Predictors of Homelessness Following Exit from the Supportive Services for Veteran Families Program

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INTRODUCTION

Recent years have seen a shift in homeless assistance policy in the United States toward an emphasis on homelessness prevention and rapid rehousing programs.[1–3] This shift was catalyzed in 2009 by the Homelessness Prevention and Rapid Rehousing Program (HPRP), which provided $1.5 billion for financial assistance and services to prevent at-risk households from becoming homeless or to move households experiencing homelessness into permanent housing as quickly as possible. The passage of the Homeless Emergency Assistance and Rapid Transition to Housing (HEARTH) Act of 2009 solidified a larger-scale reorientation of the homeless assistance system toward the rapid stabilization of households experiencing housing crises with time-limited, but highly flexible, forms of assistance. In line with this changing focus, VA launched its homelessness prevention and rapid rehousing initiative, the SSVF program, beginning in FFY 2012. SSVF funds community-based non-profit organizations to provide homelessness prevention and rapid rehousing services to Veteran households. During the first two years of operation, SSVF assisted 61,041 Veteran households, comprised of 97,979 individuals, at an average cost of $2,480 per household.[4]

Empirical research on the housing outcomes of households receiving homelessness prevention and rapid rehousing assistance lags behind the policy and practice context in which these programs are increasingly favored. Rigorous studies on the outcomes of households served by these programs remain the exception, with the sparse evidence that does exist coming mainly from less rigorous evaluations conducted in single jurisdictions. This study capitalized on the unique opportunity afforded by the SSVF program to examine the outcomes of single adult and family Veteran households who received homelessness prevention and rapid rehousing services in communities throughout the entire United States. The specific aims of the study were:

1) To assess the extent to which Veteran households experienced homelessness following exit from the prevention and rapid rehousing components of SSVF, and

2) To identify Veteran, SSVF program, and community-level housing market factors associated with risk of homelessness following exit from SSVF.

METHODS

This study used data from two sources: (1) VA's National Homeless Registry, which integrates information on the utilization of all VHA Homeless Programs, including SSVF and (2) VA electronic medical records, obtained from the VA's Corporate Data Warehouse, which includes inpatient and outpatient visits as well as diagnoses of serious mental illnesses and substance use disorders. The study

sample included 41,545 Veterans who exited the SSVF program at some point during FFY 2012 or FFY 2013, excluding those with missing/invalid Social Security numbers, unknown housing status at entry into SSVF, and a missing/invalid zip code, which made it impossible to identify the location where they received SSVF services. The study also excluded Veterans who exited the SSVF program to a non-housing destination (i.e., homeless or institution, 7% of sample) as the study focused on Veterans who were housed at their time of exit from SSVF.

We stratified the final analytic sample of 36,363 Veterans into four sub-groups, based on household type (single Veterans vs. Veterans in families) and SSVF service category (prevention vs. rapid rehousing). We tracked these four groups prospectively, using the data sources noted above, to measure the timing and occurrence of episodes of homelessness (based on VHA Homeless Program use)[1] subsequent to their SSVF exit date. The observation period was from the Veteran's date of exit until either the occurrence of the first episode of homelessness or January 1, 2014. The maximum follow-up time was 823 days, or roughly 27 months.

We used survival analysis—a set of statistical methods well-suited for examining longitudinal time-to-event data under consideration here—to examine episodes of homelessness over time. Specifically, we used the Kaplan-Meier method to estimate survival probabilities over time following exit from SSVF and multilevel Cox proportional hazards regression models to assess the relationship between Veteran, SSVF program, and community-level housing market variables and the risk of a homeless episode following SSVF program exit.

RESULTS

Homelessness Following SSVF Exit

Table 1 presents the characteristics of Veteran households included in the study. Table 2 summarizes the results of the Kaplan-Meier estimates of the incidence rate of homelessness at one and two years following exit from SSVF.

