Moving to Work Demonstration Expansion

Stepped and Tiered Rent Demonstration

Phase 2 Research Design

First Draft: December 9, 2024
Revised Draft: February 13, 2025

Cynthia Miller
Nina Castells
Josh Vermette
James Riccio
Nandita Verma

mdrc
BUILDING KNOWLEDGE TO IMPROVE SOCIAL POLICY

Contents

I. OVERVIEW

Rent reform, a long-standing public policy goal for public housing and Housing Choice Vouchers (HCV) and central to the Moving to Work (MTW) Demonstration, has multiple objectives: policy simplification; reduction in the public housing agency (PHA) administrative burden and costs; stronger financial incentives for tenants to work and make progress toward economic self-sufficiency; protecting families from hardship; and cost-effectiveness.

As part of the U.S. Department of Housing and Urban Development's (HUD) MTW expansion effort, 10 MTW housing agencies were selected to implement alternative rent policies designed to achieve these objectives as part of the Stepped and Tiered Rent Demonstration (STRD). This demonstration is HUD's second large-scale test of alternative rent policies using a randomized controlled trial. The first was the MDRC-led Rent Reform Demonstration, launched at four PHAs in 2015 and completed in 2024.[1] A central feature of these policies was an extension of the time to recertification, during which rent can be adjusted in response to changes in income.

STRD is testing two new policies. In the tiered rent policy, families are placed in a rent tier based on their income bands at triennial recertifications, and any increases in household income during the three-year period in between do not lead to increases in rent until the next triennial recertification. In the stepped rent policy, the initial tenant rent share is set based on household income, but changes in tenant rent share in subsequent years are decoupled from income and increase by a fixed amount annually, unless eligible hardship circumstances are present. Triennial recertifications are conducted under the stepped rent model only to determine families' continued eligibility for their HUD housing subsidy.

HUD selected MDRC and its partners to evaluate the two alternative rent models.[2] During the first phase (Phase I) of the evaluation, covering the period 2018 to 2025, MDRC has worked with HUD and the selected PHAs to design and implement the alternative rent policies and set the groundwork for a full-scale evaluation of their effects. This work included facilitating random assignment, collection of baseline data, monitoring implementation, and beginning data collection.[3]

This document presents the analysis plan for the evaluation during Phase 2 of the demonstration, which will assess the policies' effects on households' labor market outcomes, outcomes related to families' receipt of housing subsidies, receipt of other transfer benefits, PHAs' administrative burden and costs, and other outcomes through the first three years of the

[1] See Riccio et al., (2019).
[2] The MDRC research team includes Barbara Fink and David Long (independent consultants), and Professor Ingrid Gould-Ellen (NYU) The Bronner Group, LLC and Quadel Consulting supported the project design and launch activities in Phase I and Decision Information Resources (DIR), Inc., a survey firm subcontracted by MDRC, followed up with the families and invited them to complete the baseline survey. DIR will also conduct the survey planned for Phase 2.
[3] Castells et al., (2023) introduces the demonstration and early work around design and program launch.

six-year demonstration for all study households.[4] It also includes descriptive analyses of housing subsidy use, heads of households' self-reported understanding of and perceptions of the new rent policies, and PHA staff experiences implementing the new rent policies to provide context and help with interpretation of the impact findings.[5]

II. INTERVENTION DESCRIPTION

Most public housing residents and HCV recipients pay 30 percent of their income, adjusted for deductions, for rent and utilities. Their subsidies are limited by payment standards tied to local Fair Market Rents (FMRs). Protecting low-income households from paying "excessive" proportions of their income for rent has been the primary rationale of HUD and Congress for the percent-of-income system. It has been staunchly defended on these grounds by low-income housing tenants and advocates.

However, the percent-of-income system has been criticized by housing policy experts, public housing industry groups, and others as allegedly having unintended negative consequences for the tenants themselves (e.g., reduced labor force participation and turnover) and for housing agencies (e.g., administrative complexities and costs).[6]

While numerous policymakers and stakeholders have advocated reform of the traditional rent system, wide-scale policy reform has been elusive. Nearly all previous efforts to substantially reform HUD rent structures have been carried out within the context of the MTW demonstration. MTW agencies are required to "(establish) a reasonable rent policy, which shall be designed to encourage employment and self-sufficiency by participating families, consistent with the purpose of this demonstration, such as by excluding some or all of a family's earned income for purposes of determining rent." Most rent-related MTW reforms have been modest, such as simplifying income deductions or changing the process for calculating assets. Some MTW agencies have reduced the frequency of recertifications, such as by substituting biennial recertifications for annual recertifications, or extending the recertification to three years for fixed-income households.[7] The Rent Reform Demonstration, a recently concluded HUD demonstration, focused on working-age, non-disabled households, incorporated these reforms and others, including a triennial recertifications period. A few reforms have involved stepped or tiered rents, but none have been rigorously evaluated. See Exhibit 1 for detail on the rent policies and how they compare with the standard rent rules.

---

[4] Later phases of the demonstration, if funded, will cover the full six years of the demonstration and possibly longer-term follow up.
[5] See Castells et al., (2021) for the Phase 1 Research Design, Data Collection, and Analysis Plan.
[6] See Castells et al., (2023) for a fuller description of the debate around rent reform.
[7] For instance, more than 20 PHAs have changed treatment of assets, or changed or eliminated deductions. See *The Innovations in the Moving to Work Demonstration* report for an overview of rent reforms that have been pursued by existing MTW agencies and further details on these rent reforms listed (Khadduri et al., 2014).

Exhibit 1: Stepped and Tiered Rent Policies

Feature	Standard Rent Rules	Stepped Rent Policy	Tiered Rent Policy
Total Tenant Payment (TTP) for Initial Certification	30% of current/ anticipated adjusted income	30% of retrospective adjusted income[a]	Based on retrospective gross income (TTP is set at 28% of midpoint of tier; tiers are $2,500 wide)[a]
Total Tenant Payment (TTP) for Subsequent Certifications	30% of current/anticipated adjusted income	Prior year TTP + fixed step increase (based on unit size)	TTP for corresponding tier based on retrospective gross income (TTP is 28% of midpoint of tier)
Recertification Period	Annual	Triennial eligibility check only (TTP not adjusted for changes to income)	Triennial
Action Taken when Household Income Increases Between Recertifications	Increase TTP based on income increase (some PHAs wait until next annual recert to increase TTP)	None	None
Action Taken when Household Income Decreases Between Recertifications	Decrease TTP based on income decrease	Household may request temporary hardship exemption to reduce TTP	Household may request temporary hardship exemption to reduce TTP
Hardship Policy	N/A (TTP adjustments for income decreases are addressed with interim certifications)	If a household's TTP exceeds 40% of income, temporarily set TTP to 40% of income	If a household's current income places them in a lower tier, temporarily set TTP to that lower tier

Notes: [a]Site variations: Asheville 28% for initial certification; Houston 28% of bottom of tier, $2,000 increments

Tiered Rents

Under HUD's tiered rent model, households are grouped by income into tiers. Within each tier, families' total tenant payments (TTPs) for rent and utilities are fixed, and income increases within a tier do not affect the household's TTP. HUD has established tiers in $2,500 increments.[8] Households with income between $0 and $2,499 are in the initial tier and pay a minimum $50 in rent. The number of tiers may vary by PHA, with the maximum tier going up to the PHA's area median income. Households are assigned to a tier based on their gross income in the prior year (referred to as "retrospective income").

The model also substitutes triennial recertifications for the traditional annual income reviews. Thus, once assigned to a tier, households do not need to report income increases to the housing agency, and their TTP remains unchanged until their next triennial recertification, when they would be placed in an income-appropriate tier based on their new retrospective income at that time.

If households lose income during the three-year period, they may qualify for a hardship exemption. If current/anticipated annual gross income drops into a lower tier between triennial recertifications, the household will receive a temporary (1 month to 12 month) hardship exemption: the household will pay a hardship rent based on the tier that corresponds to their current/anticipated total annual gross income. Hardship rents can be renewed upon household's request if the qualifying conditions persist. There is currently no specified limit on the number of hardship exemptions that a household can be granted between triennial recertifications.

Stepped Rents

Under this model, TTPs are increased annually by a fixed amount that is equal to two percent to four percent of Fair Market Rent (FMR) for the household's bedroom size. PHAs choose the size of the rent increase, within the two percent to four percent range, and can modify it each year or keep it fixed for the period of the demonstration.

After the household's initial rent is established, each household's income has no effect on their rent. (An exception is if the household experiences an income loss – or fails to increase their income to keep up with the rent increases – that leads to severe rent burden, in which case they can request a hardship exemption to temporarily lower its TTP.) Households' TTP automatically increases by the fixed rent increase on an *annual basis*. Their rent increases by that fixed amount each year until their HAP reaches $0 in the HCV program or the household's tenant rent reaches the flat rent in public housing. Because the stepped rent model culminates in zero subsidy after the final step, it represents a time-limited subsidy policy. How long it takes for a family to reach the final step depends on its initial step and any hardship remedy it receives.

