Housing Insecurity and Low-Income Housing Policy in the United States

by

Huiyun Kim

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Social Work and Sociology)
in the University of Michigan
2018

Doctoral Committee:

Associate Professor Sarah A. Burgard, Co-Chair
Associate Professor Kristin S. Seefeldt, Co-Chair
Assistant Professor Rachel Best
Associate Professor Lan Deng
Professor Richard Tolman

Huiyun Kim

seahunt@umich.edu

ORCID iD: 0000-0001-6562-0401

TABLE OF CONTENTS

LIST OF TABLES iv

LIST OF FIGURES v

ABSTRACT vi

CHAPTER I Introduction 1

CHAPTER II Housing Assistance and Housing Insecurity: A Study of Renters in Southeastern Michigan in the Wake of the Great Recession 4

- Introduction 4
- Literature Review 6
  - Measuring Housing Insecurity 6
  - Housing Assistance Programs and Housing Insecurity over Time 9
  - Characteristics of Households Served and the Importance of an Appropriate Reference Group 13
- Data and Method 15
  - Measures 16
  - Analytic Strategy 19
- Results 22
- Discussion 30
- Appendix 35
- Bibliography 37

CHAPTER III Failing the Least Advantaged: Waitlist Preference and Rationing Algorithms ... 46

Introduction 46
Literature Review 48
Toward a Comprehensive Model of Federal Welfare Resource Allocation 48
Political and Economic Contexts of the Local Administration of the HCV Program 50
Data and Methods 53
Administrative Data 53
PHA Interviews 55
Results 56
Prevalence of Each Type of Waitlist Preferences Among PHAs 56
Developing A Type of Waitlist Preference Systems 58
Mechanisms of Establishing and Maintaining Waitlist Preference Systems 61
Conclusion 69
Appendix 72
Bibliography 73

CHAPTER IV Failing the Least Advantaged: Residential Mobility among the Poor 76

Introduction 76
Literature Review 76
Rationing Algorithms and Residential Mobility 76
Residential mobility among the poor 77
Data and Methods 78
Results 80
Discussion 86
Bibliography 89

CHAPTER V Conclusion 90

LIST OF TABLES

TABLE 2-1. Population-weighted Characteristics of Analytic Sample from the MRRS, Overall and Stratified by Income Eligibility and Housing Assistance Receipt 22

TABLE 2-2. Coefficients, Standard Errors and Average Marginal Effect (AME) from Logistic Regression or Propensity Score Models Predicting Housing Insecurity Problems over Follow-up 28

TABLE 2-A1. Description of Types of Housing Insecurity and Items used to Generate Measures 35

TABLE 3-A1. Interview Questions 72

TABLE 4-1. Population-Weighted Characteristics of Householders aged 18 years or older who are currently residing in Michigan from the American Community Survey (2012-16), Overall and Stratified by Movers and Stayers 82

TABLE 4-2. A Logistic Regression Model Predicting Residential Move in the last 12 months using the American Community Survey (2012-16) 84

TABLE 4-3. A Multinomial Regression Model Predicting Residential Move in the last 12 months using the American Community Survey (2012-16) 85

LIST OF FIGURES

FIGURE 2-1. Population-weighted Prevalence of Each Type of Housing Insecurity (n=417) . 24

FIGURE 2-2. Typologies of Stability or Change in Housing Insecurity between Baseline and Wave Two, Overall and by Income-eligibility and Housing Assistance Status (n=417) 25

FIGURE 2-3. Population-weighted Prevalence of Each Type of Housing Insecurity by Income Eligibility and Housing Assistance receipt 26

FIGURE 2-4. Population-weighted Prevalence of Each Type of Housing Insecurity by Income Eligibility and Housing Assistance receipt 27

FIGURE 3-1. Illustration of the Process of Housing Resource Allocation 50

FIGURE 3-2. Prevalence of Waitlist Preference Items among PHAs in Michigan (N=59) 57

FIGURE 3-3. Prevalence of Each Typology of Waitlist Preference System, Overall and Stratified by Geographical Locations 60

ABSTRACT

My dissertation examines the intersection of low-income housing programs and housing insecurity among the poor, taking an econometric approach to program evaluation and a sociological approach to examining organizational decision making in program implementation and its implication on economic inequality. First, I examine longitudinal pattern of housing insecurity and the role of housing assistance programs in reducing it. In the years immediately following the Great Recession, social program administration in the United States was extremely challenging. Income and employment instability among housing assistance recipients grew, as did the ranks of people who qualified for assistance, and local public housing authorities were not necessarily prepared to accommodate this volatile situation. Using the first two waves of the Michigan Recession and Recovery Study (2009-10 and 2011), a population-based sample of working-age adults in the three counties in the Detroit metropolitan area, I conducted a propensity score analysis to examine whether housing assistance recipients are less likely to experience housing insecurity events over follow up than income-eligible respondents who do not receive housing assistance. Results suggest that housing assistance was a powerful way to reduce hardship in the wake of the Great Recession and provide empirical support for the continued support and expansion of these programs. Second, I examine the allocation of limited federal resources for low-income housing programs and how it may affect stratification amongst the poor has received less attention. While scholars have acknowledged that shrinking federal resources for low-income housing programs increase stratification among U.S. society as a

whole, whether the allocation of these resources exacerbates stratification amongst the poor has received little attention. My study presents a comprehensive conceptual framework that incorporates both local discretion in program implementation and an algorithm of rationing to advance our understanding of the distributional outcomes of federal low-income housing programs. The administrative plans local housing agencies in Michigan use to administer the Housing Choice Voucher program reveal two dominant forms of waitlist preference systems that promote the greater loss from these waitlists of applicants who are experiencing residential instability. Third, I juxtapose this finding with results from the American Community Survey suggests that low-income housing programs are likely to purge applicants from the waitlist in deep poverty, rather than income-eligible applicants with higher incomes.

CHAPTER I

Introduction

My dissertation project uses multiple analytic methods to examine the implementation of federal low-income housing programs, using population-based survey data and primary data collected from local public housing authorities. My years of engagement with non-profit and public organizations in the fields of community development and low-income housing have motivated me to look at housing policy as a case study. The Housing Quality and Work Responsibility Act of 1998 relegated a great deal of authority for program implementation to local public housing authorities; thus, policy outcomes depend significantly on the decision making of front-line agencies implementing low-income housing programs. Local control, though, can pose challenges. With limited resources, local level housing agencies may engage in discretionary practices and shape benefit access and distribution in ways that are not equitable. Social justice advocates with limited resources may find it difficult to monitor program outcomes. My research thus provides vital information for local policy advocates by conducting (a) an econometric evaluation of the effectiveness of low-income housing programs in reducing housing insecurity and (b) a study of the local implementation of low-income housing programs, particularly as it relates to tenant selection.

In Chapter II, my lead-authored article published in *Social Service Review* (co-authored with Sarah Burgard and Kristin Seefeldt) examine longitudinal pattern of housing insecurity and the role of housing assistance programs in reducing it. In the years immediately following the

Great Recession, social program administration in the United States was extremely challenging. Income and employment instability among housing assistance recipients grew, as did the ranks of people who qualified for assistance, and local public housing authorities were not necessarily prepared to accommodate this volatile situation. Using the first two waves of the Michigan Recession and Recovery Study (2009-10 and 2011), a population-based sample of working-age adults in the three counties in the Detroit metropolitan area, I conducted a propensity score analysis to examine whether housing assistance recipients are less likely to experience housing insecurity events over follow up than income-eligible respondents who do not receive housing assistance. Results suggest that housing assistance was a powerful way to reduce hardship in the wake of the Great Recession and provide empirical support for the continued support and expansion of these programs.

In Chapter III and IV, I examine the allocation of limited federal resources for low-income housing programs and how it may affect stratification amongst the poor. While scholars have acknowledged that shrinking federal resources for low-income housing programs increase stratification among U.S. society as a whole, whether the allocation of these resources exacerbates stratification amongst the poor has received little attention. Only one in four households eligible for participation in low-income housing programs receives assistance. This raises the question of what front line decisions distinguish the lucky 25% and how this rationing affects stratification among the poor. Local housing agencies' implementation of low-income housing programs largely determines the answer to this question, but poverty scholars have generally treated program parameters under the discretion of local housing agencies as a priori. Yet a dynamic process involving multiple actors with varying incentives characterizes this process. In the context of extended waiting periods for federal housing assistance, rationing from

the waitlist of low-income housing programs can also serve as an important mechanism of resource allocation of limited federal housing resources, and ultimately, economic inequality. While random rationing would not punish the most vulnerable, more systematic rationing could reproduce and reinforce stratification amongst the poor if it shifted limited federal housing resources away from the least advantaged.

In Chapter III, I present a comprehensive conceptual framework that incorporates both local discretion in program implementation and an algorithm of rationing to advance our understanding of the distributional outcomes of federal low-income housing programs. The administrative plans local housing agencies in Michigan use to administer the Housing Choice Voucher program reveal two dominant forms of waitlist preference systems that promote the greater loss from theses waitlists of applicants who are experiencing residential instability. In Chapter IV, I juxtapose this finding with results from the American Community Survey and suggest that low-income housing programs are likely to purge applicants from the waitlist who are in deep poverty, rather than income-eligible applicants with higher income, because they have no steady address. I argue that current low-income housing programs preserve and even deepen economic stratification amongst the poor by shifting limited federal housing resources away from the least advantaged.

CHAPTER II

Housing Assistance and Housing Insecurity: A Study of Renters in Southeastern Michigan in the Wake of the Great Recession

Introduction

Prior studies show that housing insecurity further disadvantages those who are already economically marginalized (Desmond 2012b, 2016; Pattillo 2013). Recent studies document the far-reaching influence of housing insecurity on the reinforcement and reproduction of contemporary economic inequality (Wildeman 2014). For example, over time housing insecurity severely undermines stable employment (Desmond 2016, Desmond and Gershenson 2016), erodes informal employment networks that could reduce spells of unemployment (Ziersch and Arthurson 2005), and curtails access to institutional and informal supports that mitigate material hardship (Greenbaum et al. 2008; Keene and Geronimus 2011). While scholarly understanding of the negative effects of housing insecurity on individuals is growing, there are still some important limitations to the evidence. In particular, we know relatively little about the change in housing insecurity that individuals experience or about how programs designed to reduce housing insecurity affect housing histories.

Understanding whether housing assistance helps to reduce housing insecurity for poor Americans is important in the contemporary context of the slow recovery from the largest macroeconomic recession in a generation. A key risk factor for housing insecurity is lack of housing affordability, and the recent recession exacerbated a long-term rise in the fraction of

lower-income renters living in unaffordable housing (Collinson 2011; JCHS 2011). Moreover, very low-income renters appear to have not benefitted much from the economic recovery in the immediately following years after the official end of the Great Recession in 2009. The number of severely cost-burdened households—those spending more than 50 percent of their income on housing—increased by 20 percent to a record high of 8.5 million US households between 2009 and 2011 (JCHS 2011).

Housing policies and programs directed at low-income people aim to alleviate the uneven distribution of access to secure housing between the poor and non-poor. Among other things, housing assistance from one of these programs can directly stabilize recipients' ability to pay for their housing consistently by reducing their actual rental cost (Collinson, Ellen, and Ludwig 2016). For example, scholars have suggested that housing vouchers are effective in reducing housing insecurity, including shelter use and residential instability, among families who have been homeless or are at risk of homelessness (Culhane 1992; Wong, Culhane and Kuhn 1997; Shinn et al. 1998; Gubits et al. 2015). However, recent studies of housing insecurity among other populations at heightened risk, including single mothers who received welfare benefits and unwed urban parents, do not find significant effects of housing vouchers on subsequent housing insecurity (Geller and Curtis 2011; Geller and Franklin 2014; Wildeman 2014, but see Phinney 2013). These recent studies are valuable because they offer a view beyond the experiences of those with the most severe housing problems; much of the research on the determinants of housing insecurity and recovery focuses on those who have already been homeless (for example Metraux and Culhane 1999; Zlotnick, Robertson, and Lahiff 1999; Fisher et al. 2014; Parsell, Tomaszewski, and Phillips 2014). However, even these newer studies capture only more economically disadvantaged parts of the population and they exhibit several methodological

limitations, including narrow measures of housing insecurity (but see Geller and Franklin 2014) and lack of an appropriate comparison group (i.e., most studies compare voucher recipients to all non-recipients, even when those who did not have a voucher may not have been eligible). More studies are needed that examine the association between receiving housing assistance and subsequent change in housing insecurity, and that consider broader populations of renters.

In this study, we examine the association between housing assistance receipt and change in housing insecurity among renters in one large metropolitan area in the wake of the Great Recession. We build on prior literature by developing a comprehensive measure of housing insecurity that incorporates multiple types of involuntary moves and an indicator of delayed rental payments, broadening our scope beyond those people who are already showing evidence of housing insecurity to include people who are at risk of involuntary moves. We use data from a population-based sample of individuals residing in southeastern Michigan that were collected over two survey waves in late 2009–early 2010 and in 2011, and capture the change in housing insecurity spanning these years. We also examine the link between housing assistance receipt and change in housing insecurity while accounting for the potential influence of receiving cash-based forms of public assistance.

Literature Review

Measuring Housing Insecurity

In past research, scholars have used a variety of measures to indicate housing insecurity, from a simple measure separating those who are physically housed from those who are not to more detailed measures of housing status that capture unstable living arrangements (Eastwood and Birnbaum 2007; Rebholz, Drainoni, and Cabral 2009), length of stay at current residence (Coley et al. 2013), or recent involuntary moves (Pavao et al. 2007; Phinney et al. 2007; Reed et

al. 2011). More recently, scholars have developed more comprehensive measures of housing instability that incorporate more than one dimension of housing insecurity (Kushel et al. 2001; Burgard, Seefeldt, and Zelner 2012; Rollins et al. 2012; Geller and Franklin 2014). For example, Sarah Burgard and colleagues (2012) measured multiple types of housing insecurity, including multiple moves, cost-related moves, doubling up, homelessness, being behind on rent, eviction, being behind on a mortgage, and foreclosure.

Scholars suggest that a comprehensive measure of housing insecurity that captures a wide spectrum of possible severity is more conceptually appropriate than measuring specific, discrete events (Sosin, Pilliavin, and Westerfelt 1990; Kleit, Kang, and Scally 2016). They argue that housing insecurity manifests itself in the lives of low-income people as a complex, sequential pattern of multiple housing insecurity events over time, rather than as discrete housing events that befall different subgroups. For example, less severe types of housing insecurity like a delay in rent payment or moving for cost reasons can precede more dramatic events like eviction and homelessness. Those facing severe forms of housing insecurity also try to strategically avoid them by moving in with others to reduce housing cost burden (Pilkauskas, Garfinkel, and McLanahan 2014; Desmond 2016). Thus, a comprehensive measure of housing insecurity captures those who are experiencing varying degrees of housing-related hardship at some point in a dynamic process, distinguishing them from others who are not insecure in any way over the same period.

Although some prior measures of housing insecurity have successfully captured its multiple dimensions, most have only been single point-in-time measurements, typically capturing whether respondents experienced any housing problems in the last year (Phinney et al. 2007; Geller and Curtis 2011; Geller and Franklin 2014; Wildeman 2014). If there were not

much year-to-year variation in housing insecurity, then there would not be much to gain by interviewing respondents more than once in order to capture changes in housing insecurity. However, housing insecurity is a dynamic experience in the lives of low-income people (Edin and Shaefer 2015; Desmond 2016). For example, low-income workers often get behind on rent but then are able to get back on schedule, as their employment status and work hours fluctuate. Measuring housing insecurity at only one point in time would miss this kind of volatility. Especially during and following economic recessions, the oscillation of the business cycle likely generates instability in employment status and working hours that could create rapid change in housing insecurity over relatively short intervals. Measuring housing insecurity over multiple time points may thus better capture important variation in such insecurity across low-income renters.

Recognizing that housing insecurity is dynamic, housing scholars have developed the concept of the housing pathway or career to examine how work and family domains (e.g., labor market status or relationship dynamics) influence housing insecurity. For example, William Clark, Marinus Deurloo, and Frans Dieleman (2003) examine the change in housing tenure and affordability over the entire life course and differential trajectories of tenure and affordability across income levels. One common housing career shows a pattern of upward mobility toward a stage of home ownership or higher-priced rental dwellings, while another distinctive housing career ends in low-priced rental units for those with very low household incomes and negative income growth (Clark et al. 2003). Although housing researchers have developed multiple concepts to capture longitudinal housing trajectories that unfold over the life course (May 2000; Clark et al. 2003; Skobba 2016), they have rarely examined relatively short-term housing trajectories or how they are influenced by the receipt of housing assistance. This limits our

ability to understand the volatility of the lives of low-income renters and its implications for housing assistance. One exception is a study of a small sample of low-income mothers in a large Midwestern metropolitan area who reported on the type and duration of each housing accommodation they had experienced since they began living independently (Skobba 2016). Kim Skobba (2016) shows that receipt of a housing voucher partially alleviated housing insecurity induced by precarious employment and relationship disruption among these low-income renters. We build on this past evidence by using a larger survey sample of adults who represent the working-aged population in a large metropolitan area and by generating measures of housing insecurity at two time points and considering the change between them, using detailed data that capture an array of housing insecurity experiences. We also assess the association between housing assistance receipt and change in housing insecurity, and distinguish an appropriate comparison group of income-eligible non-recipients whose demographic and socioeconomic characteristics are otherwise similar to those of housing assistance recipients.

HOUSING ASSISTANCE PROGRAMS AND HOUSING INSECURITY OVER TIME

The United States operates many different types of housing assistance programs targeted to different populations. In general, recipients of housing assistance live in public housing or privately owned units that have received federal subsidies, or they receive a voucher to use on the housing market. From the 1930s through the early 1970s, public housing built and operated by local public housing authorities (PHAs) was the dominant form of low-income targeted housing assistance. However, from the 1960s to the early 1980s, the federal government executed long-term contacts with for-profit and non-profit developers and built privately owned subsidized housing, which guarantees subsidies and imposes affordability restrictions on a certain number of units for a period of up to 30 years. The demolition of distressed public

housing developments has gradually decreased the importance of public housing as a means of federal low-income housing assistance and has resulted in the reduction of total public housing stock by about 300,000 units over the past 20 years. Currently, the Housing Choice Voucher (HCV) program and privately owned subsidized housing (e.g., Section 8 Project-Based Rental Assistance [PBRA]), are the largest programs, assisting more than 3 million households (2 million through HCV; Collinson et al. 2016).

