Effects of a permanent supportive housing model on emergency services utilization among recently housed, formerly homeless veterans

A graduate project submitted in partial fulfillment of the requirements
For the degree of Master of Social Work

By
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In collaboration with Alexis Boothby

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The graduate project of Lorna Joya is approved:

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Dedication

Thank you to the veterans whom participated in this body of work. Your contribution of experiences will create more opportunities for those in the future.
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Abstract

Effects of a permanent supportive housing model on emergency services utilization among recently housed, formerly homeless veterans

By

Lorna Joya

Master of Social Work

The purpose of this study was to determine whether access to supportive housing is associated with a decrease in emergency services utilization among formerly homeless, high acuity veterans residing in New Directions for Veterans permanent supportive housing sites for at least six months. It was hypothesized that permanent supportive housing would decrease interactions with emergency services among the study population. Pre-housing data was taken from the Vulnerability Index Service Prioritization Decision Assessment Tool (VI-SPDAT) that each resident completed. Post-housing data was taken from agency case notes and incident reports. Results found permanent supportive housing was associated with a decline in emergency services utilization among study population. Implications of this study demonstrated the efficacy of the housing first and harm reduction models implemented in New Directions’ permanent supportive housing programs, and supports the growing body of research that demonstrates permanent supportive housing as an effective intervention to address homelessness.
Introduction

Problem Statement & Research Questions

The social problem addressed by the current study was the high utilization of emergency services among homeless adults. Specifically, the participants in this study were formerly homeless veterans who received a score of ten or higher (i.e., “high acuity”) on the Vulnerability Index Service Prioritization Decision Assistance Tool (VI-SPDAT) prior to moving into permanent supportive housing.

The purpose of this study was to determine whether access to supportive housing was associated with a decrease in emergency services utilization among formerly homeless, high acuity veterans residing in New Directions for Veterans’ permanent supportive housing sites for at least six months. For the purposes of this study, “emergency services utilization” was defined as follows: visits to the emergency department/room, interactions with the police, visits to the hospital in an ambulance, in-patient hospitalizations, and use of crisis services (including distress centers and suicide prevention hotlines.) Researchers expected to see a strong indication that permanent supportive housing, under a housing first and harm reduction model, led to a reduction in utilization of emergency services. Therefore, the research question addressed by this study was as follows: does permanent supportive housing reduce the utilization of emergency services among high-acuity, formerly homeless veterans?

Research question

Does supportive housing reduce the utilization of emergency services among formerly homeless veterans?
Significance

The significance of this study reflects what the social work code of ethics strives to embed in professional settings. The homeless population tends to be neglected in mainstream society. It is the duty of those in the social work profession to devote their work to marginalized groups and to demonstrate the dignity and worth of members of marginalized groups. Evaluating whether supportive housing programs are having the intended effect is necessary to move towards a more just society, and to end homelessness and reduce the frequency at which individuals return to homelessness once housed. Study findings may be used to demonstrate the effectiveness of housing first and permanent supportive housing as a whole, and of New Directions for Veterans’ permanent supportive housing programs in specific. The findings in this study could lead to new funding opportunities for permanent supportive housing in the future. Additionally, this study has provided additional insight into the importance of agency level documentation of emergency services utilization, as no record of this sort was kept prior to this study.
Literature Review

Veteran homelessness is a pressing social issue in the United States. A 2012 estimate put the number of homeless veterans in the United States at 62,619 (Austin et al., 2014). This issue is perhaps most urgent for Los Angeles County, which is home to the largest population of homeless veterans in the country. The 2015 count found 4,343 homeless veterans living in Los Angeles County alone (Holland, 2015). This is in spite of an initiative to end veteran homelessness in Los Angeles by year’s end. (Holland, 2015).

According to prior research, individuals experiencing homelessness are more likely to utilize expensive public and emergency services than are the general population (Pearson, 2007). This is in part due to the fact that homeless individuals are more likely to suffer from poorly controlled chronic health conditions, substance abuse, and mental illness, rendering them more vulnerable to medical and mental health emergencies (Ramin & Svoboda, 2009). Therefore, attention to the homeless veteran population is an urgent matter; a matter which needs to be addressed by effective interventions.