Unlike the tiered rent model, where the triennial recertification is conducted in order to assign

[8] As a large PHA , Houston Housing Authority was able to apply for this rent reform MTW cohort with a proposal for a modified version of the tiered rent policy. Their final policy design includes two deviations from the standardized tiered rent policy in the other four housing agencies implementing the tiered rent: (1) HHA uses $2,000 increments in place of $2,500 increments to define the tiers, and (2) within those tiers, TTP is based on 28% of gross retrospective income at the bottom of the tier instead of at the midpoint of the tier.

a household to a new rent tier if their retrospective income has changed, under the stepped rent policy, triennial income reexaminations will be used only to verify continued eligibility for a HUD subsidy, but not to calculate households' TTPs. If a household's income at reexamination is high enough to affordably rent a unit at the FMR (based on HUD's current income eligibility criteria), they will no longer be eligible for assistance.

The only time that a household deviates from the fixed annual rent increases is if it requests, and is granted, a hardship exemption. A household will be granted a hardship if their TTP exceeds 40 percent of their current/anticipated monthly gross income or for other circumstances as determined by the PHA. The hardship rent will equal 30 percent of the household's current/anticipated gross income. The hardship rent will last for 1 month to 12 months (at the PHA's discretion) and can be renewed as needed. If the household still needs the hardship exemption after 12 months, the PHA has the option to reset the step (or renew the temporary hardship rent).

III. INTERVENTION DESIGN

Identification strategy

The evaluation of stepped and tiered rents is being conducted using a randomized controlled trial. Between January 2023 and November 2024, approximately 15,000 households across the 10 participating PHAs were randomly assigned to one of two study groups within their PHA: the alternative rent policy group, which is subject to the alternative rent policy, and the control group, which is subject to the standard rent rules.

Sample Selection

In May 2021, HUD selected 10 PHAs for the demonstration (see Exhibit 2). Five PHAs were selected to implement a tiered rent policy (with one of those five implementing a modified version of the tiered policy adopted by the other four), and the remaining five to implement a stepped rent policy.

Exhibit 2: PHAs Participating in the Stepped and Tiered Rent Demonstration

Stepped Rent Policy

- Housing Authority of the City of Asheville (North Carolina)
- Fort Wayne Housing Authority (Indiana)
- Housing Authority of the County of Kern (California)
- Portsmouth Redevelopment and Housing Authority (Virginia)
- Housing Connect (Housing Authority of the County of Salt Lake) (Utah)

Tiered Rent Policy

- Akron Metropolitan Housing Authority (Ohio)
- Everett Housing Authority (Washington)
- Charleston-Kanawha Housing Authority (West Virginia)
- Housing Authority of Washington County (Oregon)
- Houston Housing Authority (Texas) – *a modified version*

In the 10 selected PHAs, all eligible households were required to participate in the demonstration (although they could choose not to enroll in the MDRC evaluation). The demonstration targeted households that are currently assisted – or beginning to receive assistance – through the public housing or HCV Programs (excluding special purpose programs), who are neither elderly[9] nor disabled according to HUD's definitions. Additional eligibility criteria include the following:

- The household is nonelderly (the head of household, spouse or co-head is age 18 to 55 (so they remain non-elderly through the end of the study period).
- The household is non-disabled (according to HUD's disability status definition for the head of household, spouse or co-head is not disabled).[10]
- The household does not have a special purpose voucher, including the Enhanced Voucher Program, VASH, Welfare-to-Work voucher program, or Certificate voucher program.
- The household does not have zero HAP if in HCV and is not paying a flat rent if in public housing.
- The household is not a mixed eligibility family (i.e., all members of the household must have legal working status in the U.S.).
- The household is not currently participating in the traditional FSS program.
- The household is not currently participating in the homeownership program.
- The household is not living in a Jobs Plus development.
- The household is not in a 2-year Earned Income Disregard (EID) period.

---

[9]The head of household, spouse, and co-head are 55 or younger – and will not become elderly (62) over the course of the 6-year demonstration.

[10] Households who are not yet indicated as disabled according to HUD definition but have been approved to receive SSI/SSDI but have not yet received first payment or have a pending SSI/SSDI application in (applied recently and waiting to learn of approval status), are not eligible for the demonstration.

- The household is not in a phase-in period under RAD protections.
- The household is an administered (not absorbed) port-in.
- The household did not port-out.

Exhibit 3 presents the total number of individuals randomly assigned to the alternative rent policy or the standard rent policy, and the total number enrolled in the study by PHA. Random assignment in the demonstration was mandatory for all eligible households, although participation in the study was voluntary. Households were asked to complete an informed consent form to provide consent to have their data gathered and used for the study. A total of 15,270 households were randomly assigned across the 10 PHAs. About 77 percent of these households consented to participate in the study, for a total of 11,749 households. We are exploring with HUD the possibility of using data aggregated by HUD to compare the characteristics of consenters versus non-consenters as part of Phase 1. We will also be careful to explain the potential challenge of generalizing the findings to all eligible households.

Exhibit 3: Study Sample Sizes and Consent Rates by Site

Public Housing Agency	**Households randomly assigned**	**Households consented**	**Consent rate**
Housing Authority of the City of Asheville (NC)	1,037	812	78%
Fort Wayne Housing Authority (IN)	1,504	1,115	74%
Housing Authority of the County of Kern (CA)	1,260	1,040	83%
Portsmouth Redevelopment and Housing Authority (VA)	492	422	86%
Housing Connect (Housing Authority of the County of Salt Lake) (UT)	726	563	78%
Stepped Rent Total	***5,019***	***3,952***	***79%***
Akron Metropolitan Housing Authority (OH)	3,622	2,577	71%
Everett Housing Authority (WA)	928	600	65%
Charleston-Kanawha Housing Authority (WV)	1,437	1,092	76%
Housing Authority of Washington County (OR)	736	475	65%
Houston Housing Authority (TX)	3,528	3,053	87%
Tiered Rent Total	***10,251***	***7,797***	***76%***
Grant Total	**15,270**	**11,749**	**77%**

IV. THEORY OF CHANGE

Both the stepped and tiered rent structures aim to increase residents' economic self-sufficiency: the tiered rent structure with a triennial recertification, and the stepped rent structure by decoupling tenant rent changes from tenant income. Both rent policies also aim to increase administrative efficiency through fewer certifications and streamlined rent calculations. HUD intends the new policies to be approximately budget neutral. Despite this intention, the policies may cause an increase or decrease in PHAs' subsidy per household, and these effects may differ for the stepped and tiered rents.[11] Exhibit 4 summarizes each policy's hypothesized effects for key outcomes.

In terms of households' housing subsidies, it is possible that both rent policies will reduce the duration and amount of subsidy receipt, although in different ways and different periods of time. In the tiered rent model, sustained positive impacts on earnings should lead to reductions in the levels of housing subsidies, but only after the triennial recertification. In contrast, under the stepped rent policy, a steady *decrease* in households' average housing subsidies over time may come from the annual increases in rent steps, regardless of the policy's effects on tenants' employment and earnings. On the other hand, both rent policies could have the opposite effect: they could *increase* the total value of subsidies households receive over time. For example, for the stepped rent analysis, if control group households increase their earnings over time to an extent that causes their TTPs to increase more than the TTPs for the stepped rent households increase under the fixed annual step-up schedule, the net impact of the stepped rent policy on housing subsidies would be positive – i.e. stepped rent tenants would be receiving higher levels of subsidies over time compared with the control group. Furthermore, under both alternative rent policies, because checks on the households' continued eligibility for the voucher program will occur only after three years under both alternative policies (rather than every year under the standard policy), households that may otherwise have exited the voucher program within that period due to higher income or for administration-related reasons may be less likely to do so than control group households. That longer duration on the voucher program may thus increase the total amount of subsidy receipt during the first three years relative to the control group. This effect on subsidy receipt was found in the Rent Reform Demonstration.[12]

A primary concern with stepped rents is that this type of rent structure may lead to housing-related hardship such as rent burden and eviction and other material hardship such as food insecurity. The stepped rent policy effectively removes the built-in safeguard of the traditional percent-of-income rent policy and the tiered rent policy. The availability of hardship exemptions may minimize these potential effects. In addition, if both rent policies lead to increases in household earnings, these effects may lead to reduced material hardship.

[11] See the study's Research Design, Data Collection, and Analysis Plan for a more comprehensive discussion of study outcomes and hypotheses (Castells et al., 2021).

[12] Riccio, et al. (2021).

