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Policies to Reduce and Prevent Homelessness: What We Know and Gaps in the Research

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Abstract

Homelessness may be both a cause of and one of the more extreme outcomes of poverty. Governments at all levels and private organizations have a variety of tools to combat homelessness, and these strategies have changed dramatically over the past quarter century. In this paper, we catalog the policy responses and the existing literature on the effectiveness of these strategies, focusing on studies of individual-level effects from randomized controlled trial evaluations and the best quasi-experimental designs. We conclude by discussing outstanding questions that can be addressed with these same methods. © *2021 by the Association for Public Policy Analysis and Management*

INTRODUCTION

Homelessness may be both a cause of and one of the more extreme outcomes of poverty, affecting half a million people on any particular day. As such, how governments and private philanthropy respond to homelessness is of paramount importance. Although rigorous evidence on the effectiveness of homelessness prevention and mitigation strategies has grown over the past few years, many gaps remain. In this paper, we catalog the responses to the challenge of homelessness, the existing literature on the effectiveness of these strategies, and the major gaps that need to be addressed in future research.

While many forms of evidence can be informative, we prioritize studies that convincingly measure the causal impact of existing strategies on outcomes of interest, especially those from randomized controlled trial (RCT) evaluations and the best quasi-experimental designs. Throughout the paper, we restrict our review of evidence and interventions to North America in order to focus on a specific policy context while making recommendations for areas of future research with a view towards the North America-specific evidence base and ecosystem of data availability.

As a result, we review evidence on the individual-level effects of particular programs rather than community-level or equilibrium effects. Community-level randomized controlled trials of homelessness interventions do not exist, and even quasi-experimental studies are rare. While the community-level studies that exist can inform market-level considerations, these types of analyses often involve stronger identifying assumptions or limited statistical precision. We leave an in-depth discussion of such studies to other reviews (e.g., O'Flaherty, 2019), and here we limit the discussion to individual-level studies. In the conclusion, we discuss the extent to which individual studies can help understand potential community-level effects.

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This review is valuable for at least five reasons. First, the human toll of homelessness is high, and understanding how best to serve this vulnerable population is crucial. On a given night, more than 500,000 people experience homelessness, and 1.42 million pass through shelters in a given year (Solari et al., 2016).

Second, homelessness has recently increased, particularly in coastal cities. Homelessness counts have mostly decreased since national measurement began in earnest: between 2012 and 2016, the number of people experiencing homelessness in the point-in-time estimates fell by 11.5 percent. However, these numbers have drifted upwards in the most recent counts, driven by large increases in cities such as New York, Los Angeles, Seattle, and San Francisco. In contrast, using a broader definition of homelessness, the Common Core of Data database indicates that the number of students experiencing homelessness has increased each year since 2009, reaching over 1.3 million students during the 2015/2016 school year (Snyder et al., 2018). These increases have coincided with large rent increases in many cities, prompting questions about whether rising rents, policies, or some other factors are the primary cause.

Third, the financial resources devoted to combating homelessness are substantial. Direct federal funding for local organizations to combat homelessness totals about $6.1 billion annually (USICH, 2018). This is, however, only a fraction of the dollars devoted to this issue. State and local governments, as well as private dollars, all contribute to fighting homelessness. While there are no systematic data on the amount of non-federal sources of funds for the nation as a whole, anecdotal data suggest these numbers are large. For example, New York City (NYC) spends a total of $1.8 billion on programs for people experiencing homelessness and only about one third comes from federal dollars (Johnson & Levin, 2018).

Fourth, the organization of services has evolved over the past 30 years. Local resources have become more coordinated. Historically, a patchwork of local public agencies and private organizations have spearheaded the fight against homelessness. Since 1995, the United States Department of Housing and Urban Development (HUD) has required each community to submit a single comprehensive Continuum of Care (CoC) application with the intent to stimulate community-wide planning and program coordination (HUD, 2012).[1] To facilitate the distribution of federal dollars to the areas with the highest need, HUD has required CoCs to conduct a point-in-time estimate of the homeless population since 2007, providing annual estimates of the homeless population under a common definition. Along the same timeline, many communities have moved toward "coordinated entry" systems. While homelessness programs remain spread across many organizations, communities now frequently funnel clients through a common portal that aims to direct those with housing needs to those with appropriate resources.

Finally, the types of services provided have fundamentally changed over time. Twenty years ago, resources centered on local homeless shelters. These shelters were part of a linear treatment program where a person experiencing homelessness was required to participate in and graduate from short-term residential and treatment programs before obtaining permanent housing. In these programs, residents had to satisfy preconditions, such as sobriety, before they could move into a permanent residence. In the late 1990s and early 2000s, new voices advocated for a model prioritizing immediate housing. This approach is guided by the belief that

[1] A CoCs is a regional or local organization that coordinates homelessness prevention and mitigation programs for individuals and families experiencing homelessness. A CoC can be as large as a state (such as MT-500) or serve a small population (such as MD-510 for Garret County, with a population of only 29,500). In 2007, there were 461 CoCs in the United States and its territories. By 2017, this number had fallen to 397.

providing basic necessities such as housing and food are preconditions to solving other problems like finding employment or dealing with substance abuse issues. Evidence was a fundamental part of this new model from the beginning. The Pathways to Housing demonstration project by Tsemberis and Eisenberg (2000) provided evidence that a "Housing First" (HF) model applied to permanent, supportive housing could effectively house chronically homeless people. A successful randomized evaluation of Housing First programs for veterans (Rosenheck et al., 2003) led to a massive expansion of the U.S. Department of Housing and Urban Development Veterans Administration Supportive Housing (HUD-VASH) program, which has distributed more than 97,500 vouchers to veterans experiencing homelessness since 2008. These initial experiences have made the Housing First model the preferred treatment option for people who are chronically homeless and special populations, including veterans and those facing mental health and substance use issues. The same rationale has expanded the general approach of providing immediate housing to include temporary assistance. For example, rapid re-housing programs, which provide immediate temporary subsidies for market housing, have replaced many traditional programs for people experiencing less chronic situations of homelessness. These large changes in the organization and content of homelessness services suggest it is time to take stock of what we know and do not know about the effectiveness of current programs.

In the next section, we outline how homelessness is defined across federal agencies, discuss which groups are at highest risk of becoming homeless, and examine how the patterns of homelessness have changed over time. In each of the third through the sixth sections, we describe a particular strategy for reducing or preventing homelessness and summarize high-quality evidence on its effectiveness (supportive housing, rapid-re-housing, housing vouchers, and prevention strategies, respectively). In the seventh section, we conclude and discuss some key outstanding research questions.

MEASURING HOMELESSNESS AND THE EXTENT OF THE PROBLEM

Defining Homelessness

Measuring the number of people who are experiencing homelessness requires a definition of homelessness. Unfortunately, there are a variety of definitions across government programs and agencies that complicate measurement. School-aged children "who lack a fixed, regular, and adequate nighttime residence" are eligible for educational benefits for homeless children under the McKinney-Vento Homeless Assistance Act. The definition includes children living in shelters and those living in "public or private places not … ordinarily used as a regular sleeping accommodation for human beings" as well as children "who are sharing the housing of others" or living in "motels, hotels, trailer parks, or camping grounds due to the lack of alternative adequate accommodations" (NCHE, n.d.). While the McKinney-Vento definition includes people whom many would consider homeless—those living in shelters, in cars, or on park benches—it also controversially includes children sharing the housing of others, or *doubled-up*. As we outline below, the doubled-up numbers are enormous. Currently, this group is not eligible for federal HUD homelessness assistance. The 2009 Homeless Emergency Assistance and Rapid Transition to Housing (HEARTH) Act[2] defines four groups as eligible for HUD assistance: a) people who

[2] H.B. 1877, 111th U.S. Congress, available at https://www.congress.gov/bill/111th-congress/house-bill/1877.

are residing in a place that is not meant for habitation, including emergency shelters and transitional housing; b) people who are expected to lose their residence within 14 days, including people living in doubled-up arrangements; c) families with children experiencing unstable housing; and d) people fleeing domestic violence. Under this definition, those doubled-up are only eligible for funds if they are about to become homeless. Proposed legislation such as H.R. 32 in 2012[3] and the Homeless Children and Youth Act (HCYA) of 2017 in the Senate[4] sought to expand the HEARTH definition to include those doubled-up. Despite support for HCYA by over 400 homeless advocacy groups (Bardine, 2015), national organizations such as the Corporation for Supportive Housing and the National Alliance to End Homelessness (NAEH, 2015) opposed the measure. These groups argued that the bill expanded the number of homeless without a corresponding increase in funding and hence would divert resources from the most challenging cases of homelessness. As we outline below, whether one includes doubled-up families in the homeless counts changes the number and trends in homelessness dramatically.

Overall Magnitude and Risk Factors

The primary data on homeless incidence come from the annual point-in-time (PIT) count conducted on a single night one of the last 10 calendar days in January and reported in the Annual Homeless Assessment Report (AHAR). Local CoCs organize the count. The PIT count began in 60 municipalities in 1983 and a nationwide methodology was adopted in 2007, with the sheltered homeless counted on an annual basis and unsheltered counts conducted in odd calendar years. Sheltered locations include homeless shelters, domestic violence shelters, hotels and motels where the rent is paid for by a public or private agency because the person is experiencing homelessness, safe havens and transitional housing. Those living in doubled-up arrangements are not included.

Point-in-time estimates distinguish between chronic and transitory homelessness. The federal government defines someone as chronically homeless if they have been continuously homeless for at least one year or they have had at least four spells of homelessness over the past three years that sum to more than one year. Chronically homeless individuals were 17 percent of the 2017 PIT count. Because of their long durations, chronically homeless people are more likely to appear in point-in-time estimates than people with shorter spells. Program usage data from Part 2 of the 2017 AHAR show that half of people who used emergency shelter or transitional housing lived there for less than one month in the past year and 95 percent lived there for less than the full year. While an instance of chronic homelessness is more costly to the individual and systems of care, most people in homelessness face transitory rather than chronic challenges.

In column 1 of Table 1, we report the rate of homelessness per 100,000 people in 2017 from the PIT estimates.[5] In subsequent rows, we report the rate for some demographic subgroups. Each of these estimates represents a stock measure of the chance someone is homeless at that particular moment. In column 2, we report the share of the population from a particular group, and, in column 3, we report the share of those experiencing homelessness in that group. The numbers from column 2 are taken from the 2013 through 2017 American Community Survey (ACS) or from other sources as indicated in the table. In the final column, we report the risk ratio,

[3] H.R. 32, 112th U.S. Congress, available at https://www.congress.gov/bill/112th-congress/house-bill/32.
[4] S.B. 611, 115th U.S. Congress, available at https://www.congress.gov/bill/115th-congress/senate-bill/611/text.
[5] These numbers are for the 50 states and the District of Columbia.

Table 1. Homelessness rates from point-in-time count by demographic characteristics, 2017.

By group	Homeless/ 100,000	Percent of pop.	Percent of homeless	Risk Ratio
For the nation	170.8			
By sex[a]				
Female	131.3	50.8%	39.0%	0.63
Male	209.6	49.2%	60.4%	1.60
By ethnicity[a]				
Hispanic	205.1	17.6%	21.1%	1.25
Not-Hispanic	163.5	82.4%	78.9%	0.80
By race[a]				
White	110.6	73.0%	47.3%	0.33
African American	551.6	12.7%	40.9%	4.77
Asian	38.2	5.4%	1.2%	0.21
Native American/Alaska Native	637.3	0.8%	3.1%	3.82
Pacific Islander	1,269.2	0.2%	1.3%	7.52
Multiple race	341.8	3.1%	6.3%	2.07
By household type[a]				
Households with children <18	135.8	43.2%	34.3%	0.69
Anyone else	197.4	56.8%	65.7%	1.45
By age:[a]				
<18	155.0	22.9%	20.8%	0.88
18–24	170.5	9.7%	9.7%	1.00
>24	176.2	67.4%	69.5%	1.10
Special populations				
Veteran (among those aged 18+)[a]	210.8	5.9%	7.3%	1.25
Severely mentally ill (among those aged 18+)[b]	1,055.2	3.3%	20.3%	7.86
Chronic substance abuse (among aged 18+)[c]	459.9	5.9%	16.0%	3.08
HIV positive[d]	4,019.3	0.3%	7.3%	25.30
Victims of domestic violence[e]	496.3	5.5%	15.8%	3.26
By CoC[f]				
CoCs in the 10 largest metro areas by pop.	333.8	16.9%	33.6%	2.49
CoCs in the next 15 largest metro areas	222.0	8.7%	11.5%	1.36
Other CoCs in metro areas	137.1	49.8%	40.7%	0.69
Non-metro area/rest of state CoCs	96.9	24.6%	12.2%	0.51

Notes: For the dummy variable *Homeless* and a demographic variable x that is also a dummy variable, the risk ratio is defined as $\Pr(Homeless = 1|x = 1)/\Pr(Homeless = 1|x = 0)$.

[a] Population breakdowns are from the 2013 to 2017 ACS.

[b] See https://www.nimh.nih.gov/health/statistics/mental-illness.shtml.

[c] See https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHDetailedTabs2017/NSDUHDetailedTabs2017.htm#tab5-1A.

[d] See https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-2017-vol-29.pdf.

[e] See https://www.cdc.gov/violenceprevention/pdf/nisvs_report2010-a.pdf. The CDC estimates that 5.9 percent of women and 5.0 percent of men have experienced domestic violence, rape, or stalking in the past 12 months.

[f] Mapping of counties into CoCs are from Evans et al. (2019).

which for a dummy variable x is Pr[*homeless*|$x = 1$]/ Pr[*homeless*|$x = 0$]. A value of 2 means that having $x = 1$ doubles the chance of homelessness. The rates for males and females are simply inverses of each other and the rate for African Americans is the value compared to non-African Americans.

Reading down the rows of the table, males comprise 60 percent of people experiencing homelessness and have a 60 percent higher chance of homelessness than females. Hispanics are 25 percent more likely to be homeless than non-Hispanics. Across racial groups, Asians and Whites are far less likely to experience homelessness as people not in those groups. Native American/Alaska Natives, African Americans, and Pacific Islanders are 4, 5, and 7.5 times as likely to experience homelessness as people not in the respective group. African Americans are only 13 percent of the population but are 41 percent of those who are experiencing homelessness. There is little difference by the age groupings, but a shortcoming of the aggregate PIT data is that these data have a broad age range for the oldest age group.