The HCV program in the United States (formerly known as the Section 8 housing voucher program) was established after the Housing and Community Development Act of 1974. Housing vouchers aim to reduce housing insecurity among recipients by providing a significant amount of subsidy for rental payments. Voucher recipients contribute 30 percent of their income to housing costs, and the HCV program subsidizes the difference between that amount and the total allowed cost of rent, set annually by the US Department of Housing and Urban Development (HUD) as the Fair Market Rate (FMR), and further locally adjusted by public housing authorities (PHAs; HUD 2001). HUD requires local PHAs to set payment standards between 90 and 110 percent of the FMR for each unit size. PHAs can also set different payment standards for different parts of the FMR area. The FMR in 2010 for the metropolitan Detroit area, where respondents in our sample resided, was $796 for a two-bedroom unit. A hypothetical family of three whose income was at the upper bound of the extremely low income category ($18,850 for the metropolitan Detroit area in 2010) was thus expected to contribute 30 percent of that monthly income ($18,850 / 12 * 0.3 = $471.25 per month) toward rent. Their subsidy would not exceed the difference between the payment standard and 30 percent of their monthly income, so their maximum amount of subsidy in this scenario would be about $320 ($796 - $471.25). Since voucher recipients pay less out of pocket toward rent each month due to the subsidy, they

are presumably less likely to fall behind on rent, be evicted or become homeless, or experience other forms of housing insecurity compared to their counterparts who are income eligible but not receiving a subsidy. Further, if a recipient's income drops, the subsidy amount is adjusted upward, making it easier for recipients to weather income shocks than otherwise similar individuals not receiving assistance.

Section 8 Project-Based Rental Assistance (PBRA) is the largest project-based rental assistance program in the United States and serves more than 1.2 million low-income households. PBRA is tied to particular housing developments, and families cannot retain their rental assistance when they move to new locations. HUD makes an annual contract with private property owners to rent some or all of the units in the development to low-income households at an affordable rent. PBRA also provides a housing subsidy to the owner of the units that fills the gap between 30 percent of household income and the cost for operating and managing the contracted units. Although income eligibility for PBRA is set at having an income below 80 percent of Area Median Income (AMI), the median family income for an area estimated annually by HUD, federal regulation mandates that 40 percent of assisted units in the development are allocated to very low-income households (i.e., income below 50 percent of AMI).

Although the substantial amount of subsidy that housing assistance programs provide should positively shape recipients' housing security patterns, there is still limited evidence showing whether having housing assistance prevents recipients from developing new housing problems. On the one hand, because the subsidy is substantial, housing assistance recipients would appear to be protected from developing housing problems and would seem more likely to get out of trouble compared to those with similar resources but no housing assistance. However, there may be a further issue to consider that conditions the advantage of housing assistance

recipients. The way that the HCV and PBRA system is structured means that program responses to recipients' income changes could actually generate fluctuations in their housing security. Some scholars suggest that the housing assistance system only provides a limited safety net from unstable employment and associated income volatility during recessionary hard times (Ellen and O'Flaherty 2007; Collinson et al. 2016). This is because local public housing authorities annually recalculate the monthly subsidy for families by subtracting 30 percent of the estimated monthly income of voucher recipients from their total housing cost. Inaccurate annual income projections, which are more common for extremely low-income persons (e.g., due to unstable working hours), could mean that in reality the financial burden imposed by their monthly contribution of rent might vary from month to month. In this scenario, a given month's rent contribution could temporarily effectively increase to more than 30 percent of a housing assistance recipient's actual income that month.[1] Coupled with a low level of personal savings (Seefeldt 2015), as well as delays in processing changes to other benefits a recipient might receive (Seefeldt forthcoming), the structural lag in the housing assistance system's response to a given recipient's income decline might mean that they have to delay rent payments and face eviction. Moreover, housing assistance recipients cannot legally use the cost-sharing strategy of doubling up (Ellen and O'Flaherty 2007), which is relatively common among low-income

1. In the case of income decline, prompt reporting of income change can significantly benefit recipients if it means they will be able to reduce their contribution to housing costs. However, a legal case study about conflict over the adjusted income calculation between voucher recipient and PHAs documents possibly significant administrative delay in income adjustment and its potential effect on housing security of recipients (Daniels v. Housing Auth. Of Prince George's City., 940 F. Supp. 2d 248 [Dist. Ct. D. Md. 2013]). Also, the lagged response of PHAs is even more critical in relation to housing insecurity when there is no emergency safety net (e.g., emergency fund for housing assistance recipients to prevent eviction from delayed rental payment) for housing assistance recipients (Ross and Pelletiere 2014).

families (Pilkauskas et al. 2014), although levels of enforcement of this rule may vary across local PHAs. For these reasons, it is possible that housing assistance recipients may not be more protected from volatility in their housing security than income-eligible families not receiving housing assistance.

Characteristics of Households Served and the Importance of an Appropriate Reference Group

Housing assistance recipients are demographically and socioeconomically distinct. To access the association between housing assistance receipt and housing insecurity over time, it is critical to obtain a comparison group with a set of characteristics similar to those of housing assistance recipients. Failure to account for factors that predict both housing assistance receipt and housing insecurity, such as income, participation in other means-tested social programs, or some key demographic characteristics, may lead to an overestimate of the influence of housing assistance. One of the eligibility criterion for participation in housing assistance program is the applicant's income level in relation to AMI. In order to be income eligible for HCV, for example, an applicant family's income should be below 50 percent of the annually updated AMI after adjusting for family size, with some exceptional cases allowed to have incomes up to 80 percent of the AMI. However, housing assistance is not an entitlement in the United States, and in the case of housing voucher programs, only one-fourth of income-eligible families actually receive vouchers (Collinson et al. 2016). Thus, there are many income-eligible non-recipients who could plausibly be used as a comparison group in examining the influence of housing assistance on housing insecurity changes. However, previous studies generally have compared housing assistance recipients to all non-recipients in evaluating the effect of housing assistance on housing insecurity (Geller and Curtis 2011; Geller and Franklin 2014; Wildeman 2014), with

the exception of experimental studies that have sampled respondents from among people who were participating in other means-tested social programs (Wood and Rangarajan 2004; Wood, Turnham, and Mills 2008). Past studies have partially addressed income differences between recipients and non-recipients by including a measure of income in their models, but this may not be sufficient to create an appropriate comparison.

Additionally, it is reasonable to presume that many housing assistance recipients are also eligible for and participate in other means-tested social programs since they meet the income-eligibility requirement for housing assistance programs. Means-tested benefit programs are a critical income stabilizer for the very low-income population, and help low-income people cope with typical day-to-day financial challenges, as well as with more serious recessionary hard times, since those with very low incomes have less access to credit and support from family (Harknett and Hartnett 2011; Desmond 2012*a*; Seefeldt 2015). Receipt of other means-tested benefits could also reduce housing insecurity by decreasing the chance of having an income shock and associated housing problems, including delayed rent payment, eviction, or homelessness (O'Flaherty 2009). In order to evaluate the influence of housing assistance alone rather than the total influence of multiple means-tested social programs on housing insecurity trajectories, we adjust for cash assistance receipt in our analyses.

Finally, housing assistance recipients are demographically different from those who do not receive housing assistance. Using a population-based sample of urban, low-income individuals, researchers find that while having a larger number of children is positively associated with having voucher-based housing assistance, being married reduces that likelihood (Park, Fertig, and Metraux 2014). Barbara Sard and Thyria Alvarez-Sánchez (2011) document demographic characteristics of HCV recipients that could make their risk of housing insecurity

different from that experienced by non-recipients. Although the share of vouchers going to families with children declined from 2000 to 2010, 52 percent of voucher households have children, while more than 20 percent of voucher recipients are elderly. To address these factors, we adjust for a set of demographic variables including marital status, number of children, and age, and also adjust for income and match on income eligibility.

Data and Method

DATA

We use the first two waves of the Michigan Recession and Recovery Study (MRRS), a stratified, random sample of working-aged adults drawn from the general population of the three counties (Macomb, Oakland, and Wayne) surrounding Detroit. We conducted wave 1 interviews between October 2009 and April 2010 with 914 respondents, with a response rate of 82.8 percent. We re-interviewed 847 respondents between April and August of 2011, with a response rate of 94 percent of those who completed wave 1 interviews. We limit our analytic sample to those who identified as renters or "others" (those who were not paying rent and did not have a mortgage or own their home; N = 421), and excluded four cases with missing data on independent and dependent variables used in multivariable analyses. This yields an analytic sample of 417.

The Detroit-Warren-Livonia Metropolitan Statistical Area (MSA), from which our sample is drawn, had a high rental vacancy rate of 17.7 percent compared to the median of 9.1 percent among the 75 largest US MSAs (HUD 2015*a*). The Detroit metropolitan area is somewhat unique in that it has both high unemployment and a higher-than-average proportion of high-interest mortgages, which led to a higher foreclosure rate compared to other US MSAs during the recent recession (Dwyer and Lassus 2015). The high rental vacancy rate in our study

area, however, could have absorbed some part of the foreclosure shock on the rental housing market. It is also noteworthy that there is considerable variation in the rental vacancy rate across the three counties in which our respondents resided. Wayne County, where 91.1 percent of housing assistance recipients in our study resided, had a vacancy rate of 14.5 percent, while Macomb and Oakland Counties had much lower rates at 7.0 percent and 8.3 percent, respectively (HUD 2015*a*). The HCV program and PBRA comprise more than half of all the HUD programs in Wayne county (43.3 percent and 33.6 percent, respectively), followed by public housing (15.8 percent), which is similar to the national level. HUD (2015*b*) data indicates that the percentage of blacks receiving any type of HUD program assistance was 78 while the percentage was 85 percent when we only look at HCV recipients. For project-based rental assistance, the percentage of blacks was lower, at 70 percent (national averages were 43 percent, 47 percent, and 28 percent, respectively).

MEASURES

Dependent Variables

At wave 1, we asked about residential moves in the year prior and at the wave 2 interview we asked about moves between wave 1 and wave 2 (representing a period of about 17 months on average), as well as about reasons respondents gave for moving and about other types of housing insecurity experiences. We created a comprehensive measure of housing insecurity, using a detailed set of questions about housing and residential mobility (see table A1 in the appendix). Because rates of any one type of housing insecurity problem were low, as this is a population-based sample and not a sample of very disadvantaged people, we decided to aggregate in order to capture all individuals facing housing problems of a relatively serious nature, so that we could conduct multivariable analysis. In constructing this housing insecurity measure, we focused on

separating what seemed to be voluntary from what apparently were involuntary residential moves (involuntary moves were defined as those that appear to have occurred for cost reasons), and including information about whether respondents were behind on rent as an additional indicator of risk for housing insecurity, since it was likely caused by limited financial resources. At each wave, we classified respondents as housing insecure if they reported any moves for cost reasons; had completed foreclosure (only at wave 2, since we only considered renters at wave 1 but a small number became homeowners between waves); had experienced eviction, homelessness, or moving in with others to share expenses; or were behind on rent, and as housing secure otherwise.

Key Predictors

In order to examine the difference in housing insecurity over both waves between housing assistance recipients and their income-eligible non-recipient counterparts, while separating out income-ineligible respondents, we created a measure that combines information on housing assistance status and the federal income eligibility criterion of 50 percent of AMI. MRRS respondents were asked the following question about housing assistance status at wave 1: "Do you get any help on the monthly rent for this apartment or house from any federal, state, or city government housing programs, including any federal Section 8 certificate or voucher?" To narrow down possible types of housing assistance they were receiving, we retrieved physical addresses of subsidized housing stock from the Michigan State Housing Development Authority (MSHDA) website and compared those with respondents' residential addresses at wave 1. This comparison suggested that our interview question on housing assistance status captured only non-public housing residents.

HUD annually estimates the median family income for an area and adjusts that amount for different family sizes. We used AMI in 2008 for the Detroit-Warren-Livonia MSA, which includes all three counties in our sample. The reference category in our analyses is housing assistance non-recipients who meet the eligibility criterion of household income below AMI 50 percent. Thus, when we compare housing assistance recipients with this reference category, we can estimate the extent to which having housing assistance is related to subsequent housing insecurity in a population of similar individuals. When respondents with household incomes above AMI 50 percent are compared with the reference group, we can estimate the extent to which income below or above AMI 50 percent influences subsequent housing insecurity among those not receiving housing assistance.

Control Variables

Based on the prior literature, we adjusted for several variables in multivariable analysis, including receipt of any other social program (Temporary Assistance for Needy Families [TANF], Supplemental Security Income [SSI], or Unemployment Insurance [UI]) [2], race (black versus non-black), marital status (married or not), number of children, age, education level (more than high school versus high school or less), and county of residence (Wayne versus other). Adjusting for these characteristics helps to address potential selection bias in estimating the association between having housing assistance and experiencing housing insecurity between waves 1 and 2 of the MRRS. In order to control for varying durations between survey waves for

2. 39 percent of housing assistance recipients participated in SSI, followed by TANF (31 percent), and UI (11 percent). Income-eligible non-recipients showed a similar pattern, but with a much lower percentage of TANF participation: SSI (26 percent) was followed by UI (15 percent), and TANF (9 percent). Not surprisingly, none of the income-ineligible respondents received TANF and only a small percentage received UI (12 percent) or SSI (7 percent).

different respondents, we included duration in months between wave 1 and wave 2 as a continuous variable. Additionally, some of those who reported receiving housing assistance at wave 1 of the MRRS reported not receiving it at wave 2 (15 of 69), and we coded these respondents as having lost housing assistance, while others who did not report housing assistance at wave 1 reported having it at wave 2 (14 respondents), and we coded them as having gained housing assistance at wave 2.

Analytic Strategy

We first conducted descriptive analyses to examine whether characteristics of housing assistance recipients differ from those of income-eligible non-recipients or those who are not eligible and do not receive housing assistance, and to explore the composition and pattern of housing insecurity at wave 1 and wave 2 of the MRRS. Afterward, we examined the prevalence of each type of housing insecurity by income eligibility and housing assistance receipt. We then estimated two multivariable models predicting housing insecurity at wave 2, while controlling for wave 1 housing insecurity. We used wave 2 weights in all analyses to adjust for the wave 1 sampling design and attrition by wave 2.

We first estimated a logistic regression model predicting housing insecurity problems at wave 2. In the second model, we estimated the association between having housing assistance and housing insecurity at wave 2 using propensity score methods. When trying to draw causal inference using observational data, the simple comparison of treatment group and control group can be problematic when the distribution of covariates associated with the outcome varies for treatment and control groups (Morgan and Winship 2015), here, housing assistance recipients versus income-eligible non-recipients. To address imbalance in covariates between the two groups in observational studies, one can match respondents who are similar on their observed

characteristics, but who differ on the treatment variable, and then assess whether having housing assistance was associated with a differential outcome over follow up. Since our major focus is on the comparison between voucher recipients and income-eligible non-recipients, we have estimated the average causal effect of housing assistance receipt on housing insecurity at wave 2, considering only respondents whose household income meets the income eligibility criterion.

Since we have a relatively small number of cases, we have used propensity score weighting, which reweights all the observations in our analytic sample with a propensity weight (Busso, DiNardo, and McCrary 2014). Propensity score weighting produces unbiased estimates when treatment selection depends on covariates included in the propensity score model (Morgan and Winship 2015). Among other contributing factors to receiving a housing voucher, federally mandated income targeting can be critical (AMI below 30 percent). We have included a dichotomous variable indicating whether a respondent's income is below AMI 30 percent in the propensity score model predicting housing assistance receipt. We also include the same set of demographic variables as in the earlier regression models, including respondent's race, marital status, number of children, age, education, and other social program participation. To further reduce bias, previous literature also recommends including variables related to the outcome, even when they are not associated with treatment selection, since the purpose of the propensity score approach is to control imbalance in covariates associated with outcome (Brookhart et al. 2006; Austin 2011). Thus, we have also included months elapsed between waves of the MRRS in the propensity score model. We also included survey weights as a predictor in the propensity score model since they can additionally capture place of residence, demographic characteristics, and variables related to the probability of survey response (DuGoff, Schuler, and Stuart 2014).

We first tried commonly used propensity weights, called inverse-probability treatment weights (IPTW), which give the inverse of the propensity score to a treated respondents and the inverse of one minus the propensity score to observations in the comparison group. However, the IPTW not only created extremely high values of propensity score weights for some respondents, which is one of the caveats in IPTW (Morgan and Winship 2015), but, more importantly, significant imbalances in covariates remained after weighting. Thus, instead of IPTW we have used overlap weights recommended by Fan Li, Kari Morgan, and Alan Zaslavsky (2016). The overlap weight of one minus the propensity score is assigned to a treated respondent and the propensity score itself is assigned to respondents in the comparison group. Weighted means of covariates in the outcome model suggest a significant reduction in imbalance across covariates. We multiplied these overlap weights with the survey weight before using them in the propensity score weighted model so that our results could be generalized to the population of working-age adults in our study area (DuGoff et al. 2014). These procedures address potential confounding issues while still retaining the representativeness of the population-representative data.

In order to illustrate the practical significance of coefficients from these two different multivariable models, we also present the average marginal effect (AME) for each independent variable. Using the example of the black race coefficient, these AMEs were generated by first calculating a predicted probability for each respondent while treating them as though they were black, and then non-black, while leaving all other independent variables at their actual values. Afterward, we estimated the average marginal effect by averaging the difference between the two predicted probabilities for each respondent (individual-level marginal effect) across all respondents (Williams 2012).

Results

Table 1 presents percentages or means for characteristics of the sample overall in the first column, and then compares the characteristics of housing assistance recipients at wave 1 of the MRRS with those of income-eligible non-recipients in the middle column and income-ineligible

TABLE 2-1. Population-weighted Characteristics of Analytic Sample from the MRRS, Overall and Stratified by Income Eligibility and Housing Assistance Receipt

	Overall	**Income-eligible Non-recipients**	**Income-eligible Recipients**	**Income-ineligible Non-recipients**
Number of observations	417	198	69	150
W1 SES and demographics				
R is black (%)	39.8	54.0	96.0***	20.3**
R is married (%)	25.2	22.6	7.8	29.8
Number of children in household	1.0	1.1	1.5	0.8
R's age (in years)	35.3	35.8	39.8	34.2
R has some college experience (%)	53.5	36.9	46.9	68.5***
W1 other social program participation	33.4	45.3	73.1**	18.0**
Months between waves	17.3	17.5	17.0	17.2
W1 housing insecurity (%)	39.1	43.6	36.6	35.6
Housing assistance status change (%)				
Lost housing assistance	–	–	21.7	–
Gained housing assistance	–	6.1	–	1.3
Wayne County resident (%)	55.2	68.1	91.1*	39.5*

Note.—Using t-tests, we examined whether differences in these characteristics between income-eligible non-recipients and income-eligible recipients (or income ineligible non-recipients) are statistically significant. We do not have information about income eligibility at the time when respondents started to receive housing assistance, but measured it at their baseline interview. Participants in programs like the Housing Choice Voucher program are allowed to keep receiving assistance as long as their income does not exceed 80 percent of Area Median Income (AMI). In our data, three housing assistance recipients had incomes between 50-80 percent of AMI at baseline and reported receiving housing assistance, and we included them in the category of income-eligible housing assistance recipients. MRRS = Michigan Recession and Recovery Study, W1 = wave 1 of the MRRS, SES = Socioeconomic status, R = respondent.

