

ORIGINAL RESEARCH



Tailoring Outreach Efforts to Increase Primary Care Use Among Homeless Veterans: Results of a Randomized Controlled Trial

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BACKGROUND: Homeless individuals often have significant unmet health care needs that are critical to helping them leave homelessness. However, engaging them in primary and mental health care services is often elusive and difficult to achieve.

OBJECTIVE: We aimed to increase health-seeking behavior and receipt of health care among homeless Veterans.

DESIGN: This was a multi-center, prospective, community-based, two-by-two randomized controlled trial of homeless Veterans.

PARTICIPANTS: Homeless Veterans not receiving primary care participated in the study.

INTERVENTIONS: An outreach intervention that included a personal health assessment and brief intervention (PHA/BI), and/or a clinic orientation (CO) was implemented.

MAIN MEASURE: We measured receipt of primary care within 4 weeks of study enrollment.

KEY RESULTS: Overall, 185 homeless Veterans were enrolled: the average age was 48.6 years (SD 10.8), 94.6 % were male, 43.0 % were from a minority population, 12.0 % were unsheltered, 25.5 % were staying in a dusk-to-dawn emergency shelter, 26.1 % were in transitional housing, while 27.7 % were in an unstable, doubled-up arrangement. At one month, 77.3 % of the PHA/BI plus CO group accessed primary care and by 6 months, 88.7 % had been seen in primary care. This was followed by the CO-only group, 50.0 % of whom accessed care in the first 4 weeks, the PHI/BI-only arm at 41.0 % and the Usual Care arm at 30.6 %. Chi-squared tests by group were significant ($p < 0.001$) at both 4 weeks and 6 months. There was no difference in attitudes about care at baseline and 6 months or in use patterns once enrolled in care.

CONCLUSIONS: Our findings suggest that treatment-resistant/avoidant homeless Veterans can be effectively engaged in primary and other clinical care services through a relatively low intensity, targeted and tailored outreach effort.

KEY WORDS: homeless persons; patient engagement; community outreach; Veterans.

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BACKGROUND

Homelessness is associated with significant health care needs and health complications,^{1–4} often characterized by very high rates of emergency department use and inpatient hospitalizations^{5–7} with an underutilizing of ambulatory care services.⁸ Often the care provided can best be described as reactive to acute presentations: treating complications of homelessness such as frostbite or exposure-related illnesses; addressing acute complications of chronic conditions that are difficult to manage while homeless; and dealing with the consequences of untreated and undertreated mental health and substance abuse that often precipitate homelessness.⁹ The longitudinal, relationship-based and comprehensive nature of primary care is often better situated and organized to engage the individual in services and programs to stabilize them clinically and to facilitate exits from homelessness. For example, earlier research found that over 50 % of homeless presented first to a health care setting upon becoming homeless.¹⁰ The health event itself can be a “treatable moment” for effecting behavior change among homeless patients, where there is often a situational motivation that can facilitate behavior changes.¹¹ (See Graph 1.) Lastly, the need to stabilize chronic conditions (substance use disorders, mental illnesses, disabling chronic conditions) that may jeopardize a patient’s ability to enter and/or remain stably housed speak to an important role for both health care engagement and longitudinal, continuity care.

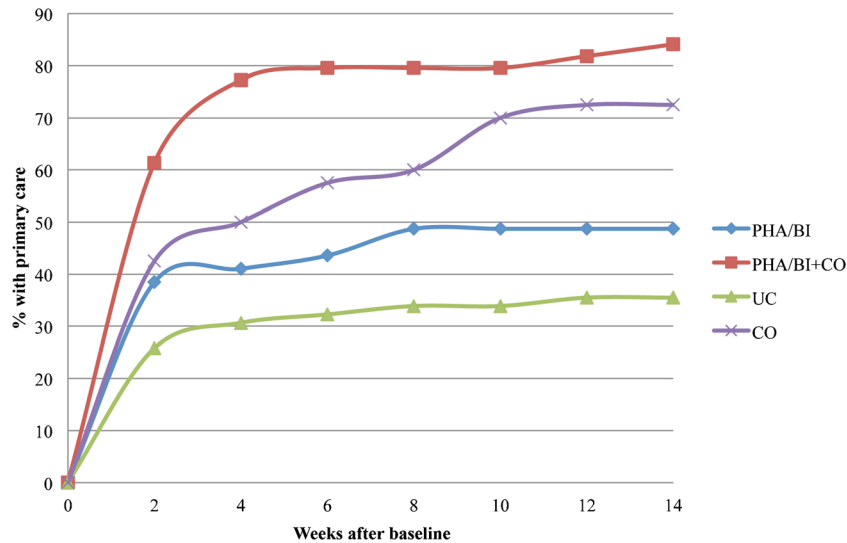
Getting homeless persons into care and treatment, however, is often elusive. Previous research considered health seeking behavior care by homeless persons within the framework of the Behavioral Model for Vulnerable Populations.¹² This model groups utilization variables into three domains: predisposing factors (demographics, social structure, health beliefs including perceived efficacy of care); enabling resources (personal/family, community, insurance status, competing needs, ability to negotiate bureaucratic systems); and need-based factors (perceived and evaluated illness). Perceiving a need for care—either from a recent diagnosis