Among Veterans in families receiving rapid rehousing, 9.4% experienced homelessness one year following SSVF exit and 15.5% experienced homelessness two years following SSVF exit. The comparable one-and two-year rates for single adult Veterans were 16% and 26.6%. Among prevention participants, 6.5% of Veteran families experienced homelessness one year following SSVF exit and 10.9% after two years; the rates for single adults were 10.3% after one year and 17.9% after two years.

We estimated separate Kaplan-Meier survival functions for two subgroups of the study sample to test sensitivity to population: (1) those who exited to the U.S. Department of Housing and Urban Development (HUD)-VA Supportive Housing (HUD-VASH) program and (2) the 2,794 Veterans who were initially excluded from the primary study sample because they exited SSVF to a non-housing destination. The results of these analyses are summarized in Table 2. In both cases, the rates of homelessness at one and two years following SSVF exit were the same, or only marginally higher, for these households.

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[1] A homeless episode included any of the following: (1) a record of a completed Homeless Operations, Management, and Evaluation System (HOMES) assessment; (2) a record of entry into a VHA Homeless Program (i.e., Domiciliary Care for Homeless Veterans, Grant and Per Diem transitional housing, Health Care for Homeless Veterans, emergency shelter, Safe Haven); or (3) a record of SSVF rapid rehousing services.

Veteran, SSVF Program, and Community-Level Factors Associated With the Risk of Homelessness Following SSVF Exit

Table 3 presents results from the multilevel Cox regression models predicting risk of homelessness following SSVF exit. The tables show hazard ratios, which describe the relationship among each Veteran, SSVF program, and community factor and the risk of having a homeless episode subsequent to exiting SSVF. Hazard ratios greater than one indicate increased risk, while hazard ratios less than one indicate decreased risk. Key findings from the models include:

- *Age* predicted risk of homelessness among single Veterans, but not Veterans in families. Single Veterans in the 44–54 year age group had the highest risk of homelessness relative to their peers in the 18–30 year age group.
- *Male gender* was associated with an increased risk of homelessness among single Veterans in both the prevention and rapid rehousing models, but was not a significant predictor in the family models.
- *A prior history of VA homeless service use* significantly predicted increased risk of homelessness in all models except for the family rapid rehousing model.
- *Access to VHA healthcare services* in the year prior to SSVF exit—a potential proxy for greater medical needs—strongly predicted increased risk of homelessness in all models.
- *SSVF program* variables, other than exit destination, did not significantly predict the risk of homelessness. Those who exited SSVF to destinations other than temporary accommodations with family or friends were generally less likely to become homeless. Receipt of rental assistance was associated with an increased risk of homelessness among single Veteran recipients of both prevention and rapid rehousing.
- *Community-level housing market variables* generally did not predict the likelihood of homelessness following SSVF exit. The exceptions were the proportion of vacant housing units in a community, which had a small negative effect, and the proportion of renter households, which had a small positive relationship with the risk of homelessness in the model for single Veterans who received SSVF prevention services.

Preliminary models assessing the relationship between presence of serious mental illness and substance abuse disorders and risk of homelessness—which only included Veterans who accessed VHA healthcare services within two years of their exit from SSVF—found that these conditions predicted an increased risk of homelessness across all models, with substance abuse generally a stronger predictor than serious mental illness.

DISCUSSION

Findings from this study indicate that only a small minority of Veterans who received SSVF assistance experienced an episode of homelessness over an extended period of time following their exit from SSVF, based on VA data sources. The rates of return to VHA Homeless Programs at two years following SSVF exit for Veterans who received rapid rehousing services are noteworthy for both single adult Veterans (26.6%) and Veterans in families (15.5%), particularly when viewed in the context of prior research that showed comparable rates of return to homelessness among those exiting emergency shelters to be 46% for single adults[5] and 22% for persons in families.[6]

This evidence is promising in terms of the potential for SSVF to make substantial gains in preventing and ending homelessness among Veterans by providing time-limited assistance. Nonetheless, the number of Veterans experiencing homelessness after exiting SSVF was not trivial. SSVF originally targeted Veterans experiencing homelessness due to short-term financial crises; as the program enters its fourth year of

operations, SSVF grantees across the country have begun to assist single Veterans and families who are traditionally perceived as more difficult to serve. These Veterans include those with limited or no income, survivors of domestic violence, and those struggling with mental health conditions and addictions. As the program serves more complex Veterans, the intensity and duration of services may need to fluctuate, to both prevent and rapidly rehouse Veterans with more complex needs. Additionally, more research is needed to better understand the reasons why some Veterans become homeless following SSVF.

