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Pay for Performance: A New Solution for Vulnerable Homeless Adults

By Kevin C. Corin

An emerging consensus has formed among advocates, nonprofit organizations, and the federal government that we have discovered the best solution for vulnerable homeless adults—Housing First. The Housing First model targets homeless individuals with mental illness and/or substance abuse problems; it provides permanent housing and supportive services, but it does not require clients to achieve sobriety or actively engage with services in order to remain in housing. While the Housing First model has rightly been celebrated for increasing housing stability among the most vulnerable, evidence for claims that it reduces homeless populations, saves money, and improves well-being is much weaker.

We need a new solution that builds on the success of Housing First in housing the most vulnerable but also pushes progress forward on other outcomes. I propose a “pay-for-performance” system that unconditionally accepts vulnerable individuals into medium-term or long-term supportive housing, but rather than mandate a specific service model, holds service providers accountable for performance: keeping people out of homelessness, minimizing costs, and improving well-being. Service providers with better performance, after adjusting for the vulnerability of their clients, would receive greater funding and more clients; providers with worse performance would receive less funding and fewer clients. Competition over performance could simultaneously drive larger reductions in homelessness and more effectively improve the lives of some of the most vulnerable members of society.

Homelessness is a vexing societal challenge. On a single night during the winter in the United States, more than 170,000 people literally sleep on sidewalks and other places not intended for human habitation (US Department of Housing and Urban Development 2015b). Over the course of a year, almost 1.5 million people spend at least one night in a homeless shelter (US Department of Housing and Urban Development 2015a). Homelessness is

not simply a spell of bad luck that affects everyone equally; 41 percent of shelter users are African American, and essentially all are poor (US Department of Housing and Urban Development 2015a).

The most visible members of the homeless population are the single adults without children who sleep on the streets or in congregate shelters.

During a single night in January of 2015, just over 150,000 adults without children were sleeping in unsheltered locations, and more than 200,000 were sleeping in shelters (US Department of Housing and Urban Development 2015b). Almost 1 million unique individuals slept in a shelter on at least one night of the year (US Department of Housing and Urban Development 2015a). Among those accessing shelter, 71 percent were male, 69 percent were between the ages of 31 and 61, and 74 percent were in urban areas (US Department of Housing and Urban Development 2015a).

While the majority of individuals who experience homelessness throughout the year have relatively short spells, many remain homeless longer. Particularly worrisome are those with severe mental illness and substance abuse problems. A now-dated survey found that 69 percent of homeless individuals reported having a substance abuse problem, a mental health problem, or both (US Interagency Council on Homelessness 1999). Individuals with a disabling condition (e.g., a substance abuse problem or serious mental illness) who have been homeless for the past year or at least four different times during the past three years are called chronically homeless. Twenty-three percent of homeless individuals were identified as chronically homeless on the single-night count in 2015 (US Department of Housing and Urban Development 2015b).

As homelessness grew during the 1980s, the traditional policy response was a linear continuum of services, which involved outreach from caseworkers, stays in emergency shelters and transitional housing programs, and, when “housing readiness” was demonstrated, placement into permanent housing. Transitional housing was an integral component of this approach, providing stays lasting between 6 and 24 months. Accompanying requirements to engage with services or comply with sobriety requirements, however, meant that many people either unwilling or unable to meet these requirements continued to remain homeless without receiving services.

Pathways to Housing, founded in New York City in 1992 by Sam Tsemberis, helped pioneer a radically different “Housing First” approach to homelessness assistance that broke away from this linear model; people on the streets and in shelters were offered immediate permanent housing

without conditions for sobriety or compliance with mental health treatment (Stanhope and Dunn 2011). As long as individuals did not violate standard lease agreements, they could remain in the housing indefinitely. Supportive services were provided but compliance with treatment was not required.

The Housing First approach has been embraced by many local communities and the federal government. After the turn of the millennium, communities across the country drafted 10-year plans to end homelessness that featured Housing First as an integral component (National Alliance to End Homelessness 2006). The approach was embraced by the George W. Bush administration, which viewed chronic homelessness as a serious, costly, and solvable problem. The federal government ramped up funding for permanent supportive housing programs, which provide indefinite supportive housing to people, and it encouraged communities to target these beds to chronically homeless individuals using the Housing First approach. Since 2007, the inventory of permanent supportive housing beds has increased by more than 50 percent, surpassing the inventories of emergency shelter and transitional housing beds. The Housing First approach continues to receive widespread support. The US Interagency Council on Homelessness, a federal agency tasked with coordinating the federal response to homelessness, calls it “the most effective approach to ending chronic homelessness” (US Interagency Council on Homelessness n.d.).