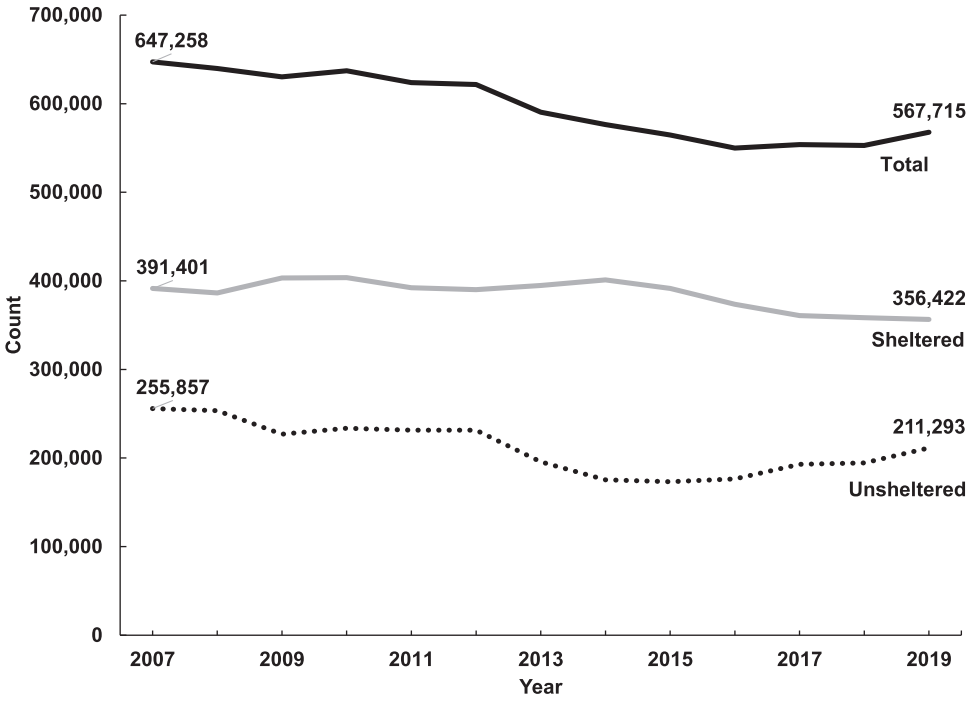
The PIT estimates report homeless counts for families with children under 18 and unaccompanied children under 18. Pooling these groups and comparing them to all others, families with children are less likely to experience homelessness than single individuals or those in families without children.

The PIT survey also asks respondents to identify whether they have particular conditions such as a mental illness, HIV, a substance abuse problem, or are fleeing domestic violence. Shelter operators typically identify these conditions at intake, and as a result, the shelters rather than the individuals themselves usually complete these counts for sheltered individuals. As 60 to 70 percent of people in the PIT are sheltered, these counts are probably accurate for most people in the PIT, conditional on the information collected at intake. The same type of survey is also administered to people not in shelters, for whom information on these conditions is probably much less accurate. If an unsheltered homeless person is found sleeping during the count, the enumerators complete a different form that omits these conditions and just collects basic demographics.

Using these data, we report the numbers for special groups in the next set of rows of Table 1. In each of these cases, the group with special needs has much higher rates of homelessness. Veterans are 25 percent more likely to be homeless than non-veterans. The four other groups are severely overrepresented among those experiencing homelessness. The National Institutes of Mental Health estimates that among adults, 3.3 percent of the population is experiencing severe mental illness. This group, however, represents one fifth of all people experiencing homelessness, with a risk ratio approaching 8. Chronic substance users have a risk ratio of three and make up one sixth of the homeless population. In the population, three tenths of 1 percent are HIV-positive, but one in 13 people experiencing homelessness are, leading to a risk ratio of 25. Finally, those fleeing domestic violence are one twentieth of the population but represent one sixth of all people experiencing homelessness, implying a risk ratio in excess of 3.[6]

In the last group of estimates, we generate risk ratios based on the type of area served by the CoC. As some local areas are served by multiple CoCs (e.g., Los Angeles County has four CoCs) and other CoCs have overlapping jurisdictions (e.g., CoCs

[6] The denominator in this estimate is most likely in error. The PIT count includes children and adults who are victims of domestic violence. The best estimates on domestic violence incidence rates are from the National Intimate Partner and Sexual Violence Survey from 2010. These estimates indicate that 5.9 percent of females and 5 percent of males aged 18 or older nationwide experience rape, domestic violence, or stalking in the past 12 months. We use these numbers to generate a rate for the nation as a whole. We suspect that the majority of those experiencing homelessness in this case are women and children and generating a rate for this group would most likely produce a much higher risk ratio.



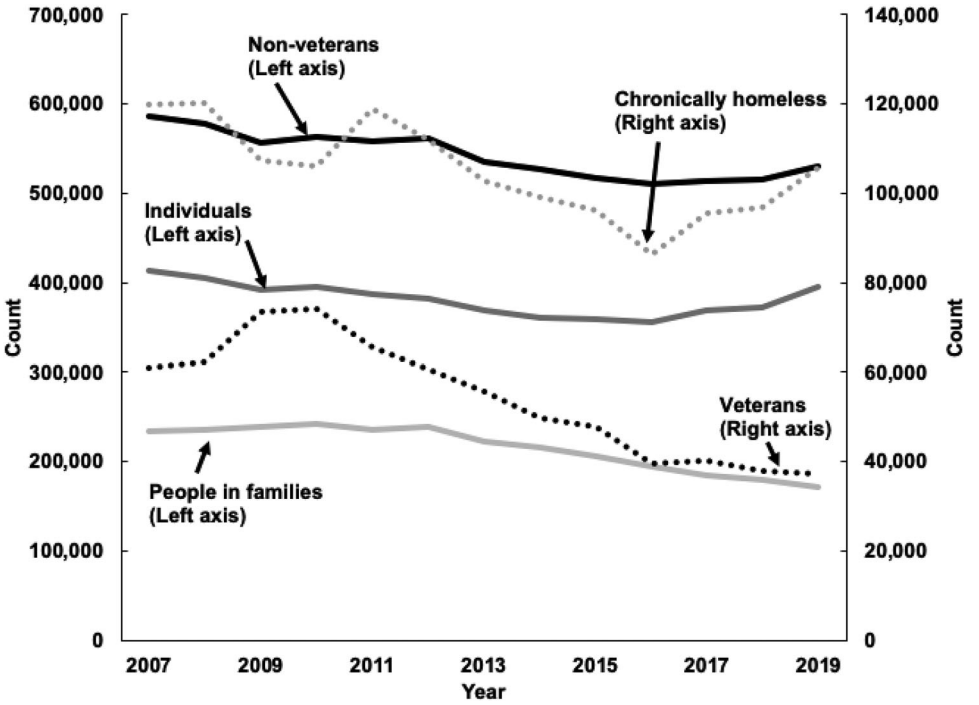
Source: Department of Housing and Urban Development, Continuum of Care Homeless Assistance Programs and Subpopulations Reports.

Figure 1. Number Homeless per Year from Point-in-Time Counts.

near Chicago and Boston), we use the mapping of CoCs by service area from Evans et al. (2019) to generate these numbers. Homelessness is much more prevalent in large metro areas. The risk ratio for CoCs in the 10 most populated metro areas is 2.5, compared to 1.4 for the 15 next largest metro areas. In smaller metro areas and non-metro areas, the risk ratio is much less than one. One outstanding question is whether the accuracy of PIT estimates varies with city size. If non-sheltered homeless people are more difficult to count in less urban areas, the risk ratio for these areas could be vastly understated.

Trends in Point-in-Time Counts

Figure 1 shows the annual PIT estimates from 2007 to 2019. The number of people experiencing homelessness declined 15 percent from 2007 to 2016 with most of the decline for unsheltered homelessness, which declined by 31 percent over the same period. Since 2016, however, the unsheltered homeless counts have increased by 20 percent. Measured as a rate (number experiencing homelessness per 100,000), homelessness has declined 19 percent since 2007. The decline in homelessness has been across a broad range of groups. In Figure 2, we report the time series numbers for a number of different subgroups from 2007 to 2019. Homelessness among veterans peaked in 2010 and fell 50 percent over the next nine years. Homelessness among non-veterans fell by about 6 percent over the same period and among the chronically homeless by almost 12 percent over the entire period. Homelessness among people in families fell by 29 percent from its 2010 peak, but only 4 percent for individuals from its 2007 peak.



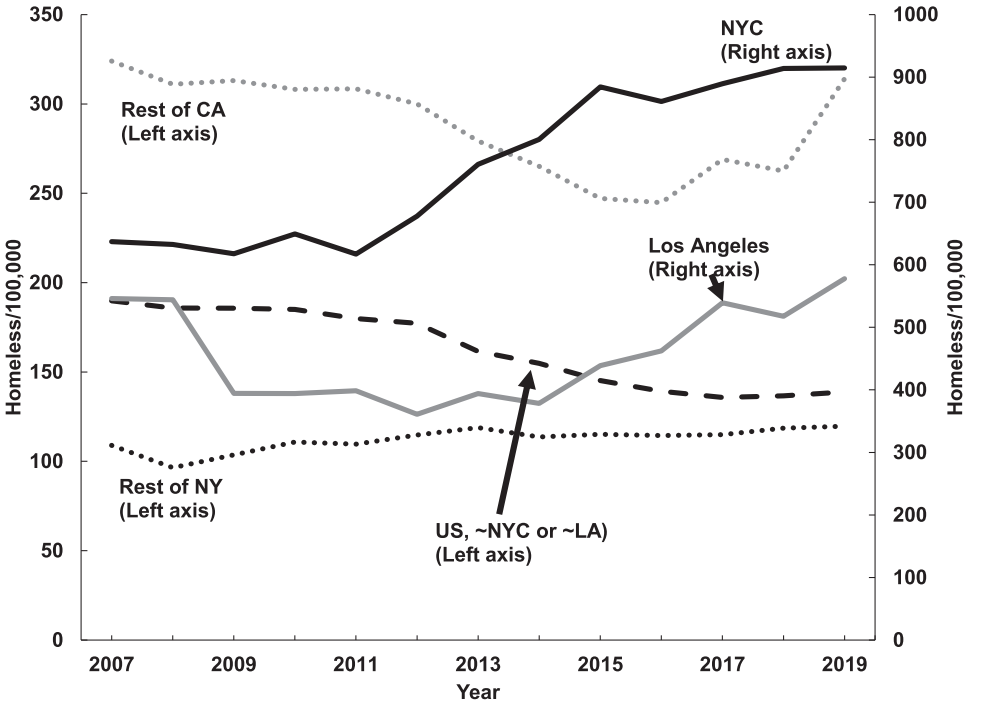
Source: Department of Housing and Urban Development, Continuum of Care Homeless Assistance Programs and Subpopulations Reports.

Figure 2. Number Homeless per Year in Specific Groups from Point-in-Time Counts.

Not all areas have experienced a decline in homelessness. As shown in Figure 3, the trends in New York City (CoC, NY-600) and Los Angeles County[7] have been particularly different from the rest of the country. Homelessness rates (x 100,000) for Los Angeles County and New York City (shown by the solid lines on the right vertical axis) have increased by 60 and 35 percent, respectively. The impact of these two cities is dramatic for state and national estimates. While these cities represent less than 6 percent of the nation's population, they accounted for about a quarter of the homeless population in 2019. The dotted lines with the same shade (left vertical axis) show that homelessness rates for the rest of California and New York have risen by less than 5 percent over this same period (with most of the increase in California occurring between 2018 and 2019). Nationwide, rates have fallen 14 percent since 2012 and national rates excluding Los Angeles County and New York City (dashed black line, left axis) have fallen 22 percent.

It is tempting to suggest these trends are simply a "big city" phenomenon, as homelessness has risen in other large cities since 2012 including Oakland/Berkeley (88 percent), San Francisco (36 percent), Chicago (29 percent), and Seattle (26 percent). This pattern, however, is not universal: Some large and growing cities have experienced substantial declines in homelessness including Houston (-45 percent),

[7] Here we pool data for the four CoCs in Los Angeles County to represent the entire county.



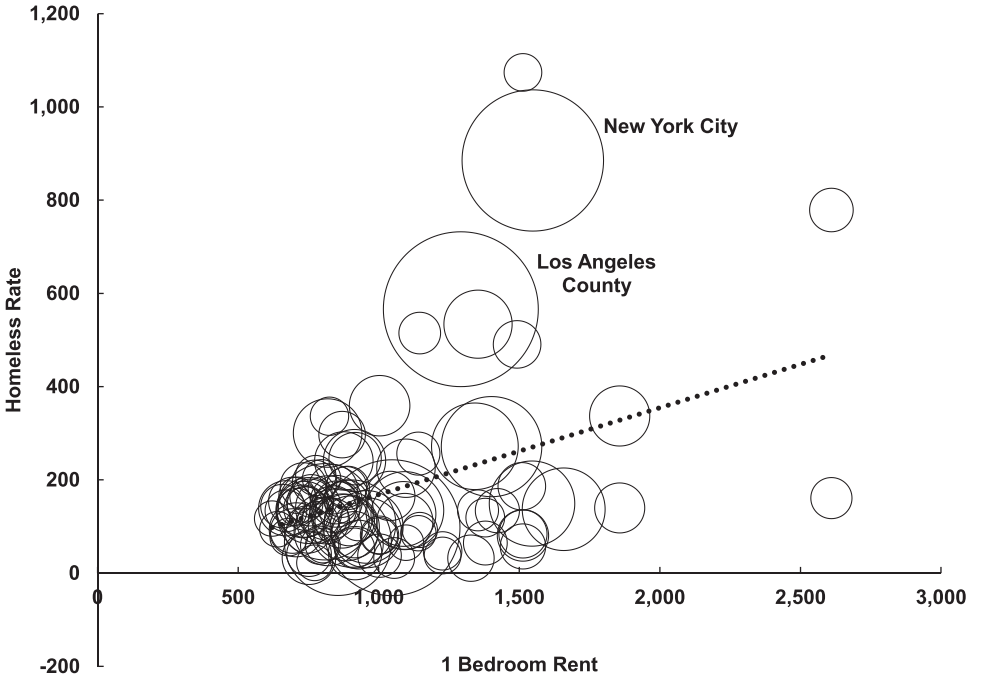
Notes: Homeless data are from Point-in-Time counts. The denominators are from the SEER population data (https://seer.cancer.gov/popdata/). Los Angeles data include the four CoCs that reside within Los Angeles County.

Figure 3. Homeless Rates per Year for Selected Areas from Point-in-Time Counts.

Atlanta/Fulton County (-43 percent), San Antonio (-22 percent), and San Diego (-19 percent).

What is happening in places like New York, Los Angeles, and San Francisco is an open question. New York, Los Angeles, and the Bay Area have the highest numbers of people experiencing homelessness, and the shocking increases in homelessness rates for these areas can drive national estimates. The composition of the change in homelessness appears to be quite different across cities, and hence it is possible that the explanation is not the same for all cities. In New York City, 45 percent of the increase is from families with children under 18. In Los Angeles, this group only represents about 4 percent of the increase, while in places like San Francisco and Oakland, the number of homeless in families with children actually fell between 2012 and 2019. In New York City, where there is a right-to-shelter law, 97 percent of the increase is in the sheltered homeless population, whereas more than 100 percent of the increase in Los Angeles is in the unsheltered population. In San Francisco, increases in homelessness among those with mental illness and substance abuse represent 99 percent of the increase while this number is only 22 percent in Los Angeles. Research examining earlier increases in the sheltered population (Cragg & O'Flaherty, 1999; Hanratty, 2017; O'Flaherty & Wu, 2006) suggests macroeconomic conditions, available shelter and subsidized housing, and income assistance programs all play a role.

