



Does Street Outreach Engage Its Intended Target Population? Clinical Experience in the Veteran's Health Administration Homeless Service Programs

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Abstract

Objective: Clinical street outreach programs serve people experiencing unsheltered homelessness, who have been shown to have greater medical and psychiatric comorbidities, and increased social and financial challenges. However, outreach programs may struggle in practice to engage the most vulnerable of these individuals. **Methods:** Data from the Veterans Health Administration's (VHA's) Homeless Operations Management System (HOMES) from 2018 to 2019 (N=101,998) were used to compare sociodemographic, clinical, and financial characteristics of literally homeless veterans contacted through street outreach to those who were self-referred or clinic-referred. **Results:** Veterans engaged through street outreach reported substantially more days of unsheltered homelessness in the past month (mean (M)=11.18 days, s.d.=13.8) than the clinic-referred group (M=6.75 days, s.d.=11.1), and were more likely to have spent the past 30 days unsheltered (RR=2.23). There were notably few other differences between the groups. **Conclusion:** Despite epidemiologic evidence in the literature showing higher medical, psychiatric, and social and financial vulnerabilities among unsheltered homeless individuals, our street outreach group was not found to be any worse off on such variables than the clinic-referred or self-referred groups, other than increased time unsheltered. Outreach workers seem to engage more unsheltered individuals, but do not necessarily engage those with such severe vulnerabilities. Dedicated outreach program funding, training, and support are needed to support street outreach to those with the most severe problems.

Keywords Homelessness · Homeless mentally ill · Street outreach · Veterans · Community psychiatry

Homelessness among veterans in the United States remains an issue of considerable public concern [1, 2]. Despite a decrease in veteran homelessness over the past 10 years, the 2020 U.S. Department of Housing and Urban Development (HUD) Point-in-Time count identified over 37,000 veterans experiencing homelessness on the night of the count, with about 40% reported to be unsheltered [3]. Campaigns to end veteran homelessness, predominantly

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implemented or funded by the Veterans Health Administration (VHA), have made concerted efforts to engage veterans in specialized homeless services, through initiatives such as street outreach, Housing First Supported Housing, time-limited residential treatment, and many others [4–6].

Street outreach is an assertive clinical method of reaching people experiencing homelessness wherein teams composed of people with lived experience, case managers, and/or licensed mental health practitioners seek out and offer services to homeless individuals in encampments, parks, streets, and other public sites. Street outreach has been used for several decades [7–10] and may be the only way to reach certain individuals who face barriers to seeking services on their own. Epidemiologic studies of homeless individuals have found that those who are unsheltered, the target population for street outreach, are more likely than others to have been chronically homeless, incarcerated in the past or to have other criminal justice system involvement, experience exceptional financial hardship (including limited access to medical insurance and public support payments), and have more serious medical, mental health, and substance use problems [11–15]. In an 18-site research study, the Access to Community Care and Effective Services and Supports (ACCESS) program [16], clients assessed by research staff through street outreach had more days homeless in the past 30, greater likelihood of having a psychotic disorder, were less interested in services, and took longer to engage in case management than those engaged through other means [7]. The 20% of clients who did enter case management from street outreach in ACCESS nonetheless were similar to, and benefited as much from services, as non-outreach participants, suggesting it is still worthwhile to engage this group.

Though systematic epidemiologic sampling has revealed major differences between the sheltered and unsheltered homeless populations, those vulnerabilities have not always been evident among individuals engaged by clinical professionals through street outreach. Veterans engaged by clinicians through street outreach in a 2011–2012 VHA study were more likely to be chronically homeless and to have more days homeless in the past month than those engaged by other approaches [17]. However, physical health differences were minimal as were most other clinical or sociodemographic vulnerabilities, including days of unsheltered homelessness. Those referred by a clinic-based provider actually had higher rates of several mental health diagnoses and psychiatric hospitalizations, perhaps suggesting they had sought help for these illnesses before being referred for specialized homeless services.

It is thus important to further examine whether street outreach based in clinical rather than research programs successfully engages distinctly more vulnerable people experiencing homelessness or not. This study aimed to further examine the process of clinical outreach using national VHA data from 2018 to 2019 to address the question of whether veterans who were currently literally homeless, i.e. had no stable housing and were living in a shelter, outdoors, or in another place not meant for human habitation, and who were engaged through street outreach, differed from those who were also literally homeless but were contacted through self-referral, or through clinic, hospital, and other community program referral, in their socio-demographic or clinical characteristics, or access to financial and public support resources.