The observed relationships in the Cox regression models are largely consistent with prior research: single Veterans in the 44–54 year age group were at the highest risk of homelessness following SSVF exit, regardless of type of assistance, which aligns with recent research pointing to a cohort effect in the single adult homeless population, with a disproportionate impact on this age group.[7] The findings are also consistent with previous studies documenting an association between a prior history of homelessness and an increased risk for homelessness.[8–12]

By contrast, the findings from the models with respect to the SSVF program variables have little precedent in prior research and are more difficult to interpret. The lack of a consistent pattern of findings for the service type variables could be due to the fact that these measures simply indicate whether a Veteran did or did not receive a specific service, but do not capture the amount, intensity, or quality of the services. A closer examination of these dimensions could yield better insight as to how specific services may be related to outcomes following SSVF exit and should be pursued in future research.

It is worth noting the general lack of significant associations, or presence of statistically significant but weak associations, between community-level housing market characteristics and risk of homelessness following SSVF exit. This would appear to be at odds with claims that the type of time-limited assistance provided by prevention—particularly rapid rehousing—programs is not sufficient to help households remain housed or avoid returning to homelessness once the assistance has stopped. Future research should examine this issue more closely.

This study has a number of limitations that are important to acknowledge. First, the lack of comparison groups of at-risk and homeless Veterans who did not receive SSVF prevention or rapid rehousing services makes it impossible for this study to directly address whether the program is ultimately effective at preventing or reducing homelessness among Veterans. Moving forward, it is important for research to address this issue directly through the use of well-designed comparative effectiveness studies. Second, this study's outcome measure is limited in that it only captures use of VA-funded or operated homeless assistance services. The extent to which Veterans used non-VA homeless services or experienced homelessness in an unsheltered location is not known; the rates of homelessness following SSVF exit reported in this study are likely underestimates. The National Center on Homelessness Among Veterans in engaged in ongoing research on the SSVF program that will address these gaps and build critical evidence for refining prevention and rapid rehousing programs both within and outside the VA.

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Table 1. Sample Characteristics

	Single Veterans-Prevention	Single Veterans-Rapid Rehousing	Veterans in Families-Prevention	Veterans in Families-Rapid Rehousing
N	10,491	17,230	4,770	3,872
Age group (%)				
18–30	8.3	7.4	25.4	25.7
30–44	16.2	14.6	39.5	38.3
44–54	30.9	33.8	22.3	22.2
54–61	29.2	30.3	8.9	9.8
62+	15.4	13.8	3.8	4.0
Male (%)	86.0	90.3	70.3	70.6
Hispanic (%)	10.0	8.0	13.9	13.5
Race (%)				
White	47.1	46.6	44.9	46.1
Black	48.0	48.5	48.9	47.7
Other race	4.9	5.0	6.2	6.3
Disabling condition (%)	53.6	57.6	44.1	45.5
History of homelessness (%)	16.4	51.9	7.8	29.2
Exited in FY 2013 (%)	65.7	70.0	70.3	70.1
Accessed VA healthcare within 1 year of SSVF exit (%)	81.2	87.3	68.9	75.8
Participation length>90 days (%)	47.6	48.9	51.5	54.7
Legal services (%)	2.2	1.9	2.4	1.9
Housing search services (%)	10.6	16.7	9.4	19.4
Rental assistance (%)	39.4	29.2	44.6	36.2
Security deposit (%)	15.0	44.6	14.5	44.4
Utility payment (%)	15.7	13.1	21.0	18.0
Moving costs (%)	2.9	5.4	4.1	9.2
Exit destination (%)				
HUD-VASH	19.4	36.2	13.1	28.5
Other permanent	71.1	50.0	77.3	58.6
Temporarily w/family or friends	3.0	4.4	2.5	4.9
Other/unknown	6.4	9.2	7.0	7.9
Diagnoses among Veterans who accessed VA healthcare within 2 years prior to SSVF exit				
N	8,675	15,175	3,358	6,332
Drug/alcohol abuse (%)	38.7	53.4	23.0	30.3
Serious mental illness (%)	34.7	40.0	27.7	31.2

