

**EFFECTIVENESS OF THE SUPPORTIVE HOUSING MODEL FOR THE HOMELESS
POPULATION WITH SEVERE MENTAL ILLNESS IN THE UNITED STATES**

by

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ABSTRACT

Homeless persons diagnosed with severe mental illness represent approximately a quarter of the homeless population in the United States. The risk of deteriorating health is increased the longer a person with severe mental illness remains on the streets. Supportive Housing Model (SHM) was introduced in the early 1990's to address this public health concern. SHM intended to provide affordable permanent housing, with added support provided by case managers, social workers, and various treatment providers to assist residents in accessing services to help lengthen their time away from homelessness. This thesis is a critical literature of peer reviewed articles in PUBMED, Social Work Abstracts, Social Sciences Abstracts and PsyCritiques of randomized controlled trials published between the years 1990 and 2014 in the United States. Systematic and meta-analyses reviews were identified and included, to gain an additional perspective on the effectiveness of the SHM when applied to homeless persons with severe mental illness in the United States.

The adaptation of the SHM with the homeless population diagnosed with severe mental illness does favor improved housing retention, based on the findings of the review. Additionally, consumers have a strong preference for the SHM, even though lifetime substance abuse and minority status are strong predictors of reducing the number of days away from homelessness.

The intensity level of the case management services may favorably alter the housing retention rates for homeless persons with severe mental illness, substance use disorder or both, which may result in additional costs as intensity level is heightened. Future policy decisions for the SHM may need to consider the effects of mental illness, substance abuse, declining incomes, housing affordability, availability of units, intensity level of case management services, and the identification of continuous funding streams to effectively address this public health concern. The low number of randomized controlled trials identified in this literature review limits the conclusions.

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1.0 INTRODUCTION

The homeless population diagnosed with severe mental illness is at a greater risk of deteriorating health while on the streets (Rog & Buckner, 2007). Inadequate treatment for mental disorders increases their risk of being victimized, incarcerated, and further removed from family and healthy social relationships (Lehman, Kernan, DeForge, & Dixon, 1995). Housing helps build the bridge to reduced psychiatric symptoms for the homeless with severe mental illness (Hwang, Tolomiczenko, Kouyoumdjian, & Garner, 2005). Select federal agencies, state and local partners continue to seek ways to collaborate to prevent and reduce homelessness in the United States through the establishment of various housing programs (U.S. Department of Housing and Urban Development, 2013).

The Continuum of Care Model (COCM) is a structured model that recommends the homeless person with severe mental illness “graduate” to the level of permanent supportive housing by requiring prior participation in treatment programs that address mental health symptoms, and abstinence from abusive substances for homeless persons with dual diagnoses, while temporarily residing in an emergency shelter or transitional housing program. The order of the COC components is central to the theory of the model, as shown in Figure 1 under Appendix-Figures at end of article. The flow of street outreach, emergency shelter and transitional housing components allow the consumer time to enhance their skills of self-sufficiency by abstaining from addiction and stabilizing mental health status through treatment

adherence (Kertesz, Crouch, Milby, Cusimano, & Schumacher, 2009). The final component of the COCM is permanent supportive housing or permanent housing. Permanent supportive housing follows the constructs of the Supportive Housing Model (SHM), which is viewed by the Substance Abuse and Mental Health Services Administration (SAMSHA) as the appropriate housing method for adults with mental and substance abuse disorders who are homeless or disabled. The SHM embraces ongoing social services support for the tenants while being housed. The homeless population diagnosed with a severe mental disorder are most likely to be chronically homeless, due to the severity of their illness (SAMHSA, 2011). This literature review seeks to address whether the SHM does effectively address the needs of the United States homeless population with severe mental illness, to what degree does the COCM inform SHM, whether it is the preference of homeless persons with severe mental illness, as well as make inferences of national, state and local policy decisions, and identifies gaps in the literature that may require further research.

2.0 BACKGROUND

The U.S Housing and Urban Development point in time estimate of the homeless population was 610,698 in January 2013. Two thirds of the people were living in emergency shelters or transitional housing programs, while the other third were living unsheltered. Thirty three percent were under the age of 25 (U.S. Department of Housing and Urban Development, 2013). Twenty to twenty-five percent of the homeless population suffers some form of severe mental illness (National Coalition for the Homeless, 2009). The most recently reported genders and age ranges of the homeless population were 62% male, 38% female, 21.8% under the age of 18, 60.5% under the age of 50, and 17.7% over the age of 50. The race and ethnicity were 41.6% White/Non-Hispanic, 37% Black/African-American, 9.7% White/Hispanic, 7.2% multiple races, and 4.5% are other single races. Thirty five percent had chronic substance abuse use. The chronically homeless were 56.6% Black/African American, and 28.7% Hispanic/Latino. Over 60% of the chronic homeless have experienced lifetime mental health problems, and over 80% have experienced lifetime alcohol and/or drug problems (SAMHSA, 2011). The longer the homeless period for the person with severe mental illness, the greater risk of deteriorating physical and mental health while on the street. This deterioration may cause persons to experience increased symptoms of mental illness, which may place them at higher risk of being victims of violence or incarceration (Lehman et al., 1995). Immediate housing options for the homeless population include emergency shelters and transitional housing programs. Permanent

housing programs are offered for the homeless population, which may stipulate a clinical assessment of self-sufficiency for independent living for those suffering with mental illness or substance abuse, prior to being permanently housed. The clinical assessment may include a criterion of abstinence from substance dependency. The provision of immediate housing assistance upon hospital discharge after receiving psychiatric care can be effective in preventing homelessness of persons with severe mental illness for an extended period of time, based on a systematic review of housing and health status interventions. Intensive case management services to assist in locating permanent and transitional housing programs, prior to discharge from the hospital, lengthened the period of time from homelessness for persons with severe mental illness (Fitzpatrick-Lewis et al., 2011). Another example of immediate housing assistance for homeless persons with severe mental illness encompasses the use of rental assistance vouchers upon discharge from a hospital. Use of rental assistance vouchers is limited by current rental housing market conditions. The availability and accessibility of rental properties may not be sufficient to meet the demands of the homeless consumers being served (Austin et al., 2014). Over the years, various policy shifts were made to increase housing accessibility for the homeless population with severe mental illness. One example was the New York-New York Agreement, which was mutually signed by the Mayor and Governor of New York in 1990, to provide funding to create an additional 3,615 supportive housing units for homeless persons with severe mental illness. The collaborative effort of state and local governments in shifting funding resources for the new housing units at the time, exemplified how policy makers could increase the accessibility of housing for the homeless population with mental illness (Houghton, 2011).

A retrospective study of the participants placed in the units showed that the lower level of intensity of supportive housing services lengthened their time away from homelessness. This unexpected finding contradicts recommendations from a systematic review that emphasizes higher level of intensity of supportive housing services as being one of the key components in lengthening time from homelessness for persons with severe mental illness (Fitzpatrick-Lewis et al., 2011). A sample of 2,937 homeless persons with severe mental illness who became residents of the supportive housing units between May 1, 1990 and August 31, 1995 were tracked to identify their housing retention rates. Ethnicities of the sample were 58% Black, 20% White, 6% Hispanic and 6% other. Genders were 67% male and 33% female. Their diagnoses were 50% schizophrenia, 37% bipolar disorder or another mood disorder, with the remaining having another psychotic disorder. Fifty two percent were provided low intensity supportive housing services (n=1,524), 30% high intensity (n=873), and 18% moderate intensity (n=540). The housing retention rates for the whole sample were 75% one year, 64% two years and 50% five years. Fifty six percent of those housed and receiving moderate intensity of supportive housing remained housed for five years. Fifty four percent receiving low intensity remained housed at five years, compared to a significantly lower percentage (37%) who received highest intensity of supportive housing services. Older age and no history of substance abuse were associated with longer tenure, as reported by the authors (Lipton, Siegel, Hannigan, Samuels, & Baker, 2000). Existing substance abuse history of persons with severe mental illness deserves consideration when deciding on the intensity level of case management services for supportive housing programs.