Methods

Data sources and study sample. We examined intake data from the VHA Homeless Operations Management System (HOMES), a centralized electronic database that tracks veterans encountered by specialized VHA homelessness programs in a variety of service settings [18]. HOMES data were analyzed for veterans whose initial assessment occurred in the years 2018–2019 and were identified as currently having no stable conventional residence. Intake data, gathered by clinicians at the time of each Veteran’s initial contact, documented socio-demographic, housing, clinical, public support, and other characteristics in order to determine eligibility and appropriateness for referral to specialized VHA homelessness services.

Data analysis was limited to individuals who were literally homeless and had detailed data about their housing over the past 30 days, approximately one-third of the total sample (N=101,998). This group was compared to those on whom detailed housing and other data were not available (N=200,560) for unspecified reasons including changes in the forms or differences in their use in different localities. We analyzed the degree to which those with complete 30-day housing data differed from those without such data on 29 variables where both groups had 96–100% of relevant non-housing data. On these variables, which included most sociodemographic variables and psychiatric indicators, there were no substantial effect size differences (see statistical analysis section below for effect size criteria; detailed data available on request). These analyses were part of an approved quality improvement project using anonymized data by the VHA Homeless Programs Office and were exempt from VHA’s institutional review board.

Measures. Sociodemographic variables included age, gender (male or female), marital status (married/remarried/partnered; separated/divorced; never married; widowed), race/ethnicity (White, Black, Hispanic, or Other), years of education, having had any children and having a child in custody.

Chronic homelessness was assessed along with specific housing status over the past 30 days (i.e., number of days housed, number of days in residential treatment, number of days in an institution such as jail or hospital, number of days in a shelter, or number of days unsheltered), and an ordinal variable representing four levels of time unsheltered over the past 30 days (0 days, 1–15 days, 16–29 days, and all 30 days). Total lifetime experience of homelessness, number of times (episodes) of homelessness in the past 3 years (1 to 5 times), and time spent in jail/prison over lifetime (none, < 1 month, 1 month to one year, > 1 year) were also recorded.

Health-related variables included client ratings of their physical health over the past 30 days on a 0–4 scale where 0=excellent and 4=poor, use of tobacco products, days used alcohol and days used drugs over the past 30 days, along with cravings for alcohol or drugs over the past 30 days. Preliminary diagnostic impressions were recorded (including diagnosis of alcohol or drug use disorder, gambling problems, schizophrenia or other psychotic disorder, military and non-military related Post-Traumatic Stress Disorder (PTSD), anxiety disorder, affective disorder, or adjustment disorder) as well as whether the person was assessed to need substance use disorder treatment, psychiatric treatment, medical treatment, or help with family problems, and whether the respondent was interested and willing to receive treatment for substance use or psychiatric disorders.

Measures of financial status and public support included whether and how much money was received over the past 30 days, the source of monetary income among those with any monetary income (employment, VA-related disability income, Social Security income, or other types of cash income). Receipt of non-cash benefits was also recorded along with types of non-cash benefits among those who received any (Medicaid, Medicare, food stamps, or other). The number of days worked in the past 30 and assignment to a financial payee were also documented.

Statistical analysis. Due to the extremely large sample sizes with 20,000–44,000 individuals in each of the three groups totaling 101,998 veterans, statistical tests showing even small differences between groups were highly significant at $p < 0.0001$, i.e., comparisons with risk ratios (RR) ≤ 1.10 . Therefore, effect sizes (RR and Cohen's d (d)) rather than p values were used to identify substantial differences between veterans contacted through street outreach and those self-referred or referred from other clinical programs. For categorical variables, $RR \leq 0.67$ and ≥ 1.50 were considered indicators of substantial effect size differences based on published norms [19]. For continuous variables, Cohen's d was used to evaluate effect sizes, and values ≥ 0.20 and ≤ -0.20 were considered to represent at least small but substantial differences [20].