Note: Drug/alcohol abuse included following ICD-9 codes: 291.0-292.99; 303.00-305.99 (excluding 305.10); serious mental illness included the following ICD-9 codes: 295.0-298.0; 290.00-290.99; 293.0-294.99; 301.00-301.99; 318.10; 318.20;

Table 2. Summary of Kaplan-Meier Estimates of Incidence of Homelessness at One and Two Years Following SSVF Exit

	Prevention				Rapid Rehousing			
	Veterans in Families		Single Veterans		Veterans in Families		Single Veterans	
	1 Year	2 Year	1 Year	2 Year	1 Year	2 Year	1 Year	2 Year
Primary analytic sample	6.5	10.9	10.3	17.9	9.4	15.5	16.0	26.6
Excluding HUD-VASH exiters	6.5	11.0	10.4	18.0	9.5	15.5	16.2	26.7
Including Veterans exiting to homeless or institutional destinations	6.5	10.9	10.3	18.0	9.4	15.5	16.0	26.7

Note: Columns show Kaplan-Meier estimates of incidence of homelesness (as % of total household/service type subgroup)

Table 3. Results of Multilevel Cox Regression Models Predicting Hazard of Return to Homelessness Following SSVF Exit

Variable	Veterans in Families		Single Veterans	
	Prevention (HR)	Rapid Rehousing (HR)	Prevention (HR)	Rapid Rehousing (HR)
Age group (Reference: 18–30)				
30–44	0.94	0.97	1.38*	1.41
44–54	1.12	1.18	1.98***	1.59***
54–61	1.08	1.45	1.64	1.39
62+	0.58	0.61	1.00	1.09
Male	1.05	1.25	1.31**	1.21*
Hispanic	1.08	0.86	0.88	0.96
Race (white is reference)				
Black	1.24	0.86	1.18*	1.07
Other race	0.94	0.85	1.22	1.16
Disabling condition	1.14	1.17	1.13	1.01
History of homelessness	1.61*	1.56	1.68***	1.6***
Exited in FY 2013	1.55**	1.77***	1.71***	1.53***
Accessed VA healthcare within 1 year of SSVF exit	3.04***	2.1***	2.67***	2.78***
Participation length>90 days	1.08	0.71**	0.93	0.96
Legal services	0.97	0.43	0.94	0.92
Housing search services	1.30	0.94	1.30	0.95
Rental assistance	1.18	1.04	1.30***	1.19**
Security deposit	0.81	0.61	0.90	0.77***
Utility payment	1.10	1.35	0.91	0.84*
Moving costs	0.94	0.95	0.88	0.87
Exit destination (Reference: temporarily with family/friends)				
HUD-VASH	0.42*	0.18***	0.14***	0.19***
Other permanent	0.64	0.56**	0.31***	0.49***
Other/unknown	1.14	1.29	0.71*	0.95
Median rent (in $100)	0.99	0.98	0.99	0.98
% Vacant housing units	1.01	1.02	0.98**	0.99
% Renter households	1.01	1.01	1.01*	1.00
% Rent-burdened households	0.99	0.99	1.00	1.00
SD random intercept	0.31	0.40	0.24	0.28
-2LL	-2281.03	-2347.01	-8815.78	-20240.7

Notes: HR = Hazard Ratio; * $p<.05$; ** $p<.01$; *** $p<.0001$

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