

# The Rent Reform Demonstration: Early Effects on Employment and Housing Subsidies



LEXINGTON

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WASHINGTON, D.C.



# **The Rent Reform Demonstration: Early Effects on Employment and Housing Subsidies**

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***Revised 2021***

# Errata

The original edition of this report, published November 2019, included data errors regarding employment and earning results using National Directory of New Hires data. Those errors have been corrected in this edition, published May 2021.

## Correct Exhibits

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<sup>1</sup> The Acknowledgments list the institutions with which individuals were affiliated at the time they contributed to the work reflected in this report.

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## **DISCLAIMER**

**The contents of this report are the views of the contractor and do not necessarily reflect the views or policies of the U.S. Department of Housing and Urban Development or the U.S. Government.**

## Foreword

In 1969, a landmark piece of national affordable housing legislation, sponsored and subsequently named for U.S. Senator Edward Brooke, was enacted into law. This law, the Brooke Amendment, established limitations on the rents charged to families and individuals in federally assisted housing. Initially, the Brooke Amendment limited rent charges to 25 percent of an assisted family's income. Over time, numerous changes were made to the basic rent setting policy, raising the threshold to 30 percent (enacted in 1981) and adding numerous adjustments, exclusions and deductions, as well as adding minimum and ceiling rent options.

Over the last few decades, critics have suggested that the Brooke Amendment, in its pursuit of safeguarding affordability, creates a disincentive to work by dampening tenant motivation to earn more income. In response, The Department of Housing and Urban Development (HUD) has undertaken a Rent Reform Demonstration to comprehensively test alternatives to the current rent-setting requirements for one of its key, and largest, housing assistance programs: Housing Choice Vouchers (HCV). The Demonstration has three key goals it is testing. They are specifically, how to:

- Incentivize employment for work-eligible individuals
- Reduce the complexity and administrative burden for PHAs
- Avoid unnecessary hardship on assisted families

This demonstration has been underway since 2015 and in that time over 6,600 families have been randomly assigned to either the alternative rent rules or a control group subject to the existing rules at the four Public Housing Agencies (PHAs) that are participating in the demonstration. This report, "Early Effects", is one of two reports being released simultaneously on the Rent Reform Demonstration. It presents findings on the new rent policy's effects, or "impacts," on household heads' labor market and housing-related outcomes from the first 12 to 18 months after the alternative rent model went into effect for the treatment group. The other report, "Interim Findings," presents results from the second followup period, 27 to 30 months after the alternative rent model was implemented for the treatment group.

The early results indicate that when the findings for all four PHAs are combined, the new policy generated a small statistically significant increase in heads of household's quarterly employment rate. When findings for all of the PHAs except Washington, DC are combined, there is a small statistically significant increase in both quarterly employment rates and Year 1 average annual earnings. The story, however, varied substantially across locations. There were some positive effects on earnings in Lexington, on earnings and employment in San Antonio, but not in Louisville and Washington, D.C. The report also presents other early effects indicating larger housing subsidies and longer tenure in the voucher program, which are expected short-term results related to the use of triennial income recertification to establish tenant rent contributions, increased use of hardship remedies, decreased PHA administrative actions, and some preliminary subgroup findings.

Given the early nature of this review, it is too soon to draw firm conclusions on the triennial recertification (the element of the model most expected to influence employment and earnings) and whether it is having its intended effect. However, the findings indicate that a new minimum rent does not seem to have any short-term impact on employment or earnings, based on the lack of employment or earnings effects in Washington, DC where the minimum rent increased from \$0 to \$75.

Future reports will assess the impact of the alternative rent model, including any long-term effects, through a followup survey. There will be an additional interim report, expected in 2021, with the final report gathering 6 years of data (covering two triennial recertifications), scheduled for 2023.

A handwritten signature in black ink, appearing to read 'S. Appleton', with a long, sweeping horizontal line extending to the right.

Seth D. Appleton  
Assistant Secretary for Policy Development and Research  
U.S. Department of Housing and Urban Development

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## Executive Summary

For many years, housing subsidies for people who receive rental assistance vouchers have, according to critics, created a disincentive for tenants to work. Because voucher holders pay more toward their rent and utilities as their incomes rise, they face an implicit marginal “tax” on increased earnings (approximately 30 percent). Critics of this traditional rent policy also believe that it imposes a substantial and costly administrative burden on public housing agencies (PHAs), in part because it requires them to adjust subsidies up or down, as families’ incomes fall or rise, and to apply complicated rules in determining subsidy levels.

Strong evidence is lacking on whether any alternative rent policies substantially improve tenants’ employment outcomes, or on what effects they might have on families’ receipt of housing subsidies or PHAs’ administrative burden and costs. In a step toward promoting innovative rent subsidy policies and building better evidence on “what works,” the U.S. Department of Housing and Urban Development (HUD) launched the Rent Reform Demonstration. The demonstration, which began enrolling voucher holders in 2015, focuses on recipients of tenant-based housing choice vouchers in four cities and PHAs: Lexington-Fayette Urban County Housing Authority (generally referred to as the Lexington Housing Authority), in Lexington, KY; Louisville Metropolitan Housing Authority, in Louisville, KY; San Antonio Housing Authority, in San Antonio, TX; and District of Columbia Housing Authority, in Washington, D.C. These housing agencies are a subset of 39 PHAs that, at the time the project was launched, were part of HUD’s Moving to Work demonstration program, which allows selected PHAs more administrative flexibility in operating their housing assistance programs. HUD selected MDRC and its partners to lead the initiative,<sup>2</sup> working closely with HUD and the four PHAs to design and evaluate an alternative rent policy using a randomized controlled trial.

This report is the second in a series of five reports on the Rent Reform Demonstration. MDRC prepared the initial “Baseline” report in the series. Published by HUD in 2017, the Baseline report describes the origins of the Rent Reform Demonstration, the selection of PHAs, the features of the new policy, the rationale behind each of its main elements, the PHA’s initial implementation experiences, and the manner in which the policy is being evaluated (Riccio, Deitch, and Verma, 2017).

This current “Early Effects” report presents early findings on the effects of the alternative rent policy on the employment and earnings of low-income adults who receive rental assistance through the federal Housing Choice Voucher (HCV) program and on a variety of outcomes related to their housing subsidies. The report provides the first look at the new rent policy’s effects, or “impacts,” on families’ labor market and housing-related outcomes. It covers

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<sup>2</sup>The study team includes the Urban Institute, the Bronner Group, Quadel Consulting & Training, and professors Ingrid Gould Ellen (New York University) and John Goering (City University of New York).

a followup period for each eligible family of approximately 12 to 18 months after the new policy took effect.

Next in the series is the "Interim Findings" report. It presents results from the first 27-30 months of followup. The fourth report (expected in 2021) will provide findings from the long-term followup survey and the first triennial recertification, about 36 months after the new rent policy effective-date. The fifth and final report (expected in 2023) will present findings after the second triennial recertification, about 72 months after the new rent policy effective date.

The 12- to 18-month followup timeframe of this report is too short for a full assessment of the new policy's effects, in part because a critical feature of the policy—new rules governing families' contributions to their rent and utilities—lasts 3 years. The report, nevertheless, does show whether or not the new policy began to effect change in the labor market and in housing-related outcomes relatively soon after implementation.

The results indicate that when the findings for all four PHAs are combined, the new policy did not generate statistically significant increases in tenants' average earnings over the first 18 months of followup. The story varied substantially across locations, however, with some early positive effects on earnings in Lexington and San Antonio but not in Louisville and Washington, D.C. Across all four agencies, the new policy reduced certain types of PHA transactions with families during the first 12 months of followup, generally somewhat reduced families' expenditures for rent and utilities, and reduced their likelihood of exiting the voucher program. Because their rent and utilities costs were capped and they were somewhat less likely than control group families to exit the voucher program, those in the new rent rules group received more in housing subsidies during this period than they would have received under existing rules, as intended by the new policy's goal of reducing work disincentives.

## **HUD's Traditional Rent Policy**

Currently, most families who receive housing choice vouchers are expected to contribute 30 percent of pretax income (after certain adjustments)—known as the "total tenant payment" (TTP)—toward their rent and utilities.<sup>3</sup> The rules for calculating a family's TTP allow several deductions from gross income (including a deduction for some childcare costs for working parents), yielding an "adjusted income" estimate. The calculation looks forward in time, basing the adjusted income estimate on the amount of income a family *currently receives* and *anticipates receiving* during the coming year ("current/anticipated" income in this report). The PHA pays the difference between the family's TTP and the maximum combined rent and utilities cost that the PHA will allow for rental units (depending largely on family size), called a

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<sup>3</sup> Throughout this report, HUD's "current" or "traditional" rent policy for voucher holders refers to the national rent policy in effect for non-Moving to Work PHAs *before* the passage of the Housing Opportunity Through Modernization Act of 2016.

“payment standard.” PHAs are permitted to establish a minimum TTP, or “minimum rent,” of up to \$50 per month, although not all have done so.

This traditional “percentage of adjusted income” approach builds a strong safety-net feature into the rent subsidy system: If a family’s income falls, the family pays less toward its housing costs. This approach also implicitly “taxes” tenants for increasing their earnings, however, which some experts contend reduces their work effort.<sup>4</sup> The traditional rent policy also requires PHAs to review each family’s income and recertify their continued eligibility for the voucher program at least annually and to adjust TTPs and housing subsidies if families’ incomes change. The complex rules governing the calculation of income and rent are commonly considered to be administratively burdensome and prone to errors that can lead to improper payments. The new rent policy attempts to address those problems.

## Overview of the New Rent Policy

The new rent policy developed for the Rent Reform Demonstration substantially alters the traditional rent subsidy approach for voucher holders. Its core features include a combination of elements that are intended to achieve a balance between increasing the financial incentives for tenants to try to increase their earnings, protecting families from excessive rent burden, reducing the PHAs’ administrative burden of operating a rent policy system, and containing subsidy and administrative costs. Those features include the following components:

- **Recertifying families’ continued eligibility for the voucher program and recomputing their TTPs every 3 years rather than every year**
  - Under the triennial recertification schedule, if a family increases its earnings during the 3 years, its TTP will not be raised, and its housing subsidy will not be reduced until the end of Year 3.
- **Changes in the formula for calculating a family’s TTP and subsidy**
  - Eliminate all deductions from income, so that gross income, rather than adjusted income, is the basis for calculating a family’s TTP.
  - Set a family’s TTP at 28 percent of gross income over the prior 12 months (referred to as “retrospective income”), rather than 30 percent of current/anticipated adjusted income.
  - Ignore a family’s income from assets when the total value of its assets is less than \$25,000 (and not require documentation of those assets).

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<sup>4</sup> This is on top of possible reductions in other means-tested benefits families might be receiving (such as welfare or food stamps), making their combined marginal tax on increased earnings more than 30 percent.

- Simplify the policy for determining utility allowances to a streamlined standard schedule based primarily on unit size, with some adjustments for more expensive utilities.
- Establish a minimum TTP of at least \$50 per month and require families to pay at least the specified minimum TTP directly to their landlords.
- **Safeguards for families (in addition to interim recertifications)**
  - A TTP grace period at the start of the 3-year period, allowing for a temporary (6-month) TTP reduction when a family’s current/anticipated gross income is less than its retrospective gross income by more than 10 percent.
  - Allowing one interim recertification per year if a family’s retrospective income falls by more than 10 percent before the next required triennial review.
  - A hardship policy that covers a standard set of conditions and includes a standard set of remedies that permit TTP reductions for families meeting those conditions at any time during the 3-year period—to protect families from excessive rent burdens.

The PHAs participating in the demonstration helped to develop and support this common framework; however, they also saw a need to adapt the model in response to local considerations, or they had to accommodate some policy changes that they had already implemented. For example, the PHAs set their minimum TTPs at different levels, ranging from \$50 to \$150 per month. Two of the four PHAs—in Louisville and Washington, D.C.—introduced a minimum TTP for the first time (\$50 and \$75, respectively), whereas San Antonio, which already had a minimum TTP, increased it for the demonstration from \$50 to \$100. Lexington had already introduced a \$150 minimum TTP before the start of the demonstration, and it continued that policy for both the new rent rules group (the program group) and the existing rent rules group (the control group). The process for determining hardship remedies also varies, although the general conditions defining a hardship and the remedies themselves do not.<sup>5</sup>

Of all the features of the new rent policy, the 3-year recertification is the main one intended to improve labor market outcomes because it eliminates the implicit “tax” on earnings during the 3-year period. The introduction of a minimum TTP, or the increase in an existing one, might also increase work effort because some tenants may need to increase their earnings

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<sup>5</sup> Lexington generally does not permit any reductions in TTPs below the minimum in its application of the demonstration’s hardship policy. The other three PHAs generally require families with zero income to report their family expenditures regularly to the PHA, but the ways they adjust TTPs for those families under the hardship remedies are the same.

to have enough income to meet the new minimum. Various features of the new policy are intended to reduce the administrative burden on PHAs and to protect families from excessive rent burdens.

## **Evaluation Design, Sample Characteristics, and Data Sources**

At the beginning of the study, the PHAs and MDRC identified existing voucher holders who would soon be scheduled for an annual recertification meeting to calculate their new TTPs and rental subsidies. Random assignment was then used to allocate families deemed eligible for the Rent Reform Demonstration to either a new rent rules group that would be subject to the new policy for the duration of the demonstration or to a control group that would continue to be subject to the existing rent rules. (Certain types of families, including those defined as elderly or disabled according to HUD criteria, were excluded from the demonstration.)<sup>6</sup>

PHA staff calculated families' TTPs and housing subsidies according to the rules of the rent policy group to which they were assigned. In Louisville, an opt-out option was offered to families assigned to the new rules group, meaning that they could choose to continue having their TTPs calculated according to the existing rent policy. By the end of the enrollment period, about 22 percent of the eligible families in Louisville's new rent rules group chose to opt out of the new policy, although they did not opt out of the evaluation.<sup>7</sup> To minimize selection bias, the evaluation treats the opt-out families as members of the new rent rules group (rather than the existing rules group), even though they are subject to the existing rent rules. This decision means that the estimated effects of the new rent policy may be somewhat diluted in Louisville because not all members of the new rent rules group were exposed to the new policy.

Preexisting policies in several of the other PHAs also have implications for the evaluation. As mentioned previously, Lexington's \$150 minimum TTP applies to both research groups (and allows few hardship exemptions from the minimum TTP). Because this feature does not differ between the Lexington program and control groups, effects estimated for the Lexington sample on any labor market and housing-related outcomes will not reflect any effects that the minimum TTP (as opposed to the policy's other features) may have had on those outcomes. In contrast, Washington, D.C., had instituted a biennial recertification schedule for working-age, nondisabled families before joining the Rent Reform Demonstration.<sup>8</sup> This means that both the new rent rules group and the control group had their TTPs capped during the early portion of the study's followup period. Consequently, when examining labor market outcomes for that PHA, it is reasonable to view this early period primarily as an opportunity to assess the

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<sup>6</sup> For more details on this process, see Riccio, Deitch, and Verma (2017).

<sup>7</sup> In all four PHAs, families could refuse to allow their individually identified data to be shared with the researchers; however, only 14 families (0.2 percent of the pooled sample) chose to do so.

<sup>8</sup> At the time of site selection, the biennial policy applied only to families whose anticipated incomes increased by a small or modest amount (less than \$10,000 per year from a single income source); those with income increases above that threshold were to continue with an annual recertification schedule. In June 2016, during the demonstration's first followup year, the PHA removed the income threshold so that even those control group families (and other families who were not in the demonstration) with income increases above the threshold were switched to a biennial schedule.

effects of its new \$75 minimum TTP on those outcomes. Across the PHAs, differences such as these create opportunities for learning more about certain features of the new rent policy; however, they also mean that the “pooled” impact estimates (with all four PHAs combined) reflect the summary results of somewhat different tests in four locations and need to be interpreted with that in mind.

## **Characteristics of Enrolled Families**

Across the four PHAs, a total of 6,665 families are included in the impact analysis. All were randomly assigned between February 2015 and November 2015 in approximately equal numbers to either the new rent rules group or the control group. The average household had just over three family members at the time of study enrollment. In addition, only about one-third of families had more than one adult living in the household, most of whom were the young adult children of the household heads. Nearly all (94 percent) of the household heads in the study sample were women and, on average, household heads were about 39 years old when they entered the study. In Lexington, Louisville, and Washington, D.C., most heads of household are Black/African-American, whereas the majority (75 percent) in San Antonio is Hispanic/Latino.

## **Data Sources and Followup Period**

This report uses two main sources of quantitative data: PHA administrative records and unemployment insurance (UI) wage records obtained through the National Directory of New Hires (NDNH), which capture employer-reported employment and earnings. For considerations having to do with the structure of these two data sources, the “first year of followup” for the purposes of this report is defined as the period that begins after a family’s new TTP took effect, which is roughly the third quarter after families were randomly assigned.

## **Early Findings on Household Heads’ Employment and Earnings**

The first followup year was a time when the new rent rules were still new to families, limiting the potential effects of those rules. Of course, some tenants may seek to work, or not to work, for entirely unrelated reasons. For those whose decisions might be influenced by rent policies, however, the new policy’s implementation timeframe may matter. For example, it may have taken time for some families to understand how the policy supported work. Some adults who may have been inspired by the new rules to try to find work or increase their hours of work may have needed time to achieve those goals. Some may have needed time to overcome common types of impediments—for example, finding suitable job openings given their skill levels or arranging transportation or childcare. Thus, a fair assessment of the effects of the new policy must wait for longer-term data to become available; however, two additional quarters of employment and earnings data beyond the first followup year (Quarters 7 and 8) offer a peek into that longer-term period.

In examining the new policy’s effects on tenants’ earnings, the study focuses primarily on the household heads. This is because most of the non-heads of household were the young adult children of the household heads, many of whom (about 21 percent in the first year) were



no longer on the lease, possibly having moved away. This rate is expected to grow over time, limiting their exposure to the new or existing rent policies.<sup>9</sup>

The evaluation design includes several “confirmatory” outcome measures related to tenants’ earnings, housing subsidies, and material hardships. These confirmatory outcomes reflect the most important variables for judging the intervention’s effectiveness. Given their primacy, impact findings on those outcomes were subjected to further statistical adjustments that hold them to a higher standard of evidence. Those adjustments account for the likelihood that in a study using many outcome variables, some impact estimates may emerge as statistically significant simply by chance and do not reflect true intervention effects. One can have more confidence in any confirmatory impact estimates that remain statistically significant after adjusting for the total number of confirmatory outcome measures. The current report treats first-year pooled impact estimates for household heads’ earnings and families’ housing subsidy receipt as preliminary confirmatory measures and subjects them to adjustment for multiple outcomes. The concluding evaluation report will present the final confirmatory impact estimates and adjustments, using longer-term data on these measures, approximately 72 months after the new rent policy effective-date. It will also include a survey-based family hardship scale as a confirmatory outcome measure (Benjamini and Hochberg, 1995).

- **The results for the pooled sample show that heads of household in the new rent rules group were slightly more likely than those in the control group to work during Year 1.**

Among household heads in the control group, with all four PHAs combined, a majority (66.9 percent) worked in a UI-covered job at some point during Year 1 (defined for this report as Quarter 3 through Quarter 6 after random assignment). The rate for the new rent rules groups was 68.1 percent, but the gain is not statistically significant; however, exhibit ES.1 shows that the new policy increased the proportion of household heads working in an average quarter by a statistically significant 1.3 percentage points (from 54.6 percent for the control group to 55.8 percent for the new rent rules group). Differences in Year 1 earnings were small and not statistically significant.<sup>10</sup>

As mentioned previously, the pooled results of the new rent policy can be difficult to interpret because of differences across the PHAs in their minimum TTPs and control group conditions. Particularly important is the biennial recertification policy in effect for the control group in Washington, D.C. Because of that policy, the new rules group will experience no meaningful advantage in terms of the triennial recertification until the third year of followup. For this reason, in examining early results, it is useful to consider labor market impacts for the pooled sample without Washington, D.C., so that all families in the pooled control group are

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<sup>9</sup>Nonetheless, Appendix C in the full report presents findings for the effects on other adults as well as all adults combined (heads and non-heads of households).

<sup>10</sup> Average earnings are based on all sample members in each group and include zero earnings for individuals who were not employed.

subject to an annual recertification policy. The second panel of exhibit ES.1 presents those estimates with Washington, D.C. but, overall, the pattern of results is very similar.

- **The new rent rules produced growing positive effects on earnings in two of the four PHAs (Lexington and San Antonio).**

In Lexington, the effects of the new policy on tenants' earnings began to grow midway through Year 1 and were statistically significant in Quarter 8 (as shown in exhibit ES.2). In Quarter 8, the average earnings for the new rules group were \$286 higher than those of the existing rules group, a gain of 11 percent.<sup>11</sup> This earnings gain was achieved with little effect on employment rates, suggesting that it resulted largely from an increase in hours worked or in hourly wages.

In San Antonio, the new rent policy had statistically significant and positive effects on average earnings. In Year 1, it boosted earnings by \$609 (an increase of 7 percent relative to the control group). In quarter 8, the earnings effect was \$327, reflecting a relative gain of 13 percent.

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<sup>11</sup> The variation across the four PHAs in estimated impacts on earnings was not statistically significant.

### **Exhibit ES.1. Early Impacts on Employment and Earnings: Heads of Households**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
<b><u>All PHAs</u></b>					
Average quarterly employment, Year 1 <sup>a</sup> (%)	55.8	54.6	1.3	*	0.095
Total earnings (\$)					
Year 1 (quarters 3-6)	10,133	9,973	159		0.415
Quarter 7	2,931	2,875	57		0.400
Quarter 8	2,933	2,851	81		0.243
Sample size (total = 6,665)	3,312	3,353			
<b><u>All PHAs except Washington D.C.</u></b>					
Average quarterly employment, Year 1 <sup>a</sup> (%)	61.4	59.9	1.6	*	0.093
Total earnings (\$)					
Year 1 (quarters 3-6)	10,047	9,737	311		0.160
Quarter 7	2,753	2,697	56		0.458
Quarter 8	2,809	2,675	134	*	0.090
Sample size (total = 4,756)	2,368	2,388			

PHA = public housing agency.

<sup>a</sup> Average quarterly employment is calculated as total number of quarters with employment divided by total number quarters of followup, expressed as a percentage. Year 1 is defined as the period that begins after a family's new TTP takes effect. For NDNH data, which are only available on a quarterly basis, that is the third quarter after families were randomly assigned.

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values. Confirmatory outcomes were tested for multiple hypothesis testing using the Benjamini-Hochberg procedure. The adjusted p-value = .415 for the impact on total Year 1 earnings for all four PHAs combined. The adjusted p-value = .16 for the impact on total Year 1 earnings for all PHAs combined excluding Washington, D.C.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

**Exhibit ES.2. Early Impacts on Employment and Earnings, by Public Housing Agency (PHA), Heads of Households**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>Lexington</u></b>				
Average quarterly employment, Year 1 <sup>a</sup> (%)	65.5	64.2	1.3	0.505
Total earnings (\$)				
Year 1 (quarters 3-6)	10,204	10,102	102	0.827
Quarter 7	2,842	2,621	221	0.169
Quarter 8	2,836	2,550	286 *	0.070
Sample size (total = 979)	486	493		
<b><u>Louisville</u></b>				
Average quarterly employment, Year 1 <sup>a</sup> (%)	60.9	59.6	1.2	0.412
Total earnings (\$)				
Year 1 (quarters 3-6)	10,164	10,029	135	0.716
Quarter 7	2,787	3,015	-227 *	0.073
Quarter 8	2,831	2,996	-165	0.221
Sample size (total = 1,908)	947	961		
<b><u>San Antonio</u></b>				
Average quarterly employment, Year 1 <sup>a</sup> (%)	60.0	57.8	2.2	0.145
Total earnings (\$)				
Year 1 (quarters 3-6)	9,849	9,240	609 *	0.084
Quarter 7	2,669	2,414	255 **	0.032
Quarter 8	2,756	2,430	327 ***	0.009
Sample size (total = 1,869)	935	934		
<b><u>Washington, D.C.</u></b>				
Average quarterly employment, Year 1 <sup>a</sup> (%)	41.9	41.4	0.5	0.703
Total earnings (\$)				
Year 1 (quarters 3-6)	10,285	10,620	-335	0.408
Quarter 7	3,366	3,326	40	0.779
Quarter 8	3,233	3,294	-60	0.674
Sample size (total = 1,909)	944	965		

(continued)

## Exhibit ES.2 (continued)

PHA = public housing agency.

<sup>a</sup> Average quarterly employment is calculated as total number of quarters with employment divided by total number quarters of followup, expressed as a percentage. Year 1 is defined as the period that begins after a family's new TTP takes effect. For NDNH data, which are only available on a quarterly basis, that is the third quarter after families were randomly assigned.

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values. The variation across the four PHAs in estimated impacts on total earnings in Year 1 is not statistically significant at the 10-percent level based on an H-statistic test.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

The results for Louisville and Washington, D.C., were less positive. In fact, in Louisville, the effects on earnings turned somewhat negative at the end of the first year. This was not because those in the new rules group did not experience growth in earnings *over time*. Indeed, the earnings trends are positive for *both* research groups; the trends are just less positive for the new rules group, resulting in a statistically significant negative impact in Quarter 7; however, the negative effect attenuated and was no longer statistically significant by Quarter 8. Longer-term followup data will show whether this negative effect is part of a longer-term pattern or an aberration. The new rent rules had little effect on average quarterly employment rates among household heads in Louisville during the followup period.

In Washington, D.C., few statistically significant differences in employment and earnings outcomes are evident.

- **Evidence from Lexington suggests that the new rent policy's triennial recertification feature alone can have a positive early effect on household heads' earnings.**

Because Lexington's preexisting \$150 minimum TTP, which might have created a stronger financial incentive to work, applied to both research groups, it cannot help explain the new policy's growing positive effects on earnings in that PHA. Rather, the new rent policy's other main (and more important) work incentive feature, the extended recertification, likely accounts for most, if not all, of Lexington's early impacts on earnings. This finding provides at least some evidence to suggest that, by itself, substituting triennial for annual recertifications holds some potential to improve tenants' earnings.

- **In Washington, D.C., the new minimum TTP appears not to have affected household heads' employment or earnings.**

The adoption of the triennial recertification policy is not expected to affect tenants' earnings in Year 1 in Washington, D.C., because, as already mentioned, the control group there is subject to a biennial recertification policy. Thus, neither research group faced the normal percentage-of-income work disincentive during the early followup period.

More important in the short term is Washington, D.C.'s new \$75 minimum TTP (compared with no minimum TTP for the existing rules group). The evaluation's finding of no positive short-term impacts on earnings for tenants in this PHA suggests that a \$75 minimum TTP, in the absence of a distinctively more favorable recertification schedule, and with hardship remedies available may not necessarily promote greater work effort.

- **By the end of Quarter 8, no consistent or definite pattern had emerged with regard to the new rent policy's short-term impacts on the employment and earnings of any subgroup of household heads.**

Different types of voucher holders might respond differently to the new rent policy's financial incentives to increase earnings because of differences in capacities, skills, or personal or family circumstances that may make it easier or harder to take advantage of the rent incentives. Some tenants might also be inclined to increase their work effort and earnings even in the absence of those incentives. This report examines initial responses to the new rent policy, primarily for subgroups of household heads, defined by their employment status in the quarter before random assignment and by the age of the youngest child in the household at the time of random assignment.

The results so far show no clear or consistent pattern of evidence that the new rent policy has had differential effects on tenants' short-term labor market outcomes according to their initial employment status or age of the youngest child.

## **Early Impacts on Outcomes Related to Housing Subsidies**

The new rent policy substantially changed the rules for measuring family income used in determining TTPs, the rules for calculating the share of income that families must contribute toward rent and utilities, and the requirements for reporting income changes and adjusting TTPs over time. Those changes have had some short-term consequences for families' housing subsidies and PHAs' experiences in administering the voucher program.

- **The new rent rules modestly increased the likelihood that families would still be using their vouchers by the end of Year 1.**

Exhibit ES.3 shows that, with all four PHAs combined, 88.2 percent of the existing rules group were still in the voucher program and "leased up" (that is, were using their rent subsidies) at the end of Year 1. In contrast, 92.4 percent of the new rent rules group remained in the voucher program and leased up—a statistically significant increase of 4.3 percentage points above the existing rules group rate.

This effect varied widely across the four PHAs. For example, little effect was evident in Washington, D.C., possibly because of the biennial recertification for the existing rules group in that PHA, which meant families in neither research group could become ineligible for the voucher program by increasing their earnings within this early period, nor would income growth reduce their housing subsidies before Year 3. Among the other PHAs, the new rent rules increased the first-year voucher retention and lease-up rate (above the existing rules group mean) by a low of 3.6 percentage points in Lexington to a high of 8.0 percentage points in San Antonio. When the results for the three PHAs other than Washington, D.C. are combined, the averaged pooled impact is higher at 5.6 percentage points (as seen in exhibit ES.3). Formal exits from the voucher program for the new rules group were lower than for the existing rules group by 3.1 to 3.5 percentage points across these three PHAs (not shown).

- **On average, families who were subject to the new rent policy paid somewhat less toward their housing costs, compared with the control group, while in the voucher program.**

Over the course of the first year, the new rent rules group paid an average monthly TTP of \$289 while in the voucher program, or \$14 less than families in the existing rules group paid while they were still receiving vouchers (see exhibit ES.3).<sup>12</sup> At the end of Year 1, voucher holders in the new rent rules group were less likely than those in the existing rules group to be paying a very low TTP (\$0 to \$50), owing to the minimum TTP policy. They were also somewhat less likely to be paying a very high TTP (over \$700).

The average monthly family share (which includes payments by tenants above their obligated TTP contribution) was also lower for the new rules group than for the existing rules group (\$335 versus \$351) while families were still in the voucher program. A generally similar pattern is evident in each of the four PHAs.

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<sup>12</sup> Exhibit ES.3 does not present impact estimates on these measures because families in the two research groups exited the voucher program at different rates during Year 1. Consequently, the types of families receiving vouchers in any given month, and for whom TTPs could be calculated in each month, may have differed, potentially biasing estimates of the policy's impacts on average TTPs.

### **Exhibit ES.3. Early Impacts on Families' Subsidy Receipt and Housing Costs**

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>All PHAs</u></b>				
Currently Enrolled in HCV Program and Leased Up at the End of Year 1 (%)	92.4	88.2	4.3 ***	0.000
<i>Average Monthly TTP in Months Received HCV<sup>a</sup> (\$)</i>	289	303	--	--
Total Housing Subsidy in Year 1 <sup>b</sup> (\$)	9,977	9,719	258 ***	0.008
Sample Size (total = 6,665)	3,312	3,353		
<b><u>All PHAs except Washington, D.C.</u></b>				
Currently Enrolled in HCV Program and Leased Up at the End of Year 1 (%)	90.4	84.8	5.6 ***	0.000
<i>Average Monthly TTP in Months Received HCV<sup>a</sup> (\$)</i>	255	273	--	--
Total Housing Subsidy in Year 1 <sup>b</sup> (\$)	7,505	7,188	316 ***	0.000
Sample Size (total = 4,756)	2,368	2,388		

HCV = Housing Choice Voucher. PHA = public housing agency. TTP = total tenant payment.

<sup>a</sup> Total tenant payment is the amount a family must contribute to its rent and utilities, regardless of the unit selected. Under the new rent rules, TTP is 28 percent of prior-year gross income, and under existing rent rules TTP is 30 percent of adjusted income.

<sup>b</sup> Housing subsidy (housing assistance payment) is the full subsidy amount paid by the housing agency, and includes any utility allowance payments made to the tenant in addition to rent paid to the owner by the housing agency.

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Italic type indicates comparisons that are nonexperimental. Statistical tests were not performed. Confirmatory outcomes were tested for multiple hypothesis testing using the Benjamini-Hochberg procedure. The adjusted p-value = .016 for the impact on the total Year 1 housing subsidy for all four PHAs combined. The adjusted p-value = .000 for the impact on the total Year 1 housing subsidy for all PHAs combined excluding Washington, D.C.

Source: MDRC calculations, using PHA data



Most families in the new rent rules group paid more than the minimum TTP during Year 1. For all four PHAs combined, 77.6 percent had paid more than the minimum TTP sometime during Year 1, whereas 29.3 percent had paid exactly the minimum TTP. Only 5.7 percent of families in the new rent rules group had ever paid less than the minimum TTP.

- **Compared with the control group, families in the new rent rules group received more in rental subsidies during Year 1, an expected short-term result of the policy.**

The lower average TTP for the new rules group combined with a longer duration in the voucher program means that families in that group were receiving a somewhat higher housing subsidy (housing assistance payment, or HAP) than they would have received in the absence of the new policy (represented by the control group's subsidy amount). As exhibit ES.3 shows, on average for all four PHAs combined, the new rules group received \$9,977 in housing subsidies during the first followup year, which is \$258 (or 2.7 percent) more than the control group average (\$9,719). The difference is somewhat higher—\$316, or 4.4 percent—when the findings from all PHAs except Washington, D.C., are pooled (both pooled estimates of the effects on housing subsidy amounts remain statistically significant after adjustment for multiple outcomes). A generally similar pattern is evident when the results are examined by PHA, as exhibit ES.4 shows, and the variation in PHAs' impacts on subsidies is not statistically significant.

This general pattern of results—somewhat longer tenure on the voucher program, lower TTPs, and more in subsidies relative to the control group—is to be expected during the 3-year period until the next recertification under the new rent rules. Families in the new rent rules group, unlike those in the control group (except in the Washington, D.C. control group), were not required to report any increases in their earnings to the PHAs until their triennial recertification. Consequently, those in the new rules group whose earnings grew over that period did not have their TTPs raised and subsidies reduced, and they could not earn their way off the voucher program during that time. This was intended by the policy design so that families would experience the benefits of their increased work effort during the 3 years between recertifications. Of course, for the PHAs, this means a short-term increase in expenditures on housing assistance. An important open question is whether forgone subsidy reductions will be recouped after the triennial recertifications are completed.