Results

Altogether 20,622 veterans (20.2%) were contacted through street outreach, 37,051 (36.3%) were engaged after self-referral and 44,325 (43.5%) were contacted through referrals from VHA or non-VHA clinics, hospitals, or other community programs, hereafter termed "clinic-referred." Few substantial differences were found between the street outreach group and the other two groups (Tables 1, 2 and 3). On socio-demographic variables (Table 1), there were no substantial differences between groups in age, gender, marital status, race, education level, or the proportion who had any children or had children in their custody. The only notable differences were in the average number of days in various housing arrangements over the past 30 days and in the ordinal variable representing days unsheltered over the past 30. Those engaged on street outreach had substantially fewer days housed in the past 30 than those who were self-referred (mean (M)=6.78 vs. 9.83 days, $d = -0.26$) and fewer days in residential treatment compared with those who were clinic-referred (M=3.40 vs. 7.66 days, $d = -0.42$). The street outreach group spent substantially more of the past 30 days unsheltered (M=11.18 vs. 6.75 days, $d = 0.36$) than the clinic-referred group. Substantially more of the street outreach group had spent all of the past 30 days unsheltered than the clinic-referred group (25.7% vs. 11.5%; $RR = 2.23$). Related variables such as overall duration and chronicity of homelessness, and number of times homeless did not reveal any substantial group differences.

On the health-related variables (Table 2), there were no substantial differences between groups on self-rated physical health, use of tobacco, diagnosis of alcohol or drug use disorder, or days of alcohol or drug use in the past 30. There were also no differences in intensity of cravings for alcohol or drugs. When looking at the clinical impression of the interviewer on diagnostic categories, there was only one substantial difference: those engaged on street outreach were *less* likely than those engaged by clinic referral to be noted to have a gambling problem ($RR = 0.67$). However, there were no substantial differences in rates

Table 1 Comparison of socio-demographic variables by type of initial contact: risk ratio and Cohen’s D ^a

Variable	Group 1: Street outreach		Group 2: Self-referral		Group 3: Clinic referral		Risk Ratios (categorical variables) or Cohen’s D (continuous variables)	
	N=20,622 (20.22% of total)	%/St dev	N=37,051 (36.33% of total)	%/St dev	N=44,325 (43.46% of total)	%/St dev	Group 1 vs. Group 2	Group 1 vs. Group 3
Age (mean, Cohen’s D)	52.18	12.36	51.59	12.32	50.87	12.63	0.05 ^	0.11 ^
Gender								
Male (%)	18,959	91.9	33,942	91.6	40,747	91.9	1.00	1.00
Female (%)	1645	8.0	3075	8.3	3530	8.0	0.96	1.00
Marital status								
Married, remarried, or partnered (%)	6034	29.9	10,449	28.6	12,823	29.4	1.04	1.02
Separated or Divorced (%)	1940	9.6	3680	10.1	3868	8.9	0.95	1.08
Never Married (%)	11,285	55.9	20,774	57.0	24,999	57.3	0.98	0.98
Widowed (%)	938	4.6	1576	4.3	1952	4.5	1.07	1.04
Race/ethnicity								
White (%)	11,202	55.5	18,358	50.6	25,765	59.3	1.10	0.94
Black (%)	7963	39.5	16,286	44.9	15,573	35.8	0.88	1.10
Hispanic (%)	1493	7.4	3028	8.4	3509	8.1	0.89	0.92
Other (%)	881	4.4	1410	3.9	1810	4.2	1.12	1.05
Years of Education (mean, Cohen’s D)	12.99	1.8	13.15	1.9	13.09	1.9	-0.09 ^	-0.05 ^
Any Children (%)	5064	2.5	9580	2.6	11,503	26.0	0.95	0.95
Any Child in Custody (%)	2310	11.2	4426	11.9	4919	11.1	0.94	1.01
Chronically Homeless (%)	9530	46.2	14,743	39.8	17,270	39.0	1.16	1.19
Housing status over past 30 days								
Days housed past 30 days (mean, Cohen’s D)	6.78	10.93	9.83	12.30	7.79	11.26	-0.26 †	-0.09 ^
Days in Residential treatment past 30 days (mean, Cohen’s D)	3.40	8.74	3.13	8.43	7.66	11.89	0.03 ^	-0.42 †
Days in Institution past 30 days (mean, Cohen’s D)	2.61	7.50	1.59	5.69	3.48	7.98	0.14 ^	-0.12 ^

Table 1 (continued)