Exhibit 4. Hypothesized Effects for Key Outcomes

Outcomes	Tiered Rent Policy	Stepped Rent Policy
Employment and earnings	The 3-year recertification period creates a strong financial incentive for tenants to increase their earnings, especially during the first 2 years of the 3-year period. Furthermore, the policy may encourage earnings increases within the tier. For households near the top of a tier, this policy may discourage earnings increases to bump households into the next tier, which would increase the total tenant payment (TTP).	The expectation of regularly rising rent shares can create a strong incentive to increase their earnings. Because the rent share increases each year are fixed, larger income increases would result in more cumulative net income and would not influence the households' TTP.
Housing and other material hardship	Renewable hardship exemptions should minimize the likelihood that the new rules group experiences hardship at a higher rate. Some households may still experience increased rent burden under the tiered rent policy due to being at the bottom of the tier, the elimination of income deductions, or if the household does not request hardship exemptions when they are needed. This increased rent burden could possibly lead to an increase in the experience of material hardship. If this policy leads to sustained increases in families' incomes, their experience of material hardship may be lower for the new rules group than the existing rules group. Even without impacts on income, if households' incomes are generally rising, they would keep more of their increased income (relative to the control group), also possibly leading to reduced material hardship.	The stepped rent policy effectively removes the built-in safeguard of the traditional percent-of-income rent policy, in which a household's rent share is reduced if their income drops. The hardship policy described previously aims to protect those households while minimizing the extent to which hardship exemptions may dilute the work incentive inherent in stepped rent structures.
Public housing agency (PHA) administrative efficiency and costs	Tiered rent and triennial recertifications could reduce the burden on staff and the costs of administering the public housing and Housing Choice Voucher programs by reducing the staff time and effort required for meeting with tenants, calculating TTPs, and operating other aspects of the rent policy. A simplified system could also reduce error rates.	After the first step in the rent schedule is determined for a household, PHAs no longer have to calculate the household's rent contributions. This policy also should reduce staff time and effort for meeting with tenants, calculating TTP, and operating elements of the rent policy.
Households' housing subsidies	If the policy has a large positive impact on earnings by the time of the triennial recertification, it may increase families' likelihood of exiting the voucher program at that time or reducing the amount of subsidy it receives subsequently (relative to the control group), thus reducing the long-term cumulative housing subsidy payments made to that group versus the control group. However, small or no impacts on earnings may lead to higher cumulative subsidy receipt than the control group receives by delaying families' exits from the subsidy system that would normally be driven by annual income reviews and recertifications. The reduction in average housing subsidies, if it occurs, would likely begin in year 4, after the triennial recertification.	This policy should decrease households' average housing subsidies over time, regardless of its effects on tenants' employment and earnings. These reductions could be at least partially offset if many households cannot keep up with rising rent shares and are granted hardship exemptions.

Finally, both rent policies aim to increase administrative efficiency through fewer certifications and streamlined rent calculations, compared with the standard policy. In the absence of increased time spent on hardship exemptions, both policies should reduce staff time and effort for meeting with tenants, calculating TTP, and operating other aspects of the rent policy.

V. EVALUATION OVERVIEW

The full evaluation, including some of the tasks launched as part of Phase I, includes a careful assessment of the implementation, impacts, and costs of the new policies. Two central aims for the evaluation are to examine effects on households' economic outcomes and effects on PHAs' administrative burden. Both the tiered rent structure and the stepped rent structure aim to increase residents' progress toward economic self-sufficiency: the tiered rent structure with a triennial recertification, and the stepped rent structure by generally decoupling tenant rent from tenant income. Both rent policies also aim to increase administrative efficiency through fewer certifications and streamlined rent calculations.

Impact study. The impact analysis will examine the effects of the new rent policies on a range of outcomes for residents and households. The study will track residents for up to three years in Phase 2 using a variety of data sources. Because random assignment eliminates systematic differences between the program and control groups, any subsequent differences in outcomes can be attributed to the new rent policies. The impact analysis will examine their effects on a range of outcomes, including employment earnings, subsidy levels, material hardship, homelessness, and the receipt of government benefits.

Implementation Study. During the early roll-out period, the implementation study explored initial experiences with the implementation of the alternative rent models, including PHAs' rationales for pursuing selected strategies, staff perceptions of the challenges and support for implementation, how the alternative models were described to and understood by tenants, and the administrative ease of operating the new policies compared with current policy. Many of these topics will also be the focus of Phase 2. The implementation study will rely heavily on qualitative data collected via staff and administrator interviews during visits to the PHAs.

Cost Study. The cost analysis will examine the costs of implementing the new rent policies using PIC/HIP and PHA administrative records data and PHA financial data along with specially collected information on how PHA staff spend their time administering the new and existing rent rules. The goal is to assess whether either of the alternative rent policies is less expensive to administer than the traditional rent policy and to identify which aspects of the policy may be driving or offsetting any savings.

VI. IMPACT STUDY

Key Research Questions

The impact analysis includes two primary research questions:

1. What is the effect of the alternative rent policy on head of households' earnings?
2. What is the effect of the alternative rent policy on households' housing subsidies?

The study includes several exploratory research questions:

3. What is the effect of the alternative rent policy on households' material hardship?
4. What is the effect of the alternative rent policy on other labor market outcomes, including employment rates, job characteristics, and employment and earnings outcomes for other adults in the household?
5. What is the effect of the alternative rent policy on other household outcomes, such as benefit receipt, exit from housing subsidies, and household composition?
6. How do the effects of the alternative rent policy vary across subgroups and sites?
7. What effects do the alternative policies have on PHA administrative burden in operating the voucher program? (The implementation and cost analyses will also explore the topic of administrative burden.)

These research questions will be examined separately for the tiered and stepped rent models. Exhibit 4 in the Theory of Change section above describes hypothesized effects on the study's key outcomes.

Data Sources

The project will use several data sources to evaluate the impact of the alternative rent policies. Exhibit 5 shows key dates and milestones for the study including enrollment and initial certification dates, the 18-month and 36-month follow-up periods, and the triennial recertification and eligibility review period. Exhibit 6 displays the data collection timeline for administrative data sources that will be used in the analysis. The two exhibits offer a picture of how data collection will align with study enrollment, follow-up, and housing certification timelines.

- **Baseline survey**. Baseline data were collected on the Baseline Information Form that households filled out during their recertification meeting, or just prior to random assignment. The form was used to collect information not available from HUD administrative data, such as educational background, employment history, material hardship, and health and other issues that may affect tenants' employment. The form was completed by 95 percent of study households, with no noteworthy difference in response rates between the program and control groups. This data will be used to describe the study sample, create covariates to improve the precision of impact estimates, define subgroups, conduct a statistical comparison between the research groups to demonstrate the integrity of random assignment (as part of Phase 1 of the study), and to test for survey response bias.

- **HUD HIP and PIC data.**[13] MDRC is collecting data recorded from HUD 50058 forms from the centralized HUD PIC data and will collect data recorded from HUD MTW Expansion 50058 forms from the centralized HIP data once the HIP data become available. These data will be used to evaluate important outcomes such as subsidy receipt and total tenant payment (TTP), and to track whether study households continue to receive housing assistance over the follow-up period. Data on household actions will also be used in the administrative cost analysis (described below) and the implementation analysis.

- **PHA Administrative Records.** MDRC is collecting data on hardship requests from the 10 PHAs participating in the study. These data, which were used to monitor policy implementation and confirm that automatic hardships were being correctly identified by PHA staff, include information on when a hardship request was made by the household, whether it was accepted or denied, whether a denied hardship request was appealed, and the duration of automatic and household-requested hardships. During Phase 2, these data will be used for descriptive purposes as part of the implementation analyses as well as in the administrative cost analysis, which will examine how frequently PHAs receive hardship requests and how long requests take to review.

- **National Directory of New Hires (NDNH).** Adult household members' employment and earnings information for the evaluation will be collected from this source. NDNH is maintained by the Office of Child Support Enforcement and contains quarterly wage and employment information collected from state unemployment insurance records and federal employment. NDNH data do not include earnings from self-employment, some agricultural work, gig work, or informal jobs. Quarterly wage records will be used to construct annual and cumulative earnings outcomes (e.g., total earnings in first 18-months after random assignment, for early impact analyses), employment outcomes, covariates, and employment subgroups.

- **Homelessness Data.** Data on participants' use of homelessness services will be collected from the Homeless Management Information System (HMIS) from local Continuum of Care providers (CoCs). This system is used by localities around the country to track use of homeless shelters and other housing for homeless individuals and families, and their receipt of homelessness services. The heads of households in the study sample will be matched to the HMIS database in each of the participating sites to determine whether

[13] Data from HUD's IMS/PIC Inventory Management System/PIH (Office of Public and Indian Housing) Information Center data is referred to as "PIC data" and data from HUD's Housing Information Portal is referred to as "HIP data" in this paper.

the alternative rent policy groups were any more likely than the standard rent rules group to use homeless services.