*** $p<0.001$
** $p<0.01$
* $p<0.05$

non-recipients in the final column. We present p-values for t-tests of differences between groups, with significance denoted with asterisks, and income-eligible non-recipients as the reference group. Table 1 shows that housing assistance recipients were disproportionately likely to be African American (96 percent compared to 54 percent of income-eligible non-recipients). They were more likely to participate in other social programs than income eligible non-recipients (73 percent versus 45 percent) and were more likely to reside in Wayne County (91 percent versus 68 percent).

Figure 2-1 shows the percentage of respondents who had experienced housing insecurity by type of housing insecurity problem. At wave 1, about 39 percent of respondents were experiencing or had recently experienced any of the problems comprising our housing insecurity indicator, with being behind rent the most common (18 percent), followed by moving in with others (15 percent), moving due to cost (14 percent), homelessness (4 percent), and eviction (3 percent). At the wave 2 interview, the percentage of respondents who had any housing problems fell to 34 percent, but the dip was not statistically significant, nor were there statistically significant changes in the prevalence of any specific housing problems.

The cross-wave comparison of the prevalence of housing problems in figure 2-1 summarizes housing insecurity at two points in time. An individual-level prospective view reveals more dynamic patterns of housing insecurity. Figure 2-2 shows that in the overall analytic sample, 66 percent of respondents reported either persistent housing insecurity (insecure-insecure category, 19 percent) or consistent security (secure-secure category, 47 percent) from wave 1 to wave 2. However, 15 percent of respondents without housing insecurity at wave 1 developed insecurity by wave 2 (secure-insecure category), and 20 percent of

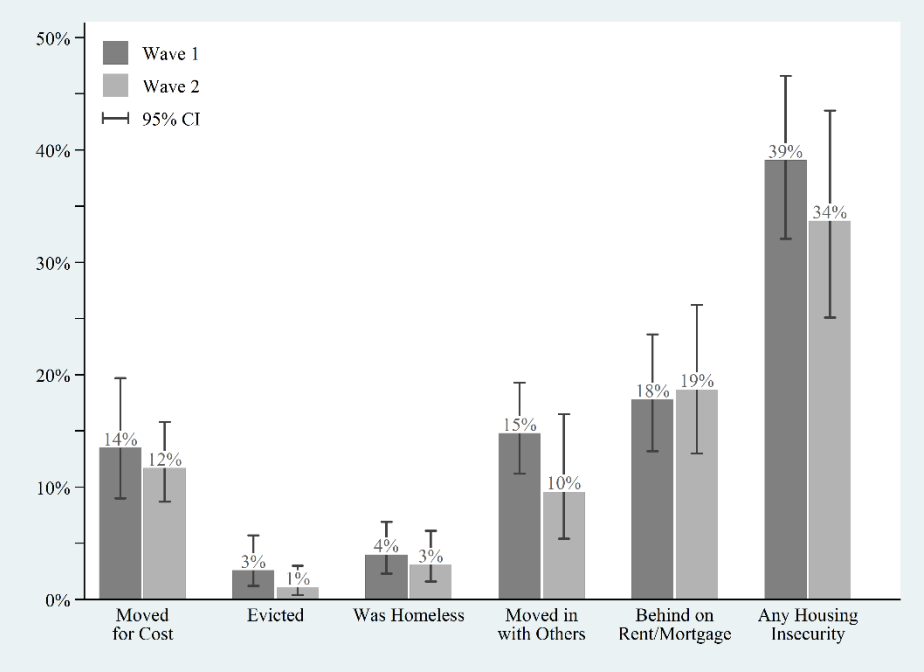

FIGURE 2-1. Population-weighted Prevalence of Each Type of Housing Insecurity (n=417)

Note 1. The percentage reported in the center of 95% Confidence Interval (CI) is a point-estimate of the prevalence of each type of housing insecurity. Nine percent of respondents (n=36) had become homeowners by the follow-up interview; they were asked the same set of housing insecurity-related questions except about eviction and being behind on rent, because they were no longer eligible for those problems. Instead, they were asked about being behind on mortgage in the last year. Only renters or other non-homeowners were asked about eviction at the follow-up interview.

Note 2. Wave 1 housing insecurity captures respondents' statuses one year prior to the interview conducted between October 2009 and April 2010. Thus, wave 1 housing insecurity information was gathered in the period several months before and after the official end of the Great Recession. Wave 2 housing insecurity captures the period between the baseline and follow-up interviews, with the average length of 17.3 months.

Note 3. "Any Housing Insecurity" indicates respondents who reported any of the specific problems illustrated in the figure.

respondents who were insecure at wave 1 had resolved those problems by wave 2 (insecure-secure category). When we break down the overall sample by income eligibility and housing assistance status, we can see the following patterns in the housing insecurity change among the

three groups. In the income-eligible, non-recipient group (shown in the second set of columns in figure 2), 36 percent of respondents had avoided housing insecurity over the entire period, and 17 percent of respondents had been insecure at wave 1 but had not experienced insecurity since then.

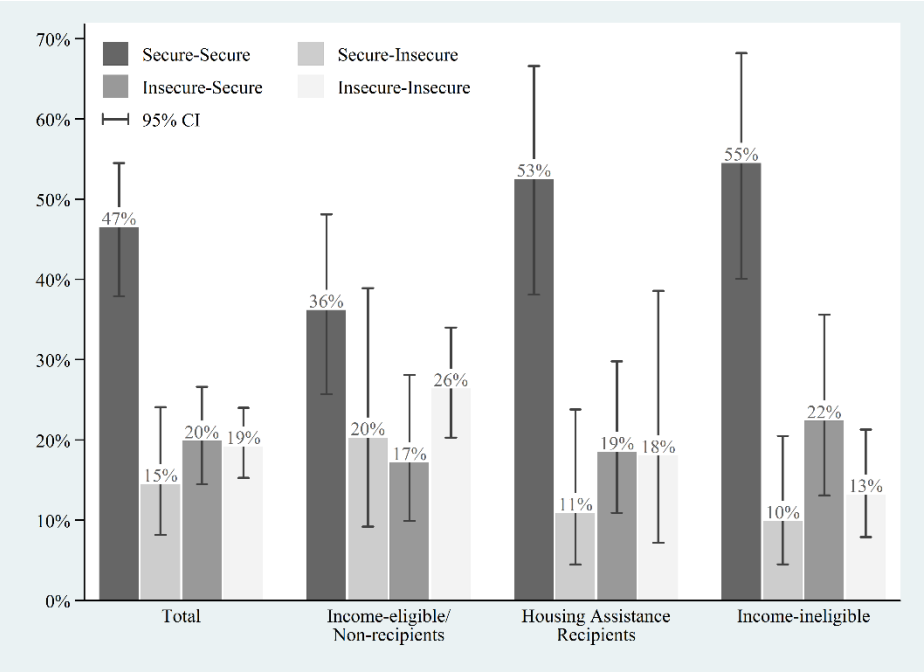

FIGURE 2-2. Typologies of Stability or Change in Housing Insecurity between Baseline and Wave Two, Overall and by Income-eligibility and Housing Assistance Status (n=417)

Note 1. The percentage reported in the center of 95% Confidence Interval (CI) is a point-estimate of the prevalence of housing insecurity.

Note 2. The Secure-Secure category indicates those were not housing insecure near the official end of the Great Recession in June 2009 and who did not experience housing insecurity over follow up. Respondents in the Secure-Insecure category did not have housing insecurity at baseline, but developed it in the post-recession period. The Insecure-Secure category includes respondents who had experienced housing insecurity problems near the end of the Great Recession, but resolved those housing problems in the follow-up period. The Insecure-Insecure category includes those who reported housing insecurity at baseline and at follow-up.

In the housing assistance recipient group (shown in the third set of columns), 53 percent of respondents were in the secure-secure category, followed by the insecure-secure category (19

percent), the insecure-insecure category (18 percent), and the secure-insecure category (11 percent). Respondents whose income made them ineligible for federal housing assistance showed a pattern generally similar to that of the housing assistance recipients.

Figure 2-3 provides information on the association of our key independent variable of income eligibility and housing assistance receipt, and each type of housing insecurity at wave 2 that is included in our aggregated measure used in the main analysis. Severe forms of housing insecurity, including eviction and homelessness, were rare in our population-based sample of renters, resulting in non-significant differences in the point estimates, with large confidence intervals across the three subgroups.

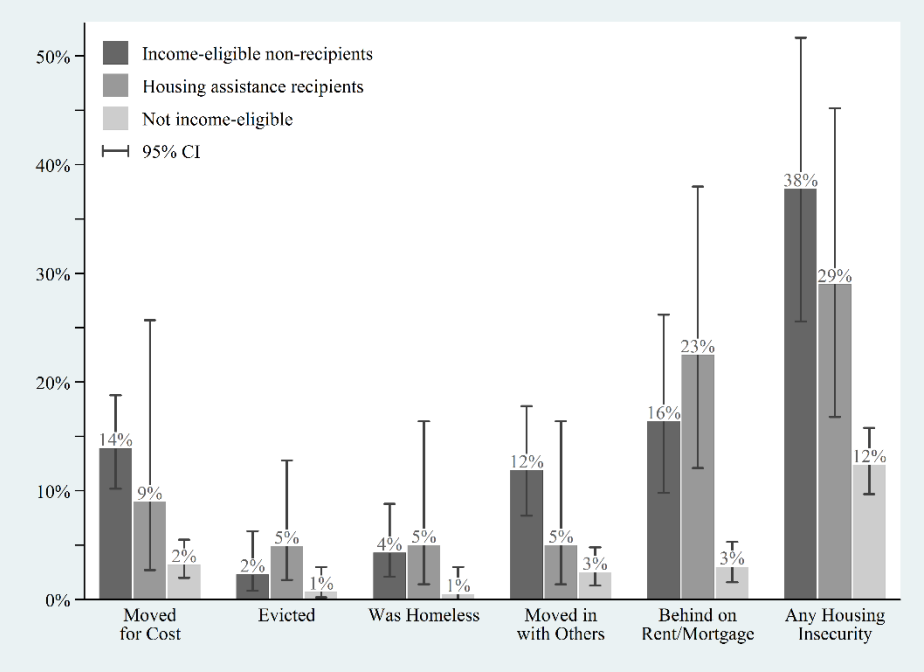

FIGURE 2-3. Population-weighted Prevalence of Each Type of Housing Insecurity by Income Eligibility and Housing Assistance receipt

Note. The percentage reported in the center of 95% Confidence Interval (CI) is a point-estimate of the prevalence of each type of housing insecurity.

Figure 2-3 also shows that the point estimate of the aggregated measure of any housing insecurity was not significantly different for housing assistance recipients and income-eligible non-recipients before controlling other covariates that

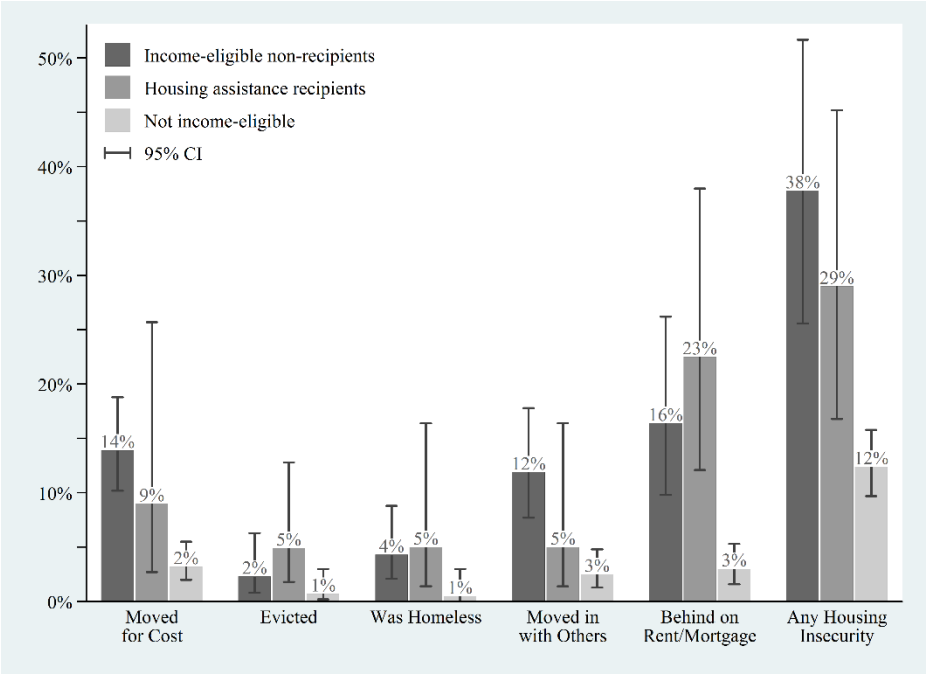

FIGURE 2-4. Population-weighted Prevalence of Each Type of Housing Insecurity by Income Eligibility and Housing Assistance receipt

Note. The percentage reported in the center of 95% Confidence Interval (CI) is a point-estimate of the prevalence of each type of housing insecurity.

are potentially associated with housing assistance receipt. Respondents who were not income eligible for housing assistance had a significantly lower rate of overall housing insecurity than both income-eligible non-recipients and housing assistance recipients.

In table 2-2, we present coefficients, standard errors, and average marginal effects from logistic regressions and a propensity score model. Results for the first model show that housing assistance receipt reduced the likelihood of housing insecurity at wave 2. The average marginal effect suggests that housing assistance recipients were about 22.3 percent less likely to experience housing insecurity at wave 2, compared to income-eligible non-recipients, net of

TABLE 2-2. Coefficients, Standard Errors and Average Marginal Effect (AME) from Logistic Regression or Propensity Score Models Predicting Housing Insecurity Problems over Follow-up

	Any Housing Insecurity Problems over Follow-up					
	Logistic Model			**Propensity Score Model**		
	Coef.	SE	AME	Coef.	SE	AME
Income eligibility / housing assistance (reference = income-eligible non-recipients)						
Housing assistance recipients	−1.635**	.490	−.223	−1.605**	.443	−.310
Not income-eligible	−.692	.442	−.140	−	−	−
W1 SES and demographic characteristics						
Black	.537	.498	.133	.198	.372	.037
Married	.415	.512	.080	−.256	.676	−.048
Number of children	.301*	.133	.057	.283†	.142	.053
Age (in years, centered)	.001	.012	.000	−.011	.018	−.002
More than high school education	−.097	.262	−.034	.421	.244	.079
W1 other social program participation	.209	.398	.034	.413	.349	.077
Month elapsed between waves (centered)	.112	.139	−.022	−.067	.177	−.013
W1 housing insecurity	.980**	.266	.190	1.421**	.388	.290
Housing assistance change over follow-up						
Lost housing assistance	1.102†	.540	.213	.962†	.555	.180
Gained housing assistance	−.169	.755	−.016	−1.190	.875	−.204
Constant	−1.689**	.506		−1.338*	.581	
N	417			267		

*** p<0.001
** p<0.01
* p<0.05

other characteristics adjusted for in the model. This first model also reveals that losing housing assistance is associated with an increased chance of experiencing housing insecurity problems at wave 2 of 21.3 percent (based on the average marginal effects). This first model also shows that number of children and wave 1 housing insecurity were positively associated with housing insecurity at wave 2. In the second set of columns, results for the propensity score model further confirm our finding for a significant protective influence of housing assistance receipt against housing insecurity at wave 2. Housing assistance recipients were about 31.0 percent less likely to experience housing insecurity problems at wave 2 when compared to their income-eligible non-recipients when using the propensity score approach.

We conducted a set of additional sensitivity analyses to assess the robustness of these results. Respondents with housing assistance could have more serious housing insecurity problems and be at greater risk of future insecurity than their income-eligible counterparts, since some housing assistance programs specifically target those who are experiencing a high level of housing insecurity with indicators of ever having been evicted or foreclosed upon (if they had ever owned a home), and our results were substantively unchanged. We also estimated a logistic regression model with an interaction between housing assistance receipt category and housing insecurity at wave 1 and distinguished, for example, respondents who were stably insecure from those who developed new housing insecurity at wave 2. Results show that regardless of wave 1 housing insecurity, housing assistance receipt is associated with a reduced likelihood of housing insecurity at wave 2. It is also plausible that changes in characteristics and experiences occurring between wave 1 and wave 2 were the cause of divergence in housing insecurity at wave 2 for recipients and income-eligible non-recipients, rather than housing assistance receipt. To capture the influence of a financial shock, we added an indicator of more than a 25 percent decrease in the respondent's household's income-to-needs ratio, but substantive results remained the same.

The household income of housing assistance recipients was significantly lower than that of their income-eligible non-recipient counterparts. When we used a lower income cutoff to construct the comparison group of income-eligible non-recipients, the coefficients associated with receipt of housing assistance increased slightly, suggesting that our estimate of the influence of housing assistance on housing insecurity may be conservative. Results were also robust to an alternative calculation of household income eligibility that accounted for childcare costs, and to a broader measure of social program participation that included participation in Supplementary Nutrition Assistance Program (SNAP), a program that could save money on food-related

consumption and leave more funds for rental payments. Lastly, we conducted an additional analysis that examined whether the receipt of housing assistance and income eligibility for assistance predicted attrition, using a model predicting whether respondents participated at wave 2 or not with all covariates included in the main analytic model. We find no significant difference in the likelihood of attrition among income-eligible non-recipients, housing assistance recipients, and income ineligible respondents. Additionally, wave 1 housing insecurity did not significantly predict attrition.

Discussion

We examine the association between housing assistance and subsequent housing insecurity among renters and other non-owners in the Detroit Metropolitan region in the years immediately following the Great Recession of 2007–09. Our findings suggest that having housing assistance is associated with a significantly lower risk of housing insecurity over about 17 months of follow up, when comparing recipients to their income-eligible non-recipient counterparts, and estimates are similar across different model specification and modeling approaches.