Many suggest that homeless people are highly mobile and that some of the increase experienced in these cities could be due to people moving to areas with attractive weather or more generous services. Burt et al. (1999) report that in a survey



Notes: The homeless data are from the Point-in-Time counts. The CoCs are mapped over time to provide a consistent geographic definition as in Evans et al. (2019). Population data are from SEER Population data (https://seer.cancer.gov/popdata/). Median rents are at the county level for a one-bedroom apartment (https://www.huduser.gov/portal/datasets/50per.html) and aggregated to the CoC using the mapping in Evans et al. (2019). We weight median rents across counties in a CoC by population.

Figure 4. Scatterplot of Median Rent and Homeless Rate (per 100,000), by CoC, 2017.

of about 3,000 homeless people, 44 percent move across communities while homeless and 16 percent report an interstate move. However, whether certain areas have higher net migration is not clear. Using a sample of 113,400 veterans who initiated homeless services in 2011 and 2012, Metraux et al. (2016) found that 15 percent migrated across one of the 23 VA service regions while homeless, but net migration across regions was quite low. Although the Southern California/South Nevada area had a 13.2 in-migration rate, it also had a 14.3 out-migration rate. In-migration/out-migration rates were similar for other major regions such as Metro New York City (18.2, 19.6), Metro DC (25.3, 20.0), and Florida/South Georgia (14.9, 13.0). Research has yet to establish the role of migration in these key cities.

In general, housing costs explain a small fraction of both the levels of and changes in homelessness. Figure 4 shows the relationship between median rent for a one-bedroom apartment and homelessness rates across CoCs in 2017. There is a clear positive relationship between rent levels and homelessness; however, this relationship is far from perfect ($R^2 = 0.16$).[8] Los Angeles County and New York City appear as the clear, large outliers above the regression line, with rent levels predicting some but not most of their very high rates of homelessness.

[8] Hanratty et al. (2017) also document that areas with higher rents have larger homeless populations.

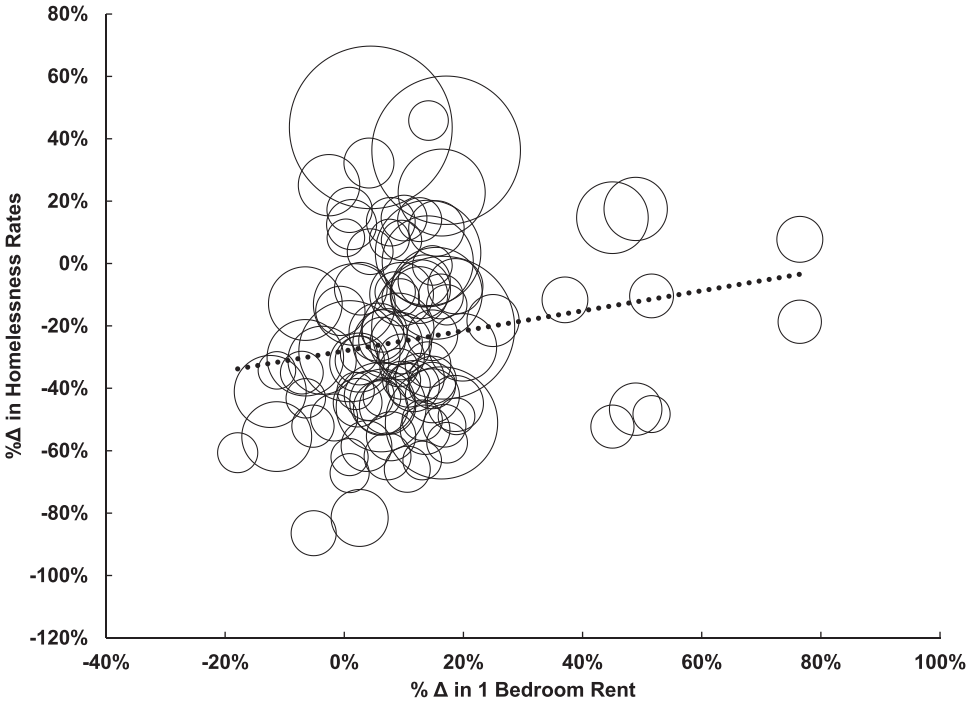


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Figure 5. Scatterplot of Percentage Change in Median Rent and Homeless Rate, by CoC, 2010 to 2017.

Figure 5 shows the same graph in changes between 2010 and 2017. The positive relationship between rent and homelessness weakens ($R^2 = 0.03$) when considering changes, and these changes cannot explain most of the sudden, dramatic increase in New York and Los Angeles. Inflation-adjusted median rents for a one-bedroom apartment in New York increased by about 4 percent between 2010 and 2017. The change in Los Angeles was even less. The CEA (2019) suggests the best available evidence is that the elasticity of homelessness with respect to housing costs is about one, so using this metric, housing price changes can explain at best a modest share of the recent rise in homelessness. Although rent levels may explain the persistent differences in homeless rates between cities, changes in rent levels hold little predictive power.[9]

[9] These qualitative patterns continue to hold when looking at the relationship between homelessness and the 10th percentile of rents. The five-year ACS data report counts of rent at the county level in 24 categories. When we aggregate these county-level counts to the CoC level and assume rents are uniform within a category, we can estimate the 10th percentile rent. So, for example, if 9 percent of rents are less than $500 a month and 2 percent of the sample reports paying between $500 and $549/month, we estimate the 10th percentile rent to be $525. The correlation coefficient between the 10th percentile rents in 2017 is 0.15 with an R^2 of 0.023. In the changes regression, comparable to Figure 5, we actually get a negative correlation coefficient of −0.048 and an R^2 of 0.0023.

Challenges to Measurement

The PIT estimates are subject to many limitations. First, the estimate is conducted at a single point in time. The number of people experiencing homelessness over a longer interval will be larger by definition. The Homeless Management Information System (HMIS) is a network of local IT systems organized at the CoC level that collect client-level data for people entering sheltered services in most homeless shelters across the country. In 2016, HMIS produced an un-duplicated count of 1.42 million people in the shelter and transitional housing system (Solari et al., 2016). The comparable estimate of sheltered people from the PIT estimate was 373,571. Along this dimension, the point-in-time estimate understates annual exposure by a factor of almost four.[10]

Given the difficulty in finding people who are unsheltered, the PIT estimates will also systematically understate the size of this group. The PIT procedures are designed to locate as many of this group as possible by visiting where people experiencing homelessness are known to congregate but will miss people in more obscure places and those not wanting to be counted. To obtain an estimate of the undercount of the unsheltered, plant-recapture techniques send paid plants to locations where enumerators are known to visit and subsequently report back as to whether they were surveyed (Hopper et al., 2008; Laska & Meisner, 1993; McCandless et al., 2016; Shaw et al., 1996). Studies by Laska and Meisner (1993) and Hopper et al. (2008) done decades apart in New York City both found that PIT estimates understate the rate of unsheltered homelessness by about 40 to 50 percent.[11]

As mentioned earlier, the PIT estimates do not include those doubled-up, a common practice particularly among low-income families and those in desperate financial situations (Mykyta & Pilkauskas, 2016). Mykyta and Macartney (2011) use data from the Current Population Survey and estimate that in March 2010, 24.1 percent of households were doubled-up. Pilkauskas, Garfinkle, and McLanahan (2014) note that among participants in Fragile Families and Child Wellbeing Study, a survey focused on children born to unmarried parents and those at high-risk for living in poverty, 50 percent had lived doubled-up as an adult. Participants in the Family Options Study were recruited from families living initially in emergency shelter, but three years after enrolling, the usual care group was more than three times more likely to have lived doubled-up than to have stayed in an emergency shelter in the previous six months (Gubits et al., 2016). While the exact extent is hard to measure, the data above indicate that doubling up is quite common.

The best estimates of the extent of doubling up are reported by the National Center for Education Statistics (NCES) Common Core of Data (CCD). Since 1987, schools report to the NCES the number of students experiencing homelessness as defined by McKinney-Vento in four categories: sheltered and unsheltered homeless, which are comparable to the definitions used by the PITs, those living in hotels/motels, and those doubled-up. While the PIT includes those in hotels/motels if a family's stay is paid for by a third party, the NCES definition is much broader. These data are aggregated over a school year and hence are estimates of who experienced homelessness over the previous year, rather than a point-in-time estimate. Aggregate counts of these numbers are available from the 2009/2010 school year through 2016/2017 for all students in public elementary and secondary schools.

[10] HMIS, though, may overstate exposure to the extent that migrants across CoC borders and de-identified individuals (e.g., minors) enter HMIS more than once but cannot be de-duplicated.
[11] Hopper et al. (2008) found a slightly higher recapture rate in Manhattan than the outer boroughs. If these findings generalize to the entire country, the undercount may be even greater in less urban areas.

Table 2. Comparison of PIT and CCD homeless numbers.

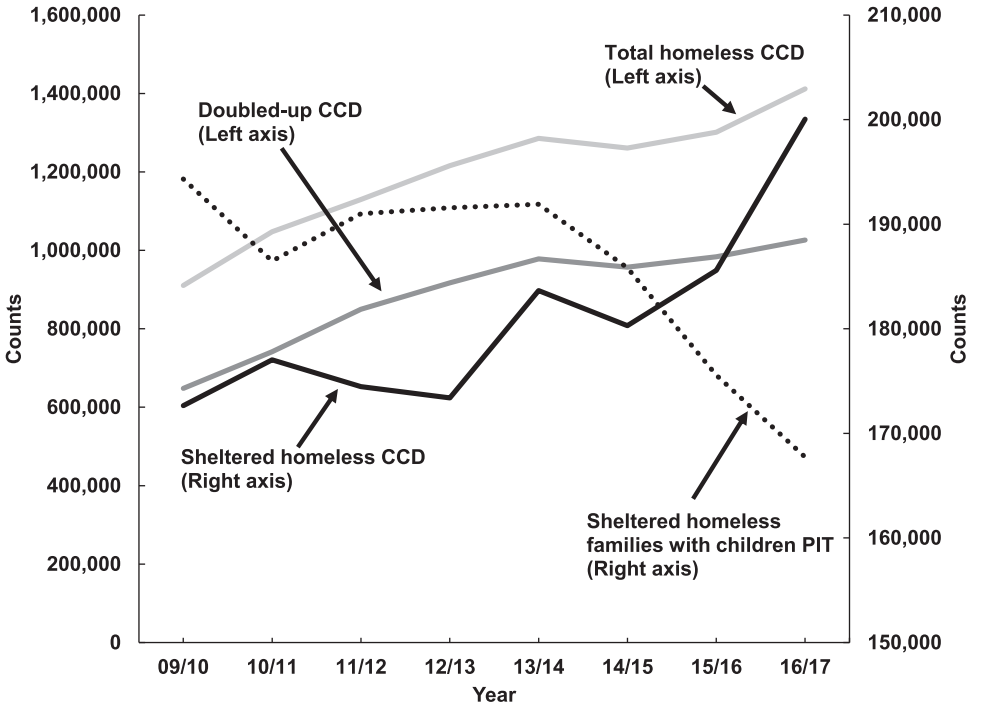
Category	2014/15 CCD Data Enrolled Students	2015 PIT Data Children Under 18
Homeless by PIT estimate	219,629	122,013
	(436.5)	(174.4)
Sheltered	180,302	111,692
	(358.4)	(159.7)
Unsheltered	39,327	10,321
	(78.2)	(14.8)
Non-PIT Categories	1,039,240	
	(2065.6)	
Doubled-up	957,053	
	(1902.2)	
Motel/hotels/transitional	82,187	
	(163.4)	
Total	1,260,721	122,013
	(2505.8)	(174.4)

Notes: Numbers in parentheses are rates per 100,000 in the group.

In Table 2, we compare estimates of those experiencing homelessness by category from the 2014/2015 CCD and the 2015 PIT in order to illustrate the similarities and differences across data sources and definitions. In the top half of the table, we report the direct comparisons of sheltered and unsheltered homelessness between the CCD and PIT in rates per 100,000 persons. The relevant population differs slightly between the two sources: The CCD includes everyone in public elementary and secondary schools whereas the numbers for the PIT are all children under the age of 18, including those too young for school. Fifty-one percent of the children in shelters are under six (Samuels et al., 2010). Assuming children enter school at age 5, about 42.5 percent of homeless children in shelters are younger than school age, and roughly 57.5 percent, or 63,900, are school-aged. These estimates indicate the sheltered numbers in the CCD are 2.8 times as large as the PIT estimates, which is smaller than the ratio of the HMIS full-year unduplicated numbers to the PIT estimates. In the second half of Table 2, we report counts from non-PIT categories in order to provide a sense of the composition of homelessness under a broader definition. The number of children living in motels/hotels is comparable in magnitude to the implied PIT estimate for the sheltered homeless. More importantly, there are approximately a million children doubled-up. Overall, the number of children experiencing homelessness from the PIT is one tenth the number according to the CCD.

The numbers in Figures 1 and 2 tell an encouraging story that homelessness has been declining in most of the country over the past decade. Unfortunately, including doubled-up housing situations in homeless counts dramatically changes patterns in both the cross-section and time series. In Figure 6, we report time series of homeless counts from the CCD for the sheltered, doubled-up, and total homeless alongside sheltered PIT counts.[12] The sheltered count from the PIT shows a decline that is fairly pronounced over the final three years. In contrast, the CCD numbers are increasing throughout the time period. Total homelessness in the CCD data increased

[12] Unfortunately, the HUD exchange does not report homeless children for all years, so the most comparable series we can report is sheltered homeless families with children. In 2014, children were 59 percent of this group. For school year 2009/2010, we report the PIT estimates from 2010.



Sources: Department of Housing and Urban Development, Continuum of Care Homeless Assistance Programs and Subpopulations Reports; Department of Education, National Center for Education Statistics Common Core of Data.

Figure 6. Number Homeless per Year from Common Core of Data and Point-in-Time Counts.

by 55 percent throughout the period with 75 percent of the increase among those doubled-up.

Costs of Homelessness

In addition to affecting many people, homelessness generates very large private and public costs. Most obviously, people lose access to any surplus value of their prior housing over and above the cost of that housing. This may include benefits such as the physical and mental health benefits that housing provides, the ability to find and maintain employment, or the utility one places on owning or renting a place in their own name. Unfortunately, many such private benefits are difficult to measure. The public cost of housing someone who is experiencing homelessness is more straightforward to measure. Spellman et al. (2010) found that the average cost of housing a newly homeless family or individual for the duration of time that they experience homelessness is upwards of $2,000. Because families access a variety of services across multiple spells of homelessness, these costs can accumulate quickly. Gubits et al. (2016) document that homeless families receiving "usual care" average about $30,000 of housing services in the 18 months following shelter entry.

