Improving Housing Outcomes for Homeless Veterans
Study Protocol and Statistical Analysis Plan

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Background

Evidence-based practices (EBPs) improve housing and health for homeless-experienced persons with serious mental illness (SMI), including permanent supportive housing (PSH: subsidized community-based housing with supports). Yet, it is challenging to implement and sustain such EBPs with fidelity. Agencies serving this population are burdened with addressing psychiatric symptoms, care fragmentation, and social vulnerabilities. Given these challenges, it is important to adapt EBP implementation packages prior to scale-up.

Psychoeducational interventions that train persons who have experienced homelessness with SMI (PEH-SMI) in living skills may increase housing choice and autonomy. PEH-SMI report higher satisfaction with homeless services when they are taught housing skills. Yet, little is known about effective strategies to support the implementation of psychoeducational EBPs for PEH-SMI. As social skills—which facilitate social interactions and instrumental tasks—are a determinant of housing outcomes, but uncommonly taught in homeless services, we piloted a 12-session social skills training intervention for PEH-SMI that combines and tailors effective social skills training interventions for adults with SMI.

Guided by the original Consolidated Framework for Implementation Research (CFIR), this protocol describes methods to assess early implementation outcomes (feasibility, acceptability, appropriateness, and fidelity) of this pilot as well as contextual factors that impacted implementation. These methods can inform practice modifications that may enhance scale-up.

Methods and Statistical Analysis Plan

Setting and ethics

This pilot was conducted at Veterans Administration (VA) Greater Los Angeles, which has VA's largest homeless program and robust services for PEH-SMI. Study procedures were approved by the VA Greater Los Angeles Institutional Review Board and informed consent was obtained from all participants.

Participants

Partnered with facility-level homeless program leaders, we identified 9 frontline staff who worked with PEH-SMI and were interested in piloting the intervention. These staff included social workers, mental health counselors, and addiction therapists in four settings: residential rehabilitation for PEHs; PSH for PEHs run by a VA community partner; "bridge housing" that transitions PEHs to longer-term placements; and an SMI-oriented intensive outpatient program.

Each interventionist approached PEH-SMI from their own programs and identified 4-8 participants who were willing to engage in social skills psychoeducation. Eligibility criteria included: homeless experiences (past or current VA homeless service use); mental illness (schizophrenia and other psychotic disorders, bipolar disorders, major depressive disorders, anxiety disorders, and/or post-traumatic stress disorder (PTSD)) noted in VA's electronic health record (EHR); and serious functional impairments (per interventionists' clinical impressions). As PEH-SMI were identified by frontline staff as part of their clinical practice, we do not know the number of persons approached or ineligible to participate. Each PEH-SMI (total n=35) participated in 1 of 6 cohorts in 1 of the 4 settings.

Social Skills ("Housing Skills Training") Implementation Package

We used literature review, key informant interviews, a national consensus panel of experts in psychosocial rehabilitation and homelessness and focus groups with PEH-SMI to reach consensus on social skills relevant to housing attainment and retention for PEH-SMI.

Housing Skills Training was designed to improve housing attainment and retention. The first session was delivered as an individual session or group (4-8 participants/interventionist, consistent with social skills training practice for persons with SMI); it introduced participants to the intervention and the interventionists, set expectations, and identified each participant's housing and mental health goals. The remaining 11 sessions were delivered in groups (1-2 times/week, 1 hour/group), led by 1-2 interventionists. The entire intervention was designed to be delivered over 6-12 weeks, dependent on number of sessions per week. Each session focused on 1 of 19 skills classified into 6 themes (Table 1); skills were selected by the interventionist(s) to reflect the recovery goals of each group's participants. Sessions were interactive, engaging participants in behavioral instruction, i.e., role plays with skill

practice, with iterative feedback, followed by "outside practice" in which participants applied skills learned in their everyday lives.

Though the intervention was designed to occur face-to-face, the coronavirus of 2019 (COVID-19) pandemic began mid-study; 5 of the 6 cohorts conducted the group face-to-face (2 moved outdoors) and the 6th conducted the group via Webex (telephone or videoconference, dependent on skills and equipment). Cohorts were grouped by the interventionists (they were recruited from interventionist's existing caseloads).