For a homeless person with severe mental illness, the SHM can be effective in preventing and ending future homelessness (Newman, Reschovsky, Kaneda, & Hendrick, 1994; Shern et al.,

1997). The SHM consists of three housing designs, which are single-site, scattered-site and mixed. Single-site residents live in the same building or groups of buildings, while scattered-site residents live independently in apartments throughout the community. Mixed-housing design is a combination of the single and scattered housing designs. The SHM is intended to support the homeless population suffering with severe mental illness, addiction, physical and intellectual disabilities. The added support provided by case managers, social workers and various treatment providers under the SHM is intended to assist residents in accessing recovery supports, income and benefit entitlements from public benefit programs, health care services, and employment services. The accessibility of this assistance is intended to lengthen their time being permanently housed, and support improved self-determination (United States Interagency Council on Homelessness, 2013). Abstinence from substance use is not always required for participation in permanent supportive housing programs, even though service providers are available to assist in accessing recovery supports if requested by the consumer. Housing First is an evidence based practice that requires no preconditions prior to entering a permanent supportive housing program (United States Interagency Council on Homelessness, 2013).

The Corporation for Supportive Housing (CSH) was created in 1991 to provide education, training, consulting, and lending for homeless service providers seeking to adapt the SHM under their service umbrella (Corporation for Supportive Housing, 2014). The CSH conducted research that reported the SHM as being the personal preference of homeless persons with severe mental illness, when given the choice to participate in a permanent housing program. In addition, the study results demonstrated an 80 percent one-year housing retention rate in the SHM (Brousseau, 2009; Martinez & Burt, 2006). SHM determines effectiveness by providing affordable housing with links to supportive services in the local community and access to clinical

staff on-site and off-site, which may provide mental health treatment, physical health education, employment training and peer support. The links of supportive services give the homeless person with severe mental illness the ability to actively participate in daily community life (Kessell, Bhatia, Bamberger, & Kushel, 2006; O'Hara, 2007). Some participants in previous supportive housing programs have experienced increased loneliness and isolation, when residing in independent apartments (Schutt et al., 2009). The risks of experiencing loneliness and isolation for persons with severe mental illness participating in supportive housing programs may influence whether it is their personal preference. The level of accessibility of supportive housing services, as endorsed by the SHM, may play a key role in reducing the risks of loneliness and isolation.

The demand for coordinated supportive services for persons with severe mental illness evolved out of the de-institutionalization era in the early 1960's. At the time, communities were requested to provide clinical support systems outside of the institutional setting (Fakhoury, Murray, Shepherd, & Priebe, 2002). The institutional population in the United States in 1960 was predominantly individuals with chronic conditions, of which 48% were unmarried, 12% were widowed, 13% were divorced and 67% were under the age of 65. The most common chronic conditions included schizophrenia, manic-depressive, and somatic conditions such as senility, paresis, brain tumors, and Huntington's chorea (Grob, 1992). The removal of these patients from the institutions with limited family and social support placed a stronger burden on the community health centers, and increased their risk of being homeless and not receiving adequate care. The 1963 Community Mental Health Center Act's intention was to transfer the intensive medical treatment for persons with severe mental illness from the national and state funded psychiatric institutions to local community health centers, which were to be partially

funded with Federal funds (Ramsey, 2011). Without adequate funding and properly trained staff to support the transition, the strategy became jeopardized.

The compounding factors of the economic and social conditions of the 1970's and the 1980's created an increase in the number of homeless persons, including those diagnosed with a severe mental illness, which placed a strain on the existing system. The challenging social conditions included the loss of low-income housing, increasing income equality, and substantial decline in manufacturing jobs that paid stably despite with minimal education, and stricter eligibility for welfare support. The faces of the increased homeless population included more families and children displaced from their home by these social conditions. Some of these families may have been caretakers for family members suffering with mental illness (Brousseau, 2009; Drake & Latimer, 2012). The social and economic conditions described placed 40 million Americans in the early 1990's at the poverty level, representing 15.8% of the total population (Weinberger, 1999). For poor persons with severe mental illness, the displacement from housing increased their risk of remaining homeless without receiving adequate mental health treatment. In addition, their mental health was further complicated by violence, conflict, trauma and substance abuse, which are common occurrences for the homeless (Rog & Buckner, 2007).

The increased homelessness of this vulnerable population drew the attention of policy makers in the early 1990's, which activated the implementation of the SHM as being a possible solution to the problem of homelessness among adults homelessness with severe mental illness, and among children and families. SAMSHA defines permanent supportive housing as being a direct service for the disabled homeless population that may be struggling with a mental or substance use disorder (Substance Abuse and Mental Health Services Administration, 2010). The model's intention is to provide affordable permanent housing for homeless persons with

mental illness, in addition to those suffering with addiction, physical and intellectual disabilities. The links to supportive services on-site or off-site allow participants to experience the benefits of permanent housing, and hopefully prevent future homelessness of this vulnerable population. At the same time, the Continuum of Care Model (COCM) was being applied to support the general homeless population, with an emphasis on providing continual housing support in order to reach self-sufficiency, and prevent a return to homelessness. The final component of the COCM is permanent housing. The COCM was preceded by the passing of the McKinney-Vento Homeless Assistance Act in 1987, which provided significant federal funding for homeless programs (Y.-L. I. Wong, Park, & Nemon, 2006). The federal funding arrangement projected that the select homeless population participating in the funded programs would progress through a structured model beginning with outreach activities, and following by graduating through the shelter and transitional housing programs, and eventually being placed in permanent housing programs. The progression would be based on the consumer's ability to be self-sufficient (Kertesz et al., 2009).

Once clinical staff assesses the consumer as being self-sufficient, approval is made to graduate the person to permanent housing. Various housing program providers made the decision to alter the order of the COCM for some consumers, depending on the clinical assessment, by allowing the consumer to move directly from street outreach or emergency shelter to permanent supportive housing. This follows the path of the Housing First Model (HFM). The HFM does not require preconditions to be met before being permanently housed (Kertesz et al., 2009; United States Interagency Council on Homelessness, 2013). Consumers with mental illness and addiction perceived the COCM pathway as creating barriers towards achieving permanent housing by requiring adherence to treatment prior to being permanently housed. In a two-year study that randomly assigned 225 participants to either a controlled setting

which required treatment and sobriety before receiving permanent housing or an experimental condition which provided permanent housing without the treatment prerequisites, interviews conducted every six months found that participants in the HF program were able to obtain and maintain housing without compromising psychiatric or substance abuse symptoms ($p < .001$) (Tsemberis, Gulcur, & Nakae, 2004).