The Evidence for Housing First

Despite increasing investment in the Housing First approach, insufficient attention is paid to the evidence on its actual effectiveness. This section reviews the evidence pertaining to three central questions about Housing First: (1) Does it reduce homelessness? (2) Does it save money? and (3) Does it improve individual well-being?

Does Housing First Reduce Homelessness?

Whether Housing First reduces the size of homeless populations is one of the first questions policymakers ask when considering its implementation. Mayors want to know whether it will reduce the number of people seen sleeping on

the street or in costly shelters. Federal officials want to know whether national homeless populations will fall. Surprisingly, however, little attention has been paid to seriously examining this question.

The reason for the lack of attention might be that the answer seems obvious: If a homeless person is provided housing, he will no longer be homeless. One might then extrapolate that if all homeless people are provided housing, there will be no more homeless people. The problem with this reasoning, however, is that the homeless population is not a fixed set of people. In fact, research indicates that the homeless population exhibits substantial turnover (Kuhn and Culhane 1998). Permanently housing someone who would have otherwise escaped homelessness on his own will not reduce the homeless population in the long run.

On the basis of these studies, we have no evidence demonstrating that Housing First leads to substantial, sustained reductions in homeless population sizes.

For this reason, the Housing First model is geared toward the most vulnerable: individuals with mental health or substance abuse problems, especially those with homelessness spells long enough to qualify as chronically homeless. But even when targeted to the most vulnerable, it is not clear that Housing First will lead to sustained reductions in homeless populations. For one, it may be difficult to predict which individuals are most likely to remain homeless without a Housing First intervention or to ensure that service providers actually accept such individuals into their programs. Second, there is evidence that some of the most vulnerable, when provided housing, will end up returning to the streets. A recent study found that the small minority of people who did not achieve housing stability after being offered Housing First were those with the longest histories

of homelessness and the most serious mental health problems (Goering et al. 2014). Third, expansion of Housing First programs could diminish the efforts of people to escape homelessness on their own, further weakening any effect on the number of people who are homeless.

Ultimately, what effect Housing First has on the size of the homeless population is an empirical question. Two recent studies have analyzed this question using community-level data on homeless counts and inventories of homeless assistance programs from across the country. In the first study, Byrne et al. (2014) find that one additional permanent supportive housing bed (an inventory type that is encouraged by the federal government to employ a Housing First approach) is associated with a 0.07 reduction in the number of chronically homeless individuals.¹ In other words, it would take 14 beds to have one fewer chronically homeless person. In the second study, Corinth (2015) distinguishes between short-term and long-term effects and examines the total homeless population. I find that an additional permanent supportive housing bed is associated with a 0.12 reduction in the total number of homeless people in the short run, but that there is no long-run association (after one year).

On the basis of these studies, we have no evidence demonstrating that Housing First leads to substantial, sustained reductions in homeless population sizes. At the same time, neither study can rule out the possibility that communities expanded permanent supportive housing in response to larger homeless populations, which would mask a true negative effect. It is also possible that communities are getting better at targeting Housing First to the chronically homeless and, in doing so, will achieve larger effects in the future. In fact, only about 44 percent of the permanent supportive housing beds added since 2007 were explicitly targeted to the chronically homeless.² Ultimately, the question of whether Housing First has decreased homeless populations in the past, or that it can do so if better targeted, is unresolved.

¹ This estimate is calculated in Corinth (2015), based on estimates presented in Byrne et al. (2014).

² There were 130,576 permanent supportive housing beds added since 2007, and 57,259 of these beds were explicitly targeted to

the chronically homeless (US Department of Housing and Urban Development 2015a).