	Group 1: Street outreach		Group 2: Self-referral		Group 3: Clinic referral		Risk Ratios (categorical variables) or Cohen's D (continuous variables)	
	N=20,622 (20.22% of total)		N=37,051 (36.33% of total)		N=44,325 (43.46% of total)			
Variable	N/mean	%/St dev	N/mean	%/St dev	N/mean	%/St dev	Group 1 vs. Group 2	Group 1 vs. Group 3
Days sheltered homeless past 30 days (mean, Cohen's D)	6.03	10.69	4.54	9.41	4.32	9.10	0.16 ^	0.18 ^
Days Unsheltered Past 30 days (mean, Cohen's D)	11.18	13.18	10.91	12.89	6.75	11.09	0.02 ^	0.36 †
Time Unsheltered Past 30 days								
0 days (%)	9991	48.5	16,413	44.3	28,303	63.9	1.09	0.76
1–15 days (%)	3297	16.0	8098	21.9	6586	14.9	0.73	1.08
16–29 days (%)	2036	9.9	3634	9.8	4328	9.8	1.01	1.01
30 days (%)	5298	25.7	8906	24.0	5108	11.5	1.07	2.23 *
Time homeless								
≥1 day < 1 month (%)	3948	19.4	9782	26.7	10,530	24.1	0.73	0.81
≥1 month, < 60 month (%)	5044	24.8	9041	24.6	11,695	26.7	1.01	0.93
≥6 month, < 1 year (%)	2560	12.6	4356	11.9	5444	12.4	1.06	1.01
≥1 year, < 2 years (%)	3195	15.7	5288	14.4	5830	13.3	1.09	1.18
2 or more years (%)	5588	27.5	8227	22.4	10,268	23.5	1.23	1.17
Number of times homeless in past 3 years								
1 time (%)	8692	42.9	15,162	41.5	19,101	43.9	1.03	0.98
2 times (%)	3732	18.4	7248	19.9	8466	19.5	0.93	0.95
3 times (%)	2138	10.6	4249	11.6	5255	12.1	0.91	0.87
4 times (%)	2420	12.0	4446	12.2	4800	11.0	0.98	1.08
5 or more times (%)	3259	16.1	5408	14.8	5851	13.5	1.09	1.20
Time in jail or prison over lifetime								
None (%)	6330	31.9	11,840	33.0	13,494	31.7	0.97	1.01
Less than 1 month (%)	3874	19.5	7743	21.6	9404	22.1	0.91	0.88

Table 1 (continued)

Variable	Group 1: Street outreach		Group 2: Self-referral		Group 3: Clinic referral		Risk Ratios (categorical variables) or Cohen's D (continuous variables)	
	N/mean (20.22% of total)	%/St dev	N/mean (36.33% of total)	%/St dev	N/mean (43.46% of total)	%/St dev	Group 1 vs. Group 2	Group 1 vs. Group 3
1 month to 1 year (%)	4231	21.3	7511	20.9	9463	22.2	1.02	0.96
More than 1 year (%)	5409	27.3	8843	24.6	10,210	24.0	1.11	1.14

^a up to 5% of data are missing on 11% of the variables

* Substantial value based on effect size for $RR \geq 1.50$ or ≤ 0.67

† Cohen's D value noted reflects substantial difference when ≥ 0.20 or ≤ -0.20

^ Cohen's D value not substantial when < 0.20 and > -0.20

of substance use disorders, schizophrenia or other psychotic disorders, affective disorders, military or non-military PTSD, anxiety disorders, or adjustment disorders. There were also no differences in the clinician assessment of the individual's need and willingness to receive substance use disorder or psychiatric treatment, or their need for medical treatment or help with family problems.

The groups also showed few differences in financial matters and public support (Table 3). There were no substantial differences between groups in whether they received any cash income, the total amount of cash income received over the past 30 days, or the sources of cash income among those receiving such income. There were also no substantial differences in receipt of non-cash benefits. However, among those receiving any non-cash benefits, those contacted through street outreach were less likely than the clinic-referred group to be covered by Medicare ($RR=0.66$).

Discussion

This study of portals of entry to VHA homeless service programs based on national VHA administrative clinical data revealed few substantial differences between those engaged through street outreach and those who were self-referred or clinic-referred. Substantial differences included that those engaged through street outreach reported far more days unsheltered in the 30 days before entry, a greater likelihood of having been unsheltered every day for the past 30 days, and fewer days in residential treatment or housing. They unexpectedly did not show substantial diagnostic differences on any psychiatric or substance use disorder except for being *less* likely to demonstrate evidence of problematic gambling. They were also not shown to be more vulnerable in terms of access to specific economic resources.