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Graph 1 Time to receipt of primary care within each study arm.

or from symptoms—is consistently associated with health seeking behavior.¹³ Similarly, not knowing where to go for care, previous stigmatizing experiencing when seeking care, and “not caring what happens” have all been reported reasons for not getting care when needed.^{14,15}

METHODS

We describe data from a multi-center, prospective, community-based, two-by-two randomized controlled trial of homeless Veterans, testing whether an outreach intervention that included a personal health assessment and brief intervention, and a clinic/health system orientation separately and in combination, would increase health-seeking behavior and receipt of health care. The study took place in two communities: Providence, Rhode Island and New Bedford, Massachusetts. A total of 11 community sites and social service agencies were used for recruitment, including soup kitchens, transitional and emergency shelters, and drop-in centers. The Providence VA Medical Center institutional review board granted approval of this study. All participants signed informed consent.

Study Population

The study population was currently homeless Veterans, defined by the Stewart B. McKinney-Vento Homeless Assistance Act as anyone lacking a fixed, regular, and adequate nighttime residence, whose primary nighttime residence is a car, park, abandoned building, bus or train station, airport, or camping ground, or who is staying in a shelter or transitional housing facility,¹⁶ as well as those Veterans in unstable doubled-up arrangements. They also had to be eligible to receive VA services as self-reported and then confirmed by

the research assistant, and be cognitively intact as measured by the Short Blessed test¹⁷ (to exclude participants if they have an active cognitive impairment or delusional thought process that would impede capacity to navigate the health system). Veterans currently receiving primary/continuity care for a chronic medical condition from a VA-based or non-VA-based provider (defined by any visit to an ambulatory care clinic in the previous 6 months and/or having a self-identified ambulatory care-based source for usual care) were excluded.

Potential study participants were identified in the common areas at each site (shelter areas, drop-in center areas, soup kitchen lines, social service agencies) by the research assistant, who was available on-site with informational materials about the study. The research assistant then determined eligibility, obtained informed consent, conducted the baseline assessment, and randomized the participant to the designated respective study arm. No recruiting occurred at times when any health care services were being offered at that setting or site (e.g., shelter-based clinic) in order to avoid potentially recruiting clients who may also have been seeking health care at the time.

Randomization

Two independent randomization schemes were used for the two interventions. Randomization to the Personal Health Assessment/Brief Intervention (PHA/BI) arm followed a random number generator scheme and was determined at the time of enrollment by the research assistant. The Clinic Orientation (CO) arm followed a block randomization scheme based on randomly assigned calendar days where all study participants enrolled on those days, regardless of personal health assessment assignment, were assigned to a clinic/health system orientation.

Intervention Arms

Personal Health Assessment/Brief Intervention Arm. In this arm, a research nurse interviewed participants and then provided feedback and a brief intervention using motivational interviewing style. The interview consisted of standardized questions about past medical history, chronic medical conditions, high risk behaviors, smoking history, living arrangement, financial burdens, previous incarcerations, substance abuse and mental health histories and needs, prescribed medications as well as current symptoms and self-identified needs. The outreach nurse then conducted a cursory examination that included blood pressure, pulse, weight and height for a body mass index (BMI) calculation. A summary of findings was then presented back to the participant explaining how information and findings may represent both untreated and undertreated medical conditions, or risks for future medical developments. This intervention took between 20 and 30 minutes to complete.

