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This paper briefly reviews studies comparing the effectiveness of various Housing First programs to Continuum of Care programs for outcomes related to housing retention, substance use, and mental health. A literature search was completed entering the search term "Housing First" in electronic databases (PsycINFO, JSTOR, and Web of Science) to find potential studies. Of the 67 items produced by the literature search, after screening for outcome studies of Housing First programs that evaluate housing retention, substance use, and/or mental health in comparison to other programs or treatment as usual, 5 final studies were selected for inclusion in the review. Of the five studies selected, all had recruited samples of either chronically homeless individuals or homeless individuals with a mental health diagnosis, and all reported results favored Housing First programs over Continuum of Care programs for housing retention. Substance use and mental health outcomes generally stayed constant regardless of program type.While Housing First does appear to show strong promise, the methodological flaws in the studies revewied, including strong research affiliation with the Housing First agencies being evaluated, calls for more rigorous studies to be completed by more objective investigators.

Key words: *homelessness, Housing First, Continuum of Care, chronic homelessness*

In recent years, homelessness has become an important national issue in light of the economic recession. In 2007, just under 700,000 people were estimated to be homeless in a single day (U.S. Department of Housing and Urban Development, 2007), with thousands also suffering from disabling

concurrent psychiatric conditions. A further barrier, 50-70% of homeless individuals with mental illness also suffer from substance abuse issues. Individuals with mentally or physically disabling conditions and more than 4 episodes of homelessness in three years or continuous homelessness for one year or more are known as the chronically homeless (Padgett, Gulcur, & Tsemberis, 2006).

In order to help this vulnerable population obtain permanent residence and stability, there are two common intervention approaches: Continua of Care and Housing First programs. Continuum of Care plans are community-wide interventions that operate under the assumption that homeless individuals need to graduate from a specific sequence of programs before becoming "housing ready" (Kertesz, Crouch, Milby, Cusimano, & Schumacher, 2009). Housing-based programs in these Continua of Care often require sobriety from drugs and alcohol and usage of any necessary medication or treatment for mental health issues (Kertesz et al., 2009).

Because of criticism of the effectiveness of Continua of Care, Housing First programs have been gaining popularity. Housing First programs operate by supplying rapid and direct placement of homeless individuals into permanent housing with supportive services available, but receiving housing is not contingent upon service utilization or treatment (Tsemberis, Gulcur, & Nakae, 2004).

While preliminary studies of Housing First demonstrate that these programs have higher rates of housing retention without increasing rates of substance use and untreated mental illness (Kertesz et al., 2009; Stefanic & Tsemberis, 2007), several studies on this approach have all been completed on the same program, Pathways in New York (Gulcur, Stefanic, Shinn, Tsemberis, & Fischer, 2003; Pagdett et al., 2006; Stefanic & Tsemberis, 2007). In order to fairly assess the utility of these programs, all available outcome studies on various types of Housing First programs need to be reviewed.

Method

Potential studies were identified through searches of electronic databases (PsycINFO, JSTOR, and Web of Science) and manual searches of the reference lists that were eventually

selected for inclusion in the review. Housing First programs are relatively new and are rarely referred to as anything else, so the only search terms used for this review were "housing first" in the title or topics of articles.

Studies were eligible for inclusion in the review if they met the following criteria: (1) were completed in the United States; (2) had more than one treatment condition; (3) only used adult participants who are currently homeless or are at risk of homelessness; and (4) looked at outcomes related to housing retention, substance use, mental health symptoms, or treatment-seeking behaviors. For this review, homelessness is defined as lacking a fixed, regular, and adequate night-time residence. Being at risk of homelessness is defined here as preparing to exit a housing situation or institution (e.g., in-patient treatment, prison) without having future housing arrangements. Housing retention is defined only as remaining in permanent housing (including supportive permanent housing provided by programs) at the follow-up of a study. Single-program case studies (e.g., only one program was evaluated with no comparison programs or control) were excluded, as previous case studies have established that Housing First is promising. The aim of this review is to see if Housing First has better results than treatment as usual or if certain variations are more effective than others. Studies were included regardless of the date of publication. Due to the design of this study, only quantitative studies or mixed methods studies were included in this review.

