypes. While consumers may be truly describing what happens in their communities, their views may still be influenced by negative images of Latinos held by society.

5.3.2 Appointment Attendance

Stakeholders were concerned about consumer attendance at medical appointments. Stakeholders felt consumers avoided seeking medical care, did not attend appointments, were fearful of medical visits and did not trust their providers. They felt this may be tied to consumers' mental health symptoms. They also felt negative experiences may influence attendance. Stakeholders' experiences are supported by the literature. Mental health issues, such as depression and anxiety, can contribute to missed appointments (Cashman, Savageau, Lemay, & Ferguson, 2004). Consumer beliefs and experiences with treatment may also impact attendance. Consumers with negative beliefs about treatment effectiveness or who had negative experiences with side effects, for example, may avoid visits (Nwabuo, Morss Dy, Weeks, & Young, 2014).

Seemingly contrary to stakeholders' views about consumer attendance, seeking medical care was one of the most cited self-management behaviors used by consumers when they have a problem with their health. Consumers reported actively seeking medical care by making appointments and visiting their physicians when they had a problem. They described a mix of experiences, both positive and negative, which indicates the quality of their medical experience is not always a good one. Negative experiences, such as long waits for appointment, lack of Spanish speaking providers, and providers with poor social skills may be the source of the lack of trust identified by stakeholders (Cabassa, Gomes, et al., 2013). Both consumers and stakeholders recognize negative experiences (e.g. due to structural impediments and due to providers) impact consumer attendance. Yet, while there are numerous possible causes of poor attendance at medical visits, there was a disconnect between stakeholders' experiences with consumers seeking care versus consumers' reports about their behaviors. Consumers may believe they are seeking treatment as often as necessary, but it may not meet stakeholders' expectations of when and how often they should be getting care. Consumers may also not be seeking medical care as often as their responses suggest. Providers need to obtain information on consumers' views about getting medical care (e.g. how often they think they need to attend appointments, what consumers understand treatment to consist of) as part of their visits. It may be that consumers have a different understanding of treatment and follow-up. Interventions which focus on care coordination may be useful in targeting consumer attendance. Coordination would occur not only between a health care manager and physicians, but with the consumer, providing them with information on why they need to attend a given medical appointment, reminders and encouragement to attend their visits.

5.3.3 Medication Adherence

The impact of medications and medication compliance raised important issues for stakeholders and consumers. Stakeholders were especially concerned with non-adherence to medications for both mental and physical illness among this population. Stakeholders' views on the barriers created by treatment complexity, consumer beliefs, and side effects are supported by the literature (Huang et al., 2009; Mann, Ponieman, Leventhal, & Halm, 2009; Odegard & Gray, 2008). Treatment complexity, such as taking more than one medication or taking multiple doses is a barrier to adherence (Mann et al., 2009; Odegard & Gray, 2008). Consumer beliefs about medications influence adherence. For example, persons with diabetes who believe it is not necessary to take their medication when their glucose levels are normal will struggle with adherence (Mann et al., 2009). Worries about side effects also impact adherence (Mann et al., 2009). This is especially true among Latinos. In a study of diabetic consumers' concerns about medication, Latinos with Type 2 diabetes worried more about drug side effects and medication dependency than NHW (65% Latinos versus 39% NHW; Huang et al., 2009). Ethnic minorities tend to be more reluctant to add more medications to their regimen (Huang et al., 2009). They are concerned about a number of factors, such as : 1) becoming dependent on medications, 2) having an unpleasant or painful experience, 3) believing their daily routine will be disrupted, and 4) fears about the impact of medications on their health (Huang et al., 2009).

Consumers in this study had similar concerns about side effects and the addition of more medications to the often numerous ones they already take. They believed medications could cause them more health problems or worsen their condition. They worried about taking too many medications as they felt this could be harmful. They also did not believe in the effectiveness of medications and felt their health remained poor despite taking medications. These concerns influenced their decision to take medications. Consumers' beliefs have implications for treatment adherence. Providers need to discuss with consumers their views on medications when prescribing and work with consumers to find a regimen they feel comfortable with. Providers also need to be sensitive about side effects and monitor for them when working with Hispanics with SMI as potential negative effects of medication is a significant fear in this population. This is especially true given that persons with SMI do not get adequate screening for conditions associated with SGA, such as diabetes and hyperlipidemia (Morrato et al., 2008; Nasrallah et al., 2006). Hispanics with SMI are less likely to get screened for cardiovascular risk factors associates with SGA compared to NHW with SMI (Nasrallah et al., 2006). Hispanics with SMI may experience side effects more frequently and be in poor health due to medications, because they are screened less frequently and are less likely to get preventative treatment for cardiovascular risk factors (Morrato et al., 2011). Consumer fears about medications may be eased by proper monitoring and receipt of quality preventative care.

The difficulty in balancing physical health needs with mental health needs in medication management posed dilemmas for stakeholders and consumers. Both groups had to make concessions around what to prescribe and what to take. While physicians may be aware of the effects on physical health which SGA can have, they tend to prescribe based on their priorities (e.g., cost, side effects, medication efficacy) (Leucht, Kissling, & Davis, 2009). Stakeholders in this study, primarily psychiatrists, placed a priority on keeping consumers' mental illness stable and prescribing the best medication to accomplish this. They described their decisions about which medications to prescribe as a trade-off. Choosing not to prescribe a SGA, for example, because of a consumers' diabetes might result in decompensation and worsening illness. Instead, psychiatrists in the sample chose to prescribe psychiatric medications which could potentially negatively impact consumers' physical health in an effort to keep their mental illness stable. The danger in this trade-off lies in the fact that mental health professionals often do not properly monitor consumers with SMI for side effects due to SGA (Morrato et al., 2008; Nasrallah et al., 2006). There was a similar trade-off for consumers: take multiple medications to manage multiple health issues, or avoid side effects and excessive medications but remain untreated.

Consumer concerns are also related to non-adherence. While stakeholders struggled with consumer non-adherence, consumers were often choosing not to take medication because of very real concerns they had about medication effects. For both consumers and stakeholders, medication regimens raise many questions and concerns.

Providers working from a recovery model argue discussions about psychotropic medications should happen within the context of a strong therapeutic relationship, in which the consumer feels empowered is the priority (Salzer & Evans, 2006). Findings in this study suggest an open dialog about medications is needed between consumers and providers, where both sides can express their worries and concerns, and make decisions jointly based on shared information. Communication between consumers and providers is one piece, but more is needed to reduce health problems caused by medications while ensuring treatment adherence. Providers need to monitor medications for consumers taking SGA and follow the recommended guidelines established by the American Psychiatric Association and the American Diabetes Association (American Diabetes Association et al., 2004). Consistent medication monitoring should be part of consumers' treatment plans. Finally, given the effects of SGA, wellness and self-management interventions for physical health also need to be incorporated into treatment.

5.4 Ecological Model

An ecological model based on the barriers to healthy living reported by stakeholders and consumers was developed. This model can be used to inform interventions and policies aimed at the physical health of Hispanics with SMI by identifying the different barriers to healthy living they encounter, as well as the settings to target these barriers. Barriers identified by consumers and stakeholders were located at different environmental levels as an ecological approach would predict. Consumer self-management behaviors are happening in the context of multiple barriers located at different levels. These barriers combine to undermine consumers' efforts at caring for their health, suggesting multilevel interventions may be most effective in promoting self-management by targeting the different environmental contexts where barriers occur. Figure 4 illustrates the ecological context of the barriers identified. The structure of the model is derived from social ecological models of health promotion (McLeroy et al., 1988; Stokols, 1992). The individual level consists of intrapersonal factors such as physical and mental health, individual behaviors and skills, and knowledge (McLeroy et al., 1988). The social level consists of social networks and supports, as well as socioeconomic status (Andrew & Keefe, 2014; McLeroy et al., 1988). The organizational level deals with social institutions and organizations with formal and informal rules for operating, such as the health care system (McLeroy et al., 1988). The community level deals with the geographic environment in which the individual consumer is located and the physical characteristics of that environment (Stokols, 1992). Finally, at the public policy level, local, state and national laws and policies exert their effects (McLeroy et al., 1988). Boundaries between levels are depicted with dotted lines to emphasize the fluid quality of environmental contexts, and how they can act and be acted upon (Sallis et al., 2008). Additionally, factors within each level may interact, such as physical and mental health at the individual level.

Barriers were organized according to the definitions of ecological levels in the social ecological model described above. At the individual level, consumers are dealing with poor physical and mental health. They engage in unhealthy behaviors such as smoking. Their beliefs and fears around seeking medical care and medication treatment also create barriers. They may lack self-management skills, such as cooking. Finally, they lack formal education which limits their health knowledge. At the social level, family stressors and a lack of social support leaves consumers alone to manage their considerable health issues while coping with the cognitive impediments caused by having a serious mental illness. The Latino lifestyle consumers describe speaks to group practices and is also considered a social level barrier. Consumers describe the Latino lifestyle as unorganized, where excessive socializing, eating a bad diet, and a lack of concern over personal health prevails. Membership in a low income group means economic hardship which limits their access to health promoting activities, healthy foods, and quality housing.

At the organizational level, the health and mental health care systems create barriers despite being the very institutions which are supposed to provide consumers with help. Structural barriers which limit accessibility, a lack of Spanish- speaking providers, overcrowded public health clinics, and mental health programs which do not support self-management of health problems all impact consumers' ability to self-manage. At the community level, consumers are living in low-income areas characterized by unsafe neighborhoods and poor quality housing. The food environment in consumers' communities does not promote healthy eating, with unhealthy food outlets more available. Finally, consumers and stakeholders did not address policy issues. However, both health care policy impacts the structure and operation of public health clinics, as well as health policy which determines the types of health programs to be delivered to a given population also have an impact on the consumers' ability to live a healthy lifestyle.

In order to understand the connection between self-management and environmental factors, it is important to understand the connection between individual agency and context.

Social ecologists argue that human health is influenced by environmental conditions, as well as personal factors, such as genetics (Stokols, 1996). A dynamic interplay exists between the contextual and the personal (Stokols, 1996). Individuals are making personal choices about their health behaviors while at the same time being influenced by their environment. Congruence between the individual and their environment is a critical predictor of well-being (Stokols, 1996). The more consumers' environments hinder, or present barriers to consumers' attempts at self-management, the less healthy they will be. Negative experiences, such as encounters with barriers, may, on the one hand, push individuals to strive for more favorable situations and change their circumstances (Stokols, 2003). However, impoverished environments that do not support people's efforts to stay healthy may also overwhelm their attempts to rise above constraints and engender helplessness (Stokols, 2003). A similar dynamic may have been happening among consumers who were less activated and had lower levels of self-efficacy. They encountered more barriers which may have been disheartening for them. The potentially negative effects of multiple barriers also supports the use of multilevel interventions that target a group of barriers.