Does Housing First Save Money? After arguing that Housing First reduces homelessness, advocates usually contend that it saves the public money as well. How can a costly intervention that provides people with housing and supportive services be cheaper than letting people sleep on the street? It turns out that homelessness can be very expensive. Some homeless individuals frequently use emergency rooms, shelters, or even jails, each with potentially high nightly costs. Advocates often cite the example of “Million Dollar Murray,” a homeless individual named Murray Barr from Nevada who racked up more than \$1 million in public expenditures over a decade, according to police officers who tallied his use of emergency rooms and run-ins with law enforcement (Gladwell 2006).

However, the basic fact that homelessness is expensive does not mean that Housing First actually saves the public money. There are several reasons. First, reductions in public costs may not be enough to outweigh the high cost of the Housing First intervention. Second, many public costs, especially for medical care, may still be incurred while people are housed. Third, even if costs fall after an individual receives Housing First, that does not necessarily mean that Housing First caused costs to fall, rather than a natural tendency for well-being to improve among homeless individuals who have reached “rock bottom.” Fourth, while cost savings may be large for frequent users of city services such as Million Dollar Murray, there might not be cost savings for less frequent users. And fifth, cost savings might not persist in the long run if people stay in permanent supportive housing for longer periods of time than they would have otherwise remained homeless.

The best way to answer whether Housing First actually reduces public costs is to conduct a randomized controlled trial. The costs incurred by a randomly selected group of individuals offered Housing First can be compared with the costs incurred by those who were not selected. Fortunately, Canada recently completed the largest randomized controlled trial of Housing First ever conducted (Goering 2014). More than 2,000

individuals who had a severe mental illness or substance abuse problem, of which 82 percent were also homeless at the beginning of the study, were separated into two groups—a “moderate-need” group and a “high-need” group. A randomly selected subset of each group was offered Housing First, with the intensity of accompanying services varying based on whether they were classified as moderate need or high need. For the moderate-need group, 34 percent of the costs of Housing First were offset by reduced costs to hospitals, jails, and shelters. For the high-need group, 96 percent of Housing First costs were offset by reductions in these areas. In other words, Housing First did not actually save money for either group, but it came very close among the high-need group.

However, the study also notes that the 10 percent of individuals with the highest public costs at the beginning of the study exhibited very large cost savings, with every dollar spent saving two dollars. On the one hand, this implies that Housing First is a high-yield investment for a small but readily identifiable group of people. On the other hand, it implies that the investment is unlikely to pay off monetarily for the majority of homeless individuals with disabling conditions who are not among the most expensive users of city services.

That full-cost offsets are possible for very costly users of social services, but usually not others, has also been documented in the United States. Larimer et al. (2009) studied an intervention in Seattle that provided a Housing First intervention to some of the most costly chronically homeless alcohol abusers. After six months, their total costs fell compared with individuals placed on a wait list who did not receive the intervention.³ Basu et al. (2012) randomized homeless people who were hospitalized with chronic health conditions in Chicago into Housing First programs or treatment as usual. Overall costs were lower for those offered Housing First, although the results were statistically insignificant. Rosenheck et al. (2003) randomly assigned a group of homeless veterans with mental illness or substance abuse problems into supported housing and found that total costs were higher compared with veterans who were not assigned housing.⁴

³ While operating costs and service costs of housing were included in the total cost of the intervention, capital costs were not included.

⁴ Poor follow-up rates, however, may have influenced results.

Other studies of varying quality have also studied the cost-saving effects of Housing First; however, without random assignment, it is difficult to assess whether they provide accurate causal estimates.⁵

Overall, the evidence suggests that Housing First reduces the amount of time an individual spends homeless but does not affect mental health or substance abuse.

The general lesson is that Housing First is likely to offset some costs for homeless individuals, but the offsets are unlikely to outweigh the cost of the Housing First intervention except for those individuals who frequently use expensive city services.⁶ It is also important to keep in mind that even when Housing First saves money relative to the status quo, there may be particular alternative service models that save even more money, especially when assessing longer time horizons.

Does Housing First Improve Individual Well-Being? Reduced homelessness and cost savings are not the only potential justifications for investing in Housing First. Improvements in individual well-being can justify investment as well. The best evidence again comes from randomized controlled trials that provide causal estimates of the effect of offering Housing First to individuals. The most commonly tracked outcomes include housing status, mental health, and substance abuse, although other outcomes such as community engagement and client satisfaction are sometimes tracked as well.