The SHM is the most actively used and relied upon housing model for persons with severe mental illness (O'Hara, 2007). The core components of the model are the integration of inexpensive and adequate housing, and adaptable and individualized mental health support services (Walker & Seasons, 2002). The model empowers the person by seeking their input on the level of professional services they feel is needed to maintain independence (Carling, 1993). The allowance of choice in treatment decisions and the immediate access to affordable permanent housing has shown to increase the retention rate of stable housing for persons dually diagnosed with a substance use disorder and severe mental illness receiving services under the SHM. The practice is the harm-reduction approach, which does not require abstinence from substance use prior to being permanently housed (Tsemberis et al., 2004). The SHM allows the homeless person with severe mental illness to experience independent living, in contrast to the intervention method of community group homes. At the same time, the SHM provides an opportunity for persons with severe mental illness to independently address some of their physical disorders, which tend to be more prevalent. The additional physical disorders may include HIV, Hepatitis C, Tuberculosis and chronic obstructive pulmonary disease to name a few (De Hert et al., 2011). The support systems provided by the SHM may increase the odds the homeless person with severe mental illness will utilize the available healthcare resources to address their physical disorders, but it is dependent on their choice. The same may be true for

community group homes that serve persons with severe mental illness, which normally have on-site support systems to create a connection to healthcare resources that address physical disorders.

The Housing First Model (HFM) is a highly prevalent evidence based practice used by supportive housing providers. The HFM does not adhere to the COCM in that it circumvents the transitional housing graduation requirements (Kertesz et al., 2009). The consumer can directly receive access to permanent supportive housing from street outreach or the emergency shelter. The HFM includes the option of receiving support services from the Assertive Community Treatment (ACT) team, which is a multidisciplinary team providing case management services to persons with severe mental illness. The ACT model is regarded as being effective in providing case management services to persons with severe mental illness based on a 30-month experimental evaluation. A total of 121 participants were randomly assigned upon discharge from a psychiatric hospital to receive ACT (n=59) or usual after care treatment (n=62) for 30 months. The experimental group received intensive community support led by a mental health professional, an occupational or recreation therapist, a nurse and several paraprofessionals staff advocates who were on call in the evenings and weekends. The control group received conventional aftercare treatment coordinated by a case manager, with availability limited to daylight hours. The results of the study found that the ACT group participants, when compared to the control group participants, were less unemployed (79% vs. 93%, $p < .01$), living alone (36% vs. 26%, $p < .01$), and experienced a reduced total number of days of inpatient care (30.52 vs. 178.39, $p < .001$) at the end of 30 months (Mowbray, Collins, Plum, Masterton, & Mulder, 1997).

The allowance of choice in receipt of assertive case managements, again, supports empowerment for homeless persons with severe mental illness. The HFM continues to predominantly serve persons with a dual diagnosis of severe mental illness and substance use disorder. The HFM provides permanent housing without the requirements of participating in a treatment program, or remaining abstinent from substance abuse. The HFM, as opposed to the linear model of abstinence and treatment requirements before accessing permanent housing, is viewed as an alternative for homeless persons with addiction who have been unsuccessful in remaining abstinent or completing treatment (Kertesz et al., 2009; Watson, Orwat, Wagner, Shuman, & Tolliver, 2013). The approach is client centered by not disallowing a person to access permanent housing due to their failure to remain abstinent from addiction. The estimated percentage of homeless adults accessing permanent supportive housing services with a substance use disorder, mental illness disorder, or both is approximately 50% (U.S. Department of Housing and Urban Development, 2010). Housing the homeless population with concurrent disorders has been associated with decreased substance use and increased healthcare service utilization resulting in improved psychiatric outcomes (Fitzpatrick-Lewis et al., 2011). At the same time, a comparative review of five randomized controlled trials in 4 major cities in the United States, otherwise known as the McKinney Projects, found that those with concurring substance use disorders that lived in an independent housing arrangement did not lessen their substance use. But the lessening of substance use was more pronounced for those who were receiving more enhanced services that involved continued contact and discussion on the health benefits of reducing substance use (Schutt et al., 2009). For housing first program participants, the practice of clinicians conducting individual assessments of life skills in the early stages of the implementation of the program, have demonstrated an increased housing retention rate and

improved mental health outcomes of homeless persons with severe mental illness. By addressing life skills in the early stages, participants tend to become more engaged in their community which reduces the risk of isolation (Stergiopoulos et al., 2014).

The United States homeless population with severe mental illness represents 20-25% of the homeless population, and is most likely to be chronically homeless due to the severity of their mental illness. The SHM is viewed as the appropriate model for permanently housing homeless persons with severe mental illness (National Coalition for the Homeless, 2009; SAMHSA, 2011). The availability of supportive services while permanently housed enhances the prospect of persons with severe mental illness of remaining housed for a longer period of time (United States Interagency Council on Homelessness, 2013). The focus of the this literature review was to evaluate the strength of the evidence that supports the effectiveness of the SHM in the United States, to assess whether it is the preference of the homeless population with severe mental illness, to describe implications of public policy decisions, and to identify gaps in the literature that may require further research.

3.0 METHODS

A critical literature review of peer reviewed published articles in PUBMED, Social Work Abstracts, Social Sciences Abstracts and PsycCRITIQUES that met the following inclusion criteria: supportive housing model, permanent housing model, homeless persons with severe mental illness, chronically homeless persons with severe mental illness, homeless persons with severe mental disorder, chronically homeless persons with severe mental disorder. Preference was given to randomized controlled trials with a minimum of 100 participants and a study period greater than 1 year, to gain a more longitudinal perspective on housing stability. Systematic and meta-analyses reviews were identified and included, to gain an additional perspective on the effectiveness of the SHM when applied to homeless persons with severe mental illness in the United States.

The review was limited to articles that were published between the years 1990 and 2014 in the United States, which supports the historical emergence of the SHM in addressing homeless persons with severe mental illness. Excluded were randomized controlled trials that omitted persons with nonpsychotic disorders, since psychotic disorders are most common among the severely mentally ill homeless population. In addition, studies were excluded that focused on abstinence contingent models of housing only, since they do not support the definition of the SHM.

4.0 RESULTS

Supportive housing interventions aimed to address the homelessness of persons with serious mental illness vary in context. The identified randomized controlled trials reviewed various mechanisms of the SHM and the influence they had on the housing retention rates of the homeless population with severe mental illness in the United States. They included a varied combination of immediate housing assistance, intensity level of case management services, comparison to group housing, hospitalization outcomes, and the allowance of consumer choice in housing services. The list of randomized clinical trials reviewed is listed in Table 1, as well as four demographic characteristics of the study participants in Table 2. Both tables are shown under Appendix Tables at end of article.

4.1 HOUSING RETENTION RATES

The housing retention rates of the SHM are a key indicator of whether the SHM is effective in preventing future homelessness for persons with severe mental illness, since the ultimate goal of the SHM is to extend the number of days away from future homelessness. A randomized controlled trial conducted in San Diego County applied housing tenure as an outcome measurement for homeless persons with severe mental illness. The study randomly assigned (n=361) homeless persons with severe mental illness into four separate groups (n=90-

