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Short report

Service use before and after the provision of scatter-site Housing First for chronically homeless individuals with severe alcohol use disorders

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ABSTRACT

Background: Housing First (HF), which entails providing permanent, affordable housing along with support services that are not contingent on abstinence or sobriety, typically refers to either single- or scatter-site housing. For chronically homeless individuals with alcohol dependence, research has predominantly focused on single-site housing. This report focuses on service use of this population in scatter-site HF located in a major city on the east coast of the United States.
Methods: Administrative data on service use for the 12-month period before and after housing were analyzed for 53 program enrollees with alcohol dependence compared to 57 program enrollees without alcohol dependence. Differences in the number of episodes and nights spent in the public behavioral health system before and after entry into HF were examined.
Results: Overall reductions in both outcomes were found in both groups after housing. Participants with alcohol dependence had a greater reduction in nights but a smaller reduction in episodes compared to those without alcohol dependence. After controlling for baseline characteristics and service use, there were no significant differences between the two groups.
Conclusion: Findings suggest that like single-site models, scatter-site HF results in significant reductions in behavioral health service use. More research is needed to compare the effectiveness of these two approaches.

Introduction

Based on an increasing evidence base, the U.S. Federal Government has endorsed permanent supportive housing using a Housing First (HF) approach as the "clear solution" to chronic homelessness (U.S. Interagency Council on Homelessness, 2010, p. 18). Canada and Europe have also implemented large-scale HF projects (Busch-Geertsema, 2011; Goering et al., 2014). HF, which entails providing low-barrier access to permanent, affordable housing (i.e., housing is not contingent on abstinence or sobriety) along with support services, typically refers to either single- or scatter-site housing. Single-site entails placing chronically homeless individuals into apartments in the same building with services provided on-site (Collins, Malone, & Clifasefi, 2013). Scatter-site refers to placing homeless adults into apartments rented from private landlords throughout the community with services provided by mobile treatment teams (Tsemberis, Gulcur, & Nakae, 2004). Both models use support services based on a harm-reduction philosophy (Collins et al., 2012; Tiderington, Stanhope, & Henwood, 2012) and are effective at increasing housing stability and ending homelessness (Collins et al., 2013; Tsemberis et al., 2004).

Research on HF for chronically homeless individuals with alcohol problems has predominantly focused on a single-site model. This research has shown that placement into single-site HF is associated with reduced alcohol use, service use, and overall cost (Collins et al., 2012; Larimer et al., 2009). Research on scatter-site HF has predominantly focused on homeless individuals with serious mental illness and co-occurring substance use disorders. Although it is not clear whether scatter-site HF for this population results in an overall decrease in substance use (Padgett, Gulcur, & Tsemberis, 2006; Padgett, Stanhope, Henwood, & Stefancic, 2011), reduced service use and cost has been found for these dually diagnosed homeless adults (Culhane, 2008). This report contributes to the literature by examining the service use of homeless individuals with a primary diagnosis of alcohol dependence before

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and after entering scatter-site HF. The only other study of scatter-site HF that focused on this population showed improved clinical outcomes during the first 2 years of the program, including reductions in psychological distress and higher recovery scores (Tsemberis, Kent, & Respress, 2012). Specific research questions guiding the study included: (a) Is service use reduced during the year after receiving housing (as is the case in the single-site approach)?; and (b) Do changes in service use differ between adults with or without a primary diagnosis of alcohol dependence?

Materials and methods

Setting and participants

This study took place at an agency located in Philadelphia, PA, that implemented an evidence-based model of HF intended to serve chronically homeless adults with serious mental illness. The HF program used scatter-site housing rented from private landlords and employed multidisciplinary teams that delivered modified assertive community treatment. This included weekly home visits with a client-to-staff ratio of 12:1 (Tsemberis et al., 2004). Participants received immediate access to apartments, generally one-bedroom units subleased to the tenant through the agency. Choice of apartment and location was based on availability and affordability. Tenants were expected to contribute one third of their income to rent that typically came from federal income and disability benefits; the program assumed responsibility for the remaining portion of rent (reimbursed with U.S. Department of Housing and Urban Development subsidies), security deposits, and initial furnishings for the apartments. The program that opened in the fall of 2008 currently provides housing and support services to more than 400 adults and has maintained a housing retention rate of 89%.

Program enrollment criteria initially included having a primary diagnosis of serious mental illness, currently homeless, and having a long-term history of homelessness. Given a growing concern for the population of homeless adults with a primary diagnosis of alcohol dependence who would not have otherwise qualified for the HF program, in 2010 the city agreed to a waiver allowing these individuals to enroll. For this study, we focus on 53 of these homeless adults identified as having a primary diagnosis of severe alcohol use disorder using DSM-V criteria. We compare their service use to 57 program enrollees who had taken part in an internal program evaluation from 2008 to 2010 who did not have an alcohol use disorder.