While it is important to consider these results in light of the previous literature, it is challenging to compare our results directly to findings from previous population-based studies on housing insecurity. The influence of housing assistance on subsequent housing insecurity is not the central question of many prior studies, which primarily focus on examining housing insecurity either in the context of mass incarceration (Geller and Curtis 2011; Geller and Franklin 2014; Wildeman 2014) or welfare reform (Phinney 2013). Federal housing assistance, whether public housing residence or receipt of a housing voucher, is included as a control variable in some of these prior studies (Geller and Curtis 2011; Geller and Franklin 2014;

Wildeman 2014) or is mentioned conceptually as one of the protective factors contributing to housing security among the low-income population (Phinney 2013). However, none of those studies developed and applied a sophisticated methodology to estimate the relationship between housing assistance receipt housing insecurity.

Previous population-based studies that have focused on housing insecurity have used narrower measures, such as homelessness (Wildeman 2014) or residential mobility (Phinney 2013). A few prior studies have used more comprehensive measures of housing insecurity, similar to the approach used in our study (Geller and Curtis 2011; Geller and Franklin 2014). In particular, Amanda Geller and Allyson Franklin (2014) and Amanda Geller and Marah Curtis (2011) studied housing insecurity four years after respondents were asked whether they were receiving any federal housing assistance. They find that housing assistance is not associated with housing insecurity at follow-up. It is important to consider that the median length of time people receive housing assistance is around five years (Kucheva 2012), and there might have been a very low percentage of respondents who retained housing assistance from their baseline interview over the entire period of follow up in these studies. Our finding of a significant protective influence of housing assistance receipt may differ from the weaker findings of past studies because of a more appropriate reference group and our relatively short follow-up period, which resulted in potentially higher retention of housing assistance by our respondents over follow up than in prior studies with longer follow-up periods.

In estimating the association between housing assistance and subsequent housing insecurity, we addressed several methodological limitations of prior population-based studies. First, and most importantly, we use income-eligible non-recipients as a comparison group, rather than simply adjusting for income differences. Second, we establish that the differential

likelihood of housing insecurity over follow up for housing assistance recipients and non-recipients is not a function of differential levels of cash assistance receipt across groups, or of changes in housing assistance receipt over follow up. Propensity score modeling yields very consistent findings to the more conventional regression model results, and provides a more explicit attempt to account for differences in the characteristics of recipients and non-recipients that could drive both housing assistance receipt and subsequent housing insecurity.

Despite these advances, our results should be considered in the context of several limitations. Previous research has identified limitations of self-reported data on program participation. Under-reporting of housing assistance receipt could lead us to underestimate its positive influence because respondents who had such assistance but did not report it would be included in the control group, which could decrease overall housing insecurity in the control group, thereby reducing the gap in outcomes between those with and without assistance. Also, recipients may have failed to report exactly what types of housing assistance they received (Shroder 2002). We used the residential addresses of respondents to verify that none were living in public housing, but were not able to further differentiate project-based housing vouchers from tenant-based ones. Also, although HCVs are the most common form of housing vouchers administered by local PHAs, it is also plausible that respondents may have received housing assistance from other sources (e.g., PBRA or the HUD Veteran Affairs Supportive Housing Program) that have different regulations, such as different income-eligibility criteria.

Our study is also limited by our use of typical survey items that ask about housing problems in the last year, rather than asking about shorter intervals and more detail, given the empirically documented within-year fluctuation in income among low-income people (Bania and Leete 2009; Hannagan and Morduch 2015). However, even when housing assistance does not

fully mitigate the negative influence of monthly income fluctuation on housing security for an extended period of time, housing assistance could significantly delay the actualization of housing insecurity arising from abrupt decline in income over several months. Thus, our results might be an underestimation of the positive influence of housing assistance that could be better understood in future studies that use more frequent assessment (e.g., monthly) of housing problems. This measurement issue is likely to arise for other aspects of the social safety net as well, which could be incorporated in future studies with larger samples of respondents or a focus on those who are eligible for social programs, or close to eligibility cutoffs.

Our sample is drawn from three counties in the Detroit Metropolitan area, where housing assistance programs are separately administered across 30 highly fragmented local PHAs (HUD 2015*b*). We had only a small number of respondents per PHA, so we could not explore the effects of living in any specific PHA jurisdiction. Future studies should examine whether the positive relationship between housing assistance receipt and subsequent housing security differs according to PHA-level administrative practices, to identify program parameters under PHA discretion that can improve the effectiveness of housing assistance programs. Also, nearly all of the housing assistance recipients in our sample lived in Wayne County, where residents are more likely to be income-eligible for housing assistance; this means that our results are more likely to reflect the case of Wayne County and its specific history of racial residential segregation from the suburban areas in surrounding counties. In a sensitivity analysis not shown here that constrained the analytic sample to Wayne County residents only, our results were consistent with those shown here, but future studies with larger samples should consider the value of housing assistance for those living in more and less advantaged communities.

In spite of these limitations, our study documents a link between housing assistance receipt and reduced housing insecurity in the years immediately following the Great Recession of 2007–09. Two recent evaluation studies of the housing voucher program and its influence on housing insecurity, conducted in 2000–05 (Wood and Rangarajan 2004) and 1998-2003 (Wood et al. 2008), captured conditions prior to the Great Recession. These two experimental studies have been widely cited as empirical evidence that housing voucher programs should be expanded to reduce housing insecurity among low-income renters (Fischer 2015), and we offer more recent empirical evidence that suggests the same protective effect. Regrettably, there was a dramatic reduction of about 100,000 housing vouchers with the 2011 Budget Control Act, and the program has only recently started to slowly recover the vouchers lost to this sequestration cut (Rice 2015). Our results provide further empirical support for the continued growth of this program. Our findings are also relevant to recent scholarship that frames housing insecurity, including eviction and government inaction to address it, as a cause of poverty (Desmond 2016). Previous studies document the many negative consequences of housing insecurity. During and following economic recessions, labor market instability leads to housing instability as income shocks and increased volatility in income cause missed rent payments. Unfortunately, housing assistance programs suffered during a period of growing need, when households were exposed to very high levels of labor market insecurity. It is an empirical question whether and to what extent housing insecurity among low-income renters that arose in the recent recession exacerbated economic inequality in the United States. The findings of this and other studies suggest, however, that housing support programs could potentially mitigate some of the pernicious consequences of housing insecurity.

Appendix

Table 2-A1. Description of Types of Housing Insecurity and Items used to Generate Measures

Types of housing insecurity	Items and coding strategy
Moved for cost	[wave 1] Respondents were first asked: "how long have you lived here in this house/apartment?" Among respondents who stayed less than 1 year in current home, they were asked: "Did you move because you could no longer afford that home?" If respondents answered affirmatively, they were coded as having moved for cost. If respondents either had not moved in the last 12 months or moved but not for cost, they were coded as not having moved for cost. [wave 2] Respondents were asked: "Since we last talked to you, how many times have you moved?" If respondents were moved more than once over follow up, there were asked: "Why did you decide to move? Please tell me all that apply." If respondents chose either "could no longer afford the previous home" or "home was foreclosed upon," they were coded as having moved for cost.
Evicted	[wave 1] Respondents were asked: "In the last 12 months, have you been evicted at any time?" If respondents answered affirmatively, they were coded as having been evicted. [wave 2] Respondents were asked: "Since we last talked to you, have you been evicted at any time?" If respondents answered affirmatively, they were coded as having been evicted.
Homeless	[wave 1] Respondents were asked: "In the last 12 months, have you ever been homeless?" If respondents answered affirmatively, they were coded as having been evicted. [wave 2] Respondents were asked: "Since we last talked to you, have you ever been homeless?" If respondents answered affirmatively, they were coded as having been evicted.
Moved in with others	[wave 1] Respondents were asked: "Have you moved in with anyone in the last 12 months to share household expenses?" If respondents answered affirmatively, they were coded as having moved in with others.

	[wave 2] Respondents were asked: “Since the last time we interviewed you, have you moved in with anyone to share or because you couldn’t afford your own place?” If respondents answered affirmatively, they were coded as having moved in with others.
Behind on rent/mortgage	[wave 1] Respondents were asked: “In the last 12 months, have you ever gotten behind on rent?” If respondents answered affirmatively, they were coded as having been behind on rent. [wave 2] Renters at follow up were asked: “Since we last talked to you”, have you ever gotten behind on rent? If respondents answered affirmatively, they were coded as having been behind on rent/mortgage. Respondents who became homeowners at follow up were first asked: “Do you own this house outright or do you have a mortgage or land contract on the property?” For mortgaged homeowners, the following question was asked: “Are you paying off this loan ahead of schedule, behind schedule, or are your payment about on schedule?” If mortgaged homeowner answered they are “behind on mortgage,” they were coded as behind on rent/mortgage.

Bibliography

Austin, Peter C. 2011. "An Introduction to Propensity Score Methods for Reducing the Effects of Confounding in Observational Studies." *Multivariate behavioral research* 46 (3): 399-424.

Bania, Neil, and Laura Leete. 2009. "Monthly Household Income Volatility in the US, 1991/92 vs. 2002/03." *Economics Bulletin* 29 (3): 2100–12.

Brookhart, M. Alan, Sebastian Schneeweiss, Kenneth J. Rothman, Robert J. Glynn, Jerry Avorn, and Til Stürmer. 2006. "Variable Selection for Propensity Score Models." *American Journal of Epidemiology* 163 (12): 1149–56.

Burgard, Sarah A., Kristin S. Seefeldt, and Sarah Zelner. 2012. "Housing Instability and Health: Findings from the Michigan Recession and Recovery Study." *Social Science & Medicine* 75 (12): 2215–24.

Busso, Matias, John DiNardo, and Justin McCrary. 2014. "New Evidence on the Finite Sample Properties of Propensity Score Reweighting and Matching Estimators." *Review of Economics and Statistics* 96 (5): 885–97.

Clark, William A.V., Marinus C. Deurloo, and Frans M. Dieleman. 2003. "Housing Careers in the United States, 1968-93: Modelling the Sequencing of Housing States." *Urban Studies* 40 (1): 143–60.

Coley, Rebekah L., Tama Leventhal, Alicia D. Lynch, and Melissa A. Kull. 2013. "Relations between Housing Characteristics and the Well-being of Low-income Children and Adolescents." *Developmental Psychology* 49 (9): 1775–89.

Collinson, Robert, Ingrid Gould Ellen, and Jens Ludwig. 2016. “Low Income Housing Policy.” 59–73 in *Economics of Means-Tested Transfer Programs in the United States*, vol. 2, edited by Robert A. Moffitt. Chicago: University of Chicago Press.

Collinson, Robert. 2011. “Rental Housing Affordability Dynamics, 1990–2009.” *Cityscape: A Journal of Policy Development and Research* 13 (2): 71–103.

Culhane, Dennis P. 1992. "The Quandaries of Shelter Reform: An Appraisal of Efforts to ‘Manage’ Homelessness." *Social Service Review* 66 (3): 428–40.

Desmond, Matthew. 2012*a*. “Disposable Ties and the Urban Poor.” *American Journal of Sociology* 117 (5): 1295–1335.

———. 2012*b*. “Eviction and the Reproduction of Urban Poverty.” *American Journal of Sociology* 118 (1): 88–133.

———. 2016. *Evicted: Poverty and Profit in the American City*. New York: Crown.

Desmond, Matthew, and Carl Gershenson. 2016. "Housing and Employment Insecurity among the Working Poor." *Social Problems* 63: 46–67.

DuGoff, Eva H., Megan Schuler, and Elizabeth A. Stuart. 2014. “Generalizing Observational Study Results: Applying Propensity Score Methods to Complex Surveys.” *Health Services Research* 49 (1): 284–303.

Dwyer, Rachel E., and Lora A. Phillips Lassus. 2015. “The Great Risk Shift and Precarity in the US Housing Market.” *The ANNALS of the American Academy of Political and Social Science* 660 (1): 199–216.

Eastwood, Elizabeth A., and Jeffrey M. Birnbaum. 2007. “Physical and Sexual Abuse and Unstable Housing Among Adolescents with HIV.” *AIDS and Behavior* 11 (2): 116–27.

Edin, Kathryn J., and H. Luke Shaefer. 2015. *$2.00 a Day: Living on Almost Nothing in America*. Boston: Houghton Mifflin Harcourt.

Ellen, Ingrid Gould, and Brendan O'Flaherty. 2007. "Social Programs and Household Size: Evidence from New York City." *Population Research and Policy Review* 26 (4): 387–409.

Fischer, Will. 2015. "Research Shows Housing Vouchers Reduce Hardship and Provide Platform for Long-Term Gains Among Children." Report, Center on Budget and Policy Priority, Washington, DC. http://www.cbpp.org/research/housing/research-shows-housing-vouchers-reduce-hardship-and-provide-platform-for-long-term.

Fisher, Benjamin W., Lindsay S. Mayberry, Marybeth Shinn, and Jill Khadduri. 2014. "Leaving Homelessness Behind: Housing Decisions among Families Exiting Shelter." *Housing Policy Debate* 24 (2): 364–86.

Geller, Amanda, and Marah A. Curtis. 2011. "A Sort of Homecoming: Incarceration and the Housing Security of Urban Men." *Social Science Research* 40 (4): 1196–1213.

Geller, Amanda, and Allyson Walker Franklin. 2014. "Paternal Incarceration and the Housing Security of Urban Mothers." *Journal of Marriage and Family* 76 (2): 411–27.

Greenbaum, Susan, Wendy Hathaway, Cheryl Rodriguez, Ashley Spalding, and Beverly Ward. 2008. "Deconcentration and Social Capital: Contradictions of a Poverty Alleviation Policy." *Journal of Poverty* 12 (2): 201–28.

Gubits, Daniel, Marybeth Shinn, Stephen Bell, Michelle Wood, Samuel Dastrup, Claudia D. Solari, Scott R. Brown, Steven Brown, Lauren Dunton, Winston Lin, Debi McInnis, Jason Rodriguez, Galen Savidge, and Brooke E. Spellman. 2015. "Family Options Study: Short-Term Impacts of Housing and Services Interventions for Homeless Families."

Report, US Department of Housing and Urban Development, Office of Policy Development and Research, Washington, DC.

Hannagan, Anthony, and Jonathan Morduch. 2015. "Income Gains and Month-to-Month Income Volatility: Household evidence from the US Financial Diaries." New York University Wagner Research Paper No. 2659883, New York University, NY.

Harknett, Kristen S., and Caroline Sten Hartnett. 2011. “Who Lacks Support and Why? An Examination of Mothers' Personal Safety Nets.” *Journal of Marriage and Family* 73 (4): 861–75.

HUD (US Department of Housing and Urban Development). 2001. “Housing Choice Voucher Program Guidebook.” http://portal.hud.gov/hudportal/HUD?src=/program_offices/public in dian_housing/programs/hcv/forms/guidebook.

———. 2015*a*. “Rental Vacancy Rates for the 75 Largest Metropolitan Statistical Areas: 2005 to 2014.” http://www.census.gov/housing/hvs/data/rates.html.

_____. 2015*b*. “Picture of Subsidized Households 2010.” Online data-base. https://www.huduser.gov/portal/datasets/picture/yearlydata.html.

JCHSH (Joint Center for Housing Studies of Harvard University). 2011. “Rental Market Stresses: Impacts of the Great Recession on Affordable and Multifamily Lending.” http://www.jchs.harvard.edu/research/publications/rental-market-stresses-impacts-great-recession-affordability-and-multifamily.

Keene, Danya E., and Arline T. Geronimus. 2011. “"Weathering" HOPE VI: The Importance of Evaluating the Population Health Impact of Public Housing Demolition and Displacement.” *Journal of Urban Health* 88 (3): 417–35.

Kleit, Rachel Garshick, Seungbeom Kang, and Corianne Payton Scally. 2016. “Why Do Housing Mobility Programs Fail in Moving Households to Better Neighborhoods?” *Housing Policy Debate* 26 (1): 188-209.

Kucheva, Yana Andreeva. 2012. “The Dynamics of Participation in Subsidized Housing Programs in the US.” PhD diss., University of California, Los Angeles, Department of Sociology, Los Angeles.

Kushel, Margot B., Eric Vittinghoff, and Jennifer S. Haas. 2001. “Factors Associated with the Health Care Utilization of Homeless Persons.” *JAMA* 285 (2): 200–6.

Li, Fan, Kari Lock Morgan, and Alan M. Zaslavsky. 2014. “Balancing Covariates Via Propensity Score Weighting.” Available at arXiv:1404.1785.

May, Jon. 2000. “Housing Histories and Homeless Careers: A Biographical Approach.” *Housing Studies* 15 (4): 613–38.

Metraux, Stephen, and Dennis P. Culhane. 1999. “Family Dynamics, Housing, and Recurring Homelessness among Women in New York City Homeless Shelters.” *Journal of Family Issues* 20 (3): 371–96.

Morgan, Stephen L., and Christopher Winship. 2014. *Counterfactuals and Causal Inference.* New York: Cambridge University Press.

O’Flaherty, Brendan. 2009. “What Shocks Precipitate Homelessness?” Discussion Paper No. 0809–14, Department of Economics, Columbia University, New York, NY.

Pavao, Joanne, Jennifer Alvarez, Nikki Baumrind, Marta Induni, and Rachel Kimerling. 2007. “Intimate Partner Violence and Housing Instability." *American Journal of Preventive Medicine* 32 (2): 143–46.

Park, Jung Min, Angela Fertig, and Stephen Metraux. 2014. “Factors Contributing to the Receipt of Housing Assistance by Low-Income Families with Children in Twenty American Cities.” *Social Service Review* 88 (1): 166–93.

Parsell, Cameron, Wojtek Tomaszewski, and Rhonda Phillips. 2014. “Exiting Unsheltered Homelessness and Sustaining Housing: A Human Agency Perspective.” *Social Service Review* 88 (2): 295–321.

Pattillo, Mary. 2013. “Housing: Commodity versus Right.” *Annual Review of Sociology* 39:509–31.

Phinney, Robin, Sheldon Danziger, Harold A. Pollack, and Kristin Seefeldt. 2007. “Housing Instability among Current and Former Welfare Recipients.” *American Journal of Public Health* 97 (5): 832–37.

Phinney, Robin. 2013. “Exploring Residential Mobility among Low-Income Families.” *Social Service Review* 87 (4): 780–815.

Pilkauskas, Natasha V., Irwin Garfinkel, and Sara S. McLanahan. 2014. “The Prevalence and Economic Value of Doubling Up.” *Demography* 51 (5): 1667–76.