Both consumers and stakeholders identified the majority of barriers at the individual level. This is not to suggest programs targeting health issues in the population should be aimed at the individual exclusively. Stokols argues, that, historically, a limitation of disease prevention programs has been a focus on individual behavior without taking into consideration contextual factors, such as socioeconomic and organizational influences, for example (Stokols, Allen, & Bellingham, 1996). However, consumers in this population are coping with a number of personal factors which affect their ability to live a healthy lifestyle. This is in addition to

Figure 4: Consumer and Stakeholder Identified Barriers to Healthy Living

Policy Level

- Health care policy
- Health policy

Community Level

- Unsafe neighborhoods
- Accessibility of unhealthy food
- Poor quality housing

Organizational Level

- Health care system
- Mental Health Care System

Social Level

- Family stressors
- Lack of social supports
- Latino lifestyle
- Socioeconomic status

Individual level

- Poor physical health
- Chronic pain
- Mental Illness
- Interaction btw physical and mental health
- Unhealthy behaviors
    - Smoking, poor diet, lack of exercise
- Lack of cooking skills
- Consumer beliefs and fears
- Acceptance of fuller bodies
- Lack of formal education

environmental barriers, all of which combine to complicate matters further. Ecological levels are sometimes described as layers which build on each other and interact (Fisher, 2008) The multilevel nature of barriers described by consumers and stakeholders suggests barriers do not occur discretely, but are layered upon each other having a cumulative effect on the individual, as well as interacting with each other. A health promotion program that wants to target an individual level factor, such as unhealthy eating among consumers in the sample population, for example, would also need to target the food environment in the communities where they live, where unhealthy food sources are readily available. Economic issues would also need to be addressed since healthy foods are often too costly for consumers. Additionally, social factors, such as the support of family in making dietary changes, would also need to be considered. For Hispanic consumers with SMI, multiple levels beyond just individual factors are exerting an influence over consumers' ability to self-manage by eating healthy. This is consistent with the social ecological model of health promotion.

Findings on the multilevel nature of environmental influences experienced by Hispanics with SMI and at risk for CVD suggest that different levels should be bridged to potentially improve the health of this population. Both consumers and stakeholders focused mainly on individual level factors, such as poor health and mental illness. However, focusing mainly on individual level factors ignores the environmental context of the consumer and barriers located at other levels. Consumers in this study sample had low levels of self-efficacy and patient activation, which may make them more discouraged in the face of environmental barriers and less likely to take action to manage their health. This is supported by the typology which found that, relative to the sample, consumers with higher levels of self- efficacy and patient-activation perceived fewer barriers. Addressing these barriers may facilitate self-management behaviors.

Current practice can be enhanced through partnerships between health care organizations and both consumers' families and the local community. Health care practices might use liaisons trained in mental health issues to facilitate communication between families and providers. In view of findings that indicate family involvement can have negative as well as positive effects, liaisons could determine if involved members are being helpful to the consumer and provide health education and psychoeducation if needed. Social workers could easily fill this role. Health care organizations could build partnerships with local communities to promote healthy eating, for example, by leading dietary programs. Local food businesses might get involved in a community dietary program by offering healthy menu options or promoting the sale of healthy foods in local markets. In communities where Hispanics live, these food options should be consistent with traditional diets.

Policy makers can also form partnerships with local communities and health care agencies in several ways. Economic incentives could be offered to those willing to open businesses in underserved communities that offer healthy foods, for example. Policy makers can also work with communities to provide public green spaces with paths for walking and enough security to help consumers feel safe while promoting exercise. In addition, local politicians could receive a "grade" based on the number and quality of health programs they have initiated in their communities. A committee of members of health care organizations as well as consumers could determine these grades. It would be an easily digestible piece of information on local leaders' commitment to promoting wellness among their constituents and would hold them accountable at election time.

5.5 Limitations

This study has several limitations which must be considered. The cross-sectional nature of this study prevented the drawing of causal inferences. The small purposive sample of mostly Dominican consumers from one public outpatient mental health clinic in New York City prevents the generalizing of findings to Hispanics with SMI in other urban, suburban, and rural communities. Lastly, the measures used in the structured interviews relied on consumers' and stakeholders' self-report which are subject to recall biases. Future studies in this area would benefit from larger representative clinical samples using longitudinal designs to better trace the relationship between self-efficacy and patient activation and self-management behaviors and barriers. Examining these variables over time can also help in understanding the effects of changes in levels of self-efficacy and patient activation on self-management behaviors, as well as the moderating effects of barriers.

It should be noted that the use of a convergent mixed methods approach is a strength of this study which helps to counteract some of the study limitations. The integration of quantitative and qualitative data is an advancement in methods and strengthens findings by enabling the identification of patterns in self-management behaviors and barriers which correspond to levels of self-efficacy and patient activation. Without this approach, identification of a typology would not have been possible. The use of a convergent mixed methods approach also contributes to the content area through a deeper analysis of self-management and barriers in relation to consumer self-efficacy and patient activation, and by drawing comparisons between consumers and stakeholders in perceptions of barriers. The triangulation of consumer and stakeholder data provide a better understanding of these issues from different points of view, through multiple voices and perspectives.

6. Conclusion

This study's findings have implications for providers, researchers and policy makers. At the provider level, treatment approaches need to move beyond the individual and consider contextual factors that may be impacting self-management and hindering care. The evidence of the potentially moderating effects of barriers to healthy living suggests that interventions which target these barriers may be effective in helping consumers to improve and sustain self-management behaviors. Given that there are multiple points where researchers and policy makers could intervene, this study's findings suggest that multilevel interventions which target more than one barrier may be important in helping consumers maintain self-management behaviors. The range of stakeholders interviewed and the sometimes differing perspectives by role also suggests the importance of a multidisciplinary approach when working with Hispanic consumers with SMI and at risk for CVD. Communication across disciplines could offer differing perspectives on barriers facing consumers and more possible solutions. Further research is needed to determine the relationship between values and priorities and professional role. Findings also suggest that Hispanics with SMI are prime candidates for health care interventions that focus on improving care coordination, goal setting, patient activation, and self-management behaviors. The emergence of a typology supports the use of patient-centered interventions which are tailored to the individual consumer. A Type 1 consumer might benefit more from self-management interventions which are geared toward maintaining current behaviors, whereas a Type 3 consumer would benefit more from an intervention which focused on problem solving, activation, and development of self-management skills. Type 2 consumers would benefit from elements of both Type 1 and Type 3 interventions: emphasis on maintaining current self-management behaviors, but also developing new skills and working on problem solving.

Self-efficacy theory and social ecological theory combined can provide greater insight into self-management and barriers to healthy living. While self-efficacy theory applies to individual level factors such as self-confidence, ecological theory provides an environmental context to self-efficacy and its relationship to self-management. This study's findings suggest that environmental factors impact both levels of self-efficacy and patient-activation and, consequently, engagement in self-management behaviors. It may not be enough to discuss the influence of self-efficacy on self-management behaviors without addressing the influence of the environment on self-efficacy. While confidence in one's abilities may lead to better self-management, being confronted with multiple environmental barriers may decrease confidence and discourage consumers from self-managing.

The interrelatedness of physical and mental illnesses has implications for medical and psychiatric treatment. Self-management health care models for persons with SMI have been proven to be effective in helping individuals with serious mental health issues learn to manage their health and health care (E. L. Kelly, Fenwick, Barr, Cohen, & Brekke, 2014). Additionally, chronic disease self-management programs aimed at persons with SMI have found that improvements in participants' physical condition also result in improvements in mental health status (Goldberg et al., 2013; K. R. Lorig et al., 2013; Mueser et al., 2012). For example, Lorig (2013) found sleep and symptoms of depression improved. Participants also had fewer days where they experienced worsened symptoms of mental illness. While self-management programs have been found to be effective for persons with SMI, there is a lack of consistency in terms of the components of these programs (E. L. Kelly et al., 2014). For example, some may emphasize education, while others may focus on skill development, such as problem solving. Given the number of barriers encountered by consumers, this study's findings suggest that problem solving modules should be regularly included in self-management programs. Problem solving has been used in some self-management programs and has been found to be a useful strategy for dealing with problems that consumers encounter while caring for themselves (K. Lorig, Ritter, & Gonzalez, 2003). It may not be enough to teach persons with SMI how to manage their health if they are unable to come up with ways to solve problems that get in the way of caring for themselves.

This study's findings on the interrelatedness of physical and mental health support the use of self-management models which integrate physical and mental health care, as opposed to programs which focus solely on self-management of physical illnesses among persons with SMI. A treatment approach which considers the whole person, mind and body, is consistent with a recovery-oriented approach to working with persons with SMI which emphasizes overall health and wellness, as well as skill development for self-management (Sterling et al., 2010). Gaining stability in both physical and mental illness involves achieving a delicate balance between treatments for each, especially medications with side effects that can cause further illness. For consumers, utilizing self-management behaviors that help balance physical and mental health issues may be an important step toward wellbeing.

Social workers in mental health are at an advantage over other providers in terms of the biopsychosocial approach favored by the profession, and the emphasis on treating the whole person (Bartlett, 2003). There is also a strong history in the profession of incorporating ecological theory into practice (Germain, 1979). The importance of social interactions and the influence of the environment is recognized by social workers. A social ecological approach to understanding a consumers' experience is consistent with social work values. Given the holistic approach to practicing with consumers and sensitivity to environmental factors, social workers may have information about consumers' health and barriers which are not known to other providers participating in their care. Social workers can take a lead role in encouraging dialog between mental health and medical professionals if a consumer is struggling and help in identifying the source of the problem (e.g. consumer is gaining weight because family does not support his or her efforts at dieting). Social work input would be important for multidisciplinary teams. As with other providers, social workers working in mental health need to be aware of the impact physical illness has on consumers' mental health and vice versa when providing help, instead of focusing solely on consumers' mental health issues. Added focus on wellness and health-related issues are necessary, given the negative impact of poor physical health on mental health. To this end, social workers can be more aware of the impact of consumers' confidence level in their ability to manage their illnesses and how engaged consumers are in the own care and address these issues in their work with consumers with SMI who are at risk of CVD. Social workers can also take a more active role in self-management programs. There is evidence that use of non-health care staff to deliver self-management programs is just as effective as the use of health care workers, such as nurses (E. L. Kelly et al., 2014).

Health care manager interventions are a growing area and can address many of the issues raised in this study, such as improving patient activation, problem solving and ensuring there is communication across disciplines (Druss, von Esenwein, et al., 2010; Goldberg et al., 2013).