91). The groups were equally divided with various supports: (1) Section 8 voucher with intensive case management; (2) Section 8 vouchers with flexible case management; (3) no voucher with intensive case management and (4) no voucher with flexible case management. Intensive case managers had smaller caseloads than traditional case managers (22 versus 40 maximum clients), and were available 24 hours a day, seven days a week versus 8 hours a day, five days a week. The client was not required to maintain a minimum number of contacts with assigned case manager. The genders of the participants were 66.8% male and 33.2% female. Ethnicities were 62.8% White, 19.7% Black, 12.5% Hispanic and Other 5.0%. The majority of the participants were between the ages of 30-49 (65.7%). The diagnoses at the time of entry were 55.4% schizophrenia, 28.3% major depression, and 16.3% bipolar disorder. The participants were followed for two years, and the study found that Section 8 vouchers were 4.87 times more likely to achieve a higher level of stable independent housing ($p < .05$). The intensity level of case management services did not influence the improved housing retention rate. The main driver towards a longer tenure in stable housing was the Section 8 voucher. The study also sought to determine the relationship of housing tenure and the demographic characteristics of the population. Women were 2.41 times more likely to achieve consistent housing compared to men ($p < .05$). The age, ethnicity and diagnosis of the participants were not significant in achieving housing tenure. Clients entering the study with no drug use history to report were 2.66 times more likely to achieve a higher housing retention rate, and clients entering the study with no alcohol use history to report were 2.04 times more likely to higher housing retention rate ($p < .05$) (Hurlburt, Hough, & Wood, 1996). The Section 8 voucher may be an effective preventive measure in removing a homeless person with severe mental illness for a longer period of time, with the accessibility of independent housing with or without intensive case management. The

risk is whether the existing inventory of Section 8 rental housing within the assigned market can support the demand. The intensity level of case management services may have impacted housing retention rates if there was a minimum client contact requirement for each case manager versus allowing flexibility from the client in accessing services. In addition, the required minimum number of contacts may have improved the housing retention rates for those that entered the study with active alcohol or drug use by staying abreast of usage and offering recovery support in a timely manner.

The added support provided by case managers, social workers and various treatment providers under the SHM is intended to lengthen their time being permanently housed (United States Interagency Council on Homelessness, 2013). A systematic review of 45 interventions seeking to increase access to healthcare for homeless individuals found that assertive case management was effective in improving psychiatric symptoms of the homeless population (Hwang et al., 2005).

Yet, the inclusion of assertive case management with immediate housing assistance may not be the preference of the consumer. A randomly assigned Housing First study (n=206) conducted in New York from 1997 to 2001 with homeless persons with dual diagnoses followed individuals over a 24-month period to address the longitudinal effects of the HFM versus the COCM. The experimental group (n=87) participated in the HFM and the control group (n=119) participated in the COCM. The original sample size was 225, but was reduced by 19 participants due to administrative problems of erroneously assigning 7 to the HFM and 12 to the COCM. Genders of the participants were 79% male and 21% female. Ethnicities were 41% Black, 27% White, 18% Mixed, and 15% Hispanic. Fifty-nine percent of the participants were 31-50 years of age. The diagnoses at the time of entry were 53% psychotic disorder, 14% depressed mood,

14% bipolar disorder, 14% unknown, and 5% other. The participants were blindly interviewed every 6 months to create a follow-back calendar of their whereabouts for the prior six months, and an estimated calculation of the proportion of the time spent homeless and the proportion of time spent stably housed was assessed (New Hampshire Dartmouth Psychiatric Research Center, 1995). The interview was a modified version of Consumer Choice, a 16-item, 5-point Likert scale developed by a prior study (Srebnik, Livingston, Gordon, & King, 1995). The questions allowed participants to assess their perceptions of having a choice at baseline and continued choices in subsequent decisions in regards to housing location, neighbors, housemates, and visitors. The data showed that continuous contact with the HFM experimental group allowed an 80% housing retention rate for the dually diagnosed and chronically homeless group, contradicting the COCM which assumes that the majority of homeless persons with severe mental illness are not ready to be permanently housed until treatment is provided to stabilize their medical condition. The allowance of choice ($p < .001$) and residential stability ($p < .001$) based on ANOVA results was significant. There was no significant difference in psychiatric symptoms, substance use, and substance abuse treatment utilization between the two groups throughout the time period of the study, which indicated that the HFM does not increase the risk that a person with severe mental illness will experience increased psychiatric symptoms and increased substance use when compared to the COCM (Tsemberis et al., 2004). Another view is that the success of the New York Housing First model, when applied to homeless persons with severe mental illness, was based solely on the consumers having a choice in their mental health treatment (Kertesz et al., 2009).

The U.S. Department of Housing and Urban Development (HUD) and the U.S. Department of Veterans Affairs (VA) established the integration of housing and clinical services

under the SHM in 1992, which was recently revived in 2008 to support the increased homelessness of returning veterans of the Iraq and Afghanistan wars. The program was titled the HUD-VA Supported Housing (HUD-VASH) program (Donovan, 2012). A randomly controlled trial with participating homeless veterans with psychiatric and/or substance use disorders (N=460) hypothesized whether intensive case management combined with supported housing subsidies would improve the housing and mental health outcomes, as well as improved social adjustment for this sub population. The remaining measurements of the study were community adjustment for the participants. A total of 3489 veterans were contacted at 4 national sites between June 1, 1992 and June 31, 1995 through intake forms. A total of 460 gave written informed consent to participate in the study. The 3-year study randomly assigned each participant into 3 groups, which were (1) HUD-VASH program which included case management plus Section 8 vouchers (n=182), (2) intensive case management without special access to Section 8 vouchers (n=90), or (3) standard VA homeless services (n=188). Baseline and follow-up assessments were completed every 3 months by trained VASH clinicians, as well as quarterly structured summaries of case management services. The study took place at VA medical centers in San Francisco, San Diego, New Orleans and Cleveland. Major psychiatric disorder diagnoses were required to participate in the study. These included schizophrenia, bipolar disorder, major affective disorder or posttraumatic stress disorder. Additionally, diagnoses for alcohol or drug dependency or both were collected from the participants. The personal characteristics of the participants were average age of 42, 95.8% male, and 64% Black/African American. The complete percentage breakdowns of the remaining characteristics were unavailable in the journal article. The HUD-VASH participants remained housed for a longer number of days compared to the participants receiving standard VA care (59.4 vs. 47.6

days, $p < .001$), and compared to the case management only group of participants (59.4 days vs. 50.8 days, $p < .004$). The HUD-VASH participants had fewer days homeless than the standard treatment (13.1 vs. 20.5 days, $p < .001$), and compared to the case management only group (13.1 vs. 20.3 days, $p < .004$). The higher housing retention rates exemplified that intensive case management with a Section 8 voucher improved the housing of veterans with severe mental illness, with a higher costs of services compared to standard VA services and case management only services. The mental health statuses and community adjustments of the participants were not significantly different in the three groups at the end of the 3-study period. The costs of the HUD-VASH program were 15% more costly than the standard CM care and standard VA care. The results of the study do provide significant data on how the SHM extends the housing retention rates of the participants, but it comes with a cost. Even though the community adjustment and mental health status measurements were not significant at the end of the study, the HUD-VASH participants reported a higher satisfaction with their housing and experienced less housing problems, which may have been due to the intensive case management services (Rosenheck, Kaspro, Frisman, & Liu-Mares, 2003).