Rebholz, Casey, Mari-Lynn Drainoni, and Howard Cabral. 2009. “Substance Use and Social Stability among At-Risk HIV-infected Persons.” *Journal of Drug Issues* 39 (4): 851–70.

Reed, Elizabeth, Jhumka Gupta, Monica Biradavolu, Vasavi Devireddy, and Kim M. Blankenship. 2011. “The Role of Housing in Determining HIV Risk among Female Sex Workers in Andhra Pradesh, India: Considering Women’s Life Contexts.” *Social Science & Medicine* 72 (5): 710–16.

Rice, Douglas. 2015. “Housing Agencies Restoring Vouchers: Let’s Finish the Job in 2016.” Policy Brief. Center on Budget and Policy Priority, Washington, DC.

http://www.cbpp.org/blog/housing-agencies-restoring-vouchers-lets-finish-the-job-in-2016.

Rollins, Chiquita, Nancy E. Glass, Nancy A. Perrin, Kris A. Billhardt, Amber Clough, Jamie Barnes, Ginger C. Hanson, and Tina L. Bloom. 2012. “Housing Instability Is as Strong a Predictor of Poor Health Outcomes as Level of Danger in an Abusive Relationship Findings from the SHARE Study.” *Journal of Interpersonal Violence* 27 (4): 623–43.

Ross, Lauren M., and Danilo Pelletiere. 2014. "Chile's New Rental Housing Subsidy and Its Relevance to US Housing Choice Voucher Program Reform." *Cityscape* 16 (2): 179–92.

Sard, Barbara, and Thyria Alvarez-Sánchez. 2011. “Large Majority of Housing Voucher Recipients Work, are Elderly, or Have Disabilities.” Policy Brief, Center on Budget and Policy Priority, Washington, DC. http://www.cbpp.org/research/large-majority-of-housing-voucher-recipients-work-are-elderly-or-have-disabilities.

Seefeldt, Kristin S. 2015. “Constant Consumption Smoothing, Limited Investments, and Few Repayments: The Role of Debt in the Financial Lives of Economically Vulnerable Families.” *Social Service Review* 89 (2): 263–300.

Seefeldt, Kristin S. Forthcoming. “Waiting it Out: Time, Action, and the Process of Securing Benefits.” *Qualitative Social Work*. Available online in advance of publication.

Shinn, Marybeth, Beth C. Weitzman, Daniela Stojanovic, James R. Knickman, Lucila Jimenez, Lisa Duchon, Susan James, and David H. Krantz. 1998. "Predictors of Homelessness among Families in New York City: From Shelter Request to Housing Stability." *American Journal of Public Health* 88 (11): 1651–57.

Shroder, Mark. 2002. “Does Housing Assistance Perversely Affect Self-Sufficiency? A Review Essay.” Journal of Housing Economics 11 (4): 381–417.

Skobba, Kim. 2016. “Exploring the Housing Pathways of Low-Income Women: A Biographical Approach.” *Housing, Theory, and Society* 33 (1): 41–58.

Sosin, Michael, Irving Piliavin, and Herb Westerfelt. 1990. "Toward a longitudinal analysis of homelessness." *Journal of Social Issues* 46 (4): 157-174.

Wildeman, Christopher. 2014. “Parental Incarceration, Child Homelessness, and the Invisible Consequences of Mass Imprisonment.” *The ANNALS of the American Academy of Political and Social Science* 651 (1): 74–96.

Williams, Richard. 2012. “Using the Margins Command to Estimate and Interpret Adjusted Predictions and Marginal Effects.” *Stata Journal* 12 (2): 308–31.

Wong, Yin-Ling Irene, Dennis P. Culhane, and Randall Kuhn. 1997. "Predictors of Exit and Reentry among Family Shelter Users in New York City." *Social Service Review* 71 (3): 441–62.

Wood, Robert G., and Anu Rangarajan. 2004. “The Benefits of Housing Subsidies for TANF Recipients: Evidence from New Jersey.” Report, Mathematica Policy Research, Princeton, NJ.

Wood, Michelle, Jennifer Turnham, and Gregory Mills. 2008. “Housing Affordability and Family Well-being: Results from the Housing Voucher Evaluation.” *Housing Policy Debate* 19 (2): 367–412.

Zlotnick, Cheryl, Marjorie J. Robertson, and Maureen Lahiff. 1999. “Getting Off the Streets: Economic Resources and Residential Exits from Homelessness.” *Journal of Community Psychology* 27 (2): 209–24.

Ziersch, Anna, and Kathy Arthurson. 2005. “Social Networks in Public and Community Housing: The Impact on Employment Outcomes.” *Urban Policy and Research* 23 (4): 429–45.

CHAPTER III

Failing the Least Advantaged: Waitlist Preference and Rationing Algorithms

Introduction

Federal housing spending as a whole—including the mortgage interest deduction used by many taxpayers—intensifies economic inequality by concentrating benefits for those at the higher end of income distribution, as researchers have shown (Fischer and Sard 2017; Desmond 2017; McGinty, Chartoff, and Blumenthal 2015; Dreier 2006). But decision-making about the allocation of limited federal resources for low-income housing programs and how it may affect inequality among those who are income eligible has received less attention (except Park, Fertig and Metraux 2014; Freeman 2002). Only one in four households eligible for participation in low-income housing programs receives assistance (Joint Center for Housing Studies [JCHS] 2017). This raises the questions of what front line decisions distinguish the lucky 25% and how this rationing affects stratification among the poor.

Public housing agencies (PHAs) have significant discretionary power in administering low-income housing programs and they can establish a locally-tailored waitlist preference system. Multiple, hierarchical actors can exert pressure on such agencies that may be evident in the operation of waitlist preference systems. While waitlists have little impact if the waitlist is relatively short, many communities have extended waiting periods for federal housing assistance (JCHS 2017), and thus they serve as an important mechanism of resource allocation of limited federal housing resources. Local housing agencies regularly purge applicants from the waitlist if

they are unreachable when attempts are made to check their continued interest in and verify their eligibility status for program participation (US Department of Housing and Urban Development [HUD] 2001). Those who cannot be reached may be removed from the waitlist, even if their inaccessibility is due to housing instability they may be experiencing. While rationing of scarce housing assistance resources may be necessary, if it is random and not tied to this contact procedure, it would not punish the most vulnerable individuals on the waitlist. However, the more systematic rationing based on each of contact could reproduce and reinforce stratification amongst the poor by shifting assistance resources away from those who may need them most.

This study presents a comprehensive conceptual framework that incorporates both local discretion in program implementation and an algorithm of rationing to advance our understanding of the distributional outcomes of federal low-income housing programs. By analyzing the administrative plans that local housing agencies in Michigan use to administer the HCV program, I create three types of waitlist preference systems, with a particular focus on how waitlist preference systems facilitate the rationing process. This study documents two dominant forms of waitlist preference systems that promote the selective attrition of applicants experiencing residential instability. Qualitative interviews of PHA directors in the Detroit metropolitan area revealed multiple pathways leading to those dominant forms of waitlist preference systems. Analysis of data from the American Community Survey suggests that PHAs may be disadvantaging applicants in deep poverty (defined as less than 50% of the federal poverty line, FPL) compared to income-eligible applicants with higher income, by increasing the likelihood that they will purge the most vulnerable and housing insecure from the waitlist.

Literature Review

Toward a Comprehensive Model of Federal Welfare Resource Allocation

Previous studies have revealed how politics and economic incentives embedded in the social service program could shape behaviors of implementing agencies to reinforce economic inequality among the poor. Devolution of authority in program implementation, or the delegating of discretionary power to lower governmental units, makes implementing agencies a critical actor in shaping the distributional outcomes of federally provided public assistance. A line of research has suggested that the devolution of authority in federal welfare programs invokes political competition among lower governmental units in a way that reduces welfare benefits. For example, states compete with each other to limit benefits in order to prevent welfare migration to their state (Allard and Danziger 2000; Levine and Zimmerman 1999).

Another line of research focusing on what is known as "street-level bureaucracy" has characterized on the discretionary power that implementing agencies have in program implementation, with implications for benefit access and receipt (Brodkin 2010). They have documented how economic incentives embedded in the program actually constrain increased discretionary power of implementing agencies, often resulting in the shift of benefit distribution away from the least advantaged clients (Spitzmueller 2016; Gray, Dean, Agllias, Howard, and Schubert 2015; Lindhorst and Padgett 2005). For example, when the administrative burden of exempting recipients from certain program requirements is high, workers are less likely to use exemption rules (Lindhorst and Padgett 2005). Also, the rule of financial reimbursement for service provision, such as the fee-for-service model, which pays service providers for each service performed, leads non-profit organizations administering programs for the state to prefer

clients with less severe problems, because they are more easily and quickly resolved (Spitzmueller 2016).

A series of technical reports contracted by Department of Housing and Urban Development have also illuminated one important area under PHA's discretion that could influence who receives limited housing assistance: how to organize their waitlists and on the basis of which priorities (McCarthy and Brick 2012; NLIHC 2004; Devine et al. 2000). Meeting the preference criteria can significantly reduce waiting time and thus, makes it more likely to receive housing assistance for those with priority placement on the waitlist. However, these studies have thus far provided crude estimates of the prevalence of waitlist preference *items* used by PHAs, rather than characterizing a more comprehensive waitlist preference *system*, which makes it hard to predict the final distributional outcome.[1] Previous studies also provide a limited understanding of how multiple actors with varying incentives characterizes the process of establishing waitlist preferences. I will use a theoretical framework used in the broader studies discussed before on the political and economic contexts of program administration by front line agencies for this study. Building on this, I further uncover a rationing process to develop a comprehensive conceptual framework of federal housing resource allocation (see FIGURE. Lipsky's work on the implications of what street-level bureaucrats do in shaping benefit access and distribution also highlighted that potential program participants are rationed before they receive benefits. He suggests that a rationing system can reproduce social inequalities by promoting a higher level of attrition from the waitlist among the least advantaged (Lipsky [1980] 2010). In the context of the extended period of waiting time for housing assistance, it is

1. PHAs can establish multiple waitlist preferences and assign different weights for each preference. Examining how differently weighted, multiple waitlist preferences within a PHA compete with each other—as I do in this analysis—makes it possible to better understand who benefits from the current waitlist preference systems.

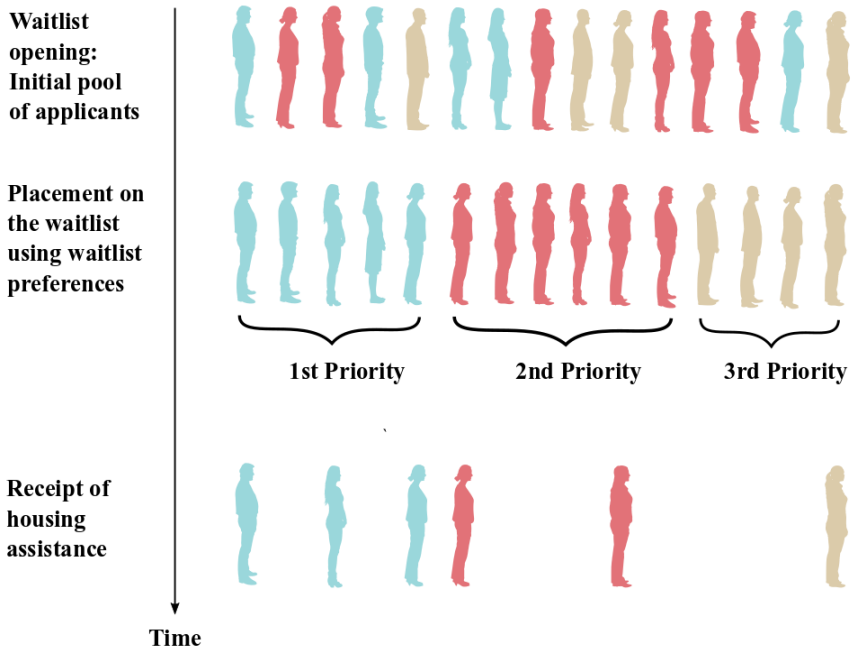

FIGURE 3-1. Illustration of the Process of Housing Resource Allocation

important to understand how rationing algorithms in low-income housing programs could shape the chance of receiving housing assistance among income-eligible households for program participation.

Political and Economic Contexts of the Local Administration of the HCV Program

Various laws have given and taken away discretionary power in implementing federal low-income housing programs at the local level. U.S. Public Law 96-153 (1979) and U.S. Public Law 98-181 (1983) both constrained the local discretion of PHAs by establishing a federal preference system that prioritized applicants living in substandard housing, involuntarily displaced families, and those who were severely cost-burdened. After passage of these laws, local PHAs could make housing assistance available to "families *without* a Federal preference *before* Federal preference-holders," but only "for up to 10 percent of the families initially

receiving assistance in any one-year period" (Fed. Reg. 53, no. 10 [January 1988]: 1125). Ten years later the Quality Housing and Work Responsibility Act (QHWRA) dramatically increased local discretion in tenant selection within the income targeting requirement, which requires local PHAs to allocate 75 percent of their newly issued vouchers to applicants whose household income is below 30 percent of Area Median Income. Local PHAs had the option to develop local waitlist preferences, or they could use the preexisting federal preference system. Research just after the initiation of the QHWRA (Devine et al. 2000; NLIHC 2004) and a decade later (McCarthy and Brick 2012) showed that fewer than half of local PHAs in the United States were using any of the three federal preference criteria, and fewer than a fifth were prioritizing those living in substandard housing (including those who were homeless). PHAs seemed to be less willing to use the federally defined preferences over time (Devine 2000; McCarthy and Brick 2012).

The Administrative Geography and Local Politics of Program Implementation

Federal regulation does not geographically constrain applicants to their local PHAs when they apply for the HCV program, and does not limit the number of times they can apply. Thus, most people are likely to apply for the HCV program multiple times through multiple local PHAs to increase their chance of getting on the waitlist. This means that the pool of applicants and those on the waitlist are not necessarily residents of a given PHA's local municipality. Elected officials with political incentives to serve local voters might want to use that resource exclusively for their local residents (Howell-Moroney 2008; Feiock 2009; Hendrick and Shi 2015; Allard 2017) since the HCV program could be a valuable resource for local municipalities to address local affordable housing needs. Local municipalities can seek to make sure that housing vouchers go to local residents either by directly instructing PHAs to prefer local

residents or by appointing an executive director and board members to the local PHA who make this a priority. Federal regulation gives local municipalities the status of planners in identifying housing and community development priorities and requires local PHAs to consult with them, which enables them to pressure local PHAs to support municipal aims. Thus, local PHAs have a high probability of developing a locally exclusive preference system which prioritizes those who reside in the jurisdiction of local municipalities.

Financial Constraints in HCV Program Administration

Federal regulations of HCV administration emphasize public participation as a way to assess and satisfy local housing needs by requiring a public hearing on the PHA plan and opportunities for public comment on the plan (24 CFR 4.903 [2016]). Social justice advocates described this provision in optimistic terms when it was adopted (Bryson and Lindsey 1999; Martin and Stern 2004), but local non-profits typically have limited advocacy capacity to participate in the local decision making process (Hasenfeld and Garrow 2012; Mosley 2012). Although some national non-profits have worked with the US Department of Housing and Urban Development (HUD) to develop a resolution that encourages local PHAs to better accommodate economically marginalized applicants, these initiatives might also have little impact on HCV administration at the local level, and may not influence waitlist preference systems. The first reason is that PHAs do not have enough resources to implement the remedies HUD prescribes. PHAs are currently receiving only 69 percent of administrative fees for which they are eligible (Council of Large Public Housing Authorities 2013), and this severe underfunding for program implementation could limit PHA capacity to redesign the implementation of low-income housing programs according to HUD's recommendations. The other reason has to do with the funding formula. HUD contracts the HCV program annually and thus allocates resources on an ongoing

basis. However, rather than tying funding to a PHA's level of cooperation with HUD's recommendations, the program ties it to the number of vouchers a program issued in the preceding year. PHAs can serve a greater number of people if they fund the moderately poor than if they fund the extremely poor, because the amount of support is based on income, making the extremely poor more expensive per person to fund. Funding more moderately poor applicants (at a lower amount per beneficiary) will in turn increase the funding amount the PHA is awarded in the next cycle (CLPHA 2013; Rice 2013). Thus renewal of previously allocated housing vouchers dominates voucher allocation every year (McCarty 2012). This disconnect between the funding, and the federal initiative and the financial disincentive embedded in the current funding formula prevents HUD initiatives aimed at decreasing stratification among the poor from having an impact in HCV administration.

Data and Methods

Administrative Data

State law enables state and local governments to establish housing authorities to address low-income housing needs, including running federal housing programs, if they desire to do so. The state of Michigan permits cities, villages, townships, and counties to operate PHAs that oversee an HCV program, and thus has 63 local PHAs operating such programs (HUD 2017).[2] Along with 26 other states, Michigan has a state law that enables the establishment of a state agency to administer federal housing programs throughout an entire geographic region within the

2. Not all the legally-eligible local governments choose to have a housing authority. The establishment of PHAs might have been locally-contingent and subject to local politics surrounding affordable housing. When we consider that the early purpose of the PHA was to build and manage public housing stock, PHA establishment within local municipalities might have been even more controversial (Sugrue 2014). Since the HCV program was introduced in the 1970s, pre-existing PHAs have been able to add HCV administration to their activities and localities could create new PHAs for that purpose.

state (Sard and Thrope 2016). In Michigan, local PHAs administer 52.1% of the 58,925 housing vouchers and the state agency administers the remainder (HUD 2017). Most (94.2%) locally administered vouchers are distributed in MSAs. Currently, Michigan's PHAs each administer between 20 and 6,067 vouchers; the median PHA administers 134.

In order to assemble a state-wide picture of waitlist preference systems in Michigan, I collected HCV administrative plans for 59 local PHAs between March and September 2016. Some were available on the internet; the others I requested via email or in an in-person interview.[3] The remaining four PHAs either refused to provide the document or did not respond to the request. Thus, my collection rate was 92%. For this study I examined each plan's chapter on tenant selection, examining the waitlist preferences PHAs have adopted, whether there are multiple preferences, whether and how they assign relative preference among those preferences, and any further sorting criteria for applicants within the same preferred group.