The large randomized controlled trial in Canada found that Housing First decreased the amount of time spent homeless; individuals offered Housing First spent 9 percent of the following two years in emergency shelters or on the street, compared with 24 percent among the control group. The Housing

First intervention did not, however, improve mental health or reduce substance abuse. On self-reported quality of life and community functioning scales, Housing First led to small improvements (Goering et al. 2014). A randomized controlled trial in New York City similarly found that people offered Housing First spent less time sleeping in emergency shelters or on the street. Mental health and substance use were not affected, while the Housing First group reported having more choice (Tsemberis et al. 2004). Finally, the randomized controlled trial in Chicago found no effect of Housing First on mental health, physical health, or mortality (Sadowski et al. 2009). However, among HIV-positive individuals, viral loads decreased, and immune systems were more likely to be intact (Buchanan et al. 2012).

Overall, the evidence suggests that Housing First reduces the amount of time an individual spends homeless but does not affect mental health or substance abuse. However, it should be emphasized that these studies do not indicate that Housing First is at least as effective as all other interventions in promoting mental health and reducing substance abuse. The Canadian experiment, for example, found that Housing First is as effective as an average of all other options in the “status quo,” including shelters and the street. Specific program models within the status quo may be more effective than Housing First.

A New Approach: Pay for Performance

We need a new approach for homeless adults who require supportive housing as a result of disabling conditions. Specifically, individuals should not be screened out of housing because they are difficult to serve or because they initially refuse intensive treatment. But what happens once people receive housing needs reform, with a focus on improving results rather than adherence to a particular service model. I propose a pay-for-performance system that uses high-quality data to measure the

⁵ In an influential and high-quality study, Culhane et al. (2002) compare the costs incurred by mentally ill homeless individuals in New York City placed in supportive housing with similar individuals who were not. They find that cost savings from shelter, hospitals, and correctional facilities almost fully offset the cost of providing supportive housing. However, without

random assignment, the causal effect of supportive housing on costs may differ.

⁶ See Culhane (2008), Kerstesz et al. (2009), and Ly and Latimer (2015) for more exhaustive reviews of the Housing First cost-effectiveness literature.

performance of service providers in improving the outcomes of their clients. The highest-performing service providers should receive more funding and more clients; the lowest-performing providers should receive less funding and fewer clients. Not only would this system filter out low-quality programs, but it would also encourage all providers to improve by tying financial incentives to their performance.

In this section, I describe how a pay-for-performance system would work. It requires (1) coordinating entry into supportive housing programs, (2) allowing flexible service models, (3) tracking individual outcomes, (4) measuring the performance of service providers, and (5) rewarding performance.

Coordinating Entry. The first necessary component of a pay-for-performance system is a tightly controlled coordinated entry process. Any homeless individual encountered on the streets or in shelters must be surveyed and assessed before being placed into a supportive housing program. This is important for several reasons. First, supportive housing is expensive and should be reserved for people who actually need it.⁷ Second, to track outcomes of individuals over time, it is essential to collect baseline data on their history and vulnerabilities. Third, coordinated entry prevents providers from accepting only those clients who are easier to help; rather, it allocates clients to providers based on individual needs and provider performance. Fortunately, communities across the country are already using coordinated entry processes that could be adopted for a pay-for-performance system.

Allowing Flexible Service Models. While the front door to supportive housing should be centralized and tightly controlled, the service models that providers actually employ should be left largely to their discretion. Time limits on housing, expectations for compliance with treatment, and contingency of continued housing on various behaviors should all be permitted, but so should harm reduction and traditional Housing

First models. If a given model is effective at obtaining positive outcomes for certain individuals at a lower cost, then providers concerned with maintaining funding will shift toward their use. Different providers may also be better skilled with particular service models. A flexible approach allows them to continue employing these models as long as they can demonstrate high performance.

There should, however, be limits on flexibility. Service providers should always comply with all laws and never prevent individuals from accessing needed medical care in order to manipulate outcomes. They should also provide an adequate and humane level of accommodation. What is deemed adequate may vary across communities. For example, some communities may find time limits on housing or phased-in sobriety requirements to be unacceptable, thus disqualifying transitional housing programs from the system. But as long as all participating providers within a community are held to the same standards, they can still be evaluated based on the outcomes achieved by their clients. To this end, enforcement of minimum standards should be enforced through rigorous program audits.⁸

Tracking Individual Outcomes. In return for being granted greater flexibility in their service models, providers must be held accountable for their performance. This requires high-quality data on outcomes achieved by their clients.