- **TANF/SNAP Data.** Administrative records on families' receipt of Temporary Assistance for Needy Families (TANF) and Supplemental Nutrition Assistance Program (SNAP) will be obtained for heads of household from state agencies to measure study participants' receipt and levels of these government subsidies.

Exhibit 5: Key Dates and Milestones

	Study Enrollment and Initial Certification	18-Month Follow up	36-Month Follow up	Triennial Recertification
Study Key Dates and Milestones	Enrollment: January 2023 - November 2024 Initial Certification: May 2023 - March 2025	Follow-up period tarts: May 2023 18 months of follow up for all study households: August 2026	Follow-up period starts: May 2023 36 months of follow up for all study households: February 2028	First triennial recertification effective dates (for households enrolled in January 2023): May 2026 Effective dates for latest enrollees: March 2028

Exhibit 6: Administrative Data Sources and Data Collection Timeline

Data Sources	Baseline Data	18-Month Follow-up Data	36-Month Follow-up Data
NDNH	January 2023 - December 2024	April 2023 – June 2026	April 2023 – December 2027
PIC/HIP	January 2020 - March 2025	May 2023 - August 2026	May 2023 - February 2028
PHA	Will not request data	May 2023 - August 2026	May 2023 - February 2028
SNAP/TANF	January 2020 - March 2025	May 2023 - August 2026	May 2023 - February 2028
HMIS	January 2020 - March 2025	May 2023 - August 2026	May 2023 - February 2028

30-Month Follow-up Survey

During Phase 2, MDRC will conduct a follow-up survey with heads of households enrolled in the study approximately 30 months after their initial certification following random assignment. The survey will gather information that cannot be gleaned from administrative records such as attitudes toward and experiences with the new rent policies prior to the triennial recertification (or eligibility check) for households randomly assigned to the stepped or tiered rent groups, incidence of material hardship, job quality, housing mobility, and other outcomes of interest to the analysis.

Sample

The fielded sample will include approximately 8,000 heads of households: 4,000 in the stepped rent sites and 4,000 in the tiered rent sites. There are just under 4,000 households enrolled in the stepped rent sites, so the survey will be fielded to all enrolled households in those sites.

Approximately 7,800 households are enrolled in the tiered rent sites, and the study team will randomly sample 51 percent of the households in each tiered rent site so that the fielded sample for the tiered rent sites is also 4,000. The number of households from each site will be proportional to the sample size by site in the full study sample, allowing for impact estimates for survey outcomes to be interpreted alongside impact estimates for outcomes from administrative data sources.

Fielding and Response

MDRC's contractor, Decision Information Resources (DIR), will administer the survey online and by phone.[14] Based on fielding efforts using similar methods, MDRC anticipates a response rate of 50-60 percent, which would produce a survey response sample of approximately 4,000-4,800 households. This relatively low anticipated response rate increases the risk that the results of the survey impact analysis may not be generalizable to the full study sample. The research team will conduct a response bias analysis (discussed below) to assess generalizability to inform how impact results are presented and discussed.

Timing

The survey will be fielded to heads of households approximately 30 months after the initial certification following random assignment, which is approximately 6 months prior to the triennial recertification or eligibility check for the tiered and stepped rent groups and the third annual recertification for the control group. The 30-month period between the initial certification and survey fielding will provide households under the alternative rent rules ample opportunity to experience the new policies and respond to incentives. Attitudes toward the alternative rent policies may shift either during or after the triennial recertification process, particularly for the tiered rent households that will be experiencing a TTP adjustment following a three-year period without having had their TTP adjusted for income changes (unless they experienced a decrease in income and requested a hardship exemption). Consequently, the timing of the fielding is important to ensure that responses reflect the attitudes of households during the first triennial period and are not influenced by the triennial recertification.[15]

The one-year fielding period is expected to begin in October 2025, assuming the survey instrument receives Office of Management and Budget (OMB) approval by early September 2025. With this timeline, about 15% of households will not yet have reached 30 months of follow-up by the end of the fielding period because they had their initial certification after May

[14] Due to budget constraints, an in-person fielding effort will not be conducted.

[15] There are 11 heads of households in two of the study sites – Kern County and Akron – who are participating in the Resident Expert Panel for the qualitative study being led by Abt Global. Since these study participants will receive significantly more information about the new rent policies through their participation on the panel, we will exclude these households from the descriptive analysis focused on households' understanding and perceptions of the new rent policies. There are an additional 115 heads of households in these two sites that are participating in multiple interviews in the qualitative study. We will run a sensitivity test excluding those additional study participants to assess whether their responses influence the estimates in the analysis.

2024.[16] These households will be surveyed earlier than 30 months post-initial certification and will therefore have a shorter follow-up period for the survey outcomes by up to 6 months; however, they should almost all be in the 24–30-month post-initial-certification follow-up period, following the second stepped rent increase for households in the stepped rent group and following the second annual recertification for households in the control group.[17]

If the planned start of the fielding period is delayed due to a later OMB approval (or other reasons), then the earliest enrollees may not be fielded until after they have begun the triennial recertification process, during which their understanding and perception of the new rent rules might be affected. Most data collected by the survey - such as responses related to job quality and material hardship – will be used to estimate effects of the new rent rules and would likely not be significantly affected by a delayed survey date. If a delay pushes fielding for the earliest enrollees to a point after the recertification process has begun, the research team would examine households' understanding and perceptions of the policies separately for households who have begun their triennial recertification process from those who have not to assess whether there are differences between the two groups. If the responses of these households are found to be substantially different from those of households that were interviewed later relative to their initial certification date, the research team would omit these households from the descriptive analyses focusing on experiences with the new rent rules (or present them separately, if the fielding delays are significant enough that the group that has begun their triennial recertification process is sizable). Since this analysis is descriptive and does not involve estimating impacts, statistical power is less of a concern if the earliest enrollees' responses on these topics cannot be combined with the remaining sample.

Response Bias

MDRC will conduct a survey response bias analysis to assess the representativeness of the survey respondent sample. Given the anticipated 50-60 response rate, this analysis will be important for understanding the extent to which the survey findings are generalizable to the full study sample, and for interpreting and communicating the findings. The research team will use baseline data, survey response data, and administrative records to examine:

- If baseline characteristics of respondents differ from those of non-respondents and whether any observed differences limit the generalizability of the survey analysis
- Whether baseline characteristics of respondents in the alternative rent rules group differ from those of respondents in the control group
- Whether logistic regression results suggest that baseline characteristics can predict survey response or program group status amongst survey respondents

[16] Fifteen percent is an estimate using early data extracted from PHAs' subsidy systems before the records are finalized and submitted to HUD, so it is a rough approximation.

[17] When study enrollment is complete (and initial certifications are complete for the last enrollees), we will assess whether there are any households who will not have reached 24 months of follow up in the study enrollment period and assess whether to exclude them from fielding or conduct a sensitivity test excluding them from the analysis.

- If impact estimates produced from administrative records differ between the full sample and the respondent sample.

If the response bias analysis indicates that the survey sample may not be generalizable to the full study sample, the analysis will consider using a weighted analysis, in which each observation is given a weight based on the inverse of the probability of responding to the survey, based on their characteristics. Weighting is limited in its ability to account for differences, given that weights are based on observable characteristics. The team will also clearly communicate caveats around findings derived from the survey sample in reports and other dissemination of study findings.

Study Outcomes

Exhibit 7 presents the proposed outcomes for the study and the data sources used to construct them. The confirmatory outcomes for the study are indicated with an asterisk. Most outcomes are relatively straightforward to construct and interpret. For the housing subsidy amount (a confirmatory outcome), MDRC will create a common measure that is aligned between the HCV and public housing programs. For HCV, it will be HAP. For public housing, it will be a standardized base amount minus the TTP. This base amount will be a proxy of flat rent (typically 80% of FMR).[18]

The data for Phase 2 will be collected Q4 2026 to Q1 2027, when 18 months of follow-up data will be available for the full sample, and around Q2 to Q3, 2028, when 36 months of follow up data will be available for the full sample. The administrative data for Phase 2 will cover outcomes through three years of follow up for the full study sample. The survey data will cover outcomes through approximately 30 months after study entry.

[18] It is not possible to use the flat rent amount as the base from which to subtract TTP because the flat rent amount is often not reported to PIC for households who are not paying the flat rent during that certification.