Based on the prevalence of each type of waitlist preference, I developed types of waitlist preference systems that reflect the presence or non-presence of waitlist preferences and any weighting scheme used when a local housing agency has multiple preferences. I deductively created three types of waitlist preference systems and then analyzed each local housing agency's plan in order to classify it within the typology. I first considered whether local housing agencies have developed any preferences to manage their waitlist and created a category of *non-preference system* for those not using any preferences in tenant selection. I then considered whether local housing agencies have a locally exclusive preference which prioritizes those who reside in their local jurisdiction. Since this preference can only benefit those who stay in the

3. HUD reporting rules changed to reduce the administrative burden of local housing agencies in 2003 and no centralized data deposit is available that might list waitlist preferences for any year since (McCarty and Brick 2012).

same local jurisdiction during the extended period it takes to reach the top of the waitlist, this could doubly disadvantage residentially mobile applicants who happen to move across the boundaries of local jurisdiction. They could be at greater risk of dropping off the waitlist due to the regular purging of those who cannot be contacted by the PHA, but also because of a change in their preferred status since they are now living outside the target area. I call this type a *locally exclusive preference system*, meaning a waitlist preference system that puts geographic considerations first. The last waitlist preference system is some *other preference system*. This means a very low-weighted locally exclusive preference or one that does not expose applicants to the risk of losing preference eligibility when they move, but with at least one preference criterion that could either increase or decrease the chance of regular and systematic purging based on availability to contact. The analysis of the administrative plans concludes with an examination of geographical difference in the preference of each type of waitlist preference systems.

PHA Interviews

To examine mechanisms of establishing and maintaining waitlist preference systems, I conducted convenience sampling for a multiple-case study after stratifying the PHAs in the Detroit MSA (N = 21) into three types of waitlist preference systems that I developed from administrative data. The Detroit MSA PHAs provided examples of all three types, such that I could interview at least one individual working for a PHA that uses each type. From among 12 PHAs with a locally exclusive preference system, I interviewed four PHA directors and two HCV program managers. From among five PHAs with the other preference systems, I interviewed three PHA directors. Among three PHAs with a non-preference system, I interviewed one PHA director. Interviews were semi-structured and took approximately one hour; I conducted them between January and September 2017. I conducted 11 interviews in the

meeting rooms at the local housing agencies and one on the phone. I used open-ended questions that I developed to examine the local discretion of federal low-income housing programs and relationship with key stakeholders, including local municipalities, non-profits, federal agency, and other PHAs (see Appendix 3-1).

Results from the administrative data confirm that the locally exclusive preference system is the most dominant form, which 60% of local PHAs in Detroit MSA adopted. I first examine four PHAs with the theoretically-conforming outcome, a locally exclusive preference system, to determine whether the theoretically-predicted mechanism can be observed in each case and examine whether there is an alternative way leading to the same outcome. Then I compare PHAs across those with different outcomes. Developing the codes for analysis was iterative process, starting with theoretically informed, preliminary codes and refining these codes to reflect heterogeneity in reality (Miles, Huberman and Saldaña 2014). I used ATLAS.ti for coding and analysis.

Results

Prevalence of Each Type of Waitlist Preferences Among PHAs

Figure 3-2 shows that 76% of local PHAs in Michigan (45 of 59) report at least one form of waitlist preference; those without any preference system order applicants on the waitlist by either randomly assigning numbers to applicants or using date and time of complete application.

The largest number, 44% of local PHAs (n = 26), have a "residency" preference that prioritizes those living or working in the local municipality. A residency preference is

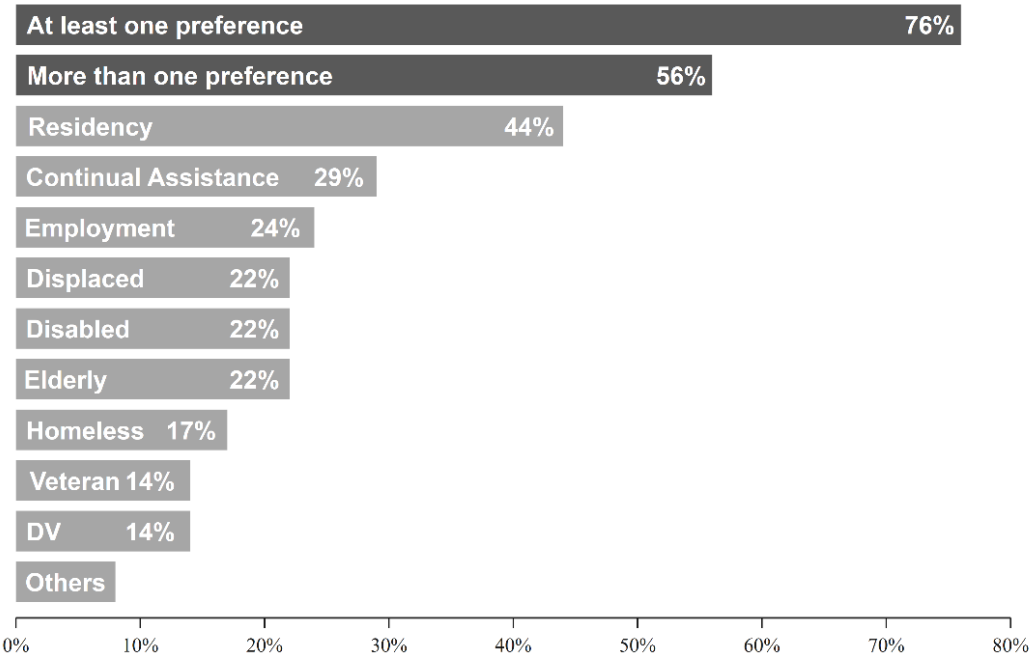

FIGURE 3-2. Prevalence of Waitlist Preference Items among PHAs in Michigan (N=59)

Data: Author's own calculation with HCV administrative plans of local PHAs

Notes: Local PHA can have multiple preferences, so it does not add up to 100 percent. DV = Domestic violence survivors

susceptible to HUD inspection to see whether a geographically based preference would unfairly benefit some groups whose residential location correlated strongly with their demographic characteristics. Thus, federal regulation of the HCV program restricts local PHAs from setting a geographical unit smaller than the city or county (HUD 2001).

Some waitlist preferences facilitate reentry into housing assistance for individuals who were previously terminated from assistance due to insufficient funding, for example. As Figure 3-2 reflects, 29% of local PHAs have a preference for those terminated from the program due to insufficient funding (n = 17). Almost a quarter, 24%, of local PHAs have an "employment" preference for applicants with paying jobs (n = 14). These preferences vary in terms of minimum working hours per week (from 10 hours to 30 hours per week), length of employment

(30 days to 6 months), or minimum annual income. Federal regulation requires PHAs with an employment preference to also have preferences for those who cannot work due to disability or age. About 22% of local PHAs have a preference for those displaced due to a federally declared disaster, government action, or public housing demolition (n = 13). Most limit this preference eligibility to residents of local municipalities or those they are serving with other types of housing assistance. Some need-based waitlist preferences target specific demographic groups, including the homeless, domestic violence survivors, households with high rent burdens, and households with children who face relationship disruption for lack of housing support. Only 17% of local PHAs have a preference for homeless applicants (n = 10). Fourteen percent of local PHAs have a preference for domestic violence survivors who lack resources to obtain permanent housing. Two local PHAs have a preference for those paying more than 50% of their income in rent, and two local PHAs have a preference for families with children whose lack of housing poses a relationship disruption to them. The veteran preference that 14% of local PHAs use applies only to those who are honorably discharged from the military (n = 8). Another 5% of local PHAs have a preference for families with dependents (n = 3).

Developing A Type of Waitlist Preference Systems

Almost a quarter, or 24%, of the PHA plans (n = 14) have a non-preference system. Assignment on the waitlist is completely random for these agencies. To sort out the preference systems of the remaining 45 PHAs, I considered first whether they have a residency preference, and then if they have multiple preferences, I considered how they weight them compared to others. Among the 42% (n = 25) with a locally exclusive preference system, nine had a residency preference only and the other 16 heavily weighted a residency preference over other preferences (n = 16).

When local housing agencies with a residency preference have multiple preferences, each local housing agency differs in how they assign points for those eligible for a residency preference compared to other preferences (equally weighted versus differently weighted) and whether they allow applicants to accumulate points from multiple preferences (cumulative versus non-cumulative). I have classified them as a locally exclusive if they place all the local residents ahead of those outside of their local jurisdiction or if they prioritize local residents over nonresidents among those otherwise similarly preferred. Among six local PHAs with a differently weighted, non-cumulative system, five give top priority to applicants who are eligible for a residency preference. I classified all these housing agencies as locally exclusive. The remaining PHA gives a residency preference the least weight, and therefore I classified it as other preference system. The next highest impact of a residency preference occurs when it has stratifying effects within groups. If a residency preference is used in the cumulative preference system, it has a stratifying effect among those who are in the same preference group regardless of the relative points of a residency preference. All the local housing agencies with a cumulative system (n = 6) give differently weighted points for each preference, and five out of six heavily weight a residency preference; the remainder gives residency preference lesser weight than any other preference. Although a residency preference with the lowest point benefits local residents to a lesser extent than those that heavily weight a residency preference, since the point system is cumulative, a residency preference further stratifies those who are in the equally preferred group. Thus, I classified all local housing agencies with a cumulative preference system into a locally exclusive preference system. Five agencies that use residency preference give it the smallest level of impact, giving it a stratifying effect only for those who are not eligible for other

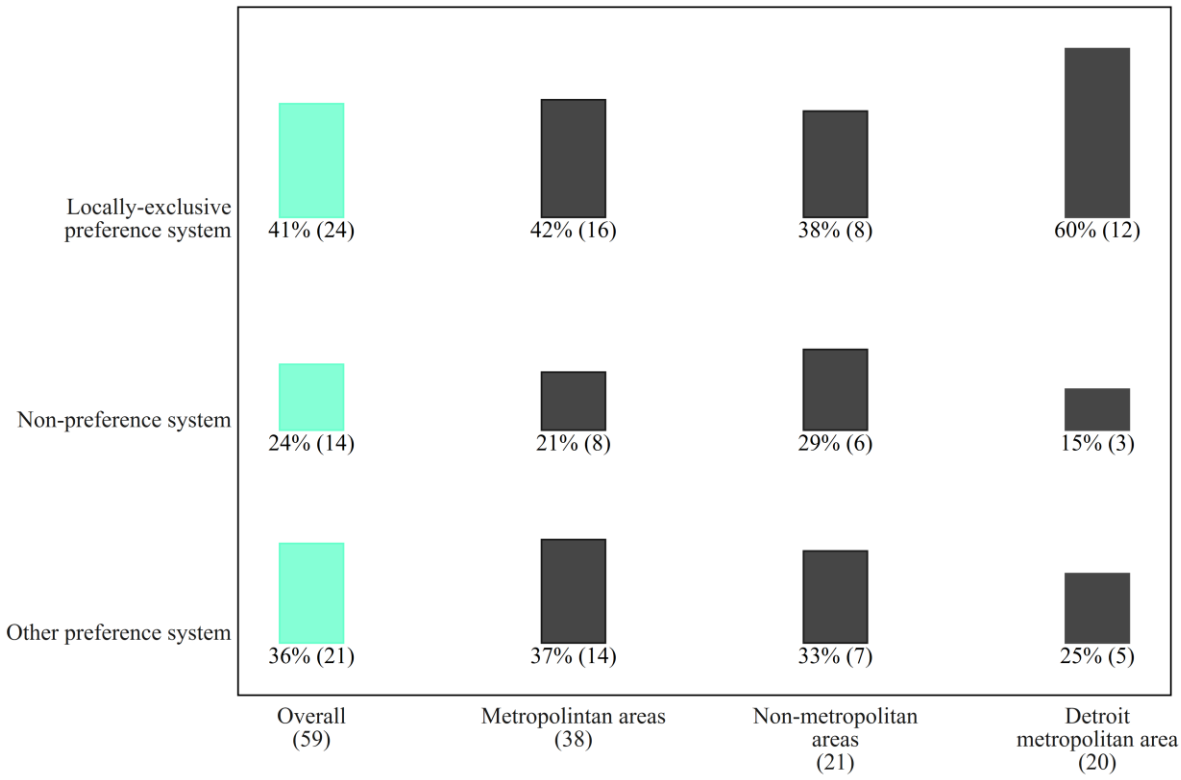

FIGURE 3-3. Prevalence of Each Typology of Waitlist Preference System, Overall and Stratified by Geographical Locations

Data: Author's own calculation with HCV administrative plans of local PHAs (N = 59)

Notes: The percentage adds up to 100 percent for each column. Number in parenthesis indicates the raw count of PHAs.

preferences. This is accomplished through the use of an equally weighted, non-cumulative preference system (n = 5).

Figure 3-3 presents the prevalence of each typology of waitlist preference systems, both overall and stratified by geographical areas. PHAs in metro areas are less likely to have a non-preference system than those in nonmetropolitan areas by eight percentage points. The locally exclusive preference system is the most prevalent form of waitlist preference system for both metro and nonmetropolitan areas, but PHAs in metro areas are more likely to have this system by 4 percentage points. Local housing agencies in metro areas are also more likely to have a

general preference system, than those in nonmetropolitan areas, by 4 percentage points. When I narrow down to the Detroit MSA PHAs, I find that 60% have a locally exclusive preference system.

Mechanisms of Establishing and Maintaining Waitlist Preference Systems

Theoretical predictions suggest that a PHA's relationship with a city government will lead to a locally exclusive preference system. Qualitative interviews reveal that the structural arrangements connecting local municipalities with local PHAs are much more complicated than the ones specified in the state law, city ordinance, and federal regulation, and they differ across PHAs. Four of the local PHAs in the sample are completely independent from a local municipality. Of the other two, one is a department of the city government. The other is quasi-dependent in the sense that the city government made the PHA director the head of the community and housing department of the city. Among four PHAs with a locally-exclusive preference system, one is part of the city government, one was part of the city government until one year before the interview, one is quasi-dependent on the city government, and one is completely independent from the city government. Those I classified as having some other preference system or non-preference system are completely independent from a city government.

Comparison of PHAs with a locally exclusive preference system reveals multiple pathways leading to the same preference system. Three out of four PHAs established the residency preference before the respondents I spoke to had entered their jobs, and thus the interviews did not reveal anything about the decision-making process. The other PHA had changed its preference system one year before the respondent joined the PHA. Data suggests that members of the city government directly expressed their opinions in favor of a locally exclusive preference system and that this led to its establishment. Interviews with leaders of the

other three PHAs illustrate how a locally-exclusive preference system sustains itself over time once it is established. These leaders suggest that PHAs' active embrace of implicit city intentions, a PHA's local identity, and passive acceptance of the legitimacy of a residency preference in the context of underfunding for the program administration all played critical roles in maintaining a residency preference.

A PHA executive director said that the residency preference had been added one year before he joined the PHA because the city government had objected to the PHA providing vouchers to people who were not city residents. As he said:

> When we set the waitlist preference portion that the city, again, we were a part of the city [a suburb outside Detroit] at the time, we were seeing a lot of influx of folks from Detroit moving up here. They were taking our vouchers, so we weren't able to serve our own folks. That was why that one [residency preference] came… so we could help serve the people of our community first. [Instead of] others from outside because people on our own community needed services.

In the other three PHAs with a locally exclusive preference system in my interview sample, the residency preference dated from the inception of the HCV program. I asked them how they understand the residency preference. One PHA director who was holding a dual position in city government as a head of community development answered:

> That would get back to probably the community politics. I'm sure the mayor and the city council know of low income people in the community and housing is a resource. They want to assist persons in their community rather than allowing other residents from Detroit or Ann Arbor [a mid-sized city 40 miles from Detroit] apply and receive dollars that were awarded to the housing

> commission of their particular community. So I think that's part of the rationale that housing commissions have is, this is what the city would like us to do.

When I asked about the history of and rationale for a residency preference, one director of a PHA that is a part of the city government commented:

> Going back with all my years of experience, because all the federal housing programs were established locally, I would say every housing commission had a waitlist preference because that's how you can best serve your residents. If it's the employees, it's your employees serving your residents. That, especially under the voucher program, has diminished somewhat, and some of them let it go, but [the PHA I work for] is very devoted to the residency preference.

This comment suggests that local PHAs that are incorporated into local municipalities and have frequent interaction with city officials rationalize that local housing agencies have a mission of serving their local residents. This local identity is, however, also observed among those completely independent from a city, pointing out that local administration of the federal program itself, regardless of the formal relationship between the PHA and the city, could lead local housing agencies to develop a local identity. This comment from a director of a PHA that does not currently have a preference that prioritizes city residents suggests that it would be susceptible to perceived wishes of the city government even when it is completely independent from that city government:

> At least as long as I am director, I would be very open to the opinions of the elected officials because they are the elected official. What I have seen in the two mayoral terms I've been a part

> of, I've not seen much interest in that [administration of low-income housing programs]. We're just low priority.

In other words, if city officials intervened to try to establish waitlist preference to benefit their local residents, they would succeed. Unlike the theoretical prediction discussed early, which would lead to the assumption that cities prefer to use federal housing vouchers exclusively to benefit their constituents, my interviews of PHA directors and program administrators reveal that some city governments have little interest in PHAs and are therefore unlikely to intervene. Variation in interest level might explain the variation in the waitlist preference system. City government officials' and council members' interest in the local administration of low-income housing programs might also differ from one administration to another. However, the comment of the PHA director who feels his PHA is "low priority" suggests that even without formal arrangement with city government, local PHAs without a locally exclusive preference system could be susceptible to a city government's agenda if that government started to become interested in the issue.

In contrast to those PHAs with a locally exclusive system that actively embrace the city's implicit intention of serving local residents first, an interview with the director of another completely independent PHA suggests another mechanism that may maintain the residency preference, once adopted. She described the relationship with the city government over her four years of employment at the PHA as "hands-off": "they have not micromanaged…they have not influenced our policy at all." Yet this PHA has a locally exclusive preference system. The waitlist preference system has been in place since the inception of the HCV program in 1970. The director said about this history:

> Those preferences were present when I came in 2012, and when I've looked at previous policies, it looks like they date back maybe to the inception of the program over here. They've been in place for a long time. I don't know whether it was staff who felt that was very important, or whether that was the city officials who encouraged our board to adopt that.

She said the system's legitimacy had never been challenged. Changing the preference system would be costly in staff time. HUD has designated this PHA as troubled due to a failing score under the Section 8 Management Assessment Program. Coupled with HUD underfunding for the program administration, this designation means their primary concern is about meeting the HUD requirement rather than going beyond the requirement. Constrained by HUD underfunding for the program administration, the PHA is less willing to take any action to re-evaluate the legitimacy of waitlist preference and go through the process of changing the waitlist preference system, even though doing so might eventually reduce the administrative burden of maintaining the residency preference.