Clinic Orientation Arm. If a study participant was enrolled in the clinic orientation arm, immediately following assignment and receipt of the first intervention (PHA/BI or usual care), they were then transported to the clinic by the research assistant where they were introduced to the clinic team (either the patient aligned care team (PACT) or homeless PACT (H-PACT), depending on patient preference and team availability), shown where they would need to go to check-in, what the process was for being seen, as well as additional resources available at the clinic (clothes, hygiene kits, food, and benefits representatives, available to all homeless Veterans regardless of primary care enrollment), as well as where ancillary services such as phlebotomy and the pharmacy were located. This process took approximately 15 to 20 minutes to complete. If they were unable to attend the orientation at that time, a subsequent date/time was arranged to orient them to the clinic site and staff.

Usual Care. The usual care arm for this study included a social worker-administered assessment of homeless history and social needs, a description of homeless programs services that might be appropriate to their needs, and verbal and written descriptions of clinical services, including the homeless-oriented primary care that was available at the respective Veterans Health Administration (VHA) facilities, as well as the general population PACTs and clinical services. This description also included instructions on how they could access care, where to go, and what processes and procedures were involved. All study subjects received usual care with the different intervention “add-ons” to this service.

Primary Outcomes

The primary outcome for this trial was receipt of primary care within 4 weeks of study enrollment. This was independently determined by a documented history and physical encounter

entered into the VA electronic medical record. Care-on-demand was assured within the homeless-oriented primary care clinics at the Providence VA Medical Center and the New Bedford Community-Based Outpatient Clinic (Homeless Patient Aligned Care Team: H-PACT), which operate on an open-access model where no appointment is needed and patients are guaranteed to be seen if they present on designated clinic days and times. The patient could also sign up for and attend other primary care clinics at either setting. At the time of this study, the facility was seeing over 95 % of patients within 30 days of an appointment request.

Data Collection

Qualitative, descriptive data was captured in a face-to-face survey interview at baseline, 1 month, and 6 months, and included demographics, sheltering status, attitudes about health care, and reasons for not having a usual source for care. Additional data collected included standardized surveys measuring self-efficacy,¹⁸ social support networks,¹⁹ and for actively substance using participants, readiness for change²⁰ at baseline, 1 month, and 6 months, and whether they received any non-VA care post-randomization. These are reported separately. Study subjects were reimbursed with a \$20 gift card for each survey. In addition, health services utilization retrieved from the participant's VA electronic medical record were obtained for all study subjects including data from 6 months prior to enrollment (to confirm no receipt of VA primary care prior to enrollment) and for the subsequent 6-month study period.

Data Analysis

Descriptive statistics on key demographics, health characteristics, personal motivations, reasons to delay care, and the importance of reasons for no care were evaluated for the entire sample. Differences among groups were analyzed using an ANOVA for age and Chi-squared tests for categorical variables. Fisher exact tests were used when cell counts were too low to meet Chi-squared assumptions. We also conducted a Cox proportional-hazards regression survival analysis for time to treatment across all four groups.

ANOVAs were used to compare care usage by intervention. Time to primary care was plotted by intervention in order to display differences visually and Chi-squared tests were done by group for receipt of primary care at set intervals. Finally, McNemar's test for correlated proportions was used to compare personal motivations and importance of reasons for no care between baseline and 6 months, stratified by whether subjects received primary care within 1 month of baseline or not.

RESULTS

Overall, 221 homeless Veterans were enrolled; 36 were subsequently removed from the analysis when the subsequent

verification processes identified duplicate enrollment ($n=6$), that they were not eligible for VA services ($n=15$) or that they had been receiving primary care health services in the previous six months ($n=14$); one person did not score adequately on the Short Blessed test assessment. The 1-month follow-up rate for re-interview was 81 % and the 6-month follow-up rate was 71 %.

Population Demographics

The remaining 185 homeless Veterans had an average age of 48.6 years (SD 10.8), 94.6 % were male, and 43.0 % were from a minority population. At the baseline assessment, 12.0 % were unsheltered, 25.5 % were staying in a dusk-to-dawn emergency shelter, 26.1 % were in transitional housing, while 27.7 % were in an unstable doubled-up arrangement, with no difference in length of time spent homeless among groups. Almost three-quarters of the sample had either no income or less than \$500/month (usually in disability/pension payments). Overall, 47.3 % reported their health status was fair or poor and 72.7 % reported at least one chronic medical problem, most commonly hypertension, arthritis/chronic pain, and hepatitis/cirrhosis. Similarly, 71.6 % self-reported a diagnosed mental health condition, most commonly depression, anxiety disorders, and post-traumatic stress disorder. Substance abuse was also active in this cohort, with 69.6 % reporting active alcohol use, 12.0 % cocaine and 3.3 % heroin. Finally, 16.9 % reported being a victim of trauma in the past 6 months. In our attrition analysis, those individuals whom we were unable to interview at 6 months were significantly more likely to be nonwhite (54.7 % vs. 36.7 %; $p=0.02$), have a chronic medical condition (82.5 % vs. 67.5 %; $p=0.30$), and to be more motivated for needing health care to get a job (31.8 % vs. 18.5 %; $p=0.04$) or to get housing (31.8 % vs. 11.8 %; $p<0.01$). There was no difference in their rate of receiving primary care or in the amount of primary care they received in the 6-month study period, although they did receive less specialty care and mental health care. Across randomization groups, there was no significant difference in any of these variables, except that more individuals in the usual care group had been victims of trauma in the previous 6 months ($p=0.02$) (Table 1). No care outside VA was reported.