- **A small portion of families used the new rent policy's hardship remedies.**

The new policy offers potential relief to families whose TTPs exceed 40 percent of their current/anticipated gross incomes. Such families are considered to have excessive rent burdens and are generally eligible to request a hardship remedy. These remedies, which are renewable, include setting the TTP at the minimum level, or at 28 percent of current income, for up to 6 months at a time. Families in Lexington are eligible for a hardship remedy only if they are paying TTPs that exceed the PHA's \$150 minimum and still meet the 40-percent threshold. In other words, Lexington's hardship policy allows families who meet the hardship criteria to

reduce their TTP to the \$150 minimum but not below (except in cases in which a household becomes defined as disabled according to HUD).

**Exhibit ES.4. Early Impacts on Families' Subsidy Receipt and Housing Costs, by Public Housing Agency (PHA)**

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
<b><u>Lexington</u></b>					
Currently Enrolled in HCV Program and Leased Up at the End of Year 1 (%)	90.7	87.1	3.6	*	0.078
<i>Average Monthly TTP in Months Received HCV<sup>a</sup> (\$)</i>	276	308	--		--
Total Housing Subsidy in Year 1 <sup>b</sup> (\$)	6,777	6,418	359	**	0.029
Sample Size (total = 979)	486	493			
<b><u>Louisville</u></b>					
Currently Enrolled in HCV Program and Leased Up at the End of Year 1 (%)	93.7	89.7	4.1	***	0.001
<i>Average Monthly TTP in Months Received HCV<sup>a</sup> (\$)</i>	228	239	--		--
Total Housing Subsidy in Year 1 <sup>b</sup> (\$)	7,898	7,659	239	*	0.066
Sample Size (total = 1,908)	947	961			
<b><u>San Antonio</u></b>					
Currently Enrolled in HCV Program and Leased Up at the End of Year 1 (%)	86.8	78.8	8.0	***	0.000
<i>Average Monthly TTP in Months Received HCV<sup>a</sup> (\$)</i>	271	291	--		--
Total Housing Subsidy in Year 1 <sup>b</sup> (\$)	7,507	7,088	419	***	0.002
Sample Size (total = 1,869)	935	934			
<b><u>Washington, DC</u></b>					
Currently Enrolled in HCV Program and Leased Up at the End of Year 1 (%)	97.5	96.5	1.0		0.206
<i>Average Monthly TTP in Months Received HCV<sup>a</sup> (\$)</i>	371	378	--		--
Total Housing Subsidy in Year 1 <sup>b</sup> (\$)	16,211	15,953	258		0.319
Sample Size (total = 1,909)	944	965			

(continued)

## Exhibit ES.4 (continued)

HCV = Housing Choice Voucher. PHA = public housing agency. TTP = total tenant payment.

<sup>a</sup> Total Tenant Payment is the amount a family must contribute to its rent and utilities, regardless of the unit selected. Under the new rent rules TTP is 28 percent of prior-year gross income, and under existing rent rules TTP is 30 percent of adjusted income.

<sup>b</sup> Housing subsidy (Housing Assistance Payment) is the full subsidy amount paid by the housing agency and includes any utility allowance payments made to the tenant in addition to rent paid to the owner by the housing agency.

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the New Rent Rules group and the Existing Rent Rules group arose by chance. Italic type indicates comparisons that are nonexperimental. Statistical tests were not performed. The variation across the four PHAs in estimated impacts on average annual housing subsidy in Year 1 is not statistically significant based on an H-statistic test.

Source: MDRC calculations, using PHA data

Hardship remedies can be issued to qualifying families at any time during the 3-year period, but families must request them. Across all PHAs, about 8.4 percent of families requested and received a hardship remedy in Year 1. The pooled rate is higher than the rate at the time of initial recertification when only 0.5 percent of families across the four PHAs received a hardship remedy (Riccio, Deitch, and Verma, 2017). The small increase over time may reflect the possibility that a growing proportion of families experienced a post-recertification loss of income during Year 1. It could also reflect a growing awareness among already-qualifying families of the availability of this safeguard and willingness to request it.<sup>13</sup>

- **The new rent policy substantially reduced the likelihood of PHA actions, with or on behalf of families, related to changes in families' circumstances.**

This report examines whether the new policy has already begun to affect the number of actions to address changes in families' circumstances, which translates into administrative burdens and costs for PHAs over time. Those actions could include annual recertifications, interim recertifications needed because of changes in income, and actions related to household composition changes or changes in contract rents, moves, or other circumstances.

For all PHAs combined, almost three-fourths (73.6 percent) of the control group in Year 1 had a circumstance that required action on the part of PHA staff. This rate ranged from about 45 percent in Washington, D.C., (on the low end due largely to the biennial recertification schedule) to more than 91 percent in Lexington. Several factors account for why actions for the

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<sup>13</sup> The PHAs issued several notices to remind families of this provision of the new rent policy, although it is possible that some qualifying families were still not fully aware of it, did not believe they qualified, or chose not to apply to avoid further interactions with the PHA. Future reports will explore this issue further.

control group, particularly annual recertifications, were less than 100 percent in each of the four PHAs. For example, although existing rules require all families (except in Washington, D.C.) to complete an annual recertification, some families exited the voucher program or transferred (“ported out”) to another housing agency before any further actions were required. In addition, families moving to a new unit must undergo a full income review, and depending on when the move occurs, that review can be completed in lieu of an annual recertification. For some other families, annual recertifications were delayed for various reasons, including delays in submitting required documentation to the PHA.

Among families in the new rules group, about one-half (49.6 percent) had a transaction with PHA staff—a reduction of 23.9 percentage points compared with the control group level. When Washington, D.C., is excluded, the reduction increases to 28.9 percentage points. The main factors contributing to that reduction were the elimination of annual recertifications and the reduction in interim recertifications for increases or decreases in family income. Those actions were generally the most time-consuming actions for staff because they required recalculating TTPs and subsidies.

The patterns varied substantially across the four PHAs, driven in part by the different circumstances affecting the control group in each location. Lexington stands out with the largest effects on most indicators. In that PHA (where all control group families remained subject to the traditional HUD interim recertification requirements, including the requirement that families report all income changes between annual recertifications), the proportion of families in the new rules group for whom a staff action was required during Year 1 was 44.7 percentage points lower than the 91.2-percent rate for the control group. That reduction included a 75.8-percentage-point reduction in annual recertifications, a 16.0-percentage-point reduction in interim recertifications for declining income, and a 20.8-percentage-point reduction in interim recertifications for increased income.

## **Conclusion**

The early impact findings discussed in this report offer an initial but incomplete assessment of the new rent policy designed as part of HUD’s Rent Reform Demonstration. Nonetheless, some important patterns have begun to emerge on a variety of critical outcomes. Overall, for the pooled sample with all four PHAs combined, the policy has not produced statistically significant gains in earnings within the first 18 months of followup; however, the picture is more mixed when the results are examined site by site. For example, the new policy has led to growing positive effects on earnings in two of the PHAs (Lexington and San Antonio) for heads of household but not in the other two (Louisville and Washington, D.C.). The new policy has also begun to reduce the most time-consuming transactions (annual recertifications and interim adjustments in TTPs and subsidies, required under traditional HUD rules as families’ incomes changed). Those patterns will be important to reexamine as the longer-term data become available—and especially once families in the new rent rules group have completed their triennial recertifications. At that point, those who have benefited from sustained higher earnings in the 12 months leading up to that recertification point and who are still receiving vouchers will

begin paying higher TTPs and receiving smaller housing subsidies (their new TTPs will then be capped for another 3 years).

Future reports will examine the new rent policy's effects on these same outcomes over a longer followup period and on a wider array of outcomes. Those effects include impacts on families' receipt of other government benefits (including Temporary Assistance for Needy Families, Supplemental Nutrition Assistance Program, and homelessness assistance) and on survey-based measures related to families' housing stability, material hardships, and additional quality-of-life indicators. These future reports (scheduled to be completed in 2021 and 2023) will also cover the PHAs' continuing experiences in implementing the new policy over the next several years. They will include an assessment of whether or not the new policy has helped reduce the administrative burden and costs for PHAs compared with the traditional rent policy.

## Chapter 1

# Introduction

The federal Housing Choice Voucher program (formerly known as Section 8) provides critical rental subsidies to low-income families living in privately owned housing units.<sup>14</sup> Most public housing agencies (PHAs), which administer the voucher program, follow a common set of federal rules in determining how much tenants must contribute of their own income toward their rent and utilities and how much of a housing subsidy they will receive. The traditional way in which those subsidies have been calculated has been widely criticized for creating a disincentive to work while imposing a substantial and costly burden on PHAs to administer the subsidy system.<sup>15</sup> That system requires families to report changes in income at least annually and for the PHAs to adjust the subsidies up or down as the families' income falls or rises. Although this system provides a strong safety net for families by providing more rental assistance for families whose needs are greater because of lower or falling incomes, it also creates an implicit marginal "tax" on increased earnings (approximately 30 percent) because families pay more toward their rent and utilities as their incomes rise, possibly discouraging efforts to increase earnings. This implicit tax is on top of possible reductions in other means-tested benefits families might be receiving (such as welfare or food stamps), making their combined marginal tax on increased earnings more than 30 percent.

As one step toward trying to find a better way, the U.S. Department of Housing and Urban Development (HUD) launched the Rent Reform Demonstration, an initiative to design and carefully evaluate an alternative rent-subsidy policy for recipients of tenant-based housing choice vouchers. In setting guidelines for the demonstration, HUD sought a policy that would simplify the rent system to reduce PHAs' administrative burden and costs, create a stronger financial incentive for families to increase their earned income, continue to provide a safety net to families who cannot readily increase their earnings, and reduce or at least minimize increases in PHAs' average housing subsidy expenditures per family over time. HUD selected MDRC and its partners to lead the effort to design and evaluate the new policy, working closely with HUD and the following four PHAs:<sup>16</sup>

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<sup>14</sup> Tenant-based housing choice vouchers are portable, meaning that families can use the vouchers with private landlords of their own choosing if the housing unit meets the PHA's quality standards, and they can take the vouchers with them to a new landlord if they choose to move. These vouchers differ from Project-Based Section 8 assistance, in which a subsidy is attached to a particular housing unit through a contract between the PHA and a private landlord.

<sup>15</sup> These and other criticisms are described in Abt Associates, Inc., the Urban Institute, and Applied Real Estate Analysis, Inc. (2010); Government Accountability Office (2012); and Public Housing Authorities Directors Association (2005). See also Riccio, Deitch, and Verma (2017) for a summary of these perspectives and relevant prior evidence on housing assistances and labor force participation.

<sup>16</sup> The study team includes the Urban Institute, the Bronner Group, Quadel Consulting & Training, and professors Ingrid Gould Ellen (New York University) and John Goering (City University of New York) and research consultant Barbara Fink.

- Lexington-Fayette Urban County Housing Authority in Lexington, KY (generally referred to as the Lexington Housing Authority)
- Louisville Metropolitan Housing Authority in Louisville, KY
- San Antonio Housing Authority in San Antonio, TX
- District of Columbia Housing Authority in Washington, D.C.

The four PHAs participating in the Rent Reform Demonstration are implementing the new rent policy alongside the traditional policy to help determine its effects. They are a subset of 39 PHAs that, at the time the project was launched, were part of HUD’s Moving to Work demonstration. Congress has granted Moving to Work agencies more flexibility than other PHAs to change housing policies, provided they notify the public and receive approval from HUD and from their boards of directors. They are permitted to change certain policies that would otherwise require changes in legislation or regulations, and this administrative flexibility extends to rent rules.<sup>17</sup>

The centerpiece of the evaluation is a two-group randomized controlled trial to test the effects of the alternative rent policy on voucher holders’ labor market outcomes, use of housing subsidies and other government programs, material hardship, well-being, PHA costs and administrative burden, and other outcomes. The random assignment process was incorporated into the regular recertification process through which PHA staff members normally review whether families continue to meet the voucher program’s income and other requirements, calculate how much each family is expected to contribute to its rent and utilities, and determine how much of a housing subsidy it will receive. For the Rent Reform Demonstration, eligible voucher holders who were scheduled for recertification between February 2015 and November 2015 were enrolled in the study.<sup>18</sup> They were randomly assigned either to a program group that was subject to the new rent policy or to a control group that remained subject to the existing rent rules (exhibits in this report refer to the study groups as the *new rent rules* group and the *existing rent rules* group, respectively). The recomputed cost for rent and utilities obligations and housing subsidies for families in each research group took effect between June 2015 and March 2016 (the exact dates varied among families and the four PHAs, as shown in Chapter 2).

MDRC prepared an initial or “baseline” report on the demonstration, published by HUD in 2017, that describes the origins of the Rent Reform Demonstration, the features of the new policy, the rationale behind each of its main elements, and the manner in which it is being evaluated (Riccio, Deitch, and Verma, 2017). That report also describes in more detail the process for identifying and enrolling families into the study, the background characteristics of

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<sup>17</sup> According to the Moving to Work Agreement, Moving to Work agencies have the authority to adopt and implement any reasonable policies to calculate tenants’ contributions toward their rents that differ from the program requirements as mandated in the United States Housing Act of 1937 and its current implementing regulations. The four PHAs in the Rent Reform Demonstration were still largely following HUD’s traditional rent policy at the start of the demonstration, with some exceptions that are discussed later in this chapter.

<sup>18</sup> The demonstration is slated to conclude in 2021.

those families, the amounts the families initially began paying for their rent and utilities under the new rent rules compared with the existing rules at the beginning of the study, and the housing subsidies they received initially.

The current report provides the first look at the effect, or “impact,” of this policy on families’ labor market and housing-related outcomes. It covers a followup period for each eligible family of approximately 12 to 18 months after the new policy took effect (depending on the outcome measure). This timeframe is too short for drawing firm conclusions about the new policy’s effects, in part because, as described below, a critical element of the new policy is a cap on families’ expected contributions to their rent and utilities over a *3-year* period (as opposed to the 1-year period imposed by HUD’s traditional rent rules). A full assessment must therefore wait until after that 3-year period has passed. Nonetheless, the early results show whether the new policy begins to change labor market and housing-related outcomes even in the short term. As will be seen, the new policy increased tenants’ earnings in two of the four PHAs within the first 18 months of followup and, generally (although to varying degrees) in each agency, reduced families’ housing costs, delayed their exits from the voucher program, increased their annual housing subsidies, and reduced certain types of PHA transactions with families during the first year of followup.

Future reports will examine the PHAs’ ongoing experiences in implementing the new policy, including PHAs’ administrative burden and costs relative to operating the existing rent policy. Those reports will also present findings on the new policy’s longer-term effects—covering 3 or more years of followup—on families’ employment, earnings, contributions toward their rent and utilities, housing subsidies, receipt of other government benefits (including Temporary Assistance for Needy Families and Supplemental Nutrition Assistance Program benefits), and a variety of other outcomes, including housing stability, material hardships, and additional quality-of-life indicators. Some of those impact measures will be based on data from administrative records, and others will be based on a survey administered to the household heads in each research group.

## **HUD’s Traditional Rent Policy**

Nationally, HUD funds 2,243 PHAs to provide approximately 2.2 million low-income households across the country with tenant-based housing choice vouchers. Currently, most housing choice voucher families are expected to contribute 30 percent of pretax income (after certain adjustments) toward their housing costs.<sup>19</sup> A family’s rent contribution and utility payments are referred to as its “total tenant payment” (TTP). The rules for calculating a family’s TTP allow several deductions from gross income (including a deduction for some childcare costs for working parents), yielding an “adjusted income” estimate. The calculation also looks forward in time, basing the adjusted income estimate on the amount of income a family *currently receives* and *anticipates receiving* in a typical month during the coming year

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<sup>19</sup> Throughout this report, HUD’s “current” or “traditional” rent policy for voucher holders refers to the national rent policy in effect for non-Moving to Work PHAs *before* the passage of the Housing Opportunity Through Modernization Act of 2016.



(which this report refers to as “current/anticipated” income). The PHA provides a subsidy for the difference between the family’s rental payment and the maximum allowable rent, called a “payment standard,” which takes account of local area fair market rents. All PHAs are permitted to establish a minimum TTP, commonly referred to as a “minimum rent,” of up to \$50 per month, although not all have done so.<sup>20</sup> (MTW agencies have more flexibility to establish higher minimum TTPs and make other adjustments in the rent policy.)

This existing “percentage of adjusted income” approach builds a strong safety-net feature into the rent subsidy system: If a family’s income falls, the family pays less toward its housing costs; however, this approach also implicitly “taxes” tenants for increasing their earnings (which some experts contend discourages work) and requires PHAs to make continuous and administratively burdensome readjustments in TTPs and housing subsidies as a family’s income changes. The complex rules governing the calculation of “adjusted income,” rent, and utility allowances are considered by critics of the existing policy to be administratively burdensome and prone to errors that can lead to improper payments. The new rent policy attempts to address those problems.

## **Overview of the New Rent Policy**

The new rent policy applies only to working-age, nondisabled voucher recipients whose vouchers were administered under the Moving to Work demonstration.<sup>21</sup> The policy includes the core features described below, which are also summarized in exhibit 1.1.<sup>22</sup>

### **Changes in rules for recertifying families’ continued eligibility for the voucher program and recomputing their TTPs:**

- Replacing the annual recertification schedule with a triennial schedule so that a family is required to review its income with the PHA only every 3 years. This change means that if a family increases its earnings during that period, it need not report the increase to the PHA, and its TTP will not be raised, until the end of the 3-year period.

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<sup>20</sup> For a full explanation of the HUD’s existing rent rules, see HUD (2001).

<sup>21</sup> Non-Moving to Work Vouchers (that is, Veterans Assisted Special Housing, Moderate Rehabilitation, and Shelter Plus Care), Enhanced Vouchers, and Section 8 Project-Based Vouchers were excluded from the study. In addition, the study did not include elderly households, disabled households, and households headed by people older than 56 years of age (who would become seniors during the long-term study). Households participating in Family Self-Sufficiency and homeownership programs before sample enrollment began were also excluded from the study, as were families who held vouchers but were receiving no housing subsidy.

<sup>22</sup> See Riccio, Deitch, and Verma (2017) for further details.

**Exhibit 1.1. Comparison of Traditional and New Rent Policies**

<b>Component</b>	<b>Traditional HUD Policy</b>	<b>New Rent Policy</b>
Total Tenant Payment (TTP)	30 percent of adjusted monthly income (that is, total countable current/anticipated income, minus deductions) or 10 percent of gross income, whichever is higher.	28 percent of gross monthly retrospective income (that is, gross monthly income over the previous 12 months), with no deductions or allowances. Countable income estimate for setting a family’s TTP and housing subsidy is based on 12-month retrospective income.
Minimum TTP	Up to \$50 per month, at public housing agency (PHA) discretion.	\$50 to \$150 per month, depending on the PHA. All families pay a minimum amount of rent directly to their landlords, to mirror the landlord-tenant relationship in the unsubsidized rental market.
Assets	Family income from assets is counted in determining a family’s TTP.	Family income from assets is ignored when total asset value is less than \$25,000, and families do not need to document those assets.
Recertification Period	Annual recertifications.	Triennial recertifications.
Interim Recertifications When Income Changes	At an agency’s discretion, families report any income increases when they occur, before the next scheduled recertification. Families may request interim recertifications whenever their incomes fall by any amount.	Earnings gains do not increase TTP for 3 years (that is, until the next triennial recertification). Interim recertifications are limited to a maximum of one per year and only when a family’s average gross income over the most recent 12 months drops by more than 10 percent from the retrospective estimate that was used to establish the TTP currently in effect.
Utilities	Where the contract rent does not include utilities, a utility allowance is provided based on a detailed schedule that takes into consideration voucher size (the number of bedrooms covered by a family’s voucher) and various other aspects of the type of housing unit.	A simplified utilities policy that is tailored to a standard base rate for utility costs and that varies according to the voucher amount, with additional payments available to families paying higher costs related to the type of heating (for example, electric or oil heat) and water and sewer charges.

(continued)

**Exhibit 1.1 (continued)**

Component	Traditional HUD Policy	New Rent Policy
Hardship Policy	<p>If the PHA has a minimum TTP, it must suspend that minimum TTP for families who are unable to pay it because of specified financial hardships. Short-term hardships (lasting 90 days or less) require the suspended minimum to be reinstated after the hardship period ends and to be repaid according to a reasonable payment plan.</p>	<p>Families qualify for consideration of a hardship-based remedy if—</p> <ul style="list-style-type: none"> <li>• The family’s monthly TTP exceeds 40 percent of its current or anticipated monthly gross income.</li> <li>• The hardship cannot be remedied by the one interim recertification permitted each year.</li> <li>• The family faces eviction for not paying rent or utilities.</li> <li>• The family meets other criteria determined by the PHA.</li> </ul> <p>Hardship remedy options include the following standardized list:</p> <ul style="list-style-type: none"> <li>• Allowing an additional interim recertification beyond the normal one per year.</li> <li>• Setting the family’s TTP at the minimum level for up to 180 days (this remedy can be renewed at the end of that period if the hardship persists).</li> <li>• Setting the family’s TTP at 28 percent of its current gross income (which may be less than the minimum TTP) for up to 180 days (except in Lexington) (this remedy can be renewed at the end of that period if the hardship persists).</li> <li>• Offering a “transfer voucher” to support a move to a more affordable unit.</li> </ul>
Grace Period	<p>Not applicable. TTP is always based on current income.</p>	<p>At the triennial recertification, if a family’s current gross income is more than 10 percent lower than its average gross retrospective income over the past 12 months, the family will have its TTP calculated at that time based on current income rather than retrospective income, and this TTP will remain in effect for 6 months. During this grace period, families can still qualify for a hardship-based remedy.</p>

Notes: The Traditional HUD Policy column shows the national policy in existence for the non-Moving to Work tenant-based housing choice voucher population before the enactment of the Housing Opportunity Through Modernization Act of 2016. With a few exceptions, the PHAs participating in the Rent Reform Demonstration have continued to implement these policies. For each of the four demonstration PHAs, details on its existing policy and how it varies from the traditional HUD policy are available in exhibit A.1.

### **Changes in the formula for calculating a family's TTP and subsidy:**

- Eliminating all deductions from countable income so that gross income, rather than adjusted income, is the basis for calculating a family's TTP (as a step toward simplifying that calculation).<sup>23</sup>
- Calculating TTP at 28 percent of gross income rather than the normal 30 percent of adjusted income (to help offset the elimination of income deductions).
- Using a family's gross income over the previous 12 months (referred to as "retrospective income") in setting its TTP and housing subsidy rather than the traditional practice of using the adjusted income a family currently has and expects to have in the coming year.
- Ignoring a family's income from assets when the total value of its assets is less than \$25,000 (and not requiring documentation of those assets).
- Simplifying the policy for determining utility allowances to a streamlined standard schedule based primarily on unit size, with some adjustments.
- Establishing a minimum TTP of at least \$50 per month and requiring families to pay at least the specified minimum TTP directly to their landlords. This change means that all tenants have rent-paying relationships with their landlords, as they would in the unsubsidized rental market.<sup>24</sup>

### **Safeguards for families (in addition to interim recertifications):**

- A TTP "grace period" at the start of the 3-year period, allowing for a temporary (6-month) TTP reduction when a family's current/anticipated gross income is more than 10 percent lower than its average monthly retrospective gross income over the past year.
- Allowing one interim recertification per year if a family's retrospective income falls by more than 10 percent before the next required triennial review. This change is intended to limit the volume of TTP adjustments the PHA makes (because normally they must be made whenever families report

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<sup>23</sup> Countable income refers to income that, according to HUD guidelines, is taken into account when determining a family's TTP. It excludes certain types of income, such as earnings of a child under the age of 18, health insurance payments, and nonrecurring income from gifts). The new rent policy uses the same types of income inclusions and exclusions in TTP calculations that apply under HUD's traditional rent policy. However, nonwage income that is set to expire by the end of the look-back period, such as Temporary Assistance for Needy Families or unemployment insurance benefits, is not counted when calculating base income because a family would not be able to depend on such income going forward.

<sup>24</sup> Although most voucher holders pay some rent directly to their landlords, in some cases the housing authority pays the entire amount to the landlord. Requiring all families in the new rent rules group to pay at least some amount to their landlords was perceived by some HUD officials as a way of helping to prepare those families for the arrangement they would face if they increased their incomes and received lower housing subsidies or moved and were no longer receiving housing subsidies.

income gains or losses of any amount) while still protecting families when their incomes drop substantially (the new policy does not restrict interim recertifications required for other reasons, such as a change in household composition or a move to a new unit).

- A hardship policy that covers a standard set of conditions (particularly when a family’s TTP exceeds 40 percent of its current income) and includes a standard set of remedies that permit TTP reductions at any time during the 3-year period to protect households from excessive rent burdens.

The PHAs participating in the demonstration helped to develop and support this common framework; however, they also saw a need to adapt the model in some ways in response to local considerations or to accommodate some preexisting policy changes they had already implemented (see exhibit A.1 for a summary of the existing rent policies across the four PHAs, which apply to the control groups in the demonstration). For example, reflecting local considerations, TTP levels vary among the PHAs from \$50 to \$150 per month. Two of the four PHAs—in Louisville and Washington, D.C.—introduced a minimum TTP for the first time (\$50 and \$75, respectively), and San Antonio increased its existing \$50 minimum TTP to \$100. Lexington had already introduced a \$150 minimum TTP before the demonstration began, and it continued that policy for both the new rules group and the existing rules (control) group. The process for determining hardship remedies also varies across the PHAs, although the conditions defining a hardship and the remedies themselves do not. Washington, D.C., had already instituted a simplified approach for calculating families’ utilities costs, a version of which each of the other PHAs in the demonstration adopted for the new rules group.

Of all the features of the new rent policy, the 3-year recertification is the main one intended to improve labor market outcomes because it eliminates the implicit “tax” on earnings during the 3-year period. The introduction of a minimum TTP or the increase in an existing one might also increase work effort unless that minimum is waived because some tenants may need to increase their earnings to have enough income to meet the new requirement. Various features of the new policy were also intended to reduce the administrative burden on PHAs or offer families protections from excessive rent burdens.

## **Administering the New Rent Policy**

Although some of the changes introduced by the new rent rules may simplify the process of determining a family’s TTP (for example, by eliminating childcare and other deductions and streamlining the utilities policy), other changes could be burdensome to implement with some families (for example, computing and verifying retrospective income when a family’s income is volatile and not well documented or captured by the administrative records on families’ income that the PHAs can access from other government sources).<sup>25</sup> Although adopting a 3-year

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<sup>25</sup> “Administrative records” comprise data that are collected in the course of administering a program. These data are available to PHAs through the HUD Enterprise Income Verification system, which

recertification period is intended to reduce the overall burden on PHAs and families by reducing the volume of TTP recalculations and the number of contacts families have with the PHA over several years, whether those outcomes are actually achieved depends on the frequency with which hardship remedies and interim recertifications are requested and approved. It remains to be seen, therefore, whether the new rent rules—*taken as a whole over several years*—achieve the goals of simplification and reduced administrative costs. The evaluation will attempt to answer this important question in future reports.

The new rent rules also impose extra communication responsibilities on the PHAs in at least two ways. First, if families are to respond to the work incentive built into the new rules, they must be aware that such an incentive exists and understand how it functions. Second, if the safeguards built into the new policy are to have their intended protective effects, families must be aware of those safeguards, understand how they work, and take advantage of them when needed. (The PHAs must also implement them properly). To implement the new rent policy, therefore, PHAs must undertake regular and active communication efforts beyond the initial explanations they offer to families at the time of recertification. To that end, with MDRC’s guidance and HUD’s support, the PHAs are sending additional mailings approximately twice each year to remind families of the new policy’s work incentive and safeguards and to invite them to contact a housing specialist if they believe they may qualify for a TTP reduction.

As the overall managers and evaluators of the demonstration, MDRC and its partners worked closely with the four PHAs to specify the processes required to implement the new rent policy. The MDRC team helped the agencies think through their staffing needs and software modifications, how they would integrate research procedures into recertification meetings, and how staff members would be trained in the procedures for calculating rent and utilities using a new set of rules. The team prepared a manual for each PHA describing those procedures and helped train housing specialists and their supervisors to apply them. In addition, the team observed recertification meetings, monitored implementation practices, and provided refresher training sessions on the use of interim recertifications and hardship remedies. Since that initial launch phase, the team has continued to conduct regularly scheduled check-in meetings with managers at each PHA to discuss any challenges that the PHA is facing in implementing the new rent policy and, in 2018, conducted “refresher” training sessions for staff at each location as they began to conduct triennial recertifications under the new policy. MDRC has had no direct operational role in the administration of the new rent rules, however.

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provides information such as earnings reflected in unemployment insurance wage records, unemployment insurance compensation, and Social Security and Supplemental Security Income benefits. One known issue with the Enterprise Income Verification system is that it is not considered complete—or current—because of reporting lags in some of its data sources. The National Directory of New Hires, for example, has a 6-month reporting lag.

**Exhibit 1.2. Total Tenant Payment (TTP) at Initial Study Recertification, All Public Housing Agencies (PHAs)**

Outcome	New Rent Rules	Existing Rent Rules	Difference
Average total tenant payment (TTP) <sup>a</sup> (\$)	289	310	-20
TTP <sup>a</sup> (%)			
\$0	1.9	9.1	-7.2
\$1–\$50	5.8	11.5	-5.7
\$51–\$75	9.7	4.1	5.7
\$76–\$100	9.0	3.3	5.7
\$101–\$150	13.4	11.1	2.3
\$151–\$300	25.3	20.9	4.4
\$301–\$700	27.5	29.5	-2.0
\$701 or more	7.4	10.5	-3.1
Sample Size (total = 6,180)	3,111	3,069	

<sup>a</sup> Total Tenant Payment is the amount a family must contribute toward rent and utilities regardless of the unit selected. Under the new rent rules TTP is 28 percent of prior year income and under existing rent rules TTP is 30 percent of adjusted income.

Notes: Rounding may cause slight discrepancies in calculating sums and differences. Statistical tests were not performed.

Source: MDRC calculations, using PHA data

**TTPs and Rent Subsidies at the Start of the New Rent Policy**

The baseline report shows the TTPs that were calculated for families at the time of their initial recertifications (in 2015–16) when the new rent rules were first applied (Riccio, Deitch, and Verma, 2017). Some results from that analysis are summarized in exhibit 1.2. For families in the new rent rules group, the average initial TTP (\$289 per month) calculated at the same time after entering the study was about \$20 lower than the average TTP for the existing rent rules group (\$310 per month), or about 6.5 percent lower. The lower TTP means that the average monthly housing subsidy for the new rent rules group was correspondingly higher, by about 2.6 percent (\$834 compared with \$813 for the existing rent rules group, not shown in exhibit 1.2).

The new rent rules also reduced the proportion of families paying very low and very high TTPs at the time of the initial recertification. For all PHAs combined, the new rent rules group had lower proportions of families paying no TTP at all and lower proportions paying more than \$700 per month than was the case in the existing rent rules group. Most of the reduction in the proportion of families paying zero TTP came from Louisville and Washington, D.C., (not shown in table), where, in contrast to Lexington and San Antonio, the existing rent rules do not include a minimum TTP. Because of the minimum TTP provision in the new rules, families in the new rent rules group who reported having no income at all (sometimes referred

to as “zero-income families”) were expected to pay \$50 per month in Louisville and \$75 in Washington, D.C., unless they applied for and received hardship remedies.

## **The Scope of This Report**

This report provides early findings from the evaluation’s impact analysis. Future reports will provide a more comprehensive assessment, examining the new policy’s effects over a longer period of time and on a wider range of outcomes, and will include information about the PHAs’ ongoing experiences operating the new rent rules policy, about the administrative burden and costs incurred by the PHAs, and about families’ views of the new policy.

Chapter 2 of this report briefly summarizes the baseline report’s description of the ways in which the sample for the evaluation was enrolled in the study and some characteristics of those families. It also explains the data collection and analysis methods that were used to estimate the early impacts presented in subsequent chapters. Chapter 3 presents the findings on employment and earnings outcomes, and Chapter 4 presents the findings on tenants’ housing costs, subsidies, and other outcomes related to their subsidy receipt. Chapter 5 concludes the report by highlighting the next steps in the evaluation.



## Chapter 2

# The Study Sample and Analysis Methods

The Rent Reform demonstration uses a randomized controlled trial, one of the most rigorous methods for determining the effectiveness of an intervention. This chapter discusses the study sample, data sources, and analysis methods that are being used in the experiment. A fuller account of the overall evaluation design and characteristics of the study sample can be found in the demonstration’s baseline report (Ricchio, Verma, and Deitch, 2017).<sup>26</sup>

## Building the Research Sample

### The Eligible Sample

Because it was important to test whether the new rent policy would improve tenants’ employment and earnings, families had to be existing voucher holders and meet the following core criteria to be eligible for the Rent Reform Demonstration:<sup>27</sup>

- A family could not be classified as an *elderly household* and could not become elderly according to HUD’s definition over the course of the study. More specifically, the head of household, spouse, and co-head had to be 56 years of age or younger at the time of study enrollment so that a followup period of several years would not extend into the time when many adults begin to retire.
- A family could not be defined as a *disabled household* (that is, one in which the head, co-head, or spouse is disabled).

The study also excluded several other types of voucher holders. For example, some families were not eligible because they held special vouchers governed by some regulations that did not apply to the vast majority of regular voucher holders. Families who were already participating in HUD’s Family Self-Sufficiency and Homeownership programs were also excluded because the new rent rules would change some of the terms that those families had agreed to when they enrolled in those programs. In addition, the demonstration excluded families who were currently receiving childcare deductions so that those families would not be

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<sup>26</sup> The baseline report describes the study’s overall plans for collecting and analyzing administrative records related to receipt of Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP) benefits, and services documented in the Homelessness Management Information System (HMIS), as well as qualitative data. After the baseline report was released, HUD funded a household survey in which heads of household will be interviewed approximately 42 months after random assignment on a wide range of outcomes that are not available in administrative records.