Interventionists were trained to deliver Housing Skills Training. First, they completed an asynchronous 3-hour social skills training web course. Next, they attended a 2-hour in-person (pre-pandemic) or synchronous videoconference (pandemic) training conducted by the first author; this training reviewed the intervention's overarching approach, detailed the content of individual sessions, and engaged the interventionists in experiential learning (simulated groups with feedback). All interventionists received a Housing Skills Training manual (with patient worksheets, group leader discussion points, and implementation tips) and templated progress notes were created in the Electronic Health Record (EHR). During their first time delivering the intervention (12 sessions), interventionists received technical assistance and implementation support via case consultation (30 minutes/week, via videoconference or telephone).

Metrics

Interventionists provided participants' names and social security numbers. We obtained informed consent to review each participant's EHR to abstract age, gender, race/ethnicity, and percent service-connection (VA disability rating, a proxy for functioning). We also used the EHR "problem list" (diagnosis list) and notes from mental health outpatient visits or hospitalizations in the year prior to intervention initiation to abstract the presence or absence of depression, bipolar disorder, PTSD, anxiety disorders, schizophrenia and other psychotic disorders, drug use disorders, and alcohol use disorders. The EHR was used to track group attendance (presence/absence of templated progress notes). As the EHR does not consistently record housing status, we administered the Residential Time-Line Follow-Back

(TLFB) Inventory to each participant at baseline; the TLFB is a retrospective event history of housing status over the past 6 months, data were collected in person at the VA Greater Los Angeles. We classified residences as "stable," "sheltered homelessness" (e.g., transitional housing), or "unsheltered homelessness."

Feasibility was assessed by intervention retention and treatment fidelity. We observed a random sample of 3 groups/interventionist to assess fidelity, which we captured with an adapted version of a fidelity checklist used in VA Social Skills Training (Likert scales to capture adherence to the intervention's core components). We conceptualized acceptability as satisfaction and perceived intervention utility. Post-intervention, all participants were asked to complete the Client Satisfaction Questionnaire (CSQ)-8, a brief measure of satisfaction with healthcare interventions with strong internal consistency, item-total correlations, and inter-item correlations; 16 of 35 participants completed this. All 9 interventionists agreed to complete an 8-item version of the Perceived Characteristics of the Intervention Scale (PCIS), a reliable measure of perceived characteristics with preliminary support for its validity; the PCIS aligns with the CFIR intervention characteristics construct to capture perceptions about an intervention's acceptability and its potential for implementation and sustainability in routine care.

To augment these scales, gather information on Housing Skills Training's appropriateness for this population and setting, and identify contextual factors that impact implementation, we conducted 30-minute semi-structured telephone interviews with a subset of PEH-SMI who agreed to this interview post-intervention (n=14) and all 9 interventionists. Interviews were recorded and professionally transcribed. PEH-SMI participants were queried about their intervention experiences, including their satisfaction with it, challenges they experienced or how it helped them, and suggested changes. Interventionists were asked about parts of the interventions that they found useful or not useful, and suggestions for improvement. We posed questions regarding factors that supported or impeded adoption of the intervention during the pilot; we asked interventionists about ways to change the intervention and its implementation package to increase its fit in routine care.

This pilot trial was originally designed to also explore the intervention's effectiveness (regarding social skills, money management, service use, and social interactions), intending to measure change from baseline to 6-months. Physical distancing requirements for our facility's research protocols imposed by COVID-19, complicated by technology barriers among participants, prohibited the administration of these measures at 6-months. As we were only able to assess the feasibility of administering effectiveness measures at baseline, this report focuses on implementation metrics.

Notably, PEH-SMI participants were financially compensated for their time spent completing the TLFB, surveys, and interviews; they did not receive any compensation for intervention participation.

Analyses

We calculated the mean, standard deviation, and range of the number of groups attended by PEH-SMI. Derived from VA Social Skills Training, we used a threshold of >80% of checklist items assessed as "fully completed" to identify if fidelity was adequate/inadequate.

We calculated means and standard deviations of the CSQ-8 and PCIS using Microsoft Excel. All interview transcripts were entered into ATLAS.ti version 9; we used the CFIR Codebook (CFIR Research Team-Center for Clinical Management Research), augmented with codes derived from our semi-structured interview guide, as a top-level codebook. Two authors (a masters-level psychologist and physician trained in rapid qualitative analyses) applied this codebook to 3 transcripts, comparing findings to ensure consistent use of the top-level codes and augmenting this codebook with findings from the data. A finalized codebook was developed iteratively with input from additional authors and applied to all transcripts.