Data collection

For this report we used administrative data on service use for the 12-month period before and after gaining access to housing for 53 program enrollees who had a primary diagnosis of severe alcohol use disorder using DSM-V criteria. Each program participant signed a release of information for data sharing of information obtained from a centralized system developed by the city of Philadelphia. The system was designed for care coordination among programs and institutions that typically interact with the city's behavioral health and homeless clients, which has been coined as the "institutional circuit" (Hopper, Jost, Hay, Welber, & Haugland, 1997). This integrated system contained information on the number of episodes and nights spent in various programs and/or institutions. This included information on: shelter episodes, shelter nights, residential treatment placements, number of nights in residential treatment, mental health emergency room visits, mental health hospitalizations, number of nights in mental health hospitals, mental health court episodes, encounters with the penal system, and number of nights spent in the prison system. In order to compare program enrollees who were admitted with a primary diagnosis of alcohol dependence to typical program enrollees (who may have had a co-occurring substance use disorder other than alcohol dependence), we used the integrated system's data from 57 program enrollees who had taken part in the internal program evaluation. All study protocols were approved by the agency's affiliated institutional review board.

Data analysis

For each enrollee, overall cumulative variables for the number of episodes and nights spent in publically funded programs or institutions that typically interact with the city's behavioral health clients were created for the 12-month pre- and postperiod. Paired samples *t*-tests were conducted to assess differences in specific and overall service use during the 12 months before and after access to housing. To consider differences between tenants with and without a primary diagnosis of alcohol dependence, we compared differences in the number of episodes and nights between the pre- and postperiod using independent sample *t*-tests. Using differences in episodes and nights of the overall sample, linear regression was also used to control for demographic characteristics, preperiod service use, and having a diagnosis of alcohol dependence. Data were managed and analyzed in SPSS.

Results

Twenty-eight of the 53 participants with a primary diagnosis of alcohol dependence were also diagnosed with an Axis-I mood disorder and 16 were diagnosed with a psychotic disorder; the remaining 7 did not have a co-occurring mental health disorder. In the comparison group, 33 had an Axis-I mood disorder and 24 had a psychotic disorder; although the majority of these individuals reported a past history of stance abuse, only 5 reported having problems with drugs in the past 30 days upon entry to the program and 7 reported having problems with drugs in the past 30 days 1-year after housing. Participants with a diagnosis of alcohol dependence were more likely than the comparison group to be male (84.9% versus 61.4%, respectively), Caucasian (30.2% versus 12.3%, respectively), and older ($M = 54.5$ versus 45.5 years, respectively). Table 1 indicates that overall reductions in both nights and episodes were found in both groups 1 year after receiving housing. Participants with alcohol dependence had a greater reduction in nights but a smaller reduction in episodes compared to those without alcohol dependence. After controlling for baseline characteristics and baseline service use, there were no significant differences between the two groups. Greater reductions in nights of service use among those with alcohol dependence were due to more nights in shelters and residential placement settings during the year prior to access housing. Greater reductions in service episodes among participants without alcohol dependence were due to more shelter and mental health hospitalization episodes during the year prior to accessing housing. There were no differences in 1-year housing retention rates; 96% of participants with and 91% of participants without alcohol dependence retained housing.

Discussion

These findings indicate that the use of scatter-site HF for adults with severe alcohol use disorders results in significant reductions in overall public service use, which is consistent with previous research that has focused on single-site HF (Larimer et al., 2009). Although tenants with versus those without alcohol use disorders had greater reductions in service use based on number of nights, no differences were found after controlling for baseline service use. In

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Table 1
Behavioral health service use 12 months before and after Housing First enrollment for adults with and without alcohol dependence.