Health care manager interventions can improve the access, coordination, and quality of medical care for people with SMI (Bartels et al., 2004; Druss, von Esenwein, et al., 2010; Kilbourne et al., 2008). For example, the Primary Care Access Referral and Evaluation program (PCARE) is an intervention that uses health care managers (e.g., registered nurses [RN]) in community mental health clinics to increase patient activation around physical health issues and improve care coordination between mental health and primary care providers (Druss, von Esenwein, et al., 2010). Health care management programs target many of the structural barriers to accessing medical care described by consumers and stakeholders through care coordination. Care coordination also facilitates a dialog across providers about consumer treatment and fosters a multidisciplinary approach. In addition to coordinating care, health care managers can also act as coaches helping consumers to develop better self-management skills and problem solve around barriers. As part of the coaching role, care managers can track levels of self-efficacy and patient activation to better know where the consumer is in terms of confidence and engagement in their health care. This information can be used in skill building and problem solving sessions to improve self-management behaviors and address barriers.

At the policy level, the emergence of health homes has implications for the treatment of Hispanics with SMI and at risk for CVD. The Patient Protection and Affordable Care Act (ACA) was enacted in 2010 to address the financial and structural barriers limiting the health care of persons covered by Medicaid, including persons with SMI. The Act expands coverage for service, reduces underinsurance, and prevents denial of coverage for preexisting conditions (Kenney, McMorrow, Zuckerman, & Goin, 2012; Mechanic, 2012). The latter is especially important for persons with chronic diseases and SMI who may have been denied covered in the past because of a preexisting condition. One of the goals of the ACA is to address service fragmentation in the health care system by improving upon financial and organizational structures (Mechanic, 2012). Additionally, many provisions target chronic disease, including SMI (Mechanic, 2012). One of the models of care created by the ACA is the health home. Additional federal funding is provided to states to pay designated Medicaid providers for care management and care coordination, thus ensuring the integration of services, as well as the use of clinical information technology, such as electronic medical records (Bao, Casalino, & Pincus, 2013; Mechanic, 2012). The aim of integrated mental and medical care for people with SMI is not only to reduce service fragmentation but facilitate continuity of medical care (Alakeson, Frank, & Katz, 2010). Health homes are designed to treat persons with multiple chronic conditions, as well as persons with SMI (Bao et al., 2013). Data for this study were collected between September, 2011 and May, 2013 before most ACA laws went into effect in 2014 and health homes began rolling out in New York state (New York State, 2015). Consumers had yet to experience receiving care from a health home and whether their health and health care improved. Likewise, stakeholders were not yet able to assess the impact that health homes might have on consumers' health and the coordination of services, though many could recognize the potential benefits.

The implementation of health homes supported by ACA and other quality improvement interventions are viable approaches that can tackle structural barriers to care by focusing on care coordination and service integration. First and foremost, health homes need to offer culturally sensitive services aimed at Hispanics with SMI who at risk for cardiovascular disease, such as Spanish-speaking providers, nutritional counseling that is consistent with traditional diets, and knowledge of cultural beliefs around illness and the use of medications. As with health care management interventions, care coordination in health homes can promote a dialog across disciplines, which furthers the goal of integrated care. Communication across different groups involved in consumer care can help address barriers which may be hampering treatment and help integrate services. Additional services to include in medical homes are those which build skills around self-management behaviors and provide education on diet management and physical activity, for example. More research is needed to test the impact and cost-effectiveness of medical homes in improving communication across treatment groups through care coordination and the effect on treatment, as well as improving health care quality and outcomes among populations with SMI, particularly those from historically underserved minority communities. Further research will also be needed to determine the feasibility of integrating services which focus on building self-management skills. Health homes will also need to be cognizant of the impact of the local community, as well as other contextual factors, on consumer health and be prepared to offer solutions to barriers encountered.

In sum, self-management behaviors among Hispanics with SMI who are at risk for CVD are aimed at both physical and mental illness. The cyclical nature of the relationship between physical and mental illness suggests providers and policymakers need to use interventions which address both types of illnesses in this population, as well as integrate medical and mental health services. Such interventions should also target illness self-efficacy and patient activation in order to improve self-management behaviors and reduce perceptions of barriers. Contextual factors which may be creating barriers to consumers' efforts at self-management and potentially eroding their confidence and engagement in their care should also be targeted for interventions and policies. Providers who focus solely on the individual in prescribing treatment may be missing important environmental factors which may be negatively impacting consumers' health. The same can be said for policy initiatives targeting health issues. Culturally informed multilevel interventions that use an ecological approach have the potential to improve the health of Hispanics with SMI and at risk for CVD by addressing the environmental barriers negatively affecting consumers' health and facilitating the development of self-management skills at the individual level.

References

Adam, J., & Folds, L. (2014). Depression, self-efficacy, and adherence in patients with type 2 diabetes. *The Journal for Nurse Practitioners, 10*(9), 646-652.

Ahmed, A. T., Mohammed, S. A., & Williams, D. R. (2007). Racial discrimination & helath: Pathways and evidence. *Indian Journal of Medical Research, 126*, 318-327.

Alakeson, V., Frank, R. G., & Katz, R. E. (2010). Specialty care medical homes for people with severe, persistent mental disorders. *Health Affairs (Millwood), 29*(5), 867-873.

Alegría, M., Polo, A., Gao, S., Santana, L., Rothstein, D., Jimenez, A., Normand, S. L. (2008). Evaluation of a patient activation and empowerment intervention in mental health care. *Med Care, 46*(3), 247-256.

Alegría, M., Sribney, W., Perez, D., Laderman, M., & Keefe, K. (2009). The role of patient activation on patient-provider communication and quality of care for US and foreign born Latino patients. *Journal of General Internal Medicine, 24*(Suppl 3), 534-541.

American Diabetes Association, American Psychiatric Association, American Association of Clinical Endocrinologists, & North American Association for the Study of Obesity. (2004). Consensus development conference on antipsychotic drugs and obesity and diabetes. *Journal of Clinical Psychiatry, 65*(2), 267-272.

Andrew, M., & Keefe, J. M. (2014). Social vulnerability from a social ecology perspective: a cohort study of older adults from the National Population Health Survey of Canada. *BMC Geriatrics, 14,* 90. doi: 10.1186/1471-2318-14-90

Auduluv, Å. (2013). The over time development of chronic illness self-management patterns: a longitudinal qualitative study. *BMC Public Health, 13*, 1-15. doi: 10.1186/1471-2458-13-452

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215.

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology, 4*(3), 359-373.

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York City, N.Y.: W.H. Freeman and Company.

Bandura, A. (2004). Health promotion by social cognitive means. *Health Education & Behavior, 31*(2), 143-164.

Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *38, 1*(9-44).

Bao, Y., Casalino, L. P., & Pincus, H. A. (2013). Behavioral health and health care reform models: Patient-centered medical home, health home, and accountable care organization. *Journal of Behavioral Health Services & Research, 40*(1), 121-132.

Barlow, J., Wright, C., Sheasby, J., Turner, A., & Hainsworth, J.. (2002). Self-management approaches for people with chronic conditions: A review. *Patient Education and Counseling, 48*(2), 177-187.

Bartels, S. J., Forester, B., Mueser, K. T., Miles, K. M., Dums, A. R., Pratt, S. I., Perkins, L. (2004). Enhanced skills training and health care management for older persons with severe mental illness. *Community Mental Health Journal, 40*(1), 75-90.

Bartlett, H.M. (2003). Working definition of social work practice. *Research on Social Work Practice, 13*(3), 310-323.

Basu, R., Brar, J. S., Chengappa, K. N. R., John, V., Parepally, H., Gershon, S., . . . Kupfer, D. J. (2004). The prevalence of the metabolic syndrome in patients with schizoaffective disorder - bipolar subtype. *Bipolar Disorders, 6*(4), 314-318.

Berkman, L. F., & Glass, T. (2000). Social integration, social networks, social support, and health. In L. F. Berkman & K. Ichiro (Eds.), *Social Epidemiology* (pp. 137-173). U.S.A.: Oxford University Press.

Blustein, J., Valentine, M., Mead, H., & Regenstein, M. (2008). Race/ethnicity and patient confidence to self-manage cardiovascular disease. *Medical Care, 46*(9), 924-929.

Booth, A. O., Lowis, C., Dean, M., Hunter, S. J., & McKinley, M. C. (2013). Diet and physical activity in self-management of type 2 diabetes: Barriers and facilitators identified by patients and health professionals. *Primary Health Care Research & Development, 14*, 293-306.

Borrell, L. N., Crawford, N., Huynh, M., & Dumanovsky, T.. (2008). Self-reported hypertension and race among Hispanic and non-Hispanic adults: The New York City community survey. *Ethnicity & Disease, 18*, 299-305.

Bronfenbrenner, U. (1989). Ecological systems theory. *Annals of Child Development, 6*, 187-249.

Brown, A., & Hugo Lopez, M. (2013). Mapping the Latino population, by state, county, and city. Washington, D.C.: Pew Research Center.

Cabassa, L. J., Blanco, C., Lopez-Castroman, J., Lin, K., Lui, S., & Lewis-Fernández, R. . (2011). Racial and ethnic differences in diabetes among individuals with psychiatric disorders: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *General Hospital Psychiatry, 33*, 107-115.

Cabassa, L. J., Druss, B., Wang, Y., & Lewis- Fernández., R. (2011). Collaborative planning approach to inform the implementation of a health care manager intervention for Hispanics with serious mental illness: A study protocol. *Implementation Science, 6* (1), 80. PMCID: PMC3169485.

Cabassa, L. J., Gomes, A. P., Meyreles, Q., Capitelli, L., Younge, R., Dragatsi, D., . . . Lewis-Fernández, R. (2013). Primary health care experiences of Hispanics with serious mental illness: A mixed-methods study. *Administration and Policy in Mental Health and Mental Health Services Research*. doi: 10.1007/s 10488-013-0524-2

Cabassa, L. J., Humensky, J., Druss, B., Lewis-Fernández, R., Gomes, A. P., Wang, S., & Blanco, C. (2013). Do race, ethnicity, and psychiatric diagnosis matter in the prevalence of multiple chronic medical conditions? *Medical Care, 51*(6), 540-547.

Calkin, C. V., Gardner, D. M., Ransom, T., & Alda, M.. (2013). The relationship between bipolar disorder and type 2 diabetes: More than just co-morbid disorders. *Annals of Medicine, 45*(2), 171-181.

Carliner, H., Collins, P. Y., Cabassa, L. J., McNallen, A., Joestl, S. S., & Lewis-Fernández, R. (2014). Prevalence of cardiovascular risk factors among racial and ethnic minorities with schizophrenia spectrum and bipolar disorders: A critical literature review. *Comprehensive Psychiatry, 55 (2),* 233-247.

Cashman, S. B., Savageau, J. A., Lemay, C. A., & Ferguson, W. (2004). Patient health status and appointment keeping in an urban community health center. *Journal of Health Care for the Poor and Underserved, 15*(3), 474-488.