<sup>27</sup> The study did not include new voucher holders because it was expected that a substantial number would not successfully “lease up”—that is, find appropriate housing for which they could use the voucher within the time the public housing agencies gave them to do so. Because such families would forfeit their vouchers, they could not be subject to either the new or existing rent rules and, consequently, would not contribute to the goals of the evaluation.

forced to give up deductions they had come to rely on (the deductions are not a feature of the new policy). With a few additional exceptions, the remaining families who were scheduled for recertification during the study's enrollment period were selected for the study.<sup>28</sup>

## **Enrolling the Sample**

The procedures for enrolling families into the study for the Rent Reform Demonstration were incorporated into the regular income recertification process—that is, the process that each of the four public housing agencies (PHAs) use to review whether families continue to meet the voucher program's income and other requirements and to calculate their total tenant payments (TTPs) and housing subsidies. Once the study's eligibility criteria were set, the PHAs and MDRC identified qualifying families who were being scheduled for upcoming recertifications. Random assignment procedures were then used to allocate those families either to a new rent rules group, which would be subject to the new policy for the duration of the demonstration, or to an existing rent rules group, which would continue to be subject to the traditional rent rules for voucher holders (and that would serve as the study's control group).<sup>29</sup> With the exception of Louisville, enrollment in the demonstration was mandatory. Families had their TTPs for rent and utilities and their housing subsidy amounts calculated according to the rules of the rent policy group to which they were assigned and remained subject to all the rent rules applicable to their group for the duration of the demonstration. Although families could not opt out of the rent policy group to which they were assigned (except in Louisville), they could refuse to allow their individually identified data to be shared with the researchers; however, only 14 families—or 0.2 percent of those randomly assigned—across the four PHAs chose to do so. Exhibit 2.1 outlines the enrollment process for the study PHAs.<sup>30</sup>

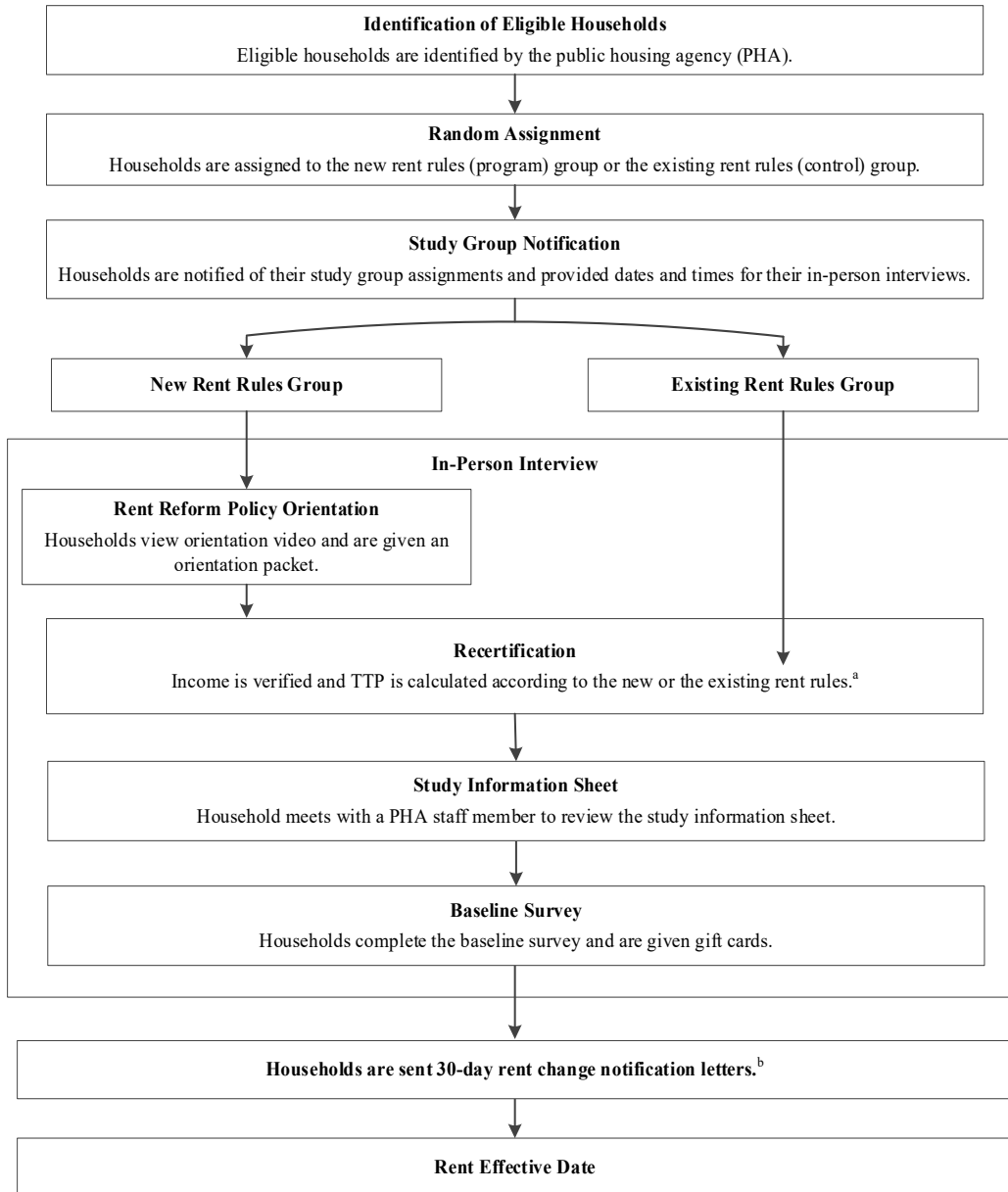
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<sup>28</sup> See exhibit B-4.1 in Riccio, Deitch, and Verma (2017) for a complete list of reasons for exclusion.

<sup>29</sup> The reason for not asking recertifying voucher holders to choose which rent policy would apply to them was to mimic the ways that the new policy would be likely to operate in practice if it were to be adopted as a new government policy—that is, families would not be able to choose whether the new policy would apply to them. The fact that the new rent policy includes safeguards to minimize the risk of harm while also creating opportunities for substantial benefits for those who are subject to it was among the reasons why MDRC's Institutional Review Board deemed this random assignment design to be one that meets recognized ethical guidelines for human-subject research. HUD also deemed the random assignment design to be compliant with Moving to Work (MTW) regulations, which give MTW agencies statutory flexibility to implement new initiatives with the proper public notice and PHA board approval. In Louisville, however, community concerns led to an agreement with the PHA that families who were assigned to the new rent rules group would be allowed to opt out of that policy and have their rent calculated using existing rules. For more on this issue, see Riccio, Deitch, and Verma (2017).

<sup>30</sup> For a detailed description of the steps in this process, see Riccio, Deitch, and Verma (2017).

## Exhibit 2.1. Enrollment Flow Chart



<sup>a</sup> In Louisville, households assigned to the new rent rules group received TTP estimates for both the new and the existing rent rules at their recertification meetings and were given 30 days to decide whether they wanted to opt out of the new rent policy.

<sup>b</sup> For households assigned to the new rent rules group in Louisville, the 30-day rent change notification letter was sent at the end of the 30-day opt-out period.

Notes: The whole enrollment process—from identification of a household to the rent effective date—is expected to take between 120 and 180 days.

In Louisville, the opt-out option required the PHA staff and families to take some additional steps. Families who were assigned to the new rent policy group were asked to mail their income documentation to the PHA before the recertification meeting so that the staff could prepare estimates of the family's TTP under the new rent rules and under the existing rent rules.

Those two estimates were then presented to families and discussed at the recertification meeting. After the recertification meeting, families were given 30 days to opt out of the new rent rules. Unless a family notified the PHA about its decision to opt out (which had to be communicated in writing, using an official agency form), the new rent rules would apply. After the 30-day opt-out period ended, the PHA finalized the TTP and subsidy and notified each family. By the end of the enrollment period, 212 eligible families (about 22 percent of the eligible new rent rules group in Louisville) chose to opt out of the new policy (but, as explained later in this chapter, nearly all remain part of the study).

The enrollment process took different amounts of time at the four PHAs, in part because the agencies had "recertification cycles" (the periods during which income recertifications had to be completed) of different lengths. The recertification cycles ranged from 90 days in Lexington to 180 days in Washington, D.C.<sup>31</sup>

A total of 7,255 families were randomly assigned for the Rent Reform Demonstration. As it turned out, however, about 8 percent of families across the two research groups were subsequently found to be ineligible for the study before the initial recertifications were completed (because, for example, they were disabled, moving to another PHA, or in the process of exiting the voucher program). They were excluded from the analysis sample (before any findings were produced), yielding a final sample size of 6,665 families for the four PHAs combined.<sup>32</sup>

## Characteristics of Enrolled Families

The Rent Reform Demonstration is structured around a two-group, randomized controlled trial. The power of this research design comes from the fact that, with an adequate sample size, random assignment ensures that the intervention and control groups will be similar in their distributions of observed and unobserved characteristics when the study begins. Thus, differences that later emerge between the two groups can be attributed with a greater degree of confidence to the intervention rather than to preexisting differences in families' characteristics. The effects of the new rent policy are therefore determined by comparing over time the labor-market outcomes and other outcomes of the new rent rules group with the outcomes of the existing rent rules group.

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<sup>31</sup> Two PHAs, in Lexington and Washington, D.C., agreed to recertify some households early (that is, to advance their annual recertifications) to try to meet the study's sample-size goal within the preferred enrollment timeframe. For San Antonio, the enrollment period was extended by an additional 3 months to meet the study's sample-size goals.

<sup>32</sup> This number is slightly greater than the sample size of 6,660 reported in Riccio, Deitch, and Verma (2017) because of new information that became available after the baseline report was completed.

Approximately one-half of the 6,665 families who enrolled in the study were randomly assigned to the group that was subject to the new rent policy, and one-half were assigned to the group that remained subject to the existing policy (the control group). Data on the families' background characteristics come from PHA administrative records (based on HUD's 50058 form) and a special background information survey administered to families by the PHAs' housing specialists at the time of the initial recertification (see the baseline report [Ricchio, Deitch, and Verma, 2017] for a full discussion of these characteristics). As exhibit 2.2 shows, with the samples of all PHAs combined, the average household size was 3.4 family members. In addition, over one-third of families (36.9 percent) had more than one adult living in the household, and nearly one-fourth (22.8 percent) had no children under the age of 18 years. Household composition varied considerably across PHAs. In Washington, D.C., nearly 50 percent of families had more than one adult in the household, compared with 27 to 34 percent in the other PHAs. In addition, 35 percent of families in Washington, D.C., had no children under the age of 18 years, compared with 14 to 22 percent of the other PHAs' families. This variation may partly reflect the fact that, as exhibit 2.3 shows, the heads of household in Washington, D.C., are older: More than 40 percent are 45 years of age or older, compared with 18 to 22 percent of the heads of other PHAs' households.

Nearly all (94 percent) of household heads in the study sample are female and, on average, household heads were about 39 years of age when they entered the study (as shown in exhibit 2.3). The majority (69 percent) are Black/African-American. Almost one-fourth (23 percent) are Hispanic/Latino (of any race). In Lexington, Louisville, and Washington, D.C., most heads of household are Black/African-American, whereas the majority (75 percent) in San Antonio is Hispanic/Latino.

Exhibit 2.4 shows that most of the other adults in the study households appear to be the household heads' young adult children. About 80 percent of the non-heads of household were 18 to 24 years of age, and 14 percent were 25 to 34 years of age. A very small proportion (about 7 percent) of the adults who were not household heads were spouses or co-heads of household. This is a consistent pattern across all four PHAs. About 47 percent of the non-heads of household were female, and their race and ethnicity closely parallel that of the household heads (not shown in table).

Economically, the study sample was substantially disadvantaged at the time of random assignment (as shown in exhibit 2.2). According to PHA data, more than one-half of the study families (58 percent) had no earned income at that time (from any household members, not just household heads), ranging from 53 percent of families in San Antonio to 62 percent in Louisville. Even among families who did have earned income, earnings were generally low: Average annual earnings (among families with earnings) ranged from about \$13,000 in San Antonio to roughly \$27,000 in Washington, D.C. Almost 24 percent of families had income from Social Security, the Supplemental Security Income (SSI) program, or pensions, according to PHA data. In most cases, SSI income was recorded in the PHAs' administrative records for children or other adults living in the household, not for the household head. (SSI income was entered for the household head for only about 3 percent of households receiving SSI.) The

Washington, D.C., families were the most likely by far to receive cash welfare payments: 38 percent of them did, compared with fewer than 6 percent of the families from the other PHAs.<sup>33</sup>

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<sup>33</sup> Cash welfare includes income from TANF and state general assistance programs.

**Exhibit 2.2. Characteristics of Families in the Impact Sample, by Public Housing Agency (PHA)**

Characteristic	Lexington	Louisville	San Antonio	Washington, D.C.	All PHAs
Average number of family members	3.2	3.3	3.6	3.2	3.4
Families with more than one adult (%)	26.7	33.9	32.7	49.4	36.9
Number of children in the family (%)					
None	17.3	21.6	14.0	35.3	22.8
1	24.4	22.4	20.3	25.6	23.0
2	28.4	24.0	27.7	18.0	23.9
3 or more	29.9	32.0	38.1	21.1	30.3
Among families with children, age of the youngest child (%)					
0–2 years	16.9	16.7	17.8	16.0	16.9
3–5 years	17.9	17.5	21.7	19.4	19.3
6–12 years	47.3	43.0	42.7	35.7	41.8
13–17 years	17.9	22.7	17.8	28.9	21.9
No earned income <sup>a</sup> (%)	53.6	61.8	53.1	60.1	57.7
Income sources <sup>a</sup> (%)					
Wages	46.4	38.2	46.9	39.9	42.3
Welfare	5.1	5.8	3.2	37.7	14.1
Social Security/SSI/pensions	19.4	25.8	23.0	23.9	23.5
Other income sources	49.8	44.3	53.1	17.9	40.0
Child support	35.2	28.6	38.0	13.7	28.0
Unemployment benefits	1.0	1.3	2.1	3.4	2.1
Other	17.6	17.0	15.8	1.3	12.2
Average annual income from wages, among families with any wage income <sup>a</sup> (\$)	16,625	16,741	12,925	26,853	18,267
Sample size	979	1,908	1,869	1,909	6,665

<sup>a</sup> Income-source categories are as defined on the HUD-50058 form. Wages include one's own business, federal wages, PHA wages, military pay, and other wages. Welfare includes general assistance, annual imputed welfare income, and Temporary Assistance for Needy Families. SSI is Supplemental Security Income. Other income sources include child support, medical reimbursement, Indian trust/per capita, unemployment benefits, and other nonwage sources.

Notes: Sample sizes for specific outcomes may vary because of missing values. Rounding may cause slight discrepancies in calculating sums and differences. Data were collected at the most recent recertification before random assignment.

Source: MDRC calculations, using PHA data

**Exhibit 2.3. Characteristics of Heads of Households in the Impact Sample, by Public Housing Agency (PHA)**

Characteristic	Lexington	Louisville	San Antonio	Washington, D.C.	All PHAs
Female (%)	96.8	95.6	93.8	90.9	94.0
Age (%)					
18–24	3.5	0.9	5.7	1.4	2.8
25–34	39.0	32.3	38.9	18.6	31.2
35–44	39.8	44.7	35.6	39.4	39.9
45 or older	17.7	22.1	19.8	40.5	26.1
Average age (years)	36.9	38.7	36.7	42.2	38.9
Race (%)					
White	18.6	18.2	77.0	2.0	30.2
Black/African-American	81.1	80.3	22.2	97.2	68.9
Other	0.3	1.5	0.8	0.8	0.9
Ethnicity (%)					
Hispanic or Latino	1.9	1.2	74.9	3.1	22.5
Not Hispanic or Latino	98.1	98.8	25.1	96.9	77.5
Sample size	979	1,908	1,869	1,909	6,665

Notes: Sample sizes for specific outcomes may vary because of missing values. Rounding may cause slight discrepancies in calculating sums and differences. Data were collected at the most recent recertification before random assignment.

Source: MDRC calculations, using PHA data



**Exhibit 2.4. Characteristics of Adults Who Are Not Heads of Households, by Public Housing Agency (PHA)**

Characteristic	Lexington	Louisville	San Antonio	Washington, D.C.	All PHAs
Age (%)					
18–24	74.3	80.4	78.8	80.4	79.5
25–34	13.9	10.8	12.1	16.7	14.0
35–44	8.4	5.8	5.4	1.4	4.0
45 or older	3.4	3.1	3.7	1.5	2.5
Relationship status (%)					
Spouse or co-head of household	9.8	7.2	13.5	2.1	6.6
Sample size	296	815	784	1,502	3,397

Notes: Sample sizes represent individuals who were at least 18 years of age at the time of random assignment. Foster children and live-in aides have been excluded. Sample sizes for specific outcomes may vary because of missing values. Rounding may cause slight discrepancies in calculating sums and differences. Data were collected at the most recent recertification before random assignment.

Source: MDRC calculations, using PHA data

The PHAs involved in the Rent Reform Demonstration were chosen to yield a sample that would broadly reflect the national voucher population. Although four sites cannot truly represent that national population, the families in the study sample (as the baseline report shows) are roughly similar to working-age, nondisabled voucher holders nationally, although somewhat more disadvantaged. (For example, they were less likely to be working.<sup>34</sup>)

According to a brief survey of study families at the time of study enrollment, many families were contending with significant barriers to employment and material hardships (Riccio, Deitch, and Verma, 2017). For example, 26 percent of household heads reported having no high school diploma or its equivalent, whereas only 12 percent had 2-year or 4-year college degrees. In addition, 54 percent of survey respondents reported facing potential impediments to employment, such as physical, emotional, or mental health problems they believed limited their ability to work or the kind of work they could do (31 percent of all respondents); or difficulty affording childcare (21 percent of all respondents).

Almost 70 percent of baseline survey respondents said that they had experienced financial hardship at some time in the past year, such as an inability to pay utility bills (46 percent), telephone bills (34 percent), or rent (20 percent). About 28 percent indicated that they sometimes did not have enough money to buy food.

<sup>34</sup> See Riccio, Deitch, and Verma (2017) for further details on this comparison.

## Exhibit 2.5. Data Sources for This Report

- **PHA records.** All families receiving a housing voucher complete or update a 50058 form as part of their initial or recertification interview; the information collected by the PHA includes their incomes and income sources, their total tenant payment (TTP) amounts, family share, and their total housing subsidy payment. The study team is collecting this information for all study participants for 1 to 3 years before study enrollment (depending on the PHA) and during the study followup period. For families who are subject to the new rent policy, the study team is collecting information on grace-period TTPs, interim recertifications, hardship remedies, and retrospective income.
- **Wage records.** Employment and earnings data, crucial for the demonstration, will be obtained from the National Directory of New Hires (NDNH), a national database of wage and employment information that was established by the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 and is maintained by the Office of Child Support Enforcement. The NDNH includes data on employment and earnings in all work covered by unemployment insurance (UI), including across state lines (for those who commute into another state for work or who moved to a different state after random assignment) and on federal employment that is not captured in state UI records. NDNH records do not cover earnings from self-employment, some agricultural work, and informal jobs. Other research suggests that administrative data may miss relatively more employment for low-income populations than for higher income groups, given the former group's greater prevalence of work in informal jobs (Abraham et al., 2009). NDNH records also do not provide information about hours worked during a quarter or a week, or about the characteristics of jobs held, such as hourly wage rates, benefits, and schedule. For this reason, the study team will (in a future report) supplement NDNH records data with data from a 42-month survey, which includes information on job characteristics and earnings from informal jobs.

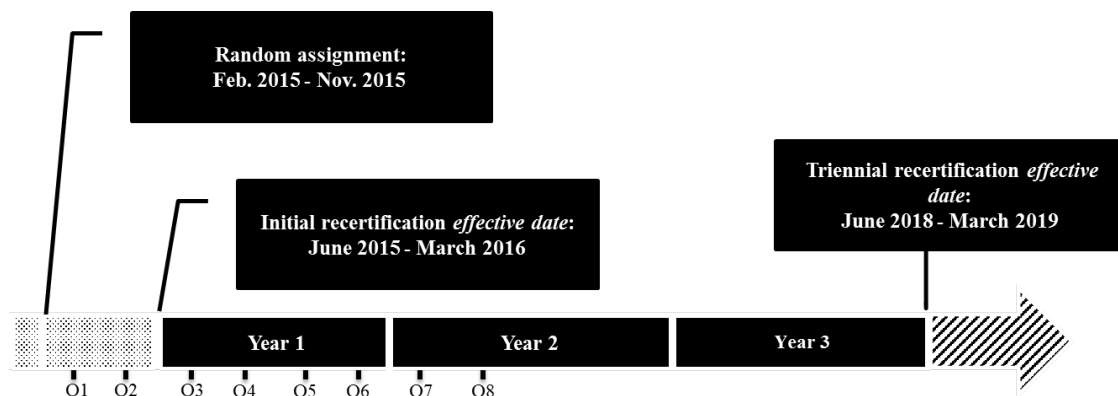
## Data Sources and Followup Period

The current report uses two main sources of quantitative data in estimating the effects of the new rent policy: PHA administrative records (that is, data collected in the normal course of administering PHA programs) and unemployment insurance wage records obtained through the National Directory of New Hires (NDNH), which captures employer-reported employment and earnings on adults in the sample. Exhibit 2.5 describes these data sources in greater detail. Although the PHA data are available for all households, the NDNH data are available for individual household members but not for the household as a whole.

The administrative records data are available for all families starting from the time of random assignment in the case of PHA records and for three quarters before the quarter of random assignment in the case of NDNH data. For the purposes of this report, the “first year of followup” is *not* defined as beginning at the time of random assignment, as would normally be expected. (See exhibit 2.6, which is a simplified depiction of the sample random assignment, enrollment, and followup period.) This is because it usually took 4 to 5 months after a family's random assignment date for the TTP to be recalculated (under the new or existing rent rules) and to take effect. Families did not know right away which rent policy would apply to them or what their new TTP would be, and they would not begin paying the new TTP until the designated “effective date.” When examining effects on housing-related outcomes (for example, on TTPs, subsidies, and transactions with PHA staff), it makes sense to focus on outcomes during the period that begins after the effective date; before that date, both research groups are still subject to the regulations and guidelines of the existing rent policy. If, for example,

families’ subsidy receipt patterns and interactions with the PHAs change for the new rules group, those changes will occur only after new rules take effect for them.

**Exhibit 2.6. Simplified Depiction of Random Assignment and Followup Period**



For that reason, for outcomes related to families’ housing subsidies—which are available from monthly PHA data—the first followup year for a family is defined as *the period that begins in the month after the month in which the family’s new TTP was expected to take effect*. For example, if a family’s recalculated TTP became effective on October 1, 2015, the first followup year for measuring the family’s total amount of housing subsidy received would begin in November 2015 and end in October 2016.<sup>35</sup> The same followup period definition applies when examining PHA actions for families, such as the percentage of families who receive interim recertifications in Year 1. Generally, the effective dates occurred within 4 to 6 months after random assignment.

This definition of Year 1 for PHA outcomes aligns closely but not exactly with the definition of Year 1 for the employment-related outcomes based on NDNH data. Overall, for about 82 percent of families, Year 1 as defined for NDNH outcomes and Year 1 as defined for PHA outcomes began in the same quarter. As seen in Chapter 3, the quarter in which a family was randomly assigned is referred to as Quarter 1. For most families, the new TTP effective date occurred in Quarter 3. Thus, Quarter 3 is deemed the beginning of the first followup year for the analyses based on NDNH data because it is “post-effective date” for most families, and Quarter 6 is deemed the end of the first year.<sup>36</sup>

<sup>35</sup> Beginning Year 1 in the first month after the month of the effective date avoids counting that initial recertification as a “followup” action during the first followup year, although a very small number of late initial recertifications fall into that followup period for both research groups.

<sup>36</sup> For about 62 percent of families, Quarter 3 is the quarter in which the new TTP became effective. For about 38 percent of families, Quarter 3 is the quarter after the quarter in which the new TTP became effective. Thus, for some families in the new rules group, defining Quarter 3 as the beginning of the Year 1 followup period for the NDNH data analysis means that they will have had some exposure to the new rent rules before Year 1; however, the analyses in Chapter 3 include results for every quarter, starting with the quarter of random assignment.

Exhibit 2.7 shows the months when study families' revised TTPs took effect. Across the four PHAs, the effective dates spanned a 10-month period, from June 2015 through March 2016. This means that the impact study's first year of followup (the focus for many of the outcome measures for this report) ended in June 2016 for the earliest enrolled families, and in March 2017 for the last families enrolled.

In Washington, D.C., the effective dates fell within a single calendar quarter—between October and December 2015; consequently, the end of the first followup year also falls within those months a year later (October through December 2016). For families in the other PHAs, the initial effective dates stretched over a longer period, as did the end dates for the first followup year (through as late as March 2017 in San Antonio). Across all PHAs, because about 90 percent of families began paying their newly calculated rents by December 2015, the first followup year ended by December 2016 for most families.

## **Comparability of the Two Research Groups**

For the results of an impact analysis to be unbiased, the intervention group and the control group must have a similar distribution of measured and unmeasured characteristics so that if outcomes between those groups differ, the differences can be attributed with confidence to the intervention itself rather than to “selection bias” or to differences in preexisting characteristics of the two research groups that may be related to the outcomes of interest. Random assignment is the most effective mechanism for ensuring comparability between the intervention and control groups; however, sometimes differences between the groups can emerge by chance, a risk that is larger the smaller the sample size. Thus, it is important to assess the extent to which the two groups at least have similar distributions of measurable characteristics (that is, they are in “balance”) before the followup period begins.

MDRC completed such an assessment for the Rent Reform Demonstration and presented results in the baseline report (Riccio, Deitch, and Verma, 2017). As that report shows, when the samples of all four PHAs are combined, only minor and inconsequential differences are evident between the characteristics of families who were randomly assigned to the new rent rules group and those of families assigned to the existing rent rules group. Although a few of those differences are statistically significant, they are not substantively significant (indicating that, for the pooled sample, the random assignment process worked as expected). For most characteristics, if the two groups differ at all, they differ by only a few percentage points. The same pattern is evident in each of the four studies PHAs, although somewhat larger differences between the new rent rules group and the existing rent rules group are evident in San Antonio.<sup>37</sup> As explained in the section below on regression adjustment, the impact analysis applies

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<sup>37</sup> A regression analysis was conducted to determine whether background characteristics, taken together, are associated with a family's likelihood of being assigned to the new rent rules group rather than the existing rent rules group. For the full sample from all PHAs combined, the association was not statistically significant, nor was it statistically significant for the PHAs separately, with the exception of San Antonio. The statistical significance observed for San Antonio was possibly the result of certain exclusions from the sample that had to be made after random assignment. (See Appendix H in Riccio, Deitch, and Verma [2017], available at [www.huduser.gov](http://www.huduser.gov) and [www.mdrc.org](http://www.mdrc.org)).

standard statistical techniques to adjust for any measured background differences between the two research groups in estimating the impacts of the new rent policy at each PHA and for all PHAs combined. Those adjustments reduce potential selection bias and produce more precise estimates of the new policy’s effects.

**Exhibit 2.7. Random Assignment Period, New Rent Effective Dates, and Year 1 End Dates, by Public Housing Agency (PHA)**

PHA	Random Assignment Period <sup>a</sup>		New Rent Effective Date <sup>b</sup>	Last Month of Year 1 (PHA outcomes) <sup>c</sup>
	Start Date	End Date		
Lexington	March 2015	August 2015	July 2015–December 2015	July 2016-December 2016
Louisville	February 2015	August 2015	July 2015–January 2016	July 2016-January 2017
San Antonio	February 2015	November 2015	June 2015–March 2016	June 2016-March 2017
Washington, D.C.	April 2015	June 2015	October 2015–December 2015	October 2016-December 2016
All PHAs	February 2015	November 2015	June 2015–March 2016	June 2016-March 2017

<sup>a</sup> Random assignment is when households were randomly assigned to the new rent rules or existing rent rules group. Households were notified that they were in the demonstration in their recertification packet from their public housing agency, and details about their research group assignment and the study were explained in their recertification meeting.

<sup>b</sup> The expected new rent effective date is the date that the new total tenant payment and housing assistance payment were expected to go into effect for the annual or triennial recertification.

<sup>c</sup> For PHA outcomes, Year 1 starts the month after the expected new rent effective date. For example, if the new rent effective date was June 2015, then Year 1 is from July 2015 through June 2016.

Another way of assessing the comparability of the two research groups is to compare their pre-random assignment employment and earnings using the NDNH data. Those data were available for all sample members for three quarters before each family’s quarter of random assignment. Exhibit 2.8 shows the findings for all PHAs combined, separately for the heads of household (top panel) and other adults (bottom panel). It shows that any differences between the new rent rules group and the existing rent rules group in the employment rate and average earnings in each of the prior quarters were minor and were generally not statistically significant. Exhibits B.1 and B.2 present comparisons for each PHA taken separately and generally show few notable differences on those measures.<sup>38</sup> At first glance, San Antonio may seem like an exception because some statistically significant differences are evident for household heads (as shown in exhibit B.1); however, the direction of the differences shifts between negative and positive across the pre-random assignment quarters, so the cumulative difference is very small and inconsequential. For example, the cumulative difference in the pre-random assignment quarterly earnings is only \$49, or about 0.8 percent of the control group’s cumulative earnings for those three quarters. Overall, the pre-random assignment employment and earnings patterns suggest that the two research

<sup>38</sup> For guidance on how to read an impact table, see exhibit B-3.1 in Chapter 3.

groups are well balanced and that the estimated impacts of the new rent policy will be unbiased.

**Exhibit 2.8. Employment and Earnings in the Three Quarters Before Random Assignment, by Household Head Status**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b>Heads of households</b>				
Ever employed (%)				
Third quarter before random assignment	52.3	52.5	-0.2	0.807
Second quarter before random assignment	53.9	52.8	1.1	0.111
Quarter before random assignment	53.4	53.7	-0.3	0.734
Total earnings (\$)				
Third quarter before random assignment	2,026	2,061	-35	0.357
Second quarter before random assignment	2,221	2,190	32	0.335
Quarter before random assignment	2,179	2,166	13	0.721
Sample size (total = 6,665)	3,312	3,353		
<b>Non-Heads of households</b>				
Ever employed (%)				
Third quarter before random assignment	41.5	40.6	0.9	0.482
Second quarter before random assignment	43.1	42.8	0.3	0.765
Quarter before random assignment	44.4	44.9	-0.5	0.690
Total earnings (\$)				
Third quarter before random assignment	1,079	1,047	33	0.442
Second quarter before random assignment	1,180	1,206	-26	0.454
Quarter before random assignment	1,235	1,238	-4	0.932
Sample size (total = 3,397)	1,737	1,660		

\* = 10 percent; \*\* = 5 percent; and \*\*\* = 1 percent.

Notes: Twenty-nine heads of households from the program group and 54 heads of households from the control group are missing data for one or more pre-random assignment quarters. One-hundred fifteen non-heads of households from the program group and 131 non-heads of households from the control group are missing data for one or more pre-random assignment quarters. Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

## Analysis Issues and Strategies

### Units of Analysis

In examining the effects of the new rent policy on labor market outcomes based on NDNH data, Chapter 3 of this report gives primary attention to the heads of household, who make up 66 percent of all adults in the study. The report also examines, secondarily, the effects on other adults (non-heads) as well as all adults combined (heads plus non-heads of household). The main reason for giving top priority to household heads is that most of the other adults in the research sample (nearly 80 percent across all PHAs combined) were 18 to 24 years of age at the time of random assignment and are very likely the young adult children of the household heads; very few (6.6 percent) are the spouse or co-head of household (see exhibit 2.4). This pattern generally prevails across the four PHAs. San Antonio had the largest number of non-heads who are spouses or co-heads (13.5 percent) and Washington, D.C., had the fewest (2.1 percent). Other data (not shown) indicate that about 21 percent of other adults were no longer listed as household members in PHA records by the end of the first year of followup. It is not known whether those individuals had moved out of the household (for example, to attend college or to begin their own households) or remained in the household but not on the lease. This rate is sure to rise over the course of the followup period, meaning that fewer other adults will be exposed to the new rent policy (or the existing rules) over time, making it progressively less likely that their behavior would be shaped by the new policy. Of course, *any* exposure to the new rent policy may affect their employment outcomes and possibly even their likelihood of continuing to live with their initial households or remain on the lease. For that reason, the labor market results for non-heads should not be ignored. These results, along with findings for all adults combined, are presented in appendix C.

In examining the effects of the new rent policy on housing-related outcomes (such as housing subsidies, exits from the voucher program, and transactions with the PHA), which are based on PHA data, the household is the unit of analysis (as covered in Chapter 4).

### Pooled and PHA-Specific Impacts

The impact analysis examines the effects of the new rent rules using a pooled sample, which combines the samples of all four PHAs and for each PHA separately. Pooling increases the precision of impact estimates, which becomes especially relevant when estimating effects for subgroups of the study sample because of the limited size of subgroups within each PHA's sample. PHA-specific estimates allow the analysis to test the "robustness" of the new rent model; that is, each site provides a type of independent replication test. As Chapter 3 of this report shows, some differences in impacts have begun to emerge in the first year of followup; however, those are very early findings and the cross-site patterns may not persist. It will be important to determine whether they hold over the longer followup period before trying to explain them. Hence, this report focuses primarily on describing rather than trying to explain those early patterns.



## Regression Adjustment

The basic estimation strategy used to assess the impacts of the new rent policy is analogous to the method that researchers have used in many social experiments over the past few decades to generate credible results. The analysis will compare the average outcomes of the new and existing rent rules groups of specified followup periods, using regression adjustments to increase the precision of the statistical estimates.<sup>39</sup> A linear regression framework is being used to adjust impacts, with the following basic impact model:

$$Y_i = \alpha + \beta P_i + \delta X_i + \varepsilon_i$$

where:  $Y_i$  = the outcome measure for sample member  $i$ ;  $P_i = 1$  for program (or intervention) group members and zero for control group members;  $X_i$  = a set of background characteristics for sample member  $i$ ;  $\varepsilon_i$  = a random error term for sample member  $i$ ;  $\beta$  = the estimate of the impact of the program on the average value of the outcome;  $\alpha$  = the intercept of the regression; and  $\delta$  = the set of regression coefficients for the background characteristics.