Exhibit 7: Study Outcomes

Data Source	NDNH	50058 IMS/PIC	TANF/SNAP	HMIS	Survey
Outcomes	Cumulative earnings over full follow-up period* Total earnings in Y1, Y2, and Y3 Average quarterly employment over full follow-up period Average quarterly employment in Y1, Y2, and Y3 Ever employed in Y1, Y2, and Y3	Total housing subsidy amount over full follow-up period* Total housing subsidy amount in Y1, Y2, and Y3 Total housing subsidy amount in follow-up period – distribution (instead of average) Average number of months received housing subsidies Exited housing assistance in Y1, Y2, and Y3 Exited housing assistance during the follow-up period for reason 1, reason 2, etc. Ported out to another housing agency in Y1, Y2, and Y3 Ever requested a hardship exemption during full follow-up period Ever requested a hardship exemption in Y1, Y2, and Y3 Ever granted a hardship exemption during full follow-up period Ever granted a hardship exemption in Y1, Y2, and Y3	Ever received TANF in full follow-up period Ever received TANF in Y1, Y2, and Y3 Average TANF amount over full follow-up period Average TANF amount in Y1, Y2, and Y3 Ever received SNAP in full follow-up period Ever received SNAP in Y1, Y2, and Y3 Average SNAP amount over full follow-up period Average SNAP amount in Y1, Y2, and Y3	At least 1 night stay (in emergency shelter, transitional housing, etc.) during full follow-up period At least 1 night stay in Y1, Y2, and Y3 Any stay in an emergency shelter during full follow-up period Any stay in an emergency shelter during Y1, Y2, and Y3	Material hardship Employed at survey Job characteristics (e.g., hours, wages, benefits) Household composition Housing hardships

Analysis Strategy

The impact of the alternative rent policies will be examined by comparing outcomes for households assigned to the alternative rent policy with households assigned to the traditional rent policy. In practice, these comparisons will be conducted using regression analysis and controlling for a range of baseline characteristics to increase the statistical power of the model. For example, an outcome, such as "total earnings" or "total housing subsidy" will be regressed on an indicator for intervention group status and a range of other background characteristics. The following basic impact model would be used:

$$Y_{ij} = \alpha + \beta P_{ij} + \delta X_{ij} + \gamma_j + \varepsilon_{ij}$$

where: Y_{ij} = the outcome measure for sample member i in PHA j; P_{ij} = one for program (or intervention) group members and zero for control group members; X_{ij} = a set of background characteristics for sample member i; γ_j is a set of PHA specific indicators; ε_{ij} = a random error term for sample member i in PHA j; β= the estimate of the impact of the program on the average value of the outcome; α=the intercept of the regression; and δ = the set of regression coefficients for the background characteristics.

In estimating impacts on earnings and employment outcomes, separate estimates will be produced for the heads of households, other adults in the household, all adults combined, and the household (as defined at the time of random assignment).[19] However, heads of households will be the *primary* unit of analysis for estimating *confirmatory* impacts, and for a fuller range of subgroup analyses and analyses of impacts on survey-based outcomes and use of homeless services measures.[20] For housing outcomes, such as subsidy levels, and TANF and SNAP benefit receipt outcomes the unit of analysis is the household.

The main impact analysis will pool the samples across the cluster of PHAs that are implementing the same rent policy to estimate the effects of the alternative rent model for all those sites combined. Pooling increases the precision of impact estimates, which becomes especially relevant when estimating effects for subgroups of the full sample. The analysis will include Houston in the tiered rent cluster, even though that PHA implemented a modified tiered rent. The differences in the policy specification are minor and it is unlikely that a differential effect for Houston could be clearly attributed to these differences in specifications rather than other site-level factors.

---

[19] Unlike RRD, this current study will have the ability to include a household ID on the NDNH files. Therefore, in addition to estimating effects on individual-level earnings and employment, the study will also estimate effects on household-level measures of earnings and employment, with the membership of each household defined as that existing at the time of random assignment.

[20] This would be consistent with the strategy followed in RDD, which also used heads of households as the primary unit of analysis for employment-related outcomes. In that study, it was found that 80 percent of non-heads of households were young adult children, many of whom exited the family lease and the voucher program within the first few years of the study's follow-up period, limiting their exposure to the new rent policy.

Covariates

A range of variables will be included in the impact regression model, in order to increase the precision of the impact estimates. The covariates are selected based on their expected correlation with the outcome measures of interest. They match the set of covariates used in RRD, with the exception of covariates that are only relevant to STRD (which include HCV vs public housing and recertifying household vs new admission).

From the **50058 data**, the following variables will be created using data from the last certification prior to random assignment: any earned income, youngest child is 5 or younger, sex, number of adults in the household, whether the household has TANF income, whether the household has SSI income, new admission status, single parent status, and other characteristics. All covariates from the 50058 reflect the time of the most recent recertification before random assignment, with the exception of whether the household's youngest child is 5 or younger, which will use date of birth to calibrate age to random assignment.

From the **NDNH data**, variables will be included capturing employment and earnings in the year prior to random assignment. **TANF/SNAP** data will be used to create variables capturing receipt of these benefits in the year prior to random assignment.

Data from the **Baseline Survey** will be used to create covariates that are not available from the administrative records data, including: received housing subsidies for at least 4 years; employment status; number of months worked in the prior year; and has high school diploma or GED.

Finally, we will use data on age of head of household and housing program type (HCV vs public housing) at enrollment from the **enrollment data**, for which we will have data regardless of whether the household responded to the baseline survey.

Accounting for multiple hypothesis testing

When multiple outcomes are examined, the probability of finding statistically significant effects increases, even when the intervention has no effect. For example, if 10 impacts are estimated for an intervention that has no true effect, it is likely that one of them will be statistically significant at the 10 percent level simply by chance. As the number of outcome measures expands, the number of "false positive" results may also increase.
To address this problem, the current study has specified only two confirmatory outcomes for the impact analysis, which align with the study's two primary research questions: (1) cumulative earnings and (2) cumulative HAP. In addition, the study will use a commonly accepted method (Benjamini-Hochberg) to adjust for multiple hypothesis tests.[21] The adjusted p-values will be presented as a sensitivity test in addition to the unadjusted p-values. Note that the original

[21] Benjamini-Hochberg (1995).

analysis plan for the demonstration (Phase 1) considered including households' material hardship as a confirmatory outcome. Unlike RRD, with higher-than-typical minimum rents that raised concerns about effects on material hardship, there is less expectation that STRD will affect hardship, except through changes in household earnings. As noted earlier, the higher steps of the stepped rent policy may affect hardship if families cannot increase earnings to keep up with higher rents and there are inadequate hardship protections, but this effect is longer term and only for one rent policy. For that reason, material hardship is designated as an exploratory outcome.

Missing data

Missing data will not be imputed for outcomes. If a household does not have data for a given outcome, such as subsidy amount, they will not be included in the analysis. For outcomes derived from SNAP/TANF and NDNH records, outcomes will only be constructed for households with social security numbers (required for matching data across administrative agencies). Among those households, if no records are found in a given quarter in the NDNH, for example, it will be assumed that the individual did not work in that quarter, and earnings and employment will be set to zero.

Missing data for baseline covariates will be imputed. In a random assignment study, there are few (if any) drawbacks to imputing the baseline covariates. Missing data for the baseline covariates will be imputed using the indicator variable approach, in which a missing indicator is included in the model and the missing values is set to a constant.

Sample sizes and Minimum Detectable Effects (MDEs)

Exhibit 7 presents estimated minimum detectable effects (MDEs) based on the sample sizes of the ten selected sites.[22] The MDEs represent the smallest estimated effect that the analysis is likely to detect.

The table shows that the study is well-powered to detect effects. For the tiered rent test, for example, the study could detect an impact on employment of 2.6 percentage points and an effect on annual earnings of $748. The stepped rent test MDEs are a bit larger, but still relatively small, at 3.7 percentage points and $1,044 for employment and earnings, respectively. (Note the stepped rent MDEs for N=4,000 also apply to the expected survey sample for each policy group.) Adjusting for multiple hypothesis testing, given two confirmatory outcomes, increases the MDEs by about 12 percent.

[22] MDEs in the Phase 1 research design have been updated in this Phase 2 research design to reflect actual number of households enrolled in the study by site (rather than projections) as well as actual assumptions based on baseline characteristics of the study sample.

Exhibit 8: Minimum Detectable Effects

Outcome	Main Impacts		*With Adjustment for Multiple Hypothesis Testing*	
	Impact	**% Change**	**Impact**	**% Change**
	Tiered rent (N=7,800)			
Employment (% points)	2.6	5.2%	3.0	6.0%
Earnings ($)	748	5.3%	843	6.0%
Housing Subsidy ($)	30	3.0%	34	3.4%
	Stepped rent (N=4,000) or tiered rent survey sample			
Employment (% points)	3.7	7.4%	4.2	8.4%
Earnings ($)	1,044	7.5%	1,177	8.4%
Housing Subsidy ($)	43	4.3%	48	4.8%
	50% of stepped rent subgroup (N=2,000)			
Employment (% points)	5.3	10.6%	**5.9**	11.8%
Earnings ($)	1,477	10.6%	1,664	11.9%
Housing Subsidy ($)	60	6.0%	68	6.8%
MDES	*.105*		*.119*	
	Subgroup (N=1,000)			
Employment (% points)	**7.5**	15.0%	**8.4**	16.8%
Earnings ($)	2,089	14.9%	2,353	16.8%
Housing Subsidy ($)	85	8.5%	96	9.6%
	Site (N=500)			
Employment (% points)	10.5	21.0%	11.9	23.8%
Earnings ($)	2,954	21.1%	3,328	23.8%
Housing Subsidy ($)	120	12.0%	136	13.6%

Assumptions: Control group levels are assumed to be: 50% for employment, $14,000 for mean annual earnings, and $1,000 for monthly housing subsidy; standard deviations of $14,000 for annual earnings and $570 for monthly housing subsidy. MDE calculation for 2-tailed test at 10% significance and 80% statistical power. Calculations assume that the R-squared for each impact equation is .10.