Prior studies have demonstrated that permanent supportive housing is associated with a decline in “acute care health services” utilization (hospitalizations and emergency room visits) and “institutional-based medical care” among formerly homeless adults and formerly homeless seniors, respectively (Martinez & Burt, 2006; Culhane, Metraux, & Hadley, 2010; Bamberger & Dobbins, 2015). Permanent supportive housing is also associated with a decline in healthcare costs among homeless adults exiting skilled nursing facilities (Bamberger & Dobbins 2015), as well as among homeless adults with severe mental illness (Culhane, et al. 2010). Studies have also found that a housing first
model is associated with a decline in emergency medical service utilization for at least the first two years post-housing among formerly homeless persons with severe alcohol problems (Mackelprang, Collins & Clifasefi, 2014). There is no existing study where researchers identified all five of the variables of the present study (i.e., visits to the emergency department/room, interactions with the police, visits to the hospital in an ambulance, in-patient hospitalizations, and use of crisis services), nor are there any studies measuring emergency services utilization among formerly homeless veterans in particular. However, researchers anticipated similar findings to the ones described above; that is, the researchers hypothesized that access to permanent supportive housing would be associated with a decline in emergency services utilization among formerly homeless, high acuity veterans residing in New Directions for Veterans’ permanent supportive housing sites.

Current “best practice” models to address the issue of homelessness include housing first and harm reduction, which are recognized by SAMHSA’s National Registry of Evidence Based Practices. These models served as conceptual frameworks that helped guide this study, as these models are utilized at New Directions for Veterans’ permanent supportive housing sites. As Montgomery and colleagues postulate, the housing first approach is an alternative to the treatment model -- one that offers housing without the condition of sobriety or services involvement and is more focused on the client’s right to self-determination (Montgomery, et al., 2013). These models acknowledge and respect an individual’s right to make choices. These choices include things such as whether or not to use drugs or alcohol, and whether or not to take prescribed psychiatric medication. Individuals are free to make these choices and are not treated adversely, their housing
status is not threatened, and help continues to be available to them, regardless of the choices they make. (Gulcure, Nakae, & Tsemberis, 2004). A noticeable finding in studies was the notion that “supported housing models contend that the key elements of choice and integrated housing contribute to greater housing stability and appropriate use of mental health services, which in turn lead to improved functioning” (Kasprow, O’Connell, & Rosenheck, 2008, p. 273). While risk factors have been identified in data research, few articles focused attention to how those factors interplay and accumulate over the life course to result in homelessness (Hamilton, Poza, Washington, 2011, p. 5204). Limitations as such deter efforts for preventive measures. Simply, what can result is a poorly informed service delivery for homeless populations which may be ineffective and counterproductive to housing interventions (Bonner, Shelton, Taylor, & Van de Bree, 2009, p. 465).

The studies data that have been included as supporting facts demonstrate the singular knowledge available currently. Of the data readily available, there has been a decrease in chronic homelessness by 25% from 2006 to 2013 due to permanent supportive housing sites with the use of federal funding such as Shelter Plus Care housing vouchers (Ettner, Gilmer, Henwood, & Stefancic, 2015, p. 1283).

There was limited information on exact theories used to address the problem to be studied. However in a few articles attachment theory was discussed in terms of homelessness and the obstacles encountered when working with this population. Attachment theory has historically been used to focus attention on the importance of a child’s relationship with his or her caregiver, however, recent research has “helped us understand the impact of early attachments on later relationships.” (Heineman, 2010,
For example, while people transition into their units, creating healthy relationships with case managers and property staff is necessary to maintain housing which inevitably helps the veterans develop healthy attachment skills.

To best explain how attachment theory has been executed within this population, it is seen through their form of adaption to living on the streets. Essentially, the goal of survival becomes a psychological constriction and leads to an over-development of solitary inner life (Herman, 1997, p. 87). The remedy to alleviating this psychological constriction is part of the Housing First model that addresses attachment theory through emphasis on veterans integrating into their community without stigma or isolation and by providing opportunities to engage socially and participate in meaningful pursuits (Geller, 2014, p. 23). Therefore, the relationship between the clients and supportive services staff is crucial for a successful transition into housing. For example, the level of support veterans feel from the housing staff could possibly have an affect whether or not they use preventive resources rather than emergency services. Attachment theory has provided some foundation to further understand how relationships are formed and maintained as well as the affect it can have on those whom have had traumatic experiences like the homeless veteran population.