Housing tenure was not significant when used as a measurement in a randomized controlled study, which assigned participants to an independent or group housing groups, screened from a homeless shelter. Each participant was provided intensive case management services over the 18-month study period. The authors hypothesized that participants housed in staffed group homes would stay housed for a longer period of time compared to participants living independently. The participants ($n=118$) were recruited from homeless shelters in Boston and all were diagnosed with a severe mental disorder. The primary diagnoses were 45% schizophrenia, 17% schizoaffective disorder, 14% bipolar disorder, and 13% major depressive

disorder. They were randomly assigned to group housing (n=63) and independent apartments (n=55). The genders of the participants were 72% male and 38% female, with an average age of 38. Forty-one percent of the participants were Black/African American. Detailed breakdown of the age and race/ethnicities were not available in the journal article. The independent apartment dwellers were offered a voluntary weekly group without any on-site programming and clinical staffing. All participants were provided with an intensive case manager whom they met with at least once a week for counseling, assistance with daily living needs, and referrals to outside providers when requested by the participants. They were followed for 18 months with monthly measurements collected weekly by the intensive case managers. The measurements were self-reports that helped create a housing status timeline that detailed each participant's time spent in either community housing programs, shelters, institutional settings and time on the streets. The institutional settings included hospitals, jails, and detoxification units. At the end of the study period, 19.7% of group home participants experienced a mean number of 43 days of homelessness compared to 35.3% of the independent housing participants who experienced a mean number of 43 days of homelessness ($p < .05$). The predictor variables for increased number of days being homeless were minority status ($p < .05$), lifetime substance abuse ($p < .01$), consumer preference for independent living ($p < .05$), and clinicians' recommendation of group living for the consumer ($p < .001$). Housing tenure was not significant between the two groups. At the end of the study, 76% of each group's participants were housed in some form of community setting. Lifetime substance use disorder was a strong predictor of the number of days being homeless for the participants. Recommendation by the study was to encourage appropriate treatment options prior to entrance into permanent supportive housing (Goldfinger et al., 1999). This recommendation supports the COCM requirement of abstinence from substance

abuse among the homeless person, before considering placement into a permanent supportive housing unit (Kertesz et al., 2009). At the same time, allowing choice for a person with a substance use disorder is recognized as a motivating factor in their continued engagement and willingness to participate in the recovery process (O'Connell, Rosenheck, Kaspro, & Frisman, 2006). This creates a delicate balance when permanently housing dually diagnosed homeless persons with a substance use disorder, since the allowance of choice for independent housing increased the number of days being homeless.

A randomized controlled trial to measure the housing and hospitalization outcomes of homeless persons with severe mental illness also included an additional measurement of comparable cost outcomes between the HFM and COCM. The participants (n=225) were recruited from the streets and the hospitals and randomly assigned to the HFM experimental group (n=99) and the COCM control group (n=126) (Gulcur, Stefancic, Shinn, Tsemberis, & Fischer, 2003). The same sample was used in a later randomized controlled trial, mentioned above, which addressed housing tenure, consumer choice, substance abuse treatment utilization and psychiatric symptoms of homeless persons with severe mental illness randomly placed in the HFM and COCM groups (Tsemberis et al., 2004). The genders of the participants were 76.9% male and 23.1% female. The race/ethnicities of the participants were 40% Black, 28% White, 17.3 Mixed and 14.7 Hispanic. The characteristics were slightly similar, except this study included the 19 participants that were excluded due to some administrative problems of erroneously placing participants in the wrong group. The age ranges of the participants were 57.8% 31-50, 23.1 % above the age of 51, and 19.1% between the ages of 18 and 30. The diagnoses of the participants were 53.8% psychosis, 14.2 % major depression, 14.2% bipolar disorder, 14.2 unknown and 4.4% other. After completion of the baseline interviews and random

assignment, the participants were interviewed every 6 months for up to 24 months, as well as 5-minute phone calls monthly to remain contact. The follow-up rates were 96% at 6 months, 94% at 12 months, 92% at 18 months, and 90% at 24 months. Residential location was obtained at each interview, noting the days spent homeless and days spent in psychiatric institutions using a 6-month residential follow-back calendar (New Hampshire Dartmouth Psychiatric Research Center, 1995). The cost assessment was based on the number of days on either the street or in the psychiatric institution. The per-day cost per person could not accurately be assessed for the days on the street (e.g. emergency room services, police costs) and was removed from the denominator. The repeated ANOVA results showed there was a significant effect of program assignment and proportion of time spent homeless with the control group spending more time homeless than the experimental group overall ($F(1,195) = 19.8, p < 0.001$). The control group (COCM) spent more time in the hospitals than the experimental group ($F(1, 195) = 7.4, p < 0.01$) during the two-year study period. This additional time spent hospitalized by the control group incurred higher costs ($F(1, 173) = 6.1, p < 0.05$). The results provided significance of the HFM over the COCM in reducing the number of days homeless over a 24-month period for the severely mentally ill, as well as reduced hospitalizations for the participants in the HFM which resulted in lower costs (Gulcur et al., 2003).

The San Francisco Direct Access to Housing Program utilized the SHM (Trotz, 2005). A retrospective cohort study ($n=249$) of the program compared the number of chronically homeless adults with 45.7 % ($n=114$) being placed in supportive housing over a four-year period with those given usual care ($n=135$). The initial purpose of the study was to compare the number of times participants utilized acute health services (i.e. emergency room visits), accessed inpatient medical hospitalizations and the ambulatory care visits. There was no significant difference in

the number of times the defined services were accessed between the groups. The unexpected result was that 73.5 % of the supported housing participants remained housed during the two-year study period (Kessell et al., 2006). The limitation of the two-year housing retention rate of 73.5 % and its applicability towards persons with severe mental illness in the supportive housing group is unknown, since no data were provided on the percentage of participants who were diagnosed with severe mental illness upon entry. However, 44.6 % of the intervention group participants did utilize community mental health services during the two-year study period, which is comparable to the estimated percentage of homeless adults nationally accessing permanent housing services with a substance use disorder, mental illness disorder, or both which is approximately 50% (U.S. Department of Housing and Urban Development, 2010).

4.2 CONSUMER PREFERENCE FOR THE SHM

Consumer preference for the SHM is consistently positive. A qualitative study was conducted with the subsample (n=80) of the experimental group (Gulcur et al., 2003), detailed above, to explore the response to housing and experience of community integration of formerly homeless persons with severe mental illness. Those living independently in apartments, and those living in a staffed setting of the HFM divided the qualitative findings of the study. The overall reaction to housing was more positive for the independently housed (80.8%, 69.6%), but felt safety and security did not improve due to being housed (69.3%, 69.3%) compared to the participants housed in a staffed setting. They also had a harder time fitting in with the community on their own (41.2%, 31.8%). The positivity was based on responses that being housed gave them “dignity” and a feeling of “normal” (Yanos, Barrow, & Tsemberis, 2004). To

support a smoother transition into the community, Critical Time Intervention (CTI) may be an additional option for those who were immediately housed upon discharge from the hospital. CTI has proven to be effective in randomly controlled trial involving patients being released from an inpatient psychiatric treatment facility ($p < .001$). CTI provides specialized support immediately from discharge by assigning a CTI worker to jointly participate in face-to-face interactions with community providers to adequately set up long-term support systems for the homeless person with severe mental illness (Herman et al., 2011). The intended actions of CTI may allow the supportive housing participants to expand their social networks beyond their peers they have met through existing programs, and mental health professionals. This small social network tends to be the norm for the homeless person with severe mental illness (Y. L. Wong, Matejkowski, & Lee, 2011).