The next panel of the table shows MDEs for N=2,000, which would apply for a subgroup that is 50 percent of the stepped rent sample or of either expected survey sample. Effects are reasonable in size, with 5 ppts to 6 ppts for employment and a 10 percent to 11 percent increase in earnings. The panel also presents the minimum detectable effect size (MDES), or the impact in standard deviation units. The MDES are relevant to outcomes that are not in standard units. The values for this sample size are .10 to .11, which are considered small in the evaluation literature.[23]

The next panel presents MDEs for a smaller subgroup (N=1,000). As noted below the proposed confirmatory subgroup is defined by full-time, part-time or no work status, the smaller two of which include about 1,000 individuals in the stepped rent analysis (the smaller of the two policy groups). MDEs for earnings are a bit larger, at 15 percent, but still fairly reasonable in terms of expected effects.

MDEs for site-specific estimates, shown in the final panel of the exhibit, are fairly large, given the small sample size at a given site. However, the analysis by site is exploratory so appropriate cautions will be provided when interpreting the findings.

Subgroup and site-specific analyses

The evaluation will investigate whether the new rent policies have differential effects for certain subgroups of residents (see Exhibit 9). One subgroup is pre-specified as "confirmatory," and all others are considered "exploratory." Confirmatory subgroups are ones for which differences in impacts across subgroup categories are predicted based on prior theory or evidence, or because a given subgroup is of great policy interest. Appendix Table A presents cases in which the selected subgroups changed from the Phase I plan and the reason for the change.

For both rent policies, there is one confirmatory subgroup: whether the tenant is working full time, part time, or not at all at baseline. Both rent policies may lead to differential effects based on the households' employment status at study entry, although the likely direction of those effects is not obvious. Household heads who are not working at baseline may have the most to gain from the new policies, since it is often easier for individuals who are not working or working only part time to increase their hours in work than it is for those already working full-time to advance to higher-wage jobs. The opportunity to keep all or a larger portion of their increased earnings before the tiered rent triennial recertification or before an annual stepped rent increase may be especially appealing for them for that reason. For a similar reason, adults working part time also stand to gain relatively more than full-time workers. Part-time workers may also have more flexibility to increase their earnings to keep up with higher stepped rents or adjust their earnings within tiers. On the other hand, tenants who are not working or not working part-time may be facing personal or situational obstacles that make it more difficult to take advantage of the work incentives created by the new rent policies even if they would like to do so.

Exploratory subgroups for both types of rent policies include, for example, labor force

---

[23] Cohen (1988).

attachment, recent admission versus more tenured recipient, age of youngest child, and household head's education level. Each of these factors may affect the household's ability to respond to the policy be moving into work or working more. In addition, two subgroups are specific to each rent policy. Within each policy, effects may vary based on the households' initial placement, e.g., in the bottom versus the top of a tier, or whether on a lower versus higher step on the stepped rent schedule. For both policies, households at the bottom of the tier or starting with a low initial rent have more flexibility and incentive to increase their incomes through work. Households at the top of a tier, in contrast, may face a disincentive to increase income given that even a small increase will place them in the next income tier at their next recertification.

The analysis will primarily use a "split-sample" subgroup analysis approach, where the full sample is divided into two or more mutually exclusive groups. Impacts will be estimated for each subgroup separately. For example, for the confirmatory subgroup analysis, impacts will be run separately for the group of tenants who were not working at baseline, for the group of tenants that were working part time at baseline, and for the group of tenants who were working full time at baseline. In addition to determining whether the alternative rent policy had statistically significant effects for each subgroup, H-statistics will be used to determine whether impacts differ significantly across subgroup categories.[24] In other words, are the *differences* in estimated effects for the three groups described above (not working vs working part time vs working full time) statistically significant rather than differences that are likely due to chance?

Exhibit 9: Subgroup Definitions

Subgroup	Tiered rents	Stepped rents	Data Source	Subgroup definition
Whether working full-time, part-time, or not working at baseline	Confirmatory	Confirmatory	BIF	Not working vs. working 1-34 hours vs. working 35+ hours[25]
Whether working at baseline	Exploratory	Exploratory	NDNH	No earnings in quarter prior to RA vs Any earnings in quarter prior to RA
Work history	Exploratory	Exploratory	NDNH	Employed all 4 quarters vs. 1-3 quarters vs. 0 quarters in year prior to RA
Near bottom vs near top of tier	Exploratory	N/A	50058	Bottom third of tier vs. middle third of tier vs. top third of tier

[24] Greenberg, Meyer, and Wiseman (1994).

[25] The categories of hours worked on the baseline survey are 1-20, 21-34, 35-48, and 49+ hours per week. Full time work is typically defined as 35+ hours per week in employment-related research, but also commonly defined as 30+ hours per week. Of the subset of respondents who reported a precise number of hours per week worked (instead of selecting a category), of those that reported working 21-34 hours, 58% reported working 21-29 hours per week, 28% reported working 30 hours per week, and 14% reported working 31-24 hours per week.

Lower vs higher step on stepped rent schedule	N/A	Exploratory	50058	Bottom third of TTP vs middle third of TTP vs top third of TTP
<1 year with housing subsidy receipt vs. 1+ years with housing subsidy receipt	Exploratory	Exploratory	BIF	Household is new admission or has been receiving housing subsidies for less than 1 year at RA vs. household has been receiving housing subsidies for at least 1 year.
New admission vs. already in subsidy program	Exploratory	Exploratory	50058	New admission vs. household is already in the HCV or public housing subsidy program
Tenant-based HCV vs place-based PBV or public housing	Exploratory	Exploratory	50058	Household has a tenant-based voucher vs. household has a place-based voucher or is living in public housing
Whether household is a single parent with no other adult in household	Exploratory	Exploratory	50058	Head of household has a child under 13 years old in the household and no other adult in the household (based on the most recent certification prior to random assignment in the HUD PIC/HIP data)
Whether household is receiving SNAP benefits	Exploratory	Exploratory	SNAP	SNAP receipt in the month prior to RA
Age of youngest child	Exploratory	Exploratory	50058	0-5 years; 6-12 years; 13-17 years; no children
Education level	Exploratory	Exploratory	BIF	Less than HS/GED; HS/GED; some college or more

As an exploratory analysis, impacts will also be estimated for each site separately to examine the variation in effects across the sites within the same rent policy cluster. There may be variation in effects across PHAs related to variation in the characteristics of the families they serve, the context in which the policies operate (e.g., in the local labor market and housing market), in the implementation of the rent policy, or in other policies in effect at the PHAs.[26] For example, the Akron housing agency used its MTW flexibility to extend its HCV program

[26] For the Houston Housing Authority, the site-specific findings may not be generalizable to the full eligible sample in that agency. The housing agency had a large proportion of HCV households whose recertification during the Covid pandemic had been delayed and had not yet been recertified at the time that STRD enrollment opened in Houston in 2023. Since these households had next recertification dates in the subsidy software system that were a couple of years in the past, they did not come up for their regular recertification during the enrollment period and were initially omitted from STRD enrollment. However, in early 2024, HUD required the housing agency to recertify its backlog of delayed recertifications, and households were enrolled into the study at that time. A preliminary analysis suggests that households who had very delayed recertification were more disadvantaged, on average, than those who stayed on their regular recertification schedule. Additional analyses will be explored to assess the representativeness of the study sample in that site.

"grace period" from the standard 6 months to 12 months.[27] This change applied to all HCV households, including households in the tiered rent group and the control group. Implementing the tiered rent policy in the context of a longer grace period might lead tiered rent households to be more responsive to the earnings incentives in the tiered rent policy (compared with households under the tiered rent policy in the other PHAs that still use the standard 6-month grace period) if there is an interaction between the reduced earnings disincentive from the extended grace period and the reduced earnings disincentive from the extended recertification period in the tiered rent policy.[28]

If the effects do differ across sites within the same rent policy, the research team will explore some possible factors that may be contributing to the disparities, drawing on the team's understanding of how the models differ and, possibly, differences in patterns of implementation and other quantitative patterns. Pending notable differences in impacts, the analysis may use an H-statistic to test whether the variation across sites is statistically significant. As shown in the MDE section above, the effects would have to be much larger to detect statistical significance at the site level compared with the pooled analysis.