Castro, F. G., Shaibi, G. Q., & Boehm-Smith, E. (2009). Ecodevelopmental contexts for preventing type 2 diabetes in Latino and other racial/ethnic minority populations. *Journal of Behavioral Medicine, 32*(1), 89-105. doi: 10.1007/s10865-008-9194-z

Centers for Disease Control and Prevention. (2009). Differences in prevalence of obesity among Black, White, and Hispanic adults - United States, 2006-2008. *Morbidity and Mortality Weekly Report, 58*(27), 740-744.

Centers for Disease Control and Prevention. (2011). National diabetes fact sheet: national estimates and general information on diabetes and prediabetes in the United States, 2011. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention

Centers for Disease Control and Prevention. (2013a). Facts about physical activity. Retrieved October 8, 2013, from http://www.cdc.gov/physicalactivity/data/facts.html

Centers for Disease Control and Prevention. (2013b). Self-reported hypertension and use of antihypertensive medication among adults - United States, 2005-2009. *Morbidity and Mortality Weekly Report, 62*, 237-244.

Cerimele, J. M., & Katon, W. J. (2013). Associations between health risk behaviors and symptoms of schizophrenia and bipolar disorder: A systematic review. *General Hospital Psychiatry, 35*(1), 16-22.

Chodosh, J., Morton, S. C., Mojica, W., Maglione, M., Suttorp, M. J., Hilton, L., . . . Shekelle, P. (2005). Meta-Analysis: Chronic disease self-management programs for older adults. *Annals of Internal Medicine, 143*(6), 427-438.

Chwastiak, L. A., Rosenheck, R. A., McEvoy, J. P., Stroup, T. Scott, Swartz, M. S., Davis, S. M., & Lieberman, Jeffrey A. (2009). The impact of obesity on health care costs among persons with schizophrenia. *General Hospital Psychiatry, 31*(1), 1-7.

Colton, C. W., & Manderscheid, R. W. (2006). Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental health clients in eight states. *Preventing Chronic Disease, 3*(2), A42. doi: A42 [pii]

Compton, M. T., Daumit, G.L., & Druss, B. G. (2006). Cigarette smoking and overweight/obesity among individuals with serious mental illness: A preventive perspective. *Harvard Review of Psychiatry, 14*(4), 212-222.

Copsey Spring, T. R., Yanni, L. M., & Levenson, J. L. (2007). A shot in the dark: Failing to recognize the link between physical and mental illness. *Journal of General Internal Medicine, 22*(5), 677-680.

Cunningham, P. J., Hibbard, J. H., & Gibbons, C. B. (2011). Raising low 'patient activation' rates among Hispanic immigrants may equal expanded coverage in reducing access disparities. *Health Affairs, 30*(10), 1888-1894.

Daumit, G. L., Goff, D. C., Meyer, J. M., Davis, Vicki G., Nasrallah, H. A., McEvoy, J. P., . . . Lieberman, J. A. (2008). Antipsychotic effects on estimated 10-year coronary heart disease risk in the CATIE schizophrenia study. *Schizophrenia Research, 105*(1-3), 175-187.

Davidson, J. A., Kannel, W. B. , Lopez-Candales, A., Morales, L., Moreno, P. R., Ovalle, F., . . . Stern, M. (2007). Avoiding the looming Latino/Hispanic cardiovascular health crisis: A call to action. *Journal of the CardioMetabolic Syndrome, 2*(4), 238-243.

Daviglus, M. L., Talavera, G.A., Avilés-Santa, M. L., Allison, M., Cai, J., Criqui, M. H.,…Stamler, J. (2012). Prevalence of major cardiovascular risk factors and cardiovascular diseases among Hispanic/Latino individuals of diverse backgrounds in the United States. *JAMA, 308 (17)*,1775-1784.

Dey, A. N., & Lucas, J. W. (2006). Physical and mental health characteristics of U.S. and foreign-born adults: United States, 1998-2003 *Advance Data from Vital and Health Statistics*. Hyattsville, MD: National Center for Health Statistics.

Dickerson, F., Stallings, C. R., Origoni, A. E., Vaughan, C., Khushalani, S., Schroeder, J., & Yolken, R. H. (2013). Cigarette smoking among persons with schizophrenia or bipolar disorder in routine clinical settings, 1999-2011. *Psychiatric Services, 64*(1), 44-50.

Diez Roux, A.V. (2012). Conceptual approaches to the study of health disparities. *Annual Review of Public Health, 33*, 41-58.

Dixon, L, Weiden, P, Delahanty, J, & al, et. (2000). Prevalence and correlates of diabetes in national schizophrienia samples. *Schizophrenia Bulletin, 26*(4), 903.

Druss, B. G. (2007). Improving medical care for persons with serious mental illness: challenges and solutions. *Journal of Clinical Psychiatry, 68 Suppl 4*, 40-44.

Druss, B. G., & von Esenwein, S. A. (2006). Improving general medical care for persons with mental and addictive disorders: Systematic review. *General Hospital Psychiatry, 28*(2), 145-153.

Druss, B. G., von Esenwein, S. A., Compton, M. T., Rask, K. J., Zhao, L., & Parker, R. M. (2010). A randomized trial of medical care management for community mental health settings: the Primary Care Access, Referral, and Evaluation (PCARE) study. *American Journal of Psychiatry, 167*(2), 151-159.

Druss, B. G., & Walker, E. R. (2011). Mental disorders and medical comorbidity. *Synthesis Project Research Synthesis Report*(21), 1-26.

Druss, B. G., Zhao, L., Cummings, J. R., Shim, R. S., Rust, G. S., & Marcus, S. C. (2012). Mental comorbidity and quality of diabetes care under Medicaid: a 50-state analysis. *Medical Care, 50*(5), 428-433. doi: 10.1097/MLR.0b013e318245a528

Druss, B. G., Zhao, L., von Esenwein, S. A., Bona, J. R., Fricks, L., Jenkins-Tucker, S., . . . Lorig, K. R. (2010). The Health and Recovery Peer (HARP) Program: a peer-led intervention to improve medical self-management for persons with serious mental illness. *Schizophrenia Research, 118*(1-3), 264-270. doi: S0920-9964(10)00078-2 [pii]10.1016/j.schres.2010.01.026

Druss, B. G., Zhao, L., Von Esenwein, S., Morrato, E. H., & Marcus, S. C. (2011). Understanding excess mortality in persons with mental illness: 17-year follow up of a nationally representative US survey. *Medical Care, 49*(6), 599-604. doi: 10.1097/MLR.0b013e31820bf86e00005650-201106000-00011 [pii]

Fagiolini, A., F., E., Scott, J.A., Turkin, S., & Kupfer, D. J. (2005). Metabolic syndrome in bipolar disorder: Findings from the Bipolar DIsorder Center for Pennsylvanians. *Bipolar Disorder, 7*(5), 424-430.

Fan, Z., Wu, Y., Shen, J., Ji, T, & Zhan, R. (2013). Schizophrenia and the risk of cardiovascular diseases: A meta-analysis of thirteen cohort studies. *Journal of Psychiatric Research, 47*(11), 1549-1556.

Fisher, E. B. (2008). The importance of context in understanding behavior and promoting health. *Annals of Behavioral Medicine, 35*, 3-18.

Fisher, E. B., Brownson, C. A., O'Toole, M. L., Shetty, G., Anwuri, V. V., & Glasgow, R. E. (2005). Ecological approaches to self-management: The case of diabetes. *American Journal of Public Health, 95*(9), 1523-1535.

Flegal, K. M., Carroll, M. D., Ogden, C. L., & Curtin, L. R. (2010). Prevalence and trends in obesity among US adults, 1999-2006. *JAMA, 303*(3), 235-241.

Fryar, C. D., Hirsch, R., Eberhardt, M. S., Yoon, S. S., & Wright, J. D. (2010). Hypertension, high serum cholesterol, and diabetes: Racial and ethnic prevalence difference in U.S. adults, 1999-2006 (C. f. D. C. a. Prevention, Trans.) *NCHS Data Brief* (Vol. 36, pp. 1-7). Washington, D.C.: National Center for Health Statistics.

Germain, C. B. (1979). Introduction: Ecology and social work. In C. B. Germain (Ed.), *Social work practice: People and environments* (pp. 3-22). New York: Columbia University Press.

Goldberg, R. W., Dickerson, F., Lucksted, A., Brown, C. H., Weber, E., Tenhula, W. N., . . . Dixon, L. B. (2013). Living well: An intervention to improve self-management of medical illness for individuals with serious mental illness. *Psychiatric Services, 64*(1), 51-57.

Goldstein, B. I., Liu, S-M, Schaffer, A., Sala, R., & Blanco, C. (2013). Obesity and the three-year longitudinal course of bipolar disorder. *Bipolar Disorders, 15*(3), 284-293.

Goldstein, L. B., Liu, S-M, Zivkovic, N., Schaffer, A., Chien, L-C, & Blanco, C. (2011). The burden of obesity among adults with bipolar disorder in the United States. *Bipolar Disorders, 13*(4), 387-395.

Goodworth, M-C R., Stepleman, L., Hibbard, J. H., Johns, L., Wright, D., Hughes, M. D., & Williams, M. J. (2014). Variables associated with patient activation in persons with multiple sclerosis. *Journal of Health Psychology*, 1-22. doi: 10.1177/1359105314522085

Gorman, B. K., & Porter, J. R. (2011). Social networks and support, gender, and racial/ethnic disparities in hypertension among older adults. *Population Research and Policy Review, 30*(6), 885-911.

Greene, J., & Hibbard, J. H. (2012). Why does patient activation matter? An examination of the relationships between patient activation and health-related outcomes. *Journal of General Internal Medicine, 27*(5), 520-526.

Hatcher, E., & Whittemore, R. (2007). Hispanic adults' beliefs about type 2 diabetes: Clinical implications. *Journal of the American Association of Nurse Practitioners, 19*(10), 536-545.

Healthy People 2010 (Group), & Human Services. (2000). *Healthy people 2010* (Vol. 1). US Dept. of
Health and Human Services.

Hellerstein, D. J., Almeida, G., Devlin, M. J., Mendelsohn, N., Helfand, S., Dragatsi, D., . . . Capitelli, L. (2007). Assessing obesity and other related health problems of mentally ill Hispanic patients in an urban outpatient setting. *Psychiatry Quarterly, 78*(3), 171-181.