The combination of these approaches provided a clear rationale to which researchers hypothesized that permanent supportive housing site will reduce the frequent utilization of emergency services. “The Housing First model of permanent supported housing provides homeless individuals with immediate access to housing and access to both a treatment team and community supports that provide flexible, client-driven services” (Gilmer, Stefancic, Katz, Sklar, Tsemberis & Palinkas, pg. 1311, 2014).
Supportive housing sites are intended for highly vulnerable veterans who tend to have serious health and mental health problems. For instance, elderly veterans are approximately twice as likely to be homeless as elderly civilians and typically have severe health issues (McGuire & Van Den Berk-Clark, 2013, p. 232). The use of these models helps address the immediate problems that homeless people such as elderly veterans face. For instance, a client can consult (if appropriate) with on-site psychiatric, case managers or LCSW instead of using emergency psychiatric services. Furthermore, it attest to the effect on housing stability and reduction of tenants’ use of other institutional services such as shelter, hospitals, and correctional facilities (Culhane, Hill, Kane, & Montgomery, 2013, p. 506).
Methods

Research Design

The research design chosen for this program evaluation was a descriptive design. Descriptive design was appropriate because of the intended focus on whether the program was operating as planned. Data collected established whether or not the outcomes were in line with the goals and objectives of the program. Findings determined whether a permanent supportive housing model was effective in reducing public and emergency service utilization among high acuity (i.e., highly vulnerable) formerly homeless veterans.

Sample

Researchers received a data report from New Directions for Veterans listing all veterans in a New Directions for Veterans’ permanent supportive housing program who scored a 10 or higher on the VI-SPDAT prior to being housed, and who have resided in permanent supportive housing for at least six months. The researchers used secondary agency data for the post-housing measures; however, New Directions for Veterans does not currently track this data. The researchers combed through de-identified case notes on the Homeless Management Information System (HMIS) and incident reports to count the number of each of the variables for each participant in the six months post housing.

No subjects were recruited for this study; rather, they were selected by the researchers based on their acuity score from the VI-SPDAT and on the duration of their stay in permanent supportive housing. The researchers had no direct interaction with the subjects, and identifiable data was not collected or used in the study, so participant consent was not necessary. However, upon enrolling in the housing program subjects did
sign consents to have their information stored and reviewed by New Directions for Veterans’ staff on the HMIS. Prior to entering the permanent supportive housing program, participating veterans signed consent to have their personal information, including case notes and SPDAT scores, stored on the HMIS. The consent form is valid for 10 years. The researchers anticipated the participation of at least fifteen individuals eligible to be included in the study.

**Data Collection**

Secondary data was chosen because it provided the ability to assess whether the intended outcomes of permanent supportive housing are being produced. Using secondary data is the most tangible form of evidence available that can have an impact on the sustainability of permanent supportive housing for the formerly homeless population. It is necessary to evaluate emergency services utilization encounters since this is one of the factors that makes a person highly eligible for this type of housing option.

There was no direct human interaction throughout this research study. No risks were encountered, other than the minimal risks that the study subjects would encounter in their daily lives. Per agency’s regulations, researchers only accessed the Homeless Management Information Systems using agency electronic equipment; i.e. laptops. Agency secured equipment prevented data breach which protected the sensitive information of the human subjects. Each individual laptop had a unique username and password created by the agency. To access HMIS via wireless internet connection, New Directions for Veterans technology department has installed a Virtual Private Network (VPN) into each laptop. Upon connecting to a wireless system, researchers were able to log into the VPN and activate the private network. De-identified data was stored on the
private network on New Directions for Veterans VPN. New Directions for Veterans created individual log-in username and passwords for researchers to be able to log onto the New Directions for Veterans VPN system. Upon terminating employment with New Directions for Veterans all log-in information created will be destroyed by the information technology department. All log-in information is not to be shared with anyone, including among the research team.

**Measurement**

The independent variable in this study was access to permanent supportive housing, while the dependent variables included the five variables listed above: visits to the emergency department/room, interactions with the police, visits to the hospital in an ambulance, in-patient hospitalizations, and use of crisis services (i.e., distress centers and suicide prevention hotlines) Permanent supportive housing was measured by client residing in unit for at least 6 months. It is hypothesized that a negative correlation between the independent and dependent variables will be revealed; that is, the dependent variables will decrease once the veterans are housed.