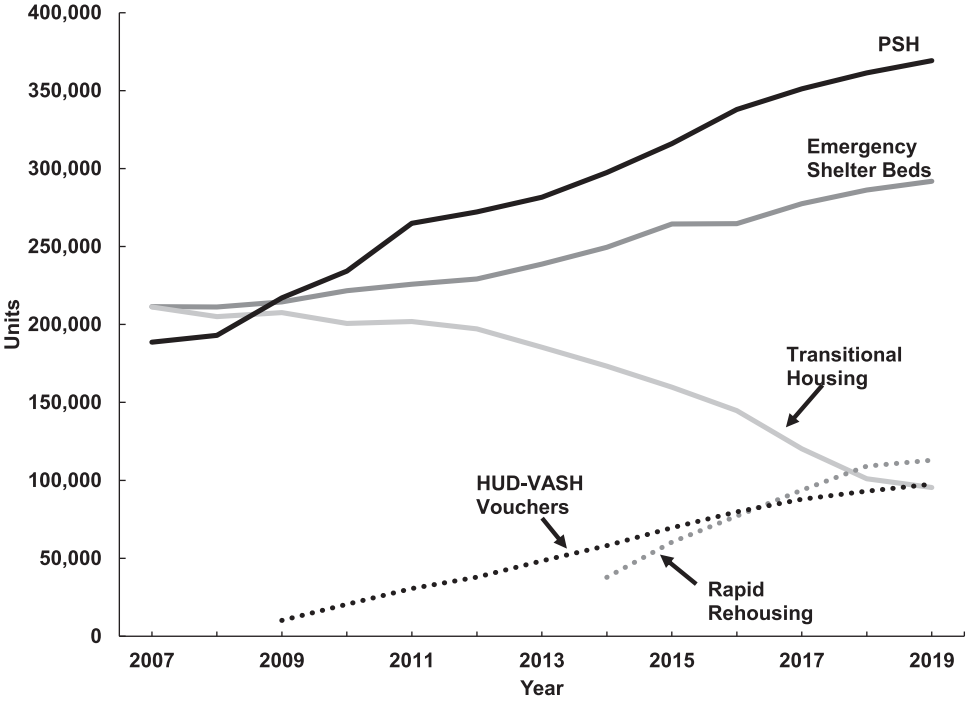
The other public costs of homelessness potentially swamp the direct cost of housing. Since the pioneering work of Culhane et al. (2002), a number of authors have attempted to estimate the public costs of homelessness at the local level. One of the more extensive of these case studies was from Santa Clara County, California where

administrative data on homelessness were linked to records for various other public services (Flaming et al., 2015). The cost of all public services averaged $83,000 per person experiencing homelessness per year. Of that total, 53 percent was related to healthcare and 34 percent to criminal justice. Only 13 percent came from all other social welfare services, including homelessness services but also foster care, food, and cash assistance. Given high fixed costs for both hospitals and jails, these costs do not reflect marginal costs. This case study matches what is known from other contexts. As noted above, people who are experiencing homelessness are more likely to experience health issues such as mental illness, substance use, and HIV. Individuals experiencing homelessness, particularly unsheltered homelessness, have greater mortality rates than the general adult population (Barrow et al., 1999; Hwang et al., 2009; O'Connell, 2005; Roncarati et al., 2018). People who are experiencing homelessness also have more contact with the criminal justice system. For example, Cronley et al. (2015) found that people with a history of homelessness are 60 percent more likely to commit violent crime and 30 percent more likely to commit property crime, after controlling for observable differences, and Snow et al. (1989) found that men experiencing homelessness in Austin are more likely to be arrested than the general population of males. Most of this difference is due to public intoxication and theft, which could indicate differences in treatment by police rather than actual differences in criminality. Desmond (2016) argues that eviction causes poverty by hindering employment, and Desmond and Gershenson (2016) found that Milwaukee renters are 11 to 22 percent more likely to lose a job after a forced move compared to a matched comparison group. Overall, people experiencing housing instability clearly have worse health, encounters with criminal justice, and employment outcomes.

Two caveats regarding the cost of homelessness are important. First, the correlation of homelessness with poor outcomes does not necessarily imply homelessness creates these costs. For example, recent studies of eviction court in Chicago (Humphries et al., 2018) and New York (Collinson & Reed, 2018) demonstrate that evictions follow dramatic dips in creditworthiness and financial stability, context which could be missed in typical surveys. Second, the distributions of the various public costs of homelessness can be skewed. In Spellman et al. (2010), the costliest 10 percent of people incur up to 83 percent of the total costs of shelter during homelessness. In Flaming et al. (2015), individuals with costs in the top 5 percent of the public costs incur 47 percent of all costs. Hence, whether a program targets the costliest cases matters significantly for the mean costs reported above.

Types of Interventions for Reducing Homelessness and Trends in Resources

The McKinney-Vento Homeless Assistance Act of 1987 was the first large-scale federal effort providing dedicated funding to programs and services to families and individuals experiencing homelessness. McKinney-Vento provided federal funds to public and private local housing agencies to support a variety of programs. Historically, the local system to combat homelessness was very fragmented with little coordination. The grants supported by McKinney-Vento went to a variety of public agencies and local charities. In 1995, HUD began requiring communities to submit a single application for McKinney-Vento grants to streamline the application process, encourage coordination of services at the local level, and help promote the CoC model introduced above. For example, All Chicago is the coordinating agency for the Chicago CoC and their web page lists 265 partner agencies. Some agencies specialize in providing services to some groups (e.g., veterans, families, victims of domestic abuse), while some specialize in specific types of services (e.g., emergency financial assistance, shelter, supportive housing).



Notes: PSH, emergency shelter, transitional housing, and rapid re-housing are taken from the Housing Inventory Count. The number of HUD-VASH vouchers is found in https://www.hud.gov/sites/dfiles/PIH/documents/HUD_VASH_Awards_Sites.pdf.

Figure 7. Resources Devoted to Homeless per Year from Housing Inventory Count.

Thus, we start with the menu of policy and program options available at a local level. Since the passage of McKinney-Vento, localities have implemented several approaches to reduce or prevent homelessness. We define each of these interventions briefly here but discuss their modern history and recent changes in the following sections. *Transitional housing* provides time-limited subsidized housing attached to a particular building and requires engagement with services, such as sobriety or mental health supports. *Permanent supportive housing* (PSH) provides unconditional, long-duration housing subsidies alongside subsidized but voluntary support services. *Rapid re-housing* (RRH) provides housing subsidies similar to permanent supportive housing but of much shorter duration. People who are not yet homeless receive *homelessness prevention* services, which can include one-time financial assistance, legal aid, assistance transitioning from facilities (e.g., hospitals), and comprehensive interventions that combine these elements and others with personalized case management.

Part of the decline in the national homeless counts outlined in Figures 1 and 2 above is from additional resources devoted towards homelessness. In the top two lines of Figure 7, we report the number of beds for shelter (x 1,000), PSH, transitional housing, and RRH from 2007 and 2017. These data are from the companion to the PIT survey called the Housing Inventory Count (HIC) that provides point-in-time counts of homelessness resources. The black dotted line is Housing and Urban Development–Veterans Affairs Supportive Housing (HUD-VASH) PSH vouchers in circulation. These data are from Evans et al. (2019).

Between 2007 and 2019, overall resources have increased, with the total number of beds rising from 611,292 to 911,657 (49 percent increase). Emergency shelter beds have increased from 211,451 to 291,837—a 38 percent increase. Figure 7 also displays a major shift in recent years, the displacement of transitional housing in favor of Housing First approaches. While the number of transitional housing beds has fallen by about 55 percent—211,205 to 95,446—permanent supportive housing beds have almost doubled, increasing from about 189,000 to 369,000. Some of the decline in transitional housing could be a reclassification to RRH as this category had added 113,000 beds by 2019. The number of transitional housing beds was about the same in 2007 (211,000) as transitional and RRH combined (208,000). These patterns are potentially important for homeless counts as PIT estimates count those living in transitional housing as homeless but not those living in RRH. Much of the increase in RRH and PSH has been from federal efforts to expand Housing First efforts. Nearly half of the increase in PSH units is through the HUD-VASH program for veterans. Through 2018, about 97,500 vouchers have been awarded through that program.

SUPPORTIVE HOUSING VERSUS TRANSITIONAL HOUSING

Transitional Housing

Until recently, families and individuals experiencing homelessness accessed housing assistance through a continuum model. Emergency shelters served as the first port of entry and provided families and individuals with temporary housing without rent or lease agreements until residents were able to find more permanent housing, often providing supportive services aimed at getting residents "housing ready" and able to procure private-market housing.

After accessing emergency shelter, families and individuals could move to project-based transitional housing, or just "transitional housing." Like emergency shelter, transitional housing provides temporary assistance, usually for no longer than 24 months. In addition to providing shelter, transitional housing provides supportive services designed to help tenants find and secure permanent housing or address other issues. Continued receipt of transitional housing may be contingent on households satisfying certain requirements, such as sobriety, employment, or participation in mental health treatment, which embeds a trade-off in the continuum model between providing housing and enforcing such conditions.

Many communities have shifted some resources for chronically homeless individuals away from the continuum model toward a Housing First strategy that provides households experiencing homelessness with immediate housing with few to no preconditions or contingencies. The guiding rationale for the Housing First approach is that homelessness is detrimental to families and individual well-being, and obstacles to economic self-sufficiency or family well-being are more easily addressed if a family is in stable housing (Burt et al., 2016).[13]

[13] "Housing First" originally referred to programs offering immediate, permanent housing opportunities. In recent years, this term has also been used to refer to rapid re-housing programs that provide immediate, but temporary, rental assistance and subsidies. As discussed in NASEM (2018) and HUD (2014), there is some disagreement over whether rapid re-housing programs are considered Housing First approaches. Following the NASEM and HUD, this overview categorizes rapid re-housing as a program model that follows the Housing First approach of providing immediate housing to families and individuals experiencing homelessness, without requiring participation in other programs or adhering to behavioral requirements, but that differs from traditional permanent supportive housing and Housing First approaches by offering time-limited (rather than permanent or long-term) assistance.

Supportive Housing: History and Program Design

Supportive housing is a Housing First strategy that helps individuals with mental or substance use disorders who are experiencing homelessness find long-term, affordable, and independent housing. Cities and local service providers began to implement supportive housing programs in the late 1980s and early 1990s. These early endeavors included Beyond Housing in Los Angeles, Pathways in New York City, and Rapid Exit in Hennepin County, Minnesota, which emphasized a "consumer-based" model and aimed to serve clients who were ineligible for other interventions due to lack of engagement in supportive services (Tsemberis, 1999). In most programs, clients pay no more than 30 percent of their monthly income in rent and have access to ongoing case management that is designed to preserve tenancy. Wraparound supportive services, including mental health programming and substance abuse treatment, may be provided on- or off-site. Crucially, and unlike many traditional approaches, these programs provided housing without requirements of sobriety, employment, or other participation in program supportive services. Over the past 20 years, the scope of supportive housing programs has broadened to include populations other than chronically homeless individuals. In 2017, approximately half of supportive housing beds targeted persons in families (Henry et al. 2017). Supportive housing programs that do not have time limits on receipt are referred to as "permanent supportive housing" or PSH.

In addition to local initiatives, federal funding has increasingly shifted to providing immediate housing. While the original McKinney-Vento legislation funded supportive housing programs through the Supportive Housing Program, the largest expansion of the HF strategy came with the expansion of the HUD-VASH program in the early 1990s, discussed in greater detail below.

Supportive Housing: Evidence

Pathways to Housing

One of the earliest supportive housing programs was the Consumer Preference Supported Housing Model developed by Pathways to Housing (Pathways) in New York City. Pathways provided supportive housing in individual housing units to persons diagnosed with a mental health disorder who were experiencing homelessness. In contrast to traditional programs, participation in psychiatric treatment was not a precondition for receiving housing services.[14] Pathways was eventually structured such that it could be evaluated as an RCT.

Two to three years after random assignment, clients with access to supportive housing who had previously experienced street homelessness had lower rates of homelessness and spent about half as much time homeless and in hospitals as those receiving traditional services (Greenwood et al., 2005; Gulcur et al., 2003). Given the characteristics of the study population, many of the outcomes examined in the Pathways study focused on use of mental health and treatment options. Over a four-year follow-up period, there was no significant effect of supportive housing on substance use or psychiatric symptoms (Padgett et al., 2006; Tsemberis et al., 2004). These findings are consistent with earlier, nonexperimental work that found lower rates of homelessness for Pathways clients, compared to individuals experiencing homelessness who did not access Pathways services (Tsemberis & Eisenberg, 2000).

[14] Tsemberis (1999) and Tsemberis and Asmussen (1997) provide a comprehensive description of the Pathways program and the clients it served. Pearson et al. (2007) describe similar programs in other communities.

At Home/Chez Soi

The largest experiment of a supportive housing program was the At Home/Chez Soi RCT that operated over five years across five Canadian cities.[15] The program enrolled 2,148 individuals with severe mental illness who were experiencing homelessness. Treatment group participants received subsidized, community-based, independent housing, with mental health and supportive services provided by community teams. Control group individuals continued to have access to other housing and support services available in their communities. Both Pathways and At Home/Chez Soi provided similar housing and supportive services to "high-need" individuals, but At Home/Chez Soi also included a treatment arm of less-intensive case management for moderate-needs recipients.[16]

The At Home/Chez Soi study shows supportive housing improved housing outcomes throughout the follow-up period. Two years after random assignment, those assigned to supportive housing had spent twice as much time stably housed (compared to about 32 percent among control group members) and experienced fewer moves than individuals in the treatment-as-usual group (Aubry et al., 2015; Goering & Watson, 2012; Goering et al., 2014; Stergiopoulos et al., 2015), and effects were similar for younger (ages 18 to 49) and older (age 50 and above) clients (Chung et al., 2017).

The treatment group also showed improvements in non-housing outcomes, such as quality of life and community functioning the first year after random assignment, although differences were no longer statistically significant by the end of the second year in the pooled sample for most groups (Aubry et al., 2015).[17] In Vancouver, one year after entry, supportive housing also reduced emergency department use by about half relative to a control group average of seven visits a year (Currie et al., 2014), while Toronto reported reductions in alcohol use over a two-year period (Kirst et al., 2015; Stergiopoulos et al., 2015).

Over the short-term, more than half (54 percent) of the costs of providing supportive housing were recouped through lower expenditures on healthcare and shelter systems (Goering & Watson, 2012). Clients with high preexperiment expenditures drove most of these cost reductions. Among those in the top 10 percent of pretreatment spending, supportive housing was less than half the cost of providing treatment-as-usual (Goering et al., 2014).[18]

Veterans Affairs Supportive Housing

Additional experimental evidence that PSH improves housing outcomes comes from Housing and Urban Development–Veterans Affairs Supportive Housing (HUD-VASH). Created in the early 1990s as a demonstration project, the HUD-VASH program subsidizes veteran housing through housing choice vouchers and offers case management services using a PSH approach. Local public housing authorities distribute vouchers to veterans, oversee how the voucher is used and whether it meets program standards, and assist veterans with rent negotiations, inspections, and other housing-related tasks. Veterans pay up to 30 percent of their income in rent

[15] The cities were Vancouver, Winnipeg, Toronto, Montreal, and Moncton.
[16] Goering et al. (2011) and Goering and Watson (2012) provide a program overview and describe baseline characteristics of participants.
[17] Some sites, such as Toronto, continued to show improvements in community functioning two years after program entry (Stergiopoulos et al., 2015). In addition, older clients experienced greater improvements in mental health and some measures of quality of life (Chung et al., 2017).
[18] The authors did not test whether this difference was statistically significant.

while the voucher covers the rest (Montgomery & Cusack, 2017). A Veteran Affairs Medical Center coordinates with the local public health authorities to screen veterans and provides case management and clinical services. To be eligible for HUD-VASH, veterans must be homeless as defined by the McKinney-Vento Homeless Assistance Act, eligible for VA healthcare, agree to intensive case management, and have no prior convictions for arson or sex offenses (Crone, 2017). Since 2008, the program has awarded resources for about 10,000 PSH vouchers annually and was a cornerstone of the Obama administration's 2009 goal to end Veterans' homelessness within five years (HUD, n.d.).