Another randomized controlled trial directly addressed the impact of choice of services for the homeless population with mental illness. The authors hypothesized that by allowing more choice in treatment participants would display decreased psychiatric symptoms due to a greater sense of control. The participants ($n=197$) were randomly assigned to either a HFM ($n=93$) or treatment as usual under the guidelines of the COCM ($n=104$). They were recruited over a 13-month period either directly from the streets or a state psychiatric hospital and diagnosed with an Axis I diagnosis based on the Diagnostic and Statistical Manual of Mental Disorders (DSM) Fourth Edition (American Psychiatric Association, 2014). The genders of the participants were 75.6% male and 24.4% female. Race/ethnicities were 38.1% Black, 29.4% White, 18.8% Mixed and 13.7% Hispanic. The age ranges were 58.8% 31-50, 21.9% over 50, and 16.8% 18-30. The diagnoses of the participants were 53.8% psychotic disorder, 19.8% other disorder, 13.2% depressive disorder, and 13.2% bipolar disorder. Face-to-face interviews were

conducted every 6 months following the baseline with participants. Participant retention rate was 88% at 6 months, 87% at 12 months, 84% at 18 months, 78% at 24 months, 82% at 30 months, and 83% at 36 months. The participating HF agency engaged with the experimental group, and the two social service providers engaged with the control group in maintaining contact, which assisted the interviewers. The Residential Follow-Back Calendar (New Hampshire Dartmouth Psychiatric Research Center, 1995) was used to calculate the living condition in between interview contacts. The interview was a modified version of Consumer Choice, a 16-item, 5-point Likert scale (Srebnik et al., 1995), which assessed their perceived level of choice for housing services, location of housing, and how they spent their day. The Self-Mastery measurements of each participant were taken from a 7-item scale, 5-point Likert scale developed from a prior study, which defined Self-Mastery as the level of personal control over the influences of one's own life (Pearlin & Schooler, 1978). The Psychiatric Symptoms were measured from the Colorado Symptom Index (Conrad et al., 2001). The longitudinal study found that supported housing participants had more days housed ($p < .01$) and both groups had reduced psychiatric symptoms ($p < .002$) by the end of the study period. The relationship of the level of personal control applied by each participant to reduce psychiatric symptoms was undetermined. The allowance of perceived choice of the housing services had a significant effect for the HFM participants in reducing the number of days being homeless ($p < .006$) (Greenwood, Schaefer-McDaniel, Winkel, & Tsemberis, 2005). The findings of this three-year randomized controlled trial do support the notion that housing first increases housing retention rates based on a perception of having a perceived choice in their housing and treatment. The perceived allowance of choice (Greenwood et al., 2005; Tsemberis et al., 2004), and the preference for the SHM (Goldfinger & Schutt, 1996; Rogers, Danley, Anthony, Martin, &

Walsh, 1994) homeless consumers with severe mental illness appears to empower this stigmatized population.

4.3 COCM'S INFLUENCE ON THE SHM

The intention of the COCM was to provide a framework for housing the homeless population with severe mental illness. The progression was to be based on the consumer's ability to be self-sufficient, prior to being placed in permanent supportive housing (Kertesz et al., 2009). The SHM was designed to include access to social service supports for homeless persons with severe mental illness while being permanently housed, which may or may not include a requirement to be self sufficient prior to being permanently housed. The added social supports includes assistance in helping residents access recovery and health care services to manage their physical and mental health (United States Interagency Council on Homelessness, 2013). The inclusion of recovery and health care services of the SHM demonstrates a strong influence of the COCM, but it is not required that consumers access these services to remain housed under the SHM. For consumers that are dually diagnosed, the COCM is perceived to be a barrier by requiring mental health treatment and drug and alcohol abstinence before being permanently housed. The allowance of perceived choice of whether or not to participate in treatment prior to being permanently housed, resulted in higher housing retention rates for persons with dual diagnoses followed over a 2-year period in a randomized controlled trial ($p < .001$) (Tsemberis et al., 2004). By not having a choice, a person struggling with substance abuse can easily return to homelessness if unable to abstain from substances. But caution is warranted, since lifetime substance abuse has shown to be a strong predictor variable in increasing the number of days

homeless for the severely mentally ill independently housed ($p < .01$, $p < .05$) (Goldfinger et al., 1999; Hurlburt et al., 1996).

The COCM's requirement of abstinence from drugs and alcohol before being permanently housed deserves consideration for the SHM or HFM to prevent homelessness for persons with a lifetime substance use disorder. Consideration to assess and address each individual's life skills immediately upon entry or invited into a supportive housing program may help determine the requirement for drug and alcohol abstinence to remain in the program. Individualized assessments at the early stages of providing housing services for the homeless population with severe mental illness has been reported as an influence in increasing housing retention and mental health outcomes (Stergiopoulos et al., 2014). Additional consideration to require Assertive Community Treatment (ACT) for each participant in the SHM may be warranted, since it has shown to increase the number of days living independently ($p < .01$) and reduce the number of inpatient visits over a 30 month period in a randomized controlled trial of 121 participants immediately discharged from a psychiatric hospital (Mowbray et al., 1997).

4.4 SHM AND FUTURE POLICY CONSIDERATIONS

Fifty percent of the homeless adults accessing permanent housing services are diagnosed with a mental health or substance use disorder or both (U.S. Department of Housing and Urban Development, 2010). At the same time, poverty rates in the U.S. continue to be on an upward trend since 1999. As of 2012, a total of 46,496,000 individuals were living below the poverty level, which represents 15% of the total U.S. population based on the most recent U.S. Census

Data (DeNava-Walt, Proctor, & Smith, 2013). The intention of the SHM was to provide affordable and adequate permanent housing for homeless persons with mental illness, in addition to those suffering with addiction, physical and intellectual disabilities (SAMHSA, 2011; United States Interagency Council on Homelessness, 2013). Affordability becomes a greater challenge when incomes continue to decrease for a large percentage of the population. In addition, individualized supportive services are another important component of the SHM, which lengthens the time away from homelessness for consumers (United States Interagency Council on Homelessness, 2013; Walker & Seasons, 2002).

The challenge for policy makers has been and continues to be the long term funding requirements for the SHM (Brousseau, 2009). The funding for new programs will continue to be tested as the projected homeless population will increase, based on the increasing rates of poverty in the United States and the continued loss of low income housing. The collaboration of federal agencies, state and local governments deserves attention to increase the availability of supportive housing programs (Houghton, 2011). Long term funding of programs are boosted when participants' disability benefits are intact to help cover the monthly costs of the supportive housing programs (Kertesz et al., 2009). The requirement of a monthly income for participation in a supportive housing program should continue to be considered for this reason, and because the majority of persons with severely mental illness are eligible for disability benefits (Sullivan, Burnam, Koegel, & Hollenberg, 2000). Another strong consideration for future policy includes a higher intensity level of case management for the supportive housing programs, since most studies found that housing retention rates are significantly related (Lipton et al., 2000; United States Interagency Council on Homelessness, 2013). Supportive housing costs continue to outweigh the costs of emergency room visits, hospitalizations, shelters, jails and other public

services used by the homeless population on an annual basis (United States Interagency Council on Homelessness, 2013). The average annual costs for the homeless person with severe mental illness is \$40,000 per year, compared to \$25,000 for a supportive housing program. (Culhane, Metreaux, & Hadley, 2002). Consideration of the comparison costs of being homeless versus housed is strongly encouraged for future policy.

4.5 GAPS IN THE LITERATURE

The low number of randomized controlled trials conducted in the United States with the homeless population diagnosed with a severe mental illness, and the application of the SHM is evident based on the search results. Additionally, the randomized controlled trials were uneven in regards to gender representation of the homeless population. The current representation of the homeless population is 62% male and 38% female (SAMHSA, 2011). The average percentages for the studies reviewed were 77.7% male and 22.3% female. The underrepresentation of females may be due to the methods that were used to recruit participants, since women and children normally are sheltered separately from men. Future research may want to address underrepresentation to further understand how the role of gender relates to housing retention rates and reduced days of homelessness of the SHM. The underrepresentation of various age groups, race/ethnicities, sexual orientations, and mental health diagnoses is inconclusive, since the full breakdown was unavailable for all studies. Even though the race/ethnicities are inconclusive of the studies selected, minority representation of the overall homeless population continues to increase. And several of the studies reported minorities experiencing lower housing retention rates and days homeless, when compared to Whites (Rosenheck et al., 2003; Tsemberis

et al., 2004). Consideration for further research of minorities is suggested. The majority of the studies took place in large metropolitan areas of the United States. Future research is recommended to include rural areas.