VII. IMPLEMENTATION STUDY

The goals of the implementation research are to document how the stepped and tiered rent policies are implemented by each PHA, including (but not limited to) how they is described to and understood by tenants; how they compare with the standard rent policy in terms of ease of administration, transparency, burden on staff and on tenants; and whether they are less error-prone.

MDRC has completed one round of implementation interviews with PHA staff and administrators in August 2023 through December 2023 and is currently conducting a second round of interviews (that began in December 2024). As part of Phase 2, the third round of implementation interviews are scheduled to be conducted in late 2026 through early 2027. This third round of interviews will be used to gather staff perspectives on each PHA's longer-term, "steady state" operations of the new rent policy, which will provide important contextual information for evaluating the new rent policies. The team will conduct one round of staff interviews at each of the ten study sites, which will include two virtual group implementation

[27] The grace period in the HCV program is the length of time that a household whose income has increased to the point where their housing subsidy amount has reached $0 but during which the household is not terminated from the program and a reduction in income can reinstate the subsidy.

[28] The Houston Housing Authority is implementing a slightly modified version of the tiered rent policy; however, refinements in the policy in Houston and the other four sites during the time leading up to launch resulted in Houston's modified version having only minor differences from the tiered rent policies in the other four sites, making it unlikely that there will be differential effects in Houston due to the differences in policy design. If there is evidence of differential effects, those findings would be interpreted in the context of this modified policy. (However, they could not be attributed to the modified version of the policy in Houston due to the many other contextual differences between the Houston housing agency and the other four housing agencies implementing the tiered rent policy.)

interviews per site focused on understanding program operations and experiences at around three to six months after the first triennial recertification effective dates.

The interviews will yield important information about the PHAs' experience administering triennial recertifications, gathering the required documents from families, applying the verification hierarchy, calculating TTPs and hardship remedies, and staff level of effort for implementation activities. At each site, we plan for one of the two implementation group interviews to include two to four frontline staff (representing both HCV and, when applicable, public housing) and the other group interview to include two to four supervisors (also representing both HCV and, when applicable, public housing).

VIII. COST STUDY

The goal of the cost study is to assess whether either of the alternative rent policies is less expensive to administer than the traditional rent policy and to identify which aspects of the policy may be driving or offsetting any savings. Both tiered rents with an extended recertification period and stepped rents have the potential to reduce the burden and costs of administering the HCV and public housing programs. Implementing a triennial recertification schedule for the tiered rent policy and the triennial eligibility verification for the stepped rent policy should reduce the frequency of regular recertifications under both alternative rent policies. Changes to income reporting requirements between recertifications may also reduce the number of interim certifications. On the other hand, the administration of the hardship policies and the need to collect retrospective income information for recertifications may at least partially offset those reduced costs.

The cost analysis will use administrative records data from PIC/HIP, hardship data collected by the PHAs, and PHA financial data along with specially collected information on how PHA staff spend their time administering the new and existing rent policies. The research team will interview staff to ask them about their time estimates for different types of tasks they perform for each rent policy, including certifications (e.g. annual/triennial recertifications, interim certifications). It will then use 50058 data on the total number of each type of certification to produce estimates of the total amount of staff time used for the alternative rent policies compared with the traditional rent policy. The research team will use PHA data on the number of recorded hardship requests, the number of hardships exemptions the PHA granted or denied, and the amount of time that staff reported spending on processing hardship requests and exemptions to estimate the total amount of time spent on administering the hardship policy.

To calculate the difference in administrative cost per household for each rent policy relative to the control group, the cost analysis team will produce dollar value estimates of staff hours (shadow prices) using pertinent wage rates, fringe benefits, office and other non-labor expenses, and overhead cost information. Financial reports and other financial information gathered from the PHAs will be used to determine the hourly rate for staff salaries and fringe benefits and overhead costs related to office space, supplies, and general housing agency expenses. The estimates of the dollar value of staff time will be used together with the time data collected from staff interviews and data on total number and types of actions from administrative records source to create cost-per-household estimates.[29]

The analysis will also attempt to identify which aspects of the alternative policy may be driving or offsetting any differences in administrative costs. It is, of course, understood that start-up costs can be higher than those achieved after routinized systems are established; and the analysis would attempt to focus on steady-state costs, not the higher start-up costs, to the extent possible.

IX. REPORTS AND DELIVERABLES

Two reports will be produced during Phase 2 of the evaluation.

The **interim report** (scheduled for Q4/2027) will present findings on early impacts of the alternative rent policies on employment, earnings, and housing subsidies, based on an analysis of these administrative data sources collected for the full study sample through 18 months after the effective date of the initial recertification. It will also include findings from descriptive analyses from the initial certifications under the new rent policies using the HUD's PIC/HIP data and the PHA hardship request data, including a comparison of retrospective to current income, average TTP at the initial certification for households in the stepped and tiered rent groups compared with households in the comparison group, the proportion of alternative rent households who are granted automatic hardships at the initial certification, and the number of hardships that households requested in the 18 months following the initial certification. The experiences of the alternative rent group households begin to deviate from those of the standard rent rules group most meaningfully one year after the initial certification at the start of the demonstration, when stepped rent households experience their first annual step increase and the control group households in the tiered rent PHAs experienced their first annual recertification since the initial certification (while the tiered rent group households do not experience a recertification or adjustments to TTP if their income increases). This analysis would capture approximately six months of economic and other outcome data following this one-year mark, reflecting both potential economic responses to the first annual step increase and absence of the standard annual certification, as well as any change in behavior leading up to that point when households first learn about the alternative rent policies and potentially change their economic behavior in response to the policies' inherent incentives. While the household survey and the PHA staff interviews will not be complete at this time, this report would offer a first glimpse at any potential effects that might have begun to emerge at this

[29] The analysis will produce cost estimates per study family to evaluate the administrative costs of the alternative rent policies relative to the control group. It will not account for "replacement families" who will enter housing when households that enrolled in the study exit housing. Subsidy costs may be affected if there are differential exit rates between the alternative rent rules groups and the standard rent rules group, but these will not be factored into the analysis. The analysis will also not account for the cost of actions related to voucher turnover. A per-voucher-slot cost analysis that accounts for the costs of administering the rent policies to both study families and replacement families is an optional task that HUD may opt to activate.

time. MDRC will submit one draft of this report to HUD for review, with a final version incorporating HUD's input.

The **Comprehensive 3-Year Report**, with a first draft planned for Q1/2029, will present the results of the full range of research conducted under this contract. The report will include the findings from the implementation study, the impact analysis described in the previous interim report, as well as further impact and cost analyses through the first three years that households were subject to the alternative policies. It will draw on the PHA staff interviews, the household survey, and administrative data (including PIC/HIP, NDNH, HMIS, TANF/SNAP). If the subsidy cost analysis option is exercised, it will include findings from that cost analysis as well. Taken together, this report will reflect a comprehensive assessment of what the research has shown so far about participant and staff experiences with and perspectives on the policy, PHA administrative burden, and early effects on households' employment, material hardship, housing, and other outcomes. The timing of the report will allow it to cover results at important junctures in the operation of the policies: at a point when stepped rent households have experienced two annual step increases and are approaching a third; tiered rent households are nearing the end of their first three years prior to the triennial recertification (before but close to when their TTPs will have been adjusted for income changes); and households in both policy groups have been subject to their alternative rent policy for a period of time where potentially many households will have qualified for and received hardship exemptions. The Comprehensive 3-Year Report will build off what was learned from the evaluation in Phase 1 and was published in those reports. It will also draw from results and insights from the Rent Reform Demonstration evaluation. This report will undergo two draft reviews by HUD before a final version is submitted to HUD.