These findings are overall consistent with one previous VHA study, which also relied on VHA administrative data, although the data for the current study was gathered 6 years later [17]. As in our study, the most prominent differences between clients engaged through different routes were found in housing status, specifically more days homeless in the past

Table 2 Health-related variables by type of initial contact ^a

Variable	Group 1: Street outreach		Group 2: Self-referral		Group 3: Clinic referral		Risk Ratios (categorical variables) or Cohen's D (continuous variables)	
	N/mean (20.22% of total)	%/ St dev	N/mean (36.33% of total)	%/ St dev	N/mean (43.46% of total)	%/ St dev	Group 1 vs. Group 2	Group 1 vs. Group 3
Physical health rating over past 30 days (0=excellent, 4=poor) (mean, Cohen's D)	2.40	1.02	2.43	1.02	2.49	1.03	-0.03 ^	-0.08 ^
Use of tobacco products (%)	11,093	58.6	20,543	58.8	25,922	62.4	1.00	0.94
Days drank alcohol over past 30 days (mean, Cohen's D)	1.84	5.71	1.86	5.67	1.86	5.52	0.00 ^	0.00 ^
Days used drugs over past 30 days (mean, Cohen's D)	1.74	5.65	2.19	6.38	1.91	5.77	-0.08 ^	-0.03 ^
Rating of cravings to use alcohol or drugs over past 30 days (0=not at all, 5=extremely) (mean, Cohen's D)	0.45	0.91	0.47	0.95	0.57	0.99	-0.01 ^	-0.12 ^
Clinical impression of interviewer								
Alcohol use disorder (%)	7004	34.0	11,694	31.6	19,495	44.0	1.08	0.77
Drug use disorder (%)	5681	27.5	10,255	27.7	16,606	37.5	1.00	0.74
Gambling problem (%)	206	1.0	422	1.1	662	1.5	0.88	0.669 *
Schizophrenia (%)	901	4.4	1559	4.2	2008	4.5	1.04	0.96
Other psychotic disorder (%)	719	3.5	1119	3.0	1721	3.9	1.15	0.90
Military related PTSD (%)	3025	14.7	6374	17.2	9250	20.9	0.85	0.70
Non-military related PTSD (%)	1304	6.3	2501	6.8	3999	9.0	0.94	0.70
Anxiety disorder (%)	4164	20.2	6861	18.5	10,366	23.4	1.09	0.86
Affective disorder (%)	6959	33.7	12,497	33.7	17,909	40.4	1.00	0.84
Adjustment disorder (%)	2447	11.9	4129	11.1	5209	11.8	1.06	1.01
In need of substance use disorder treatment (%)	7611	36.9	13,273	35.8	22,199	50.1	1.03	0.74
Interested and willing to receive substance use disorder treatment (%)	5483	79.5	10,297	81.3	19,172	89.6	0.98	0.89

Table 2 (continued)

Variable	Group 1: Street outreach		Group 2: Self-referral		Group 3: Clinic referral		Risk Ratios (categorical variables) or Cohen's D (continuous variables)	
	N/mean (20.22% of total)	%/ St dev	N/mean (36.33% of total)	%/ St dev	N/mean (43.46% of total)	%/ St dev	Group 1 vs. Group 2	Group 1 vs. Group 3
In need of psychiatric treatment (%)	10,540	51.1	18,340	49.5	26,947	60.8	1.03	0.84
Interested and willing to receive psychiatric treatment (%)	8948	91.2	16,116	90.9	24,679	94.5	1.00	0.97
In need of medical treatment (%)	13,288	64.4	21,406	57.8	29,619	66.8	1.12	0.96
In need of assistance with family problems (%)	1918	9.3	2950	8.0	4396	9.9	1.17	0.94

^a up to 5% of data are missing on 11% of the variables

* Substantial value based on effect size for $RR \geq 1.50$ or ≤ 0.67

† Cohen's D value noted reflects substantial difference when ≥ 0.20 or ≤ -0.20

^ Cohen's D value not substantial when < 0.20 and > -0.20

month among those contacted through street outreach, but there were also no substantial differences in medical, psychiatric, or sociodemographic factors. Chronic homelessness was more frequent in the street outreach group in the prior study, but our study did not find a difference between groups on this indicator.

