

Mixed methods analysis of a national implementation of a medical respite program in transitional housing settings for veterans experiencing homelessness

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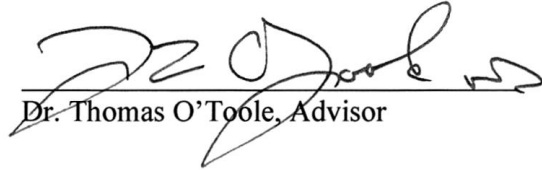
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*Abstract of **Mixed methods analysis of a national implementation of a medical respite program in transitional housing settings for veterans experiencing homelessness**, by Alec E. Kinczewski, Degree ScM., Brown University, May 2021.*

Hospital to Housing (H2H) is a Department of Veteran Affairs (VA) program providing medical respite care to veteran's experiencing homelessness. The program partners community organizations providing transitional housing with local VA facilities delivering medical care for post-hospitalization veterans to allow for clinical stabilization and ultimately, permanent housing. The program was launched October 2017 at 43 sites. Using mixed methods we aim to assess H2H participant health services utilization and community partner post hoc perceptions and experiences with implementation of the program. We collected 90-day pre/post-enrollment health care utilization data for the first 200 H2H enrollees and conducted semi-structured interviews with six community organizations. Veterans enrolled in H2H had a significant decline in utilization of emergency department and inpatient care (67.0% v. 39.5%, $p < 0.01$) and a significant increase in primary care utilization (47.5% v. 78.0%, $p < 0.01$). Grantees reported the greatest barrier to implementation was concern of patient complexity while the greatest enabler was the perceived value/benefit of the program. Our findings suggest a community-partnered low intensity medical respite model for select lower acuity populations can substantially redirect care away from acute care settings and increase primary care and social services engagement. Community organizations identified the need in their population and, despite initial misgivings, found it feasible to operate.

Key Words: care models, veterans, housing, medical respite, population health

Introduction

Veterans are overrepresented among persons experiencing homelessness[1] and are homeless for longer durations[2]. Compared to housed veterans, they have higher rates of all-cause mortality, chronic disease comorbidities, use more emergency department (ED) care and have more in-patient admissions[3]. They also tend to delay or defer seeking care when needed[4].

Medical respite programs provide post-emergent/inpatient recuperative care to people experiencing homelessness who are too sick to recuperate on the streets or in emergency shelters but not ill enough to justify continued inpatient admission[5]. These programs have been associated with cost savings when factoring in projected readmission costs [6]. Discharge from hospitals is a period of increased vulnerability for all patients[7] with homeless patients disproportionately experiencing increased 30-day readmissions for post-surgical complications[8] and medical care[9]. Being discharged to unsheltered housing situations is associated with an increased risk for readmission[10].

According to the National Health Care for the Homeless Council there are 116 community medical respite programs in 36 states[11] typically with support from a local collaborating hospital or health system[12]. Programs range in size from 5 beds to over 100, most with less than 20 beds[13], and are based in a wide range of settings with varying services and criteria for admissions[12]. Some programs operate independent respite care facilities offering intensive wrap-around clinical and social services, transportation to specialty appointments, and on-site care by medical teams. Others are co-located in shelters or use motels as a temporary housing option for individuals with lower severity conditions [9].

Prior research on medical respite care programs have demonstrated post-intervention reduced readmissions[14] and bed-days of care along with fewer ED visits[15], more outpatient care [16] and lower costs[17]. As evidence of the benefits of this model continue to accrue, more information is needed on both implementation challenges as well as whether these findings can be reproduced on a larger scale.

In this paper, we present initial findings from the national implementation of the Veterans Administration (VA) Hospital to Housing (H2H) medical respite program. H2H programs are based at contracted community transitional housing sites with medical support provided by VA care teams (mobile care unit and/or transport to the local facility for care)[19]. The H2H program was designed for low acuity patients appropriate for care in a non-resource intensive environment and with intact Activities of Daily Living (ADL) functioning. Enrollment criteria for H2H includes potential for permanent housing placement which has also been linked to decreased ED use [20], fewer post-surgical readmissions[8], lowered healthcare expenditures[17, 21, 22] and improved health status[5, 21].

This mixed methods analysis and report of a large, integrated health system's approach to implementing a medical respite program adds to the literature by detailing the challenges, opportunities and outcomes experienced by teams incorporating this model into the routine care delivery for veterans experiencing homelessness.

Methods

Since 1994 VA has provided community-based transitional housing with supportive services through the Grant and Per Diem (GPD) program to veterans experiencing homelessness. Based on lessons learned from a medical respite "test of concept" pilot within the GDP program,

the VA launched the H2H program nationally in October 2017 through a request for proposals process to all existing GPD grantees.