Appendix A

Subgroups specified in Phase 1 Research Design				Subgroups specified in Phase 2 Research Design				
Subgroup	**Confirmatory/ Exploratory**	**Data Source**	**Subgroup definition**	**New subgroup**	**Confirmatory/ Exploratory?**	**Data source**	**Subgroup definition**	**Rationale for change**
Whether working at baseline	Confirmatory	NDNH	No earnings in quarter prior to RA vs Any earnings in quarter prior to RA	[no change]	Exploratory	[no change]	[no change]	Prioritizing working part-time vs. full-time vs. not working. Household heads not working at all might face significant barriers to working and may not be able to respond easily to the earnings incentives; many working full time may already be at their work or earnings capacity; those working part time might have more flexibility to respond to earnings incentives by increasing hours
N/A	N/A	N/A	N/A	Whether working part-time, part time, or not working at baseline	Confirmatory	BIF	Working 0 hours vs. working 1-34 hours vs. working vs working 35+ hours	Very high response rate on BIF; individuals in each of these categories face different incentives (as described in the entry above); timing of BIF is more relevant to incentives the household faces when they enter the demo

Subgroups specified in Phase 1 Research Design				Subgroups specified in Phase 2 Research Design				
Subgroup	**Confirmatory/ Exploratory**	**Data Source**	**Subgroup definition**	**New subgroup**	**Confirmatory/ Exploratory?**	**Data source**	**Subgroup definition**	**Rationale for change**
Near bottom vs near top of tier	Confirmatory for tiered rents	50058	Bottom third of tier vs. middle third of tier vs. top third of tier	[no change]	Exploratory	[no change]	[no change]	Exploratory because PHA staff and participants so far have not conveyed that the tiered structure is a salient feature of the policy; subgroup defined post-random assignment
Lower vs higher step on stepped rent schedule	Confirmatory for stepped rents	50058	Bottom third of TTP vs middle third of TTP vs top third of TTP	[no change]	Exploratory	[no change]	[no change]	Subgroup definition likely confounded with confirmatory outcome (working full-time; working part-time; not working); confirmatory outcome can apply to both rent policies; subgroup is defined post-random assignment
High barriers to employment	Confirmatory	BIF and NDNH	No earnings in year before RA and no HS/GED; some earnings in year before RA and no HS/GED; no earnings in year before RA and HS/GED; some earnings	[removed]	N/A	N/A	N/A	Sample sizes for these subgroups that are defined by a combination of work history and education are small and will have low statistical power to detect effects

Subgroups specified in Phase 1 Research Design				Subgroups specified in Phase 2 Research Design				
Subgroup	**Confirmatory/ Exploratory**	**Data Source**	**Subgroup definition**	**New subgroup**	**Confirmatory/ Exploratory?**	**Data source**	**Subgroup definition**	**Rationale for change**
			in year before RA and HS/GED					
N/A	N/A	N/A	N/A	Work history in prior year	Exploratory	NDNH	Employed all 4 quarters vs 1-3 quarters vs 0 quarters in year prior to RA	The measure combined with education (in the entry above) yielded small sample sizes for some subgroups, but the work history measure alone is likely feasible (the research team will confirm when we receive NDNH data for the study).
New admission vs already in subsidy program	Exploratory	50058	New admission vs household is already in the HCV or public housing subsidy program	<1 year housing subsidy receipt vs 1+ years housing subsidy receipt	exploratory	BIF	Household is new admission *or* has been receiving housing subsidies for less than 1 year at the time of enrollment vs. has been receiving housing subsidies for at least a year	The total number of new admissions enrolled is smaller than expected and we would not have the statistical power to detect reasonably sized effects. Households who have been in the subsidy program less than a year have had their initial lease-up but have not yet gone through their first annual recertification, so they could also be considered as a group with low exposure to the standard rent rules.

Subgroups specified in Phase 1 Research Design				Subgroups specified in Phase 2 Research Design				
Subgroup	**Confirmatory/ Exploratory**	**Data Source**	**Subgroup definition**	**New subgroup**	**Confirmatory/ Exploratory?**	**Data source**	**Subgroup definition**	**Rationale for change**
HCV vs public housing	Exploratory	50058	Household is in the HCV program vs living in public housing	Tenant-based vs. place-based	[no change]	[no change]	Household has a tenant-based voucher vs. a place-based voucher *or* is living in public housing	Sample sizes for public housing alone are very small; some sites have undergone RAD conversions (and a couple have converted all of their public housing with RAD); both PBV and public housing will have more predictable rent contribution compared with tenant-based HCV, where total family share is affected not just by TTP changes but also by contract rent and payment standard changes
Whether household head is a single parent with no other adult in the household and is also not employed	Exploratory	50058	Not Employed based on NDNH in quarter prior to RA and HH composition based on PHA data at RA	Whether household head is a single parent with no other adult in the household	[no change]	[no change]	Head of household has a child under 13 years old in the household and no other adult in the household (based on the most recent certification prior to random	This change will yield a larger sample for assessing whether impacts are less likely for single parents without a second adult present—a group likely to face higher employment barriers, especially related to childcare, even if already working.

Subgroups specified in Phase 1 Research Design				Subgroups specified in Phase 2 Research Design				
Subgroup	**Confirmatory/ Exploratory**	**Data Source**	**Subgroup definition**	**New subgroup**	**Confirmatory/ Exploratory?**	**Data source**	**Subgroup definition**	**Rationale for change**
							assignment in the HUD PIC/HIP data)	
Whether household is receiving SNAP benefits	Exploratory	SNAP	SNAP receipt in the month prior to RA	[no change]	[no change]	[no change]	[no change]	[no change]
Whether household is receiving TANF benefits	Exploratory	TANF	TANF receipt in the month prior to RA	[removed]	N/A	N/A	N/A	Only a small proportion of the study sample was receiving TANF at enrollment (approx. 9%) and they were generally clustered in only a couple of sites.
Length of time receiving housing subsidies	Exploratory	50058	Less than 7 years vs 7 or more years	[removed]	N/A	N/A	N/A	This BIF measure is combined with the new admissions indicator to create the low exposure vs high exposure subgroup described above. The 1 year threshold is meaningful as a measure of exposure than 7 years.
Age of youngest child	Exploratory	50058	0-5 years; 6-12 years; 13-17 years; no children	[no change]	[no change]	[no change]	[no change]	[no change]
Education level	Exploratory	BIF	Less than HS/GED;	[no change]	[no change]	[no change]	[no change]	[no change]

Subgroups specified in Phase 1 Research Design				Subgroups specified in Phase 2 Research Design				
Subgroup	**Confirmatory/ Exploratory**	**Data Source**	**Subgroup definition**	**New subgroup**	**Confirmatory/ Exploratory?**	**Data source**	**Subgroup definition**	**Rationale for change**
			HS/GED; some college or more					

References

Abt Associates Inc., the Urban Institute, and Applied Real Estate Analysis, Inc. 2010. *Study of Rents and Rent Flexibility*. Report prepared for the U.S. Department of Housing and Urban Development, Office of Public and Indian Housing. Washington, DC: U.S. Government Printing Office.

Benjamini, Yoav, and Yosef Hochberg. "Controlling the false discovery rate: a practical and powerful approach to multiple testing." *Journal of the Royal statistical society: series B (Methodological)* 57, no. 1 (1995): 289-300.

Castells, Nina, Nandita Verma, Keith Olejniczak, James A. Riccio, Elizabeth Saiz, and Alexandra Ubalijoro. (2023) *Rent Reform in Subsidized Housing: Launching the Stepped and Tiered Rent Demonstration.* New York: MDRC.

Castells, Nina, James Riccio, Nandita Verma, Keith Olejniczak, and Jonathan Bigelow. (2021) *Moving to Work Demonstration Expansion Stepped and Tiered Rent Demonstration Research Design, Data Collection, and Analysis Plan*, (HUD).

Cohen, J. (1988). Statistical Power Analysis for Behavioral Sciences. Hillside, NJ: Lawrence Erlbaum.

Government Accountability Office. 2012. *Housing Choice Vouchers: Options Exist to Increase Program Efficiencies.* Washington, DC: U.S. Government Printing Office.

Greenberg, David, Robert H. Meyer, and Michael Wiseman. 1994. "Multisite employment and training program evaluations: A tale of three studies." *ILR Review* 47, 4: 679-691.

Khadduri, Jill, Melissa Vandawalker, Rebecca Cohen, and Jeffrey Lubell. 2014. *The Innovations in the Moving to Work Demonstration*. Cambridge, MA and Bethesda, MD: Abt Associates.

MDRC. 2015. "Testing an Alternative Rent Policy for Housing Choice Voucher Recipients." Unpublished paper. New York: MDRC.

Public Housing Authorities Directors Association. 2005. *Rent Reform: Fair and Simple Solutions*. Washington, DC: Public Housing Authorities Directors Association.

Riccio, James, and Victoria Deitch. 2019. *The Rent Reform Demonstration: Interim Findings on Implementation, Work, and Other Outcomes*. New York: MDRC.

Riccio, James, Victoria Deitch, and Nandita Verma. 2017. *Reducing Work Disincentives in the Housing Choice Voucher Program: Rent Reform Demonstration Baseline Report*. New York: MDRC.

Riccio, James, Nandita Verma, Gilda Azurdia, and Edith Yang. *The Rent Reform Demonstration: Impacts on Work, Housing, and Well-Being After 42 Months.* New York: MDRC.

Turnham, Jennifer, Meryl Finkel, Larry Buron, Melissa Vandawalker, Bulbul Kaul, Kevin Hathaway, and Chris Kubacki. 2015. *Housing Choice Voucher Program: Administrative Fee Study Final Report*. Washington, DC: U.S. Department of Housing and Urban Development.