## Adjusting for Multiple Outcome Measures

The evaluation design includes several “confirmatory” outcome measures related to tenants’ earnings, housing subsidies, and material hardships. These confirmatory outcomes reflect the most important variables for judging the intervention’s effectiveness. Given their primacy, impact findings on those outcomes were subjected to further statistical adjustments that hold them to a higher standard of evidence. These adjustments account for the likelihood that in a study using many outcome variables, some impact estimates may emerge as statistically significant simply by chance and do not reflect true intervention effects. For example, if 10 outcomes are examined in a study of an ineffective treatment, it is likely that one of them will be statistically significant at the 10-percent level only by chance. One can have more confidence in any confirmatory impact estimates that remain statistically significant after adjusting for the total number of confirmatory outcome measures. The current report treats first-year pooled impact estimates for household heads’ earnings and families’ housing subsidy receipt as preliminary confirmatory measures. It subjects them to adjustment using the Benjamini-Hochberg method (Benjamini and Hochberg, 1995). The final evaluation report will present the final confirmatory impact estimates and adjustments, using longer-term data on these measures. It will also include a survey-based family hardship scale as a confirmatory outcome measure. Appendix B more fully describes the evaluation’s confirmatory measures and its approach for adjusting for multiple outcomes.

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<sup>39</sup> In making these adjustments, an outcome, such as “employed” or “received housing subsidy,” is regressed on an indicator for intervention group status, site (for all-sites analysis), and a range of background characteristics at random assignment, including race, ethnicity, age, number of adults in the household, age of the youngest child, family share, type of income reported for the Housing Choice Voucher program certification, number of years of subsidy receipt through the Housing Choice Voucher program, and whether gross rent exceeds the payment standard. When estimating effects for the pooled sample, site covariates are also included in the model.

## Variation in Rent Policies Across PHAs

As discussed in Chapter 1, the four PHAs largely implemented the same new rent policy for the demonstration; however, some exceptions exist and have implications for the interpretations of the pooled and site-specific impact findings. Also important are some differences in the existing rent rules operating at each of the participating PHAs at the start of the demonstration. These rules largely mirror HUD's traditional rent rules, operated by non-Moving to Work agencies across the country.<sup>40</sup> As Chapter 1 indicated, however, the PHAs that were selected for the demonstration had already implemented some policy changes before they joined, which means that the control group policy is not the same across all of them (see exhibit A.1).

The most important variation in the new rent policies across PHAs concerns minimum TTPs. As mentioned previously, Lexington had already introduced a \$150 minimum TTP before the demonstration began, with few exemptions permitted. Because it continued that policy for both the new rules group and the control group, any impacts that were estimated for Lexington reflect only the other features of the new rent rules, not any possible effects of a minimum TTP. In the other PHAs, a differential between the two research groups on the minimum TTP element of the policy does exist, although to different degrees. Two of the four PHAs—Louisville and Washington, D.C.—introduced a minimum TTP for the first time (\$50 and \$75, respectively), whereas San Antonio increased its existing \$50 minimum TTP to \$100. Although the levels vary, it is possible that in these three sites, impacts of the new rent policy may at least partially reflect the effects of the minimum TTP.

Furthermore, when PHAs were selected for the Rent Reform Demonstration, the PHA in Washington, D.C., had already adopted a biennial recertification policy according to which a working-age/nondisabled family whose anticipated income from the same income source increased up to \$10,000 per year would not have its TTP recalculated until its next biennial recertification; those with larger income increases (which, for example, would include tenants going to work full time at a minimum wage) would continue to have their TTPs adjusted when the increases occurred. This policy was changed in June 2016 (during this study's first followup year), however, to eliminate all income-reporting requirements before the required biennial recertification. Consequently, estimates of the first-year impacts of the new rent rules in Washington, D.C., will not reflect the extension of the recertification period to 3 years. Because the triennial recertification is the most important financial work incentive under the new rent policy and cannot yet be tested in Washington, D.C., the impact estimates that are presented in Chapters 3 and 4 include supplementary pooled estimates combining results for the three other PHAs, for which the annual recertification policy remained in place for the full control group.

These variations across PHAs in some aspects of the new rent policy and in the existing rules to which the control group families are subject are important to keep in mind when reviewing this study's impact findings.

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<sup>40</sup>The traditional rent rules referred to in this report are those in effect before the July 2016 passage of the Housing Opportunity Through Modernization Act of 2016.

## Louisville Opt-Outs

As explained previously, families in Louisville who were randomly assigned to the new rent policy group were permitted to opt out of that group and continue to be subject to the existing rent rules. About 22 percent chose to do so. Those who chose to opt out differed in important ways from those who did not make this choice. For example, they were more likely to have lower household incomes and were less likely to have any earned income, both statistically significant differences. They also had somewhat lower TTPs (and somewhat higher housing subsidies) under the existing rules than they would have had under the new rent rules. In addition, the heads of these households tended to be older than the heads of those households who did not opt out. PHA staff members reported that some families simply favored whichever policy would leave them paying the lowest initial rent. Some families may not have expected to increase their earnings and so may not have expected to benefit from the new policy.<sup>41</sup> Or some families may simply have felt more comfortable sticking with a set of rules they already knew and were used to following.

Few families who opted out of the new rent policy chose to opt out of the evaluation. To avoid introducing selection bias into the impact analysis—in other words, to ensure that the same types of families are included in each research group when the outcomes of these groups are compared—the evaluation still treats the opt-out families as members of the new rent rules group even though they are subject to the existing rent rules. This decision ensures that the evaluation’s estimated impacts will be unbiased (in the sense that the initial characteristics of the new and existing rent rules groups remain similar), which is essential for determining whether the new rules have a causal impact on the outcomes of interest. It also means, however, that the magnitude of the estimated effects of the new rent policy may be somewhat diluted because not all members of the new rent rules group were exposed to the new policy.

Given the substantial opt-out rate in Louisville and recognizing that any effects on outcomes can be attributed solely to families who did not opt out, this study includes a set of supplementary estimates that adjust the impact to account for the fact that some members of the new rent rules group were not exposed to the new rent rules. These estimates are derived from what is commonly referred to as a treatment-on-treated, or TOT, analysis. For a specified outcome measure, the TOT result was computed by dividing the estimated impact by the proportion of families assigned to the new rent rules group who chose to remain with the new policy. The TOT estimates do not affect levels of statistical significance of the impact estimates. In other words, if the original estimated impact (reflecting an intent-to-treat, or ITT, analytical approach<sup>42</sup>) is not statistically significant, the TOT estimate will also not be statistically significant even if the *magnitude* of the difference in outcomes is larger than the original estimate. Thus, a TOT adjustment cannot offer any more assurance that an estimated effect is not a result of chance.

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<sup>41</sup> See appendix C of the baseline report for a detailed analysis comparing families in Louisville who opted out of the new rent policy with those who did not opt out (Ricchio, Deitch, and Verma, 2017).

<sup>42</sup> An ITT analysis captures the average impact on the entire group intended to receive the intervention, whether or not every member of that group actually received it.

## Chapter 3

# Early Impacts on Employment and Earnings

This chapter looks at the early effects of the new rent policy on voucher holders' employment rates and average earnings, primarily during the first year of followup after the newly calculated total tenant payments (TTPs) took effect for families after they entered the study and for two extra quarters. Although the chapter presents 18 months of followup data on employment outcomes, it highlights the 1-year timeframe because that period generally aligns with the length of followup period available for this report for examining effects on housing-related outcomes, such as TTP levels, subsidy levels, and transactions with staff, which are presented in Chapter 4.

The first followup year was a time when the new rent policy was still unfamiliar to families, limiting its potential effects. Families were just learning how the new policy would support work, and they may have come to appreciate its potential benefits only gradually. Furthermore, some adults who were inspired by the new rules may have needed a fair amount of time to find work or increase their hours of work. Some may have had to overcome common types of impediments—for example, finding suitable job openings given their skills, or arranging transportation or childcare—or to resolve other types of personal or family circumstances to take advantage of the new policy. For those reasons, a fair assessment of the effects of the new policy on voucher holders' labor market outcomes requires a longer followup period, which future reports will cover.

Still, it is possible to get an early sense of potential longer-term trends with the two additional quarters of employment and earnings data that were available in time for the current report. Those extra 6 months mean that families in the new rent rules group have had a somewhat longer period of exposure to the new rules and more time to respond to them. Also, those extra months came after most families in the existing rent rules (control) group had completed their first annual recertification since their initial recertification at the beginning of the study. Control group families in Washington, D.C., are the exception because they are subject to a biennial recertification policy.

This chapter focuses most attention on the adults who were heads of household at the time of random assignment for the four public housing agencies (PHAs) in the study—Lexington, KY; Louisville, KY; San Antonio, TX; and Washington, D.C. As explained in Chapter 2, most “other adults” in the families were the young adult children of the household heads, and roughly one-fifth of them left the household or were no longer on the lease within the first year of followup. Appendix C presents the findings for those individuals, as well as for all adults in the combined sample (household heads plus non-household heads).

As will be seen, the new policy led to growing increases in the average earnings of heads of household in the new rules group (compared with the control group) in two of the four PHAs—Lexington and San Antonio—within the first 18 months of followup. In Washington, D.C., the control group's biennial recertification schedule means the impact findings for that site do not yet reflect the potential effects of the new policy's extended recertification period. When the Year 1 results for all PHAs are pooled, they show small, positive effects on average

quarterly employment and small, positive—but not statistically significant—effects on average earnings. As explained in the chapter, when interpreting the pooled findings, it is important to keep in mind the variations across PHAs in some features of the model and in the policies for the existing rules group.

## Early Impacts for Heads of Household

To measure the effects of the new rent policy on adults' labor market outcomes, the evaluation uses administrative records from the National Directory of New Hires (NDNH), which collects wage data that employers in each state report to their state unemployment insurance (UI) systems on a quarterly basis. As discussed in Chapter 2 and appendix B, the pooled impact estimate for Year 1 average earnings represents a preliminary confirmatory outcome measure for the evaluation.

## Results for the Pooled Sample

Exhibit 3.1 shows results for the pooled sample, with families from all four PHAs combined. It depicts the early trends for employment and earnings outcomes for the new rent rules group and the existing rent rules group. The results cover the period from the time of random assignment (Quarter 1) through the first year of followup (defined here as Quarters 3 through Quarter 6 after the quarter in which random assignment occurred) and through the first two quarters of the second year of followup (Quarters 7 and 8). As explained in Chapter 2, the first year of followup begins in Quarter 3 because it is the quarter in which most families' newly calculated TTPs took effect under the new or existing rent rules. The differences between the lines in the graphs represent the effects, or “impacts,” of the new rent policy. Any quarter in which the size of that difference is statistically significant is indicated by one, two, or three asterisks (representing statistical significance levels of 10 percent, 5 percent, and 1 percent, respectively) under the relevant quarter.

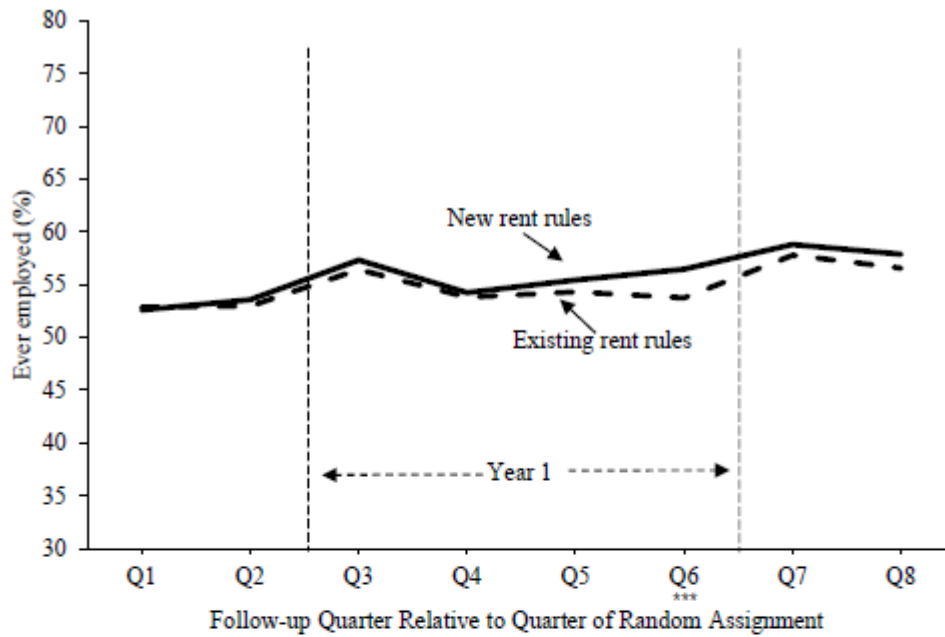
Overall, the pooled results show that heads of household in the new rules group had slightly higher employment rates and average earnings than those in the existing rules group over the course of the first 18 months of followup, although the differences were typically not statistically significant. Also noteworthy is that for both research groups, average earnings climbed substantially more than did employment rates. This result likely reflects an increase over time in the number of hours worked per quarter (including, for example, a shift from part-time to full-time employment) or an increase in average hourly wages, or a combination of the two (it is not possible to distinguish between those patterns with the quarterly NDNH data). The improving economy over this period and some increases in the hourly minimum wage may have contributed to the earnings growth experienced by both research groups.<sup>43</sup>

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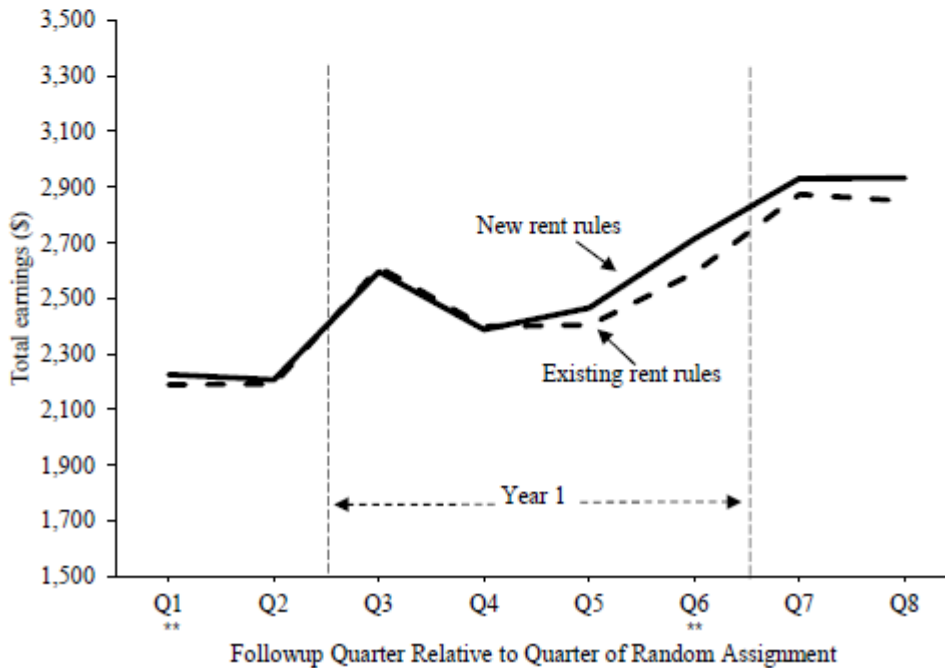
<sup>43</sup> Over the course of the followup period for this report, unemployment rates in the metropolitan areas in which the PHAs are located were relatively low and generally stable or falling by a small degree. From February 2015 through May 2017, they ranged from in 4.1 to 3.7 percent in Lexington-Fayette; 4.8 to 4.2 percent in Louisville/Jefferson County; 3.9 to 3.6 percent in San Antonio-New Braunfels; and 4.7 to 3.7 percent in Washington-Arlington-Alexandria. Some changes in the minimum wage were also introduced. In Louisville, the minimum wage rose in July 2015 from \$7.25 per hour to \$7.75, and then in July 2016, it increased to \$8.25; however, in October 2016, the Kentucky Supreme Court struck down the

**Exhibit 3.1. Quarterly Impacts on Household Heads' Employment and Earnings,  
All Public Housing Agencies (PHAs)**

**A. Employment**



**B. Earnings**



(continued)

local ordinance, and the minimum wage returned to \$7.25. In Lexington, in July 2016, the minimum wage rose from \$7.25 to \$8.20, but the same court action returned it to \$7.25. No changes were made to the minimum wage in San Antonio, where it remained at \$7.25. In Washington, D.C., in July 2015, the minimum wage rose from \$9.50 to \$10.50, and then to \$11.50 in July 2016 (U.S. Department of Labor, 2018).

### Exhibit 3.1 (continued)

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Quarter 1 (Q1) is the quarter of random assignment. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups.

The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

Exhibit 3.2 shows the detailed quarter-by-quarter results, along with several summary measures (see exhibit 3.3 for an explanation of how to read the tables showing impacts in this report). The table shows, for example, that over the first year, with all four PHAs combined, more than two-thirds of household heads in either the new rent rules group (68.1 percent) or in the existing rent rules group (66.9 percent) had worked at any point during that year in a job covered by the UI system. Moreover, 55.8 percent of the new rules group had worked in an average quarter, which exceeded the level for the existing rules group by a small but statistically significant amount (1.3 percentage points). The new rules group was also somewhat more likely (by 2.3 percentage points) to work during all four quarters of Year 1.

Average earnings, though rising, were low. For example, average earnings for the entire new rules group (including household heads who had zero earnings) were \$10,133 during Year 1. This amount translates to an average of almost \$15,000 per person who ever worked in Year 1. The new rent policy's impacts on earnings (indicated by the differences between the two study groups) were small and generally not statistically significant.

### Exhibit 3.2. Early Impacts on Employment and Earnings: Heads of Households

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>All PHAs</u></b>				
Ever employed (%)				
Year 1 (quarters 3-6)	68.1	66.9	1.2	0.180
Quarter 1 (random assignment)	52.6	52.9	-0.3	0.743
Quarter 2	53.6	53.0	0.6	0.513
Quarter 3	57.3	56.4	0.9	0.338
Quarter 4	54.2	53.8	0.4	0.669
Quarter 5	55.4	54.3	1.1	0.258
Quarter 6	56.5	53.8	2.7 ***	0.006
Quarter 7	58.8	57.8	1.0	0.302
Quarter 8	57.9	56.6	1.3	0.199
Employed in all quarters, Year 1 (%)	41.4	39.1	2.3 **	0.020
Average quarterly employment, Year 1 <sup>a</sup> (%)	55.8	54.6	1.3 *	0.095
Total earnings (\$)				
Year 1 (quarters 3-6)	10,133	9,973	159	0.415
Quarter 1 (random assignment)	2,226	2,190	37	0.333
Quarter 2	2,208	2,192	15	0.766
Quarter 3	2,595	2,612	-17	0.761
Quarter 4	2,387	2,399	-11	0.841
Quarter 5	2,465	2,405	61	0.323
Quarter 6	2,714	2,592	122 *	0.069
Quarter 7	2,931	2,875	57	0.400
Quarter 8	2,933	2,851	81	0.243
Sample size (total = 6,665)	3,312	3,353		
<b><u>All PHAs except Washington, D.C.</u></b>				
Ever employed, Year 1 (%)				
	72.7	71.4	1.2	0.232
Average quarterly employment, Year 1 <sup>a</sup> (%)				
	61.4	59.9	1.6 *	0.093
Total earnings (\$)				
Year 1 (quarters 3-6)	10,047	9,737	311	0.160
Quarter 7	2,753	2,697	56	0.458
Quarter 8	2,809	2,675	134 *	0.090
Sample size (total = 4,756)	2,368	2,388		

( i d)

PHA= public housing authority.

<sup>a</sup> Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

Statistical significance levels are indicated as: \* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.



### **Exhibit 3.2 (continued)**

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values.

Confirmatory outcomes were tested for multiple hypothesis testing using the Benjamini-Hochberg procedure. The adjusted p-value = .415 for the impact on total Year 1 earnings for all four PHAs combined. The adjusted p-value = .16 for the impact on total Year 1 earnings for all PHAs combined excluding Washington, D.C.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

As mentioned previously, the pooled results of the new rent policy can be difficult to interpret because of differences across the PHAs in their minimum TTPs and control group conditions. Particularly important is the biennial recertification policy in effect for the control group in Washington, D.C. Because of that policy, the new rules group will experience no meaningful advantage in terms of the triennial recertification (the new policy's most important financial work incentive) until the third year of followup. For this reason, as discussed in Chapter 2, it is useful to consider labor market impacts for the pooled sample without Washington, D.C., so that all families in the pooled control group are subject to an annual recertification policy. The second panel of exhibit 3.2 presents those results. It shows somewhat larger impacts of the new rent policy than the pooled estimates with Washington, D.C., although the Year 1 average earnings (\$311) is still not statistically significant.<sup>44</sup>

### **Results by PHA**

Important differences by PHA lie behind the general patterns of early labor market impacts for the pooled sample. Exhibits 3.4 and 3.5 show that the new rent rules generally produced more positive trends in Lexington and San Antonio than in other sites. In Lexington, the effects of the new policy on earnings began to grow midway through Year 1 and were statistically significant in Quarter 8. In Quarter 8, the new rules group's average earnings were \$286 higher than those of the existing rules group, a gain of 11 percent. The policy's effect on the average quarterly employment rate was small and not statistically significant during the full followup period, suggesting that the growing earnings impact may have resulted, at least in part, from an increase in hours worked and/or an increase in hourly wages (it is not possible to determine wages and hours worked from the quarterly UI records). Lexington's high minimum TTP policy could not have contributed to this earnings gain because that same minimum TTP applied to the control group. Thus, it most likely reflects the new policy's effect of extending the recertification period from 1 year to 3 years, which offers a substantial financial incentive to work.

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<sup>44</sup> The earnings impact estimates were adjusted using the Benjamini-Hochberg method described in Appendix B. The adjustment takes into account the fact that impacts were also estimated for a second preliminary confirmatory outcome measure (Year 1 housing subsidy payments to families). The adjusted p-value = .415 for the pooled sample with Washington, D.C., and .16 without it.

### Exhibit 3.3. How to Read the Impact Tables in This Report

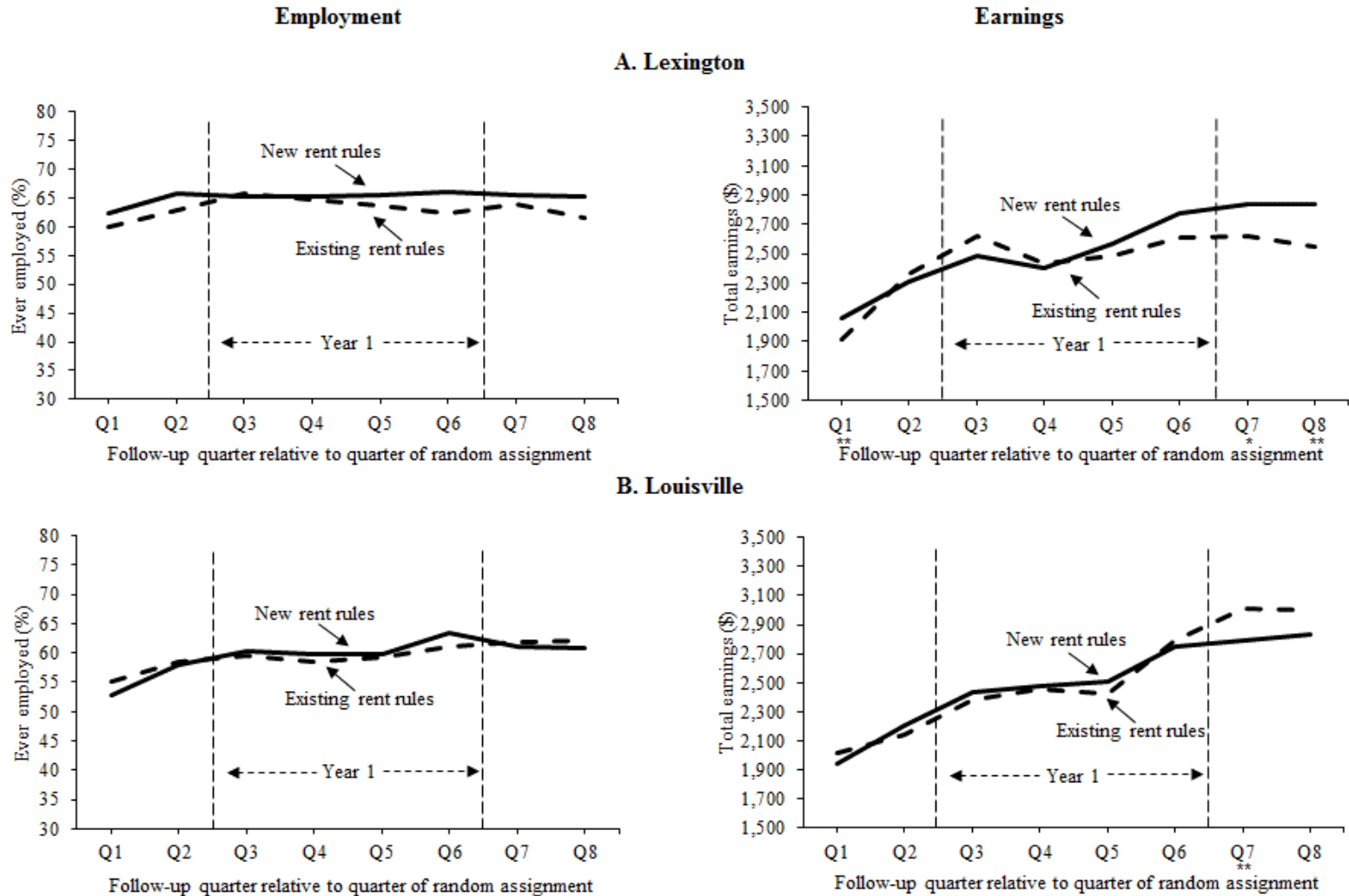
In the context of this evaluation, an “impact” is a measure of how much the intervention—the new rent rules policy implemented in the Rent Reform Demonstration—changed outcomes for program participants. The program group outcome for the intervention is compared with that of the control group. The top row of the excerpted table below, for example, shows that an average of 55.8 percent of the new rent rules, or program, group was working in an average quarter in Year 1, compared with 54.6 percent of the existing rent rules, or control, group.

Because participants were assigned randomly to either the program group or the control group, the effects of the intervention, or program, can be estimated by the difference in outcomes between the two groups. The “Difference” column in the table excerpt shows the differences between the two research groups’ outcomes—that is, the program’s estimated impacts on the outcomes. For example, the estimated impact of the program on the average number of individuals employed can be calculated by subtracting 54.6 percent from 55.8 percent, yielding a difference, or estimated impact, of 1.3 percentage points.

The p-value shows the probability that this impact arose by chance. In the table excerpt, the difference between the program and control groups in average quarterly employment in Year 1 has a 9.5 percent probability of arising as a result of chance rather than as a result of the program. In contrast, the difference on the measure of total earnings in Year 1 has an 41.5 percent probability of having arisen by chance. For this evaluation, only differences that have a 10 percent probability or less of arising by chance are considered “statistically significant” and therefore represent true program effects. The number of asterisks indicates whether the impact is statistically significant at the 1-percent (\*\*\*), 5-percent (\*\*), or 10-percent (\*) level, meaning that there is only a 1-, 5-, or 10-percent probability, respectively, that the impact arose by chance.

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b>All PHAs</b>				
Average quarterly employment, Year 1 (%)	55.8	54.6	1.3 *	0.095
Total earnings (\$)				
Year 1 (quarters 3–6)	10,133	9,973	159	0.415

**Exhibit 3.4. Quarterly Impacts on Household Heads' Employment and Earnings, by Public Housing Agency (PHA)**



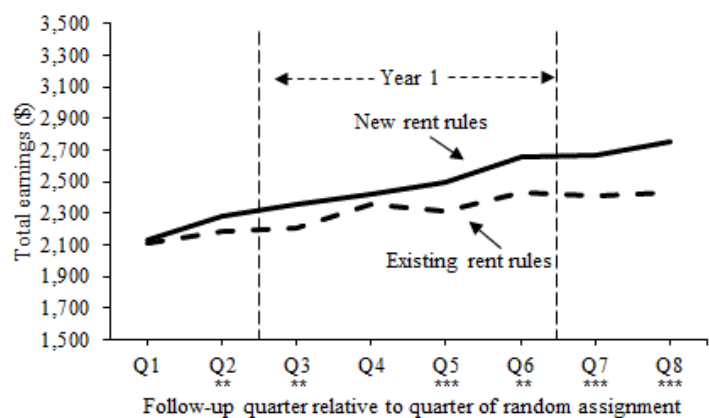
(continued)

Exhibit 3.4 (continued)

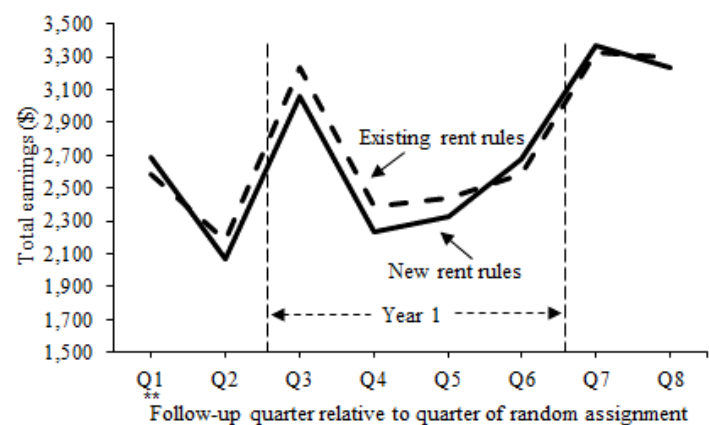
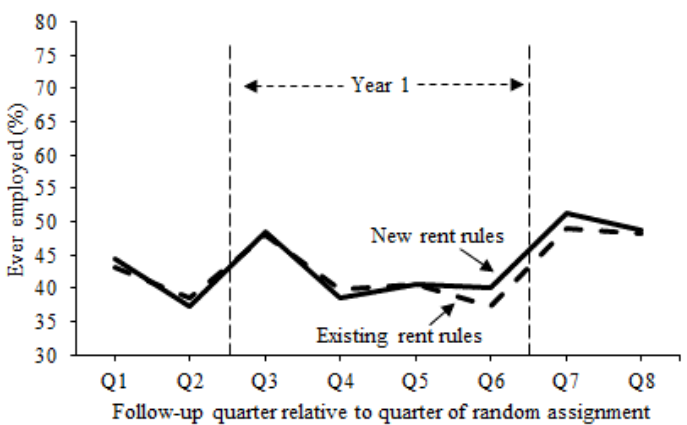
Employment

Earnings

C. San Antonio



D. Washington, D.C.



(continued)

### Exhibit 3.4 (continued)

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Average quarterly employment rate is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage. Quarter 1 (Q1) is the quarter of random assignment. Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

In San Antonio, the policy had statistically significant and positive effects on earnings (see exhibit 3.5). The impact on average earnings for Year 1 was \$609 (an increase of 6.6 percent), with the largest quarterly impact evident in Quarter 8 (\$327, or 13 percent above the control group mean).

The results for Louisville and Washington, D.C., were less positive. In fact, in Louisville, the effects on earnings are negative early in Year 2. This is not because the earnings of those in the new rules group fell over time; indeed, the earnings *trends over time* are positive for both groups, but those trends are less positive for the new rules group than for the control group. As exhibit 3.5 shows, this trend resulted in a statistically significant negative impact on earnings in Quarter 7; however, that negative effect attenuated and was no longer statistically significant by Quarter 8. Employment rates for both groups throughout the 18 months of followup were similar. Longer-term followup data, when they become available, will show whether the negative effect on earnings in Quarter 7 is part of a longer-term pattern or is an aberration.

In Louisville, because 22 percent of families opted out of the new rent policy, the estimated impacts shown in exhibit 3.5, which are averaged over all heads of households, including those from the opt-out families, may be understated. Therefore, as explained in Chapter 2, treatment-on-treated (TOT) adjustments were made, which attribute all effects to only those individuals who were exposed to the policy; however, the TOT adjustments do not alter statistical significance levels.<sup>45</sup> Exhibit C.1 presents the results of the TOT analysis. As it shows, TOT impact on the average quarterly employment rate in Year 1 is only slightly larger than the intent-to-treat (ITT) impact estimate,<sup>46</sup> and it remains statistically insignificant. The TOT impacts on average quarterly earnings also follow a similar pattern as the ITT estimates, remaining statistically insignificant except in Quarter 7, where it is a negative \$293.

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<sup>45</sup> The treatment-on-treated analysis adjusts the impact estimate to account for the fact that some members of the new rent rules group were not exposed to the new rent rules. A TOT analysis does not change the statistical significance of impact estimates from what they are in an intent-to-treat (ITT) analysis, so no new statistical tests were run.

<sup>46</sup> An ITT analysis captures the average impact on the entire group intended to receive the intervention, whether or not every member of that group actually received it.