The literature search yielded 67 articles; after review of full titles, 41 articles still appeared relevant to the topic. Each abstract for the remaining articles was carefully screened for inclusion; only 16 articles met the criteria after this screening process. These 16 articles were thoroughly read, resulting in the seven studies which were included in this review (see Table 1).

Results

The studies reviewed were Collins et al. (2012), Tsai, Mares, and Rosenheck (2010), Pearson, Montgomery, and Locke (2009), Stefanic and Tsemberis (2007), Padgett et al. (2006), Greenwood, Schaefer-McDaniel, Winkel, & Tsemberis

(2005), and Tsemberis et al. (2004). While seven articles were reviewed, several of the articles were all based on the same parent study, The New York Housing Study—Greenwood et al. (2005), Padgett et al. (2006), and Tsemberis et al. (2004). These citations were grouped together for the purposes of this paper, resulting in five separate studies being reviewed. All five studies had chronically homeless participants, one of the studies also included homeless individuals who did not meet the definition of "chronic homelessness" but had active substance use and/or mental health issues. Studies selected for the review are indicated in the reference section by an asterisk; the articles that utilize data from the New York Housing Study are indicated by double asterisks. Additionally, an overview of the six studies reviewed is provided in Table 1.

Collins et al. (2012)

The study by Collins et al. (2012) looked at alcohol use among chronically homeless consumers in Housing First. The average age of participants was 48.4 (SD = 9.39), and the race most identified in this sample was White (40%), although the sample was disproportionately American Indian/Alaska Native (27%) (n = 95). Measures used for this study included the Alcohol Use Quantity Form, Addiction Severity Index, 15-item Short Inventory of Problems, and the Alcohol Dependence Checklist.

Multilevel growth modeling was conducted to test the hypothesis that participants in Housing First would decrease their use levels on all the alcohol-use outcomes over the two year follow-up. With a 61% response rate at the two year follow-up, researchers found that there was a significant time effect and significant differences between groups. The growth model for typical quantity of alcohol consumed, for example, had a Wald X^2 of 25.51 and significance of $p < .001$. In lay terms, both control and intervention groups experienced a 7% decrease in typical quantity consumed every 3 months, but the intervention group decreased by 3% per each month of treatment as well. Similar results were found for peak quantity consumed (Wald X^2 = 35.48, $p < .001$). While both groups decreased in peak quantity consumed for each 3 months participating in the study by 8%, the intervention group experienced an additional 3% decrease for each month of the study.

A logistic model testing the odds of reporting at least 1 day of not drinking to intoxication was significant (Wald X^2 = 14.12; p = .01), and while adjusting for mortality and illness burden, a time effect was observed here as well. For each 3 months in the study, participants' odds of reporting at least 1 day of not becoming intoxicated increased by ~21%, with intervention groups having an additional 6% increase for each month in the intervention. The model for alcohol-related problems was also significant (Wald X^2 = 18.93, p = .002), participants reported lower frequency of alcohol-related problems in both treatment conditions. However, those in the intervention also experienced a monthly decrease for each month in the intervention condition. Finally, experience of symptoms related to alcohol dependence was significant (Wald X^2 = 25.88, p < .001), both groups experienced a 4% decrease in dependency-related symptoms. However, those in the intervention had an additional monthly 2% reduction.

Some limitations discussed by the authors included low generalizability of the findings to other populations due to the unusual ethnic and racial diversity of the sample. It was also noted that follow-up consisted solely of self-reports, and this type of data could have inaccuracies from memory loss, social desirability, and cognitive impairment. The authors also note that this means the improvements in alcohol-related outcomes could be linked to regression to the mean or the ceiling effect.