Henderson, D. C., Nguyen, D. D., Copeland, P. M., Hayden, D. L., Borba, C. P., Louie, P. M., . . . Goff, D. C. (2005). Clozapine, diabetes mellitus, hyperlipidemia, and cardiovascular

risks and mortality: results of a 10-year naturalistic study. *Journal of Cliinical Psychiatry, 66*(9), 1116-1121.
Hibbard, J. H., & Cunningham, P. J. (2008). How engaged are consumers in their health and health care, and why does it matter. *Research Briefs, 8*, 1-10.
Hibbard, J. H., Green, Jessica, Becker, Edmund R., Roblin, Douglas, Painter, Michael W., Perez, Debra J., . Tusler, Martin. (2008). Racial/ethnic disparities and consumer activation in health. *Health Affairs, 27*(5), 1442-1453.
Hibbard, J. H., Greene, Jessica, & Overton, Valerie. (2013). Patients with lower activation associated with higher costs; Delivery systems should know their patient's 'scores'. *Health Affairs, 32*(2), 216-222.
Hibbard, J. H., & Mahoney, E. R. (2010). Toward a theory of patient activation and consumer activation. *Patient Education and Counseling, 78*(3), 377-381.
Hibbard, J. H., Mahoney, E. R., Stock, R., & Tusler, M. (2007). Self management and health care utilization: Do increases in patient activation result in improved self-management behaviors? *Health Services Research, 42*(4), 1443-1463.
Hibbard, J. H., Mahoney, E. R., Stockard, J., & Tusler, M. (2005). Development and testing of a short form of the patient activation measure. *Health Services Research, 40*(6 Pt 1), 1918-1930.
Hibbard, J. H., Stockard, J., Mahoney, E. R., & Tusler, M. (2004). Development of the Patient Activation Measure (PAM): Conceptualizing and measuring activation in patients and consumers. *Health Services Research, 39*(4), 1005-1026.
Hibbard, J. H., & Tusler, M. (2007). Assessing activation stage and employing a "next steps" approach to supporting patient self-management. *Journal of Ambulatory Care Management, 30*(1), 2-8.
Holman, H. R., & Lorig, K. (1992). Perceived self-efficacy in self-management of chronic disease. In R. Schwarzer (Ed.), *Self-efficacy: Thought control of action*. Washington, D.C.: Hemisphere Publishing Corporation.
Holman, H. R., & Lorig, K. (2004). Patient self-management: A key to effectiveness and efficiency in care of chronic disease. *Public Health Report, 119*(3), 239-243.
Huang, E. S., Brown, S. E. S., Thakur, N., Carlisle, L., Foley, E., Ewigman, B., & Meltzer, D. O. (2009). Racial/ethnic differences in concerns about current and future medications among patients with type 2 diabetes. *Diabetes Care, 32*(2), 311-316.
IBM Corp. (2011). IBM SPSS Statistics for Windows (Version 20.0). Armonk, N.Y.: IBM Corp.
Jackson, C.T., Covell, N.H., Drake, R.E., & Essock, S.M.. (2007). Relationship between diabetes and mortality among persons with co-occuring psychotic and substance abuse disorders. *Psychiatric Services, 58*(2), 270.
Janney, C. A., Ganguli, R., Richardson, C. R., Holleman, R. G., Tang, G., Cauley, J. A., & Kriska, A. M. (2013). Sedentary behavior and psychiatric symptoms in overweight and obese adults with schizophrenia and schizoaffective disorders (WAIST study). *Schizophrenia Research, 145*(1-3), 63-68.
Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed method research. *Journal of Mixed Methods Research, 1*, 112-133.
Jones, F., & Riazi, A.. (2011). Self-efficacy and self-management after stroke: a systematic review. *Disability and Rehabilitation, 33*(10), 797-810.

Jordan, H. T., Tabaei, B. P., Nash, D., Angell, S. Y., Chamany, S., & Kerker, B.. (2012). Metabolic syndrome among adults in New York City, 2004 New York City health and nutrition examination survey. *Preventing Chronic Disease, 9*, 100260.

Kato, M. M., Currier, M. B., Gomez, C. M., Hall, L., & Gonzalez-Blanco, M. (2004). Prevalence of Metabolic Syndrome in Hispanic and Non-Hispanic Patients With Schizophrenia. *Primary Care Companion Journal of Clinical Psychiatry, 6*(2), 74-77.

Kelly, D. L., McMahon, R. P., Liu, F., Love, R. C., Wehring, H. J., Shim, J-C, Conley, R. R. (2010). Cardiovascular disease mortality in patients with chronic schizophrenia treated with clozapine: A retrospective cohort study. *Journal of Clinical Psychiatry, 71*(3), 304-311.

Kelly, E. L., Fenwick, K. M., Barr, N., Cohen, H., & Brekke, J. S. (2014). A systematic review of self-management health care models for individuals with serious mental illness. *Psychiatric Services, 65*(11), 1300-1310.

Kenney, G. M., McMorrow, S., Zuckerman, S., & Goin, D. E. (2012). A decade of health care access declines for adults holds implications for changes in the affordable care act. *Health Affairs, 31*(5), 899-908.

Kilbourne, A. M., Post, E. P., Nossek, A., Drill, L., Cooley, S., & Bauer, M. S. (2008). Improving medical and psychiatric outcomes among individuals with bipolar disorder: a randomized controlled trial. *Psychiatr Serv, 59*(7), 760-768.

Klam, J., McLay, M., & Grabke, D.. (2006). Personal empowerment program: Addressing health concerns in people with schizophrenia. *Journal of Psychological Nursing, 44*(8), 20-28.

Kroenke, K., Bair, M. J., Damush, T. M., Wu, J., Hoke, S., Sutherland, J., & Tu, W. (2009). Optimized antidepressant therapy and pain self-management in primary care patients with depression and musculoskeltal pain: A randomized control trial. *JAMA, 301*(20), 2099-2110.

Kukla, M., Salyers, M. P., & Lysaker, P. H. (2013). Levels of patient activation among adults with schizophrenia: Associations with hope, symptoms, medication adherence, and recovery attitudes. *The Journal of Nervous and Mental Disease, 201*(4), 339-344.

Lambert, B. L., Chou, C. H., Chang, K. Y., Tafesse, E., & Carson, W. (2005). Antipsychotic exposure and type 2 diabetes among patients with schizophrenia: a matched case-control study of California Medicaid claims. *Pharmacoepidemiol ogical Drug Safety, 14*(6), 417-425. doi: 10.1002/pds.1092

Lenker, S., Lorig, K. R., & Gallagher, D. (1984). Reasons for the lack of association between changes in health behavior and improved health status: An exploratory study. *Patient Education and Counseling, 6*(2), 69-72.

Leucht, S., Kissling, W., & Davis, J.M. (2009). Second-generation antipsychotics for schizophrenia: Can we resolve the conflict? *Psychological Medicine, 39*(10), 1591-1602.

Link, B. G., & Phelan, J.. (1995). Social conditions as fundamental causes of disease. *Journal of Health and Social Behavior, 35*(Extra Issue), 80-94.

Lopez, R. P., & Hynes, H. P. (2006). Obesity, physical activity, and the urban environment: public health research needs. *Environmental Health: A Global Access Science Source, 5*, 1-10.

Lorig, K., Ritter, P. L., & Gonzalez, V. (2003). Hispanic chronic disease self-management: A randomized community-based outcome trial. *Nursing Research, 52*(6), 361-369.

Lorig, K. R., & Holman, H. R. (2003). Self-Management education: History, definition, outcomes, and mechanisms. *Annals of Behavioral Medicine, 26*(1), 1-7.

Lorig, K. R., Ritter, P. L., & Jacquez, A. (2005). Outcomes of border health Spanish/English chronic disease self-manaegement programs. *The Diabetes Educator, 31*(3), 401-409.

Lorig, K. R., Ritter, P. L., Pifer, C., & Werner, P.. (2013). Effectiveness of the Chronic Disease Self-Management Program for persons with a serious mental illness: A translation study. *Community Mental Health Journal*. doi: 10.1007/s10597-013-9615-5.

Lorig, K. R., Seleznick, M., Lubeck, D., Ung, E., Chastain, R.L., & Holman, H. R. (1989`). The beneficial outcomes of the arthritis self-management course are not adequately explained by behavior change. *Arthritis & Rheumatism, 32*(1), 91-95.

Lorig, K. R., Sobel, D. S., Stewart, A., Brown, B. W., Bandura, A., Ritter, P. L., . . . Holman, H. R. (1999). Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization. *Medical Care, 37*(1), 5-14.

Lorig, K. R., Stewart, A., Ritter, P. L., Gonzalez, V., Laurent, D., & Lynch, J. (1996). *Outcome Measures for Health Education and other Health Care Interventions*. Thousand Oaks, CA: Sage Publications.

Lubetkin, E. I., Zabor, E. C., Brennessel, D., Kemeny, M. M., & Hay, J. L. (2014). Beyond demographics: Differences in patient activation across new immigrant, diverse language subgroups. *Journal of Community Health, 39*(1), 40-49.

Mackenbach, J. P. (2012). The persistence of health inequalities in modern welfare states: The explanation of a paradox. *Social Science & Medicine, 75*(4), 761-769.

Mann, D. M., Ponieman, D., Leventhal, H., & Halm, E. A. (2009). Predictors of adherence to diabetes medications: The role of disease and medication beliefs. *Journal of Behavioral Medicine, 32*(3), 278-284.

Maranda, M. J., Deen, D., Elshafey, S., Herrera, M., & Gold, M. R. (2014). Response to a patient activation intervention among Spanish-speaking patients at a community health center in New York City. *Journal of Health Care for the Poor and Underserved, 25*(2), 591-604.

Marmot, M. (2005). Social determinants of health inequalities. *The Lancet, 365*(9464), 1099-1104.

McClave, A. K., McKnight-Eily, L. R., Davis, S. P., & Dube, S. R. (2010). Smoking characteristics of adults with selected lifetime mental illnesses: Results from the 2007 National Health Interview Survey. *Journal of Public Health, 100*(12), 2464-2472.

McCloskey, J., & Flenniken, D. (2010). Overcoming cultural barriers to diabetes control: A qualitative study of southwestern New Mexico Hispanics. *Journal of Cultural Diversity, 17*(3), 110-115.

McCloughen, A., & Foster, K. (2011). Weight gain associated with taking psychotropic medications: An integrative review. *International Journal of Mental Health Nursing, 20*(3), 202-222.

McElroy, S. L., & Keck Jr., P. E. (2012). Obesity in bipolar disorder: An overview. *Current Psychiatry Reports, 14*(6), 650-658.