Intervention Results

As shown in Graph 1, 77.3 % of the PHA/BI plus CO group accessed primary care within the first 4 weeks of the intervention, and by 6 months 88.7 % had been seen in primary care. This was followed by the CO-only group, 50.0 % of whom accessed care in the first 4 weeks, but with a steady increase over the subsequent 5 months so that 80.0 % had been seen in primary care at the close of the study. Overall, 41.0 % of the PHA/BI-only group accessed primary care within the first month, although by 6 months, that percentage had only grown to 56.4 %. Finally, the UC care had the lowest proportion

receiving primary care within the first month (30.6 %) with little increase in the percentage accessing care by 6 months (37.1 %). Chi-squared tests by group were significant ($p<0.001$) at both 4 weeks and 6 months. In the Cox regression analysis using the social work "usual care" group as reference, only the Clinic Orientation alone (Hazard ratio 2.64; 95 % CI 1.54–4.53) and the combination of PHA/BI and CO (Hazard ratio: 3.41; 95 % CI 2.02–5.76) were significant.

In our post hoc analyses, among those subjects who did receive care within the first 4 weeks following randomization, there was no significant difference in the subsequent number of primary care, mental health or specialty care visits per person, or the proportion accessing mental health or addiction services during the 6-month study period across all four groups (Table 2). There was also no difference in acute care use across groups during the study period. Further, there was no difference in underlying medical or mental health conditions among those individuals who received care at 4 weeks, except for those experiencing trauma in the previous 6 months who had significantly greater rates of no-care (23.3 % vs. 10.1 %; $p=0.02$).

Changes in Attitudes About Primary Care

We considered the attitudinal data both between intervention groups and by pooling the data to examine those who received primary care within 4 weeks and those that did not, to determine whether there might be underlying behavioral motivators or drivers independent of the intervention that might explain our findings. As shown in Table 3, the only personal motivation for wanting primary care that was significantly different across groups at baseline was "family members depend on me," which was more commonly reported in the PHA/BI-only group ($p=0.004$). Among reasons for why they had delayed getting care in the past, "not being sober" was more commonly reported in the CO-only group ($p=0.001$). There was also no difference at baseline in motivators for wanting to have a source for regular care, and reasons for not having a source of care between those individuals who ultimately accessed care within 4 weeks of enrollment and those who did not. Interestingly, re-assessment at 6 months also did not reveal any significant shift in attitude within groups or across groups except for those not accessing care who were significantly less likely to report needing it for mental health reasons at 6 months (Tables 3 and 4).

DISCUSSION

Our findings suggest that out-of-treatment homeless Veterans can be effectively engaged in primary care through a tailored outreach process. Further, this engagement in primary care was sustained and resulted in care being provided across the continuum of needs facing this population. This is significant, because it represents a minimally intrusive intervention that was effective in bringing homeless Veterans into the care