**Exhibit 3.5. Early Impacts on Employment and Earnings, by Public Housing Agency (PHA): Heads of Households**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>Lexington</u></b>				
Ever employed (%)				
Year 1 (quarters 3–6)	78.3	76.1	2.2	0.296
Quarter 1 (random assignment)	62.2	60.0	2.3	0.298
Quarter 2	65.7	62.8	3.0	0.205
Quarter 3	65.3	65.8	-0.5	0.839
Quarter 4	65.1	64.8	0.3	0.901
Quarter 5	65.5	63.6	1.9	0.460
Quarter 6	66.1	62.4	3.7	0.164
Quarter 7	65.4	63.9	1.5	0.567
Quarter 8	65.2	61.5	3.7	0.156
Employed in all quarters, Year 1 (%)	50.8	49.0	1.9	0.480
Average quarterly employment, Year 1 <sup>a</sup> (%)	65.5	64.2	1.3	0.505
Total earnings (\$)				
Year 1 (quarters 3–6)	10,204	10,102	102	0.827
Quarter 1 (random assignment)	2,061	1,916	145 *	0.099
Quarter 2	2,306	2,365	-60	0.610
Quarter 3	2,482	2,621	-138	0.295
Quarter 4	2,402	2,432	-30	0.818
Quarter 5	2,567	2,488	79	0.571
Quarter 6	2,777	2,613	164	0.304
Quarter 7	2,842	2,621	221	0.169
Quarter 8	2,836	2,550	286 *	0.070
Sample size (total = 979)	486	493		
<b><u>Louisville</u></b>				
Ever employed (%)				
Year 1 (quarters 3–6)	71.9	72.1	-0.2	0.903
Quarter 1 (random assignment)	52.9	55.0	-2.2	0.160
Quarter 2	58.0	58.6	-0.6	0.748
Quarter 3	60.3	59.6	0.7	0.718
Quarter 4	59.9	58.5	1.5	0.441
Quarter 5	59.8	59.3	0.6	0.756
Quarter 6	63.4	61.2	2.2	0.245
Quarter 7	61.2	61.9	-0.7	0.697
Quarter 8	60.9	62.0	-1.2	0.551
Employed in all quarters 3–6 (%)	48.3	43.4	4.9 ***	0.009
Average quarterly employment, Year 1 <sup>a</sup> (%)	60.9	59.6	1.2	0.412

(continued)

**Exhibit 3.5 (continued)**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b>Total earnings (\$)</b>				
Year 1 (quarters 3–6)	10,164	10,029	135	0.716
Quarter 1 (random assignment)	1,940	2,017	-77	0.264
Quarter 2	2,200	2,138	62	0.473
Quarter 3	2,434	2,379	55	0.591
Quarter 4	2,475	2,452	23	0.833
Quarter 5	2,511	2,426	85	0.441
Quarter 6	2,747	2,789	-43	0.726
Quarter 7	2,787	3,015	-227 *	0.073
Quarter 8	2,831	2,996	-165	0.221
Sample size (total = 1,908)	947	961		
<b><u>San Antonio</u></b>				
<b>Ever employed (%)</b>				
Year 1 (quarters 3–6)	70.7	68.2	2.5	0.139
Quarter 1 (random assignment)	55.6	56.9	-1.4	0.315
Quarter 2	59.2	56.7	2.5	0.135
Quarter 3	59.3	56.9	2.4	0.173
Quarter 4	58.7	57.7	1.1	0.552
Quarter 5	61.2	58.1	3.1 *	0.097
Quarter 6	60.9	58.5	2.4	0.215
Quarter 7	61.0	59.0	2.0	0.297
Quarter 8	60.1	57.0	3.1	0.119
Employed in all quarters, Year 1 (%)	47.8	46.0	1.8	0.335
Average quarterly employment, Year 1 <sup>a</sup> (%)	60.0	57.8	2.2	0.145
<b>Total earnings (\$)</b>				
Year 1 (quarters 3–6)	9,849	9,240	609 *	0.084
Quarter 1 (random assignment)	2,135	2,108	27	0.673
Quarter 2	2,283	2,189	94	0.248
Quarter 3	2,351	2,207	144	0.111
Quarter 4	2,419	2,356	63	0.516
Quarter 5	2,497	2,313	184 *	0.073
Quarter 6	2,654	2,427	227 **	0.045
Quarter 7	2,669	2,414	255 **	0.032
Quarter 8	2,756	2,430	327 ***	0.009
Sample size (total = 1,869)	935	934		
<b><u>Washington, D.C.</u></b>				
<b>Ever employed (%)</b>				
Year 1 (quarters 3–6)	56.7	55.4	1.2	0.459
Quarter 1 (random assignment)	44.4	43.1	1.3	0.331
Quarter 2	37.4	38.6	-1.2	0.483

(continued)

**Exhibit 3.5 (continued)**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Quarter 3	48.4	47.9	0.5	0.770
Quarter 4	38.6	39.8	-1.2	0.521
Quarter 5	40.5	40.7	-0.1	0.941
Quarter 6	40.1	37.3	2.8	0.128
Quarter 7	51.2	49.1	2.1	0.243
Quarter 8	48.8	48.3	0.4	0.810
Employed in all quarters, Year 1 (%)	23.3	23.1	0.2	0.925
Average quarterly employment, Year 1 <sup>a</sup> (%)	41.9	41.4	0.5	0.703
Total earnings (\$)				
Year 1 (quarters 3–6)	10,285	10,620	-335	0.408
Quarter 1 (random assignment)	2,690	2,587	102	0.229
Quarter 2	2,068	2,183	-115	0.342
Quarter 3	3,057	3,231	-174	0.146
Quarter 4	2,237	2,393	-157	0.207
Quarter 5	2,327	2,438	-112	0.419
Quarter 6	2,674	2,579	95	0.520
Quarter 7	3,366	3,326	40	0.779
Quarter 8	3,233	3,294	-60	0.674
Sample size (total = 1,909)	944	965		

<sup>a</sup> Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values. The variation across the four PHAs in estimated impacts on total earnings in Year 1 is not statistically significant at the 10 percent level based on an H-statistic test.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

In Washington, D.C., few differences in employment and earnings outcomes are evident during the followup period. The small negative earnings effect estimated for Year 1 is not statistically significant. In interpreting these results, it is important to understand that these short-term findings do not speak to the effects of extending the recertification period under the new rent policy. Because the control group is subject to biennial recertifications, it has not yet faced the work disincentive believed to be associated with the 30-percent-of-income rent rule, and, therefore, the new rent rules group has not yet experienced a more favorable work incentive from the triennial recertification feature of the new rent policy. It might be hypothesized that just knowing that the recertification period is a year longer might have increased work effort for the new rules group. Still, that is a somewhat distant



advantage and is probably less compelling than an actual differential incentive that begins sooner. Moreover, because the eventual difference in recertification periods will be only 1 year longer for the new rules group than for the existing rules group, it is reasonable to expect that, if delaying recertifications has positive effects on tenants' employment and earnings, those effects may be smaller in Washington, D.C., than might be the case if the control group were subject to annual recertifications.

More relevant for the Year 1 analysis in Washington, D.C., is the PHA's new minimum TTP. Unlike the control group, the new rules group is subject to a \$75 minimum TTP. This feature may serve as an inducement to increase work effort because it represents a new obligation for families regardless of their income level (although a time-limited hardship exemption is available). The absence of positive short-term impacts of the new rent policy on employment and earnings in this PHA suggests that the \$75 minimum TTP did not produce better employment or earnings outcomes in Year 1.

The patterns of employment and earnings trends for heads of household in Washington, D.C., for both research groups, also deserve comment. The quarter-to-quarter variability, especially for earnings, is much more pronounced than in any of the other PHAs. As exhibit 3.4 illustrates, the trend lines in Washington, D.C., show striking peaks and troughs. The peaks occur in the third and seventh quarters relative to families' random assignment dates (see also exhibit 3.5). As it turns out, this pattern reflects a seasonality phenomenon, resulting from the fact that the entire sample in this PHA was randomly assigned within a single calendar quarter (April to June 2015).<sup>47</sup> That variability does not affect the accuracy of the impact estimates.

## **Subgroup Results**

It is possible that different types of voucher holders will respond differently to the new rent policy's financial incentives that reward work. For example, even if inspired by the new policy to work or earn more, some adults may have greater difficulty doing so because of certain disadvantages, such as low education and skill levels, personal and family problems, childcare problems, transportation problems, health issues, or other work impediments. Others may seek and achieve employment outcomes even without the added inducement of a more favorable rent policy. For such tenants, the new rent policy may have little effect. In contrast, other tenants—who have been discouraged from trying to work or to increase their earnings because they are concerned that much of their earnings gains will be offset by reductions in their housing subsidies—may respond well to a policy that addresses that disincentive.

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<sup>47</sup> Random assignment occurred in what is referred to in this analysis as relative Quarter 1, which is the second calendar quarter of 2015. Relative Quarter 3 for the full Washington, D.C. sample thus falls in the fourth calendar quarter (October through December) of 2015, and Quarter 7 falls in the fourth calendar quarter of 2016. Nationally, the fourth calendar quarter is a time when employment and hours of work increase as the holiday season unfolds, after which employment and hours tend to decline. This appears to be the case for the Washington, D.C., sample. The trends in the other three PHAs are smoother because random assignment occurred over several calendar quarters. Indeed, in those PHAs, when impacts on earnings are estimated just for household heads who were randomly assigned at the same time as the Washington, D.C. sample (that is, April through June 2015), a similar pattern of peaks and troughs is evident, as can be seen from the control group patterns presented in exhibit C.1.

This report examines differential responses to the new rent policy primarily for subgroups of voucher holders as defined by their employment status in the quarter before random assignment (using NDNH data) and by the age of the youngest child in the household at the time of random assignment (using PHA data).<sup>48</sup> Other studies of workforce interventions for voucher holders, including the Family Self-Sufficiency program, have shown that the degree of prior employment is often a good predictor of the likelihood of future employment and earnings. Moreover, a number of studies have found that impacts on future employment and earnings are larger for individuals with less prior employment as it is often easier for programs to help individuals who are not employed to get jobs than it is to help those who are already working to increase their earnings or advance to higher wage jobs (Hendra, et al., 2011; Michalopoulos, 2005; and Nuñez, Verma, and Yang, 2015). In the Rent Reform Demonstration sample, about 46 percent of the heads of household (for all PHAs combined) were not working in the quarter prior to random assignment.

It is also commonly expected that low-income parents with young children have greater difficulty working at all, or working full time, because of the difficulty they have in finding affordable childcare. Moreover, concerns about leaving older children and teenagers unsupervised after school may discourage parents with older children from working or working full time. In the Rent Reform Demonstration sample, about 77 percent of household heads had children who were under the age of 18, and 28 percent had a child 5 years of age or younger at the time of random assignment.

Exhibit 3.6 shows the early impacts of the new rent policy for household heads according to their employment status in the quarter prior to random assignment. In reviewing these results, it is useful first to consider the variation in the control group's outcomes according to their pre-random assignment employment status. The table shows stark differences in labor market experiences among those who were working and those who were not employed at that time. For example, the average quarterly employment rate during Year 1 was only 24.5 percent for household heads in the existing rules group who were not already working; in contrast, it was 80.9 percent for those who were already working. Their average earnings for Year 1 were \$2,984 and \$16,118, respectively (those averages include zeroes for individuals who had no earnings.) Thus, household heads in the control group who were not already working remained substantially disconnected from the labor force during the early followup period.<sup>49</sup>

For all PHAs combined, as exhibit 3.6 shows, the outcomes for the new rules group are not substantially different from those of the control group when examined separately, according to tenants' pre-random assignment employment status, and the differences are generally not statistically significant. Thus, the effects of the new rent policy on labor market outcomes—so far, for the pooled

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<sup>48</sup> Results for other subgroups were also explored, including subgroups defined in terms of the number of children and the combination of single parenthood and employment status at baseline. No distinctive patterns are evident in Year 1. The evaluation will continue to examine effects for all subgroups as longer term data become available.

<sup>49</sup> A similar pattern has been observed in other studies of voucher holders. For example, in MDRC's evaluation of New York City's Family Self-Sufficiency program, adults in control group families receiving housing choice vouchers who were not working at the time of random assignment had an average quarterly employment rate of about 25 percent over the 6-year followup period, compared with 62 percent among those who were already employed at that time (Verma et al., 2017).

sample including all four PHAs—are not clearly and consistently stronger or weaker for household heads who were not already working compared with those who were already working.

The results for each PHA are more nuanced, as exhibit 3.7 shows. For example, in San Antonio, the impacts on average quarterly employment are substantial and statistically significant for the nonemployed subgroup (5.3 percentage points) in Year 1, but not for the employed subgroup (-0.3 percentage points), while the difference in impacts *across* the subgroup categories is statistically significant (as indicated by the dagger). The same is not the case for earnings. Positive earnings effects appear to be more concentrated in the already-employed subgroup; however, the differences in employment and earnings impacts across the two subgroup categories are not statistically significant, suggesting uncertainty as to whether the policy’s effects truly vary by subgroup. In Lexington, although the size of the estimated impacts vary across the subgroup categories, none of the estimates are statistically significant for either group. In Louisville and Washington, D.C., few impacts are evident for either subgroup category. Future reports will show whether sharper and more consistently statistically significant patterns emerge when longer-term followup data are examined.

**Exhibit 3.6. Early Impacts on Employment and Earnings, by Employment Status in the Quarter Before Random Assignment: Heads of Households**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>Not employed</u></b>				
Ever employed, Year 1 (%)	39.4	36.5	2.9 *	0.070
Average quarterly employment, Year 1 <sup>a</sup> (%)	26.2	24.5	1.8	0.151
Total earnings (\$)				
Year 1 (quarters 3-6)	3,063	2,984	79	0.723
Quarter 7	1,052	1,076	-24	0.768
Quarter 8	1,082	1,077	5	0.949
Sample size (total = 3,062)	1,520	1,542		
<b><u>Employed</u></b>				
Ever employed, Year 1 (%)	93.5	93.5	0.1	0.929
Average quarterly employment, Year 1 <sup>a</sup> (%)	82.2	80.9	1.2	0.200
Total earnings (\$)				
Year 1 (quarters 3-6)	16,316	16,118	199	0.520
Quarter 7	4,567	4,448	119	0.254
Quarter 8	4,547	4,389	159	0.143
Sample size (total = 3,527)	1,766	1,761		

<sup>a</sup> Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

Statistical significance levels are indicated as: \* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent. † = 10 percent. †† = 5 percent. ††† = 1 percent.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. The H-statistic test was used to test for statistically significant differences in impact estimates across different subgroups. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

**Exhibit 3.7. Early Impacts on Employment and Earnings, by Employment Status at Random Assignment and Public Housing Agency (PHA): Heads of Households**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>Lexington—Not Employed</u></b>				
Ever employed, Year 1 (%)	53.2	48.2	5.0	0.257
Average quarterly employment, Year 1 <sup>a</sup> (%)	36.5	34.2	2.2	0.536
Total earnings (\$)				
Year 1 (quarters 3–6)	3,754	3,869	-115	0.855
Quarter 7	1,247	1,270	-23	0.918
Quarter 8	1,278	1,162	116	0.594
Sample size (total = 416)	209	207		
<b><u>Lexington—Employed</u></b>				
Ever employed, Year 1 (%)	96.3	97.3	-1.0	0.523
Average quarterly employment, Year 1 <sup>a</sup> (%)	86.5	86.7	-0.1	0.947
Total earnings (\$)				
Year 1 (quarters 3–6)	14,990	14,708	282	0.671
Quarter 7	3,995	3,647	348	0.120
Quarter 8	3,959	3,605	354	0.111
Sample size (total = 563)	277	286		
<b><u>Louisville—Not Employed</u></b>				
Ever employed, Year 1 (%)	44.0	46.0	-2.0	0.527
Average quarterly employment, Year 1 <sup>a</sup> (%)	30.4	31.8	-1.4	0.585
Total earnings (\$)				
Year 1 (quarters 3–6)	3,560	3,668	-108	0.806
Quarter 7	1,037	1,305	-268 *	0.078
Quarter 8	1,168	1,341	-173	0.292
Sample size (total = 854)	404	450		
<b><u>Louisville—Employed</u></b>				
Ever employed, Year 1 (%)	94.6	93.1	1.6	0.302
Average quarterly employment, Year 1 <sup>a</sup> (%)	85.7	82.0	3.7 **	0.039
Total earnings (\$)				
Year 1 (quarters 3–6)	15,575	15,173	402	0.475
Quarter 7	4,227	4,400	-173	0.372
Quarter 8	4,202	4,326	-123	0.549
Sample size (total = 1,050)	541	509		

(continued)

**Exhibit 3.7 (continued)**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
<b><u>San Antonio—Not Employed</u></b>					
Ever employed, Year 1 (%)	42.1	36.0	6.2 *		0.061 †
Average quarterly employment, Year 1 <sup>a</sup> (%)	29.5	24.2	5.3 **		0.038 †
Total earnings (\$)					
Year 1 (quarters 3–6)	3,115	2,583	533		0.176
Quarter 7	1,050	832	218		0.107
Quarter 8	1,095	922	173		0.226
Sample size (total = 815)	418	397			
<b><u>San Antonio—Employed</u></b>					
Ever employed, Year 1 (%)	92.7	93.2	-0.5		0.734 †
Average quarterly employment, Year 1 <sup>a</sup> (%)	83.5	83.8	-0.3		0.857 †
Total earnings (\$)					
Year 1 (quarters 3–6)	15,075	14,412	663		0.227
Quarter 7	3,919	3,650	269		0.145
Quarter 8	4,031	3,617	415 **		0.032
Sample size (total = 1,053)	517	536			
<b><u>Washington, D.C.—Not Employed</u></b>					
Ever employed, Year 1 (%)	26.8	23.6	3.1		0.239
Average quarterly employment, Year 1 <sup>a</sup> (%)	15.2	14.2	1.0		0.594
Total earnings (\$)					
Year 1 (quarters 3–6)	2,294	2,322	-27		0.946
Quarter 7	941	1,022	-81		0.597
Quarter 8	870	970	-100		0.516
Sample size (total = 976)	488	488			
<b><u>Washington, D.C.—Employed</u></b>					
Ever employed, Year 1 (%)	91.8	91.2	0.5		0.770
Average quarterly employment, Year 1 <sup>a</sup> (%)	73.3	72.3	1.0		0.634
Total earnings (\$)					
Year 1 (quarters 3–6)	19,656	20,225	-569		0.438
Quarter 7	6,198	5,967	230		0.350
Quarter 8	6,001	5,926	74		0.767
Sample size (total = 861)	431	430			

(continued)

### Exhibit 3.7 (continued)

<sup>a</sup> Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

To explore whether the early effects of the new rent policy differed for heads of household depending on the presence of children in the household at the time of random assignment, families were divided into four groups: families had no children under the age of 18 years, youngest child was 5 years of age or younger, youngest child was 6 to 12 years of age, or youngest child was 13 to 17 years of age. One hypothesis is that families with very young children may have more difficulty responding to the stronger financial work incentives embedded in the new rent policy, in part because of childcare issues.

Interestingly, using the pooled sample with all four PHAs and looking first at outcomes for household heads in the control group, it appears that attachment to the labor force does not vary greatly according to the age of the youngest child. For example, as exhibit 3.8 shows, control group parents whose youngest child was 5 years of age or younger had an average quarterly employment rate of 53.3 percent in Year 1, which is only modestly lower than the 57-percent rate for those with teenage children and somewhat higher than the rate for those with no children (51.5 percent); however, their average Year 1 earnings were lower.

When the impact findings are compared across these four subgroup categories, statistically significant earnings impacts in Quarter 7 and Quarter 8 are evident for parents whose youngest child was a teenager (13 to 17 years of age), but not for those with younger children or no children.

The *differences* in earnings impacts across subgroup categories are not statistically significant, however. Consequently, although suggestive, it is not certain whether the earnings impacts in the later followup quarters are truly larger for parents of teenagers than for other household heads. (A subgroup analysis that focused on the age of the youngest child was not conducted for each PHA separately owing to the small sample sizes of these subgroup categories within each site).

**Exhibit 3.8. Early Impacts on Employment and Earnings, by Age of Youngest Child in the Household at the Time of Random Assignment: Heads of Households**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>No children under age 18 years</u></b>				
Ever employed, Year 1 (%)	64.3	62.3	2.1	0.251 †
Average quarterly employment, Year 1 <sup>a</sup> (%)	53.2	51.5	1.7	0.276
Total earnings (\$)				
Year 1 (quarters 3–6)	9,868	9,990	-122	0.764
Quarter 7	2,725	2,890	-165	0.229
Quarter 8	2,676	2,848	-173	0.227
Sample size (total =1,517)	741	776		
<b><u>Children ages 0-5 years</u></b>				
Ever employed, Year 1 (%)	67.7	67.1	0.6	0.721 †
Average quarterly employment, Year 1 <sup>a</sup> (%)	53.0	53.3	-0.3	0.861
Total earnings (\$)				
Year 1 (quarters 3–6)	8,683	8,867	-184	0.596
Quarter 7	2,573	2,578	-5	0.965
Quarter 8	2,582	2,525	57	0.640
Sample size (total = 1,866)	910	956		
<b><u>Children ages 6-12 years</u></b>				
Ever employed, Year 1 (%)	71.7	68.4	3.2 **	0.039 †
Average quarterly employment, Year 1 <sup>a</sup> (%)	59.8	56.9	2.9 **	0.034
Total earnings (\$)				
Year 1 (quarters 3–6)	10,690	10,421	270	0.454
Quarter 7	3,127	3,018	109	0.385
Quarter 8	3,121	3,020	101	0.438
Sample size (total = 2,154)	1,076	1,078		

(continued)



**Exhibit 3.8 (continued)**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b>Children ages 13-17 years</b>				
Ever employed, Year 1 (%)	66.6	70.3	-3.7 *	0.079 †
Average quarterly employment, Year 1 <sup>a</sup> (%)	55.9	57.0	-1.1	0.563
Total earnings (\$)				
Year 1 (quarters 3–6)	11,697	11,011	686	0.172
Quarter 7	3,386	3,097	289 *	0.085
Quarter 8	3,423	3,130	293 *	0.091
Sample size (total = 1,128)	585	543		

<sup>a</sup> Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values. The H-statistic test was used to test for statistically significant differences in impact estimates across different subgroups. Statistical significance levels are indicated as: † = 10 percent; †† = 5 percent; and ††† = 1 percent.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

## Impacts for Other Adults and All Adults in the Household

Approximately 37 percent of the study’s households included adults who were not heads of household. As mentioned previously, those 3,397 “other adults” were primarily the young adult children of the household heads at the time of random assignment. Few were spouses or partners of the household heads, and about 21 percent were no longer on the household’s lease a year after the initial recertification. Appendix C presents the findings on these adults, as well as on all adults combined.

Exhibit C.2 shows the overall pooled results for the non-heads of household within the first 18 months of followup. Within the control group, employment rates for this group were roughly comparable with those of the heads of household, with more than two-thirds having worked some time in a UI-covered job in the first year, and more than one-half working in an average quarter, although their average earnings were somewhat lower. That table also shows that the new rent rules produced no impacts on employment for the non-heads of households. Average earnings are somewhat lower for those in the new rules group than in the existing rules group, but the differences are not statistically significant.

This pattern of negative but not statistically significant earnings effects is evident in three of the four PHAs (see exhibit C.3). In Lexington, the earnings impact estimates for this group were positive but not statistically significant, mirroring the patterns for the household head sample.

Additional analyses combine the heads of household with other adults in the households at the time of random assignment. The results generally tell a story that is consistent with the pattern of results found for the heads of household (see exhibits C.4 and C.5).

## **Conclusion**

This chapter has shown that the new rent policy, based on the trends of two PHAs, one in Lexington and one in San Antonio, can lead voucher holders to increase their earnings modestly in the short term. Whether those encouraging early effects persist and even grow in the longer term—and emerge over time in the two other PHAs—remains to be seen, and although the research design does not permit a rigorous determination of the relative effects of the different components of the new rent policy, the pattern of findings suggests at least two early insights. First, the early positive effects in Lexington, where both research groups were subject to a \$150 minimum TTP, can be fully attributed to other features of the policy—most likely the extension of the income recertification period from 1 year to 3 years. Any effects that Lexington’s high minimum TTP may have independently had on tenants’ employment and earnings outcomes cannot be determined by this study (because both research groups were subject to that same feature). In contrast, in Washington, D.C., the study is not yet able to assess the effects of extending the recertification period, given the control group’s biennial recertification schedule. This means that the introduction of a \$75 minimum TTP under the new rent policy is perhaps the most important distinction between the two research groups during the early followup period. The finding of no early earning impacts in Washington, D.C., indicates that this component of the policy was not enough to change tenants’ labor market outcomes at that PHA; however, it did have some consequences for families’ housing-related outcomes, as discussed in the next chapter.

## Chapter 4

### Early Impacts on Housing-Related Outcomes

The new rent rules substantially change the way in which families' contributions to their rent and utilities (called their "total tenant payments," or TTPs) are determined and the way their TTPs are determined. The new rules also modify the requirements for reporting income changes and adjusting TTPs over time. The baseline report on the Rent Reform Demonstration describes the consequences of those changes for families' TTPs and housing subsidies at the time of the initial recertification when the study began (Riccio, Deitch, and Verma, 2017).<sup>50</sup> This chapter looks at these and other outcomes 1 year later. It examines the effects of the new rules on families' TTPs, subsidies, and the likelihood of exiting the voucher program within the first year and on families' transactions with the public housing agencies (PHAs)—that is, the actions or tasks that PHA staff had to execute for families.

Overall, relative to the outcomes of the existing rent rules (control) group, the new rent policy modestly increased family members' likelihood of remaining in the Housing Choice Voucher (HCV) program within the first year of followup, reduced their TTPs, and increased the amount of subsidy they received. These findings reflect the expected short-term consequences of the policy's efforts to reward work by allowing tenants who increase their earnings to keep more of those earnings until their TTPs and subsidies are reset at the triennial recertification. The early findings also reveal substantial reductions in PHA staff actions, particularly those that are likely to be more time consuming, such as regular and interim recertifications. Some important differences in impacts on staff actions exist across the PHAs, in part reflecting differences in preexisting PHA policies that affected the control group.

### Calculating Families' Contributions to Their Housing Costs

Under traditional rent rules, the recertification process entails reassessing a family's continued eligibility for the voucher program, recalculating its expected contribution to its rent and utilities, and redetermining its housing subsidy. This process typically begins several months before the 1-year anniversary of the family's soon-to-be-expiring TTP. PHA housing specialists collect and verify the information that families submit on their current income and the income they anticipate having in the upcoming year and on changes in household composition or other pertinent circumstances. The housing specialists enter the data into the rent-calculation software system, have the system estimate the TTPs, and notify families 30 days before their new rent "effective dates"—that is, the dates when their new TTPs go into effect.<sup>51</sup> These recertification-related activities take different amounts of time at different PHAs, from about 90 days in Lexington to 180 days in Washington, D.C.

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<sup>50</sup> For a summary, see Chapter 1 of the current report.

<sup>51</sup> For the initial recertification under the study, the PHA in Louisville included an additional 30-day period to allow families the option of opting out of the new rent policy.

Under the new rent policy, that process was modified. As explained in Chapter 1 (and more fully in the study’s baseline report (Riccio, Deitch, and Verma, 2017), families who were assigned to the new rent rules group were required to document the income they had received from jobs or other sources during a defined 12-month period leading up to their initial recertification meetings. That information was used to calculate the families’ retrospective incomes, which was necessary to determine their TTPs. The retrospective, or 12-month look-back period, ended the month before the family’s recertification. For example, if a family was scheduled for a recertification meeting on February 21, 2015, the 12-month period used to determine retrospective income was February 1, 2014, through January 31, 2015.<sup>52</sup>

The Rent Reform Demonstration did not change the rules about the types of income that were or were not counted in calculating TTPs and subsidies.<sup>53</sup> Families were required to make a good-faith effort to provide proof of countable income for the requested period. When families were unable to provide appropriate income documentation, or when the PHAs were unable to verify past income using their standard methods,<sup>54</sup> the PHAs followed agreed-upon procedures to impute gaps in reported household income. The MDRC study team and the PHAs anticipated scenarios in which families would struggle to obtain the required income documents—for example, pay stubs from early in the retrospective period—and developed rules and guidance for staff members to use in such situations.

After computing a family’s expected TTP, the PHA pays the difference between the family’s gross rent (that is, the contract rent charged by the landlord plus utilities that are not included in the contract rent) and the family’s TTP, so long as the gross rent is no higher than the PHA’s payment standard set for the local area. This subsidy is referred to as the housing assistance payment (HAP). If the landlord charges a rent that exceeds the payment standard, the family is responsible for that extra amount in addition to its TTP.<sup>55</sup> The TTP plus that extra amount make up the family’s total housing cost, which HUD calls the “family share” of rent and utilities. Exhibit 4.1 offers a simple illustration of these concepts in the case of Paige, a fictional voucher holder.

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<sup>52</sup> For a fuller discussion of estimating retrospective incomes, see Riccio, Deitch, and Verma (2017).

<sup>53</sup> However, as mentioned in Chapter 1, nonwage income that was set to expire by the end of the look-back period, however, such as Temporary Assistance for Needy Families or unemployment insurance benefits, was not counted when calculating base income because a family would not be able to count on such income going forward.

<sup>54</sup> Retrospective income was verified using the HUD Verification Hierarchy and the guidance provided in HUD Notice PIH 2010-19 (HA) and the PHA Administrative Plan.

<sup>55</sup> Voucher holders are allowed to rent units for which the contract rent exceeds the payment standard as long as those units do not require them to pay more than 40 percent of their incomes toward rent and utilities when they sign the lease. Under HUD’s traditional rent rules, that 40 percent means 40 percent of their current/anticipated *adjusted* incomes. Under the new rent rules, it is 40 percent of their current/anticipated *gross* incomes.

### Exhibit 4.1 Total Tenant Payment and Family Share

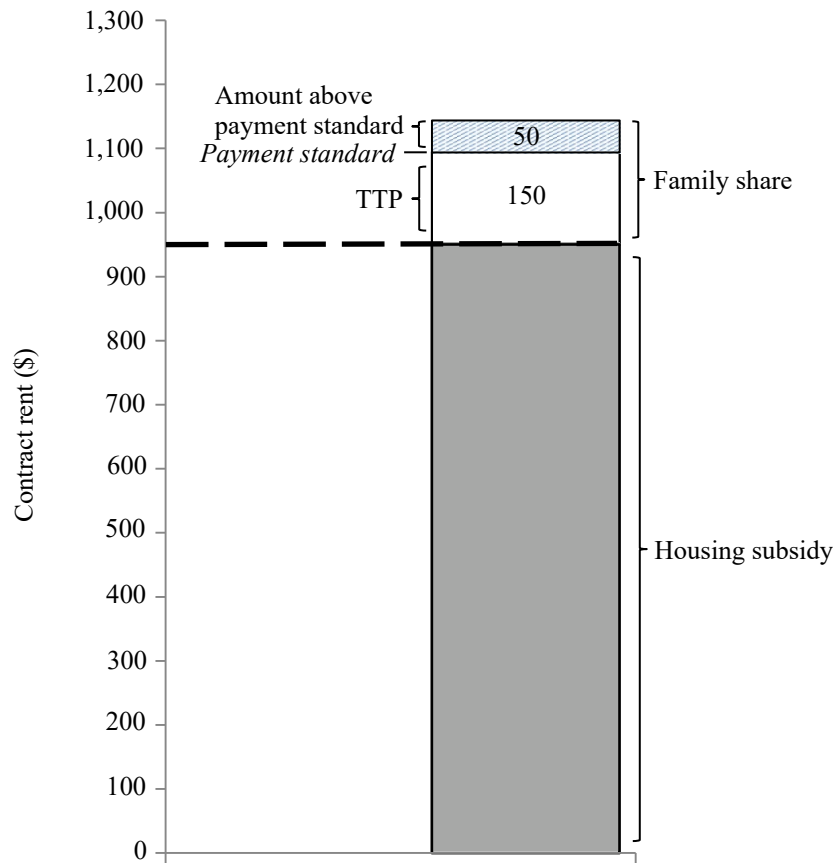
**Total tenant payment (TTP)** is the amount a family must contribute toward its rent and utilities. TTP is based on 28 percent of gross income for families in the new rent rules group of the Rent Reform Demonstration.

**Housing assistance payment (HAP)** is the housing subsidy (for rent and utilities) paid by the housing agency.

**Family share** includes the TTP and any extra housing costs above the payment standard, paid by the family.

**Payment standard** is the maximum combined rent and utilities subsidy that a PHA will pay for families of given sizes, specific to each area and its fair-market rent. If a landlord charges a rent that exceeds the payment standard, the family is responsible for that extra amount in addition to its TTP.

*Example:* Paige is renting a housing unit that has a \$1,150 contract rent. The payment standard for her housing subsidy is \$1,100. She is responsible for paying a total of \$200 (the family share), which includes her TTP of \$150 (based on 28 percent of her income of \$536 per month) and an additional \$50, the amount by which the contract rent exceeds the payment standard. Thus, her rent is subsidized by \$950 (\$1,150 contract rent minus \$200 family share).



## Early Impacts on Families' Housing Expenditures and Subsidies

As explained in Chapter 2, this report defines “Year 1” for the analysis of PHA data as the 12-month period beginning in the first month after the month in which a family’s newly recalculated TTP was expected to take effect (the “effective date”) after entering the study. Depending on a family’s initial expected TTP effective date (which occurred sometime between June 2015 and March 2016), Year 1 ended between June 2016 and March 2017. Although this first year represents only one-third of the time until the next required recertification takes place for the new rent rules group, the analysis shows that the new rent policy has begun to influence their housing expenditures and subsidies, as well as their transactions with PHA staff. As discussed in Chapter 2 and appendix B, the pooled impact estimate for average housing subsidy payments in Year 1 represents a preliminary confirmatory outcome measure for the evaluation.

### Impacts for All PHAs Combined

One early finding on families’ housing-related outcomes is that the new rent rules increased the likelihood of remaining in the voucher program during the first year of followup. The top panel of exhibit 4.2 shows that, for all PHAs combined, 88.2 percent of the existing rules group (the control group) were still in the voucher program and leased up at the end of Year 1.<sup>56</sup> In contrast, 92.4 percent of the new rent rules group remained in the voucher program and leased up—an increase of 4.3 percentage points above the control group rate. When the results for the three PHAs other than Washington, D.C., are combined, the average pooled impact is slightly higher, at 5.6 percentage points (as shown in exhibit 4.3.)

While they were in the voucher program, families in the new rent rules group were living in housing units where the gross rent (that is, the total contract rent plus utilities) averaged \$1,231, which was only \$2 lower than the amount for the existing rules group. In both groups, nearly all families were renting units costing less than \$1,500 per month except in Washington, D.C., as discussed below.

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<sup>56</sup> Families still formally enrolled in the voucher program but who received zero HAP, zero Family Share, and zero TTP (as well as having zero Gross Rent) in Month 13, were considered “active, not leased up” in the last month of Year 1 for the purposes of this analysis.