Several experimental studies show that HUD-VASH reduces homelessness but has mixed effects on other outcomes. The original RCT of the program enrolled 460 chronically homeless veterans with substance use or psychiatric disorders. At the end of the three-year follow-up period, individuals with access to the combined treatment of housing vouchers and case management had spent 7.4 fewer days homeless in the previous 90 days compared to individuals receiving usual care (36 percent reduction) (Rosenheck et al., 2003). Case management services without a housing voucher did not significantly affect housing outcomes. The reduction in homelessness for the dual-treatment group was particularly pronounced in the first two years after program entry and attenuated over time. O'Connell et al. (2012) examined heterogeneity in treatment effects and found that vouchers had the largest housing benefits for white individuals, individuals with co-occurring disorders, and active substance users.

While HUD-VASH improved housing outcomes, it did not significantly affect medical costs or criminal justice expenditures (Rosenheck et al., 2003). Results for psychiatric health, substance use, and community adjustment are also statistically imprecise and cannot rule out meaningful changes in either direction. A smaller RCT confirmed these main conclusions, concluding that HUD-VASH reduced the time to stable housing from six months to one month and led to an eight-fold increase in the likelihood of maintaining stable housing for a full year, while increasing the number of inpatient mental health days without affecting urgent care use (Montgomery et al., 2013).

Additional Experimental Evidence

Several smaller experiments have examined the extent to which supportive housing affects housing stability and engagement with mental health and substance use treatment. In general, this literature has focused on individuals experiencing homelessness who have mental health or substance use disorders. As noted in Table 1, persons with mental health or substance use disorders may be of particular policy relevance, as these individuals have high rates of homelessness. As many of these individuals engage with other systems, such as criminal justice, healthcare, and housing services, addressing homelessness among individuals experiencing severe mental illness or substance use disorders may result in cost offsets in other systems as well (Culhane, 2008).

In general, this work found that supportive housing improves housing outcomes relative to usual care by increasing housing stability and reducing the number of days spent homeless. Goldfinger et al. (1999) randomly assigned a small sample of individuals diagnosed with illness experiencing homelessness to either supportive housing with on-site services or independent housing and found greater reductions in homelessness for the supportive housing group. Although this study contained no true control group, the difference in outcomes between individuals assigned to supportive housing compared to individuals assigned to independent housing is informative. Over 18 months, individuals assigned to supportive housing experienced

homelessness for 43 days, compared to 78 days among those in independent housing (a 45 percent reduction). In addition, some work found that supportive housing interventions that decreased homelessness also reduced the use of emergency medical systems and improved other health outcomes (Kertesz et al., 2007; Milby et al., 2005; Wolitski et al., 2010).

Evidence from Observational Studies

A number of observational studies have examined associations between supportive housing programs and client outcomes. The studies highlighted here attempt to account for observed confounding factors that may affect service take-up. This approach is problematic since unobserved characteristics might affect an individual's likelihood of receiving supportive housing, and also their future housing and economic outcomes. For example, participation in most supportive housing is conditioned on the clients having experienced a period of homelessness prior to participation. As most spells of homelessness are temporary, some of these spells would have ended even without intervention. Consistent with this point, experimental evidence shows reduced rates of homelessness and increased housing stability for control groups over time, relative to their initial housing situation (Goering et al., 2014; Gulcur et al., 2003; Rosenheck et al., 2003).

Through the New York/New York Agreement to House the Homeless Mentally Ill (NY/NY), individuals experiencing chronic homelessness and mental illness were provided with supportive housing through scattered site housing, with supportive services provided in the community or on-site.[19] As the NY/NY program did not include an experimental component, Culhane et al. (2002) examined program impacts with a matched-pairs design to create a control group with similar demographic characteristics, mental health and substance use risk, and service use to individuals who received supportive housing services. They found that supportive housing significantly reduced hospitalizations, use of medical services, incarcerations, and the number of days spent in a shelter over a two-year period. An important contribution of Culhane et al. (2002) is the extensive use of administrative data from multiple service agencies. These data allow the authors to draw on a relatively large sample and obtain accurate information on the typical costs of services used. Combining the utilization estimates with average service costs, the authors estimate that after accounting for reductions in service use, supportive housing was 2.5 percent more expensive than providing services through usual care ($995 per year in 1999 dollars). The largest cost savings came from reductions in mental health services.

The Frequent Users Services Enhancement (FUSE) provided supportive housing to another high-cost group in New York City: individuals who had multiple spells of homelessness and instances of engagement with the criminal justice system. FUSE did not include an experimental component, but Aidala et al. (2013) conducted an analysis with propensity score matching on a group of individuals who were FUSE-eligible but did not receive treatment. Over a 24-month period, those with access to supportive housing were less likely to experience homelessness, although the gap between the treatment and control group narrowed over time. Those with supportive housing also had fewer incarcerations and lower rates of hard drug use at follow-up.

The federal Collaborative Initiative to Help End Chronic Homelessness (CICH) was piloted in eleven communities and provided supportive housing to individuals experiencing chronic homelessness. While the pilot did not involve an experimental

[19] HUD defines chronic homelessness as a "homeless individual with a disabling condition who has been continuously homeless for a year or more, or an unaccompanied individual with a disabling condition who has had at least four episodes of homelessness in the past three years" (HUD, 2007).

component, during the program's second year, a small comparison group was selected from five sites (Mares & Rosenheck, 2011). Although the control group was screened to meet the CICH requirements, on average they had significantly lower rates of mental health problems and had spent less time homeless than the treatment group. Mares and Rosenheck (2011) include control variables for these differences, but the systematic differences between treatment and control groups suggest these groups may have had different trajectories regardless of the intervention. With these caveats in mind, CICH clients accessed more case management, mental health, and substance abuse services. Those in the supportive housing group also spent more time stably housed, and fewer days hospitalized or incarcerated.

RAPID RE-HOUSING

Rapid Re-Housing: History and Program Design

Rapid re-housing (RRH) is a model that follows the Housing First approach in offering time-limited rental assistance and services to families and individuals experiencing homelessness (NASEM, 2018). While supportive housing programs offer longer-term housing and tend to serve households with relatively high needs, RRH targets households with more moderate barriers to housing stability and provides short-term assistance (Burt et al., 2016).

Subsidized housing in RRH programs may be market housing (scattered site) or owned by the program administrator (project-based). Families may also receive other services, including move-in assistance, case management, or housing search and placement assistance, and there is substantial variation in the types and intensity of services offered. For example, with housing search assistance, some programs take an indirect approach and provide clients with a website or listing of potential properties, while others have housing specialist staff who take a more direct role in helping recipients connect with landlords or directly manage properties that may be available to clients (Burt et al., 2016).

Early RRH programs began with local service providers and state funds in the late 1980s and early 1990s, including Hennepin County, MN, Boston, MA, Columbus, OH, and Los Angeles, CA. In many cases, excess demand for emergency shelter beds prompted local providers to change their delivery model to focus on quickly re-housing clients who were experiencing short-term crises in permanent housing, rather than having these residents reside in emergency shelter beds and participate in activities designed to make families housing-ready (Cunningham et al., 2015; NAEH, 2014).

RRH programs were not considered an eligible use of federal McKinney-Vento funds until the 2009 HEARTH Act. Following the HEARTH Act's passage, federal dollars spent on these programs dramatically increased. At the same time, the creation of programs such as the Homeless Prevention and Rapid Re-housing Program (HPRP) and Supportive Services for Veteran Families (SSVF) indicated a further shifting in focus towards Housing First approaches. Since the passage of HEARTH, federal funds for rapid re-housing have markedly increased, with RRH units accounting for more than 10 percent of all units (Figure 7).

Rapid Re-Housing: Evidence

Nonexperimental Evidence

Some observational studies have examined the effects of short-term housing vouchers for families experiencing homelessness. One prominent example is the Rapid

Re-Housing for Homeless Families Demonstration Program (RRHFD) that operated in 23 localities.[20] Spellman et al. (2014) found that a year after receiving rapid re-housing services, 6 percent of families returned to shelter or transitional housing. Families that received more generous subsidies, or that lived in areas with high vacancy rates were relatively less likely to return to a shelter. Looking over a longer period, Finkel et al. (2016) found that about 10 percent of families had another spell of homelessness, but 76 percent had moved at least once, within a year after the voucher expired. As RRHFD did not employ a comparison group and many families moved across jurisdictions, it is unclear how to interpret these findings.

The Supportive Services for Veteran Families (SSVF) intervention was another rapid re-housing program serving veteran individuals and families experiencing homelessness. Work from that demonstration project found that within two years of receiving rapid re-housing services, 26 percent of individuals and 16 percent of veteran families had another spell of homelessness (Byrne et al., 2015). Homelessness was lower for participants who received assistance for more than 90 days, and those who received assistance with a security deposit. Again, as this study did not include a comparison group, it is difficult to interpret the magnitude of these findings.

Rodriguez and Eidelman (2017) used propensity score matching to examine the impact of households that received rapid re-housing, transitional housing, or emergency shelter services in Georgia. Compared to an initial assignment to emergency shelter, transitional housing and rapid re-housing recipients had a lower likelihood of returning to an emergency shelter within two years. The major caveat for this work is that the empirical method only controls for observed characteristics and does not deal with the fact that unobserved factors might be driving both assistance receipt and future housing stability, and perhaps most importantly, income levels and rental history.

Family Options Study

The Family Options Study is the best-known RCT that examines the impact of RRH. This experiment randomly assigned more than 2,200 families experiencing homelessness in 12 communities priority to receive one of three housing interventions: a permanent housing subsidy with no supportive services; a temporary rapid re-housing rental voucher for seven to eight months (renewable up to 18 months) with limited housing search assistance; or transitional housing for up to 24 months with intensive supportive services. The control group was able to access existing assistance programs but did not receive priority access to any additional services or programs. Outcomes, including housing stability, family preservation, adult and child well-being, and economic self-sufficiency, were measured at 20 and 37 months after program entry.[21] Gubits et al. (2013) noted that participating families had similar family structures and histories of homelessness to national surveys on families experiencing homelessness, suggesting these findings may be generalizable to the full population of families experiencing homelessness.

The Family Options Study provides the primary experimental test of the effectiveness of RRH, but the results for this treatment arm are mixed. There were no statistically significant differences in housing outcomes between the control and short-term subsidy group by the three-year follow-up (Gubits et al., 2016). Temporary subsidies slightly reduced the number of school absences, although this finding

[20] For implementation details of this program, see Burt et al. (2016).

[21] These follow-up periods occur after the end of the subsidy. Of course, a housing subsidy may also affect homelessness during the period when the subsidy is in effect. The literature on long-term subsidies, summarized in the next section, addresses this question.

was no longer statistically significant after three years. Three years after entry, children had fewer instances of parent-reported problematic behaviors (Gubits et al., 2015, 2016).

Although the intent-to-treat point estimates of rapid re-housing from the Family Options Study suggest the program reduced entrances into homeless shelters, the results have large standard errors making it hard to say anything definitive about the impact of the intervention on this outcome. The statistically inconclusive results could be driven by an imperfect first stage as participants declined the treatment, referral agencies rejected clients as ineligible, or control group members accessed the treatment through normal channels. Overall, only 58 percent of the treatment group, and 22 percent of the usual care group, received RRH, meaning that assignment to treatment increased RRH rates by only 36 percentage points. For long-term subsidies, these concerns were less important because the vast majority of those assigned to priority offers received long-term vouchers.

Similar to the RRH arm, a prioritized offer of project-based transitional housing showed few statistically significant results. The likelihood a family had any emergency shelter stay decreased by 40 percent (6 percentage points) relative to the usual care group, though this could be the direct effect of housing the family in transitional housing (Gubits et al., 2016). As with rapid re-housing, a lower take-up rate than permanent subsidies diluted the effects of treatment group status on outcomes.

While RRH and transitional housing generated statistically similar outcomes, rapid re-housing has lower long-term direct costs than both usual care and transitional housing. There are some marginally statistically significant decreases in shelter use for the RRH group 3 to 11 months after random assignment when many families still had access to vouchers (Gubits, et al., 2016). As a result of changes in program use, per family per month, project-based transitional housing cost 44 percent less than emergency shelter, and rapid re-housing cost 82 percent less (Gubits et al., 2015). Different average durations of program participation and transitions into other programs erode some but not all of this difference: Over three years Gubits et al. (2016) found that being prioritized for short-term subsidies cost 10 percent less than usual care and a priority offer of transitional housing was about 4 percent more expensive than the status quo. These results suggest that providing families subsidies for rental housing is more cost-efficient than a system based on emergency shelters.

BROADER LOW-INCOME HOUSING SUBSIDIES

Low-Income Housing Subsidies Not Specifically Targeted at Homelessness

Programs that provide subsidized housing to lower-income families that are not targeted to those in or at risk of homelessness might nonetheless reduce homelessness. Unlike other forms of federal assistance such as Temporary Assistance for Needy Families (TANF) and the Supplemental Nutrition Assistance Program (SNAP), these housing programs are not entitlements, and hence not all eligible applicants receive benefits. The Congressional Budget Office (2015) estimated that about 25 percent of eligible households received federal housing assistance.

Modern large-scale federal funding for public housing and subsidized housing dates to the United States Housing Act of 1937 (Wagner-Steagall Act). Local housing authorities provide government-owned public housing units to low-income families. Tenants contribute no more than 30 percent of their income towards rent. In addition, residents must have income below 80 percent of area median income (AMI), and at least 40 percent of residents must have income at or below 30 percent AMI (McCarty et al., 2014). From the beginning, the federal government provided

funding, but implementation and operating procedures were devolved to local housing authorities.

The number of public housing units has fallen since the 1990s. Due to concerns about the quality of public housing and the concentration of poverty, the HOPE VI program in 1993 and the Choice Neighborhoods Initiative in 2010 called to replace dilapidated public housing units with new developments (Cisneros & Engdahl, 2009). The number of units demolished under these programs exceeded the number of units built, so the total public housing stock decreased about 10.5 percent between 1993 and 2016 (Kingsley, 2017). The 2012 Rental Assistance Demonstration Program, which allowed public housing authorities to convert up to 185,000 public housing units to project-based Section 8 contracts, further reduced the public housing stock (Econometrica, Inc., 2016; JCHS, 2018). In 2017, approximately 2.1 million people in 1.0 million households lived in public housing, down from about 1.2 million households in 1998 (HUD, 2018c).