Tsai, Mares, and Rosenheck (2010)

This study compared outcomes between chronically homeless consumers in Housing First programs to consumers assigned to residential treatment or transitional housing before being placed into permanent housing. Participants (n= 734) were recruited by clinical and research staff at one of eleven sites. Some measures described that are relevant to this review are the 7-item therapeutic alliance scale to assess relationships with participants and their mental health or substance abuse provider (Neale & Rosenheck, 1995), the Addiction Severity Index (McLellan et al., 1980), the Medical Outcomes Study Short Form-12 (Ware et al., 1998), and select subscales from the Brief Symptom Inventory (Derogatis & Spencer, 1982).

Two groups of participants were identified in this dataset:

the Residential Treatment First (RTF) group, with participants who went into residential treatment or transitional housing before entering the CICH, and Independent Housing First (IHF), who immediately were placed into permanent housing. Any group differences were accounted for in the analyses of the outcome variables. The two groups were similar in age (mean age = 44.8 RTF, 46 IHF) and gender (74 and 76% male) and nearly half of both groups identified as Black (45 and 51%)

Results showed that IHF group stayed in permanent housing more days than the RTF group (Cohen's d = 0.4), but there was no greater rate of improvement for either group. Intuitively, the RTF group spent significantly more days in transitional housing or residential treatment than the IHF group (Cohen's d = 0.6), but also experienced a steeper decrease over time in utilizing those services (Cohen's d = 0.4). There was no significant difference in substance abuse or mental health during the time of the study for either group. Limitations discussed by the authors include the lack of randomization in the study, which led to baseline differences between the two groups and limited data by the time periods examined, and variations between the eleven sites used in the study.

Pearson, Montgomery, and Locke (2009)

The study by Pearson, Montgomery, and Locke (2009) looked at housing stability among homeless individuals with mental illness in Housing First programs. This study looked at three varying types of Housing First programs: Pathways to Housing, Downtown Emergency Service Center (DESC),and Reaching Out and Engaging to Achieve Consumer Health (REACH). Participants in both DESC and Pathways were similar in age (m = 47.9, m = 47.0, respectively) and gender (16% and 15% female), however Pathways had a higher representation of Black participants (50% vs. 20% DESC and 17% REACH) than either of the other two programs. REACH had a sample younger in age than the other programs (m = 39.7) and had more female participants (34%).

This study found that 84% of the participants were still housed at the 12-month follow-up. There were differences in housing stability among groups which were statistically insignificant: Pathways had 92% retention, and REACH and

DESC both had 80% retention after 12 months. There was not a significant decrease in either psychiatric symptoms or substance use after 12 months in the programs.

The limitations discussed by the authors include the partially retrospective sample, data collection through administrative sources or case managers, and the weakness of using a limited 3-point Likert-type scale to measure substance use and mental health issues (a possible explanation for insignificant findings). Another acknowledged limitation was the study's short follow-up period; it was suggested to them that psychiatric and substance issues would ameliorate in less than 12 months. Finally, REACH did not control its scattered-site apartments, and some of the placements had strict rules, including curfews and limitations on all substance use; consequently, this program was not the best fit for the Housing First model, and results may have been skewed in either direction because of this.

Stefanic and Tsemberis (2007)

Stefanic and Tsemberis's study (2007) looked at housing access and retention for chronically homeless individuals with severe mental illness. The sample at the start of the intervention included 260 adults with an Axis I diagnosis, randomly assigned to the following conditions: 105 to Pathways, 104 to the Consortium, and 51 to the control group. During the course of the study, an additional 132 participants were added to one of the Housing First agencies. Participants in all three conditions were disproportionately male (68-80% male) and African-American (54-60%).