**Exhibit 4.2. Impacts on Families' Housing Costs and Subsidies in Year 1, All Public Housing Agencies (PHAs)**

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Enrollment status at the end of Year 1 (%)					
Currently enrolled in HCV program and leased up	92.4	88.2	4.3	***	0.000
Currently enrolled in HCV, not leased up	1.6	3.0	-1.5		n/a
Exited HCV program	5.5	8.0	-2.5	***	0.000
Ported out to another housing agency	0.6	0.9	-0.3		n/a
<b><u>Gross rent</u></b>					
Gross rent in last month of Year 1 if received HCV <sup>a</sup> (%)				--	--
<i>Less than \$1,000</i>	34.3	34.8	--		
<i>\$1,000 - \$1,499</i>	46.5	45.2	--		
<i>\$1,500 or more</i>	19.2	20.0	--		
Average gross rent in last month of Year 1 if received HCV in that month (\$)	1,231	1,233	--		--
<b><u>TTP</u></b>					
TTP in last month of Year 1 <sup>b</sup> (%)				***	0.000
Exited HCV or not leased up during Year 1	7.6	11.9	-4.3		
\$0	2.5	8.0	-5.5		
\$1 - \$50	5.2	10.1	-5.0		
\$51 - \$75	8.3	3.1	5.3		
\$76 - \$100	7.5	2.9	4.7		
\$101 - \$150	11.4	8.9	2.5		
\$151 - \$300	23.6	19.2	4.3		
\$301 - \$700	27.1	26.4	0.8		
\$701 or above	6.9	9.6	-2.7		
Average monthly TTP in months received HCV <sup>b</sup> (\$)	289	303	--		--
Has a utility allowance in last month of Year 1 (%)	84.1	80.6	3.5	***	0.000
<b><u>Family share</u></b>					
Family share in last month of Year 1 <sup>c</sup> (%)				***	0.000
Exited HCV or not leased up during Year 1	7.6	11.9	-4.3		
\$0	1.7	6.1	-4.4		
\$1 - \$100	16.7	13.8	2.9		
\$101 - \$300	33.8	27.2	6.6		
\$301 - \$700	31.9	29.2	2.6		
\$701 or above	8.4	11.9	-3.5		

(continued)

**Exhibit 4.2 (continued)**

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<i>Average monthly family share in months received HCV<sup>c</sup> (\$)</i>	335	351	--	--
<i>Family share as percentage of gross rent in last month of Year 1, if received HCV (%)</i>	28.1	30.7	--	--
<b><u>Housing subsidy</u></b>				
Average number of months received housing subsidy <sup>d</sup>	11.4	11.2	0.2 ***	0.000
<i>Average monthly housing subsidy in months received HCV<sup>d</sup> (\$)</i>	863	848	--	--
Average annual housing subsidy in Year 1 (\$)	9,977	9,719	258 ***	0.008
Average annual housing subsidy (%)			***	0.000
Exited HCV or not leased up during Year 1	1.4	2.1	-0.7	
\$0	0.3	0.7	-0.4	
\$1 - \$4,999	12.9	16.5	-3.6	
\$5,000 - \$9,999	45.4	43.2	2.2	
\$10,000 - \$14,999	23.7	20.8	2.9	
\$15,000 or more	16.4	16.8	-0.4	
<i>Average housing subsidy in last month of Year 1, if received HCV (\$)</i>	901	880	--	--
Sample size (total = 6,665)	3,312	3,353		

HCV = Housing Choice Voucher. TTP = total tenant payment.

<sup>a</sup> Gross rent is the contract rent plus the utility allowance of the unit.

<sup>b</sup> Total tenant payment is the amount a family must contribute toward rent and utilities regardless of the unit selected. Under the new rent rules, TTP is 28 percent of prior-year gross income, and under existing rent rules TTP is 30 percent of adjusted income.

<sup>c</sup> Family share is the family's contribution toward its gross rent. It may be higher than the TTP if the family rents a unit with a gross rent that exceeds the payment standard.

<sup>d</sup> Housing subsidy is the full subsidy amount paid by the housing agency and includes any utility allowance payments made to the tenant in addition to rent paid to the owner by the housing agency.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. A statistical test was not performed on differences in the percentage of households currently enrolled in HCV but not leased up, or differences in the percentage of households that ported out to another housing agency due to small sample sizes within those categories. Rounding may cause slight discrepancies in calculating sums and differences. Square brackets indicate that the chi-square test may not be valid due to



small sample sizes within the cross-tabulation distribution. Italic type indicates comparisons that are non-experimental. Statistical tests were not performed; therefore, there are no impacts or p-values to report. Confirmatory outcomes were tested for multiple hypothesis testing using the Benjamini-Hochberg procedure. The adjusted p-value = .016 for the impact on the total Year 1 housing subsidy for all four PHAs combined.

Source: MDRC calculations using PHA data.

**Exhibit 4.3. Selected Impacts on Tenants' Housing Costs and Subsidies in Year 1, All Public Housing Agencies (PHAs) Except Washington, D.C.**

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Currently enrolled in HCV program and leased up at the end of Year 1 (%)	90.4	84.8	5.6	***	0.000
<i>Average monthly TTP in months received</i>					
<i>HCV<sup>a</sup> (\$)</i>	255	273	--		--
Average annual housing subsidy in Year 1 (\$)	7,505	7,188	316	***	0.000
Any action that requires staff response <sup>b</sup>	56.1	85.0	-28.9	***	0.000
Sample size (total = 4,756)	2,368	2,388			

HCV = Housing Choice Voucher. TTP = total tenant payment.

<sup>a</sup> Total tenant payment is the amount a family must contribute toward rent and utilities regardless of the unit selected. Under the new rent rules, TTP is 28 percent of prior year income and under existing rent rules TTP is 30 percent of adjusted income.

<sup>b</sup> Certification actions that require staff interaction include annual reexaminations, interim reexaminations (except for end of grace period and end of hardship records), and change-of-unit actions.

\*\*\* = 1 percent. \*\* = 5 percent. \* = 10 percent.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Rounding may cause slight discrepancies in calculating sums and differences. Confirmatory outcomes were tested for multiple hypothesis testing using the Benjamini-Hochberg procedure. The adjusted p-value = .000 for the impact on the total Year 1 housing subsidy for all PHAs combined excluding Washington, D.C.

Source: MDRC calculations, using PHA data

Over the course of the first year, the new rent rules group paid an average monthly TTP of \$289 while in the voucher program, or \$14 less than the control group households paid while still receiving vouchers.<sup>57</sup> As was true after the initial recertifications at the beginning of the

<sup>57</sup> The table does not present impact estimates on these measures, because differences between the two research groups in the average length of time receiving vouchers in the first year mean that the full samples of each group could not be included in the 12-month averages. Excluding families who exited the voucher program could bias the impact estimates for these measures.

study, a year later, the new rent rules group was less likely than the existing rules group to be paying a very low TTP (\$0 to \$50), owing to the minimum TTP policy. They were also somewhat less likely to be paying a very high TTP (more than \$700).<sup>58</sup>

The average monthly family share (which includes payments by tenants above their obligated TTP contribution) was also lower by \$16 for the new rules group than for the existing rules group (\$335 versus \$351,) while the families were still in the voucher program. Overall, in the last month of Year 1, family share averaged 28.1 percent of the average gross rental cost for families in the new rules group and about 30.7 percent of gross rent for families in the existing rules group.

The new rules group was more likely by 3.5 percentage points to receive a utility allowance during the first year. That allowance may reflect the requirement under the new rent policy that *all* families pay at least the minimum TTP to their landlords. Those families whose TTPs were less than the minimum (because of a hardship exemption) were still required to pay the minimum amount to their landlords, but they could receive a reimbursement for the exempted amount through the utility allowance payment.

The lower average TTP for the new rules group combined with a longer duration in the voucher program means, of course, that tenants in that group received a somewhat larger total housing subsidy than they would have received in the absence of the new policy (represented by the control group's subsidy amount). On average, the new rules group received \$9,977 in housing subsidies during the first followup year, which is \$258 (or 2.7 percent) more than the control group average (\$9,719). The difference was somewhat higher—\$316 (or 4.4 percent)—when the findings from all PHAs except Washington, D.C., are pooled, as shown in exhibit 4.3. Those impacts for both pooled samples are statistically significant, and they remain statistically significant after being adjusted for multiple outcomes.<sup>59</sup>

This general pattern of results—somewhat longer tenure on the voucher program, somewhat lower TTPs, and small increases in the total subsidy amount that the new rent rules group received relative to the control group—is to be expected during the 3-year period until the next recertification under the new rent rules takes place. Although several factors may be at play, changes in how much money families earned over time and how the new and existing rent policies treat income changes help explain this pattern.

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<sup>58</sup> At the time of initial recertification, when the base income for calculating TTPs was known for both groups, the new rent rules led to a reduction in the proportion of families in the highest base monthly income bracket relative to the control group, thus reducing the proportion with very high TTPs, see Riccio, Deitch, and Verma (2017). Although base income will not be recalculated for the new rules group until the triennial recertification, the TTP estimates at the end of Year 1 suggest a continuation of this pattern.

<sup>59</sup> The pooled impact estimates were adjusted using the Benjamini-Hochberg method, described in Appendix B. The adjustment takes into account the fact that impacts were also estimated for average Year 1 earnings (a second preliminary confirmatory outcome measure). The adjusted p-value = .016 for the four-PHA pooled sample, and the adjusted p-value = .000 for the pooled sample without Washington, D.C.

The control groups' earnings trends—which indicate what the new rules group *would have earned* in the absence of rent reform—are key. The earnings of household heads in the control group were on an upward trajectory in Year 1 (see, for example, Chapter 3, exhibits 3.1 and 3.4, in this report).<sup>60</sup> Except in Washington, D.C., (where the control group faced a biennial recertification policy), families in the control group were expected to report those earnings increases to the PHAs by the end of the first followup year. Unless they had earned their way off the voucher program (or left for other reasons), their TTPs would be increased and their subsidies would be lowered after their annual recertification at the end of Year 1.

In contrast, families in the new rent rules group (and in the control group in Washington, D.C.) whose earnings grew over Year 1 did not report those increases to the PHAs; consequently, they did not have their TTPs raised and subsidies reduced. Also, they could not earn their way off the voucher program during that period, no matter how much their incomes grew. That was intended by the policy design so that families would experience the benefits of their increased work effort during the 3 years between recertifications. For the PHAs, this meant a small increase in housing subsidies during that period; they had to forgo the normal opportunity to save on subsidy expenditures (until the triennial recertification) for families in the new rules group who increased their incomes. An important open question is whether the PHAs will recoup those forgone subsidy reductions after the triennial recertifications are completed. They may recoup the reductions if, by that time, more tenants in the new rules group than in the control group are steadily working and begin paying a higher TTP for the subsequent 3 years than they paid in the prior 3-year period. The evaluation's longer-term analysis will determine whether this turns out to be the case.

## **Impacts by PHA**

In considering the variation in effects across the four PHAs—in Lexington, KY; Louisville, KY; San Antonio, TX; and Washington, D.C.—it is useful to keep in mind the big differences between the housing market in Washington, D.C., and in the other sites. This is reflected in the differences in gross rents charged to families and in the payment standards and subsidy levels paid by the PHAs. In the tight Washington, D.C. housing market, gross rents in the last month of Year 1 (for families who were still in the voucher program at that time) averaged \$1,796 for the new rules group (and only slightly lower for the existing rules group; see exhibit 4.4). Indeed, almost 62 percent of those voucher holders in the new rules group were renting units that cost \$1,500 or more per month. In contrast, families in Lexington, Louisville, and San Antonio spent roughly \$900 to \$1,000 per month, on average—and hardly any were renting units costing \$1,500 or more.

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<sup>60</sup> Ideally, to understand the alignment between earnings and housing subsidies, earnings would be measured at the household level, counting the earnings of all adults in any given household. As discussed in Chapter 3, however, it is not possible for this evaluation to estimate household-level earnings using National Directory of New Hires (NDNH) data (because it was not possible in that database to link non-heads of household with the appropriate household heads). Thus, household heads' NDNH earnings should be viewed only as an approximation of household-level earnings. The evaluation's survey will eventually provide some information on earnings and other income at the household level.

In the latter three PHAs—Lexington, Louisville, and San Antonio—the new rent policy increased families’ likelihood (relative to the existing rules group) of still being in the voucher program and leased up at the end of Year 1. As exhibit 4.4 shows, this effect varied from an increase of 3.6 percentage points over the control group rate in Lexington to an 8-percentage-point increase in San Antonio. Formal exits from the voucher program for the new rules group were lower than for the control group by 3.1 to 3.5 percentage points across these three PHAs. In contrast, the new rent policy had little effect on voucher receipt in Year 1 in Washington, D.C. This finding may largely be the consequence of the biennial recertification for the control group in Washington, D.C., which meant that, just as was true for the new rules group, income growth would not result in any families earning their way off the voucher program within this early period, nor would early income growth reduce their housing subsidies (any such effects would begin to show up only in Year 3).

**Exhibit 4.4. Impacts on Families' Housing Costs and Subsidies in Year 1, by Public Housing Agency (PHA)**

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
<b><u>Lexington</u></b>					
Enrollment status at the end of Year 1 (%)					
Currently enrolled in HCV program and leased up	90.7	87.1	3.6	*	0.078
Currently enrolled in HCV program, not leased up	0.0	0.0	0.0		NA
Exited HCV	8.0	11.4	-3.5	*	0.067
Ported out to another housing agency	1.4	1.5	-0.1		NA
<b>Gross rent</b>					
Gross rent in last month of Year 1 if received HCV <sup>a</sup> (%)					
<i>Less than \$1,000</i>	54.4	56.9	--		--
<i>\$1,000–\$1,499</i>	45.6	43.1	--		--
<i>\$1,500 or more</i>	0.0	0.0	--		--
<i>Average gross rent in last month of Year 1 if received HCV in that month (\$)</i>	934	921	--		--
<b>TTP</b>					
TTP in last month of Year 1 <sup>b</sup> (%)				***	0.000
Exited HCV or not leased up during Year 1	9.4	12.9	-3.6		
\$0	0.0	0.0	0.0		
\$1–\$50	-0.1	0.7	-0.7		
\$51–\$75	0.0	0.0	0.0		
\$76–\$100	0.0	0.0	0.0		
\$101–\$150	32.7	29.4	3.3		
\$151–\$300	27.7	19.7	8.0		
\$301–\$700	27.1	30.9	-3.8		
\$701 or above	3.2	6.4	-3.3		
<i>Average monthly TTP in months received HCV<sup>b</sup> (\$)</i>	276	308	--		--
Has a utility allowance in last month of Year 1 (%)	83.6	79.5	4.1	*	0.098
<b>Family share</b>					
<i>Average monthly family share in months received HCV<sup>c</sup> (\$)</i>	327	355	--		--
<i>Family share as percentage of gross rent in last month of Year 1, if received HCV (%)</i>	35.1	40.9	--		--
<b>Housing subsidy</b>					
Average number of months received housing subsidy <sup>d</sup>	11.2	11.1	0.1		0.588

(continued)

**Exhibit 4.4 (continued)**

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
<i>Average monthly housing subsidy in months received HCV (\$)</i>	598	562	--		--
Average annual housing subsidy in Year 1 (\$)	6,777	6,418	359	**	0.029
Average annual housing subsidy (%)				[ ]	0.100
Exited HCV or not leased up during Year 1	1.2	1.2	0.0		
\$0	0.3	1.0	-0.7		
\$1–\$4,999	22.1	26.3	-4.3		
\$5,000–\$9,999	60.5	58.0	2.5		
\$10,000–\$14,999	15.9	13.5	2.4		
\$15,000 or more	0.0	0.0	0.0		
<i>Average housing subsidy in last month of Year 1, if received HCV (\$)</i>	607	550	--		--
Sample size (total = 979)	486	493			
<b>Louisville</b>					
Enrollment status at the end of Year 1 (%)					
Currently enrolled in HCV program and leased up	93.7	89.7	4.1	***	0.001
Currently enrolled in HCV program, not leased up	0.3	0.3	0.0		NA
Exited HCV	5.7	9.1	-3.4	***	0.005
Ported out to another housing agency	0.2	0.9	-0.7		NA
<b>Gross rent</b>					
Gross rent in last month of Year 1 if received HCV <sup>a</sup> (%)				--	--
<i>Less than \$1,000</i>	43.9	43.9	--		
<i>\$1,000–\$1,499</i>	55.8	55.7	--		
<i>\$1,500 or more</i>	0.3	0.5	--		
<i>Average gross rent in last month of Year 1 if received HCV in that month (\$)</i>	997	998	--		--
<b>TTP</b>					
TTP in last month of Year 1 <sup>b</sup> (%)				***	0.000
Exited HCV or not leased up during Year 1	6.3	10.4	-4.1		
\$0	5.0	11.2	-6.2		
\$1–\$50	14.3	15.0	-0.7		
\$51–\$75	5.2	3.4	1.8		
\$76–\$100	4.5	3.7	0.8		
\$101–\$150	7.0	5.2	1.9		
\$151–\$300	26.7	19.5	7.1		
\$301–\$700	28.7	26.3	2.4		

(continued)

**Exhibit 4.4 (continued)**

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
\$701 or above	2.3	5.4	-3.1		
<i>Average monthly TTP in months received HCV<sup>b</sup> (\$)</i>	228	239	--		--
Has a utility allowance in last month of Year 1 (%)	90	86	4.0	***	0.006
<b>Family share</b>					
<i>Average monthly family share in months received HCV<sup>c</sup> (\$)</i>	317	328	--		--
<i>Family share as percentage of gross rent in last month of Year 1, if received HCV (%)</i>	28.5	30.6	--		--
<b>Housing subsidy</b>					
Average number of months received housing subsidy <sup>d</sup>	11.6	11.4	0.2	***	0.009
<i>Average monthly housing subsidy in months received HCV (\$)</i>	678	664	--		--
Average annual housing subsidy in Year 1 (\$)	7,898	7,659	239	*	0.066
Average annual housing subsidy (%)				[**]	0.045
Exited HCV or not leased up during Year 1	1.0	1.8	-0.8		
\$0	0.1	0.1	0.0		
\$1–\$4,999	14.0	19.4	-5.3		
\$5,000–\$9,999	58.4	52.3	6.1		
\$10,000–\$14,999	26.1	26.1	-0.1		
\$15,000 or more	0.4	0.3	0.1		
<i>Average housing subsidy in last month of Year 1, if received HCV (\$)</i>	708	688	--		--
Sample size (total = 1,908)	947	961			
<b>San Antonio</b>					
Enrollment status at the end of Year 1 (%)					
Currently enrolled in HCV program and leased up	86.8	78.8	8.0	***	0.000
Currently enrolled in HCV program, not leased up	3.6	8.2	-4.6		NA
Exited HCV	8.6	11.6	-3.1	**	0.029
Ported out to another housing agency	1.0	1.4	-0.4		NA
<b>Gross rent</b>					
Gross rent in last month of Year 1 if received HCV <sup>a</sup> (%)				--	--
<i>Less than \$1,000</i>	51.2	51.6	--		
<i>\$1,000–\$1,499</i>	47.9	46.7	--		
<i>\$1,500 or more</i>	0.8	1.8	--		
<i>Average gross rent in last month of Year 1 if received HCV in that month (\$)</i>	990	1,007	--		--

(continued)

**Exhibit 4.4 (continued)**

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
<b>TTP</b>					
TTP in last month of Year 1 <sup>b</sup> (%)				***	0.000
Exited HCV or not leased up during Year 1	13.2	21.2	-8.0		
\$0	0.0	0.0	0.0		
\$1–\$50	3.4	7.3	-4.0		
\$51–\$75	0.2	4.7	-4.5		
\$76–\$100	17.3	3.1	14.2		
\$101–\$150	9.1	7.2	1.9		
\$151–\$300	26.8	22.4	4.4		
\$301–\$700	27.4	28.0	-0.6		
\$701 or above	2.8	6.1	-3.4		
<i>Average monthly TTP in months received HCV<sup>b</sup></i> <i>(\$)</i>	271	291	--		--
Has a utility allowance in last month of Year 1 (%)	76.1	70.6	5.5	***	0.007
<b>Family share</b>					
<i>Average monthly family share in months re-</i> <i>ceived HCV<sup>c</sup> (\$)</i>	312	340	--		--
<i>Family share as percentage of gross rent in last</i> <i>month of Year 1, if received HCV (%)</i>	31.2	37.1	--		--
<b>Housing subsidy</b>					
Average number of months received housing subsidy <sup>d</sup>	11.1	10.8	0.3	**	0.013
<i>Average monthly housing subsidy in months re-</i> <i>ceived HCV (\$)</i>	669	645	--		--
Average annual housing subsidy in Year 1 (\$)	7,507	7,088	419	***	0.002
Average annual housing subsidy (%)				**	0.023
Exited HCV or not leased up during Year 1	1.9	3.3	-1.4		
\$0	0.5	1.1	-0.6		
\$1–\$4,999	15.9	20.3	-4.5		
\$5,000–\$9,999	59.1	58.0	1.1		
\$10,000–\$14,999	22.5	17.2	5.3		
\$15,000 or more	0.2	0.1	0.1		
<i>Average housing subsidy in last month of Year 1,</i> <i>if received HCV (\$)</i>	678	627	--		--
Sample size (total = 1,869)	935	934			

(continued)



**Exhibit 4.4 (continued)**

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>Washington, D.C.</u></b>				
Enrollment status at the end of Year 1 (%)				
Currently enrolled in HCV program and leased up	97.5	96.5	1.0	0.206
Currently enrolled in HCV program, not leased up	1.6	2.1	-0.5	NA
Exited HCV	0.9	1.5	-0.5	0.291
Ported out to another housing agency	0.0	0.0	0.0	NA
<b>Gross rent</b>				
Gross rent in last month of Year 1 if received HCV <sup>a</sup> (%)			--	--
<i>Less than \$1,000</i>	1.7	1.7	--	
<i>\$1,000–\$1,499</i>	36.6	35.5	--	
<i>\$1,500 or more</i>	61.7	62.8	--	
<i>Average gross rent in last month of Year 1, if received HCV in that month (\$)</i>	1,796	1,787	--	--
<b>TTP</b>				
TTP in last month of Year 1 <sup>b</sup> (%)				*** 0.000
Exited HCV or not leased up during Year 1	2.5	3.5	-1.0	
\$0	3.6	16.8	-13.2	
\$1–\$50	0.6	12.7	-12.0	
\$51–\$75	23.7	2.8	20.9	
\$76–\$100	5.1	2.9	2.2	
\$101–\$150	6.7	4.3	2.5	
\$151–\$300	15.6	15.3	0.4	
\$301–\$700	25.1	22.7	2.3	
\$701 or above	17.1	19.1	-2.0	
<i>Average monthly TTP in months received HCV<sup>b</sup> (\$)</i>	371	378		
Has a utility allowance in last month of Year 1 (%)	85.7	85.1	0.6	0.709
<b>Family share</b>				
<i>Average monthly family share in months received HCV<sup>c</sup> (\$)</i>	378	385	--	--
<i>Family share as percentage of gross rent in last month of Year 1, if received HCV (%)</i>	21.5	21.1	--	--
<b>Housing subsidy</b>				
Average number of months received housing subsidy <sup>d</sup>	11.7	11.5	0.1	0.147
<i>Average monthly housing subsidy in months received HCV (\$)</i>	1,379	1,369	--	--

(continued)

**Exhibit 4.4 (continued)**

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Average annual housing subsidy in Year 1 (\$)	16,211	15,953	258	0.319
Average annual housing subsidy (%)				0.460
Exited HCV or not leased up during Year 1	1.3	1.7	-0.4	
\$0	0.3	0.6	-0.3	
\$1–\$4,999	3.9	5.2	-1.3	
\$5,000–\$9,999	11.3	11.9	-0.6	
\$10,000–\$14,999	25.9	23.0	2.9	
\$15,000 or more	57.3	57.6	-0.3	
<i>Average housing subsidy in last month of Year 1, if received HCV (\$)</i>	<i>1,415</i>	<i>1,420</i>	<i>--</i>	<i>--</i>
Sample size (total = 1,909)	944	965		

HCV = Housing Choice Voucher. TTP = total tenant payment.

<sup>a</sup> Gross rent is the contract rent plus the utility allowance of the unit.

<sup>b</sup> Total tenant payment is the amount a family must contribute toward rent and utilities regardless of the unit selected. Under the new rent rules, TTP is 28 percent of prior-year gross income, and under existing rent rules TTP is 30 percent of adjusted income.

<sup>c</sup> Family share is the family's contribution toward its gross rent. It may be higher than the TTP if the family rents a unit with a gross rent that exceeds the payment standard.

<sup>d</sup> Housing subsidy is the full subsidy amount paid by the housing agency and includes any utility allowance payments made to the tenant in addition to rent paid to the owner by the housing agency.

\*\*\* = 1 percent. \*\* = 5 percent. \* = 10 percent.

Notes: Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. A statistical test was not performed on differences in the percentage of households currently enrolled in HCV but not leased up, or differences in the percentage of households that ported out to another housing agency due to small sample sizes within those categories. Rounding may cause slight discrepancies in calculating sums and differences. Square brackets indicate that the chi-square test may not be valid due to small sample sizes within the cross-tabulation distribution. Italic type indicates comparisons that are nonexperimental. Statistical tests were not performed; therefore, there are no impacts or p-values to report. The variation across the four PHAs in estimated impacts on average annual housing subsidy in Year 1 is not statistically significant based on an H-statistic test.

Source: MDRC calculations, using PHA data

The policy's first-year effects on average annual housing subsidies were statistically significant in three sites, ranging from an increase in housing subsidy over the existing rules group of \$419 in San Antonio to \$239 in Louisville. Put differently, the average Year 1 subsidy for the new rules group exceeded the control group mean by 6.0 percent in San Antonio and 3.1 percent in Louisville. The changes in subsidy payments were not statistically significant in Washington, D.C., where the biennial recertification policy would minimize any first-year effects on subsidy payments.

In Louisville, because 22 percent of families opted out of the new rent policy, the estimated intent-to-treat (ITT) impacts shown in exhibit 4.4 may be understated because they are averaged over all families who enrolled in the new rules group, whether or not those families were actually subject to the new rules; therefore, as explained in Chapter 2, treatment-on-treated (TOT) adjustments were made, which attribute all effects to only those families who were exposed to the policy (similar adjustments were produced for selected employment outcomes, as discussed in Chapter 3). Exhibit C.1 presents the results of the TOT analysis. It shows, for example, that the TOT impact on the average annual subsidies in Year 1 is \$308 (compared with the \$239 ITT estimate).

In each of the four PHAs, families in the new rent rules group paid a somewhat lower average monthly TTP while they were enrolled in the voucher program than did their counterparts in the control group; however, the actual patterns varied across different levels of TTPs. At the lower end, as exhibit 4.4 shows, in Louisville and Washington, D.C., fewer families in the new rules group paid zero toward their rent and utilities in the last month of Year 1. This finding reflects the institution of a minimum TTP for the new rules group in PHAs that previously had no minimum TTPs. In Louisville, the proportion of zero-TTP families was 4.1 percentage points lower than the control group rate of about 11 percent. In Washington, D.C., it was about 13 percentage points lower than the control group rate of almost 17 percent. Some families in the new rent rules group could still pay zero TTP as part of a hardship remedy. In addition, in Louisville, some families in the new rent rules group paying a zero TTP may have been families who opted out of the new rules and, therefore, would not be subject to a minimum TTP.

In Lexington and San Antonio, because of preexisting minimum TTP policies, no families in the new rent rules group or the existing rent rules group had a zero TTP at the end of Year 1. However, in San Antonio, where the preexisting \$50 minimum TTP was raised to \$100 for the new rent rules group, the proportion of families in the new rules group paying TTPs of \$50 or less fell by 4 percentage points relative to the control group rate, whereas the proportion paying from \$76 to \$100 increased by 14.2 percentage points.<sup>61</sup> In Lexington, because both research groups were required to pay a \$150 minimum rent, with few exceptions, the new rent policy could have little effect on the proportion of families falling in the lower range of the TTP distribution.

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<sup>61</sup> Some families could pay less than the minimum TTP, in either research group, if they received a hardship exemption.

Exhibit 4.4 also shows that families' total contributions toward their housing costs, as indicated by the estimate of family share (that is, TTP plus additional family payments for rent and utilities above the payment standard), varied across the four PHAs. For families in the existing rules group, it ranged from a low of \$328 per month while in the voucher program in Louisville to a high of \$385 in Washington, D.C. In each of the PHAs, families in the new rules group paid a lower family share than did families in the existing rules group. When family share is expressed as a percentage of gross rent, the proportions varied from 35.1 percent for the new rules group in Lexington to a low of 21.5 percent in Washington, D.C.

## **Paying the Minimum TTP**

Exhibit 4.5 shows how the TTPs paid by the new rent rules group compared with the PHAs' minimum TTP levels. For all PHAs combined, only 5.7 percent of families in the new rent rules group ever paid *less* than the minimum TTP during Year 1. Those who did pay less include some families who received a time-limited hardship remedy (although not all families with a hardship remedy paid below the minimum TTP). Most families (77.6 percent) paid more than the minimum TTP sometime during Year 1, whereas 29.3 percent paid exactly the minimum sometime during Year 1. Across the PHAs, Lexington stands out, with almost one-half (48.1 percent) of its families having paid exactly the minimum TTP. That rate is considerably higher than in the other PHAs (where it ranges from 21.3 percent to 31.6 percent) and reflects Lexington's relatively high \$150 per month minimum TTP and its limited exemptions policy. No Lexington families paid less than the minimum during Year 1.

In the other three PHAs, families paying below the minimum TTP did so for roughly 4 to 6 months within Year 1. This average duration may grow as more followup data become available. Some families were still in the midst of a hardship remedy spell at the end of Year 1, in which they were paying less than the minimum (and will continue doing so at least partly into Year 2), and other families will begin new spells in Year 2 or later.

**Exhibit 4.5. Total Tenant Payment (TTP) Relative to the Local Minimum TTP and Use of Safeguards in Year 1, by Public Housing Agency (PHA), New Rent Rules Group Only**

Outcome	Lexington	Louisville	San Antonio	Washington, D.C.	All PHAs
Minimum TTP (\$)	150	50	100	75	
Family TTP relative to the local minimum TTP (%)					
Ever paid below the minimum TTP <sup>a</sup>	0.0	5.9	7.1	6.9	5.7
Ever paid the minimum TTP	48.1	21.3	23.7	31.6	29.3
Ever paid above the minimum TTP	66.2	86.1	78.8	75.5	77.6
Number of months paid <sup>b</sup>					
Below the minimum TTP	0.0	5.2	4.1	6.5	5.2
The minimum TTP	9.3	8.3	9.9	9.3	9.3
Above the minimum TTP	10.2	11.0	10.8	11.0	10.8
Ever had grace-period TTP <sup>c</sup> (%)	21.6	21.4	19.2	27.1	22.5
Ever received a restricted interim recertification (%)	5.2	2.0	1.5	2.1	2.4
Ever received a hardship remedy (%)	5.8	11.3	4.6	11.8	8.4
Received hardship remedy in last month of Year 1, if received HCV in that month (%)	2.2	8.6	4.5	6.9	5.9
Average number of months of a hardship (for those who received hardship)	4.1	5.4	4.8	6.2	5.0
Sample size	486	735	935	944	3,100

HCV = Housing Choice Voucher.

<sup>a</sup> Some families paid less than the minimum TTP during Year 1 without receiving a hardship exemption because they were not immediately subject to the new rent rules and have some months during the followup period where they were paying a TTP under the existing rent rules. Housing outcome measures are relative to the expected initial effective date; for some families a triennial did not become effective when expected resulting in new rent rules families being on the existing rules for some part of Year 1. This occurred due to families having their initial triennial become effective late, porting out or terminating from HCV without completing a triennial recertification, or having an old effective certification under the existing rules without a termination or port out which is probably a data error.

<sup>b</sup> The "number of months paid" measures limit the sample to those who ever paid that family TTP relative to the local minimum TTP. For example, the number of months paid below the minimum TTP is shown only for those who ever paid the minimum TTP.

<sup>c</sup> At the initial recertification, families receiving grace-period TTPs have their TTPs calculated based on current/anticipated income for 6 months, rather than retrospective income. The grace-period TTP is used if a family's current/anticipated income is more than 10 percent lower than its retrospective income.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. Louisville families who opted out of the study are excluded because their rent calculation is subject to existing rules. Total tenant payment is the amount a family must contribute toward rent and utilities regardless of the unit selected. Under the new rent rules TTP is 28 percent of prior year income and under existing rent rules TTP is 30 percent of adjusted income. The minimum TTP varies by site and research group. The measures are created using the relevant minimum TTP.

Source: MDRC calculations, using PHA data

## **Use of Safeguards by the New Rent Rules Group**

### **Grace Period Rents**

Some families in the new rent rules group found that their retrospective gross incomes were substantially higher than their current/anticipated gross incomes at the time of their initial recertifications. The new rent policy includes several critical safeguards (described in Chapter 1 and summarized in exhibit 4.6) to help protect such families from excessive rent burdens. The grace period is one such safeguard. If at the initial recertification a family's current/anticipated gross income is more than 10 percent lower than its retrospective income, the family automatically qualifies for (and receives) a 6-month grace-period TTP based on 28 percent of its current/anticipated gross income. The family would need to pay the minimum TTP if that 28 percent were less than the minimum TTP threshold set by its PHA, unless the family applies for and receives a hardship exemption. Only available at the beginning of the 3-year period (and at any subsequent triennial recertifications), the 6-month grace period temporarily protects the household from a high rent burden while it tries to restore its income to its prior level. At the end of the 6-month grace period, the TTPs for those families automatically reverts to the TTPs that were based on the retrospective income originally calculated for them; however, if the family cannot restore its current income to that original retrospective gross income level, it may request an interim recertification (limited to one per year) or a hardship remedy.