Client outcomes used to evaluate service provider performance should reflect three broad societal goals: reducing homeless populations, minimizing public costs, and improving well-being. The goal of reducing homeless populations should be reflected not only by outcomes such as reducing the number of days clients sleep on the streets or in shelters, but also by limiting the number of days spent in supportive housing. If clients more quickly and successfully transition into cheaper housing options, such as moving back in with family or into private housing, then more supportive housing resources will be available to reduce homeless populations in the future. The overall goal of

⁷ Whether an individual needs supportive housing should be determined on the basis of current coordinated entry algorithms. Those homeless individuals who do not need such an intensive intervention can potentially be offered other forms of assistance. This can include, for example, emergency shelter, short-term rental assistance, or one-time financial assistance for a move.

⁸ While different communities will opt to impose different minimum standards, from a federal perspective, it is important not to artificially bias results toward certain types of assistance. For this reason, the federal government should consider no longer classifying as homeless those individuals who live in transitional housing programs that offer stays of at least six months and provide private rooms.

reducing public costs should be measured by specific cost savings achieved from reduced use of hospitals, jails, and shelters. Outcomes that reflect improved well-being should include increased housing stability, improved mental health, reduced substance abuse, greater income from work, and more frequent connection with family.

Reliable measurement of these outcomes requires high-quality and consistently updated data from several sources. These sources include (1) homelessness system data, (2) administrative data from the health care and justice systems, and (3) data reported by homeless individuals themselves.

Homelessness system data can provide information on housing status and costly stays in shelter and supportive housing programs. Currently, the federal government requires local communities to maintain a coordinated data system that tracks individuals' stays in all homelessness programs. As communities move toward full participation of all service providers, this data system can provide exhaustive data on individual shelter and supportive housing use over time. Unsheltered homelessness is more difficult to assess, although shelter records often include information on where people slept on previous nights, including unsheltered locations. For individuals who generally avoid shelters, contacts from outreach workers can help fill the gap. New York City, for example, is planning to implement a new program called HOME-STAT that will regularly track individuals who sleep on the streets (New York City 2015).

Performance measures should account for the backgrounds and histories of the clients that providers serve so that they are not punished for taking in especially vulnerable individuals.

Another vitally important source of data is administrative records from the health care and justice systems. Not only do these records indicate the costly use of services, but they could indicate other problems as well. Use of detox centers would

suggest ongoing problems with substance abuse. Unnecessary emergency room use and misdemeanor jail stays could indicate unstable living conditions. Stays in the mental health system could indicate (positive or negative) changes in mental health. Hospital records can help document changes to physical health. A major challenge, of course, is brokering data-sharing agreements across agencies. Fortunately, many communities have already shown that this is possible through cost studies of their homeless populations, which document costs incurred by homeless individuals through their use of all of these services. The key will be to establish ongoing agreements that allow for regular and indefinite tracking of individuals over time.

Finally, self-reported data from homeless individuals themselves can be used to track other outcomes such as employment and social connection. To this end, smartphones with full service plans could be provided to homeless individuals in return for providing daily information on an array of outcomes. In a recent proposal, I describe in depth how this might work (Corinth 2016).

Across each of these data sources, it will be vital for local communities to share data with one another. An individual who ends up sleeping on the street or using expensive services in another city or state should not constitute a success. Optimally, a federal data-sharing agreement would be crafted to allow up-to-date tracking of individuals across city and state lines, although privacy concerns, particularly surrounding hospital use, could pose difficulties. Nonetheless, more limited data-sharing agreements that solely include information on the use of homeless services in other communities may be sufficient to infer other measures of well-being.

Measuring Performance. With high-quality data on outcomes achieved by their clients, service provider performance can be accurately measured. But it must be done carefully. Performance measures should account for the backgrounds and histories of the clients that providers serve so that they are not punished for taking in especially vulnerable individuals. Furthermore, individual outcomes (e.g., reduced homelessness, reduced costs, and improved well-being measures) must be aggregated together in order to estimate a single measure of performance. Finally, communities

should be cautious in incorporating extremely long-term outcomes into performance measures because they may be outdated indicators of service provider quality.