While the number of public housing units has fallen, the number of housing vouchers for subsidized private housing has increased. Federal subsidies for private-market housing date to at least the 1960s, and the modern Housing Choice Voucher (HCV, or Section 8) program was codified in the 1974 Community Development Act. As with public housing, recipient households must satisfy income requirements: All tenants must have gross income (after deductions) no greater than 50 percent AMI, and 75 percent of vouchers are reserved for households with income at or below 30 percent AMI (HUD, 2018a). Unlike public housing, where tenants must reside in a given project, HCV is not tied to a particular unit or landlord: HCV recipients typically pay 30 percent of their income towards rent, and the remaining rent (subject to some limits) is paid to private landlords by the federal government. In 2017, approximately 5.3 million people in 2.2 million households received an HCV, up from about 1.4 million households in 1998 (HUD, 2018c).

Evidence on Long-Term Rental Vouchers (Section 8 or Housing Choice)

General Population Studies

There is a large literature on the effects of housing vouchers more generally and HCV in particular (Chetty et al., 2016; Chyn, 2018; Jacob et al., 2015; Jacob & Ludwig, 2012; Kling et al., 2007; Sanbonmatsu et al., 2011). A full description of this literature is beyond the scope of this paper; Collinson, Ellen, and Ludwig (2015) provide an overview. Here, we limit the discussion to the effects of long-term vouchers on homelessness.

Perhaps the best-known intervention is the Moving to Opportunity (MTO) demonstration, a 10-year study that provided housing vouchers to low-income families living in public housing projects. The MTO final evaluation concluded that voucher receipt slightly improved housing quality and reduced the likelihood of families reporting difficulty in paying rent, although compared to families in public housing, vouchers had no detectable effects on the likelihood that families were homeless (Sanbonmatsu et al., 2011).

Other experimental work shows that vouchers can reduce homelessness and improve housing outcomes. For example, the San Diego McKinney Homeless Research Demonstration Project, (Hurlburt et al., 1996) found access to a Section 8 voucher increased the likelihood of living in stable housing by 29 percentage points from a baseline of 31 percent (a 93 percent increase) over a two-year period. Likewise, for current and former Welfare recipients, Welfare to Work vouchers reduced homelessness—defined as living on the streets, in shelters, or with friends or relatives—after four years by 36 percentage points from a baseline of 45 percent (an

80 percent decrease) and reduced rates of overcrowding—defined as living with less than one room per person—by 22 percentage points from a baseline of 46 percent (a 48 percent reduction) (Wood et al., 2008). Welfare to Work voucher recipients also moved to higher-income neighborhoods and experienced fewer moves over a four-year period. The effects for children, however, were somewhat mixed: While school absenteeism decreased, grade retention increased and there was no significant change in children's time use (Mills et al., 2006). Importantly, each of these demonstration programs affected a small fraction of low-income tenants in the local housing market and therefore cannot speak to any general equilibrium effects of greater voucher availability or higher subsidy rates. We return to this point later.

Family Options Study

While MTO and Welfare to Work examined housing outcomes for low-income families that were at-risk for homelessness, there is relatively little experimental evidence on long-term vouchers targeted to families and individuals experiencing homelessness. As with rapid re-housing, the Family Options Study provides the primary evidence. Recall that Family Options also included a long-term voucher treatment arm, typically a Housing Choice Voucher. For most outcomes, being prioritized for permanent subsidies led to larger improvements in family well-being than prioritization for either temporary subsidies or transitional housing (Gubits et al., 2016). Gubits et al. (2015, 2016, 2018) show that families with priority access to long-term subsidies had a 53 percent lower likelihood of being homeless or doubled-up in the past six months (on a baseline rate of 34 percent) and a 78 percent lower likelihood of an emergency shelter stay during the past year (on a baseline of 19 percent).

Priority access to temporary and permanent subsidies resulted in some improvements in family and adult well-being on non-housing dimensions. After 20 months, access to long-term subsidies reduced the fraction of families with a child removed from the home (among families with a child in the home at baseline) by 7 percentage points, compared to 15 percent among the usual care group (a 46 percent decrease), although this effect was no longer significant after 36 months. By some measures, adult well-being also improved, although these benefits appeared to fade over time. Three years after random assignment, psychological distress fell by approximately 0.7 points on the K6 scale for those with access to permanent subsidies (Gubits et al., 2018). Families with access to permanent vouchers were 38 percent more likely than the usual care group to be separated from a partner or spouse three years after program entry (a 13 percentage point increase from a baseline of 34 percent). Coupled with a slight reduction in the share of adults reporting domestic violence in the past six months and high rates of intimate partner violence among this population, this finding is consistent with permanent subsidies allowing recipients to leave unsafe or harmful situations.

Access to a permanent subsidy reduced the number of schools that children attended from an average of 2.04 in the usual care group to an average of 1.89 in the permanent subsidy group over the three-year study period. In the medium term (20 months), they also reduced the monthly number of school absences from an average of 1.04 in the usual care group to an average of 0.84 in the permanent subsidy group, although this finding was no longer statistically significant after three years. Three years after entry, children in the subsidy group also had fewer instances of parent-reported problematic behaviors such as emotional symptoms, conduct problems, hyperactivity, and peer problems (Gubits et al., 2016, 2018).

Access to housing also affected families' economic well-being. Families with access to permanent subsidies were 6 percentage points less likely to be employed 20 months after entry from a baseline of 30 percent (a 19 percent reduction)

compared to families without access to the subsidies, although this difference disappeared three years after randomization (Gubits et al., 2015, 2016, 2018). At both 20 and 37 months, temporary and permanent subsidies improved food security by 10 percentage points, representing a 20 percent increase from a baseline of 52 percent (Gubits et al., 2015, 2016, 2018).

While long-term subsidies led to the most consistent benefits, this intervention was the most expensive arm of the Family Options Study. Permanent subsidies cost 9 percent more than usual care, with the cost differential increasing over time (Gubits et al., 2016, 2018). This widening gap is driven by the length of the intervention: While per-month shelter costs were less for long-term subsidy recipients than emergency shelter or transitional housing, participants tended to access subsidies for longer periods of time.

PREVENTION

Prevention: Definition and Targeting

Homeless prevention programs aim to provide time-sensitive, short-term assistance to at-risk households before families actually lose housing. Prevention can involve landlord/household mediation, short-term financial assistance, case management, or legal assistance. Prevention efforts face a challenge in identifying which individuals may become homeless in the absence of intervention. In the work of Evans et al. (2016), only 2 percent of families who request and are denied financial assistance to prevent homelessness enter a homeless shelter within six months. Even in New York City, where a right to shelter makes emergency shelter use more common, fewer than 15 percent of families applying for services enter a shelter within two to three years (Rolston et al., 2013; Shinn et al., 2013). As a result, a trade-off exists between intervening early when housing instability is less severe and targeting interventions to those at greatest risk.

Homelessness Prevention: Evidence

Comprehensive Interventions

One prominent example of a prevention program is Homebase, a resource for New York City families that connects clients with services such as family and landlord mediation, legal assistance, short-term financial assistance, childcare, employment assistance, and mental health and substance use treatment. Rolston et al. (2013) randomly assigned 295 clients eligible for prevention services to either Homebase or a control group and found that access to prevention services reduced the length of shelter stays by 70 percent on a base of 32.2 nights. However, this study could not detect a statistically significant change in SNAP and TANF receipt or engagement with the child welfare system.

Financial Assistance

The most widely available form of prevention assistance is a hotline that residents can call for financial assistance if they are at risk of losing their residence or having their utilities discontinued. In most areas, the system is coordinated by United Way and families call or text 2-1-1 to connect to the service. The first system that was available 24/7 started in Atlanta in 1997, and coverage increased after 2000 when the Federal Communications Commission (FCC) dedicated the 2-1-1 dialing arrangement for information and referral services (FCC, 2000; United Way of Metro Atlanta,

2018). As of 2018, about 94 percent of the population has access to 2-1-1, and each year, these hotlines receive approximately 13 million requests for assistance (United Way Worldwide, 2018).

The Homelessness Prevention Call Center (HPCC) in Chicago is typical of many prevention hotlines: Only families whose financial problem can be handled with relatively limited funds (usually no more than $1,000) and who have the means to pay for housing after the crisis recedes are eligible for funds. Among eligible clients, access to services depends on whether any participating agency has funds available for that client when the client calls. Unfortunately, funding for financial assistance is not always available and is unpredictable, which generates a comparison group of at-risk people who do not receive prevention services. Evans et al. (2016) exploit this variation to examine the impact of this program. They found that access to financial assistance reduced the rate of shelter entry within three months by 1.4 percentage points from a baseline of 1.6 percent (an 88 percent decrease) and that access to financial assistance reduced the time spent in a shelter over the next six months by 2.6 days from a baseline of 3.1 days (an 84 percent decrease). Using a similar empirical strategy, Palmer et al. (2019) found that access to emergency financial assistance reduced arrest rates for violent crime by 0.86 percentage points over the next three years, relative to a control group arrest rate of 3.7 percent (a 23 percent decrease). Among single individuals, emergency financial assistance also reduced rates of outdoor crimes that may be related to homelessness, such as trespassing and panhandling, by 1.0 percentage point from a control group rate of 0.78 percentage points. The authors also document a 1.0 percentage point increase in the probability of being arrested for a property crime three years after receiving assistance, relative to a control group rate of 1.9 percent (a 52.6 percent increase), which they interpret as some families incurring expenses that they are unable to afford.

Critical Time Intervention

Critical Time Intervention (CTI) programs provide case management and transitional services to individuals discharged from inpatient facilities, a group with high rates of homelessness. Several RCTs have examined the effectiveness of CTI and discharge services, with mixed results. A relatively small RCT of individuals experiencing severe mental illness and histories of homelessness who were discharged from New York psychiatric hospitals found that individuals with access to CTI were five times less likely to experience homelessness 18 months after discharge than those in the usual care group (Herman et al., 2011). Basu et al. (2012) examined the effects of case management during and after hospital discharge for individuals with a chronic medical illness who were experiencing homelessness. They found that discharge services reduced overall service costs by increasing housing stability and reduced most measures of medical care use (hospitalized days, ER visits, and nursing home stays), but the overall cost reductions of $6,300 (on a base of $37,500) was not statistically different from zero. RCTs examining the effectiveness of CTI on families found improvements for children, measured by mental health, depressive symptoms, and self-reported trouble at school, up to about 0.5 standard deviations for internalizing and externalizing behaviors (Shinn et al., 2015), but no significant effect on maternal mental health (Samuels et al., 2015).

Eviction Court

Legal representation in eviction court has gained increased attention as a homelessness prevention tool following the release of Desmond's (2016) Pulitzer Prize winning book *Evicted*. The ethnographic work in the book argues that an eviction is

the first in a series of events that can generate financial wounds from which many families never recover. Households facing eviction are at risk for homelessness, particularly as tenants are less likely than landlords to have full legal counsel. In eviction court proceedings, 90 percent of landlords have legal representation, compared to less than 10 percent of tenants (Desmond, 2012).[22]

Even when legal assistance is offered to tenants, it is commonly "unbundled" aid that takes the form of how-to clinics and informational assistance, rather than a full attorney-client relationship. Unbundled assistance has become more common since the 1970s, and currently every state operates at least one program that provides limited legal assistance (Greiner et al., 2013). Legal aid groups often supplement such assistance with full services targeted at a very narrow group of tenants with clear legal cases likely to win. More recently, some jurisdictions have taken steps to significantly increase the share of tenants with representation. For example, in 2017, New York City enacted Local Law 136, which provides full legal assistance to low-income tenants facing housing court proceedings (NYC Local Law 2017/136), and in 2018, San Francisco passed Proposition F that guarantees legal assistance for all households facing eviction, regardless of income. Although full representation is not guaranteed in other jurisdictions, cities including Denver, CO, Washington, DC, and Philadelphia, PA have increased funding for legal aid services (Wiltz, 2017).

To our knowledge, no experiment directly measures the impact of legal assistance on homelessness. A few rigorous studies examine the effect of providing full legal services to tenants facing eviction. In many cases, the status quo is that clients seeking legal aid services receive unbundled assistance that may only include informational clinics summarizing the eviction process (Greiner et al., 2013). The outcomes in these studies, however, are limited to variables available in court data, such as the presence of an eviction order. Since quasi-experimental evidence from randomly assigned judges in eviction court indicates that being evicted quintuples the probability of applying for homeless shelter in New York (Collinson & Reed, 2018), we describe these studies though they do not measure homelessness directly.

One of the first experimental studies on the effectiveness of full legal representation comes from a 1993/1994 RCT, in which low-income tenants with rent nonpayment were randomly assigned to receive legal services. This study found that providing legal aid services increased court appearances by 22.5 percentage points, relative to a control group rate of 71.2 percent (32 percent), decreased unfavorable decisions by 29.1 percentage points (a 58 percent reduction from a control group rate of 50.6 percent), and decreased eviction warrants by 34.1 percentage points, relative to a control group rate of 44.1 percent (a 77 percent reduction) (Seron et al., 2001). Beyond maintaining housing, legal services also increased the likelihood that tenants obtained repairs (by 29 percentage points, relative to a control group rate of 2.3 percent) or rent abatement (by 38.4 percentage points relative to a control group rate of 25.4 percent). Expanding legal aid put little additional burden on the legal system: Although case durations increased slightly, the number of post-judgment motions filed decreased, and there was no statistically significant change in the average number of court cases or the number of motions filed during trial.

A more recent RCT in Boston in 2010 found similar effects: Access to full legal services increased the likelihood that tenants remained in their units by 28 percentage points, relative to a baseline of 38 percent (a 74 percent increase), and decreased the number of months of rent due by 7.5 months relative to the control group (Greiner

[22] Engler (2010) summarizes existing studies that find between zero to 20 percent of tenants had legal representation, compared to at least 80 to 90 percent of landlords.

et al., 2013). While case length duration increased, there was no statistically significant difference in the number of total motions or evidentiary hearings. However, a similar intervention to Greiner et al. (2013) on the North Shore of Massachusetts failed to find that full legal services improved housing circumstances (Greiner et al., 2012). The authors posit that these different results may be the result of assertive strategies adopted in Boston, versus a non-confrontational approach on the North Shore. More work is needed in this area, particularly regarding legal tactics and the underlying housing market.

KEY QUESTIONS THAT CAN BE ADDRESSED IN FUTURE RESEARCH

Can We Expand the Pool of Evidence About What Programs Improve Housing Stability?