The VI-SPDAT is a standard assessment tool, utilized by most agencies in Los Angeles County that work with homeless adults. Researchers did not administer this assessment tool since all residents completed it prior to entering permanent supportive housing. This tool has its limitations, however, as the information is self-reported and therefore subject to inaccuracy as subjects may under or over report their interactions with public and emergency services, or simply may not remember. The post-housing measures were taken from case notes and incident reports, as case managers and resident services coordinators at the PSH sites are required to document any incident that occurs.
with a resident. While this data has the potential to be more accurate than the pre-housing data (due to the fact that it is not self-reported, but documented by a professional at one of the buildings), there is the potential for inaccuracy here as well as the case manager or resident services coordinator may not know about every incident that occurs at the site and/or may not document it appropriately.
Results

Data Analysis and Findings

Researchers analyzed data using two types of statistical tests. First, researchers ran two descriptive analysis tests, to determine the mean age and mean SPDAT score of the fifteen participants. The mean age of the participants was 59.33 years (SD=12.06), and mean SPDAT score was 11.13 (SD = 2.20).

The next statistical test performed was a paired sample t-test. This analytical method was appropriate for our collected data because it consisted of five sets of samples that needed to be compared. The study aimed to determine whether or not permanent housing was associated with a decline in emergency services utilization, including visits to the emergency room, police interactions, ambulance use, in-patient hospitalizations, and use of crisis services. The paired sample t-test allowed the researchers to examine the rate of usage by service type. Researchers collected pre-housed data and post-housed data from fifteen veterans that consisted of five questions regarding the frequency of utilization of emergency services. The paired sample T-test is commonly used to examine the differences between two average scores of a group. Therefore, researchers were able to determine whether or not permanent supportive housing produced a decline in the utilization of emergency services among formerly homeless veterans.

Researchers found that permanent supportive housing was, in fact, associated with a decline in emergency services utilization in the sample when reviewing the paired sample results. On average, participants accessed emergency services 6.6 times in the six months prior to housing. This number dropped dramatically to just .73 times
in the six months post housing. The data collected captured information regarding use of individual categories of emergency services, including emergency room visits, interactions with the police, ambulance rides, inpatient psychiatric hospitalizations, and use of crisis centers and suicide prevention hotlines. An analysis of the data found statistically significant reductions in the utilization of four of the five categories of emergency services. Researchers found that the average number of emergency room visits significantly reduced from pre-test ($M = 2.07$, $SD = 2.09$) to post-test ($M = .13$, $SD = .35$), $t(14) = 3.92$, $p = .002$. Likewise, the average number of police interactions fell significantly from pre-test ($M = 1.47$, $SD = 1.73$) to post-test ($M = .47$, $SD = .17$), $t(14) = 2.24$, $p = .042$. The average number of ambulance rides also fell from pre-test ($M = 1.07$, $SD = 1.62$) to post-test ($M = .13$, $SD = .35$), $t(14) = 2.43$, $p = .029$, as did the average number of psychiatric hospitalizations, which fell from pre-test ($M = 1.47$, $SD = 2.26$) to post-test ($M = .00$, $SD = .00$). The only category of emergency service utilization which did not see a statistically significant decrease was the use of crisis services such as suicide prevention hotlines which fell from pre-test ($M = .53$, $SD = .99$) to post-test ($M = .00$, $SD = .00$), $t(14) = 2.09$, $p = .06$.

The significant reduction in utilization of emergency services overall, and in the four statistically significant categories in particular, demonstrates the positive impact permanent supportive housing had on the participants’ overall well-being.
Discussion

An analysis of the data collected revealed that permanent supportive housing was associated with a statistically significant decline in emergency services utilization among recently housed, formerly homeless veterans living in New Directions’ permanent supportive housing. This was true across all categories of emergency services utilization with the exception of one: use of crisis services (e.g. distress centers, suicide prevention hotlines). Permanent supportive housing was found to be associated with a decline in emergency room visits, interactions with law enforcement, ambulance usage, and psychiatric hospitalizations. These findings are consistent with the research conducted by Gilmer and associates, which concluded that there has been a decrease in chronic homelessness by 25% from 2006 to 2013 due to permanent supportive housing sites with the use of federal funding such as Shelter Plus Care housing vouchers (Gilmer, Stefancic, Henwood, & Ettner, pg. 1283, 2015). The similarities among other studies conducted was the focus on retention rates and its affect towards the efforts of ending veteran homelessness.