H2H grantees were selected on a competitive basis. Program participation required they provide housing and 24/7 supervision of participants needing respite care in designated beds at the GPD site while partnering VA medical centers (VAMCs) provided all outpatient care and social services care, either on-site or at the VA medical facility. Program enrollment could be based on medical or mental health conditions with VA-based social workers coordinating with site managers, overseeing participant recruitment, enrollment, and case management.

Each grantee and their partner VAMC operated under a site-specific memorandum of understanding (MOU) that outlined which patients were suitable for referral to the program, what services and supports were expected of the community organization, and what services VAMC would provide. While the MOUs were tailored to the grantee and VAMC, universal requirements included: all participants must be capable of independently conducting ADLs upon enrollment; not be actively psychotic or require acute detoxification; and not demonstrate any significant permanent cognitive impairment. The intent of these requirements was to ensure participants would be suitable candidates for community-based permanent housing on discharge and that H2H program beds would not substitute for long-term nursing home care. Once enrolled in H2H, participants could remain in the program beyond their recuperation if housing was not available, while permanent housing was being pursued.

Our mixed methods approach to describe implementation of this program includes: (1) demographic data characterizing the patient population; (2) pre/post healthcare utilization data; and (3) qualitative interviews with community-based grantees to explore their motivation for applying for H2H, and experiences with implementation.

Quantitative Methods

We used data from VHA Corporate Data Warehouse (CDW)[23], to capture VHA Homeless Program utilization, patient-level demographics, and clinical care utilization. The study sample was drawn from the first 200 Veterans enrolled in H2H. Utilization data were captured for the 90 days prior to H2H enrollment and for the first 90 days post enrollment. For each category, care utilization was characterized as primary care, mental health, substance abuse treatment, inpatient admissions and ED visits. Diagnoses of a chronic medical illness, mental illness, substance abuse, comorbid mental health and substance abuse, as well as hepatitis C were captured based on ICD-9 and ICD-10 codes. We used the McNemar test on paired proportions to analyze pre/post-enrollment participant utilization rates for intragroup differences and between subgroups of participants. Chi-square analyses were conducted to determine differences in event utilization across different clinical services (ED, inpatient, primary care).

Qualitative Methods

We conducted interviews with community program staff to identify factors that enabled and impeded operational implementation and sustainment of the H2H program. Interviews were telephone-based, semi-structured, confidential, approximately 30 minutes long and conducted within 1 year of program implementation. An interview guide with standardized questions for use in all interviews was developed based on exploratory questions used in the pilot project review. Topics included best practices, motivations for joining H2H, challenges with implementation, how H2H fit within grantees organizations, recommendations for program improvement, and communication strategies with VAMCs.

Data Collection

A purposively sampled pool of 21 grantees were approached to participate in an interview. Their selection was based active participation and engagement with the project team throughout the implementation period and location to ensure adequate geographic distribution across regions in the U.S. Interviews were conducted from June to August 2018. Two study team members co-led each interview and independently recorded findings which were then compared for completeness and concordance. Discrepancies between recorded responses were noted and no records discarded. Based on feedback from the exploratory interviews in our pilot review, we did not audiotape responses to encourage more candid responses.

Data Analysis

Qualitative analysis was based on building themes through identifying common codes from the interviews. Immediately after each interview, the two members of the project team independently assessed the interviews through open coding and compared findings from interview notes. Common codes were recorded and used to develop the interview guide through iterative analysis and conflicting codes were brought to a third team member for discussion. At set times between interviews team members reviewed codes appearing in at least two interviews, using them to develop themes.

Results

Quantitative Results

Program Characteristics

43 grantees providing 359 respite beds participated in the program implementation. The average number of beds was 8 (range: 1-20) and 42 of the H2H grantees were in urban areas.

H2H Veteran Characteristics

As shown in table 1 the majority of participants were non-Hispanic white, males and between 55-64 years of age. 70% had a chronic medical condition and a similar proportion had a mental health condition (64.5%). Depression was the most common (53%) followed by Post-Traumatic Stress Disorder (PTSD) (19%); 57% had been diagnosed with a substance use disorder. Overall, 46.5% of participants had comorbid mental health and substance use disorder diagnoses.

Care Utilization Pre/Post-H2H Enrollment

Most H2H participants required 30-60 days to fully recuperate and gain permanent housing. The longest length of stay was 136 days, during which the participant transitioned to the general population at the GPD site while waiting permanent housing placement. As shown in Table 2, during the 90 days prior to the sentinel admission and enrollment in H2H, 67.0% of participants utilized any acute care (ED or hospitalization) and 47.5% accessed primary care, averaging 2.3 homeless services, 3.4 outpatient substance abuse encounters, and 6.6 outpatient mental health encounters. Notably during the 90 days after enrollment there were significant reductions in the proportion accessing acute care services (39.5%; $p < 0.001$) and increases in those accessing primary care (78.0%; $p < 0.001$). Similarly, the average number of encounters for homeless services (5.7 visits/patient), and outpatient substance abuse services (9.8

visits/patient) also increased while the number of outpatient mental health encounters actually declined (3.4 visits/patient).