An increasing collection of rigorous evidence confirms that existing homelessness programs meet their most immediate objective: promoting housing stability. As summarized above, financial assistance and comprehensive interventions can prevent homelessness (Evans et al., 2016; Rolston et al., 2013). Legal assistance can reduce the chance of eviction (Greiner et al., 2013; Seron et al., 2001). More broadly, long-term Section 8/Housing Choice vouchers can both prevent homelessness (Hurlburt et al., 1996; Wood et al., 2008) and re-house families experiencing homelessness (Gubits et al., 2016, 2018). Even in cases where people are both experiencing homelessness and facing behavioral health challenges, permanent supportive housing can increase housing stability through a combination of long-term subsidies and supportive services (Aubry et al., 2015; Goering & Watson, 2012; Goering et al., 2014; Greenwood et al., 2005; Gulcur et al., 2003; Stergiopoulos et al., 2015).

Despite these positive results, there is less evidence about some existing programs. For example, there is conflicting evidence on whether RRH promotes housing stability. By far, the best evidence comes from the Family Options Study (Gubits et al., 2016, 2018), and the point estimates from this study suggest that the program reduced entrances into homeless shelters. However, large standard errors in the intent-to-treat (ITT) models combined with low program take-up make it hard to say anything definitive about the impact of this intervention on housing stability. About 58 percent of the treatment group received RRH, but since 22 percent of the usual care control group also received RRH, prioritized access only increased participation in RRH by 36 percentage points. Consider a very simple treatment-on-treated (TOT) model that assumes priority access to RRH simply moves some participants from usual care to rapid re-housing and leaves everything else unaffected. The TOT effect in such a model would have a standard error of $\frac{2.2}{.58-.22} = 6.1$ percentage points and a 95 percent confidence interval measured at $\pm$ 12.0 percentage points. Given a control group shelter entry rate of 8.8 percentage points, it is difficult to make strong conclusions about how short-term subsidies affect homelessness. Gubits et al. (2018) correctly point out that calculating an accurate TOT effect estimate would require accounting for the ways in which priority access affects timing of program use and substitution between different program types. However, accounting for such considerations would only lead to less statistical precision. Future studies could solve this power challenge with a much larger sample or an environment with a stronger first-stage relationship. Alternatively, a low take-up rate may be a feature of rapid re-housing programs as currently designed. Fisher et al. (2014) and Shinn et al. (2017) document that families in the Family Options Study were frequently screened out of such programs for having insufficient income, and other families were hesitant to participate given the short-term nature of assistance. Given the dramatic shift toward Housing First models, a priority research area must be identifying the impact

of RRH on housing outcomes, as well as how program features affect take-up among eligible populations.

Two recent quasi-experimental studies, one in New York (Collinson & Reed, 2018) and another in Chicago (Humphries et al., 2018) provide convincing evidence that eviction leads to tremendous housing instability, including a pronounced increase in homelessness. A possible response is to change the dynamics of housing court and provide legal representation to tenants who typically are not represented in these hearings. Cities from Cleveland to Philadelphia are considering reforms that would provide tenants with greater representation in housing court. The most aggressive reform has been in New York, where the DeBlasio administration has adopted legislation that would guarantee all tenants under 200 percent of the Federal Poverty Line legal representation in housing court. While existing evidence shows that legal representation can improve tenants' housing court outcomes (Greiner et al., 2013; Seron et al., 2001), these have not been linked to longer-term housing stability. Representation might also have different effects for the broad set of tenants covered by recent policy changes, compared to the existing clients of legal aid organizations who focus on winnable cases. Success for the tenant might mean remaining in the unit or making a smoother transition, depending on the tenant. These recent policy changes provide a unique opportunity to answer some of the questions outlined above. Unfortunately, the New York experience is not being implemented in a way that allows for random assignment. That said, given the cost and the scope of the intervention, implementation is being rolled out by zip code. As a result, some quasi-experimental analysis is possible. If legal representation can alter eviction rates, then evictions' impacts on housing and down-stream outcomes could potentially be identified. Exploiting the New York experience or convincing an enterprising city to run a large-scale RCT that provides legal counsel could potentially answer many questions.

A limitation of existing work on housing stability is that many studies measure whether an individual enters the shelters or the HMIS homeless data system as the key outcome (Evans et al., 2016; Rolston et al., 2013). This strategy is practical because many jurisdictions already track shelter entry, and this outcome is inexpensive to collect from administrative data. Shelter entry is, however, an uncommon and extreme outcome that misses most cases of housing instability, including doubling up and moves to shelters outside a given county's HMIS system. In the Family Options usual care control group, four times as many people report being homeless or doubled-up (35 percent) as entering a shelter (9 percent) (Gubits et al., 2016). Surveys can solve these data problems (e.g., Goering et al., 2014; Gubits et al., 2016), but surveying unstably-housed individuals is expensive and may yield low response rates, though well-funded studies such as Family Options have managed response rates to in-person surveys around 75 percent. Given the drawbacks of shelter data and the expense of surveys, measurement is an important area in need of progress. One possible solution is to use address histories from more widely available sources, such as consumer reference data. Some initial attempts to measure housing stability with these data are encouraging (Diamond et al., 2019; Phillips, 2020), but more research is needed. Better and cheaper options for measuring housing stability in general and homelessness in particular would relax an important constraint to rigorous work in this area.

What Outcomes Beyond Housing Are Improved by Existing Programs?

Although most of the interventions discussed above are primarily designed to change housing outcomes, many may affect other outcomes as well. The potential list of variables altered by improved housing is large, including medical care use, health,

employment and earnings, social insurance use, criminal justice involvement, and children's schooling. Unfortunately, examining impacts on these outcomes is difficult. As these outcomes are further down the causal chain (e.g., treatment alters housing, housing alters compliance with a medical treatment regime, improved medical care reduces hospital admissions, etc.), statistical power falls considerably. Boosting power by expanding the sample size is expensive for costly interventions such as RRH and PSH. Monthly per-family costs of supportive services in Family Options ranged from an estimated $1,172 for housing subsidies to $2,706 for project-based transitional housing. Evaluation costs also increase if outcome data rely on expensive in-person surveys. This means that many studies have relied heavily on administrative data to track outcomes (e.g., arrests, hospital admission, emergency department use, VA medical claims, labor market earnings as recorded in the unemployment insurance system, etc.). Unfortunately, administrative data in the U.S. are not available for all outcomes, and most administrative data sets are state-based, so that clients are no longer recorded if they move out of state. It is often impossible to differentiate between, for example, no earnings within a quarter and someone moving out of state.

It is then no surprise that fewer studies rigorously measure the effect of homelessness programs on outcomes beyond housing stability. In the review above, we found few rigorous studies documenting a measurable causal effect of homelessness prevention, legal assistance, RRH, or permanent supportive housing interventions on non-housing outcomes. A template for homelessness research is the work on the Section 8/Housing Choice Voucher program, where a large literature examines the effect of a voucher versus various alternatives on children's well-being, criminal behavior, health, and employment (Chetty et al., 2016; Chyn, 2018; Gubits et al., 2016; Jacob & Ludwig, 2012; Jacob et al., 2015; Katz et al., 2011). The lack of evidence on programs more specifically targeted at homelessness is surprising. Housing First approaches and prevention programs both argue that stable housing provides a platform for success in other areas of life, yet very little rigorous evidence tests whether this claim is true.

In studies that have examined non-housing-related outcomes, in many cases there are few downstream outcomes with statistically significant results. For example, many predicted that Housing First models would reduce the high medical costs of the chronically homeless. Despite the RCTs in this sphere, there is little credible evidence that interventions such as PSH do improve health and reduce medical costs (NASEM, 2018). In the HUD-VASH experiments, Rosenheck et al. (2003) found VA medical costs increased as a result of receiving a voucher, although the results were statistically insignificant. Studies of homelessness prevention (Rolston et al., 2013) and RRH (Gubits et al., 2016) measure outcomes beyond housing stability but typically can reject neither zero nor very large effects on these outcomes. In a Housing First experiment with case management in Chicago, Basu et al. (2012) calculated societal costs of homelessness including healthcare use, justice system, and social program participation. They found Housing First reduced social costs by $6,300, but the results were statistically insignificant.

For costs in particular, statistical power is a real concern. For example, Rosenheck et al. (2003) measure mean VA medical costs of $28,515 over three years for a usual care control group with results that imply a standard deviation of $33,902. With these data, even with perfect compliance a 500-person trial could detect an $8,500 decrease in total medical costs or about a 30 percent reduction in spending. For comparison, the voucher component of the HUD-VASH program is about $7,000 per year. Given the sample sizes of traditional experiments in this domain, it is only possible to detect statistically significant changes in medical costs if the cost savings are massive.

The work on the impact of evictions cited above provides convincing evidence that evictions lead to more homelessness but unfortunately, in both Chicago and New York, the variation in evictions generated by judge assignment was not large enough to identify many definitive claims about long-term outcomes such as earnings, arrests, or SNAP use. To date, the literature provides little evidence on housing stability beyond the court's immediate decision. Again, the phased roll-out of the New York City program to provide representation to all tenants in eviction court under 200 percent of the poverty line may provide some evidence of the non-housing outcomes of legal representation. A large, well-designed RCT that provides increased access to legal services for tenants may also answer these questions.

In other cases, some of the most potentially important outcomes are left unmeasured. Long-term outcomes for children provide perhaps the starkest example. Research on Moving to Opportunity (Chetty et al., 2016) and public housing demolitions (Chyn, 2018) showed that moving to more affluent neighborhoods can dramatically affect the long-term economic success of children. Similar effects may exist for homelessness interventions, and such an effect would matter for both cost-benefit analysis and policy discussions. However, to our knowledge, no rigorous study measures the causal effect of a homelessness mitigation or prevention program on children's long-term outcomes. Even studies measuring short-term effects on children are rare, though they exist (e.g., Gubits et al., 2016). Many practical obstacles prevent progress on measuring children's long-run outcomes including an inability to link data over time, requisite long planning horizons, and greater privacy and consent concerns for children. Similar gaps in the literature exist for other outcomes that could also turn the result of a cost-benefit analysis. Healthcare, mortality, and crime all exert large social costs, and individuals experiencing homelessness interact heavily with these systems (Flaming et al., 2015). However, statistically significant effects for these outcomes are particularly rare in the literature, with very limited exceptions (e.g., Palmer et al., 2019). Limited evidence exists on whether homelessness interventions affect the outcomes that likely matter most to a cost-benefit analysis.

What Bundle of Services Are Most Effective and for Whom?

Homelessness services are very expensive. The average cost of a HUD-VASH voucher in 2016 was a little over $7,000 per year, excluding the cost of supportive services provided by the VA system (NHIP, 2016). As we noted above, the monthly costs for Family Options ranged from $1,200 to $2,700. Thus, there is likely considerable room for marginal changes to make existing homelessness programs more cost-effective. Coordinated policymaking at a federal and local level raises two natural possibilities: bundling services and targeting.

In many situations, homelessness interventions have multiple components. For example, PSH pairs housing with case management. Improving the cost-effectiveness of these programs might entail pulling these components apart and determining which ones are delivering positive outcomes and which ones are not. Some effort has been made along this dimension. In the original work on HUD-VASH, Rosenheck et al. (2003) had two treatments, PSH and case management only. For most outcomes, there was no difference between case management and the standard care comparison, especially on housing, health, and employment. That said, the sample frame was veterans with mental illness or substance use disorders experiencing chronic homelessness, so both housing and support may be critical for that population. For less acute homelessness, case management by itself or rapid rehousing without case management could prove a more cost effective alternative. In another example that attempted to tease apart elements of an intervention, Somers

et al. (2017) investigated a Housing First model in the Vancouver At Home study in both scattered site and congregate formats compared to treatment as usual. While they found that both scattered site and congregate formats improved housing stability among people experiencing major mental illness and chronic homelessness, only the congregate format was associated with improvements on certain secondary outcomes.

Many of the interventions discussed above are complex and rigorous studies that attempt to unbundle program components and are not common. For example, Homebase (Rolston et al., 2013) provides a broad package of financial assistance, case management, and connection to other services. RRH provides temporary housing subsidies bundled with some supportive services. The exact nature of these services varies widely across communities in both the HUD Rapid Re-Housing Demonstration and Family Options Study (Burt et al., 2016; Gubits et al., 2016), and a tenant's success in leasing housing and successfully continuing a lease after subsidies end may depend on what support they receive with housing search and employment. Similarly, emergency shelters provide housing with varying quality and locations; some recent evidence shows that school performance of children varies across shelters (Cassidy, 2019). To our knowledge, there is no experimental work separating the effects of these components.

Targeting the correct treatment to the correct person also matters for cost effectiveness. Homelessness is a rare event, even for the people at risk of homelessness targeted in many of the studies discussed above. Consider the work of Evans et al. (2016) who show that short-term financial assistance offered to families on the verge of losing their home or apartment can reduce entry into homelessness by 76 percent. Despite the success of this program, only about 2 percent of families in the group who were *not offered assistance* end up in a shelter. As the vast majority of grant recipients will not enter homelessness, better targeting of the benefits to those most at risk will improve the cost effectiveness of the program considerably. Some existing evidence indicates that data can be used to improve targeting (Shinn et al., 2013; von Wachter et al., 2019).

There are many groups of people overrepresented in the homeless population, such as veterans, individuals with substance use disorders, individuals with serious mental health issues, released prisoners, and families with children. Each group has potentially different needs and tailoring a PSH or RRH program for each group could be quite different. Single-parent families experiencing homelessness and facing temporary shocks may need only a relatively limited RRH program with short-term case management and temporary housing support to stabilize their situation. In contrast, individuals released from incarceration may need additional supports as obtaining permanent employment may be more challenging.

The problem of individuals recently released from incarceration is of particular interest. About 600,000 people are released from prison each year and another nine million are released from jail. Of those released from prison in 2005, about two thirds were arrested within three years of release. Those formerly incarcerated become homeless at high rates, up to 10 times the rate of the general population (Couloute, 2018; Metraux et al., 2010; Metraux & Culhane, 2004, 2006). Poor post-release employment opportunities likely make stable housing options worse for this group. The intersection of homelessness and prisoner reentry will become more of an issue in the future, given federal and state efforts to find alternatives to incarceration and encourage the release of non-violent offenders. The recent federal bipartisan prison reforms are one example. If the conditions under which prisoners are released are not altered, then we might transfer an incarceration problem into a homeless problem. The efforts in California around Proposition 47 are instructive. Passed in 2014, Proposition 47 released 13,000 low-level, non-violent offenders from overcrowded prisons and jails, many with histories of substance use and mental illness. How best

to serve this population is a key research issue given the high cost of recidivism for this group.

Can Researchers Evaluate and Exploit the Structure of Coordinated Entry?

Despite the organizational capacity started by the CoC model, in many local jurisdictions, there was historically little coordination across agencies in prioritizing who should receive the scarce resources for homelessness. Around 2010, many CoCs began establishing a centralized and coordinated assessment system intended to prioritize which people receive services, and in July 2012, the CoC Interim Rule required that all CoCs establish a Coordinated Entry System (CES) and coordinated assessment system. Coordinated entry helps communities prioritize assistance based on vulnerability and service needs so that clients who need assistance the most can receive it in a timely manner.