When asked about underfunding for the program administration, PHA directors mentioned that it has a significant impact on the implementation of low-income housing programs. Regardless of which preference system a PHA holds, PHA directors acknowledged that underfunding for the program administration effectively shifts administrative practice, especially what is prioritized. Specifically, they said that following program requirements receives top priority, including annual recertification of voucher recipients, and that they avoid any activities not essential for organizational survival. One PHA director explained that budget constraints force his agency

> …to do more with less, so you spread the workload amongst fewer employees. It makes it more difficult to—every person who's on the program, so for us 800-plus families, we have to re-certify every family annually. I have three full-time caseworkers, and I have a Section 8 [HCV] manager who also still carries a portion of the caseload herself. Ideally, I'd rather her not have any caseload so that she could attend strictly to management functions.

Thus, program underfunding freezes managerial functions, which overlap with program areas under local discretion, including setting up or revisiting whether the waitlist preference system conforms to HUD's goals. Another interviewee described revising a waitlist preference through timely assessment of local affordable housing needs as a low priority in the context of underfunding. One PHA director said: "We've really tried to focus our energies on making sure that we're doing things right, that we're following the regulations in the program administration before we take on anything too creative by adding more preferences." Financial constraints were the source of this limitation, but "doing things right" refers to following regulations, not necessarily serving the most vulnerable. Another PHA director described the stakes of this:

> If we don't manage a program within the federal guidelines and according to the federal regulations, we put our program at risk of being taken back by HUD. We're really very, very diligent to manage our program within those guidelines.

The type of preference systems did not predict this sense that program underfunding forces respondents to make revising the waitlist preference system lower priority. Although having a residency preference, increases the chance of being under surveillance by the federal agency and residency preference itself requires an additional burden of verifying preference

eligibility status, a residency preference overrides program underfunding, meaning underfunding for the program administration did not prevent the establishment or facilitate revisiting the legitimacy of a locally exclusive preference system to reduce administrative burden. Rather, the four PHAs with a locally exclusive preference system embraced it either actively at least passively. Among those without a residency preference, the primary reason for not having one was a lack of interest from the city government, not underfunding for the program administration. However, this was not the case for other preferences and program underfunding provides a rationale for not creating another preference that must be administered.

Local PHAs respond differently to other stakeholders' interest in the preference system because of program underfunding. In order to examine local PHAs' response to other stakeholders' interest in the distributional outcome of federal housing vouchers, I first asked about participation of local non-profits in shaping the administration of low-income housing programs. None of the interview respondents recalled encountering non-profits in the public hearings their agencies regularly hold to inform and solicit comments on the local administration of low-income housing programs. Along with underfunding causing diminished staff resources to create a preference system, this could explain why some PHAs do not have any waitlist preference system. A lack of encounters with local non-profits advocating for their clients for housing assistance prevented me from examining how local PHAs might respond to such advocacy. On the other hand, the federal agency's attempt to establish a waitlist preference for the homeless against the backdrop of the federal initiative to end homelessness provides a unique opportunity to examine what local PHAs take into consideration when they consider establishing a waitlist preference.

When asked how they perceive the federal initiative to end homelessness and how it influenced the way they administer low-income housing programs, particularly the HCV program, all of the PHA directors and HCV program managers I interviewed expressed agreement with the initiative and said that they were seeking to accommodate more homeless applicants through the HCV program. However, their plans show that their waitlist preference systems do not favor the homeless. Among 22 PHAs in the Detroit metropolitan area, only one has a preference for homeless applicants, which allocates a fixed number of vouchers (n = 200) to applicants who are referred from local agencies serving the homeless. When asked about using a waitlist preference to accommodate more homeless applicants, five PHA directors mentioned that establishing, maintaining, and certifying a new waitlist preference requires a lengthy administrative process that they would not like to undertake. One of them explained:

> We were concerned about the administrative burden of adding a new preference to the voucher program, because what that would mean is we would need to contact all of those people, all those 3,000 people on the waitlist, tell them what our new preference is, and ask them if they qualified. It just seemed, at that particular time when we wanted to help the homeless, we just didn't have the administrative capacity to be able to add that preference to our voucher program.

Another PHA described concern over potential fraud and the administrative burden of verification, and the risk of sanction from HUD if they failed to prevent abuse:

> It leaves a lot of room for a family or a person to abuse the system. One could claim homelessness to work their way up the waiting list whether it's true or not. I mean it's left to the housing authority to somehow certify that that person is or is not homeless. That in and of itself is

> a tremendous administrative burden that makes it very difficult to use the waiting list preference as a tool to end homelessness.

Reducing the administrative burden of maintaining a waitlist preference seems to be a necessary condition for its establishment. The Detroit MSA PHA with a homeless preference collaborates with local non-profits that serve the homeless who help them verify eligibility, which reduces the administrative burden and, likely, the chance of fraud. Other preferences that PHAs use, such as local status, advanced age, and disability status all have the advantage of having a set of official documentation attached to it, such as a utility bill bearing the individual's name or proof of social security eligibility.

Conclusion

Using the comprehensive model of federal resource allocation that I developed in the literature review, I have examined how local agencies implementing the Housing Choice Voucher program use their discretion to initially place applications on the waitlist based on their priorities, and how rationing occurs in the extended waiting period. I have examined two important local discretion related to the process of resource allocation: waitlist preferences and rationing algorithms. Local housing agencies have a universal rationing algorithm that regularly purges applicants from the waitlist who fail to respond to the PHA's inquiry about their continued interest in and eligibility for program participation. PHA directors suggest that a substantial number of applicants are removed from the waitlist through this process and identify a residential move as one of the critical reasons for the non-response to the PHA's attempts to contact them. Those who are residentially mobile are more likely to be removed from the waitlist.

Unlike this standardized process of regular purging of applicants from the waitlist if they fail to respond to contact attempts, PHAs show more variation in how they use their discretion in initially placing applicants on the waitlist. Combinations of Locally-varying waitlist preferences across PHAs with a more universal rationing algorithm that is based on contact procedure could result in the different types of resource allocation systems. However, regardless of waitlist preferences that particular PHAs hold, all these PHAs have a rationing algorithm that increases the chance of attrition among applicants who are residentially mobile. Moreover, 44% of local housing agencies in Michigan have a preference that could penalize those who move far enough that they cross the boundary and leave the local municipality where a PHA is located. Thus, two critical components that characterizes resource allocation processes in the HCV program, rationing algorithms and waitlist preferences, disadvantage applicants who are residentially mobile.

Unlike the previous research that examines how frontline agencies implementing social service programs use their discretionary power to benefit their preferred group, the administrative practice of maintaining waitlists and their potential impact on the allocation of housing resources do not result from a PHA's intention to exclusively benefit those who are residentially stable. Rationing based on the contact procedure could actually be neutral when a waitlist is short. In the context of an extended waiting period, however, the seemingly neutral and fair process of rationing based on the contact procedure creates a de facto preference for those who have the capacity of staying in place or those who have resources to keep PHAs updated on their residential address. Residentially stable applicants are also likely to benefit from a residency preference. A residency preference is the byproduct of local implementation of low-income housing programs, which makes them prone to a city's intention to exclusively

benefit its local residents. Long waitlists effectively differentiates those who only reside in the local municipality in the relatively short term from those who stay for a long time, and residentially mobile applicants that move across local jurisdiction are less likely to benefit from this most dominant waitlist preference.

The qualitative interviews that were part of this study focused on PHAs in the Detroit metropolitan area, and thus, it is plausible that the mechanisms of establishing and maintaining each type of waitlist preference systems identified are not applicable to those in nonmetropolitan areas or in other states. Thus, future study needs to examine how the geographical location and political, economic, and historical context of PHAs influence their ways of establishing and maintaining waitlist preference systems, and how these in turn affect residents and inequality among the eligible.

Appendix

Appendix 3-A1. Interview Questions

About PHA

1. "Could you describe the organizational missions of your housing commission?"
2. "How do you define the local jurisdiction of your housing commission?"
3. The relation of city and housing commission:
    a. "Is there any formal or informal communication channel or committee?"
    b. "Who is the primary contact person or department in city government?"
    c. "Any financial support from the municipalities in the HCV administration or the function of PHA in general?"
4. "Could you describe any work by housing commission related to the federal initiative to end homelessness?"
5. About yourself as a director of housing commission
    a. "How long have you been in this position?"
    b. "What was your immediate prior position to the executive director?"
    c. "In general, what is your career background?"

About the HCV program

1. The perception of discretionary power in the HCV administration: "how much and what kinds of discretion do you have in the HCV administration?"
2. "Could you describe and explain about local preference in tenant selection?"
    a. "What type of local preference do you have?"
    b. "Do you know how those local preferences have come into being?"
    c. "What do you think the rationale for establishing those local preferences?"
    d. "Any recent change in local preference you are aware of?"
3. "What are the characteristics of housing needs in the jurisdiction of your housing commission?"
    a. "Who should receive housing assistance with a high priority?"
4. "Are there any possible ways that the public can engage in the HCV administration?"
    a. "Any interaction with the non-profits in the HCV administration?"
    b. "Any collaboration with housing commissions in neighboring cities?"

Bibliography

Allard, Scott W. 2017. *Places in Need: The Changing Geography of Poverty*. Russell Sage Foundation.

Allard, Scott W., and Sheldon Danziger. 2000. "Welfare Magnets: Myth or Reality?" *The Journal of Politics* 62 (2): 350-368.

Brodkin, Evelyn Z. 2007. "Bureaucracy Redux: Management Reformism and the Welfare State." *Journal of Public Administration Research and Theory* 17 (1): 1-17.

Council of Large Public Housing Authorities. 2013. “Public Housing and Housing Choice Voucher Funding History.” Council of Large Public Housing Authorities, Washington, DC. http://www.clpha.org/ph_hcv_funding_history.

Desmond, Matthew. 2017. How Homeownership Became the Engine of American Inequality: An Enormous Entitlement in the Tax Code Props Up Home Prices and Overwhelmingly Benefits the Wealthy and the Upper Middle Class. May 9. New York Times.

Devine, Deborah J., Barbara A. Haley, Lester Rubin, and Robert W. Gray. 2000. "The Uses of Discretionary Authority in the Tenant-Based Section 8 Program: A Baseline Inventory of Issues." *Policy and Practice, Office of Policy Development and Research, Department of Housing and Urban Development, Washington, DC.*

Feiock, Richard C. 2009. "Metropolitan Governance and Institutional Collective Action." *Urban Affairs Review* 44 (3): 356-377.

Fischer, Will and Barbara Sard 2017. Chart Book: Federal Housing Spending Is Poorly Matched to Need: Tilt Toward Well-off Homeowners Leaves Struggling Low-Income Renters Without Help. (March 8, 2017). Center on Budget and Policy Priorities.

Gray, Mel, Mitchell Dean, Kylie Agllias, Amanda Howard, and Leanne Schubert. 2015. "Perspectives on Neoliberalism for Human Service Professionals." *Social Service Review* 89 (2): 368-392.

Hasenfeld, Yeheskel, and Eve E. Garrow. 2012. "Nonprofit Human-Service Organizations, Social Rights, and Advocacy in a Neoliberal Welfare State." *Social Service Review* 86 (2): 295-322.

Hendrick, Rebecca, and Yu Shi. 2015. "Macro-Level Determinants of Local Government Interaction How Metropolitan Regions in the United States Compare." *Urban Affairs Review* 51 (3): 414-438.

Howell-Moroney, Michael. 2008. "The Tiebout Hypothesis 50 Years Later: Lessons and Lingering Challenges for Metropolitan Governance in the 21st Century." *Public Administration Review* 68 (1): 97-109.

HUD (US Department of Housing and Urban Development). 2017. “Picture of Subsidized Households, 2016.” Online database. https://www.huduser.gov/portal/datasets/picture/yearlydata.html

HUD (US Department of Housing and Urban Development). 2001. “Housing Choice Voucher Program Guidebook.” http://portal.hud.gov/hudportal/HUD?src=/program_offices/public indian_housing/programs/hcv/forms/guidebook.

Joint Center for Housing Studies (JCHS). 2017. America’s Rental Housing. Cambridge, MA: Joint Center for Housing Studies of Harvard University.

Levine, Phillip B., and David J. Zimmerman. 1999. "An Empirical Analysis of the Welfare Magnet Debate Using the NLSY." *Journal of Population Economics* 12 (3): 391-409.

Lindhorst, Taryn, and Julianna D. Padgett. 2005. "Disjunctures for Women and Frontline Workers: Implementation of the Family Violence Option." *Social Service Review* 79 (3): 405-429.

Lipsky, Michael. [1980] 2010. *Street-Level Bureaucracy, 30th Ann. Ed.: Dilemmas of the Individual in Public Service*. Russell Sage Foundation.

McCarty, Maggie, and Carmen Brick. 2012. “The Use of Discretionary Authority in the Housing Choice Voucher Program: A CSR Study.”

Mosley, Jennifer E. 2012. "Keeping the Lights On: How Government Funding Concerns Drive the Advocacy Agendas of Nonprofit Homeless Service Providers." *Journal of Public Administration Research and Theory* 22 (4): 841-866.

National Low Income Housing Coalition. 2004. "A New Look at Waitlists: What Can We Learn from the HUD Approved Annual Plans?" Research Note #04-03.

Park, Jung Min, Angela Fertig, and Stephen Metraux. 2014. "Factors Contributing to the Receipt of Housing Assistance by Low-income Families with Children in Twenty American Cities." *Social Service Review* 88 (1): 166-193

CHAPTER IV

Failing the Least Advantaged: Residential Mobility among the Poor

Introduction

In the previous chapter, I demonstrated that the HCV program could disadvantage applicants who are residentially mobile by increasing their chance of being purged from the waitlist and also losing preference eligibility that is often based on residing in the locality of the PHA at which they have applied. Scholars have paid much attention to the causes and consequences of residential instability among the poor while explicitly or implicitly comparing them to the non-poor (Geller and Curtis 2018; Murphey, Bandy, and Moore 2012; Rossi 1980). However, we have limited understanding of residential mobility among the poor and its implications for the receipt of housing assistance. In this chapter, I will examine whether there is a difference in residential mobility across income levels, and even among those who are income eligible for program participation. Literature Review

Rationing Algorithms and Residential Mobility

In HCV programs around the country wait times for a voucher are long, averaging two years before the receipt of housing assistance (JCHS 2017). Worse, local housing agencies are known to shelve their voucher programs and cease to offer any new vouchers when they foresee a federal budget cut, in order to avoid suddenly terminating those they are currently serving.

Additionally, attrition from the waitlist and thus loss of eligibility can happen in at least

two ways. First, applicants have to re-certify their eligibility to apply for the program when they get to the top of the waitlist (HUD 2001). If the applicant's household income temporarily improves between the time of applying and the time at which they reach the top of the waitlist, they may become ineligible for a housing voucher without actually ceasing to need it. Second, non-response to mail can lead to removal from the waitlist (HUD 2001). Other assistance programs like the Supplemental Nutrition Assistance Program reinstate applicants upon reverification, but federal housing assistance programs require a new application, and a return to the end of the waitlist. In spite of the enormous value of HCV vouchers, applicants have little incentive to maintain a current address with the program because of their uncertainty about ever benefiting, given these long waitlists. Applicants who have sought assistance from multiple housing agencies have an even larger burden of keeping their address up to date.

Residential mobility among the poor

If residentially mobile applicants on the waitlist are more likely to experience attrition over the extended period of waiting time, significant differences in residential mobility amongst applicants on the waitlist could determine the allocation of limited vouchers. Scholars have documented that residential mobility is common among the poor while comparing the presumably homogeneous group of low-income people to the non-poor (Geller and Curtis 2018; Murphey, Bandy, and Moore 2012; Rossi 1980). Recent research, however, documents difference in economic hardship amongst the poor (Shaefer and Edin 2013), pointing to the possibility that difference in economic resources amongst the poor leads to differences in residential instability. Economic resources can absorb life shocks that require unexpected expenses, including health-related costs, and prevent delaying rent payments or more severe forms of housing insecurity, including eviction. The percentage of household income dedicated

to rent is an important indicator of a household's resilience to life shocks. The higher the share of household income put toward rent, the fewer remaining resources to absorb life shocks. Eighty-three percent of very low-income renters were cost-burdened, meaning they are paying more than 30% of their income toward rent (Joint Center for Housing Studies 2017). The higher percentage of cost-burdened households at the lower end of income distribution among those income eligible for program participation suggests that more economically marginalized are more likely to be forced to move when they experience income and life shocks. This means that they are less likely to benefit from HCV programs because of the way this will increase their attrition from the waitlist.

Data and Methods

To examine who has an increased chance of being removed from the list due to having relocated residential move, I estimate residential mobility in a single year period amongst those eligible for program participation using the five-year microdata from the American Community Survey that combines previously released single-year data from 2012 to 2016. The American Community Survey is a nationally representative sample of American households. It also provides state-level estimates of residential mobility, and thus, captures the pool of income-eligible applicants who are likely to go through waitlist preference systems in Michigan. The data includes information on whether respondents moved in a given one-year period, as well as moving distance.[6] l have limited my sample to householders aged 18 or older who have been

6. American Community Survey provides information on Public Use Microdata Area (PUMA). PUMA follows the boundaries of county groups, single counties, or census-defined "places," If these areas exceed 200,000 residents, they are divided into as many PUMAs of 100,000+ residents as possible.

residing in Michigan for at least 12 months (N = 44,126). I have excluded those who are currently residing in Michigan but migrated to Michigan in the last 12 months (N = 1,569) since their originating place does not have enough cases to conduct a statistical analysis.

I first conduct a bivariate analysis to examine whether respondents who move (hereafter referred to as "movers") have different characteristics from those who did not move in the last 12 months (hereafter referred to as "stayers"). Next, I conduct a logistic regression model to predict whether respondents moved in the last 12 months, separately for the overall sample and metropolitan only sample, since a large number of locally administered vouchers goes into metropolitan areas. To examine who is more likely to move across cities and therefore likely to be purged in a locally exclusive preference system, I create the outcome variable combining information on whether respondents moved or not in the last 12 months and if moved, whether their origin and destination Public Use Microdata Area (PUMA) is different. This results in the three outcome categories that include: stayers, those who moved, but within the same PUMA (hereafter referred to as "within PUMA movers"), and those who moved across PUMA (hereafter referred to as "across PUMA movers"). I conducted a multinomial analysis to examine what factors distinguish within PUMA and across PUMA movers from stayers.