When considering sub-populations with preexisting mental health diagnoses substance use disorders and the two in combination, the pre/post differences in acute care utilization were more marked in each comparison: mental health: 75.2% v. 40.3%; $p < 0.01$; substance use disorder: 76.3% v. 36.0%; $p < 0.01$; and both: 76.3% v. 37.6%, $p < 0.01$ (Table 2). Similarly, there were also significant increases in use of primary care and homeless services and outpatient substance abuse treatment among these subgroups. Notably, there was also a decrease in outpatient mental health encounters within these subgroups during the post-intervention period.

Qualitative Results

Six of the 21 grantees who were approached agreed to an interview (28%). Among them, 5 of the grantees had successfully implemented the H2H program, the sixth was unable to launch. Bed capacity among the 5 sites was between 5 and 7 medical respite beds; 5 grantees were in urban areas and 1 was located rurally. Their partnered VAMCs varied from large teaching programs to clinics with no inpatient services.

Four themes were identified from the grantee interviews: perceived value of the H2H model, impressions of staff capacity and “mission stretch”, capacity to successfully collaborate with the partnered VAMC, and logistical barriers.

Perceived value of the H2H model. All grantees endorsed the need for a medical respite model for veterans experiencing homelessness. Grantees identified several cases of veterans with protracted inpatient hospital stays due to lack of suitable locations for discharge. “*The need is so*

great,” one grantee noted, “These veterans linger in the hospital until they can get a SNF [skilled nursing facility] or state home placement. We had a [homeless] veteran stay inpatient for two months. There just aren’t a lot of options.” Another grantee referenced the potential of H2H to help their partner VA, “We were excited for the opportunity [to apply for H2H]. [Our VA] got dinged recently on [inpatient] lengths-of-stay for veterans. We have a good relationship with our VA, and this seemed like a great opportunity.”

Staff Capacity and “mission stretch.” When applying for H2H, grantees were universally aware that participants would be very sick. Nearly every grantee interviewed was initially concerned that the acuity of H2H participants would stretch beyond their skills/resources which gave them pause when applying. *“Our initial concern was very ill patients, patients too sick to [permanently] house”* a grantee disclosed when talking about the decision to apply to H2H. Many of those interviewed discussed an adjustment period when implementing H2H to come to a consensus with their collaborating VAMC on what services the grantee could provide and to what extent. Examples given included expectations of availability of medical supplies at the grantee site and expected level of ADLs among participants. One grantee noted, *“it can be difficult to assess some ADLs in a hospital room”* and cited adjustments to the site-specific portions of their MOU improved the referral process. *“We expected it [H2H] to be a work in progress. [VAMC staff] was very accepting of trial and error,”* a grantee reported. At the time of the interviews, each grantee reported their concerns about “mission stretch” had largely passed, having settled into a rhythm of best practices built on mutual understanding and familiarity developed over the preceding year. A grantee described the refined referral process as, *“VA has been very upfront with the specific needs and that created good matches”*.

Capacity to successfully collaborate with partnered VAMC. During implementation, regular communication and strong collaboration were identified as enabling refinement of the H2H model and developing cohesion between the grantees and their partnered VAMC. Regularly scheduled face-to-face meetings and ad hoc phone calls with VAMCs and GPD liaisons were referenced as key contributors to building cohesion and a system that worked for all parties. *“The team building aspect of H2H is the critical link. All must be willing to help. We are working together on changing the referral paperwork and finalizing a check list. It’s really good to all get together.”* Grantees reported GPD liaisons as their first line of communication and key to working with VAMC staff and endorsed the value of having VAMC team members regularly come to their facilities to build relationships with both the grantee staff and participants. Grantees near their VAMCs cited the proximity as being an advantage, *“Our proximity to the VA was our biggest strength, we regularly had face to face contact and built strong relationships”*.

Logistical barriers to implementation. The primary logistical barriers reported were access to transportation and scarcity of available, affordable housing in the community. By design, grantees are located offsite from VAMCs. While grantees were positive about the quality of services provided, transportation barriers were universally experienced. One grantee did report finding help outside VA, *“Transportation has been a challenge, but we received a non-VA grant from a ride sharing company to cover the gap.”* Another grantee several hours away from their VAMC proposed utilizing local non-VA resources to address particularly time sensitive care requirements. Urban grantees also had widely varying experiences with finding suitable housing and the rural grantee expressed great difficulties. This was manifested in participants remaining

in the program longer than initially intended, “*There is not a lot of housing available in our area and that delayed Veterans from exiting the program*”. Still, grantees endorsed the availability and accessibility of permanent housing programs including U.S. Department of Housing and Urban Development-VA Supportive Housing (HUD-VASH) grants.