McEvoy, J. P., Meyer, J. M., Goff, D. C., Nasrallah, H. A., Davis, S. M., Sullivan, L., . . . Lieberman, J. A. (2005). Prevalence of the metabolic syndrome in patients with schizophrenia: baseline results from the Clinical Antipsychotic Trials of Intervention

Effectiveness (CATIE) schizophrenia trial and comparison with national estimates from NHANES III. *Schizophrenia Research, 80*(1), 19-32.
McLeroy, K. R., Bibeau, D., Steckler, A., & Glanz, K.. (1988). An ecological perspective on health promotion programs. *Health Education Quarterly, 15*(4), 351-377.
Mechanic, D.. (2012). Seizing opportunities under the affordable care act for transforming the mental and behavioral health system. *Health Affairs, 31*(2), 376-382.
Morrato, E. H., Druss, B. G., Hartung, D. M., Valuck, R. J., Thomas, D., Allen, R., . . . Newcomer, J. W. (2011). Small area variation and geographic and patient-specific determinants of metabolic testing in antipsychotic users. *Pharmacoepidemiological Drug Safety, 20*(1), 66-75. doi: 10.1002/pds.2062
Morrato, E. H., Newcomer, J. W., Allen, R., & Valuck, R. J. (2008). Prevalence of baseline serum glucose and liupid testing in users of second-generation antipsychotic drugs: A retrospective, population based study of Medicaid claims data. *Journal of Clinical Psychiatry, 69*(2), 316-322.
Motl, R. W., McAuley, E., Wynn, D., Sandroff, B., & Suh, Y. (2013). Physical activity, self-efficacy, and health-related quality of life in persons with multiple sclerosis: Analysis of associations between individual-level changes over one year. *Quality of Life Research, 22*(2), 253-261.
Mueser, K. T., Bartels, S. J., Santos, M., Pratt, S. I., & Riera, E. G. (2012). Integrated illness management and recovery: A program for integrating physical and psychiatric illness self-management in older persons with servere mental illness. *American Journal of Psychiatric Rehabilitation, 15*(2), 131-156.
Muhr, T. (2004). *User's manual for ATLAS.ti 5.0* (2nd ed.). Berlin: Scientific Software Development.
Nasrallah, H. A., Meyer, J. M., Goff, D. C., McEvoy, J. P., Davis, S. M., Stroup, T. S., & Lieberman, J. A. (2006). Low rates of treatment for hypertension, dyslipidemia and diabetes in schizophrenia: data from the CATIE schizophrenia trial sample at baseline. *Schizophrenia Research, 86*(1-3), 15-22.
New York State (2015). Federal health care reform in New York state. Retrieved April 10, 2015, from http://www.healthcarereform.ny.gov/questions_answers/.
Newcomer, J. W., & Hennekens, C. H. (2007). Severe mental illness and risk of cardiovascular disease. *Jama, 298*(15), 1794-1796.
Newman, S., Steed, L., & Mulligan, K. (2004). Self-management interventions for chronic illness. *The Lancet, 364*(9444), 1523-1537.
Nwabuo, C. C., Morss Dy, S., Weeks, K., & Young, H. (2014). Factors associated with appointment non-adherence among African-Americans with severe, poorly controlled hypertension. *PLoS One, 9*(8), e103090. doi: 10.1371/journal.pone.0103090
O'Day, B., Killeen, M. B., Sutton, J., & Iezzoni, L. I. (2005). Primary care experiences of people with psychiatric disabilities: Barriers to care and potential solutions. *Psychiatric Rehabilitation Journal, 28*(4), 339-345.
Odegard, P. S., & Gray, S. L. (2008). Barriers to medication adherence in poorly controlled diabetes mellitus. *Diabetes Education, 34*(4), 692-697.

Ortega, A. N., Feldman, J. M., Steinman, K., & Alegría, M. (2006). Co-occurrence of mental and physical illness in US Latinos. *Social Psychiatry and Psychiatric Epidemiology, 41*(12), 927-934.

Pabon-Nau, L. P., Cohen, A., Meigs, J. B., & Grant, R. W. (2010). Hypertension and diabetes prevalence among U.S. Hispanics by country of origin: The national health interview survey 2000-2005. *Journal of General Internal Medicine, 25*(8), 847-852.

Padgett, D. K. (1998). *Qualitative methods in social work research: Challenges and rewards.* Thousand Oaks, CA: Sage.

Palinkas, L. A., Aarons, G. A., Horwitz, S., Chamberlain, P., Hurlburt, M., & Landsverk, J. (2011). Mixed method designs in implementation research. *Administration and Policy in Mental Health and Mental Health Services Research, 38*(1), 44-53.

Palmer, R. M., & Meldon, S.W. (2003). Acute Care. In W. R. Hazzard (Ed.), *Principles of Geriatric Medicine and Gerontology* (pp. 157-168). Boston, MA: McGraw-Hill.

Parks, J., Svendsen, D., Singer, P., & Foti, M. E.. (2006). Morbidity and Mortality in People with Serious Mental Illness. Alexandria, VA: National Association of State Mental Health Program Directors (NASMHPD) Medical Directors Council.

Phelan, J., & Link, B. G. (2004). "Fundamental causes" of social inequalities in mortalities: A test of the theory. *Journal of Health and Social Behavior, 45*(3), 265-285.

Pickering, T. G. (2004). Hypertension in Hispanics. *The Journal of Clinical Hypertension, 6*(5), 279-282.

Pieterse, A. L., & Carter, R. T. (2010). An exploratory investigation of the relationship between racism, racial identity, perceptions of health, and health locus of control among Black American women. *Journal of Health Care for the Poor and Underserved, 21*(1), 334-348.

Raedler, T. J. (2010). Cadiovascular aspects of antipsychotics. *Current Opinion in Psychiatry, 23*(6), 574-581.

Ratliff, J. C., Palmese, L. B., Reutenauer, E., Srihari, V. H., & Tek, C. (2013). Obese schizophrenia spectrum patients have significantly higher 10-year general cardiovascular risk and vascular ages than obese individuals without severe mental illness. *Psychosomatics, 54*(1), 67-73.

Reisinger Walker, E., McGee, R. E., & Druss, B. G. (2015). Mortality in mental disorders and global disease burden implications. *JAMA Psychiatry, 72 (4),* 334-341.

Richardson, C. R., Faulkner, G., McDevitt, J., Skrinar, G. S., Hutchinson, D. S., & Piette, J. D. (2005). Integrating physical activity into mental health services for persons with serious mental illness. *Psychiatr Serv, 56*(3), 324-331. doi: 56/3/324 [pii]10.1176/appi.ps.56.3.324.

Robins, C.S., Ware, N.C., dosReis, S., Willging, C.E., Chung, J. Y., & Lewis-Fernández, R. (2008). Dialogues on mixed methods and mental health services research: Anticipating challenges, building solution. *Psychiatric Services*, *59*(7), 727-731.

Rosal, M. C., Olendzki, B., Reed, G. W., Gumienal, O., Scavron, J., & Ockene, I. (2005). Diabetes self-management among low income Spanish-speaking patients: A pilot study. *Annals of Behavioral Medicine*, *29*(3), 225-235.

Russell, B. E., Gurrola, E., Ndumele, C. D., Landon, B. E., O'Malley, J. A., Keegan, T., . . . Hicks, L. S. (2010). Perspectives of Non-Hispanic Black and Latino patients in Boston's urban community health centers on their expereicnes with diabetes and hypertension. *Journal of General Internal Medicine, 25*(6), 504-509.

Sallis, J. F., Owen, N., & Fisher, E. B. (2008). Ecological models of health behaviors. In K. Glanz, B. K. Rimer & K. Viswanath (Eds.), *Health Behavior and Health Education: Theory, Research, and Practice* (4th ed., pp. 465-485). San Francisco, CA: John Wiley & Sons, Inc.

Salzer, M. S., & Evans, A. C. (2006). CATIE and the value of atypical antipsychotics in the context of creating a recovery-oriented behavioral health system. *Administration and Policy in Mental Health and Mental Health Services Research, 33*(5), 536-540.

SAMHSA. (2012). National survey on drug use and health: Center for Behavioral Health Statistics and Quality.

Sanchez-Birkhead, A. C., Kennedy, H. P., Callister, L. C., & Miyamoto, T. P. (2011). Navigating a new health culture: Experiences of immigrant Hispanic women. *Journal of Immigrant and Minority Health, 13*(6), 1168-1174.

Sarkar, U., Fisher, L., & Schillinger, D. (2006). Is self-efficacy associated with diabetes self-management across race/ethnicity and health literacy? *Diabetes Care, 29*(4), 823-829.

Schmutte, T., Flanagan, E., Bedregal, L., Ridgway, P., Sells, D., Styron, T., & Davidson, L. (2009). Self-efficacy and self-care: Missing ingredients in health and healthcare among adults with serious mental illness. *Psychiatric Quarterly, 80*(1), 1-8.

Schulman-Green, D., Jaser, S., Martin, F., Alonzo, A., Grey, M., McCorkle, R., . . . Whittemore, R. (2012). Processes of self-management in chronic illness. *Journal of Nursing Scholarship, 44*(2), 136-144.

Scott, D., Platania-Phung, C., & Happell, B. (2012). Quality of care for cardiovascular disease nad diabetes amongst individuals with serious mental illness and those using antipsychotic medications. *Journal for Healthcare Quality, 34*(5), 15-21.

Shor, R., & Shalev, A.. (2013). Identifying barriers to improving the wellness of persons with severe mental illness in community residential mental health facilities. *Social Work in Mental Health, 11*(4), 334-348.

Skolasky, R. L., Mackenzie, E. J., Wegener, S. T., & Riley, L. H., 3rd. (2008). Patient activation and adherence to physical therapy in persons undergoing spine surgery. *Spine (Phila Pa 1976), 33*(21), E784-791.

Skolasky, R. L., Mackenzie, E. J., Wegener, S. T., & Riley, L. H., 3rd. (2011). Patient activation and functional recovery in persons undergoing spine surgery. *Journal of Bone and Joint Surgery, 93*(18), 1665-1671.

Stark Casagrande, S., Anderson, C. A. M., Dalcin, A., Appel, L. J., Jerome, G. J., Dickerson, F., . . . Daumit, G. L. (2011). Dietary intake of adults with serious mental illness. *Psychiatric Rehabilitation Journal, 35*(2), 137-140.

Sterling, E. W., von Esenwein, S. A., Tucker, S., Fricks, L., & Druss, B. G. (2010). Integrating wellness, recovery, and self-management for mental health consumers. *Community Mental Health Journal, 46*(2), 130-138.

Stokols, D. (1992). Establishing and maintaining healthy environments: Toward a social ecology of health promotion. *American Psychologist, 47*(1), 6-22.

Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion, 10*(4), 282-298.

Stokols, D. (2003). The ecology of human strengths. In L. G. Aspinwall & U. M. Staudinger (Eds.), *A psychology of human strengths: Fundamental questions and future directions for a positive psychology* (pp. 331-343). Washington, D.C.: American Psychological Association.

Stokols, D., Allen, J., & Bellingham, R. L. (1996). The social ecology of health promotion: Implications for research and practice. *American Journal of Health Promotion*, *10*(4), 247-251.

Strauss, A. L., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks: Sage.

Swartz, H. A., & Fagiolini, A. (2012). Cardiovascular disease and bipolar disorder: Risk and clinical implications. *Journal of Clinical Psychiatry*, *73*(12), 1563-1565.