Table 1. Baseline Demographics

	PHA/BI (N=39)	PHA/BI+CO (N=44)	UC (N=62)	CO (N=40)	p value
	Mn (SD)	Mn (SD)	Mn (SD)	Mn (SD)	
Age	51.2 (8.6)	46.6 (13.4)	48.3 (9.0)	48.7 (11.8)	0.28
Months homeless (in past 5 years)	21.2(19.3)	16.1 (19.1)	23.2(19.8)	22.6(22.7)	0.34
	N (%)	N (%)	N (%)	N (%)	p-value
Gender (male)	36 (92.3)	41 (93.2)	58 (95.1)	39 (97.5)	0.77
Race (White)	22 (56.4)	25 (56.8)	34 (55.7)	24 (60.0)	0.63
Unsheltered	6 (15.4)	2 (4.6)	11 (18.0)	3 (7.5)	0.13
Emergency Shelter	11 (28.2)	9 (20.5)	18 (29.5)	9 (22.5)	0.70
Transitional Housing	9 (23.1)	11 (25.0)	16 (26.2)	12 (30.)	0.91
Doubled-up	11 (28.2)	16 (36.4)	11 (18.0)	13 (32.5)	0.17
Self-reported major reason for homelessness					
Economic	15 (55.6)	24 (66.7)	33 (63.5)	27 (81.8)	0.16
Alcohol or drug problem	7 (25.9)	3 (8.3)	7 (13.5)	3 (9.1)	0.18
Incarcerated/Other	5 (18.5)	9 (25.0)	12 (23.1)	3 (9.1)	0.33
Monthly available cash					
\$500	24 (61.6)	33 (76.8)	49 (80.4)	29 (72.5)	0.20
\$501–\$1000	11 (28.2)	7 (16.3)	8 (13.1)	10 (25.0)	0.20
Health Characteristics					
Emphysema/Asthma/COPD	9 (23.1)	6 (14.0)	5 (8.2)	5 (2.8)	0.21
Hepatitis/Cirrhosis	9 (23.1)	4 (9.3)	10 (16.7)	5 (12.8)	0.35
Diabetes	6 (15.8)	2 (4.6)	6 (9.8)	3 (7.7)	0.39
Hypertension	15 (39.5)	13 (31.0)	17 (28.3)	13 (33.3)	0.71
Arthritis	10 (25.6)	6 (13.6)	17 (27.9)	11 (28.2)	0.32
Depression	25 (64.1)	27 (62.8)	29 (48.3)	26 (66.7)	0.22
Anxiety	22 (56.8)	22 (51.2)	28 (46.7)	23 (59.0)	0.63
PTSD	16 (42.1)	12 (27.3)	21 (34.4)	14 (36.8)	0.56
Bipolar	8 (21.6)	8 (18.6)	7 (11.7)	1 (2.7)	0.08
Schizophrenia	5 (13.2)	2 (4.7)	3 (4.9)	0 (0.0)	0.09
Any Medical Problems	32 (82.1)	32 (72.7)	39 (63.9)	30 (76.9)	0.22
Any Mental Health Problems	29 (74.4)	31 (70.5)	40 (65.6)	31 (79.5)	0.48
Alcohol in past 6 months	24 (61.5)	32 (72.7)	46 (75.4)	26 (65.0)	0.43
Cocaine in past 6 months	4 (10.3)	6 (13.6)	10 (16.4)	2 (5.0)	0.36
Heroin in past 6 months	2 (5.1)	1 (2.3)	3 (4.9)	0 (0.0)	0.54
Trauma in past 6 months	7 (18.0)	7 (15.9)	16 (26.2)	1 (2.5)	0.02
Overall health rating: Poor/Fair	13 (33.3)	22 (50.0)	31 (50.8)	21 (52.5)	0.27

system and in addressing unmet, deferred and delayed care, which is often critical to the process of exiting homelessness. The combination of the personal health assessment/brief intervention coupled with the clinic orientation was the most effective. This was followed by the clinic orientation alone, which had comparable results at 1 month, but had a substantially higher proportion accessing care by 6 months than the personal health assessment/brief intervention-alone group. Both interventions alone and in combination were more

effective than usual care. This suggests that previously identified barriers to care, related to both not having a perceived need for care and not knowing where to go or how to access care, are not “fixed,” but rather are amenable to change through targeted outreach.

Changes in self-reported attitudes and motivators for care and reasons for not seeking care, as measured in this study, did not appear to correlate well with the observed health-seeking actions. The exception was the smaller proportion reporting