Performance measures can account for the backgrounds and histories of the clients that providers serve using a statistical technique called value-added modeling. This technique evaluates a provider's performance by comparing the outcomes of its clients with the outcomes of similar clients served by other providers. For example, if a provider is assigned a client with a long history of homelessness, chronic addiction problems, and other challenges that make him particularly difficult to serve, then that client's outcomes will be compared with the outcomes of clients in other programs with similarly difficult backgrounds. This means that service providers are not punished for being assigned more difficult clients. A provider's overall performance is based on how much better or worse each of its clients fare relative to similar clients in other programs.⁹

To produce a single measure of overall performance, all outcomes must be assigned a dollar value so that they can be aggregated. Certain outcomes have a clear dollar value, including reductions in public costs by minimizing time in supportive housing programs, keeping people out of jails and shelters, and avoiding unnecessary use of emergency rooms. But quantifying the dollar value of outcomes such as keeping people off the street, improving mental health, and overcoming addiction is more subjective and should be determined by individual communities. Once all outcomes are quantified in terms of dollars, they can be aggregated to produce a single measure of an individual client's outcomes, which can then be used to estimate provider performance.

One final issue in measuring performance is determining a reasonable length of time over which to attribute the outcomes of an individual to a formerly accessed supportive housing program. Longer time periods may better capture the long-term benefits of supportive housing, but at the same time, these long-term benefits can only be attributed to a provider's performance from earlier years. If the quality of a provider substantially

changes over time, long-term outcomes may not accurately represent a provider's current quality. This issue could be addressed by giving more weight to shorter-term outcomes that are predictive of future success, rather than necessarily using the long-term outcomes themselves.

Rewarding Performance. Once performance measures are estimated for each service provider, communities should increase funding and client loads for the providers with the best performance and decrease funding and client loads for the providers with the worst performance. Performance measurement and allocation of financial rewards can be carried out as part of annual funding competitions. Exactly what share of total funding should be allocated on the basis of performance measures versus other criteria should be decided by individual communities. Moreover, communities should consider making performance measures public in order to drive funds from private donors to the highest-performing service providers as well.

Conclusion

Although advocates of Housing First tout it as an evidence-based approach, the evidence is uninspiring. We lack evidence that it substantially reduces the size of homeless populations, it does not save money for the majority of homeless individuals, and it is not superior at reducing substance abuse or improving mental health. Communities should embrace the positive aspects of Housing First—unconditional acceptance of the most vulnerable individuals into housing—but continue to push progress forward.

A pay-for-performance system would offer service providers more flexibility over service models in return for more accountability for outcomes. Providers can be evaluated and funded on the basis of how quickly they can transition individuals to private housing and the extent to which they reduce the costs of unnecessary public services. They should also be evaluated on helping clients achieve other important outcomes such as overcoming addiction, improving mental health,

⁹ Implementation of value-added modeling is, in practice, more complicated than what is described here and would require

advanced statistical expertise. Hanushek and Rivkin (2010) provide a brief review of value-added modeling in education.

increasing social connection, and finding employment.

Much progress has been made in improving services for vulnerable homeless adults, but it is time to embrace an approach that emphasizes performance. Doing so has the potential not only to reduce the number of people experiencing homelessness but also to more fully improve their lives.