I use a set of demographic and socioeconomic characteristics of respondents as a control variable in multivariate analysis. This data includes five years of American Community Survey data annually collected and it is possible that each categorical group of income-to-needs ratio differently reflects year-to-year variation in the frequency of moving. If the category of below 100% of federal poverty level disproportionately includes a year when residential mobility was relatively unstable compared to other years in the sample, the result could simply reflect the yearly variation in moving. This would be the same for controlling for place of residence one

year ago. Thus, I use a year and place fixed effect model that incorporates interview years and places as categorical variables.

Results

In this section, I examine difference in residential mobility across income levels, particularly focusing on difference among those who are income-eligible for program participation. PHA directors identified residential mobility among the applicants as one of the critical mechanisms of rationing in the extended waiting period. Relatively little incentive to report to local PHAs when they move due to uncertainty in ever receiving housing assistance makes it less likely for applicants to keep in touch with local PHAs once they move. Thus, the extended waiting time can create disparity in the chance of receiving housing assistance between those who are residentially mobile and those who are not. If levels of residential mobility among applicants were not tied to economic hardship, however, rationing would not be an important mechanism of resource allocation in the context of economic inequality. On the other hand, if applicants experiencing more severe hardship are more likely to move over time and have a higher chance of being rationed from the waitlist than those who are income-eligible, but with higher income, this could result in reproducing and reinforcing pre-existing economic inequality among the poor.

Another way that residential mobility is related to the distributional outcome of housing assistance is change in preference eligibility status according to geographically bounded preferences. For example, applicants who lack the ability to stay in place long enough to cover an extended waiting time may not be eligible for a residency preference in the same city at the end of their waiting time as at the beginning. In order to capture this, I further stratify types of residential mobility beyond whether respondents in the American Community Survey moved or

not to include whether they moved within the Public Use Microdata Area (PUMA) or across PUMA.

Table 4-1 presents characteristics of the sample overall in the first column and then compares the characteristics of stayers (householders who stayed in the same house in the last 12 months) in the fifth column with those of movers overall (see second column) and stratified by whether they moved within PUMA to another PUMA. I present p-values for t-tests of differences between groups, with significance denoted with asterisks and stayers as the reference group. Among householders aged more than 18 years old currently residing in Michigan in the sample, 24.8% moved at least once in the last 12 months (18.3% within PUMA versus 6.6% across PUMAs). Movers are more likely to have household income below 50% of the federal poverty line than stayers (17.2% versus 13.3%), and less likely to have household income above 300% of the federal poverty line than stayers (22.8% versus 24.9%). Those who moved within the PUMA are more likely to have household income less than 100% of the FPL (both less than 50% of the FPL and 50%−100% of the FPL) and less likely to have household income more than 200% of the FPL (both 200%−300% of the FPL and more than 300% of the FPL). Those who moved across PUMAs are more likely to have household income less than 50% of the FPL compared to stayers, but they are also more likely to have household income more than 300% of the FPL compared to stayers. Moreover, those who moved across PUMAs are less likely to be in the near poverty (100%−125% of the FPL) and the low-income group (125%−200% of the FPL) compared to stayers.

Racial and ethnic characteristics also differ between movers and stayers, although subtypes of moves did not show differential patterns. Compared to stayers, movers are more likely to be Non-Hispanic White (64.6% versus 61.5%), less likely to be Non-Hispanic Black

TABLE 4-1. Population-Weighted Characteristics of Householders aged 18 years or older who are currently residing in Michigan from the American Community Survey (2012-16), Overall and Stratified by Movers and Stayers

	Overall	Movers	Moved within PUMA	Moved across PUMA	Stayers
Number of Observations	42557	10563	7769	2794	31994
Movers (%)	24.8	N/A	N/A	N/A	N/A
Moved within PUMA (%)	18.3	N/A	N/A	N/A	N/A
Moved across PUMA (%)	6.6	N/A	N/A	N/A	N/A
Stayers (%)	75.2	N/A	N/A	N/A	N/A
Income to Needs Ratio (%)					
< 50% of FPL	14.4	17.2***	17.6***	15.8**	13.3
50%-100% of FPL	17.9	18.5	19.3*	16.0	17.7
100%-125% of FPL	7.8	7.5	7.9	6.4*	8.0
125%-200% of FPL	18.6	17.8	18.7	15.2***	18.9
200%-300% of FPL	17.0	16.2	15.8*	17.6	17.2
> 300% of FPL	24.3	22.8***	20.7***	29.0***	24.9
Race and Hispanic Origin					
Non-Hispanic White	62.4	64.6***	62.2	71.6***	61.5
Non-Hispanic Black	26.9	24.2***	25.9**	19.2***	27.9
Non-Hispanic all other races	5.8	6.5**	6.6*	6.3	5.6
Hispanic	3.4	3.2	3.6	1.9***	3.4
Age					
18-34	35.0	53.1***	51.0***	59.4***	28.2
35-54	35.4	29.4***	30.9***	24.8***	37.6
55 and older	29.6	17.5***	18.1***	15.9***	34.2
Household type					
Married couple	20.5	16.6***	16.5***	16.8***	22.0
Cohabiting couple	10.2	13.9***	13.4***	15.6***	8.8
Single-male	26.9	27.9*	27.2	30.1**	26.5
Single-female	42.4	41.6	43.0	37.5***	42.7
Presence of Own Children Under 18	36.3	34.8**	37.9	26.1***	36.9
Demographic Events	6.6	9.3***	9.5***	8.6***	5.5
Education					
Less than high school	12.9	10.5***	11.3***	8.0***	13.9
High school graduate equivalent	28.8	25.2***	26.9***	20.1***	30.1
Some college or associate degree	38.1	42.9***	43.5***	41.1***	36.4
Bachelor's degree or higher	20.1	21.4**	18.3*	30.7***	19.7

Notes: Using t-tests, I examined whether differences in these characteristics between stayers and movers (or those who moved within/across PUMA) are statistically significant. Federal poverty line is

separately calculated for each year. Demographic events include having child birth, divorce, widow, or marriage in the past year.
FPL = Federal Poverty Line. PUMA = Public Use Microdata Area.
*** p<0.001
** p<0.01
* p<0.05

(24.2% versus 27.9%), and more likely to be Non-Hispanic all other races (6.5% versus 5.6%). Movers are more likely to be young compared to stayers (53.1% versus 28.2%) and less likely to be age of 35−54 and 55 and older. Movers are less likely to be married (16.6% versus 22.0%) compared to stayers, and more likely to be a cohabiting couple (13.9% versus 8.8%) or single male (27.9% versus 26.5%). Movers are less likely to have a child under 18 of their own compared to stayers (34.8% versus 36.9%). Movers are more likely to have experienced demographic events, including child birth, divorce, widow, or marriage in the past year. Compared to stayers, movers are less likely to have education less than high school (10.5% versus 13.9%) or high school graduate equivalent (25.2% versus 30.1%). Movers are more likely to have some college experience or associate degree compared to stayers (42.9% versus 36.4%) and more likely to have bachelor's degree or higher compared to stayers (21.4% versus 19.7%). Thus, staying tends to correlate with socioeconomic advantage.

Table 4-2 presents results from the logistic regression models predicting whether respondents have moved in the last 12 months. The first two columns are odds ratio and 95% confidence interval for coefficients of variables using the overall sample that includes both those residing in metropolitan and nonmetropolitan areas. The last two columns are odds ratio and 95% confidence interval for coefficients of variables using only metropolitan sample. All the models control for a set of variables of socioeconomic status and controlled for years and places. In the overall sample, householders whose household income is below 50% of the FPL are more

TABLE 4-2. A Logistic Regression Model Predicting Residential Move in the last 12 months using the American Community Survey (2012-16)

	Overall sample		**Metropolitan sample**	
	OR	95% CI	OR	95% CI
Income to Needs Ratio (ref. = 125%-200% of FPL)				
< 50% of FPL	1.12*	1.01, 1.24	1.17**	1.05, 1.31
50%-100% of FPL	1.09	0.99, 1.20	1.14*	1.02, 1.27
100%-125% of FPL	0.99	0.87, 1.12	1.03	0.89, 1.18
200%-300% of FPL	0.98	0.89, 1.08	1.01	0.91, 1.13
> 300% of FPL	0.98	0.89, 1.08	0.98	0.89, 1.09
Number of Observations	42557		33904	

Notes: The analytic model above includes all demographic and socioeconomic variables provided in the descriptive analysis and controls year that respondents were interviewed and PUMA where respondents were residing one year ago.

*** p<0.001
** p<0.01
* p<0.05

likely to move than those whose household income is between 125% and 200% of the FPL by a factor of 1.12 odds (< .05). In the metropolitan sample only, both householders whose household income is below 50% of the FPL and those whose household income is between 50% and 100% of the FPL are more likely to move compared to those whose household income is between 125% and 200% of the FPL.

Table 4-3 presents results from the multinomial regression models that further specify moving outcome by combining information on whether respondents moved or not and whether they moved within PUMA or across PUMAs. These models are separately estimated for the overall sample and metropolitan sample only. For each sample, the first two columns are Odds Ratio (OR) and 95 percent confidence interval (95% CI) of coefficients of variables in a model with an outcome of moved within PUMA (or moved across PUMAs) versus those who stayed. In the overall sample, compared to the result from the logistic regression model with an outcome

TABLE 4-3. A Multinomial Regression Model Predicting Residential Move in the last 12 months using the American Community Survey (2012-16)

	Overall sample			
	Moved within PUMA (vs. Stayed)		Moved across PUMA (vs. Stayed)	
	OR	95% CI	OR	95% CI
Income to Needs Ratio (ref. = 125%-200% of FPL)				
< 50% of FPL	1.07	0.95, 1.19	1.30**	1.09, 1.55
50%-100% of FPL	1.06	0.95, 1.18	1.19	0.99, 1.42
100%-125% of FPL	0.98	0.86, 1.12	1.01	0.80, 1.28
200%-300% of FPL	0.93	0.83, 1.04	1.16	0.97, 1.38
> 300% of FPL	0.91	0.82, 1.02	1.21*	1.02, 1.43
Number of Observations	42557			
	Metropolitan sample only			
	Moved within PUMA (vs. Stayed)		Moved across PUMA (vs. Stayed)	
	OR	95% CI	OR	95% CI
Income to Needs Ratio (ref. = 125%-200% of FPL)				
< 50% of FPL	1.12	0.99, 1.26	1.38**	1.14, 1.70
50%-100% of FPL	1.10	0.98, 1.23	1.30*	1.06, 1.59
100%-125% of FPL	1.00	0.86, 1.16	1.13	0.87, 1.48
200%-300% of FPL	0.95	0.84, 1.07	1.25*	1.02, 1.52
> 300% of FPL	0.91	0.81, 1.02	1.25*	1.03, 1.50
Number of Observations	33904			

Notes: The analytic model above includes all demographic and socioeconomic variables provided in the descriptive analysis and controls year that respondents were interviewed and PUMA where respondents were residing one year ago.

*** p<0.001
** p<0.01
* p<0.05

that only considers whether respondents moved or not, the result from the multinomial logistic regression model suggests that householders whose household income is below 50% of the FPL are only more likely to move across PUMA rather than staying in the same place (OR = 1.30, p < .01) compared to those whose household income falls between 125% and 200% of the FPL, but this was not the case for within-PUMA movers. Also, households whose household income is

more than 300% of the FPL are more likely to move versus stay in the same place (OR = 1.30, $p < .05$) than those whose household income falls between 125% and 200% of the FPL.

Results from the metropolitan-only sample show similar findings: compared to householders whose household income falls between 125% and 200% of the FPL, no categories in income-to-needs ratio present statistically significant differences in the odds ratio of moved within PUMA versus stayed. Also, both householders whose income is below 50% of the FPL (OR = 1.38, $p < .01$) and above 300% of the FPL (OR = 1.25, $p < .05$) are more likely to move across PUMAs than those who stay in the same place in the last year compared to the reference group. Moreover, both householders whose income is between 50% and 100% of the FPL (OR = 1.30, $p < .05$) and 200% and 300% of the FPL (OR = 1.25, $p < .05$) are more likely to move across PUMAs than those who stay in the same place in the last year, compared to the reference group.

For a sensitivity analysis, I investigate whether the health of householders is associated with whether respondents moved in the last 12 months. It is plausible that mental and physical health conditions explain the association between income and residential mobility, but the results remained the same after controlling for health conditions of respondents.

Discussion

Results suggest that residentially mobile people are less likely to benefit from the current low-income housing programs. Then I examined whether levels of residential mobility differ across income levels especially among those who are income-eligible for program participation. Analyses of American Community Survey data reveal a higher residential mobility among those with less income, which implies current low-income housing programs could be reproducing and reinforcing inequality by shifting limited federal housing resources away from the least

advantaged. Thus, PHAs need to reconsider the algorithms of rationing in the context of differential residential mobility amongst people who are eligible for program participation. Since rationing depends on the length of time on the waiting list, local PHAs can consider shorter waitlist to reduce attrition rate. Also, local PHAs can predict those who are highly likely to move and develop a strategy to keep them on the list. Although removal of applicants from the waitlist can be an important mechanism of allocating limited housing resources, attrition can occur at multiple stages in the local administration of the HCV program. For example, some people who lack the resources to submit an online application for housing assistance could be eliminated from consideration before even being able to apply. Thus, future study needs to examine how attrition occurs at multiple stages in program implementation and its implication for resource allocation.

Future research can also develop a more precise measurement of residential mobility in the context of attrition from waitlist of federal low-income housing programs that capture the number of moves rather than whether respondents moved or not in a given time period. Applicants who move multiple times during the extended period of waiting time are more likely to be purged from the waitlist by not updating their residential address to local PHAs.

Despite these limitations, this study contributes to the literature on residential mobility and economic inequality by documenting difference in the prevalence of residential mobility amongst low-income people and examining the consequences of residential mobility in the context of the distribution of limited federal housing resources. This study reveals how waitlist preference and rationing systems in low-income housing programs can disadvantage those who are highly mobile. Residential mobility amongst the poor can take the form of involuntary moves, which could be a traumatic experience, and thus, re-establishing connections with

welfare agencies and going through re-certification processes could increase the cost of claiming and receiving benefits. Residential instability and benefit distribution would be, however, most pronounced in low-income housing programs because of lower incentive to update their address with local housing agencies. However, residential instability can also influence the take-up rate of other benefits. The intersection of residential mobility amongst the poor and the continuity of welfare benefits will be a fruitful venue for future studies, which can provide insight into how residential instability reproduces economic hardship by discontinuing welfare benefits, at least temporarily.

Bibliography

Geller, Amanda, and Marah A. Curtis. "A Longitudinal Examination of Housing Hardships Among Urban Fathers." *Journal of Marriage and Family* 80, 1176-1186.

Joint Center for Housing Studies. 2017. America's Rental Housing: 2017. Cambridge, MA: Joint Center for Housing Studies of Harvard University.

Murphey, David, Tawana Bandy, and Kristin A. Moore. 2012. "Frequent Residential Mobility and Young Children's Well-Being." Bethesda, MD: Child Trends.

Rossi, Peter Henry. *Why Families Move*. Sage Publications, Inc, 1980.

Shaefer, H. Luke, and Kathryn Edin. 2013. "Rising Extreme Poverty in the United States and the Response of Federal Means-Tested Transfer Programs." *Social Service Review* 87 (2): 250-268.

CHAPTER V

Conclusion

Social work scholars and practitioners have recognized the importance of securing housing as a critical component in intervention to stabilize the service trajectory of homeless clients (Padgett, Henwood, and Tsemberis 2016). More broadly, recent studies have documented that those who are at risk of being homeless, including domestic violence survivors and welfare-involved families, could benefit from cross-system coordination between low-income housing and social service systems (Fowler and Chavira 2014; Fowler, Taylor and Rufa 2011). However, housing assistance programs are not entitlement in the U.S. and only limited resources are available even for those who are eligible to receive federal housing assistance. In the long term, it is critical to increase funding for low-income housing programs even in the context of budget cuts. In the short term, it is critical to ask the question of whether and how those resources could be effectively used. In my dissertation project, I conducted (a) an econometric evaluation of the effectiveness of low-income housing programs in reducing housing insecurity and (b) a study of the local implementation of low-income housing programs, particularly as it relates to who receives housing assistance amongst those eligible for program participation and its social implication.

In Chapter II, I conducted a propensity score analysis and results suggest that receiving housing assistance significantly reduces the chance of experiencing housing insecurity over follow up compared to income eligible people, but do not receive housing assistance. Thus,

housing assistance programs are an effective tool in reducing housing insecurity. In Chapters III and IV, I asked the question of who receives housing assistance while highlighting the role of local housing agency, which is the critical actor in the decision making process of resource allocation in the context of devolution of authority in program implementation. Policy outcomes depend significantly on the decision making of front-line agencies implementing low-income housing programs after the Housing Quality and Work Responsibility Act of 1998, which relegated a great deal of authority for program implementation to local public housing authorities. Local control, though, can pose challenges. With limited resources, local level housing agencies may engage in discretionary practices and shape benefit access and distribution in ways that are not equitable. In Chapter III, I examined how local housing agencies in Michigan use their discretion in program implementation related to waitlist preference and rationing algorithms. The administrative plans local housing agencies in Michigan use to administer the Housing Choice Voucher program reveal two dominant forms of waitlist preference systems that promote the greater loss of applicants who are experiencing residential instability. In Chapter IV, I juxtaposed this finding with the American Community Survey results suggests that low-income housing programs increase the likelihood that they will purge applicants in deep poverty, rather than income-eligible applicants with higher incomes, from the waitlist. I argue that current low-income housing programs preserve and even deepen economic stratification amongst the poor by shifting limited federal housing resources away from the least advantaged.

My dissertation project that examines the intersection of low-income housing programs and poverty informs future studies to frame housing policies and programs as an anti-poverty tool and suggests that it is critical to examine the effectiveness of low-income housing programs

in addressing poverty particularly focusing on the role of local implementing agencies. Two lines of poverty research suggest that contemporary processes of poverty reproduction cannot be fully understood at an individual level and point toward the limits of poverty policies that heavily rely on strategies of workforce development. First, contextual analyses of poverty have illuminated how urban economic restructuring and racial segregation have shaped the current geographical landscape of poverty, which, in turn, influences the life chances of individuals in urban, low-income communities. Second, poverty scholars have documented the prevalence of residential instability among the poor. Residential instability cumulatively disadvantages the poor, with a multifaceted impact on the lives of low-income children and their families, affecting health, school, and labor market outcomes. Housing policy can intervene in this process by promoting upward economic and residential mobility and reducing residential instability. Thus, future studies need to examine multiple areas under the discretionary power of local housing agencies in program implementation and how front line decision making about those areas might influence the effectiveness of low-income housing programs in addressing poverty.