### Exhibit 4.6. Safeguards Built into the New Rent Rules Policy

Safeguard	Timing	Eligibility Criteria	Modified TTP
Grace-period TTP	At triennial certification	Current or anticipated monthly income is more than 10 percent less than retrospective monthly income.	Based on 28 percent of the current or anticipated monthly income. The modified TTP lasts for 6 months and then automatically switches back to being based on retrospective income.
Interim recertification <sup>a</sup>	Upon family's request, up to once per year.	The family's retrospective income at the time of the request for the interim recertification is more than 10 percent below its previously established income.	Set at 28 percent of retrospective income based on the 12 months before the request.
Hardship remedies	At any time	TTP is more than 40 percent of current or anticipated monthly income <i>or</i> the family is at risk of eviction.	Set at 28 percent of a family's current or anticipated income (which may be less than the minimum TTP, except in Lexington) for up to 180 days (can be renewed), <i>or</i> set at the minimum TTP for up to 180 days (can be renewed), <i>or</i> based on an additional interim recertification beyond the normal one-year option, <i>or</i> supplemented with a "transfer voucher" to help a move to a more affordable unit.

Notes: Income refers to gross income. The new rent policy uses gross income (e.g., without adjustments) regardless of whether using current, anticipated, or retrospective income.

<sup>a</sup> Interim recertification refers to restricted interims to reduce TTP.

More than one-fifth (22.5 percent) of families had received a grace-period TTP at the initial recertification when the study period began, reaching as high as 27.1 percent in Washington, D.C., as shown in exhibit 4.5. The substantial degree of reliance on this safeguard testifies to its importance in protecting families from difficult-to-afford TTPs, at least temporarily, in a rent system that bases TTPs primarily on retrospective income.

## **Interim Recertifications**

As another safeguard, the new rent policy allows families one interim recertification per year. For the new rent rules group, these are referred to as “restricted interim recertifications” because of the numerical restriction placed on them. A family qualifies for this mechanism to lower its TTP only if its income drops by more than 10 percent of its retrospective income over the 12 months immediately prior to the time it requests an interim adjustment. Exhibit 4.5 shows that, during Year 1, 2.4 percent of the new rent rules group received a restricted interim recertification for this purpose. The rate ranged from 1.5 percent in San Antonio to 5.2 percent in Lexington. In general, the new rules group was less likely to receive an interim recertification for a TTP reduction than the existing rules group, as discussed later in this chapter.

## **Hardship Remedies**

As exhibit 4.6 shows, in addition to grace-period TTPs and interim recertifications, the new rent policy offers potential further relief to families whose TTPs exceed 40 percent of their current/anticipated gross income. Such families are considered to have excessive rent burdens and are generally eligible to request a hardship remedy. In Lexington, however, families are eligible for a hardship remedy only if they are paying TTPs that exceed the PHA’s \$150 minimum and still meet the 40-percent threshold. No families can pay less than the \$150 minimum except in cases in which households become classified as disabled.

Earlier in the demonstration, when very low rates of hardship requests became apparent after the initial recertifications were completed, the PHAs, HUD, and MDRC discussed the possibility that some families might be eligible for but not be sufficiently aware of the hardship provisions of the new rent policy. To address that concern, the PHAs sent flyers to all families in the new rent rules group reminding them not only of the benefit of not needing to report earnings increases until the triennial recertification but also that if they were experiencing difficulty meeting their rent obligations, they might qualify for hardship remedies or interim recertifications to reduce their TTPs, and that they should contact their housing specialists to find out whether they qualified (see exhibit 4.7). In addition, the agencies mailed a special letter to families that MDRC identified (using PHA data) as having initial TTPs that might qualify them for a hardship remedy.



## Exhibit 4.7. San Antonio Housing Authority's Rent Reform Flyer

An important reminder for tenants having their rent calculated under the Rent Reform Demonstration's alternative rent policy

**For the next 3 years,  
everyone in your household can  
work more, earn more,  
and not worry about rent going up!**

### Remember, until your next recertification in 3 years:

- ❖ *No need to report earnings increases* to the housing agency
- ❖ Your *rent & utilities will not increase* because you are earning more\*
- ❖ You may qualify for a rent reduction if your income decreases

\*The overall rent may increase if the contract rent increases above the payment standard

### Have questions about your rent rules & safeguards?

- ❖ See the Rent Reform information in your recent recertification packet
- ❖ Contact your housing specialist

### Visit a Workforce Solutions Alamo Career Center for help finding a job

[www.workforcesolutionsalamo.org](http://www.workforcesolutionsalamo.org)

4615 Walzem Road, San Antonio, TX 78218

4535 E Houston, San Antonio, TX 78220

6723 South Flores Street, San Antonio, TX 78221

1499 Hillcrest Drive, San Antonio, TX 78228

7008 Marbach Road, San Antonio, TX 78227-1940



818 South Flores Street | San Antonio, Texas 78204 | 210-477-6262 | [www.saha.org](http://www.saha.org)

The letters encouraged those families to contact the PHA to see whether they did, in fact, qualify (Riccio, Deitch, and Verma, 2017). Of course, it is possible that not all families who qualified for a hardship remedy wanted to apply for one. For example, doing so may have required some families to interact with the PHA more than they would have liked. In addition, some potentially eligible families may have had an increase in income after the initial recertification, which they realized would disqualify them from receiving a hardship remedy. Other considerations may have been factors as well.

A hardship remedy can be issued at any time during the 3-year period. Across all PHAs, about 8.4 percent of families requested and received a hardship remedy in Year 1, ranging from 4.6 percent in San Antonio to 11.8 percent in Washington, D.C. (see exhibit 4.5). This rate is higher than the rate at the time of initial recertification, when, as shown in the baseline report, only 0.5 percent of families across the four PHAs received a hardship remedy.<sup>62</sup> The small increase over time may reflect the possibility that a growing proportion of families experienced a substantial post-recertification loss of income during Year 1. It may also reflect a growing awareness among already-qualifying families of the availability of this safeguard and increased willingness to request it.<sup>63</sup>

Exhibit 4.5 also shows that a somewhat smaller proportion of families had received a hardship remedy in the last month of Year 1 compared with the proportion who ever received a hardship remedy in Year 1. For example, in Washington, D.C., the rate fell to 6.9 percent, indicating that, for at least some families, those time-limited remedies expired and were not renewed.

## Impacts on PHA Actions for Families

One goal of the new rent policy is to simplify the rent determination process. Doing so, it was hoped, would reduce the administrative burden and costs for the PHAs, as well as lighten the burden on families. Toward that goal, as discussed previously, the new policy eliminates deductions from income in calculating TTPs (focusing on gross rather than adjusted income); ignores any income from (and documentation requirements for) assets that were valued at less than \$25,000 (rather than the traditional \$5,000 limit); simplifies the approach to estimating utilities costs; switches from an annual to triennial recertification process; and limits to one per year the number of interim recertifications permitted as a result of income reductions (and only when a decrease in income exceeds 10 percent of retrospective income).

Potentially offsetting these burden-reducing features is the new policy's reliance on income received during a 12-month retrospective period in determining the average monthly base income that is used to calculate a family's TTP (except for grace-period and hardship TTPs), rather than relying on income that a family *anticipates* having in an average month during the coming 3 years.<sup>64</sup> In addition, the institution of minimum TTPs where none existed before (in Louisville and Washington, D.C.) and the new policy's hardship remedies, when requested, may offset to some degree the reduction in administrative burden. MDRC's implementation research is continuing to explore the PHAs' experiences in operationalizing these features (following up on early experiences that are discussed in the demonstration's baseline report: Riccio, Deitch, and Verma, 2017), and the findings will be presented in a future

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<sup>62</sup> See Riccio, Deitch, and Verma (2017). At the time of initial recertification, the rates were zero in Lexington, 1.6 percent in Louisville, 0.2 percent in San Antonio, and 0.2 percent in Washington, D.C.

<sup>63</sup> It is not possible to determine the proportion of all families in the new rules group who might be eligible for a hardship remedy because, under the policy's triennial recertification feature, they are not required to report their incomes for 3 years; however, future reports will include findings from qualitative and survey data on families' understanding and views of the hardship protections.

<sup>64</sup> For details on how retrospective income is determined, see Riccio, Deitch, and Verma (2017).

report. In the meantime, it is possible to assess whether the new policy has begun to affect the incidence of formal actions that staff must complete to address changes in families' circumstances.

Under HUD's traditional rent policy, PHA housing specialists conduct annual income recertifications for families and take certain actions when families report changes in particular circumstances—for example, if the family moves to a different housing unit, if its income falls, if its income increases before its annual recertification takes place (although this reporting requirement can be waived under current HUD rules),<sup>65</sup> if its household composition changes (for instance, if individuals move out of or into their housing unit, if a child is born, or if a family member passes away), if the rent charged by the landlord for the family's unit (the contract rent) changes, or for a number of other reasons. Under the new rent policy, all mandatory annual recertifications and interim reporting of income increases are eliminated, and no more than one recertification per year is permitted for income reductions. Families must continue to report all other types of changes in circumstances required by traditional HUD rules.

Exhibit 4.8 compares the likelihood and frequency of these types of actions across the two research groups during Year 1 for all four PHAs combined. Almost three-fourths (73.6 percent) of the existing rules group had an action that required a response from PHA staff, compared with about one-half (49.6 percent) of the new rules group—a reduction of 24 percentage points. The main factor contributing to this change was the reduction in annual recertifications, which were 40 percentage points lower for the new rules group. Also contributing to the overall reductions in PHA actions were reductions in the likelihood of interim recertifications for decreases in income (by 10 percentage points) and reductions in interim recertifications for increased income (by 15.5 percentage points).<sup>66</sup> Although the new rent rules eliminated interim recertifications for increased income, a small proportion of families (1.4 percent) had received such an action, some of whom were likely families in Louisville who opted out of the new rent rules. Other cases may be the result of errors on the part of housing specialists or a result of inconsistencies in the recording of income.

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<sup>65</sup> The Housing Opportunities Through Modernization Act of 2016, among other changes, eliminates the requirement for families to report increases in earned income between annual recertifications (codifying an option that had previously been left to local PHA discretion) and eliminates interim recertifications for families' whose incomes drop by less than 10 percent. As of early 2019, however, HUD had not issued implementation guidance, and these provisions had not yet gone into effect.

<sup>66</sup> The reasons for interim recertification in exhibit 4.5 are not mutually exclusive. Thus, the same family could have had two reasons for an interim recertification, sometimes occurring at the same time (for example, a change in household composition and an income increase). These actions are counted separately except in "any action" measures.

### Exhibit 4.8. Public Housing Agency (PHA) Actions in Year 1, All PHAs

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
<b><u>Ever had type of action (%)</u></b>					
Any action that requires staff response <sup>a</sup>	49.6	73.6	-23.9	***	0.000
Annual <sup>b</sup>	10.0	50.3	-40.4	***	0.000
Move/change of unit <sup>c</sup>	8.2	9.5	-1.3	*	0.059
Interims <sup>d</sup>					
Decreased income	10.8	20.7	-10.0	***	0.000
Restricted interim	2.2	NA	--		--
Hardship exemption <sup>e</sup>	6.6	0.1	6.5	***	0.000
Household composition change <sup>f</sup>	1.5	5.0	-3.5	***	0.000
Increased income <sup>g</sup>	1.4	16.9	-15.5	***	0.000
Household composition change	5.7	8.7	-3.0	***	0.000
Contract rent change <sup>h</sup>	18.0	7.7	10.3	***	0.000
Other action <sup>i</sup>	9.5	3.7	5.9	***	0.000
<b><u>Number of actions</u></b>					
Average number of actions	0.6	1.1	-0.5	***	0.000
Any action that requires staff response <sup>a</sup> (%)				***	0.000
None	50.4	26.4	23.9		
1	40.2	44.7	-4.5		
2	8.0	21.1	-13.1		
3-4	1.4	7.5	-6.0		
5 or more	0.0	0.4	-0.4		
Move/change of unit <sup>c</sup>				[**]	0.031
None	91.9	90.5	1.3		
1	8.2	9.3	-1.2		
2 or more	0.0	0.1	-0.1		
Decreased income (%)				***	0.000
None	89.2	79.3	10.0		
1	10.0	18.5	-8.5		
2 or more	0.7	2.2	-1.5		
Increased income (%)				***	0.000
None	98.6	83.1	15.5		
1	1.3	15.4	-14.1		
2 or more	0.1	1.5	-1.4		

(continued)

**Exhibit 4.8 (continued)**

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Household composition change <sup>f</sup> (%)				*** 0.000
None	94.3	91.4	3.0	
1	5.2	8.2	-3.0	
2 or more	0.5	0.5	0.0	
Contract rent change <sup>h</sup> (%)				*** 0.000
None	82.0	92.3	-10.3	
1	17.7	7.5	10.2	
2 or more	0.3	0.2	0.1	
Other action <sup>i</sup> (%)				*** 0.000
None	90.5	96.4	-5.9	
1	9.0	3.4	5.6	
2 or more	0.5	0.2	0.3	
Sample size (total = 6,665)	3,312	3,353		

<sup>a</sup> Certification actions that require staff interaction include annual reexaminations, interim reexaminations (except for end-of-grace-period and end-of-hardship records), and change-of-unit actions.

<sup>b</sup> Annual reexaminations reflect actions recorded as "Action code 2: annual reexamination" on the 50058 form.

<sup>c</sup> Move/change of unit actions reflect actions recorded as "Action code 7: other change of unit" on the 50058 form. If a move was recorded through an annual or interim action, it is not reflected in this outcome.

<sup>d</sup> Interims reflect all actions recorded as "Action code 3: interim reexamination" on the 50058 form except interim reexaminations to end a grace period or hardship rent. Types of interim actions are not mutually exclusive. Any action counts as each action once. At the same interim certification event, a household may have reported changes in its situation that fell into more than one of the categories displayed in this table.

<sup>e</sup> Households in the existing rent rules groups in Louisville and Washington, D.C. were not subject to a minimum rent. Thus, there was no hardship exemption available. This only includes hardships received through an interim recertification.

<sup>f</sup> This outcome indicates a decrease in income that occurred at the same time that household composition changed. When household members are removed, so is their income.

<sup>g</sup> Interims with increased income include interims in which income increased but TTP did not increase. This occurs when a family's earnings did not increase enough for TTP to be over the minimum rent.

<sup>h</sup> The control group often has contract rent changes included in their annual reexamination, and in that case the contract rent increase is not included in this category.

<sup>i</sup> Other actions include interims (or some other reason but not end of grace or hardship), which are difficult to classify from the available data.

\*\*\* = 1 percent. \*\* = 5 percent. \* = 10 percent.

Notes: Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Rounding may cause slight discrepancies in calculating sums and differences.

Source: MDRC calculations, using PHA data

At the same time, some types of actions were more frequent for the new rules group than for the existing rules group, thus offsetting somewhat the larger reduction in actions resulting primarily from the reduction in annual recertifications. Among those were staff actions to process changes in rent contracts with landlords, typically when landlords raised the rent. For control group families, those changes were usually addressed as part of the regular annual recertification process. For the new rules group, which was subject to triennial recertifications, changes in contract rents during the 3-year period required a separate action. Those actions, however, primarily required that staff determines that the increase was reasonable, update the contract rent amount, and notify the landlord and tenant about the changes to the rent calculations. This type of action does not require a review of the family's income, which is one of the more time-consuming aspects of processing recertifications.

Across both research groups, few families had more than one or two actions requiring a staff response during Year 1 (exhibit 4.8). Overall, the new rent policy decreased the average number of actions requiring a staff response by 0.5 during Year 1, from 1.1 for the existing rules group to 0.6 for the new rules group; however, three actions that were among the most likely to be reduced—annual recertifications, interim recertifications for reductions in income, and interim recertifications for increases in income—were generally the most time-consuming actions for staff because they required reviewing household income so that the PHA's software system could recalculate TTPs and subsidies.

These patterns vary substantially across the four PHAs, as shown in exhibit 4.9. In reviewing these results, it is important to keep in mind some important differences across PHAs in the policies concerning PHA actions that applied to the control group. In Lexington and Louisville, control group families remained subject to the traditional HUD requirements, such as annual recertifications and unlimited interim reporting of income decreases or increases between annual recertifications. (Also recall that in Louisville, 22 percent of families who were assigned to the new rent rules group opted out, which means they are subject to the same traditional rules as the control group.) In contrast, San Antonio's control group members are not required to report earnings increases before their annual recertifications, and in Washington, D.C., the control group members must only report income increases every 2 years.

Some of the cross-PHA differences are driven primarily by these control group conditions in Washington, D.C., and the Louisville opt-outs. For example, at the high end, the reduction in annual recertifications was 75.8 percentage points in Lexington and 59.5 percentage points in San Antonio, compared with 40.3 percentage points in Louisville (where the opt-out families remained subject to the existing rules) and a very low 3.7 percentage points in Washington, D.C. (In Louisville, the TOT adjustment, which averages impacts only over the non-opt-out families, shows a reduction in annual recertifications of 51.9 percentage points; see exhibit C.1).

**Exhibit 4.9. Public Housing Agency (PHA) Actions in Year 1, by PHA**

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
<b><u>Lexington</u></b>					
<b>Ever had type of action (%)</b>					
Any action that requires staff response <sup>a</sup>	46.6	91.2	-44.7	***	0.000
Annual <sup>b</sup>	3.3	79.1	-75.8	***	0.000
Move/change of unit <sup>c</sup>	12.1	13.4	-1.3		0.549
Interims <sup>d</sup>					
Decreased income	10.7	26.7	-16.0	***	0.000
Restricted interim	5.2	NA	--		--
Hardship exemption <sup>e</sup>	5.0	0.4	4.6	***	0.000
Household composition change <sup>f</sup>	0.8	4.1	-3.3	***	0.001
Increased income <sup>g</sup>	2.0	22.8	-20.8	***	0.000
Household composition change	6.9	8.4	-1.6		0.356
Contract rent change <sup>h</sup>	11.5	9.0	2.5		0.193
Other action <sup>i</sup>	15.1	6.6	8.5	***	0.000
<b>Number of actions</b>					
Average number of actions	0.6	1.7	-1.0	***	0.000
Any action that requires staff response <sup>a</sup> (%)				***	0.000
None	53.4	8.8	44.7		
1	33.5	44.1	-10.6		
2	11.1	28.0	-16.9		
3–4	2.0	17.1	-15.1		
5 or more	-0.1	2.1	-2.1		
Sample size (total = 979)	486	493			
<b><u>Louisville</u></b>					
<b>Ever had type of action (%)</b>					
Any action that requires staff response <sup>a</sup>	89.0	89.7	-0.6		0.652
Annual <sup>b</sup>	24.8	65.1	-40.3	***	0.000
Move/change of unit <sup>c</sup>	7.3	12.5	-5.2	***	0.000

(continued)

**Exhibit 4.9 (continued)**

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Household composition change <sup>f</sup> (%)				*** 0.000
None	94.3	91.4	3.0	
1	5.2	8.2	-3.0	
2 or more	0.5	0.5	0.0	
Contract rent change <sup>h</sup> (%)				*** 0.000
None	82.0	92.3	-10.3	
1	17.7	7.5	10.2	
2 or more	0.3	0.2	0.1	
Other action <sup>i</sup> (%)				*** 0.000
None	90.5	96.4	-5.9	
1	9.0	3.4	5.6	
2 or more	0.5	0.2	0.3	
Sample size (total = 6,665)	3,312	3,353		

<sup>a</sup> Certification actions that require staff interaction include annual reexaminations, interim reexaminations (except for end-of-grace-period and end-of-hardship records), and change-of-unit actions.

<sup>b</sup> Annual reexaminations reflect actions recorded as "Action code 2: annual reexamination" on the 50058 form.

<sup>c</sup> Move/change of unit actions reflect actions recorded as "Action code 7: other change of unit" on the 50058 form. If a move was recorded through an annual or interim action, it is not reflected in this outcome.

<sup>d</sup> Interims reflect all actions recorded as "Action code 3: interim reexamination" on the 50058 form except interim reexaminations to end a grace period or hardship rent. Types of interim actions are not mutually exclusive. Any action counts as each action once. At the same interim certification event, a household may have reported changes in its situation that fell into more than one of the categories displayed in this table.

<sup>e</sup> Households in the existing rent rules groups in Louisville and Washington, D.C. were not subject to a minimum rent. Thus, there was no hardship exemption available to them. This only includes hardships received through an interim recertification.

<sup>f</sup> This outcome indicates a decrease in income that occurred at the same time that household composition changed. When household members are removed, so is their income.

<sup>g</sup> Interims with increased income include interims in which income increased but TTP did not increase. This occurs when a family's earnings did not increase enough for TTP to be over the minimum rent.

<sup>h</sup> The control group often has contract rent changes included in their annual reexamination, and in that case the contract rent increase is not included in this category.

<sup>i</sup> Other actions include interims (or some other reason but not end of grace or hardship), which are difficult to classify from the available data.

\*\*\* = 1 percent. \*\* = 5 percent. \* = 10 percent.

Notes: Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Rounding may cause slight discrepancies in calculating sums and differences.

Source: MDRC calculations, using PHA data



Exhibit 4.9 also shows that not all control group families in Lexington, Louisville, and San Antonio completed an annual recertification by the end of Year 1, even though they are required under traditional HUD rules. In most of those cases, the recertification occurred later than the 1-year anniversary date because of normal scheduling delays or processing delays. In other cases, the family moved to another unit, and the full income review conducted by the PHA when it processed that move (a “move action”) substituted for the annual recertification. In a small number of cases, the families had exited the voucher program or moved to another PHA.<sup>67</sup>

The reduction in the number of interim recertifications caused by the new rent policy for increased income was largest in Louisville (30.8 percentage points) despite the opt-out option for the new rules group. This is because a relatively high proportion of families in the control group experienced earnings increases during Year 1, which they were required to report to the PHA. In Louisville, 34.1 percent of control group families received an interim recertification for increased income, compared with 22.8 percent in Lexington, 1.8 percent in San Antonio, and 11.4 percent in Washington, D.C. Those rates were distinctively lower in San Antonio, which did not require control group families to report interim income increases during Year 1, and in Washington, D.C., which instituted a biennial recertification policy for the control group.

## Conclusion

As this chapter shows, the new rent policy had already begun to change families’ experiences with the Housing Choice Voucher program during the first year that the policy was in effect. Relative to the existing rent rules, the new policy reduced the likelihood of paying zero TTP or very low TTPs, as a result of the introduction of or increase in minimum TTPs in three of the four PHAs (excluding Lexington, which instituted the same high TTP for both research groups). On average, however, the new policy reduced families’ monthly payments for rent and utilities relative to the control group’s payments and increased the likelihood of being on the voucher program by the end of the first year, and those effects led to an increase in the average amount of subsidy received, which was intended by the policy design to reward work. The new policy also reduced the likelihood of certain transactions with staff, especially the time-consuming ones that involved income reviews for adjustments to TTPs and subsidies (for example, annual recertifications and interim recertifications as a result of increases or decreases in family income). Those patterns vary somewhat across the four PHAs, in part because of differences in

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<sup>67</sup> A separate analysis (not captured in any tables in this chapter) showed that approximately 91 percent of the control group members in the three sites that were subject to an annual recertification schedule either completed an annual recertification, were searching for a new unit, had a move action completed, or had exited the voucher program or transferred (“ported out”) to another PHA during the first year following enrollment. This separate analysis also revealed that about 2 percent of the control group in these sites appeared to have had an interim recertification in place of an annual recertification in the first year. PHA data on recertifications are analyzed using the effective date rather than the date that staff enter a recertification action into the software system. Thus, late recertifications would be missing from tables in this report if the effective dates occurred after the expected 12-month period for annual recertifications or if PHA staff entered information on effective dates into the system after the data were sent to MDRC.

the existing policies applied to the control group. Overall, however, they are early signs of trends that are likely to grow over Years 2 and 3 of the followup period, while the new policy's TTP cap and restrictions on the number of interim recertifications remain in effect, until families reach their triennial recertifications and, if they are still receiving vouchers, have their TTPs recalculated and capped for the subsequent 3 years.

## Chapter 5

# Summary and Next Steps in the Rent Reform Demonstration

The early impact findings discussed in this report offer initial but limited findings on the new rent policy designed as part of HUD’s Rent Reform Demonstration. Although it is too soon to draw firm conclusions about the merits or disadvantages of this new policy, some important patterns have begun to emerge concerning its effects on tenants’ labor market and housing assistance outcomes. Those patterns point to the potential of the policy to make a difference for important labor market and housing outcomes, but the early effects are not always consistent across the four public housing agencies (PHAs) included in this study—in Lexington, KY; Louisville, KY; San Antonio, TX; and Washington, D.C.

Exhibit 5.1 summarizes key impacts—that is, the *differences in outcomes* between the new and existing rent rules groups—within each of the four PHAs, for all of them combined, and for the combined set excluding Washington, D.C. As explained in earlier chapters, because the existing policy in Washington, D.C., included biennial recertifications, the early results in that PHA do not reflect the effects of extending the recertifications beyond the traditional annual recertification schedule (because neither research group was subject to an annual schedule).

As illustrated in exhibit 5.1, the strongest indications that the new rent policy has the potential to improve tenants’ earnings (by a small or moderate degree) come from Lexington and San Antonio. In both PHAs, the new rent rules led to growing positive effects on heads of household’s average earnings over the first 18 months of followup. It is likely that these effects primarily reflect the extension of the recertification policy from an annual to a triennial schedule. This policy reduces the implicit marginal “tax” on any increased earnings from 30 percent to zero during the 3-year period.

**Exhibit 5.1. Summary of Early Impacts on Employment, Earnings, and Housing Subsidy-Related Outcomes**

Outcomes	All PHAs Except				San Washington,	
	All PHAs	Washington, D.C.	Lexington	Louisville	Antonio	D.C.
<b><u>Household heads</u></b>						
Average quarterly employment, Year 1 <sup>a</sup> (%)	1.3 *	1.6 *	1.3	1.2	2.2	0.5
<b>Total earnings (\$)</b>						
Year 1 (quarters 3-6)	159	311	102	135	609 *	-335
Quarter 7	57	56	221	-227 *	255 **	40
Quarter 8	81	134 *	286 *	-165	327 ***	-60
Sample size	6,665	4,756	979	1,908	1,869	1,909
<b><u>Households</u></b>						
Average annual housing subsidy in Year 1 <sup>b</sup> (\$)	258 ***	316 ***	359 **	239 *	419 ***	258
Any action that requires staff response <sup>c</sup> (%)	-23.9 ***	-28.9 ***	-44.7 ***	-0.6	-49.5 ***	-12.0 ***
Sample size	6,665	4,756	979	1,908	1,869	1,909

<sup>a</sup> Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

<sup>b</sup> Housing subsidy is the full subsidy amount paid by the housing agency and includes any utility allowance payments made to the tenant in addition to rent paid to the owner by the housing agency.

<sup>c</sup> Certification actions that require staff interaction include annual reexaminations, interim reexaminations (except for end-of-grace-period and end-of-hardship records), and change-of-unit actions.

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values. The variation across the four PHAs in estimated impacts on total earnings in Year 1 is not statistically significant at the 10 percent level based on an H-statistic test. The variation across the four PHAs in estimated impacts on average annual housing subsidy in Year 1 is not statistically significant based on an H-statistic test. Confirmatory outcomes were tested for multiple hypothesis testing using the Benjamini-Hochberg procedure. The adjusted p-value = .415 for the impact on total Year 1 earnings for all four PHAs combined. The adjusted p-value = .16 for the impact on total Year 1 earnings for all PHAs combined excluding Washington, D.C. The adjusted p-value = .016 for the impact on the total Year 1 housing subsidy for all four PHAs combined. The adjusted p-value = .000 for the impact on the total Year 1 housing subsidy for all PHAs combined excluding Washington, D.C.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

At the same time, it is unlikely that the positive effects in those two locations reflect the new policy's minimum total tenant payment (TTP) requirement. Lexington had already instituted a minimum TTP (at \$150 per month) before the demonstration began, which applied to both research groups. Consequently, that feature cannot account for any of the difference in earnings that subsequently emerged between the two research groups. The findings from Washington, D.C., are also instructive here. Although that PHA does not yet offer a good test of the effects of extending the recertification period under the new rent rules (because of its biennial recertification schedule for the control group), it does offer an opportunity to assess the early effects of a \$75 minimum TTP for the new rules group because the control group faced no minimum TTP. That feature creates a greater incentive for families in the new rules group to increase their earnings, even in the short term. Thus, the absence of any short-term earnings effects in Washington, D.C., suggests that a minimum TTP, by itself, may not necessarily generate increased work effort or earnings. This evidence is considered limited, however, because it comes from only one site and for a minimum TTP of a particular dollar value.

The absence of early positive effects in Louisville and evidence of a statistically significant *negative* earnings effect in one quarter add an important cautionary note. These results are complicated to interpret because, as explained in previous chapters, 22 percent of Louisville's new rent rules group opted out of the new rent policy. Whether this circumstance, something about the local context or voucher population, or some other factors weakened the potential impacts of the new policy in the short term is not known. This issue will be explored further if the pattern persists through the longer followup period, but the absence of early positive impacts does not mean that Louisville voucher holders were distinctly less attached to the labor market. Indeed, as shown in Chapter 3, *both* research groups increased their earnings steadily over the first eight quarters of followup.

The early impact findings also point to some *tentative* patterns that are worth watching as longer-term data become available. For example, although not consistently statistically significant, some patterns in the data suggest that impacts on earnings may be concentrated on household heads who were already employed in the quarter prior to random assignment. Earnings effects may have also been concentrated among families whose youngest child was a teenager at the time of random assignment. Firm conclusions about the robustness of these patterns must await longer-term data.

The new rent policy produced some early impacts on housing-related outcomes that affected families' housing subsidies, as well as the transactions between tenants and PHA staff. For example, relative to the control group's outcomes, the new policy caused a small reduction in families' probability of exiting the voucher program in the first year and a small increase in the average amount of housing subsidies that families received. As exhibit 5.1 shows, average annual subsidy payments increased by \$258 per family. This finding reflects an increase of 2.7 percent above the control group mean subsidy payment of \$9,719 in Year 1. That the new rules group would receive more in subsidy payments than the control group early on was an expected

result, reflecting the intent of the new policy to help “make work pay” by allowing families to refrain from reporting income increases to the PHA for a 3-year period.

The new rent rules also began to reduce the most time-consuming transactions required by HUD’s traditional rent policy once the initial recertification was completed at the beginning of the study. Those transactions include annual recertifications and interim adjustments in TTPs and subsidies that normally had to be made as families’ incomes changed. As exhibit 5.1 shows, the new policy reduced the likelihood of any PHA actions with or on behalf of families during Year 1 by almost 24 percentage points for all PHAs combined and by almost 50 percent in San Antonio. At the same time, early qualitative feedback from PHA staff points to the extra efforts needed to collect the information that new rent rules families must provide to calculate their retrospective income, which is the basis for setting TTPs under the new rent policy.

All these patterns will be important to reexamine as the longer-term data become available—and especially once families in the new rent rules group have completed their triennial recertifications. At that point, families whose earnings in the 12 months leading up to that recertification are higher than what they were at the initial recertification will begin paying higher TTPs and receiving smaller housing subsidies, thus allowing the PHAs to begin recouping forgone savings in housing subsidy expenditures. Families’ new TTPs will then be capped for another 3 years, allowing them to keep any further increases in earnings they achieve during that period.

The next report in the series on the Rent Reform Demonstration, “Interim Findings,” will cover these same labor market and housing-related outcomes over a longer followup period, through at least the time of the triennial recertification and through the first two subsequent quarters for an early cohort of families. The “Interim Findings” report will also cover the policy’s effects on a wider array of outcomes that are important to a full assessment of the effects on families. Those effects include impacts on families’ receipt of other government transfer benefits (including Temporary Assistance for Needy Families, the Supplemental Nutrition Assistance Program, and homelessness assistance), based on administrative records data collected from state and local agencies.

The fourth report in the series, expected in 2021, will provide additional outcome data from a household survey through which the heads of household are being interviewed at approximately 3 and a half years after families’ initial TTPs (those set at the beginning of the study) took effect.<sup>68</sup> The survey covers a wide range of outcomes, including job characteristics, reasons for not working, family composition, total family income, family poverty, housing stability, relationships with landlords, savings, debt, financial practices, material hardships, and additional quality-of-life indicators.

The final report in the series, expected in 2023, will present findings on families’ perspectives on the new policy through indepth qualitative interviews with a small sample of

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<sup>68</sup> The survey firm Decision Information Resources (DIR) is administering this 42-month followup survey.

household heads in the new rent rules group and use quantitative data from the full-sample survey. For example, information will be collected on families' awareness and understanding of the incentive features of the new rent rules as well as its safeguards to protect them from hardship, how families have responded to those features, and their views on the fairness of the policy.

Finally, the evaluation is continuing to collect data on the PHAs' experiences in implementing the new policy from its inception. Those data include information obtained from indepth qualitative interviews with staff at each PHA about advantages and challenges in administering the new policy from their perspective, particularly in comparison with HUD's traditional rent rules. Those data, along with further analysis of the policy's effects on PHA staff actions, will provide insights into how well the goal of administrative simplification and cost reduction have been achieved.

## Appendix A: Supplementary Materials for Chapter 1

### Exhibit A.1. Existing Rent Policies of Public Housing Agencies (PHAs) Participating in the Rent Reform Demonstration

Rent-Policy Component	Lexington	Louisville	San Antonio	Washington, D.C.
Percentage of adjusted income for total tenant payment (TTP)	30	30	30	30
Threshold of asset value below which asset income is ignored	\$5,000; if assets total more than this amount, income from the assets is “imputed” and the greater of actual asset income and imputed asset income is counted in annual income.	None.	None; self-certification of assets sold for less than fair market value.	None; self-certification of individual assets less than \$15,000.
Recertification	Working age or nondisabled: annual. Elderly or disabled (on fixed income): triennial [proposed].	Working age or nondisabled: annual. Elderly or disabled: biennial.	Working age or nondisabled: biennial for some, annual for Rent Reform Demonstration control group. Elderly or disabled (on fixed income): biennial [triennial proposed].	Working age or nondisabled: biennial <sup>a</sup> . Elderly or disabled: biennial <sup>b</sup> .
Minimum TTP	\$150	\$0	\$50	\$0
Utility policy	Uses the appropriate utility allowance for the size of dwelling unit actually leased by the family (rather than the family-unit size as determined under the housing authority subsidy standards).	Current HUD policy.	Current HUD policy.	Simplified by bedroom and voucher size [planned].
Hardship policy for minimum rent	Suspension of minimum rent if a household experiences an increase in rent as a direct result of the Moving to Work Rent Reform Demonstration; reduction in rent if a household experiences a loss of income due to circumstances beyond the family’s control.	[No minimum rent].	If the TTP calculated at recertification is lower than the minimum TTP, a hardship exists, and the family share is calculated at the highest of 30 percent of gross income, 10 percent of adjusted income, or the welfare rent.	[No minimum rent].