An important research question is whether the system of coordinated entry generates different outcomes than the more diffuse system that has historically been used or whether this shift has changed what groups are getting services. Unfortunately, evaluating the overall impact of CES is made difficult by the group nature of the intervention and the most-likely nonrandom way that CoCs adopt CES. Existing work on system integration for individuals experiencing homelessness and severe mental health issues highlights these challenges. For example, an ambitious clustered RCT of funding for systems integration across 18 communities found no evidence of improved housing or mental health conditions, but the small number of clusters led to difficulties in baseline imbalance and power (Rosenheck et al., 2002). In any case, the window to evaluate how CES alters outcomes via an RCT design has most likely closed and any analysis on this question will likely be accomplished with nonexperimental methods.

Coordinated entry does, however, generate greater potential for answering the two sets of questions outlined above. As potential clients enter a CoC through a central portal, the opportunities to evaluate programs through random assignment are greatly enhanced. A CES system makes randomization across many diffuse agencies possible and facilitates data collection by forcing all participating agencies into the common HMIS data system. While researchers have made extensive use of HMIS data, less work has leveraged the centralized structure of coordinated entry.

Most ambitiously, the machinery of coordinated entry could be used to address questions related to targeting and matching clients to programs. The variety of potential interventions and the challenge of matching programs to individuals suggest a research agenda that combines experimental and predictive tools to optimize coordinated entry. For people who are already experiencing homelessness, many jurisdictions assign a risk score to clients based on stated responses of risk factors. Such tools may be validated by checking whether higher scores predict homelessness prior to implementation. The coordinated entry system then assigns the highest risk cases to PSH, middle risk cases to RRH, and low risk cases to much less intensive services. Within each group, the highest risk cases are often prioritized.

Such a system makes several assumptions. First, targeting high risk individuals also targets individuals with large treatment effects. Second, stated responses are more reliable predictors of treatment effects than existing administrative data or case worker opinions. Third, respondents do not manipulate stated responses when the tool is used to assign treatment. Fourth, clients can be summarized by a one-dimensional risk score where higher risk means more services are better.

One can imagine a much different system, driven by administrative data, experimental variation, and machine learning prediction tools. Some measure of random variation would be introduced at the margin to observe outcomes for clients in

treatments counterfactual to the current system of rules. Existing coordinated entry data would be matched to other administrative data on shelter entry, arrests, medical care, etc. Then, using recent developments combining machine learning with a treatment effects framework (Athey & Imbens, 2016), a model could be developed that predicts treatment effects for an individual based on their individual characteristics. Obviously, such an effort would require large sample sizes, centralized data collection, and extensive collaboration between researchers and practitioners. Any such system would also have to explicitly identify and address potential trade-offs between equity and efficiency. However, the existence of coordinated entry and recent econometric developments make this type of idealized coordinated entry system at least a possibility.

How Do Landlords Respond to Homelessness Interventions?

In our review, we found no rigorous studies evaluating interventions or components of interventions serving homeless populations that were targeted primarily at landlords, even though many homelessness programs engage intensively with landlords. For example, the HUD Rapid Re-Housing Demonstration (Burt et al., 2016) reports that RRH programs typically conduct landlord outreach and education, maintain databases of interested landlords, help match individual clients with landlords, and even sometimes coordinate with units receiving supply-side subsidies from public or private sources. Other programs attempt to defray landlord risks by doubling security deposits or insuring against any damage to units caused by program tenants. Landlords likely play an important role in homelessness, but we have little evidence on how they interact with homelessness prevention and mitigation strategies. We identify at least three areas where randomized trials may be able to build evidence by focusing on how landlords interact with homelessness interventions.

First, experiments can help determine the extent to which landlords screen out homeless individuals. Multiple correspondence and audit studies demonstrate that many landlords avoid tenants who want to pay with a Section 8/Housing Choice voucher (Cunningham et al., 2018; Moore, 2017; Phillips, 2017). In-depth qualitative work suggests that some landlords specialize in taking voucher tenants when the voucher pays above market or offers reliable payment relative to a counterfactual with low-income cash tenants, but most landlords avoid the program due to bureaucratic delays, inspections, and a perceived greater risk of damage or eviction (Garboden et al., 2018; Rosen, 2014). The challenges faced by Section 8 vouchers are likely amplified with RRH and PSH programs that attempt to place tenants with shorter subsidies and who have histories of homelessness or behavioral health issues. Existing audit experiments suggest that landlords avoid individuals with severe mental illness (Page, 1977), but quantitative studies on how landlords respond to homelessness interventions are lacking, and qualitative work is limited. Interviews of landlords participating in the At Home/Chez Soi evaluation suggest communication with tenants, quality of program services, and damage to units are first-order concerns for landlords (MacLeod et al., 2017), but more work on landlord screening behavior is needed.

Second, landlords may respond to large-scale subsides by increasing prices, particularly in places with restricted supply. In an extreme housing market with perfectly inelastic housing supply, a large increase in housing subsidies rearranges who gets housing and transfers income to landlords without changing the overall stock of housing. A large literature examines the price effect of subsidies in the context of Housing Choice Vouchers (Eriksen & Ross, 2015; Lowry, 1982; Susin, 2002). A related set of quasi-experimental studies examine how landlords respond to Section 8/Housing Choice voucher amounts (Aliprantis et al., 2018; Collinson

& Ganong, 2018) and source-of-income non-discrimination laws (Freeman, 2012; Freeman & Li, 2014). However, the literature has not studied whether landlords adjust rental amounts in response to demand-side homelessness interventions. Experimental studies that vary the terms offered to landlords or quasi-experimental studies of large-scale programs, such as HUD-VASH, may be able to shed light on this question.

Third, some interventions may impose costs on landlords that lead them to reduce housing access for people who would otherwise be homeless. The classic example of unintended consequences is the market response to rent control. The concern is that a rent ceiling reduces the profitability of renting a unit, which reduces housing supply by reducing new construction, increasing condo conversion, and lowering maintenance investments. A well-established (e.g., Early & Olsen, 1998; Olsen, 1972) and active (e.g., Diamond et al., 2019) literature measures how rent control affects landlord and tenant behaviors. Such effects could also exist for interventions targeted at homelessness and housing stability. For example, New York City is implementing universal access to legal services in eviction court. As noted above, while providing legal assistance can help the tenant receiving services (Greiner et al., 2013; Seron et al., 2001), such an intervention reduces the profitability of renting a unit, particularly to a risky tenant or one who has a history of rent nonpayment. Any intervention that makes evicting a tenant more difficult may lead to either higher rents or stricter screening, effects which likely disproportionately harm people attempting to gain housing while homeless. However, empirical analyses of landlord responses are limited.

Can Supply-Side Interventions Work?

As noted above, the geography of homelessness is very different on the coasts than in the middle of the country. Cities such as Los Angeles, New York, San Francisco, and Seattle have seen an explosion in homelessness while much of the rest of the country has seen a large decline over time. It is tempting to argue that housing costs drive the experience in these coastal cities. However, housing costs explain a small fraction of the variation in homeless rates across cities, and changes in prices over time explain even a smaller fraction of change in homelessness, as Figures 4 and 5 demonstrate.

Even with these aggregate patterns, market-level policies that restrict the supply of housing, such as zoning policies that place restrictions on the numbers and types of housing units available in a given area, may increase prices and thus crowd out low-income households (Glaeser, Gyourko, & Saks, 2005a, 2005b; Gyourko et al., 2013); removing such restrictions could decrease the risk of homelessness. Perhaps the strongest advocate for experimenting with zoning reform has been President Trump's Council of Economic Advisors (CEA). CEA (2019) argues that housing supply restrictions are responsible for a large portion of homelessness in several cities. They base this conclusion on two pieces of evidence. First, they cite results from geography-time panel fixed effects regressions that find that the elasticity of homelessness with respect to median rents is roughly one—a 10 percent increase in rent increases homelessness by 10 percent (Corinth, 2017; Hanratty, 2017). Second, they note work by Glaeser and Gyourko (2018) that shows housing costs are substantially higher than production costs, a measure of supply restrictions. The CEA then assumes that if cities lifted housing restrictions, housing prices would fall to equal production costs and homelessness rates would also decline. This framework predicts between 19 and 54 percent reductions in homelessness in the 11 most supply-constrained cities in the long term.

As we noted above, the primary goal of this paper has been to examine the empirical evidence surrounding various efforts to reduce homelessness with a focus

on random assignment experiments or high-quality quasi-experimental studies that provide the best available evidence. Given these parameters, evaluating the projections of the CEA that homelessness in San Francisco would fall by over 50 percent with less housing supply restrictions is difficult given that no major city has run this policy experiment. As a result, we do not evaluate their claims here.

Bold experiments to relax housing supply restrictions in cities with high levels of homelessness would provide an opportunity to learn about the benefits of relaxing housing supply restrictions. Perhaps most prominently, the California state government has extensively debated bills to prevent local governments from blocking high density development near transit (Dougherty, 2018). These reforms could be justified on grounds much more extensive than just homelessness (Glaeser & Gyourko, 2018). Evaluating such a one-off reform might be difficult, but emerging quasi-experimental strategies such as the synthetic controls models of Abadie et al. (2010) might be useful if such a policy shift arises.

Another policy designed to subsidize the supply of affordable housing is the Low-Income Housing Tax Credit (LIHTC), by which private developers receive tax credits to create rent-restricted housing units rented to households with incomes averaging less than 60 percent of the AMI, and not exceeding 80 percent AMI. Between 1995 and 2015, LIHTC financed approximated 2.3 million projects, with about 41,000 units placed into service in 2015 (HUD, 2017). Using a regression-discontinuity design, Jackson and Kawano (2015) found that the tax credits do not alter neighborhood homelessness but do reduce county-level numbers, although the former model is better identified than the latter given discrete changes in the size of the tax credit across geographic boundaries. Olsen (2010) is much less sanguine about the prospects for this intervention as he argues that the program is excessively costly for the housing provided and it serves relatively few poor households.

In the same spirit as LIHTC, local inclusionary zoning (IZ) policies aim to increase the supply of affordable housing by incentivizing developers to include affordable units in new developments. For example, IZ policies might allow developers to obtain permits more quickly or build more units than allowed under existing zoning regulations, if a certain percentage of units in new projects are designated for low- and moderate-income households.[23] These programs can be voluntary or mandatory. Montgomery County, Maryland adopted the first IZ program in 1974 (The Urban Institute, 2012). By 2017, approximately 800 localities operated 1,400 IZ programs (Thaden & Wang, 2017).

A final supply-side intervention is rent control policies that limit the amount that landlords can receive for renting a home or apartment. In 2019, cities in five states (California, New Jersey, New York, Maryland, and Oregon) and the District of Columbia had some form of rent control, while 32 states had laws that preempt or prohibit rent control (National Multifamily Housing, 2018). There are several general forms of rent control, with regulation details varying by city and state. Strict rent control, or *vacancy control*, limits the amount rents can increase between tenancies, while *vacancy decontrol* limits the year-to-year increase in rents a landlord can charge a returning tenant but allows the rent to increase to the market price between tenancies. For example, under the Costa-Hawkins Act, California state law prohibits strict rent control, but allows vacancy decontrol. New York City operates a system of vacancy decontrol, with the exact structure based on both date of tenancy and building age. While rent control aims to increase housing affordability, it dampens incentives for landlords to invest or develop new units, and may reduce

[23] Developments that do not have the required share of low-income units may access IZ benefits by paying a fee.

the overall supply of housing, leading to increased rates of homelessness. However, we are unaware of any empirical literature examining the effect of large-scale rent control policies on homelessness at the individual level.[24]

What Are the Community-Level Effects of Homelessness Interventions?

The vast majority of rigorous studies of homelessness policy measure partial equilibrium effects (for an overview of work on community-level analyses, see O'Flaherty, 2019). When a randomized controlled trial compares housing outcomes for a treatment group and a control group within the same housing market, the study can only measure whether the treatment group benefits relative to the control group. It cannot determine if the program affected the housing market overall.

For example, a community-level homelessness intervention could lead to in-migration that offsets the direct effect of the program. Variation in homelessness programs across space could induce migration from places with less generous to more generous programs. A large literature posits such effects for a wide variety of public services (McKinnish, 2005). In the homelessness context, most expenditures are organized locally such that the generosity of homelessness services varies with local preferences and between urban and rural areas. If migration is significant, local increases in funding might actually increase the local homeless population. Popov (2017) provides evidence that families, but not individuals, experiencing homelessness migrate to locations with more generous homelessness spending. This provides one useful study (though it is typically difficult to track homeless individuals across jurisdictions), which has restricted work on this topic.

Some observers take a pessimistic view of whether individual-level studies can be extrapolated to the community level. For example, the President's Council of Economic Advisers argues that the direct decrease in homelessness caused by expanding services will be counterbalanced by increases as federal funding crowds out existing services, more housing demand increases prices, people become homeless to qualify for programs, and higher quality of life while homeless leads people to choose homelessness (CEA, 2019). Because of this view, they oppose expanding funding for housing subsidies, instead suggesting increased self-sufficiency programming and police enforcement.

Drawing on the existing research, however, evidence from individual randomized controlled trials matches that from quasi-experimental studies of community outcomes in some settings. For homelessness prevention, evidence that HomeBase reduced shelter entry lines up between a randomized controlled trial (Rolston et al., 2013) and community-level study (Goodman et al., 2016). Goodman et al. (2016) examined the gradual expansion of access to Homebase centers across neighborhoods between 2003 and 2008 and found that prevention services reduced the number of shelter entries by 5 to 11 percent. In the HUD-VASH supportive housing program, improved housing outcomes for individuals also scale up. Panel data analysis shows that the number of chronically homeless individuals in PIT counts falls one-to-one with the number of funded beds (Evans et al., 2019). Evidence from homelessness prevention and supportive housing for veterans suggests that individual-level RCTs do provide useful indications of a policy's effectiveness.

For other programs, more and better evidence is needed on the extent to which individual-level effects translate to community-level outcomes. Research on the effects of federal funding for homelessness overall reaches mixed conclusions that

[24] For community-level studies examining the effects of rent control on homelessness, see Ellen and O'Flaherty, Eds. (2010), pp. 158–160.

depend on details of the research design (Lucas, 2017; Popov, 2017). Supportive housing is perhaps the best specific example for which additional research is needed. Several randomized controlled trials show that supportive housing improves housing stability for participants. At the community level, results from HUD-VASH suggest these effects can be extrapolated to the community level (Evans et al., 2019), whereas community-level studies of supportive housing more generally find that it reduces chronic homelessness but equilibrium responses crowd out most of the direct effect (Byrne, 2014; Corinth, 2017; Moulton, 2013). See O'Flaherty (2019) for a more detailed review of these studies. There are multiple ways to reconcile this evidence. One approach (c.f. CEA, 2019) is to argue that equilibrium effects dominate, discount individual-level studies, and conclude that permanent supportive housing is only effective for veterans. Alternatively, without direct evidence of equilibrium responses, one may be skeptical that existing community-level studies measure causal effects and only extrapolate from individual-level studies that supportive housing is effective. This latter view reaches the conclusion that supportive housing has more rigorous evidence to support it than almost any other major policy intervention. These divergent conclusions illustrate there is ample room for more and better evidence on the community-level effects of homelessness interventions.

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