Implications

This study adds to a growing body of research which supports a housing first/harm reduction model, a best practice utilized in New Directions for Veterans’ permanent supportive housing. The study demonstrates the positive impact that housing has on the health and well-being of the tenants residing in permanent supportive housing, and the healing effect that having a safe place to live can have on a formerly homeless individual. This study also demonstrates that permanent supportive housing is cost-effective in that it leads to a reduction in the use of costly emergency services.
Based on the findings, the social work profession needs to construct a preventive care system for military veterans. The outcomes of not having a supported and client centered mental health system for military veterans has proven to increase the deterioration of mental health and physical well-being. Small steps to begin the process of constructing this support system, is to engage military personal by creating an environment where speaking about mental health issues is not stigmatized. The military culture needs to provide a level of acceptance of mental health needs, if they hope to end veteran homelessness.

Limitations

Researchers relied on existing secondary agency data for the study. Pre-housing measures were taken from the VI-SPDAT questionnaire, which relies on self-reported data from the participants. The participants’ reported use of interactions with emergency services may be grossly under or over-exaggerated and subject to error due to issues such as memory impairment or mistrust of the surveyor. Further, researchers used a different means of collecting data post-housing, since researchers were not able to collect primary data. Thus, researchers had to rely on two different methods of data collection. For post-housing measures, researchers utilized data contained within agency case notes and incident reports. This data has the potential to be more accurate than a client’s self-report, however, it too is subject to human error. For example, case managers are only able to document those instances that that they are aware of, and case managers might not always document those instances appropriately. More research is needed to demonstrate the effectiveness of New Directions for Veterans’ permanent supportive housing. The study has demonstrated a need for an effective method of
tracking emergency services utilization amongst tenants of New Directions’ permanent supportive housing.
Conclusion

The study found that permanent supportive housing was effective in reducing emergency services utilization among formerly homeless high-acuity veterans housed in New Directions for Veterans’ supportive housing. The study also demonstrated the need for a system to track this data in order to more efficiently evaluate program effectiveness in the future.
References


Martinez, T., & Burt, M. (2006). Impact of Permanent Supportive Housing on the Use of Acute Care Health Services by Homeless Adults. PSYCHIATRIC
SERVICES, 992-999.


Appendix A

ADDENDUM – Effects of a permanent supportive housing model on emergency services utilization among recently housed, formerly homeless veterans

Effects of a permanent supportive housing model on emergency services utilization among recently housed, formerly homeless veterans is a joint graduate project between Lorna Joya and Alexis Boothby. This document will explain the division of responsibilities between the two parties. Any additional information can be included in a separate document attached to this Addendum page.

**Lorna Joya** is responsible for all the following tasks/document sections:
- Identified study variables and data collection method, developed plans for methods utilized in collecting research.
- Entered data into SPSS (created i.e. figures and tables), and ran reports.
- Organized pre and post data and compared them to other scholarly study findings
- Formulated ideas for inclusion in the discussion and limitations sections, and wrote the discussion and limitations section.

**Alexis Boothby** is responsible for all the following tasks/document sections:
- Formulated problem statement and research question.
- Collected background information of the specific program and service (description of agency and program)
- Reviewed assessment tool and selected the 5 emergency utilization question that lead the study
- Identified appropriate conceptual framework that guided study and data analyzation
- Created power-point slides for poster presentation

Both parties shared responsibilities for the following tasks/document sections:
- Revisions and edits to ensure appropriate formatting and layout
- Implemented all revisions suggested by Dr. Park
- Researched and gathered background literature such as peer reviewed articles

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<td>Dr. Amy Levin Graduate Coordinator</td>
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20
Appendix B

Table 1  
Mean Comparison of Pre-Housing and Post-Housing Groups (N=15)

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<tr>
<th>Variables</th>
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<td>M</td>
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Table 2  
Characteristics of Variables (N=15)

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<td>VI-SPDAT Score</td>
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