Table 2. Receipt of Health Care Services Post-Intervention

	Health Assessment/ Brief Intervention (N=39)	Health Assessment/Brief Intervention+Clinic orientation (N=44)	Usual Care (N=62)	Clinic orientation (N=40)	ANOVA - p
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	
Primary care	3.4 (2.7)	3.1 (2.0)	2.4 (2.0)	2.9 (3.4)	0.52
Specialty care consult	3.7 (5.7)	1.7 (2.0)	2.0 (3.4)	1.8 (2.3)	0.11
Mental health	5.8 (5.9)	3.9 (2.9)	3.3 (2.7)	3.4 (3.0)	0.06
Emergency department (medical)	0.5 (1.1)	0.4 (0.6)	0.4 (0.6)	0.6 (1.3)	0.61
Emergency department (mental)	0.1 (0.4)	0.4 (0.9)	0.3 (1.0)	0.1 (0.3)	0.19
Medical inpatient	0.4 (1.1)	0.0 (0.2)	0.0 (0.0)	0.2 (0.7)	0.07
Surgical inpatient	0.0 (0.0)	0.0 (0.3)	0.0 (0.0)	0.0 (0.2)	0.70
Mental health inpatient	0.2 (0.6)	0.2 (0.7)	0.1 (0.4)	0.1 (0.4)	0.62
Outpatient Mental health (proportion receiving care)	11 (45.8)	23 (53.5)	11 (36.7)	16 (44.4)	0.56
Outpatient SA treatment (proportion receiving care)	9 (37.5)	12 (27.9)	8 (26.7)	9 (25.0)	0.75

Table 3. Baseline Motivators for Wanting Health Care and Reasons for not Having a Regular Source for Care

	PHA/BI (N=39)	PHA/BI+CO (N=44)	UC (N=62)	CO (N=40)	p value
	N (%)	N (%)	N (%)	N (%)	
Personal Motivations (very/most important)					
Family members depend on me	30 (76.9)	24 (54.6)	26 (42.6)	17 (42.5)	<0.01
To keep or get a job	29 (74.4)	35 (79.6)	42 (70.0)	29 (72.5)	0.74
Take better care of self	34 (87.2)	38 (86.4)	48 (80.0)	34 (85.0)	0.75
Concerned about MH	26 (66.7)	28 (63.6)	36 (60.0)	28 (71.8)	0.68
Concerned about SA	18 (46.2)	13 (29.6)	23 (38.3)	14 (35.0)	0.46
Need PE for job	12 (30.8)	9 (20.9)	16 (26.7)	5 (12.5)	0.22
Need PE for housing	9 (23.1)	5 (11.6)	14 (23.3)	6 (15.0)	0.37
Need health care to leave homelessness	30 (76.9)	25 (58.1)	36 (62.1)	25 (64.1)	0.31
To do more w/ life	36 (92.3)	36 (81.8)	48 (80.0)	34 (85.0)	0.40
Chronic pain	23 (59.0)	14 (32.6)	30 (50.0)	17 (42.5)	0.10
Importance of reasons for no primary care provider. (very/most important)					
Didn't know where to go	13 (33.3)	11 (25.6)	14 (23.7)	7 (18.4)	0.50
Didn't think I needed one	10 (25.6)	10 (23.3)	17 (28.8)	9 (23.7)	0.92
Couldn't afford it	18 (46.2)	20 (46.5)	25 (41.7)	15 (39.5)	0.90
wasn't very convenient	11 (28.2)	10 (23.4)	13 (21.7)	10 (26.3)	0.88
Concerned about what they might find	10 (25.6)	4 (9.3)	17 (28.3)	7 (18.4)	0.11
Worried about pain	12 (30.8)	4 (9.3)	11 (18.3)	6 (15.8)	0.09
Didn't trust doctors	7 (18.0)	5 (11.6)	12 (20.0)	3 (7.9)	0.34
Didn't trust the VA	3 (7.7)	5 (11.6)	4 (6.7)	3 (7.9)	0.84
Didn't care what happened	9 (23.1)	7 (16.7)	12 (20.0)	4 (10.5)	0.50

mental health concerns among those who still had not sought care at 6 months. It is possible that our query fields did not accurately capture attitudes driving behavior and action-steps, or that other motivators/drivers were involved. Similarly, it is possible that changes in behavior precipitated changes in attitude and we would not be seeing the expected attitudinal

shifts until patients were effectively engaged in a care model. Additional research is needed.

The mediating effects of a personal health assessment/brief intervention and clinic orientation in enhancing health access correspond to the Vulnerable Populations Health Seeking Behavior “need” and “enabling” domains. Need for care, which can be either actual (based on an established diagnosis or related to an event) or perceived, has consistently been identified as a strong determinant of health seeking behavior.^{13,21–23} Additional facilitators that “enable” access include affordability, ease of access, and transportation. It is also important to note that the health-seeking behavior noted was sustained throughout the 6-month study period with ongoing receipt of primary care, specialty care and mental health/addiction services. Other research has identified a substantial pent-up demand for care,²⁴ and the observed utilization pattern suggests active care needs being addressed once engaged in services.