Discussion

Our mixed methods analysis and report of a national medical respite program implementation supports the feasibility of this model and identifies implementation challenges raised by participating community agencies. H2H utilized a partnership model that availed of existing resources to implement this program with no additional or supplemental funding provided. This likely reflects both some of the trepidation community agencies voiced in the interviews and the need to focus the intervention on less acutely ill or impaired veterans.

Consistent with previous studies, the use of acute care services was substantially lower in the 90 days following admission to the program while use of primary care and social services increased. This pattern held for subsets of participants with mental health diagnoses, substance abuse diagnoses, and those dual diagnosed. We suspect the decrease in mental health care use post-enrollment may reflect a resolution or stabilization of an acute process and merits further study. These care utilization findings also have implications for non-VA medical systems at risk for penalties from higher than expected 30 day readmission rates for conditions included in the Hospital Readmissions Reduction Program[24]. Over half the hospitals incurring penalties served a greater proportion of lower income and Medicare recipients[25], many of whom could be potential candidates for a program like this.

Our interviews revealed several factors that facilitated implementation of the H2H program. The need for dedicated personnel and programming to facilitate the identification and transitioning of patients experiencing homelessness from inpatient settings to respite care and a close working relationship with their partner VAMC care teams were all identified as critical. Grantee concerns of being overwhelmed by the complex needs of H2H participants was one of the primary reasons for being wary to participate in H2H. Transportation was also identified as a major challenge which may explain the disproportionately urban distribution of the program. A unique feature and attribute of the grantee sites was the ability to be able to transition participants completing their recuperative care but who still had not secured permanent housing into other housing within their facility. This allowed for needed bed-turnover for new patients being discharged from acute care while keeping permanent housing placement a key objective.

There are several limitations to this study. First, while the quantitative results are promising, a longer sample timeframe and robust comparison group are needed to draw definitive correlations between program participation and care utilization. Longer follow-up data on both health resource utilization and housing outcomes are also needed to strengthened our findings and a cost-effectiveness analysis would contribute to discussion of program feasibility and applicability to non-VA healthcare systems. Second, the decrease in mental health care utilization deserves further investigation to elicit whether this reflects a lower acuity of need or reduced access. Third, our qualitative interviews consisted solely of community GPD providers and only a small proportion volunteered to participate. Future studies that can more effectively capture the patient and medical team perspective and experiences with this model are needed. Additionally, interviewing grantees that are part of a competitively awarded program could have

introduced a social desirability bias to their responses while also possibly deterring other grantees with alternate views from participating in the interviews.

Homelessness and poor health remain innately intertwined challenges. Innovative programs that avail of partnerships between health care systems and housing providers within existing capacity offer a viable strategy for optimizing care for these highest need, vulnerable populations.

DECLARATION OF INTEREST STATEMENT

None of the authors listed report any conflicts of interest

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Table 1. Clinical Characteristics of H2H Veterans (N = 200)

Age		
	18-34	2%
	35-44	7%
	45-54	15%
	55-64	51%
	65+	25%
Race		
	Non-Hispanic White	46%
Gender		
	Male	97%
	Female	3%
Preexisting diagnoses of participants		
	Chronic medical conditions	70%
	Mental health	64%
	Depression	53%
	Psychoses	9%
	Post-Traumatic Stress Disorder (PTSD)	19%
	Suicide/self-harm	4%
	Other mental health diagnosis	52%
	Substance abuse disorder	58%
	Alcohol abuse	48%
	Drug abuse	39%
	Comorbid mental health and substance abuse	47%
	Hepatitis C	13%

Table 2 Clinical service utilization pre- and post- H2H enrollment

Service utilized	Pre-H2H	%	Post-H2H	%	X2 P-value	McNemar P-value	Z Score	Z P-value
H2H participants (N=200)								
Acute care setting	134	67.0%	79	39.5%	<0.01	<0.01		
ED	115	57.5%	71	35.5%	<0.01	<0.01		
Inpatient	87	43.5%	28	14.0%	<0.01	<0.01		
Primary care setting	95	47.5%	156	78.0%	<0.01	N/A*		
H2H Participant by Preexisting Diagnoses								
Mental Health (N=129)								
Acute care	97	75.2%	52	40.3%.	<0.01	<0.01	5.67	<0.01
Substance Use Disorder (N=114)								
Acute care	87	76.3%	41	36.0%	<0.01	<0.01	6.14.	<0.01
Comorbid Mental Health & Substance Use Disorder (N=93)								
Acute care	71	76.3%	35	37.6%	<0.01	<0.01	5.33	<0.01