Toalson, P., Saeeduddin, A., Hardy, T., & Kabinoff, G.. (2004). The metabolic syndrome in patients with severe mental illness. *Journal of Clinical Psychiatry: Primary Care Companion*, *6*(4), 152-158.

Wagner, K. D., Davidson, P. J., Pollini, R. A., Strathdee, S., Washburn, R., & Palinkas, L. A. (2012). Reconciling incongruous qualitative and quantitative findings in mixed methods research: Exemplars from research with drug using populations. *International Journal of Drug Policy23*(1), 54-61.

Zambrana, R. E., & Carter-Pokras, O. (2010). Role of acculturation research in advancing science and practice in reducing health care disparities among Latinos. *American Journal of Public Health*, *100*(1), 18-23.

Appendix A

Table A1. Sample Characteristics

Sample Characteristics	Total Sample (N = 40)				Focus Group Sub-Sample (N=24)			
	Mean (SD)	Range	N	%	Mean (SD)	Range	N	%
Age	50.6 (13.7)	22-72			52.9 (13.2)	22-72		
Years of Education	10.7 (4.3)	1-18			11.9 (3.8)	1-18		
Female			20	50			14	58.3
Marital Status								
Married			6	15			3	12.5
Single			22	55			12	50
Widow/Divorced /Separated			12	30			9	37.5
Place of Birth								
U. S. Mainland			6	15			2	8.3
Dominican Republic			28	70			17	70.8
Puerto Rico			4	10			3	12.5
Other (i.e., Cuba, Costa Rica)			2	5			2	8.3
Years living in the U.S.	30.6 (13.2)	6-60			33.8 (14.5)**	6-60		
Language Preference								
Spanish Only			22	55			13	54.2
Bilingual			13	32.5			11	45.8
English Only			5	12.5			0	0
Perceived Health Status								
Fair/Poor			26	65			17	73.9**

Sample Characteristics	Total Sample (N = 40)				Focus Group Sub-Sample (N=24)			
	Mean (SD)	Range	N	%	Mean (SD)	Range	N	%
Chart-reported Common Medical Conditions								
Asthma			6	15			3	12.5
Arthritis			17	42.5			10	41.7
Diabetes			16	40			9	37.5
Hypertension			24	60			14	58.3
High Cholesterol			27	67.5			17	70.8
Average Number of Medical Conditions	4.2 (2.3)	0-11			4.5 (2.3)**	1-11		
Current Smokers			16	40			7	30.4**
Visited Primary Care Provider in Past 12-months			39	97.5			23	95.8
Chart Diagnosis								
Schizophrenia			13	32.5			5	20.8
Schizoaffective Disorder			11	27.5			9	37.5
Major Depression			8	20			3	12.5
Bipolar Disorder			7	17.5			6	25
Taking Second Generation Antipsychotics**			27	69.2*			14	63.6***

Note: *n = 39; **n = 23; ***n = 22

Table A2. Stakeholder Characteristics

Stakeholder Characteristics (N=17)	Mean (SD)	N	%
Age	46.9 (11.3)		
Female		10	59
Ethnicity/Race			
Non-Hispanic White		6	35
Hispanic		7	41
African American		3	18
Other		1	6
Profession			
Psychiatrist		3	18
Primary Care Physician		5	29
Social Worker		3	18
Peer Specialist/Consumer Advocate		5	29
Other (e.g., Nurse, Administrator)		1	6
Average Years Working with Hispanics with SMI	15.6 (9.8)		

Table A3. Typology Group Sample Characteristics

Sample Characteristics		Type 1 (High) (N=5)				Type 2 (Moderate) (N=9)				Type 3 (Low) (N=9)			
		Mean (SD)	Range	N	%	Mean (SD)	Range	N	%	Mean (SD)	Range	N	%
Age		39.6 (11.1)	22-50			58.9 (13.1)	31-72			54.2 (9.4)	41-68		
Years of Education		10.8 (5.6)	1-15			11.9 (3.1)	8-16			12.7 (3.7)	8-18		
Female				1	20			7	77.8			5	55.6
Marital Status													
	Married			1	20			2	22.2			0	0
	Single			4	80			3	33.3			5	55.6
	Widowed, Divorced, Separated			0	0			4	44.4			4	44.4
Place of Birth													
	U.S. Mainland			0	0			1	11.1			1	11.1
	Dominican Republic			5	100			5	55.6			6	66.7
	Puerto Rico			0	0			3	33.3			0	0
	Other (ex., Cuba, Costa Rica)			0	0			0	0			2	22.2
Years living in the U.S.		21.4 (12.8)	6-41			39.8 (12.1)	21-60			35.6 (14.3)			
Language Preference													
	Spanish Only			2	40			6	66.7			4	44.4
	Bilingual			2	40			2	22.2			5	55.6

Sample Characteristics		Type 1 (High) (N=5)				Type 2 (Moderate) (N=9)				Type 3 (Low) (N=9)			
		Mean (SD)	Range	N	%	Mean (SD)	Range	N	%	Mean (SD)	Range	N	%
	English Only			1	20			1	11.1			0	0
Perceived Health Status													
	Fair/poor			1	20			7	77.8			9	100
Medical Conditions													
	Asthma			2	40			1	11.1			9	100
	Arthritis			5	100			5	55.6			5	55.6
	Diabetes			1	20			7	77.8			1	11.1
	Hypertension			4	80			7	77.8			3	33.3
	High Cholesterol			3	60			8	88.9			5	55.6
Average Number of Medical Conditions		2.8 (.8)	2-4			6.2 (2.5)	3-11			3.67 (1.4)	1-5		
Chart Diagnosis													
	Schizophrenia			1	20			3	33.3			0	0
	Schizoaffective Disorder			0	0			3	33.3			6	66.7
	Major Depression			1	20			1	11.1			1	11.1
	Bipolar Disorder			3	60			1	11.1			2	22.2
	Other			0	0			1	11.1				

Sample Characteristics	Type 1 (High) (N=5)				Type 2 (Moderate) (N=9)				Type 3 (Low) (N=9)			
	Mean (SD)	Range	N	%	Mean (SD)	Range	N	%	Mean (SD)	Range	N	%
Taking Second Generation Antipsychotics			2	40			7	77.8			5*	55.6

Note: *n=8

Appendix B

Patient Activation Measure (PAM)

Source: Hibbard, Stockard, Mahoney, & Tusler. (2004) Development of the Patient Activation Measure (PAM): Conceptualizing and measuring activation in patients and consumers. *Health Services Research, 39 (4)*, 1005-1026.

Note: The English version is presented here. All standardized instruments were administered in Spanish.

Now I will read some statements that people sometimes make when they talk about their health. Please indicate how much you agree or disagree with each statement as it applies to you personally. Your answers should be what is true for you and not just what you thinks others want you to say.

If the statement does not apply to you, just let me know.

CODE: 1. Strongly Disagree

2. Disagree

3. Agree

4. Strongly agree

1) When all is said and done, I am the person who is responsible for taking care of my health.

2) Taking an active role in my own health is the most important thing that affects my health.

3) I am confident I can help prevent or reduce problems associated with my health.

4) I know what each of my prescribed medications do.

5) I am confident that I can tell whether I need to go to the doctor or whether I can take care of a health problem myself.

6) I am confident that I can tell a doctor concerns I have even when he or she does not ask.

7) I am confident I can follow through on medical treatments I may need to do at home.

8) I understand my health problems and what causes them.

9) I know what treatments are available for my health problems.

10) I have been able to maintain (keep up with) lifestyle changes, like eating right or exercising.

11) I know how to prevent problems with my health.

12) I am confident I can figure out solutions when new problems arise with my health.

13) I am confident that I can maintain lifestyle changes, like eating right and exercising, even during times of stress.

Appendix C

Chronic Disease Self-Efficacy Scale (CDSES)

Source: Lorig, Stewart, Ritter, Gonzalez, Laurent & Lynch. (1996). Outcome Measures for Health Education and other Health Care Interventions. *Thousand Oaks*, *CA: Sage Publications*.

Note: The English version is presented here. All standardized instruments were administered in Spanish.

These next few statements are about how confident you feel about several situations. Using a scale of 0 to 10, with 0 being the lowest (not confident at all) and 10 the highest (totally confident), how confident are you of the following situations:

CODE:

Not at all confident					Somewhat confident					Totally confident
0	1	2	3	4	5	6	7	8	9	10

Exercise Regularly Scale

1) How confident are you that you are able to do gentle exercise for muscle strength and flexibility three to four times per week (range of motion, using weights, etc.)?

2) How confident are you that you are able to do aerobic exercise, such as walking, swimming, or bicycling, three to four times per week?

3) How confident are you that you are able to exercise without making symptoms worse?

Get Information about Disease

1) How confident are you that you can get information about your disease from community resources.

Obtain Help from Community, Family, Friends Scale

1) How confident are you that you can get family and friends to help you with the things you need (such as household chores like shopping, cooking, transport)?
2) How confident are you that you can get emotional support from friends and family (such as listening or talking over your problems)?
3) How confident are you that you can get emotional support from resources other than friends or family, if needed?
4) How confident are you that you can get help with your daily tasks (such as housecleaning, yard work, meals, or personal hygiene) from resources other than friends or family, if needed?

Communicate with Physician Scale

1) How confident are you that you can ask your primary medical person things about your illness that concern you?
2) How confident are you that you can discuss openly with your primary medical person any personal problems that may be related to your illness?
3) How confident are you that you can work out differences with your primary medical person when they come up?

Manage Disease in General Scale

Having a physical illness often means doing different tasks and activities to manage your condition.

1) How confident are you that you can do all of the things necessary to manage your condition on a regular basis?

2) How confident are you that you can judge when the changes in your illness mean you should visit a doctor or other medical person?

3) How confident are you that you can do the different tasks and activities needed to manage your health condition so you do not have to see a medical person as often?

4) How confident are you that you can reduce the emotional distress caused by your health condition so that it does not affect your everyday life?

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

1) During an <u>average week</u> how many minutes do you spend doing moderate physical activity like walking?

CODE: Number of minutes______________

Appendix D

Modifying PCARE: Consumers' Focus Group
English Guide

NOTE: *This is the complete guide for the consumer focus groups. Close attention will be paid to questions in section one, particularly questions 1and 2, as these apply most to this project.*

The purpose of this group is to talk about your physical health and to get your opinions about a new program we are developing to improve the physical health of Latino patients at the Inwood clinic. We are here to learn about what you guys have to say about these topics.

Before we begin, I want to discuss some general rules that will help us get everyone involved in our conversation. First to make sure we hear what everyone has to share with the group, we ask that one person should talk at a time and that you wait your turn to talk. Second, we are very interested in what you have to say so we ask you to keep side conversations with the persons next to you to a minimum, if you have something to say do share it with the group. It's important that everyone participates so we want to give everyone a chance to talk and share their ideas and opinions with us. Remember there are no right or wrong answers to these questions. We are only interested in your honest opinions. Any questions before we begin?