Findings from these two clinical examinations of VHA administrative data were surprisingly different from those reported in epidemiologic studies in which data were collected by independent research staff or retrospective analyses from administrative databases, rather than by clinicians engaging homeless veterans in voluntary service programs. Such research studies have shown that those identified as unsheltered—the target population of street outreach—not only experience more days unsheltered, but also have more medical and psychiatric problems than those engaged in other settings—a stark contrast to our findings. For example, the ACCESS study, unlike our study, found the unsheltered group to have higher likelihood of psychotic disorders, among other vulnerabilities [7]. Five other epidemiologic studies also reported significantly more severe conditions in the unsheltered homeless population, such as increased criminal justice involvement, financial hardship, substance use, and higher rates of serious medical and psychiatric conditions [11–15].

Though outreach workers appear to engage individuals with more days unsheltered, they do not necessarily engage those with any higher levels of medical, psychiatric, or social or financial vulnerability. What could explain this discordance? One explanation is that research conducted for the purpose of epidemiologic or clinical data, gathered by independent research assistants or through administrative database review, differs greatly in its objectives and methodology from studies like ours which examine data gathered from the operation of real-world clinical programs. There are substantial differences between these types of studies in how data are obtained and for what reasons. For example, clinical pro-

Table 3 Financial variables and measures of public support by type of initial contact ^a

	Group 1: Street outreach		Group 2: Self-referral		Group 3: Clinic referral		Risk Ratios (categorical variables) or Cohen's D (continuous variables)	
	N=20,622 (20.22% of total)		N=37,051 (36.33% of total)		N=44,325 (43.46% of total)			
Variable	N/mean	%/St dev	N/mean	%/St dev	N/mean	%/St dev	Group 1 vs. Group 2	Group 1 vs. Group 3
Total money received over past 30 days (\$) (mean, Cohen's D)	\$ 1,070.30	1177.30	\$ 1,126.29	1136.65	\$ 1,189.60	1295.24	-0.05 ^	-0.1 ^
Received any money over past 30 days (%)	13,350	66.8	25,720	71.0	29,537	68.3	0.94	0.98
Type of income received over past 30 days (% of those receiving any cash income)								
Employment income (%)	2928	21.9	5834	22.7	6087	20.6	0.97	1.06
VA-related disability income (service connection) (%)	5845	43.8	12,331	47.9	14,711	49.8	0.91	0.88
Social Security income (SS retirement, SSI or SSDI) (%)	5479	41.0	9768	38.0	11,603	39.3	1.08	1.04
Other types of cash income (%)	1153	8.6	1916	7.4	2364	8.0	1.16	1.08
Received any non-cash income over past 30 days (%)	7550	36.6	11,901	32.1	13,899	31.4	1.14	1.17
Type of non-cash benefit received over past 30 days (% of those receiving any non-cash benefits)								
Medicaid (%)	1436	19.0	1994	16.8	3471	25.0	1.14	0.76
Medicare (%)	769	10.2	1354	11.4	2151	15.5	0.90	0.66 *
Food stamps (%)	6303	83.5	9720	81.7	10,140	73.0	1.02	1.14
Other types of non-cash income (%)	1282	17.0	2145	18.0	3159	22.7	0.94	0.75

Table 3 (continued)

Variable	Group 1: Street outreach		Group 2: Self-referral		Group 3: Clinic referral		Risk Ratios (categorical variables) or Cohen's D (continuous variables)	
	N/mean (20.22% of total)	%/St dev	N/mean (36.33% of total)	%/St dev	N/mean (43.46% of total)	%/St dev	Group 1 vs. Group 2	Group 1 vs. Group 3
Days worked over past 30 days (mean, Cohen's D)	2.42	6.57	2.73	6.95	2.34	6.48	-0.05 ^	0.01 ^
Currently has payee (%)	742	3.6	1334	3.6	1926	4.4	1.00	0.83

^a up to 5% of data are missing on 11% of the variables

* Substantial value based on effect size for RR ≥ 1.50 or ≤ 0.67

† Cohen's D value noted reflects substantial difference when ≥ 0.20 or ≤ -0.20

^ Cohen's D value not substantial when < 0.20 and > -0.20

grams may be expected to meet certain numerical targets for enrollment in order to satisfy organizational workload standards. As a result, street outreach staff may face incentives to engage the subgroup of unsheltered individuals who express greater interest in treatment, need less time for relationship building, present with more readily addressable financial or clinical vulnerabilities, and have fewer barriers to successful enrollment in services or subsequent placement in housing. Research assistants, in contrast, who assess as many subjects as possible regardless of their subsequent engagement in service programs, may not experience incentives to attend to clinical motivation or perceived symptom severity and, importantly, can offer monetary compensation for clients' time. A street outreach clinical program may face client selection pressures that shape the type of people who are assessed because the primary goal is clinical engagement and/or subsequent housing rather than data collection.