	Before HF		After HF		*t*
	Mean	Standard error	Mean	Standard error	
Number of nights					
Shelter					
Alcohol dependence	28.11	9.62	0.36	0.25	2.88**
No alcohol dependence	14.26	4.65	0.79	0.51	2.91**
Mental health hospital					
Alcohol dependence	9.28	4.36	4.32	1.83	1.15
No alcohol dependence	6.23	2.33	2.74	1.19	1.62
Residential treatment					
Alcohol dependence	48.58	15.34	0.71	0.50	3.11**
No alcohol dependence	3.32	3.17	0.00	0.00	1.05
Incarceration					
Alcohol dependence	3.58	1.57	1.79	1.32	0.85
No alcohol dependence	11.23	4.92	2.61	1.25	1.69
Total					
Alcohol dependence	88.57	17.23	8.34	2.46	4.66**
No alcohol dependence	35.04	7.42	6.14	1.81	3.83**
Number of episodes					
Shelter					
Alcohol dependence	1.60	0.43	0.09	0.07	3.54**
No alcohol dependence	3.67	1.01	0.23	0.10	3.38**
Psychiatric emergency room					
Alcohol dependence	1.21	0.43	0.74	0.30	1.62
No alcohol dependence	1.16	0.41	0.32	0.11	2.23*
Mental health hospital					
Alcohol dependence	0.53	0.16	0.38	0.15	1.00
No alcohol dependence	1.53	0.55	0.47	0.19	2.08*
Residential treatment					
Alcohol dependence	0.25	0.06	0.09	0.04	2.22*
No alcohol dependence	0.07	0.03	0.00	0.00	2.06*
Mental health cohort					
Alcohol dependence	0.26	0.08	0.40	0.18	−0.73
No alcohol dependence	0.42	0.13	0.33	0.13	0.61
Prison system					
Alcohol dependence	0.19	0.07	0.09	0.05	1.04
No alcohol dependence	0.32	0.09	0.14	0.05	1.87
Total					
Alcohol dependence	4.04	0.71	1.79	0.64	3.28**
No alcohol dependence	7.16	1.68	1.49	0.44	3.84**
Difference in nights					
Alcohol dependence			−80.23	17.22	2.80**
No alcohol dependence			−28.89	7.55	
Difference in episodes					
Alcohol dependence			−2.25	0.69	−2.05*
No alcohol dependence			−5.67	1.47	

Note. HF – Housing First.
* $p < .05$.
** $p < .01$.

the preperiod, those with alcohol use disorders spent more episodes (0.25 versus 0.07, $p = .017$) and days (47.66 versus 3.22, $p = 0.004$) in residential treatment settings, which accounted for significantly higher overall days (88.57 versus 35.04, $p = .004$) spent in the institutional circuit the year before having housing. Yet systemwide service use was limited and similar between the groups following enrollment, indicating that homelessness rather than clinical diagnoses may account for prehousing service use. It is unclear whether prehousing differences are indicative of distinct illness trajectories, issues related to accessing services based on diagnosis, or both.

Regardless, there are clear cost savings implications associated with reduced service use in both groups. Future research should consider cost differences between the two groups that also include physical health in addition to behavioral health services. In addition, future research should compare single versus scatter-site HF in terms of service use and costs as well as clinical outcomes for adults with alcohol use disorders. Both models have shown improved clinical outcomes for this population (Collins et al., 2012; Tsemberis et al., 2012) and now reductions in service use, but comparative effectiveness has not been investigated. The therapeutic community that is made possible with the single site approach must be considered against several possible advantages to using scatter-site. These include increased consistency with principles of community integration; increased choice over the neighborhoods in which participants live; reduced community concerns related to the development of a single housing facility in a particular neighborhood; and ease of relocation following an unsuccessful initial placement. In addition, although living in a single-site building may reduce isolation and promote a sense of community, living with peers who are also dependent on alcohol could also result in relapse or limit recovery (Tsemberis, 2010).

Limitations

It is important to note that the severity or trajectory of illness was not considered during either the pre- or posthousing period. Furthermore, although the comparison group did not have severe alcohol use disorders, most participants had a history of substance abuse and current use may have been higher than reported (Tsemberis et al., 2004). Investigating service and clinical outcomes based on the type and degree of substance use is an

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important consideration for future studies. Another important limitation to this study is that service use in the program was not considered and it is unknown whether either group received more or less assertive community treatment. This study was also limited by its focus on service use in the behavioral health system, excluding the larger medical system for physical health conditions. Given high medical needs among chronically homeless individuals entering HF (Weinstein, Henwood, Matejkowski, & Santana, 2011), this is an important consideration. Additional limitations include the small sample size, the narrow window of study (i.e., 12 months before and after HF enrollment), and the differential time periods of service use between the two groups. The small sample size in particular made detecting differences in domains such as criminal justice difficult.

Conclusion

This study is the first to report on service use among adults with a primary diagnosis of severe alcohol use disorders who enrolled in scatter-site HF. Findings suggest that like single-site models, scatter-site HF results in significant reductions in behavioral health service use. More research is needed to compare the effectiveness of these two approaches.

Conflict of interest statement

None of the authors have received payment from a third party for the work presented. There are no conflicts of interest to report.

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