I. Physical Health and Healthcare Needs

Let's start with your physical health . . .

1. **What do you do to manage your health problems?**
   Probe: What do you do to stay healthy or control your health problems? Explore issues regarding changes in diet, increasing exercise, taking medications, going to the doctor. Who helps you with these health problems? What help do these persons' provide?

2. **What causes someone to have heart problems (heart disease)?**
   Probe: How does being a Latino/a influence that a person develop heart problems? How do mental health conditions impact heart problems? How do taking psychiatric medications impact heart problems?

3. **Where do you go when you need to see a doctor for your health problems?**
   Probe: Do you have a doctor? Do you feel you can go to your doctor when you have a health problem? What motivates you to go see your doctor?

4. **How do you get along with your doctor?**
   Probe: What type of relationship do you have with your doctor? What do you like or dislike about your doctor? Do you trust your doctor? Do you feel comfortable asking questions about things you may not understand? Do you feel comfortable telling your

doctor about your physical health problems? Does your doctor know and ask about your mental health condition(s) or about the psychiatric medication(s) you are taking?

5. **What difficulties or problems do you face when you go to see your doctor or to receive medical care for your health problems?**
   Probe: Do you feel that being Latino/a influence the quality of medical care that you receive? Do you feel that having a mental illness influence the quality of medical care that you receive? Do you feel that you are getting the services that you need? What fears do you have about going to see your doctor?

BREAK

Now, I'm going to present a video and several materials that describe a care manager program that we are trying to bring to the Inwood clinic to help improve the physical health of Latino patients As you watch this video, I want you to think about how this program may or may not work for you and what you like or dislike about this program. I will then ask you some questions about what you think about this program.

II. Perceptions of PCARE

6. **What did you think about this program?**

7. **Name 3 things you like about this program. Name 3 things that you did not like about this program. Why?**
   Probe: Does it make sense to you? How so?

8. **How would you name this program? Why?**
   Probe: What words would you use to describe this program to a friend or family member?

9. **How could this program help you with your health problems?**
   Probe: How would it help you? How would you use it? What would you like to learn to improve your physical health? Explore skills . . .

10. **What do you think about having a social worker at the Inwood clinic help you with your physical health problems?**
    Probe: What kind of help would you want from this person? What can they do to be helpful?

11. **What would make this program better? Why?**
    Probe: Name three things that would make this program better. How can the program be improved?

Do you have anything else to add?

THANK YOU FOR YOUR PARTICIPATION!

Appendix E

Implementing PCARE Project
Stakeholder Interview Guide]

NOTE: *This is the guide used for the complete stakeholder interviews. Close attention will be paid to questions in section one, particularly question 3, as these apply most to this project.*

Participant ID: ________________ **Interview Date:** ___ ___ /___ ___/___ ___

Stakeholder Group: 1. Mental Health Provider ________
2. Primary Care Provider ________
3. Consumer Advocate ________
4. Administrator/Policy Maker ________

Copy of Consent Form Provided: __________

Stakeholder Demographic Form Completed: __________

Interviewer: ____________________________ **Start Time:** ______________**AM/PM**

<u>Introduction:</u> Thank you for agreeing to talk with me today. The interview takes most people about 60 minutes to complete.

- **We will start by discussing your opinions about the physical health of people with SMI, particularly the physical health needs of Hispanics with SMI.**
- **We will then describe a care manager intervention and ask your opinions about what you think of this intervention.**

I want to assure you that there are no right or wrong answers to these questions and that I'm interested in your honest opinions. Do you have any questions or comments before we begin?

I. PHYSICAL HEALTH AND HEALTH CARE NEEDS OF HISPANICS WITH SMI

First, let's talk about what are the physical health needs of Hispanics with serious mental illness.

1. **In your opinion, what are the most frequent physical health problems that Hispanics with SMI face? How are these needs unique to Hispanics? How are they the same across racial and ethnic groups?**
   <u>Probe</u>: What about risk factors for cardiovascular disease, such as smoking, diabetes, poor diet, low physical activity, high blood pressure, and high cholesterol? What about

the co-occurrence of multiple medical issues? [What's unique for Hispanics (health beliefs, stigma? Get at complexity of comorbidities]

2. **What common challenges do Hispanic patients with SMI face in receiving primary care services? How are these challenges different from other racial and ethnic groups?**
   Probe: What is the quality of the primary care services that they receive at these clinics? What about receiving preventive primary care services (e.g., vaccines, screenings, etc)? What can be done to address these challenges? Can you give me an example? [How do Hispanic understand the concept of Prevention?]

3. **What common challenges do Hispanic patients with SMI face engaging in healthy lifestyle behaviors, for example increasing their exercise and eating healthy diets? How are these challenges different from other racial and ethnic groups?**
   Probe: What can be done to address these challenges? Can you give me an example? [What techniques do providers use to facilitate and help patients with their behavior change?]

II. STAKEHOLDERS' VIEWS OF PCARE

Now I'm going to describe a care manager intervention that has been developed to improve the physical health of people with SMI. I will then ask you some questions about what you think of this intervention and how it may be used in public outpatient mental health clinics.

PCARE Description

The Primary Care, Access Referral and Evaluation (PCARE) is a 12-month intervention in which care managers, usually registered nurses, in outpatient mental health clinics help coordinate patients' medical care.

The main duties of the care manager are to:

- **Conduct a standardized and comprehensive health assessment and uses this information to develop an individualized treatment plan to increase the receipt of preventive primary care, and help patients reduce their risk of cardiovascular disease through healthy lifestyle modifications (e.g., increase physical activity, quit smoking, improve diet).**
- **The care manager follows current treatment guidelines for monitoring the physical health of people with SMI, such as regularly monitoring patients' weight, blood pressure, and making sure patient receive appropriate labs (e.g., blood glucose, cholesterol, etc).**

The core elements of PCARE are patient activation and care coordination.

- **Patient activation is promoted through individualized sessions in which the care manager uses motivational interviewing (MI) techniques to motivate patients to** make health behavior changes, and help patients develop individualized action plans to achieve health behavior goals.**

- **To improve care coordination, care mangers act as a bridge between the mental health and primary care systems helping patients connect with primary care services. The care manager also helps patients connect with community programs as needed, like housing services, entitlement programs, among others.**

Do you have any questions about this program?

<u>Appropriateness/Compatibility/Social Norms/Relative Advantage</u>

4. **Does PCARE make sense to you? How so?**
   <u>Probe:</u> How does it address the physical health needs of Hispanic patients? How does it help in the coordination of medical services between outpatient mental health and primary care clinics? How does it help mental health providers and primary care providers address the physical health of Hispanic patients? [<u>How may this program help? Get at examples</u>]

5. **Name three things you like about PCARE. Name three things that you do not like about PCARE.**
   <u>Probe</u>: <u>Disadvantages for patients</u>

6. **What do you think other (mental health clinicians, primary care providers, peer advocates or administrators/policy makers) like yourself may think of PCARE?**
   <u>Probe:</u> Would they support the use of PCARE? Would they use it? Would they refer their patients to PCARE? How so?

7. **What do you think about using social workers as care managers, instead of registered nurse?**
   <u>Probe:</u> What advantages do you see in using social workers? What disadvantages do you see in using social workers? What concerns do you have using social workers in this role? How would other mental health providers (e.g., psychiatrists) react to having social workers take on this role? [<u>What skills would social workers need to be good PCARE managers? What supervision would they need?</u>]

8. **What similarities do you see between PCARE and the existing services at this clinic (or within OMH outpatient clinics serving large numbers of Hispanic patients)?**
   <u>Probe:</u> How does PCARE fit with current services at this clinic (OMH outpatient clinics serving large numbers of Hispanic patients [Policy Maker])? Does it fit with what people do? Would it be relevant to patients? Would it help address their physical health needs? How so? Is it compatible with the clinic's mission?

9. **What advantages, if any, do you see PCARE having over existing services at this clinic (or within OMH outpatient clinics serving large numbers of Hispanic patients [Policy Maker])?**
   Probe: How is PCARE better than existing services? What makes it better? What benefits would it have for patients? Benefits for clinicians? Benefits for the organization?

10. **What changes or modifications would you make to PCARE to make it more useful or helpful for providers? For Hispanic patients?**
    Probe: What would you change? Why? Give me an example.

11. **As you may know, one of the NYS Office of Mental Health's priorities is to improve the physical health of OMH consumers with SMI. In what ways may PCARE help meet these priorities?**
    Probe: Can you give me an example? [How it may be integrated into ongoing initiatives?]

Now, I would like to talk about the feasibility and sustainability of PCARE. By feasibility, I mean the extent that PCARE can be successfully used in public outpatient clinics. By sustainability, I mean the extent that PCARE can be maintained or institutionalized within these public outpatient clinics.

Feasibility and Sustainability

12. **What challenges do you see in using PCARE at this clinic (or within OMH outpatient clinics serving large numbers of Hispanic patients [Policy Maker])?**
    Probe: What challenges would it have for patients? Challenges for clinicians, particularly using social workers? Challenges for the organization? [Why these challenges?]

13. **What current state policies and/or regulations would make the implementation of PCARE challenging?**
    Probe: Can you give me an example? How about the new policies being considered in the Medicaid re-design process? How about the creation of medical homes? How does PCARE fit with these new policies and system changes?

14. **What current state policies/and regulation may facilitate the implementation of PCARE?**
    Probe: Can you give me an example? How about the new policies being considered in the Medicaid re-design process? How about the creation of medical homes? How does PCARE fit with these new policies and system changes?

How about financial issues . . .

15. **How would you bill for the services offered through PCARE? What financial models and/or payment schemes could you use to pay for PCARE services using social workers?**
    Probes: How would you bill for: health assessments and health monitoring using social workers? Individual care manager sessions? Care coordination activities?

16. **Based on your experiences what would facilitate the implementation of PCARE at this clinic (or within OMH outpatient clinics serving large numbers of Hispanic patients [Policy Maker]) so that it could be sustained overtime?**
    Probe: What would help the implementation of PCARE? What resources would you need? What procedures would you use? Can you give me an example?

17. **We are almost done. Here is a pack of cards describing several PCARE attributes that may influence its implementation in public outpatient mental health facilities. (HAND IN PCARE SORTING CARDS). Please read each of them carefully and based on your experience pick the three most important attributes that will convince you to support the implementation of PCARE at this clinic (or in OMH outpatient clinics).**

    Now that you have picked these three attributes can you place them in order of importance starting with the most important attribute, then the second most important, and finally the third most important.

RECORD CHOICES AND THEIR RANK ORDER

	1	2	3	4	5	6	7	8	9	10	11
Choice											
Rank											

Why did you pick these attributes? Tell me about your choices . . .

Do you have anything else to add?

THAN YOU FOR YOUR PARTICIPATION!

End Time: _________________ AM/PM