It is also likely that some adults experiencing homelessness absolutely refuse contact, despite meaningful efforts to engage them, and may therefore not be initially identified in a clinical program database. These individuals may give enough identifying information to be included in administrative databases without a full evaluation. They may also be more amenable to assistance weeks, months or even years after having many brief, relatively anonymous, contacts, contacts only sufficient to enroll them in administrative records.

A similar concern with selection biases has also been raised in research trials of long-acting injectable antipsychotics, which are also seeking to understand a particularly difficult-to-treat and often weakly motivated population. A systematic review by Kishimoto et al. (2021) supported the fact that while randomized controlled trials may show equal efficacy of long-acting injectables and oral antipsychotics, real-world clinical studies demonstrate superiority of long-acting injectables due to the clinical selection of a population who will most likely benefit from their practical advantages [21]. The difference between research studies and real-world clinical data may even be more pronounced in the case of street outreach because the target population of unsheltered homeless people is often not engaged in the health care system and may be especially reluctant to do so.

Taken together, VHA clinical data and data from more formal research studies may point to a potentially problematic dynamic in clinical programs targeted towards people with severe mental illness or dual diagnosis in that they face incentives to focus on those most willing to accept services, not necessarily the most vulnerable, for practical institutional reasons such as performance measures or funding dependent upon caseload size. A future goal may be for clinical programs to demonstrate that enrolling clients with the greatest vulnerabilities can be justified by greater health gains and cost reductions from reduced use of emergency, inpatient, and shelter services. This has been suggested but not definitively demonstrated in several large studies [22–24].

Funding dedicated specifically for street outreach may help target services to where they are needed most. In the early 1980s, some programs were funded to do exclusively street outreach. For example, The Community Service Society of New York, NY provided such targeted funding to encourage engagement of the most vulnerable “street people” [25]. Another study demonstrated that clinical services designed and funded to serve street-dwelling individuals with psychiatric disabilities can successfully engage this often disaffiliated group [26]. When funding is targeted at engaging a specified population, institutional workload requirements may be adjusted accordingly and become less of an impediment. Future studies may examine institutional requirements themselves to understand whether they adequately promote engagement with an outreach target population.

Street outreach workers may receive varying amounts and quality of training. For example, training in working with an SMI (seriously mentally ill) population may need to be reinforced more broadly to promote better engagement with the most psychiatrically ill. Peer specialists working on mental health treatment teams have been shown to positively impact days housed and improve overall client functioning [27, 28], and are another way in which street outreach teams may engage vulnerable individuals more effectively. Further studies should examine how training for street outreach workers and innovative care models influence the success of reaching particular sub-populations.

This study had several limitations. First, it was based on an administrative dataset from a large national clinical program with high proportions of missing data likely due to use of different assessment forms at different times and places, and variations in clinician judgment about which data were relevant and readily obtainable at the time of contact. However, as previously discussed, the differences between those with full and partial data were not substantial.

Second, VHA HOMES data are specific to predominantly male, older veterans with access to a broad array of VHA services, whose needs may be quite different from those of other people experiencing homelessness, whether veterans not served by the VHA or the general public, thus limiting the generalizability of our results. Data about clinical variables were somewhat subjective as they were obtained only by self-report or clinical impression, rather than by application of rigorous diagnostic criteria, possibly leading to under-detection of clinical differences.

In spite of these limitations, this study of VHA street outreach suggests potential selection processes in outreach by clinical programs seeking to reach performance standards or enrollment targets as contrasted with research programs in which independent research assistants are tasked with collecting more limited, research-oriented or administrative data on representative samples of adults. As a result, though street outreach does appear to reach a greater proportion of unsheltered individuals, those experiencing the most severe prob-

lems may not be adequately engaged. Dedicating funds to specific outreach efforts, modifying workload standards, and training outreach staff may be needed to effectively engage difficult-to-reach unsheltered homeless adults.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflicts of interest.

Research subjects and informed consent These analyses were part of an approved quality improvement project using anonymized data by the VHA Homeless Programs Office and were exempt from VHA's institutional review board.

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