These findings provide empiric support for the role of clinical outreach, as well as the importance of patient education and orientation to clinical services in engaging homeless persons in care. It is important to note that the intervention studied in this paper consisted of a single outreach event that is distinct from several current outreach activities that include mobile clinics, “street” teams, etc.^{25,26} While significant outcomes were identified with this more minimal process, we presume that there is a “dose effect,” where more robust results would occur with a more longitudinal or intensive approach.

There are several limitations to consider when viewing these findings. First, the study was limited to one geographic region of the United States and also only to homeless Veterans. While these restrictions allowed us to control for many of the potential confounders, they do not allow us to generalize results to non-urban settings, other regions of the country, or

Table 4. 6-Month Attitudes About Health Care of Those Accessing and Not Accessing Primary Care

	Primary care within 1 month	No Primary care within 1 month
	6 Months	6 Months
	N (%)	N (%)
Personal Motivations (very/most important)		
Family members depend on me	42 (60.0)	30 (57.7)
To keep or get a job	47 (67.1)	37 (71.2)
Take better care of self	59 (84.3)	38 (73.1)
Concerned about mental health	39 (55.7)	23 (44.2)*
Concerned about addiction	25 (35.7)	16 (30.8)
Need for job	14 (20.3)	9 (17.3)
Need for housing	11 (15.7)	4 (7.8)
Need health care to leave homelessness	41 (58.6)	34 (66.7)
To do more w/ life	61 (87.1)	40 (76.9)
Chronic pain	30 (42.9)	20 (38.5)
Reasons for no primary care (very/most important)		
didn't know where to go	19 (29.2)	12 (24.5)
didn't think I needed one	13 (20.0)	12 (24.5)
couldn't afford it	35 (53.9)	22 (44.9)
wasn't convenient	20 (30.8)	13 (26.5)
concerned about what they might find	16 (24.6)	12 (24.5)
worried about pain	11 (16.9)	5 (10.2)
didn't trust doctors	12 (18.5)	5 (10.2)
didn't trust the VA	7 (10.8)	5 (10.2)
didn't care what happened	13 (20.3)	9 (18.4)

Significantly fewer respondents reported this as a major reason compared to baseline (p=0.05)

to other subgroups of homeless persons. For example, homeless veterans with serious mental illnesses were excluded from our study and would likely not have benefited from this low-intensity intervention compared with models such as Assertive Community Treatment Teams (ACT teams) and street medicine teams that have been specifically developed for this type population.²⁷ Additionally, the development of the Homeless Patient Aligned Care Teams (H-PACTs) within VA make accessing integrated primary care services much easier than what might be experienced in other care settings, where this type of intervention might not have similar access, care management and referral resources available, although it is important to note that the New Bedford H-PACT had much less integrated service modeling and yielded comparable results. Additional research is ongoing to further delineate this effect. Finally, it is important to note that the outreach efforts all occurred within a 2–3 mile radius of the Veterans Health Administration medical facilities. This type of geographic proximity greatly facilitated the clinical orientation arm and also minimized some of the transportation obstacles that are often very significant. These results may not necessarily be replicable in non-urban settings where lack of geographic access to care is more pronounced. However, it is important to note that in this context and setting there was still significant unmet community need, suggesting the importance of the mediating steps provided by the intervention. It also further underscores the observation that geographic proximity or VA insurance eligibility alone are not enough to ensure people are getting care that they need.

In summary, this study demonstrates significant benefit from a low-intensity outreach effort to engage homeless Veterans in primary care. While additional research is needed to validate these findings and test their applicability elsewhere, it does suggest an important role for health care in homeless outreach that may also be applicable to other disenfranchised population groups.

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APPENDIX

Engaging Homeless Veterans in Primary Care
Personal Health Assessment – RN

Date: ___/___/___

Study ID: _____ - _____

Do you have any difficulty accessing care when you need it? Y N DK (circle one)

If yes, why? _____

Shelter:

- 1) Where are you currently spending your nights: _____
- 2) Future housing plans: _____
- 3) Next steps to completing plan: _____
- 4) Previous episodes of homelessness: _____

Social Supports:

- 1) Hometown: _____
- 2) How long in Providence/New Bedford area: _____
- 3) Family in area: _____
- 4) Last contact with family: _____
- 5) Significant other: _____
- 6) Current close friends: _____
- 7) Need help re-establishing contacts: _____

Economic Self-Sufficiency:

- 1) Trade/work experience: _____
- 2) Interest in VRC programs: _____
- 3) Current disability/pension support: Y N Type: _____
 - a.) If yes, how much?: \$ __ , __ __ __ per: month / year (circle one)
 - b.) Service Connected %: _____
- 4) Need assistance getting a disability or pension: _____
- 5) Potential disability documentation needed: _____