5.0 DISCUSSION

Permanent supportive housing provides the homeless population with severe mental illness a possibility of removing themselves from homelessness and an ability to integrate themselves into the community. The components of having full rights of tenancy, freedom of choice in housing preference, unrestricted service requirements, affordability and independent living in scattered sites are the objectives of the model (Substance Abuse and Mental Health Services Administration, 2010). The effectiveness of the SHM in servicing the homeless population with severe mental illness has shown to extend the housing retention rates (Brousseau, 2009; Carling, 1993; Martinez & Burt, 2006; Rosenheck et al., 2003). The extended housing retention rates may continue to reduce the number of homeless persons with severe mental illness receiving services in shelters and transitional housing programs and those that remain on the streets at any given time, which is currently 610,698 as of January 2013 (U.S. Department of Housing and Urban Development, 2013). The high housing retention rates seem to be the central constant in the effectiveness of the SHM, by extending the length of time from relapsing to homelessness for the severely mentally ill. In addition, a 30 percent drop in the chronically homeless was reported by the U.S. Department of Housing and Urban Development between 2005 and 2007 at the same time there was a rapid increase in the supportive housing inventory. This would support the effectiveness of the SHM as well. But even though the data overlaps during the specified time period, the association could not be validated (Brousseau,

2009). Further research regarding association of this data may be warranted to continue to validate the effectiveness of the SHM in reducing the number of the chronically homeless population in the United States.

The housing retention rates of the homeless population with severe mental illness were extended by the use of immediate rental assistance (i.e. Section 8 vouchers) upon discharge after completion of an intake at four selected VA clinics in a randomly controlled trial, which followed the constructs of the HFM. The VA study included intensive case management for a three-year period (Rosenheck et al., 2003). The intensive case management did incur higher costs to produce the results in the three-year study, but intensive case management does support an improvement in psychiatric symptoms of the homeless population with severe mental illness based on a systematic review (Hwang et al., 2005). Except a two-year study found that intensive case management did not influence improved housing retention rates, which defined intensive case management as being 24 hour accessibility 7 days a week versus an 8 hour availability five days a week (Hurlburt et al., 1996). Even though there may be a higher costs associated with intensive case management services, the combination of intensive case management for a longer period of time and immediate access to independent supportive housing may need to be considered to offset the increasing costs of the chronic homelessness of persons with severe mental illness (National Alliance to End Homelessness, 2014).

Improved housing retention rates, under the constructs of the HFM, were evident by allowing choice of each participant in deciding their need or preference for services or treatment, as well as maintaining continuous personal contact with each participant for a 24-month period (Gulcur et al., 2003; Tsemberis et al., 2004). The improved permanent housing retention rates based on the constructs of the HFM, and the allowance of choice in treatment decisions and

continuous personal contact, questions whether the COCM which requires graduation through the emergency shelter or transitional programs should be applicable for the majority of the homeless population with severe mental illness. Specifically, since consumers that are dually diagnosed with mental illness and addiction perceive the COC model as creating barriers towards permanent housing by requiring adherence to treatment (Tsemberis et al., 2004). But lifetime substance abuse has been shown to be a variance in reducing the housing retention rates for those that are dually diagnosed with a severe mental illness and a substance abuse disorder and are housed in independent living programs (Goldfinger et al., 1999). Current research demonstrates that intensive clinical assessments of each participant's life skills in the early stages of a HF program support increased housing retention rates and improved mental health outcomes for the severely mentally ill homeless populations (Stergiopoulos et al., 2014). The inclusion of intensive clinical assessment of a participant's life skills in the early stages of HF programs may be warranted for those who have a lifetime substance use disorder. The immediate identification of their level of life skill capabilities, with a provision of immediate training, may limit the stressors of living independently for those with dually diagnoses of substance use and severe mental disorders.

The allowance for individuals to make choices in their treatment decisions supports the empowerment of homeless persons with severe mental illness. Independent living provides a less noticeable integration into the local communities compared with housing in a group setting, and seems to be the preference of persons with severe mental illness, except the risk of safety and security still exists for the participants based on a qualitative study (Yanos et al., 2004). The level of safety and security could be due to the location of the housing units, which may require more effort of supportive housing providers to advocate for relocation into local communities

with lower crime rates. The ability of a homeless person with severe mental illness to have choices in their housing location under the SHM can extend their housing retention rates, and assist in the reduction of their psychiatric symptoms over time (Greenwood et al., 2005; Tsemberis et al., 2004), which may reduce their risk of being chronically homeless (National Alliance to End Homelessness, 2014). The majority of the homeless persons with severe mental illness prefer the SHM (Goldfinger & Schutt, 1996; Rogers et al., 1994). Even though the majority prefers the SHM, the number of available supportive housing units in the United States needs to meet the demand (Brousseau, 2009). The current estimate is a 50,000-unit gap in the number of supportive housing units when compared to the estimated overall chronically homeless in the United States (Leopold, 2014; U.S. Department of Housing and Urban Development, 2013). A stronger focus on policy recommendations to expand the number of units is warranted to support the preferences of the homeless population with severe mental illness in the United States.

The long-term success of the SHM is the reliance of a constant funding stream, which may not be the preference of most philanthropists, since federal, state, and local funding is effected by the existing economic and political climate (Brousseau, 2009). To support the constant funding stream, a strong effort may be to include only participants that have a disability income source upon entry into the supportive housing programs. Continuously funded Housing First programs support improved long term outcomes for the persons with severe mental illness, when compared with unstipulated combinations of community-based reintegration programs. These improved long-term outcomes not only rely on the ongoing federal, state and local public funding streams, but the federal disability benefits collected by participants further enhances the results (Kertesz et al., 2009). For those that do not have the existing federal disability benefits,

assertive case management may be the requirement in order to assist in the immediate accessibility of monthly income. Homeless persons with mental illness are more likely to receive federal disability benefits compared to those without a mental illness, while at the same time may experience a higher level of stress due to unstable housing (Sullivan et al., 2000). The likelihood of a homeless person with severe mental illness having a monthly disability income stream supports the income requirement to participate in a supportive housing program. Inclusion of a federal subsidy in the housing program is recommended to keep the overall costs minimal for homeless persons with severe mental illness.

6.0 CONCLUSION

The adaptation of the SHM with the homeless population diagnosed with severe mental illness, based on the data presented, does favor improved housing retention rates and reduced number of days homeless based on the randomized controlled trials identified in this literature review. Additionally, the consumers have a strong preference for the supportive housing model, even though lifetime substance abuse and minority status can be a strong predictor of reducing the housing retention rates and the number of days away from homelessness (Goldfinger et al., 1999). The majority of the authors recommend the use of the SHM for the homeless population with severe mental illness. The authors' and consumers' choices and recommendations should not be ignored, even though the number of randomized controlled trials conducted in the United States is limited for the period of 1990 to 2014.

Housing options for homeless persons with severe mental illness do help prevent further physical and mental health deterioration, which are common outcomes if left on the streets (Rog & Buckner, 2007). A systematic review of housing and health status interventions does support extended time away from homelessness when immediate housing assistance is offered upon hospital discharge (Fitzpatrick-Lewis et al., 2011). The immediate accessibility of permanent housing does support the SHM constructs, versus the COCM, which requires graduation through transitional housing before permanent housing placement. The addition of providing intensive case management for all consumers under the SHM design deserves attention, since immediate

and continuous contact with the participants does support higher housing retention rates. In the United States, some view access to housing as being a personal right. The challenge occurs when the availability and accessibility of affordable housing is not available to all (Austin et al., 2014). The collaboration of policy makers is needed to continue to evaluate and fund these supportive housing programs for persons with severe mental illness. The attention to minority and gender status needs to be considered for future research as well. The minimal number of randomized controlled trials identified based on the search criteria, does limit the number of conclusions in this literature review.

APPENDIX. TABLES

Table 1. Randomized Control Trials

Study	Sample size and experimental design	Outcomes Measured	Summary of findings	Limitations of the Study
Hulbert et al., 1996	361 participants evenly divided into four experiments conditioned by Section 8 vouchers and intensity of case management services over a 2 year period (n=90-91)	Housing tenure	Improved housing tenure for those with Section 8 vouchers regardless of case management intensity level	Overrepresentation of White participants, which does not align with the current U.S. data
Goldfinger et al., 1999	118 participants assigned to staffed group housing (n=55) or independent housing (n=63) with all participants given an intensive case manager with weekly contact over an 18 month period. Days away from homelessness included jails, institutions and community housing and shelter programs.	Housing tenure, days housed, days homeless	Housing tenure was not significant between the two experimental designs. The days from homelessness were lower for the independent housing participant. Predictor variables of lifetime substance abuse, consumer preference for independent housing, and minority status increased days homeless	Non-English speaking and those who were deemed as harm to themselves or others were excluded from the study. The exclusion criteria limits the generalizability of the study.
Rosencheck et al., 2003	460 participants assigned to a HUD-VASH w/Section 8 vouchers and ICM (n=182); CM only (n=90) and standard VA care (n=188) over a 3 year period	Days housed, days homeless, mental health status, community adjustments, costs	HUD-VASH participants experienced had more days housed, less days homeless at a higher cost. No significant differences in mental health and community adjustments measurements	Substantial and differential follow-up attrition across treatment groups after the first year. The VA standard care group experienced the lowest follow-up attrition rates. Results can not be generalized to the population outside of the VA healthcare system.

Gulcur et al., 2003	225 participants assigned to Housing First (n=99) or a Continuum of Care (n=126) program with follow up interviews every 6 months over a 2 year period	Proportion of time homeless and hospitalized, costs analysis	HFM spent a larger proportion of time away from homelessness as well as reduced number of days being hospitalized. The results were lower costs for the HFM participants.	Self reports of the number of days hospitalized, housed, homeless are at risk of reporting bias, which is common among dual diagnosed participants. Additionally cost estimates were unable to be calculated for days on street and contact with police.
Tsemberis et al., 2004	206 participants assigned to a HFM(n=87) or COCM (n=119) with follow up interviews every 6 months over a 2 year period	Housing tenure, consumer choice, substance abuse, substance abuse treatment utilization, psychiatric symptoms	HFM participants sustained a higher retention rate with perceptions that allowance of choices supported their success. No significant differences of substance use and substance abuse treatment utilization	Self reports of the use of alcohol and drugs and treatment services can be subjected to reporting bias, which is common for dual diagnosed participants
Greenwood et al., 2005	197 assigned to a HFM (n=93) and treatment as usual (n=104) with follow up interviews over 36 months	Perceived choice, mastery, psychiatric symptoms, proportion of time homeless	Perceived choice for HFM decreased proportion of time being homeless. Both groups had reduced psychiatric symptoms with no connection made towards the influence of mastery of skills.	Self reports of the number of days housed or homeless, self assessing psychiatric symptoms are at risk of reporting bias.

Table 2. Characteristics

Table 2 Characteristics

Study	Sample Size	Gender %	Ethnicity %	Age %	Diagnosis %
Hulbert et al., 1996	361	M=66.8 F=33.2	White=62.8 Black=19.7 Hispanic=12.5 Other=18	30-39=41.6 18-29=24.9 40-49=24.1 50 + = 9.4	Schizophrenia=55.4 Major Depression=28.3 Bipolar Disorder=16.3
Goldfinger et al., 1999	118	M=72 F=28	Black=41* *Remaining %'s unavailable	Avg age = 38* *Remaining %'s unavailable	Schizophrenia=45 Schizoaffective DO=17 Bipolar DO=14 Major Depression DO=13
Rosencheck et al., 2003	460	M=95.8 F=4.2	Black=64* *Remaining %'s Unavailable	Avg age=42* *Remaining %'s Unavailable	Schizophrenia** Bipolar Disorder** Major Affective DO** PTSD** Alcohol or DA** Both Alcohol/DA** **Breakdown %'s Unavailable
Gulcur et al., 2003	225	M=76.9 F=23.1	Black=40 White=28 Mixed=17.3 Hispanic=14.7	41-50 = 30.2 31-40 = 27.6 18-30 = 19.1 51-60 = 18.2 61 + = 5=4.9	Psychosis = 53.8 Major Depression = 14.2 Bipolar DO = 14.2 Unknown = 14.2 Other = 4.4
Tsemberis et al., 2004	206	M=79 F=21	Black=41 White=27 Mixed=18 Hispanic=15	41-50 = 30 31-40 = 29 18-30 = 19 51-60 = 17 61 + = 5	Psychotic Disorder = 53 Mood - Depressive = 14 Mood - Bipolar = 14 Unknown = 14 Other = 5
Greenwood et al., 2005	197	M=75.6 F=24.4	Black=38.1 White=29.4 Mixed=18.8 Hispanic=13.7	31-40 = 29.4 41-50 = 29.4 51-60 = 19.3 18-30 = 16.8 61 + = 5.1	Psychotic DO = 53.8 Depressive DO = 13.2 Bipolar DO = 13.2 Other = 19.8

APPENDIX B: FIGURES

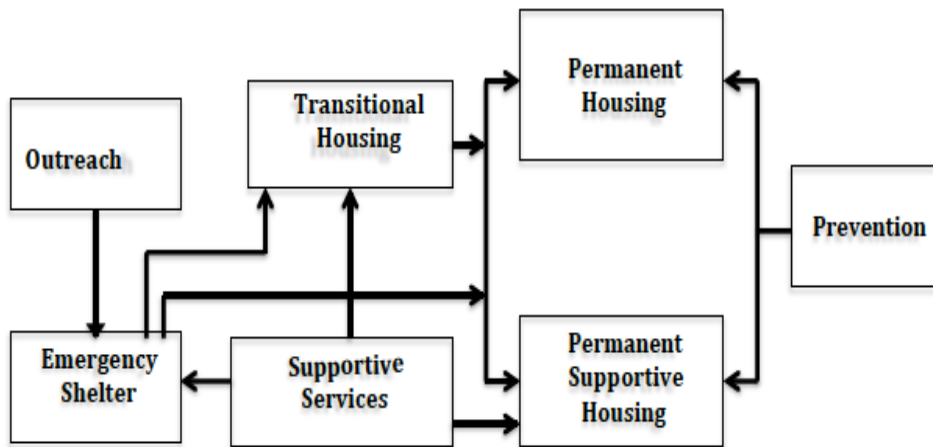


Figure 1. Continuum of Care Model

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