The measures used for this study were administrative reports from the Housing First agencies, the Department of Social Services, and the county's computerized shelter tracking system. By the 20-month follow-up, Pathways had placed a total of 62 clients into housing, and 57 clients were still in the program by this time. The Consortium had placed a total of 52 clients into housing, retaining 46 consumers. Of the 51 individuals in the control group, only 30 were successfully reached for follow-up. Of these 30, 13 were placed in supportive housing, one was living independently by the 20 month follow-up,

Table 1. Overview of Included Studies (continued next page)

Study	Interventions	Participants	Design
Collins et al. (2012)	Project Based Housing First (HF) Treatment As Usual (TAU) wait-list (public shelter)	Chronically homeless adults with alcohol-related problems (n = 95), within-subjects design	$O \, Y_{TAU} \, O \, X_{HF} \, O$
Tsai, Mares, & Rosenheck (2010)	Immediate Housing First placement Residential treatment/transitional care prior to permanent housing placement	Chronically homeless adults In residential treatment or transitional care prior to placement (n=131) or immediately placed into permanent housing (n=578)	$OX_{HF} \, O_{3m} \, O_{6m}...O_{24}$ $Y_{RTF} \, OX_{HF}O_{3m} \, O_{6m}....O_{24}$
Pearson et al. (2009)	Pathways HF (scattered-site, ACT) DESC HF (Project-based, on-site support) REACH HF (scattered site, case manager visits)	Homeless adults with mental illness enrolled in either DESC (n = 25), REACH (n= 29), or Pathways (n = 26)	$O \, X_{PTH} \quad O_{12m}$ $O \, X_{DESC} \quad O_{12m}$ $O \, X_{REACH} \, O_{12m}$
Stefanic & Tsemberis (2007)	Pathways HF vs. Consortium HF vs. Tx as usual 47 months exposure intervention	Chronically homeless adults with severe mental illness Pathways (n= 105) Consortium (n= 104) Control (n= 51)	$R \, O \, X_{PTH} \quad O_{20m} \, O_{47m}$ $R \, O \, X_{CHF} \, O_{20m} \, O_{47m}$ $R \, O \qquad O_{20m}$
Padgett et al. (2006) Greenwood et al. (2005) Tsemberis et al. (2004)	Pathways Housing First Treatment as usual (Continuum of Care)	Homeless adults with a major Axis I diagnosis Housing First (n=99) Control (n=126)	$R \, O \, X_{PTH} \, O_{6m}...O_{48m}$ $R \, O \, Y_{TAU} \, O_{6m}...O_{48m}$ (assessments conducted every six months)

and the remaining group members were either in emergency shelters or institutions. The average number of times a control group member returned to the shelter during this 20-month period was 3.6 times, for an average of 13.3 nights.

Another follow-up was completed 47 months after the program's inception to assess housing retention among groups. Information on control group participants was not available for this time period. The overall rate of retention for the

Table 1. Overview of Included Studies (continued from previous page)

Study	Measures	Results
Collins et al. (2012)	Alcohol Use Quantity Form Addiction Severity Index Short Inventory of Problems Alcohol Dependence Checklist	Both conditions experienced statistically significant positive outcomes over time, but the HF condition experienced positive outcomes at a statistically significantly higher and faster rate.
Tsai, Mares, & Rosenheck (2010)	7-item Therapeutic Alliance Scale Addiction Severity Index Medical Outcomes Study Short Form-12 Brief Symptom Inventory	The HF group stayed in permanent housing for statistically significant more days than the RTF group, no statistically significant differences in substance use or mental health for either group.
Pearson et al. (2009)	Case manager interviews Likert-type scales	84% of participants were still housed in their respective programs at 12 months, no statistically significant differences between conditions. No significant decrease in either psychiatric symptoms or substance use.
Stefanic & Tsemberis (2007)	Administrative reports Shelter tracking system	The HF programs were more successful at both placing individuals into permanent housing and retaining them in the program than the treatment as usual group.
Padgett et al. (2006) Greenwood et al. (2005) Tsemberis et al. (2004)	6 month Residential Follow-back Calendar Drug and Alcohol Follow-back Calendar Treatment Services Inventory Colorado Symptom Index	At 24 months, the Pathways group was consistently significantly more housed than the control group, no differences in substance use; however the control group utilized treatment more. At 36 months, psychiatric symptoms decreased in both groups, but there were no significant between-groups differences. Drug use remained constant in both groups through the 48 months.

combined Housing First condition was 68% at the 47-month follow-up. When looking at the Housing First agencies separately, Pathways consumers maintained housing at 73.8% and the Consortium had consumer retention at 57%.

The authors noted important limitations in their research. The Consortium engaged over 200 participants, but only had 48 enrolled in housing at the final follow-up. Missing data was another large limitation to this study: demographic information was not available on the additional 132 participants enrolled after the baseline data were gathered. There was no follow-up data available for the control group after the 20-month follow-up, and nearly half the control group was unavailable for the first follow-up. Finally, there did not appear to be any t-tests of significance in the differences between the groups, seriously undermining the results of the study.

New York Housing Study
The articles by Tsemberis et al. (2004), Greenwood et al. (2005), and Padgett et al. (2006) all used data collected by the New York Housing study. Participants ($n = 225$) were randomly assigned to the Housing First programs (n = 99) or treatment as usual (Continuum of Care, n = 126). Baseline information was gathered after randomization, and then follow-up was completed every 6 months for 48 months. The majority of participants were between 41-60 years old, male (79%), and Black (41%). Measures used included: a 6-month residential follow-back calendar to track housing status; Drug and Alcohol Follow-Back Calendar to measure substance use; Treatment Services Inventory for measuring treatment utilization; and the Colorado Symptom Index for psychiatric symptoms.
The article by Tsemberis et al. (2004) reported on residential status, substance use, treatment utilization, and psychiatric symptoms for the first 24 months of the study. They found that at all follow-up intervals for the first 24 months, the experimental group was stably housed significantly more than the control group ($p <. 001$). There were no significant differences in substance use between the two groups ($p = .35$ for alcohol; $p = .42$ for drug use), however the control group reported significantly higher rates of utilizing treatment ($p < .025$ at 6,18, and 24 months; $p < .05$ at 12 months). The authors caution that these higher rates of utilizing treatment could possibly be explained by the requirements to be in treatment programs to get housing in Continuum of Care programs. There were also no significant differences in psychiatric symptoms between groups ($p = .85$).

The article by Greenwood et al. (2005) looked at several outcomes at the 36-month point of the study, but for the purposes of this review the only included one is related to psychiatric symptoms. This article uses data collected from 197 of the original 225 participants. While the mediation analysis found a significant time effect for decreasing psychiatric symptoms in both groups ($p < .002$), there was no significant relationship involving assignment to either study conditions.

Finally, the article by Padgett et al. (2006) focused on substance use and treatment utilization at the final 48-months follow-up. Regarding drug and alcohol use, there were no significant differences. While there were initially significant differences in substance use treatment utilization at nearly all intervals of data collection (with the control group utilizing more), after the Bonferroni correction, there was only a significant difference at 36 months ($p = .006$). For mental health treatment, the control group only utilized services significantly more than the experimental group at 48 months ($p = .003$).

Implications for Future Research

While the reviewed studies may demonstrate that Housing First shows promise in helping people maintain housing, there is a definite need for studies with more methodological rigor in order for Housing First programs to demonstrate true merit. Low retention rates, failure to collect data consistently across experimental conditions, and vulnerability to recall bias all weaken the current studies' ability to fairly assess Housing First programs.

Another implication for future study revolves around substance use and psychiatric treatment. While Housing First programs did not increase participants' use of substances or psychiatric symptoms, the majority of studies reported that neither Housing First nor Continuum of Care programs decreased substance use or psychiatric symptoms. This strongly suggests that regardless of the type of housing strategy implemented in a community, more effective interventions for substance use treatment and mental health need to be investigated for this specific population.

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