<sup>a</sup> Starting in June 2016, income increases did not have to be reported between biennial recertifications. Before June 2016, a family had to report an increase in income even if it occurred before the family’s next scheduled biennial recertification. If the increase was \$10,000 or more, then the housing agency calculated a new TTP. If the increase was less than \$10,000, then this income was excluded until the next biennial recertification.

<sup>b</sup> Starting in September 2016, disabled and fixed-income families were on a triennial recertification.

Notes: Current HUD utility policy is based on typical utilities costs in housing of similar size and type, on community consumption patterns, and on current utility rates.

Source: Housing agency Moving to Work annual plans and other agency documents



## **Appendix B: Supplemental Materials for Chapter 2**

### **Strategy for Addressing Multiple Outcome Measures in the Rent Reform Demonstration**

When an impact evaluation includes many different outcome measures—each of which implies a test of a different hypothesis about an intervention’s effect—the possibility exists that some impact estimates may emerge as statistically significant simply by chance and do not reflect true intervention effects. For example, if 10 outcomes are examined in a study of ineffective treatment, it is likely that the impact on one of them will be statistically significant at the 10 percent level only by chance. As the number of outcome measures expands, the number of “false positive” results may also increase. This section of Appendix B describes the approach adopted for the Rent Reform Demonstration to address this problem.

#### **Confirmatory Outcome Measures**

Addressing the issue of multiple outcome measures begins with specifying a small set of primary outcome measures—that is, the most important measures for assessing the effectiveness of the intervention, commonly referred to in the evaluation literature as “confirmatory” outcomes. Given their primacy, impact findings on confirmatory outcomes are subjected to further statistical adjustments (beyond basic tests of statistical significance) that hold them to a higher standard of evidence. One can have more confidence in any confirmatory impact estimates that remain statistically significant after adjusting for the total number of confirmatory outcome measures (the exact adjustment method is discussed later, under “Adjustment Measures”).

For the Rent Reform Demonstration, three outcomes have been designated as confirmatory: (1) household heads’ average cumulative earnings, (2) families’ cumulative housing subsidies (that is, housing assistance payments, or HAP), and (3) a measure of material hardship for the household head and family. Increasing tenants’ earnings is one of the most important goals that HUD set for the new rent policy, but it is important to achieve that goal without making the voucher program substantially costlier than it would be with the traditional rent policy. The new rent policy would be a far less compelling policy option if it achieved positive effects on tenants’ earnings only at the expense of large increases in housing subsidies (the main driver of voucher program costs). A policy that both increased tenants’ earnings and kept subsidy costs the same or reduced them would hold much more appeal.

Effects on average earnings and average HAP subsidies also hold primary importance because they can drive other important outcomes. For example, it is unlikely that the new rent policy would have substantial effects on benefits receipt, financial security, family moves, and other dimensions of family well-being in the absence of any impacts (positive or negative) on either average earnings or HAP. Though still very important, these other measures might be considered deriving largely from the effects on earnings and HAP.

Also supporting their designation as confirmatory variables, average earnings, and average HAP have the advantage of being more inclusive variables within their respective domains in the sense that they capture other important effects within those domains. For example, effects on average earnings capture effects on employment rates, steadiness of employment, wage rates, and hours. Effects on average HAP capture effects on how much tenants contribute to their rent and utilities and how long they remain in the voucher program.

Impacts on average earnings and HAP are too narrow, by themselves, for understanding the effects of the new rent policy on overall family well-being. For example, an increase in earnings and a reduction in subsidies may suggest progress toward self-sufficiency, but even with those results, some families might experience an increase in material hardships, particularly in the face of subsidy reductions, which could severely diminish the policy appeal of the new rent rules. Because another major goal of the new policy is to promote increased work without causing an increase in hardships that families experience, a composite measure of “material hardship” has been designated as the study’s third confirmatory outcome measure.

The evaluation’s survey of tenants (to be administered in 2019) includes several items on family hardships. Hardship is a complicated construct to measure because it has many dimensions, and survey measures involve subjective assessments and respondents’ self-reports.<sup>69</sup> Moreover, the degree of intensity of any given hardship and the difficulty it poses for a family, relative to other types of hardships, is hard to gauge. Several types of hardships, however—including inadequate ability to purchase food, difficulty paying rent and utilities costs, and difficulty sustaining access to telephone service—are broadly recognized as fundamental hardships for anyone and indicators of precarious economic circumstances. They are commonly included in studies of anti-poverty programs that seek to measure effects on material hardship. Some studies point to a tendency among families to make tradeoffs between food purchases and paying their rent or utilities to make ends meet. The current study will construct a composite measure of hardship composed of several items included in the survey covering different types of hardship and the duration of those hardships (see below for further information on the construction of this measure).<sup>70</sup>

## **Cumulative Versus Annual Measures of Earnings and HAP**

In interpreting the policy implications of the new rent policy’s effects on earnings and HAP, it is important to consider the different stages of the study’s followup period. As followup years accumulate, cumulative measures, in addition to the annual measure, take on more importance. For example, some past studies of labor market interventions have found that early impacts on earnings faded over time as the control group caught up. Other studies have found that impacts emerged only later in the followup period, as participants began to experience a payoff from

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<sup>69</sup> See Ouellette et al. (2004) for an extensive review of measures of material hardship.

<sup>70</sup> The original Rent Reform Data Collection and Analysis Plan (RRDCAP) underscores the prime importance of average earnings and HAP in the evaluation (MDRC, 2016); however, the original evaluation workplan did not include a survey, which HUD subsequently funded. Consequently, effects on survey-based hardship measures were not included in the original RRDCAP plan.

acquiring new skills through the intervention or as the intervention itself matured and strengthened.

In the Rent Reform Demonstration, the extension of the recertification schedule from an annual to a triennial schedule—the new policy’s main vehicle for increasing the financial incentive to work—elevates the importance of *cumulative* impact estimates. This feature reduces the voucher program’s normal 30-percent implicit tax on earnings to zero by capping families’ total tenant payments (TTPs)—but for a specific block of time: the 3-year period until the next triennial recertification. After the triennial, a new cap is set for the next 3-year block of time, and so on. Thus, in judging the overall success of the new policy, its effects on cumulative earnings during the period in which the 3-year reduction in the marginal tax rate was in effect are more important than its effects on earnings in any single year. For this reason, the confirmatory earnings measure is defined in terms of cumulative rather than annual earnings.

Similarly, a cumulative perspective is important in considering the policy’s impacts on HAP, which will be a key determinant of whether the policy is cost neutral relative to the existing rent rules. As a statistical modeling exercise completed as part of the design of the new rent policy showed, the impacts on HAP were predicted to be positive initially (that is, yield higher subsidies for the new rent rules group) prior to the triennial, but then *flip direction* after the triennial, resulting either in no higher or only modestly higher HAP expenditures cumulatively relative to the control group or possibly some HAP reductions (depending on the magnitude of the earnings effects).<sup>71</sup> Thus, the *cumulative* HAP expenditures are much more directly relevant to the policy goal of “cost neutrality” or “cost savings” than are annual HAP expenditures. For that reason, cumulative rather than annual HAP is deemed a confirmatory variable.

Because the Rent Reform Demonstration is a multiyear initiative with sequential reports on findings as they become available, the latest available data on cumulative measures should supersede in importance any earlier evidence of effects on those same measures. In that sense, interim findings should be considered *preliminary indicators* of the effects on important confirmatory variables. They should not be the basis for making policy decisions. They are more akin to *exploratory* outcomes and will not carry the same weight in assessing the policy’s effects as those presented in the final report, which will present the main findings on the study’s confirmatory hypotheses. Nonetheless, although they may be considered “preliminary” or “exploratory” hypotheses, there is value in subjecting them to multiple hypothesis testing, given their central importance to the evaluation of the new rent policy. These adjustments can help establish the degree of certainty to attach to the interim estimates (of course, in Year 1 of the followup period, cumulative and annual earnings measures are the same).

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<sup>71</sup> MDRC (2016).

## Adjustment Method

Weighing the strengths and weaknesses of different statistical tests to adjust for multiple hypothesis testing and considering some of the limitations of using National Directory of New Hires (NDNH) data, the evaluation team decided to adopt the Benjamini-Hochberg method, applied to p-values.<sup>72</sup> The Westfall-Young method would have been preferable because it accounts for correlations among outcomes; however, that method would require that all outcomes are available on the same dataset. NDNH data come in a de-identified form and can be linked with other data only through a pass-through file submitted to the Office of Child Support Enforcement (OCSE). Moreover, variables on the pass-through file are not in the same form as they are on MDRC's network because OCSE requires that variables be made categorical and not have small cell sizes. For example, in the pass-through file, monthly HAP in Year 1 is a categorical variable with seven categories rather than the continuous measure used in the impact analysis. It is important to base the multiple hypothesis adjustment on variables that exactly match the specification of those variables in the impact analysis.

## The Number of Hypotheses

The evaluation design further specifies confirmatory outcomes as those pertaining to the pooled sample of the study's four public housing agencies (PHAs). Although the same measures are included in PHA-specific analyses, the latter analyses are considered exploratory. The analysis plan did not include hypotheses predicting a particular pattern of variation in impacts by PHA, although it did call for exploring possible factors contributing to any substantial variation in effects observed across those sites (see below for a further discussion of the PHA-specific analysis strategy). Because the PHA-specific estimates are considered exploratory, and because the pooled estimates already incorporate (are built up from) the PHA-specific impacts, the multiple hypothesis adjustment for the pooled sample will not adjust for the site impact estimates.

For the current report, the multiple hypothesis adjustment for the pooled sample will be applied to the estimated impacts on average pooled earnings impact and average pooled HAP in Year 1. For the second impact report, the adjustments will be applied to cumulative pooled earnings impacts (through the latest quarter available for each report) and average cumulative HAP impacts (through the latest month available). In the second and final impact reports, adjustments for the latest available cumulative impact estimates will not adjust for the prior cumulative impact estimates covering shorter followup periods. The latter will constitute preliminary results, not distinct hypotheses.

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<sup>72</sup> See Benjamini and Hochberg (1995). P-values of confirmatory outcomes will be ordered from smallest to largest and assigned a rank (a rank of 1 will be assigned to the smallest p-value, and a rank equal to the number of tests will be assigned to the largest p-value). Starting with the largest p-value, an adjusted p-value is calculated as the (Number of Tests / Rank) \* unadjusted p-value. If the adjusted p-value is equal to or less than .10, then that outcome measure and all outcome measures with lower p-values are statistically significant after adjusting for the false discovery rate.

The final report will include estimates of impacts on longer-term earnings and HAP outcomes and on the composite hardship measure. Each of these estimates will thus be adjusted for a total of three confirmatory outcomes.

### **Pooled Estimates Excluding Washington, D.C.**

The evaluation includes a set of pooled estimates without Washington, D.C. This study is considered an exploratory analysis because it represents a change in analysis plans after the evaluation was launched. The rationale for excluding this PHA from the pooled estimates is based on its decision—after the launch—to expand access to its existing biennial recertification policy for the voucher population to all families in the control group. (Before it took that action, the biennial policy was to apply only to families with quite low earnings, and it was expected that most control group members would still be subject to the traditional annual recertifications.) This decision meant that the effects of the new rent policy’s most important feature for increasing work incentives—extending the recertification period—could not be tested in Washington, D.C., for the interim report because both groups experienced an extension during the early followup period. Thus, a better-pooled estimate of the new policy’s early effects on earnings is arguably one based on a pooled sample that excludes Washington, D.C.<sup>73</sup>

Although the four-PHA pooled sample is used to estimate confirmatory impacts, and although exploratory impacts are not normally subject to adjustments for multiple hypotheses, the special importance of the three-PHA pooled sample in assessing the overall effectiveness of the new rent rules makes it prudent to hold the results from that sample to a higher standard of evidence. Thus, the results for the three-PHA pooled sample will also be adjusted for multiple hypothesis testing. Because of the obviously high overlap between these two samples, the adjustments of the impact estimates for the three-PHA sample will not take into account the impact estimates of the four-PHA sample and vice versa.

### **PHA-Specific Analyses**

The PHA-specific analyses are being approached differently. Here, the focus is on whether any substantial variation observed across PHAs in the new rent policy’s impacts on the primary outcomes is likely to be due to chance. As planned in the RRDCAP, and as is common practice in multisite evaluations, the evaluation calculates the statistical significance of the *differences in impacts* across sites. Here, the H-statistic is applied to each of the confirmatory outcome measures (this approach is the same as the one that is commonly used for subgroup analyses). If cross-PHA differences in impacts are statistically significant, one would have more confidence concluding that the policy was more effective in some PHAs than in others. This approach is a

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<sup>73</sup> This strategy was not a post hoc idea. MDRC had first proposed pooling without this PHA in an early draft of the research design paper it submitted to HUD on May 29, 2014, well before any outcome data were available. The decision to produce a pooled estimate without Washington, D.C., as an exploratory outcome was finalized when preparing the draft interim report, when it was recognized that the PHA had dropped its \$10,000 threshold policy and extended the biennial recertification policy to all members of the control group.

way to address what might be considered a “first-order” question for PHA-specific analysis—whether to consider the site-by-site variation in effects meaningful.

## Subgroups

The approach used for the PHA-specific analyses is also being followed for the confirmatory subgroup analyses. This approach involves computing the H-statistic to assess the statistical significance of the *difference in impacts* across subgroup categories on a primary outcome measure. For example, this method is used to assess whether a difference in the new policy’s impacts on, say, average earnings for sample members “working at baseline,” and those “not working at baseline” is itself statistically significant.

## Constructing the Hardship-Related Primary Outcome Measure

As mentioned previously, the analysis will use a composite measure of material hardship as a third confirmatory outcome (the final evaluation report will present the results). This measure will incorporate survey questions related to food, shelter, recurring monthly utility and phone bills, and medical care.<sup>74</sup> The specific questions in the survey include the following:

- In the last 12 months, was there ever a time when **[you/you or your household]** did not pay the full amount of the rent?
- In the last 12 months, has there been a time when **[you/you or your household]** had service turned off by the gas or electric company, or the oil company would not deliver oil because payments were not made?
- In the last 12 months, have **[you/you or your household]** had cellular or land service disconnected because payments were not made?
- In the last 12 months, was there ever a time when, because of cost, **[you/you or your household]** were not able to buy food?

For each of these questions, a respondent who gives a positive response is asked a followup question to gauge the general frequency of the problem:

- In the last 12 months, about how many months has this happened? (Response categories include 1 month, 2-3 months, 4-6 months, or 7 months or more.)

The survey also asks about unmet medical care in the prior year:

- In the last 12 months, was there ever a time when, because of cost, **[you/you or your household]** were not able to buy prescription medicine?

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<sup>74</sup> These items are commonly used in national surveys—such as the Survey of Income and Program Participation, the American Housing Survey, and the National Health Interview Survey—to measure material hardships.

- In the last 12 months, was there ever a time when, because of cost, **[you/you or members of your household]** were not able to see a doctor or get medical assistance?

Using the responses to the preceding questions, a cumulative hardship scale will be constructed to reflect *the average number of months of reported hardships within the last 12 months*. For the unmet medical care and prescription items, for which the followup duration question is not asked, a positive response (“yes, there was a time”) will be counted as “1 month.” This is considered appropriate because prescriptions and doctor visits are not necessarily monthly needs.

Overall, a respondent experiencing none of the measured hardships would earn a score of zero. Higher scores will reflect a higher number of enduring hardships. A person experiencing only one of these hardships, and in only one month, would be assigned a score of 1; a person experiencing one hardship in “2–3 months” would be assigned the midpoint of that range, or 2.5 months; someone experiencing all four hardships, and each one for “2–3 months,” would be assigned a score of 10 (that is,  $4 \times 2.5$ ); and so on. The analysis will compute an average composite score for each of the two research groups and estimate the impact of the new rent rules on that score as the confirmatory test of the new rent policy’s overall effect on hardship.

The exploratory analysis will examine the policy’s effects on each of the items in the scale separately. It will also examine effects on several other outcomes related to financial well-being and food security.

**Exhibit B.1. Employment and Earnings in the Three Quarters Before Random Assignment, by Public Housing Agency (PHA): Heads of Households**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>Lexington</u></b>				
Ever employed (%)				
Third quarter before random assignment	55.5	57.3	-1.8	0.429
Second quarter before random assignment	59.6	56.9	2.8	0.176
Quarter before random assignment	57.6	57.4	0.2	0.923
Total earnings (\$)				
Third quarter before random assignment	1,750	1,906	-156	0.115
Second quarter before random assignment	1,915	1,824	91	0.273
Quarter before random assignment	1,854	1,842	12	0.896
Sample size (total = 979)	486	493		
<b><u>Louisville</u></b>				
Ever employed (%)				
Third quarter before random assignment	55.8	55.8	0.1	0.961
Second quarter before random assignment	56.3	54.2	2.1	0.150
Quarter before random assignment	55.4	54.9	0.5	0.730
Total earnings (\$)				
Third quarter before random assignment	1,790	1,814	-25	0.725
Second quarter before random assignment	1,890	1,880	10	0.870
Quarter before random assignment	1,907	1,906	1	0.993
Sample size (total = 1,908)	947	961		
<b><u>San Antonio</u></b>				
Ever employed (%)				
Third quarter before random assignment	54.3	54.3	-0.1	0.974
Second quarter before random assignment	56.1	54.6	1.5	0.212
Quarter before random assignment	55.0	57.8	-2.9 **	0.041
Total earnings (\$)				
Third quarter before random assignment	1,922	2,046	-124 **	0.043
Second quarter before random assignment	2,083	1,993	90 *	0.061
Quarter before random assignment	2,094	2,110	-16	0.798
Sample size (total = 1,869)	935	934		

(continued)



**Exhibit B.1 (continued)**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>Washington, D.C.</u></b>				
Ever employed (%)				
Third quarter before random assignment	44.6	44.6	0.0	0.995
Second quarter before random assignment	46.5	47.1	-0.6	0.580
Quarter before random assignment	47.6	46.2	1.4	0.242
Total earnings (\$)				
Third quarter before random assignment	2,492	2,448	43	0.591
Second quarter before random assignment	2,871	2,906	-35	0.642
Quarter before random assignment	2,714	2,670	44	0.529
Sample size (total = 1,909)	944	965		

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Among heads of households in the new rent rules group, 28 participants from Washington, D.C., and one from Louisville are missing data for at least one pre-random assignment quarter. Among heads of household in the existing rent rules group, 51 participants from Washington, D.C., two from Louisville, and one from San Antonio are missing data for at least one pre-random assignment quarter. Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

**Exhibit B.2. Employment and Earnings in the Three Quarters Before Random Assignment, by Public Housing Agency (PHA): Adults Who Were Not Heads of Households**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>Lexington</u></b>				
Ever employed (%)				
Third quarter before random assignment	59.6	53.6	6.0	0.179
Second quarter before random assignment	59.1	57.1	2.1	0.582
Quarter before random assignment	54.8	60.1	-5.3	0.206
Total earnings (\$)				
Third quarter before random assignment	1,182	1,144	38	0.777
Second quarter before random assignment	1,205	1,319	-114	0.344
Quarter before random assignment	1,375	1,366	9	0.946
Sample size (total = 296)	131	165		
<b><u>Louisville</u></b>				
Ever employed (%)				
Third quarter before random assignment	46.7	44.9	1.8	0.512
Second quarter before random assignment	48.4	50.1	-1.7	0.505
Quarter before random assignment	49.9	51.2	-1.3	0.635
Total earnings (\$)				
Third quarter before random assignment	942	893	49	0.612
Second quarter before random assignment	1,071	1,121	-51	0.516
Quarter before random assignment	1,124	1,173	-50	0.596
Sample size (total = 815)	429	386		
<b><u>San Antonio</u></b>				
Ever employed (%)				
Third quarter before random assignment	46.3	45.9	0.5	0.855
Second quarter before random assignment	48.7	47.8	0.9	0.675
Quarter before random assignment	50.8	52.9	-2.1	0.418
Total earnings (\$)				
Third quarter before random assignment	1,319	1,225	93	0.253
Second quarter before random assignment	1,360	1,408	-48	0.471
Quarter before random assignment	1,525	1,586	-61	0.483
Sample size (total = 784)	412	372		

(continued)

**Exhibit B.2 (continued)**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>Washington, D.C.</u></b>				
Ever employed (%)				
Third quarter before random assignment	31.9	30.8	1.1	0.566
Second quarter before random assignment	32.0	32.5	-0.5	0.727
Quarter before random assignment	34.3	32.5	1.8	0.295
Total earnings (\$)				
Third quarter before random assignment	984	1,023	-39	0.546
Second quarter before random assignment	1,120	1,118	3	0.957
Quarter before random assignment	1,100	1,029	70	0.235
Sample size (total = 1,502)	765	737		

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Among nonheads of household in the new rent rules group, 112 participants from Washington, D.C., and one participant from each of the other three sites are missing data for at least one pre-random assignment quarter. Among nonheads of household in the existing rent rules group, 127 participants from Washington, D.C., three from Louisville, and one from San Antonio are missing data for at least one pre-random assignment quarter. Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

## Appendix C: Supplementary Materials for Chapter 3

**Exhibit C.1. Treatment-on-Treated (TOT) Early Impacts for Selected Outcomes, Louisville**

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	Impact per Participant
<b><u>Employment and earnings for the head of household</u></b>				
Ever employed (%)				
Year 1 (quarters 3-6)	71.9	72.1	-0.2	-0.3
Quarter 1 (random assignment)	52.9	55.0	-2.2	-2.8
Quarter 2	58.0	58.6	-0.6	-0.7
Quarter 3	60.3	59.6	0.7	0.9
Quarter 4	59.9	58.5	1.5	1.9
Quarter 5	59.8	59.3	0.6	0.8
Quarter 6	63.4	61.2	2.2	2.8
Quarter 7	61.2	61.9	-0.7	-1.0
Quarter 8	60.9	62.0	-1.2	-1.5
Total earnings (\$)				
Year 1 (quarters 3-6)	10,164	10,029	135	173
Quarter 1 (random assignment)	1,940	2,017	-77	-100
Quarter 2	2,200	2,138	62	80
Quarter 3	2,434	2,379	55	71
Quarter 4	2,475	2,452	23	30
Quarter 5	2,511	2,426	85	110
Quarter 6	2,747	2,789	-43	-55
Quarter 7	2,787	3,015	-227	-293 *
Quarter 8	2,831	2,996	-165	-213
Employed in all quarters, Year 1 (%)	48.3	43.4	4.9	6.4 ***
Average quarterly employment, Year 1 <sup>a</sup> (%)	60.9	59.6	1.2	1.6
<b><u>Housing subsidy</u></b>				
Average number of months received housing subsidy in Year 1 <sup>b</sup>	11.6	11.4	0.2	0.3 ***
Average annual housing subsidy in Year 1 (\$)	7,898	7,659	239	308 *
<b><u>Public housing agency (PHA) actions</u></b>				
Ever had any action that requires staff response in Year 1 <sup>c</sup> (%)	89.0	89.7	-0.6	-0.8
Annual <sup>d</sup>	24.8	65.1	-40.3	-51.9 ***
Average number of actions in Year 1	1.1	1.5	-0.4	-0.5 ***
Sample size (total = 1,908)	947	961		

(continued)

**Exhibit C.1 (continued)**

<sup>a</sup> Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

<sup>b</sup> Housing subsidy is the full subsidy amount paid by the housing agency and includes any utility allowance payments made to the tenant in addition to rent paid to the owner by the housing agency.

<sup>c</sup> Certification actions that require staff interaction include annual reexaminations, interim reexaminations (except for end-of-grace period and end of hardship records), and change-of-unit actions.

<sup>d</sup> Annual reexaminations include all action type 2 certifications.

\*\*\* = 1 percent. \*\* = 5 percent. \* = 10 percent.

Notes: "Impact per participant" refers to the difference between the new rent rules group and existing rent rules group means divided by the participation rate (0.776). Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Rounding may cause slight discrepancies in calculating sums and differences.

Source: MDRC calculations, using PHA data and quarterly wage data from the National Directory of New Hires

**Exhibit C.2. Early Impacts on Employment and Earnings: Adults Who Were Not Heads of Households**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Ever employed (%)				
Year 1 (quarters 3–6)	69.3	69.7	-0.4	0.769
Quarter 7	57.1	58.4	-1.4	0.372
Quarter 8	56.9	55.6	1.4	0.374
Average quarterly employment, Year 1 <sup>a</sup> (%)	51.3	52.2	-0.9	0.442
Total earnings (\$)				
Year 1 (quarters 3–6)	7,219	7,577	-358	0.153
Quarter 7	2,299	2,417	-118	0.193
Quarter 8	2,286	2,393	-107	0.242
Sample size (total = 3,397)	1,737	1,660		

<sup>a</sup> Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

**Exhibit C.3. Early Impacts on Employment and Earnings, by Public Housing Agency (PHA): Adults Who Were Not Heads of Households**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>Lexington</u></b>				
Ever employed (%)				
Year 1 (quarters 3-6)	78.2	77.9	0.3	0.944
Quarter 7	66.0	59.1	7.0	0.162
Quarter 8	64.5	64.6	-0.1	0.982
Average quarterly employment, Year 1 <sup>a</sup> (%)	64.1	60.5	3.6	0.339
Total earnings (\$)				
Year 1 (quarters 3-6)	8,678	7,603	1,075	0.184
Quarter 7	2,537	2,093	444	0.131
Quarter 8	2,241	2,238	2	0.993
Sample size (total = 296)	131	165		
<b><u>Louisville</u></b>				
Ever employed (%)				
Year 1 (quarters 3-6)	76.2	77.8	-1.6	0.536
Quarter 7	57.9	63.2	-5.3 *	0.091
Quarter 8	60.6	59.7	0.9	0.787
Average quarterly employment, Year 1 <sup>a</sup> (%)	58.3	58.9	-0.7	0.764
Total earnings (\$)				
Year 1 (quarters 3-6)	7,018	7,508	-490	0.304
Quarter 7	2,016	2,282	-266	0.136
Quarter 8	2,088	2,251	-163	0.356
Sample size (total = 815)	429	386		
<b><u>San Antonio</u></b>				
Ever employed (%)				
Year 1 (quarters 3-6)	72.7	69.9	2.8	0.321
Quarter 7	61.3	60.5	0.8	0.794
Quarter 8	60.1	56.9	3.2	0.313
Average quarterly employment, Year 1 <sup>a</sup> (%)	57.9	58.6	-0.6	0.801
Total earnings (\$)				
Year 1 (quarters 3-6)	8,609	9,104	-495	0.347
Quarter 7	2,420	2,556	-136	0.445
Quarter 8	2,502	2,520	-18	0.920
Sample size (total = 784)	412	372		

(continued)

**Exhibit C.3 (continued)**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>Washington, D.C.</u></b>				
Ever employed (%)				
Year 1 (quarters 3-6)	62.0	63.3	-1.3	0.577
Quarter 7	52.4	55.2	-2.8	0.233
Quarter 8	51.6	50.9	0.7	0.780
Average quarterly employment, Year 1 <sup>a</sup> (%)	41.6	43.6	-2.0	0.262
Total earnings (\$)				
Year 1 (quarters 3-6)	6,284	6,887	-603	0.133
Quarter 7	2,321	2,521	-201	0.172
Quarter 8	2,275	2,450	-175	0.246
Sample size (total = 1,502)	765	737		

<sup>a</sup> Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

**Exhibit C.4. Early Impacts on Employment and Earnings: Household Heads and Other Adults**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Ever employed (%)				
Year 1 (quarters 3-6)	68.5	67.7	0.8	0.292
Quarter 7	58.3	57.9	0.4	0.675
Quarter 8	57.6	56.2	1.4	0.110
Average quarterly employment, Year 1 <sup>a</sup> (%)	54.4	53.7	0.7	0.291
Total earnings (\$)				
Year 1 (quarters 3-6)	9,157	9,154	3	0.984
Quarter 7	2,721	2,715	6	0.912
Quarter 8	2,715	2,694	21	0.702
Sample size (total = 10,062)	5,049	5,013		

(continued)

### **Exhibit C.4 (continued)**

<sup>a</sup> Average quarterly employment is calculated as total number of quarters with employment divided by total number quarters of followup, expressed as a percentage.

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires



**Exhibit C.5. Early Impacts on Employment and Earnings, by Public Housing Agency (PHA): Household Heads and Other Adults**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>Lexington</u></b>				
Ever employed (%)				
Year 1 (quarters 3-6)	78.2	76.6	1.6	0.384
Quarter 7	65.8	62.5	3.3	0.157
Quarter 8	65.2	62.2	3.0	0.196
Average quarterly employment, Year 1 <sup>a</sup> (%)	65.1	63.3	1.7	0.316
Total earnings (\$)				
Year 1 (quarters 3-6)	9,838	9,514	323	0.420
Quarter 7	2,787	2,479	308 **	0.029
Quarter 8	2,712	2,470	243 *	0.078
Sample size (total = 1,275)	617	658		
<b><u>Louisville</u></b>				
Ever employed (%)				
Year 1 (quarters 3-6)	73.4	73.6	-0.2	0.915
Quarter 7	60.3	62.2	-1.9	0.234
Quarter 8	61.0	61.2	-0.2	0.885
Average quarterly employment, Year 1 <sup>a</sup> (%)	60.2	59.3	0.9	0.455
Total earnings (\$)				
Year 1 (quarters 3-6)	9,236	9,255	-19	0.949
Quarter 7	2,559	2,793	-234 **	0.024
Quarter 8	2,614	2,767	-153	0.159
Sample size (total = 2,723)	1,376	1,347		
<b><u>San Antonio</u></b>				
Ever employed (%)				
Year 1 (quarters 3-6)	71.3	68.7	2.7 *	0.070
Quarter 7	61.1	59.5	1.6	0.327
Quarter 8	60.0	57.1	3.0 *	0.075
Average quarterly employment, Year 1 <sup>a</sup> (%)	59.3	58.0	1.4	0.302
Total earnings (\$)				
Year 1 (quarters 3-6)	9,452	9,221	231	0.432
Quarter 7	2,586	2,461	125	0.206
Quarter 8	2,672	2,462	210 **	0.042
Sample size (total = 2,653)	1,347	1,306		

(continued)

**Exhibit C.5 (continued)**

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
<b><u>Washington, D.C.</u></b>				
Ever employed (%)				
Year 1 (quarters 3-6)	59.0	58.9	0.2	0.905
Quarter 7	51.7	51.7	0.0	0.997
Quarter 8	50.0	49.5	0.6	0.710
Average quarterly employment, Year 1 <sup>a</sup> (%)	41.8	42.3	-0.5	0.659
Total earnings (\$)				
Year 1 (quarters 3-6)	8,548	8,951	-404	0.161
Quarter 7	2,910	2,966	-55	0.587
Quarter 8	2,813	2,920	-107	0.306
Sample size (total = 3,411)	1,709	1,702		

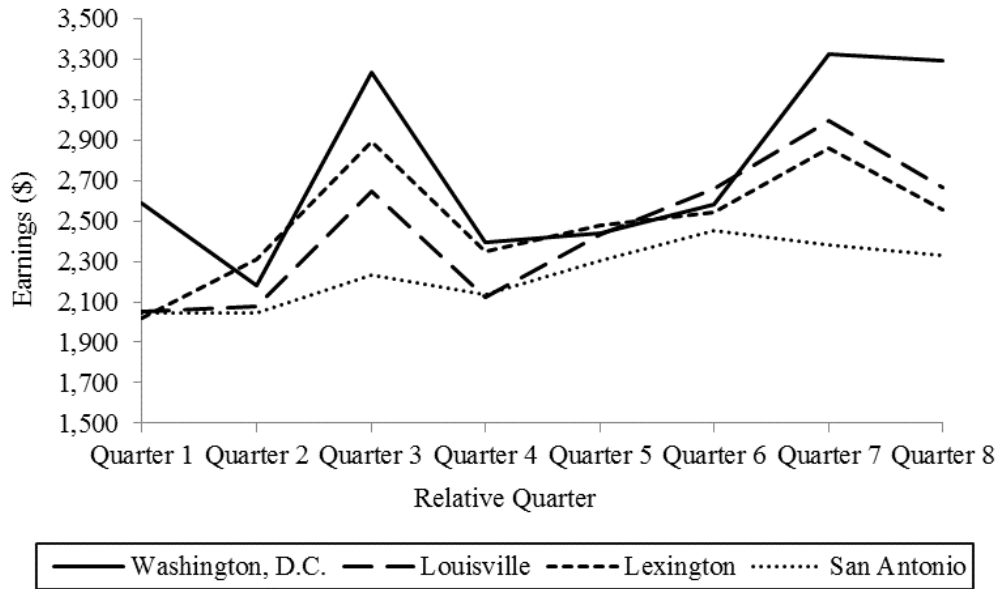
<sup>a</sup> Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

\* = 10 percent. \*\* = 5 percent. \*\*\* = 1 percent.

Notes: Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

**Exhibit C.6. Average Earnings by Quarter Relative to the Quarter of Random Assignment, by Public Housing Agency (PHA) Control Group: Heads of Households Randomly Assigned in Quarter 2 of 2015**



Notes: The sample sizes are Lexington: 255, Louisville: 472, San Antonio: 292, and Washington, DC: 965. Estimates were regression adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations, using quarterly wage data from the National Directory of New Hires

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