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References

- Basu, Anirban, Romina Kee, David Buchanan, and Laura S. Sadowski. 2012. "Comparative Cost Analysis of Housing and Case Management Program for Chronically Ill Homeless Adults Compared to Usual Care." *Health Services Research*, 47 (1): 523–43.
- Buchanan, David, Romina Kee, Laura S. Sadowski, and Diana Garcia. 2012. "The Health Impact of Supportive Housing for HIV-Positive Patients: A Randomized Controlled Trial." *American Journal of Public Health: Research and Practice*, 99 (S3): S675–S680.
- Byrne, Thomas, Ellen A. Munley, Jamison D. Fargo, Ann E. Montgomery, Ellen Munley, and Dennis P. Culhane. 2014. "The Relationship Between Community Investment in Permanent Supportive Housing and Chronic Homelessness." *Social Service Review*, 88 (2): 97–114.
- Corinth, Kevin. 2015. "Ending Homelessness: More Housing or Fewer Shelters?" *AEI Economic Policy Working Paper 2015-12*. November.
- . 2016. "Smartphones for the Homeless: Taking Big Data to the Streets," *American Enterprise Institute*. March.
- Culhane, Dennis P., Stephen Metraux, and Trevor Hadley. 2002. "Public Service Reductions Associated with Placement of Homeless Persons with Severe Mental Illness in Supportive Housing." *Housing Policy Debates*, 13 (1): 107–63.
- Gladwell, Malcolm. 2006. "Million-Dollar Murray: Why Problems Like Homelessness May Be Easier to Solve Than to Manage." *The New Yorker*, February 13, 96–107.
- Goering, Paula, Scott Veldhuizen, Aimee Watson, Carol Adair, Brianna Kopp, Eric Latimer, Geoff Nelson, Eric MacNaughton, David Streiner, and Tim Aubry. 2014. "National at Home/Chez Soi Final Report." Calgary, AB: Mental Health Commission of Canada.
- Hanushek, Eric A., and Steven G. Rivkin. 2010. "Generalizations About Using Value-Added Measures of Teacher Quality." *American Economic Review: Papers and Proceedings*, 100: 267–71.
- Kerstesz, Stefan G., Kimberly Crouch, Jesse B. Milby, Robert E. Cusimano, and Joseph E. Schumacher. 2009. "Housing First for Homeless Persons with Active Addiction: Are We Overreaching?" *Milbank Quarterly*, 87 (2): 495–534.
- Kuhn, Randall, and Dennis P. Culhane. 1998. "Applying Cluster Analysis to Test a Typology of Homelessness by Pattern of Shelter Utilization: Results from the Analysis of Administrative Data." *American Journal of Community Psychology*, 26 (2): 207–32.
- Larimer, Mary E., et al. 2009. "Health Care and Public Service Use and Costs Before and After Provision of Housing for Chronically Homeless Persons with Severe Alcohol Problems." *JAMA*, 301 (13): 1349–57.
- Ly, Angela, and Eric Latimer. 2015. "Housing First Impact on Costs and Associated Cost Offsets: A Review of the Literature." *Canadian Journal of Psychiatry*, 60 (11): 475–87.
- National Alliance to End Homelessness. 2006. "A New Vision: What Is in Community Plans to End Homelessness?" *Research Reports on Homelessness in America*. November.
- New York City Office of the Mayor. 2015. "Mayor de Blasio Announces Home-Stat at ABNY Breakfast." <http://www1.nyc.gov/office-of-the-mayor/news/946-15/mayor-de-blasio-home-stat-abny-breakfast>.

- Rosenheck, Robert, Wesley Kasprow, Linda Frisman, and Wen Liu-Mares. 2003. "Cost-Effectiveness of Supported Housing for Homeless Persons with Mental Illness." *Archives of General Psychiatry*, 60: 940–51.
- Sadowski, Laura S., Romina A. Kee, Tyler J. VanderWeele, and David Buchanan. 2009. "Effect of a Housing and Case Management Program on Emergency Department Visits and Hospitalizations Among Chronically Ill Homeless Adults: A Randomized Trial." *Journal of the American Medical Association*, 301 (17): 1771–78.
- Stanhope, Victoria, and Kerry Dunn. 2011. "The Curious Case of Housing First: The Limits of Evidence Based Policy." *International Journal of Law and Psychiatry*, 34 (4): 275–82.
- Tsemberis, Sam, Leyla Gulcur, and Maria Nakae. 2004. "Housing First, Consumer Choice, and Harm Reduction for Homeless Individuals with a Dual Diagnosis." *American Journal of Public Health*, 94 (4): 651–56.
- US Department of Housing and Urban Development. 2015a. *The 2014 Annual Homeless Assessment Report (AHAR) to Congress: Part 2, Estimates of Homelessness in the United States*. Office of Community Planning and Development. November.
- . 2015b. *The 2015 Annual Homeless Assessment Report (AHAR) to Congress: Part 1, Point-in-Time Estimates of Homelessness*. Office of Community Planning and Development. November.
- US Interagency Council on Homelessness. n.d. "Housing First Checklist: A Practical Tool for Assessing Housing First in Practice." <https://www.usich.gov/tools-for-action/housing-first-checklist>.

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