Food security

- 1) How many meals a day to you normally eat?
 <1 1 2 3 >3
- 2) Where do you normally get your food? _____
- 3) Do you have difficulty getting food when you need it: Y N DK (circle one)
 If yes, why? _____

**Engaging Homeless Veterans in Primary Care
Personal Health Assessment – RN**

Date: ___/___/___

Study ID: _____ - _____

Mental Health:

1) Do you think you suffer from or have you been diagnosed with any mental health conditions? Y N

If yes _____

2) Are you currently receiving treatment for Mental Health condition?

Y N

Where? _____

3) Do you need help getting Mental Health care at the VA?

Y N DK NA

Describe (include any obstacles) _____

4) Do you need any help with other types of support, such as

Anger Management Y N

Money Support Y N

Family Counseling Y N

Support Groups Y N

Peer-to-Peer support Y N

Other: _____

Medical Care:

1) Do you suffer from any chronic medical conditions?

Y N DK

If yes, which ones: _____

2) Currently prescribed medications: _____

3) Are you able to take these meds? Y N

If not, why? _____

Engaging Homeless Veterans in Primary Care Personal Health Assessment – RN

Date: ___/___/_____

Study ID: _____ - _____

Review of systems

Do you have any of the following symptoms or problems?

- | | | | |
|---|---|---|---|
| 1) Chest pain, especially if you exert yourself | | Y | N |
| 2) Easily winded or short of breath | | Y | N |
| 3) Wheezing or other respiratory problem | | Y | N |
| 4) Difficulty urinating | Y | N | |
| 5) Frequent urination | Y | N | |
| 6) Always feeling tired or fatigued | | Y | N |
| 7) Chronic Pain | | Y | N |
| 8) Joint or muscle problems | | Y | N |
| 9) Headaches | | Y | N |
| 10) Chronic sinus problems | | Y | N |
| 11) Problems with your hearing or vision | | Y | N |
| 12) Stomach problems – ulcer, reflux, pain | | Y | N |
| 13) Rash or other skin problems | | Y | N |
| 14) Losing too much weight | | Y | N |
| 15) Night sweats or fevers | | Y | N |
| 16) Feeling down, depressed or hopeless | | Y | N |
| 17) Feeling like your thoughts are racing | | Y | N |
| 18) Wanting to hurt or kill yourself | | Y | N |
| 19) Feeling very anxious or easily startled | | Y | N |
| 20) Hearing voices | | Y | N |

How do you rate your current health?

Poor Fair Good Excellent

If poor or fair, why? _____

**Engaging Homeless Veterans in Primary Care
Personal Health Assessment – RN**

Date: ___/___/___

Study ID: _____ - _____

Infectious disease risk

1) Have you ever had any high risk or unprotected sexual contacts with someone who might have put you at risk for an infectious disease like hepatitis, HIV, syphilis or gonorrhea?

Y N

2) Have you had a tattoo placed using unsterile equipment?

Y N

3) Have you ever used any injection drugs, even once?

Y N

4) Have you been around or in close contact with someone who had tuberculosis?

Y N

5) Have you ever been tested for:

Hepatitis B Y N

When: _____

Hepatitis C Y N

When _____

HIV Y N

When _____

Syphilis Y N

When _____

Tuberculosis Y N

When _____

6) Did you get a flu shot this year?

Y N

Physical assessment:

Height: ___ inches

Weight: ___ lbs

BMI: _____

Blood pressure: ___/___

Pulse: _____

FBS (for diabetic patients or patients concerned they may have high blood sugars) _____

**Engaging Homeless Veterans in Primary Care
Personal Health Assessment – RN**

Date: ___/___/___

Study ID: _____ - _____

1) What do you need in order to be able to leave homelessness?

- | | | | |
|---------------------------------------|---|---|----|
| Any medical care/chronic disease care | Y | N | DK |
| Address pain | Y | N | DK |
| Mental health care | Y | N | DK |
| Substance abuse treatment | Y | N | DK |
| Become more "work ready" | Y | N | DK |

Other: _____

Describe: _____

Personal Health Assessment:

Needs identified from above assessment:

Food/Economic/Legal issues _____

Substance Abuse Needs _____

Mental Health Needs _____

Medical Needs _____

+ Review of Systems _____

Infectious disease risks _____

Findings on screening exam: _____

RN notes:
