

# Permanent Supportive Housing With Housing First to Reduce Homelessness and Promote Health Among Homeless Populations With Disability: A Community Guide Systematic Review

Yinan Peng, PhD, MPH; Robert A. Hahn, PhD, MPH; Ramona K. C. Finnie, DrPH; Jamaica Cobb, MPH; Samantha P. Williams, PhD; Jonathan E. Fielding, MD, MPH, MBA; Robert L. Johnson, MD; Ann Elizabeth Montgomery, PhD; Alex F. Schwartz, PhD; Carles Muntaner, MD, PhD; Veronica Helms Garrison, MPH; Beda Jean-Francois, PhD; Benedict I. Truman, MD, MPH; Mindy T. Fullilove, MD, MS; the Community Preventive Services Task Force

## ABSTRACT

**Context:** Poor physical and mental health and substance use disorder can be causes and consequences of homelessness. Approximately 2.1 million persons per year in the United States experience homelessness. People experiencing homelessness have high rates of emergency department use, hospitalization, substance use treatment, social services use, arrest, and incarceration.

**Objectives:** A standard approach to treating homeless persons with a disability is called Treatment First, requiring clients be "housing ready"—that is, in psychiatric treatment and substance-free—before and while receiving permanent housing. A more recent approach, Housing First, provides permanent housing and health, mental health, and other supportive services without requiring clients to be housing ready. To determine the relative effectiveness of these approaches, this systematic review compared the effects of both approaches on housing stability, health outcomes, and health care utilization among persons with disabilities experiencing homelessness.

**Design:** A systematic search (database inception to February 2018) was conducted using 8 databases with terms such as "housing first," "treatment first," and "supportive housing." Reference lists of included studies were also searched. Study design and threats to validity were assessed using Community Guide methods. Medians were calculated when appropriate.

**Author Affiliations:** *Community Guide Office, Office of the Associate Director for Policy and Strategy (Drs Peng, Hahn, and Finnie and Ms Cobb), Division of STD Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) (Dr Williams), and Office of the Associate Director for Science, NCHHSTP (Dr Truman), Centers for Disease Control and Prevention, Atlanta, Georgia; UCLA Fielding School of Public Health, Los Angeles, California (Dr Fielding); University of Toronto, Toronto, Ontario, Canada (Dr Muntaner); Rutgers New Jersey Medical School, Newark, New Jersey (Dr Johnson); Graduate Program in Public and Urban Policy, Milano School of Policy, Management, and Environment, New School, San Francisco, California (Drs Schwartz and Fullilove); US Department of Housing and Urban Development, Washington, District of Columbia (Ms Garrison); National Institute on Minority Health and Health Disparities, Bethesda, Maryland (Dr Jean-Francois); University of Alabama at Birmingham School of Public Health, Birmingham, Alabama (Dr Montgomery); and US Department of Veterans Affairs, Richmond, Virginia (Dr Montgomery).*

*Names and affiliations of the Community Preventive Services Task Force members can be found at: [www.thecommunityguide.org/about/task-force-members.html](http://www.thecommunityguide.org/about/task-force-members.html).*

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**Correspondence:** Yinan Peng, PhD, MPH, Community Guide Office, Centers for Disease Control and Prevention, 1600 Clifton Rd, Mailstop H21-10, Atlanta, GA 30329 ([ypeng@cdc.gov](mailto:ypeng@cdc.gov)).

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**Eligibility Criteria:** Studies were included if they assessed Housing First programs in high-income nations, had concurrent comparison populations, assessed outcomes of interest, and were written in English and published in peer-reviewed journals or government reports.

**Main Outcome Measures:** Housing stability, physical and mental health outcomes, and health care utilization.

**Results:** Twenty-six studies in the United States and Canada met inclusion criteria. Compared with Treatment First, Housing First programs decreased homelessness by 88% and improved housing stability by 41%. For clients living with HIV infection, Housing First programs reduced homelessness by 37%, viral load by 22%, depression by 13%, emergency departments use by 41%, hospitalization by 36%, and mortality by 37%.

**Conclusions:** Housing First programs improved housing stability and reduced homelessness more effectively than Treatment First programs. In addition, Housing First programs showed health benefits and reduced health services use. Health care systems that serve homeless patients may promote their health and well-being by linking them with effective housing services.

**KEY WORDS:** homelessness, Housing First programs, persons living HIV experiencing homelessness, systematic review

Poor physical and mental health and substance use disorders can be causes and consequences of homelessness.<sup>1-3</sup> According to the Department of Housing and Urban Development (HUD), approximately 1.4 million people in the United States slept in homeless shelters at least once during 2017.<sup>4</sup> Point-in-time estimates showed that approximately one-third of homeless persons were unsheltered in 2017.<sup>4</sup> Combining the 2 findings, it can be estimated that about 2.1 million people experienced homelessness that year. Approximately half of those experiencing homelessness have a disabling condition, defined by HUD to include limitations in daily activities, inability to work or live independently, or have HIV infection.<sup>4,5</sup> In poor physical and mental health and lacking resources, homeless persons may consume extensive societal resources.<sup>6</sup>

A standard approach to treating persons living with disabilities and experiencing homelessness, “Treatment First” requires that clients be “housing ready”—in psychiatric treatment and substance-free—prior to permanent housing.<sup>7</sup> An alternative approach, Housing First provides regular, subsidized, permanent housing and supportive services to persons with disabilities experiencing homelessness without requiring prior treatment or sobriety.<sup>7</sup> Housed clients are encouraged, but not required, to receive treatment and maintain sobriety.<sup>7</sup> This approach was first assessed in New York City, followed by a collaborative HUD and Veterans Affairs Supportive Housing (HUD-VASH) program for homeless veterans, and a large-scale experiment in Canada. There has been no quantitative systematic review of program effectiveness. This review examined Housing First compared with Treatment First or treatment as usual (TAU) in achieving housing stability, improving health, and reducing health care utilization.

## Methods

*Guide to Community Preventive Services* (“Community Guide”) methods were used for this review.<sup>8,9</sup> This review is PRISMA adherent, and the checklist is available at <http://links.lww.com/JPHMP/A679>. A systematic search used citation databases (inception to February 2018) such as PubMed, EMBASE, PsycINFO, and ERIC, with terms such as “housing first” and “supportive housing.” Detailed search strategy can be found at <https://www.thecommunityguide.org/findings/health-equity-housing-first-programs>. Publications also were identified from study references and review team recommendations.

Studies were included if they assessed Housing First programs implemented in high-income nations, reported outcomes of interest, and were written in English and published in peer-reviewed journals or government reports. *Community Guide* methods include a wide array of study designs to better assess effectiveness of public health interventions. Studies were included in this review if they had concurrent comparison groups. Meta-analysis was not conducted because of heterogeneity in study design and intervention characteristics. Study control populations were commonly categorized either as “Treatment First” or “TAU” by study authors. When authors did not provide the designation, reviewers categorized the control groups by examining intervention descriptions.

Two reviewers screened search results and abstracted qualifying studies; disagreements were reconciled by consensus. Each study was assessed for design and threats to validity, and limitations were assigned for the following potential threats: inadequate description of the intervention and population, failure to describe sampling frame, inadequate measurement of exposure and outcomes, inappropriate

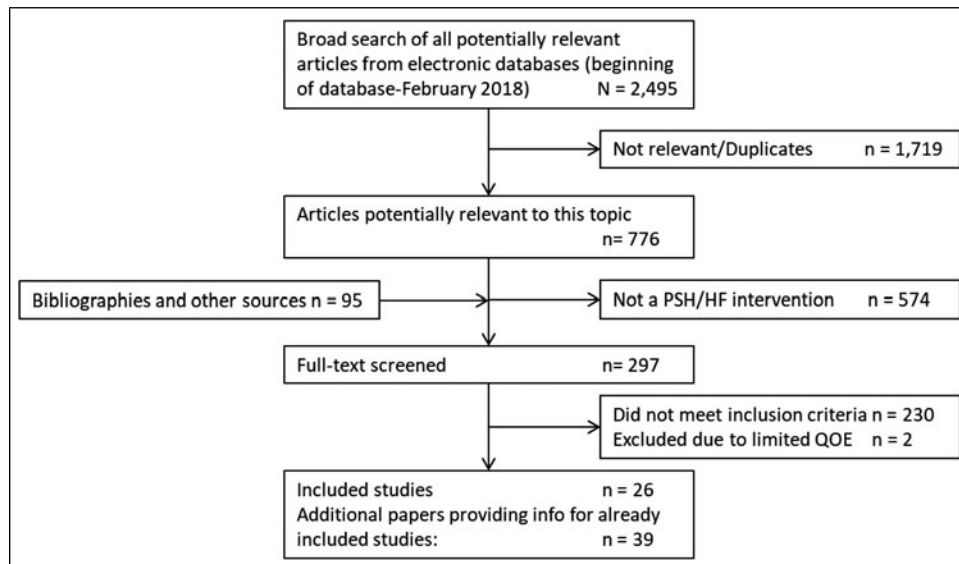


FIGURE 1 Search Results

analytic methods, high or differential attrition, and failure to consider or control for confounding. Study quality of execution was categorized as good (0-1 limitation), fair (2-4), or limited (>4). Studies of limited quality of execution were excluded from analysis.<sup>8,9</sup>

Outcomes of interest included homelessness and housing stability, physical and mental health, substance use, quality of life, and health service use. Because outcomes were measured in different ways, relative percent changes were calculated for each study, comparing intervention and control participants. Detailed outcome definitions can be found in the summary evidence table. Relative percent changes for each outcome were combined to assess the overall findings for that outcome. Medians and interquartile intervals (IQIs) were calculated for outcomes with more than 4 data points. Outcomes were reported separately for clients living with HIV infection and veterans enrolled in HUD-VASH.

## Results

### Search yield

A total of 2590 citations were screened: 2495 from the search and 95 from reference lists or team recommendation. Full-text screening was conducted for 297 publications; 28 publications met inclusion criteria, but 2 articles<sup>10,11</sup> were excluded for limited quality of execution, leaving 26 studies<sup>6,7,12-35</sup> (in 65 publications) with a total of 17 182 participants for the review (Figure 1). Summary evidence table for all included studies can be found at <https://www.thecommunityguide.org/findings/health-equity-housing-first-programs>.

### Quality of execution assessment

Studies were either randomized controlled trials<sup>7,14,20,22,28,30,32,35</sup> or pre/posttest studies with concurrent control groups.\* They were of good<sup>14,18,23,29,34,35</sup> or fair<sup>†</sup> quality of execution. The most common limitations in this body of evidence were unclear description of the population or intervention,<sup>‡</sup> lack of details for sampling frame,<sup>§</sup> high attrition,<sup>||</sup> and potential bias due to differential attrition for the intervention and control groups.<sup>15,16,25,27,28</sup>

### Study, intervention, and participant characteristics

Included studies evaluated Housing First programs in the United States<sup>¶</sup> or Canada.<sup>15,20,27</sup> No study from other high-income nations met study inclusion criteria. Included programs were implemented in urban,<sup>6,7,12-29,31,33-35</sup> suburban,<sup>32</sup> or a combination of these settings<sup>30</sup>; no study examined a program in a rural setting. Most programs recruited participants experiencing homelessness and with a mental health disorder,<sup>13,16,19,20,31,32</sup> substance use disorder,<sup>6,15,22</sup> or a dual diagnosis<sup>7,12,17,23,26,30,33,34</sup> that affects their ability to work. Some programs recruited participants experiencing homelessness and having a disabling condition that limits their capacity to

\*References 6, 12, 13, 15-19, 21, 23-27, 29, 31, 33, 34.

†References 6, 7, 12, 13, 15-17, 19-22, 24-28, 30-33.

‡References 6, 12, 13, 15, 19-21, 23, 24, 26, 30, 31.

§References 7, 13, 15-18, 22, 24-27, 30, 32, 33.

||References 6, 12, 15-17, 20, 24, 25, 27, 30.

¶References 6, 7, 12-14, 16-19, 21-26, 28-35.

work.<sup>21,24,27</sup> Three studies<sup>18,25,28</sup> examined the HUD-VASH program recruiting veterans with high health and housing needs. Three studies<sup>14,29,35</sup> recruited participants living with HIV infection. Only one study recruited homeless families,<sup>30</sup> with the rest recruiting individuals experiencing homelessness.

All control groups received health services with or without housing services. Some control groups were enrolled in Treatment First programs,<sup>7,25,26,30,32-34</sup> while others received TAU with some<sup>12-16,18,20-22,27,28,35</sup> or no<sup>6,17,19,23,24,29,31</sup> description of health or housing services being provided.

Housing First clients were offered living by themselves in an apartment,<sup>#</sup> living with other clients in a group home,<sup>6,13,22,31</sup> or a choice between the 2 options.<sup>16,20,24,25,28,30</sup> Clients could choose among services and among housing options that met standards of accessibility and reasonable accommodation. Housing First programs were operational for less than 12 months,<sup>13,14,16,18,22,25-27,31</sup> between 12 and 24 months,<sup>\*\*</sup> or more than 24 months.<sup>12,28,29,33,34</sup> Services were provided either through Assertive Community Treatment,<sup>12,16,20,26</sup> a centralized system of coordinated services, most often used for clients with more severe problems, or through Intensive Case Management,<sup>14,17-19,21,22,28-30</sup> a brokerage system in which clients are referred out for services, often used for clients with more moderate problems.<sup>36,37</sup> All offered medical, mental health, and substance use disorder treatment services. Some also offered services to assist with daily tasks<sup>7,16,27,32-34</sup> and social integration.<sup>††</sup>

The study population had a median age of 42 years,<sup>‡‡</sup> 74% were male,<sup>6,7,12-29,31-35</sup> and most were black<sup>§§</sup> (median 50%) or white<sup>¶¶</sup> (median 32%). The median duration of participant homelessness was 6.4 years among studies reporting.<sup>15,24,27</sup>

### **Effects on client housing status and health outcomes (excluding those living with HIV infection)**

#### **Housing stability**

Housing First programs reduced homelessness when compared with Treatment First programs<sup>7</sup> (decrease of 88%) or with TAU<sup>13,21,24,28</sup> (median decrease of 89%; IQI = -36% to -90%) (Table). Homelessness was measured as the number of days participants spent homeless<sup>13,21,24,28</sup> or the proportion of time

participants spent homeless<sup>7</sup> during the evaluation period. Housing First programs improved housing stability when compared with Treatment First<sup>7,25,30,32-34</sup> (median increase of 41%; IQI = 18% to 166%) or with TAU<sup>12,15,16,20,24,27,28</sup> (median increase of 54%; IQI = 25% to 1088%) (Table). Housing stability was reported as the number of days participants were housed<sup>24,27,28</sup> or the proportion of time participants were stably housed<sup>7,12,15,16,20,25,30,32-34</sup> during the evaluation period.

#### **Health, wellness, and emergency department and hospital utilization**

Housing First programs produced similar changes in physical health<sup>15,24</sup> and mental health<sup>15,24,28</sup> scores or symptoms such as suicide attempts<sup>20</sup> when compared with TAU (Table). Studies comparing Housing First with Treatment First programs<sup>7,26</sup> or TAU<sup>15,22,24,28</sup> reported mixed results on clients' alcohol and illegal substance use (Table).

Compared with TAU, Housing First programs improved clients' quality-of-life score<sup>15,20,27,28</sup> and increased their community integration score<sup>20,24,27</sup> (Table). In the largest randomized trial (2148 persons with serious mental illness and experiencing homelessness in Canada), Housing First clients were more than twice as likely to report positive life changes and 25% as likely to report negative life changes when compared with clients in TAU.<sup>20</sup>

Participants of Housing First programs had less emergency department use<sup>18,20,31</sup> and hospitalization<sup>18,31</sup> when compared with TAU (Table).

#### **Effect on housing and health outcomes for clients living with HIV infection**

Housing First clients living with HIV infection, when compared with those in TAU, had 63% greater housing stability and 38% less homelessness.<sup>35</sup> Client physical health, for example, detectable viral load and opportunistic infections,<sup>14,35</sup> improved by a median relative change of 22% (range, -32% to -4%) (Figure 2). Clients had reduced perceived stress, depression, and other mental health problems.<sup>35</sup> Two studies reported decreased mortality of 32% and 42%.<sup>14,29</sup>

#### **Effect on housing and health outcomes for veterans in HUD-VASH**

Three studies<sup>18,25,28</sup> evaluated HUD-VASH programs, focusing on veterans who were homeless and had psychiatric or substance use disorders, or both. HUD-VASH reduced homelessness among veterans by 36% when compared with TAU.<sup>28</sup> These programs also improved housing stability by 14% when compared

#References 7, 12, 14, 15, 17-19, 21, 23, 26, 27, 29, 32-35.

\*\*References 6, 7, 15, 17, 19-21, 23, 24, 30, 32, 35.

††References 7, 16, 20-22, 25, 27, 28, 31-35.

‡‡References 6, 7, 12-16, 18-26, 28, 30, 31, 34.

§§References 6, 7, 12-14, 16-19, 22, 23, 25, 26, 28-30, 32, 34, 35.

¶¶References 6, 7, 12-14, 16-19, 22, 23, 25, 26, 29, 30, 32, 34.

**TABLE**  
**Intervention Effectiveness for People Experiencing Homelessness With a Disability**

Outcome	Comparison Group	Number of Studies	Relative Difference	Favorability <sup>a</sup>
Homelessness	Treatment First	1 <sup>7</sup>	–88%	Favorable
Homelessness	Treatment as usual	4 <sup>13,21,24,28</sup>	–89%	Favorable
			Range: –36% to –90%	
Housing stability	Treatment First	6 <sup>7,25,30,32-34</sup>	41%	Favorable
			IQI = 18% to 166%	
Housing stability	Treatment as usual	7 <sup>12,15,16,20,24,27,28</sup>	54%	Favorable
			IQI = 25% to 1088%	
Physical health	Treatment as usual	2 <sup>15,24</sup>	3.3%, –0.2%	Negligible change observed
Mental health	Treatment as usual	4 <sup>15,20,24,28</sup>	–2%	No change observed
			IQI = –5% to 4%	
Alcohol use	Treatment First	1 <sup>7</sup>	57%	Unfavorable
Alcohol use	Treatment as usual	4 <sup>15,22,24,28</sup>	–30%	Favorable
			Range: –82% to 36%	
Illegal drug use	Treatment First	1 <sup>7</sup>	11%	Unfavorable
Illegal drug use	Treatment as usual	2 <sup>15,24</sup>	–1%, 62%	Unfavorable
Alcohol and drug use	Treatment First	1 <sup>26</sup>	–71%	Favorable
Quality of life	Treatment as usual	4 <sup>15,20,27,28</sup>	5%	Favorable
			Range: 2% to 10%	
Community integration <sup>b</sup>	Treatment as usual	3 <sup>20,24,27</sup>	14%	Favorable
			Range: 1% to 227%	
Emergency department use	Treatment as usual	3 <sup>18,20,31</sup>	–5%	Favorable
			Range: –65% to 20%	
Hospitalization	Treatment as usual	2 <sup>18,31</sup>	–36% and –7%	Favorable

Abbreviations: IQI, interquartile interval, calculated with 5 or more data points; Range, max and mean of effect estimates, reported with less than 5 data points.

<sup>a</sup>Favorability refers to greater outcome improvement in the intervention population when compared with the control population.

<sup>b</sup>Community integration: Extent to which an individual lives, participates, and socializes in his or her community, measured, for example, in the Wisconsin Quality of Life Index.

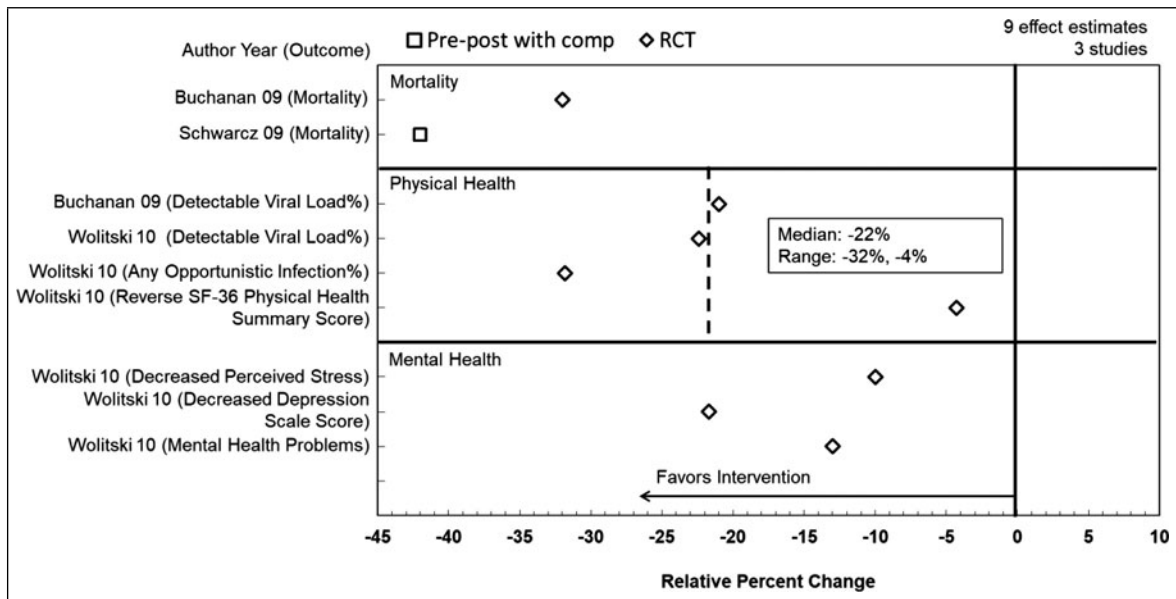
with Treatment First<sup>25</sup> and by 25% when compared with TAU.<sup>28</sup> Clients of HUD-VASH also showed a 51% reduction in alcohol use, a 4% improvement in mental health, and a 10% improvement in quality of life.<sup>28</sup> During the first year of the HUD-VASH program, veterans had higher rates of emergency department, mental health, and medical visits as well as hospitalizations than veterans who were still homeless.<sup>18,28</sup>

## Discussion

Evidence from this systematic review indicates that Housing First programs can more effectively reduce homelessness and improve housing stability for homeless populations with a disability than Treatment First or TAU. Housing First programs offer permanent housing with accompanying health and social services, and their clients are able to maintain

a home without first being substance-free or in treatment. Clients in stable housing experienced better quality of life and generally showed reduced hospitalization and emergency department use. For clients living with HIV infection, Housing First programs improved physical and mental health and reduced mortality. With stable housing, clients with HIV infection had a place to receive, store, and take their medications, leading to improved adherence, reduced viral loads, and downstream health benefits.<sup>14</sup>

Housing First programs produced similar changes in physical and mental health and substance use when compared with Treatment First or TAU; that is, Housing First yielded no additional health benefit. Housing is an established social determinant of health,<sup>43</sup> and the current review showed that Housing First programs led to improved housing stability, so it is puzzling that Housing First clients, other than those



**FIGURE 2** Intervention Effectiveness for People Experiencing Homelessness and Living With HIV/AIDS

with HIV infection, did not experience additional health benefit. There are several hypothetical explanations for the absence of additional health benefit with Housing First: (1) Included studies reported outcomes for clients who remained in the programs at follow-up. Included studies reported higher attrition for clients in TAU<sup>15,16,27,28</sup> and Treatment First programs<sup>25</sup> than for Housing First programs, and it is possible that clients in the control populations with more severe issues were lost to follow-up, while those in Housing First were easier to locate because of their housing. (2) The study population has severe and often chronic health issues; longer treatment might be needed to produce health benefit. (3) By requiring clients to be housing ready, Treatment First programs may select for clients more likely to make and maintain behavior changes. Funding available, Housing First accepts all clients, perhaps housing clients with more severe baseline health issues. (4) While Housing First clients are not penalized for substance use, Treatment First clients may lose their housing and thus may underreport this behavior. (5) Treatment First clients were required to continue treatment and may have benefited from required treatment, while for Housing First clients, treatments were optional.

Analysis of the effects of Housing First faced several challenges. Good descriptions of services available to and used by clients in both control types are rare.<sup>44</sup> This limits the ability to understand how and why the Housing First program had the observed outcomes and to inform potential users on program

### Implications for Policy & Practice

- Housing First programs are more effective in improving client housing stability compared with Treatment First programs or TAU. Housing First programs examined in this review were implemented in a few metropolitan areas and mostly recruited clients experiencing chronic homelessness who had severe mental health or substance abuse issues, or both. More research and resources might be needed to increase the number of programs and evaluate program effectiveness in additional urban settings and in rural areas.
- Providing permanent housing to persons living with HIV infection improved their housing stability and health. Clients showed reduced viral load, which could lead to reduced HIV transmission.
- Health care systems, physicians, and allied health professionals can more effectively care for patients if they recognize and respond to the social conditions that are a source of health problems as well as potential solutions to those problems.<sup>38</sup> Some strategies have already been taken or are being considered, such as hospital system provision of housing for homeless patients with severe and chronic health problems,<sup>39</sup> health care providers asking patients about their housing and linking them to needed services,<sup>40</sup> provision of public health training to undergraduate medical students and residents and continuing education for health care providers to demonstrate the powerful roles of social determinants in origins of health issues, and inform practitioners of available solutions and resources.<sup>41,42</sup>

content. Most studies assessed participants at times 2 or fewer years after their receipt of housing; longer-term follow-up may be required to assess possible benefits for chronic physical and mental health conditions.

Included studies reported on a wide range of outcomes using various metrics, precluding the possibility of a meta-analysis. In addition, some effect estimates were calculated from small numbers of data points. For example, although the effect estimates of Housing First for people living with HIV infection were meaningful and consistent, they were based on only 3 studies.<sup>14,29,35</sup>

The findings of this systematic review indicate that Housing First programs are more effective in reducing homelessness and improving housing stability than Treatment First programs or TAU. In addition, Housing First programs provide health benefits to clients living with HIV infection and may reduce health care use for homeless clients overall. Attention to the state of housing, particularly for low-income populations, may improve understanding of the patient health issues and provide opportunities for improved health care.

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